NCHRP
REPORT 710

Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

NCHRP REPORT 710

Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking

David Aimen
THE LOUIS BERGER GROUP, INC.
New York, NY

Anne Morris
ATKINS
Columbia, SC

TRANSPORTATION RESEARCH BOARD

WASHINGTON, D.C.
2012
www.TRB.org

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Academies was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state and local governmental agencies, universities, and industry; its relationship to the National Research Council is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research needs to be included in the program are proposed to the National Research Council and the Board by the American Association of State Highway and Transportation Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the National Research Council and the Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

NOTICE

The project that is the subject of this report was a part of the National Cooperative Highway Research Program, conducted by the Transportation Research Board with the approval of the Governing Board of the National Research Council.

The members of the technical panel selected to monitor this project and to review this report were chosen for their special competencies and with regard for appropriate balance. The report was reviewed by the technical panel and accepted for publication according to procedures established and overseen by the Transportation Research Board and approved by the Governing Board of the National Research Council.

The opinions and conclusions expressed or implied in this report are those of the researchers who performed the research and are not necessarily those of the Transportation Research Board, the National Research Council, or the program sponsors.

The Transportation Research Board of the National Academies, the National Research Council, and the sponsors of the National Cooperative Highway Research Program do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of the report.

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

COOPERATIVE RESEARCH PROGRAMS

By Lori L. Sundstrom
Staff Officer
Transportation Research Board

This report provides state departments of transportation (DOTs), metropolitan planning organizations (MPOs), and other transportation agencies with a rich source of practical and effective tools, techniques, and approaches for identifying and connecting with populations that have traditionally been underserved and underrepresented in transportation decision-making. The report is organized in an easy-to-use format that gives transportation agency staff responsible for developing and maintaining community relationships—for one project or on a continuous basis—proven tools, techniques, and approaches to be successful. This report should be of immediate use to transportation professionals who manage, develop, or implement public involvement activities for a transportation agency.

State DOTs, MPOs, and other transportation agencies implement a variety of approaches designed to meet both the spirit and the letter of Title VI of the Civil Rights Act of 1964 and Executive Orders 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" and 13166, "Improving Access to Services for Persons with Limited English Proficiency." In response to a growing awareness that the demographics of this country's population have changed dramatically since the early 1950s when public involvement was first required on federal projects, a number of resources have recently been published that provide guidance and practical advice to transportation agencies on how to implement Title VI and Presidential Executive Orders 12898 and 13166. These include *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking and Transportation and Environmental Justice: Case Studies,* published by FHWA. These technical resources and others have cautioned that traditional public involvement techniques may fall short of establishing meaningful opportunities for traditionally underserved populations to participate in decisionmaking about a proposed transportation activity that will affect their environment, safety, or health.

Under NCHRP Project 08-72, the Louis Berger Group was asked to build upon these existing resources, update and capture new and innovative techniques and approaches being used within the transportation industry and in other industries, and to develop a compendium of practical and easy-to-use best practices that practitioners can use to involve traditionally underserved populations, particularly minority, low-income, limited English proficiency, and low-literacy groups, in transportation decisionmaking. There is no "one-size-fits-all" strategy but rather a continuum of approaches that can be taken or customized to reach different communities or that are particularly appropriate for a specific stage of transportation decisionmaking. Relevant new practices and/or new applications of existing public involvement practices are documented and emerging demographic and communications trends and their implications for transportation decisionmaking are discussed.

Abbreviated case studies provide examples of how each tool, technique, or practice has been successfully used.

Transportation agencies are increasingly recognizing the value of professional public involvement expertise, whether obtained from consultants or agency staff. The report should serve as a significant resource to public involvement professionals as well as to transportation planners, engineers, and project managers who are responsible for ensuring that public involvement activities are meaningful, effective, and efficient and of relevance to traditionally underserved populations.

CONTENTS

4-1 **Chapter 4** Effective Practices

5-1 Chapter 5 Tools and Techniques

6-1   Chapter 6 Data Sources and Tools

B-1   Bibliography

I-1   Image Credits

Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking

Presidential Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," requires federal agencies to improve access to federally conducted and assisted programs and activities for persons who, as a result of national origin, are limited in their English proficiency. Both executive orders are based on the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, sex, or national origin by government agencies that receive federal funding. The number of U.S. residents for whom English is a second language is increasing, and the greatest proportion of these residents with limited English proficiency and low literacy fall within minority and low-income populations.

Fair treatment and meaningful involvement of all people and enforcement of all laws, regulations, and policies are essential principles to promote nondiscrimination, environmental justice, and the public health, safety, and welfare of all communities. Transportation agencies—state departments of transportation, metropolitan planning organizations, county and local governments, transit services, and tribal authorities—implement many different approaches to meet the letter and spirit of federal laws, regulations, and executive orders. Effective transportation decisionmaking depends upon recognizing, responding to, and properly addressing the unique needs, cultural perspectives, and financial limitations of different socioeconomic groups. Developing an understanding of the value systems and viewpoints of these groups can be greatly aided by implementing a comprehensive and inclusive approach to engaging the public in transportation decision-making processes.

Transportation agencies are finding that traditional public involvement techniques are often inadequate, effectively limiting *meaningful involvement* by traditionally underserved populations in the transportation decision-making process. Achieving meaningful involvement with the public means that potentially affected community stakeholders and residents have an opportunity to participate in decisions about a proposed activity that will affect their environment, safety, or health. It means that affected communities have an opening to influence government decisions and that all involved participants will be considered in the decision-making process.

There are times when agencies and practitioners despair that, despite their best efforts, the public is simply too busy with everyday life—at work, at home, at school, and at play—to care about planning or other transportation-related decisions. This may be true in some cases, but practitioners and agencies can look at the results of their efforts and ask themselves again whether they have done what they could to engage a sometimes distracted, but also sometimes distrustful public. Achieving meaningful involvement therefore may involve finding other creative ways to replace or augment traditional public meetings through the use of other kinds of events, other forums, other locations, other times, as well as with the right organizations, the right people, or the right incentives—to reach and connect with the affected public, including traditionally underserved populations.

Research Objective

The objective of this research project is to develop an easy-to-use toolkit of practical approaches—a compendium of effective practices, tools and techniques, and data sources—that agencies and practitioners can use to foster meaningful involvement of traditionally underserved populations, particularly minority, low-income, limited English proficiency, and low-literacy groups, in transportation decisionmaking. Transportation agencies need proven tools to identify, engage, and achieve a standard of meaningful involvement in the development of transportation solutions that are appropriate to each stage of decision-making and capable of being effective in an increasingly diverse society.

Background

Historically, transportation agencies defined their mission as the swift and effective completion of projects to improve mobility and safety. The importance of the transportation problems that were faced by the nation led to the widespread acceptance of the mission as it was defined—a technical engineering problem to solve. Few questioned that their mission and its accomplishment could be anything but synonymous with the advancement of the public good. Agencies exercised their authority, to both define and meet the critical transportation needs of the society.

Transportation practitioners and the public have developed a more comprehensive understanding of the impacts of transportation systems on the human environment in recent decades. The influence of transportation investment on urban form, economic competitiveness, and community quality of life is more apparent looking back at transportation's legacy. Transportation systems deliver regional-scale benefits such as access to jobs and other lifeline opportunities or ensure that goods flow through our economy, but impose burdens to the public health, safety, and welfare when the operational or construction impacts are adverse and borne upon a particular community. Recognizing the potential threat to the livability of their neighborhood or place, community stakeholders do not want to be excluded from the siting and design of systems, services, and routes.

Over the past 60 years, landmark legislation like the Federal Aid Highway Act of 1950 and the Federal Transit Laws originally enacted in 1964, gave important new opportunities for interested persons to voice their perspectives in the development of transportation solutions. The Civil Rights Act of 1964 ensured that individuals would not be denied an equal right to participate on the basis of race, color, or national origin in all programs receiving federal-aid assistance. With the National Environmental Policy Act of 1969 (NEPA) and the

Federal-Aid Highway Act of 1970, the opportunity for public involvement was decisively established throughout the location and design processes. In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) extended the opportunity for public involvement in the transportation planning process. The most recent reauthorization legislation for transportation, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, emphasizes flexibility in solving transportation problems to improve community quality of life.

The Challenge of Achieving Meaningful Involvement

These landmark statutes brought transportation decision-making processes out into the open, but did not extend a guarantee to the public that *meaningful involvement* would be achieved. Reflecting upon the nation's experience in the planning and building of transportation infrastructure, it has been learned how inadequate and potentially confrontational public involvement processes can become when they are confined to taking comments at a public hearing, or are scheduled so late in the decision-making process, or framed so narrowly, that they preclude serious consideration of community needs or alternatives.

The transportation agency practitioner—a department manager, a project manager, a community impact analyst, or a public involvement staff person or consultant—sets forward the strategies and agenda, the ground rules and basis for interactions between the transportation agency and the public. There are subtle and not-so-subtle cultural differences evident in how this agenda-setting process unfolds, and this dynamic makes clear that the transportation agency and the public are not on equal footing in this relationship. Mistrust of the agency can be bred by this power imbalance when the public concludes that the transportation agency is only "going through the motions" and is not prepared to make a commitment to meaningful public involvement processes. This can occur when the goals of the agency practitioner or the promises that the agency is prepared to make with the affected community in the course of a project begin to clash with the concerns of the affected community on matters of importance.

Our state-of-the-practice research suggests that it is only a growing minority of transportation agencies and practitioners that have come to recognize the necessity and benefits of fostering meaningful public involvement processes. There are still many barriers that constrain widespread achievement of this standard for public involvement. Budgetary and staffing limitations may constrain the scope of public involvement programs, leading agencies to be satisfied when they provide information to and meet with the public—a standard well-below meaningful involvement. Barriers can also present themselves in many other forms, resulting in public involvement events that are more show than substance in building a dialogue with affected communities. This can happen for many reasons. Political or agency organizational pressures may be felt by the project manager or the practitioner to reach pre-defined outcomes, preferred solutions, or satisfy favored interests. Political and agency leadership may also identify more with regional mobility interests over community stakeholder concerns. Underinvestment in professional training of agency staff responsible for project management, community impact assessment, or public involvement duties, among other agency activities, may also lead to complacency among practitioners or inadequate understanding of the benefits and the strategies that are likely to be the most effective at building community support for programs and projects.

Nowhere is the need for commitment to overcome barriers more evident than in the activities, manners, and preparedness with which the practitioner endeavors to "bridge the

Traditionally Underserved Populations

The traditionally underserved can be defined as those specifically identified in the Executive Order 12898 on Environmental Justice—that is, low-income populations and minority populations including Hispanics/Latinos, African Americans/Blacks, Asian Americans, Native American/Alaskan Natives and Native Hawaiians, and Pacific Islanders—as well as other populations recognized in Title VI and other civil rights legislation, executive orders, and transportation legislation, including those with limited English proficiency such as the foreign-born, low-literacy populations, seniors, persons with disabilities, and transit-dependent populations.

gap" between themselves and the "traditionally underserved populations," oftentimes peoples and cultures with whom neither the agency nor the practitioner may have real familiarity. Ideally, the effective practitioner will consider social and cultural gaps and how they may be overcome to foster opportunities for meaningful involvement in transportation decisionmaking. The ability to work effectively across cultures requires skills and knowledge, which can broadly be defined as "cultural competency." Culture can refer to an individual's race, class, gender, sexual orientation, age, immigration status, and religion, among other things. For most individuals, cultural competency is an approach committed to lifelong learning, communicating, and respectfully working with people different from themselves. For organizations, cultural competency requires the establishment of policies and practices that will make the agency's services more accessible to diverse populations, providing appropriate and effective services in cross-cultural situations.

Developing sensitivities toward other cultures and adapting to the larger community's complex mosaic will materially aide practitioners in developing effective approaches to reach traditionally underserved populations. On this journey toward meaningful involvement, there remains a continuing need for implementation of effective methods to share information, explore needs and concerns, understand barriers, establish and strengthen relationships, maintain dialogue with underserved communities, and to assess and mitigate impacts throughout all stages of the transportation decision-making process.

As the nation grows to accommodate nearly 440 million persons expected by 2050, there is no question that the natural and built environments will experience extraordinary development pressures and changes. New investments and innovations will be required to keep pace with this growth and change in all sectors, including education, energy, health care, food production, telecommunications, and housing. Transportation systems and services will also need investment and maintenance to avoid bottlenecks and congestion and to ensure access to opportunities for employment, education, health care, and other essential goods and services that ultimately define one's quality of life and the ability to care for oneself, one's families, and one's communities. But growth and change, as always, will be spatially uneven and in some places will suffer setbacks. Difficult challenges will exist in those areas of the country that have lost, or continue to lose, population, as many of those living in the downsizing areas lack the financial capacity to leave the area or lack the educational attainment or training to qualify for the next job. Despite a declining economic base, these regions and communities will still need to find ways to reinvest in their infrastructure, facilities, services, and human capital to attract investment, adapt their skills, and find sustainable solutions for the future.

The demographic composition of the U.S. population is expected to undergo a significant transformation by 2050 driven by economic and social factors such as an aging population and workforce and the need for flows of students and skilled and unskilled immigrant workers to support the economy and maintain the nation's social and physical infrastructure. Immigration and higher birth rates among minorities have put the United States on a path to become "majority–minority," in which less than 50 percent of the population will be non-Hispanic White. Racial and ethnic minorities, which currently account for one-third

of the U.S. population combined, are projected to reach 50 percent by 2050. In this future, multiple racial minorities reflecting multiple cultures will collectively become the majority of Americans.

Public involvement will continue to be a critical means for discovering how populations and communities create demand for and view transportation systems and services and, thus, is vital for informing planning, prioritization-setting, and project development decisions. However, as populations grow and change, practitioners may find that the traditional public involvement techniques may need to be reevaluated and refined.

Transportation agencies may also discover that their traditional policies and procedures at *all* stages of decisionmaking may be inadequate to address the current and changing demographic realities, effectively limiting meaningful participation by traditionally underserved populations. Agencies and practitioners, therefore, will need to consider their cultural competency and consider how their services and practices may need to be adapted or sensitized to other languages and other cultures. By doing so, they are acknowledging the core principles under the nation's laws related to fair treatment, equal access, and equal protection.

Beyond adhering to these core principles and laws, transportation agencies and practitioners that are capable of taking these actions are likely to build and strengthen relationships with an increasingly diverse society. These actions will foster greater trust through their good-faith actions. There are benefits from this to be enjoyed if the changing demographics are acknowledged and decision-making processes are allowed to evolve toward a standard of meaningful involvement—better recognition of needs and concerns will lead to transportation decisions that have public support and will engender less controversy and less delay.

Involving Traditionally Underserved Populations

There are three main steps in involving traditionally underserved populations that are not routinely recognized, but are integral to the development of practical approaches that work:

- Identify and locate underserved populations;
- Foster participation by underserved populations; and
- Create opportunities for meaningful public involvement.

These three steps are interrelated and equally important in effectively engaging traditionally underserved populations; however, our research suggests that the emphasis in the existing practice appears routinely to be on outreach strategies to promote attendance at events. Less consideration has been given to how traditionally underserved populations were identified or located to encourage their participation or strategies developed by which this participation can be engaged effectively in a continuing dialogue or process that may influence outcomes. That is, less consideration has been given to establishing opportunities to create meaningful public involvement.

The range of practical approaches that can be implemented for meaningfully involving the traditionally underserved populations in transportation decisionmaking is extensive, extending beyond planning and project development and into all stages of decisionmaking. For example, transportation agency leadership and management have compelling responsibilities, as already suggested, to better adapt the dominant culture and practices of their organizations to emerging demographic realities. The obligations and promise of Title VI of the Civil Rights Act of 1964, as amended, and subsequent regulations and executive orders, make clear the need for transportation organizations to review their programs, plans, and

activities to ensure that the principles of nondiscrimination and access to services for all are advanced and protected.

Practical Approaches—Organization of The Guidebook

The **Introduction** (Chapter 1) explores the rationale for the guidebook, placing in an historical and regulatory context the need for fair treatment, meaningful involvement, and cultural competency in transportation decision-making processes.

Patterns, Trends, and Factors Driving Change (Chapter 2) presents an overview of the changing demographics of the U.S. population with a focus on topics relevant to transportation agencies and practitioners today—to meet the letter and spirit of our current laws and policies—and that promise to be of enduring importance when working to engage traditionally underserved populations in the future. The chapter presents definitions, trends and patterns, and data sources that can be accessed by community impact and public involvement practitioners, policy researchers, and advocates to better identify and understand the needs and concerns of traditionally underserved populations in their own work—a critical step in better preparing and training the agency and practitioner to develop processes that will create meaningful opportunities for involvement and deliver more equitable and just outcomes.

Working with the public, including traditionally underserved populations, and ensuring that their needs, concerns, and issues are understood and addressed can take many different forms and be expressed in many different types of activities in transportation. What is "practical" or "effective" will vary by stage of transportation decisionmaking. Many contextual factors or attributes are closely linked to transportation decisions and are likely to influence the agency and the practitioner's approach to interactions with the affected public and traditionally underserved populations, including:

- Geographic scale of the transportation activity or decision;
- Public or community attitude toward the agency and its history and treatment;
- Understanding of the subject activities and the degree of controversy they engender;
- Cultural, social, and economic composition of the populations affected;
- Nature of input needed or sought;
- Timeline for decision; and
- Level of public involvement and type of engagement or collaboration desired by the agency.

With so many contextual factors relevant to selecting the "right approach" for involving the public, including those who are thought to be traditionally underserved populations, the transportation practitioner might take some comfort in recognizing that there is no "one-size-fits-all" approach or a prescriptive series of steps or processes to be followed. What will prove to be a practical approach is *context-specific*; practitioners seeking to improve decision-making processes will adapt and customize their strategies and processes as the best means for achieving a standard of meaningful involvement.

Practical approaches may be better characterized, not by prescription as to where and when they should be used, but as an outlook or perspective adopted by the agency or the practitioner as they orchestrate the creative use of various tools or techniques toward reaching a standard of meaningful involvement. For this guidebook, practical approaches have been categorized based on seven nonsequential, but often interrelated, task objectives:

1. Identify Populations.
2. Implement Public Involvement Plan.

3. Provide Information.
4. Gather Feedback.
5. Build Relationships.
6. Mitigate Impacts, Deliver Benefits.
7. Overcome Institutional Barriers.

These task objectives provide an organizing framework for presenting various effective practices and tools and techniques. How and why these practices are applied and why they are effective at reaching and engaging traditionally underserved populations is described, including examples of how they have been successfully applied by others. The task objectives framework reflects varying levels of public participation and engagement that are undertaken at various times as well as more tangible expressions of authentic commitment and beneficial impact extended to traditionally underserved populations by transportation agencies and practitioners at various decision-making stages.

The scope of activities generally undertaken under each of these task objectives is described in greater detail in Chapter 3, **Practical Approaches**. Task objectives can broadly range from identifying the location or community characteristics of traditionally underserved populations and informing persons of upcoming events to fostering meaningful opportunities for participation instituting agency reforms, or delivering programs and services to ensure access and benefit disadvantaged populations. More detailed descriptions of the specific contexts in which practitioners and agencies have successfully implemented these tools are included in subsequent chapters devoted to **Effective Practices** (Chapter 4) and **Tools and Techniques** (Chapter 5).

Data Sources and Tools (Chapter 6) describes how various sources of data can be used to support practitioners as they prepare a profile of the existing social and economic characteristics of a community, identify potential partnering organizations, or conduct policy-related research or advocacy-based activities on behalf of traditionally underserved populations. Links to the data sources can be followed to learn more about the source and/or access datasets.

The **Bibliography** contains reference materials and other research that informed the development of the guidebook. Several strands of academic, professional, legal, and community- and interest-based advocacy research and reports are brought together in the bibliography.

This guidebook presents many practical approaches that agencies and practitioners can take. The critical factor in getting it right—in bridging the gap between the agency and practitioner and traditionally underserved populations—is developing well-trained practitioners. Even the best and shiniest toolbox is of no value without someone sufficiently prepared and trained to use it correctly.

Introduction

Purpose of Guidebook

Presidential Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," requires federal agencies to improve access to federally conducted and assisted programs and activities for persons who, as a result of national origin, are limited in their English proficiency. The number of U.S. residents for whom English is a second language is increasing, and the greatest proportion of these residents with limited English proficiency and low literacy fall within minority and low-income populations. Both executive orders are based on Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, sex, or national origin, by government agencies that receive federal funding.

Fair treatment and meaningful involvement of all people and enforcement of all laws, regulations, and policies are essential principles to promote nondiscrimination, environmental justice, and the public health, safety, and welfare of all communities. Transportation agencies—state departments of transportation, metropolitan planning organizations, county and local governments, transit services, and tribal authorities—implement many different approaches to meet the letter and spirit of federal laws, regulations, and executive orders. Effective transportation decisionmaking depends upon recognizing, responding to, and properly addressing the unique needs, cultural perspectives, and financial limitations of different socioeconomic groups. Developing an understanding of the value systems and viewpoints of these groups can be greatly aided by implementing a more comprehensive and inclusive approach to engaging the public in transportation decision-making processes.

Transportation agencies are finding that traditional public involvement techniques are often inadequate, effectively limiting *meaningful involvement* by traditionally underserved populations in the transportation decision-making process (see box titled, "Who Are the Traditionally Underserved Populations?"). Achieving meaningful involvement with the public means that potentially affected community stakeholders and residents have an opportunity to participate in decisions about a proposed activity that will affect their environment, safety, or health. It means that affected communities have an opening to influence government decisions and that all involved participants will be considered in the decision-making process.

There are times when agencies and practitioners despair that, despite their best efforts, the public is simply too busy with everyday life—at work, at home, at school, and at play—to care about planning or other transportation-related decisions. This may be true in some cases, but

Who Are the Traditionally Underserved Populations?

The FHWA's rules for the Metropolitan Transportation Planning Process (Title 23 CFR Part 450.316(a)(1)(vii)) require that an MPO's public participation plan describe explicit procedures, strategies, and desired outcomes for seeking out and considering the needs of those *traditionally underserved* by existing transportation systems, such as low-income and minority households.

The traditionally underserved can be defined as those specifically identified in Executive Order 12898 on Environmental Justice—that is, low-income populations and minority populations including Hispanics/Latinos, African Americans/Blacks, Asians/Pacific Islanders, and Native Americans—as well as other populations recognized in Title VI and other civil rights legislation and executive orders, including those with limited English proficiency such as the foreign-born, low-literacy populations, seniors, Americans with disabilities (including those who are visually and hearing impaired) as well as in transportation legislation, such as transit-dependent populations.

Several interviewees for this study defined the traditionally underserved in terms of their vulnerability and the difficult economic, physical, or social circumstances that they experienced. The traditionally underserved included persons with low educational attainment (i.e., those without a high school degree), the unemployed or the underemployed who may have less access to opportunities. Single mothers, undocumented workers, immigrants with limited English proficiency, the homeless, substance abusers, and domestic violence victims are vulnerable populations. Women, elderly, physically or mentally impaired persons, late-night transit-dependent workers, or youth may have limited mobility options, particularly complex travel needs (e.g., trip-chaining and transit transfers), or have excessively difficult commutes in terms of time or risks to personal safety to reach jobs or other opportunities because of their isolation (i.e., distance or time-of-day). Transportation solutions need to be combined with other land use planning, social service, education, and health care initiatives to alleviate persistent disadvantages experienced by all persons in-need.

Terms synonymous with, or close in definition to, "traditionally underserved" include "historically underrepresented," "socially disadvantaged," "vulnerable," "at-risk," "in-need," and "communities of concern." These terms, in general use or referenced in reports and governing policies, share a recognition that some individuals and groups experience a persistent inability to meet basic needs, access opportunities to improve their circumstances, or influence decisionmakers because of their social position, lack of resources, or powerlessness. The terms encompass both protected and unprotected classes and groups under the nation's existing civil rights laws and other laws, regulations, and executive orders.

"Traditionally underserved" populations may be specifically appropriate for use in the field of transportation because it places the onus for remedying conditions upon the governing institutions responsible for equitable delivery of systems and services rather than solely upon the disadvantaged individual. This project focuses on the populations that have been traditionally underserved by existing transportation systems and decision-making processes. The report and toolkit describe criteria for defining and methods for identifying underserved populations, including particularly useful data sources and other tools and resources.

practitioners and agencies can look at the results of their efforts and ask themselves again whether they have done what they could to engage a sometimes distracted, but also sometimes distrustful public. Achieving meaningful involvement therefore may involve finding other creative ways—not just through holding transportation meetings, but in other situations, other forums, other locations, other times, and with the right organizations, the right people or the right incentives—to reach and connect with the affected public, including traditionally underserved populations.

The objective of this research project is to develop a practical and easy-to-use toolkit of practical approaches—a compendium of effective practices, tools and techniques, and data sources—that agencies and practitioners can use to foster the meaningful involvement of traditionally underserved populations, particularly minority, low-income, limited English proficiency, and low literacy groups, in transportation decisionmaking. Transportation agencies need proven tools to effectively engage an increasingly diverse public in the development of transportation solutions that are appropriate to each stage of decisionmaking.

Organization of Guidebook

The report has been organized into the following chapters:

Chapter 1, **Introduction**, looks back at the nation's history of siting urban highways and describes key landmark legislation and regulations, executive orders, and agency guidance that have opened up transportation decision-making processes to greater public involvement. The chapter cautions, however, that there is a difference between mandated or formal public involvement processes and those that foster meaningful involvement. There are many types of barriers to achieving meaningful involvement, ranging from agency or institutional traditional practices and preferences to individual limitations and inadequate professional training in public involvement, environmental justice, civil rights, and limited English proficiency, among other topics. The chapter describes several challenges faced by agencies and individuals when bridging social and cultural gaps that separate the professional practitioner from a diverse set of traditionally underserved populations, suggesting that developing "cultural competency" is important for the transportation agency and the dedicated practitioner. Some concluding observations from state-of-the-practice research involving literature reviews and interviews offer a rationale for a guidebook to better involve traditionally underserved populations in decision-making processes.

Chapter 2, **Patterns, Trends, and Factors Driving Change**, presents an overview of the changing demographics of the U.S. population with a focus on topics relevant to transportation agencies and practitioners today in meeting the letter and spirit of the nation's current laws and policies and that promise to be of enduring importance when working to engage traditionally underserved populations. The highlighted patterns, trends, and factors—drawn from the realms of demographics, economics, and communications—will drive changes in transportation demand and alter the socioeconomic context in which we live. These changes create new challenges for practitioners, agency leadership, elected officials, and the larger society of citizens and stakeholders to fully grasp and address. The chapter presents definitions and data sources that can be accessed by community impact and public involvement practitioners, policy researchers, and advocates to better identify and address the needs and concerns of traditionally underserved populations.

Chapter 3, **Practical Approaches**, describes tools and techniques, analytical approaches, and effective practices that have been successfully used by agencies and practitioners in trying to foster meaningful participation, particularly on behalf of traditionally underserved populations. Seven task objectives are defined as a rubric for organizing these practical approaches to be undertaken by transportation agencies and practitioners and generally reflect varying levels of engagement,

commitment, and direct beneficial impact for traditionally underserved populations. Thus, task objectives can broadly range from identifying the location or community characteristics of traditionally underserved populations to fostering meaningful participation, instituting reforms, or delivering programs and services to benefit these populations. Some practical approaches are applicable to a specific stage of transportation decisionmaking (e.g., policy research, statewide or metropolitan planning, project development/National Environmental Policy Act (NEPA) compliance, construction, etc.), while other approaches can be readily applied throughout all or several decision-making stages. The chapter makes brief mention of each practical approach, highlighting successful examples of their implementation by various agencies or organizations. Interested practitioners will find more detailed descriptions and contextual information about the highlighted practical approaches in subsequent chapters.

Chapter 4, **Effective Practices**, and Chapter 5, **Tools and Techniques**, describe public involvement processes, analytical methods, data sources and tools, and proactive strategies as well as programs, plans, projects, studies, and other activities that have brought into clearer view the lives and concerns of various disadvantaged populations. Practices are considered "effective" if they have improved the understanding of traditionally underserved populations or created environments in which effective communication is possible, and they have supported or improved inclusive and comprehensive decision-making processes. Practices are deemed "effective" when they can deliver benefits, mitigate adverse impacts, or change physical, social, and travel conditions in ways that are truly welcomed by communities suffering from poverty, isolation, insecurity, or neglect. Effectiveness can also be defined in terms of the tangible and intangible benefits available to transportation agencies that implement more inclusive and comprehensive practices. Agencies that follow through with their commitments to affected communities can enhance their credibility with those communities and organizations. This can lead to broader support and better outcomes for initiatives in the future—a form of project delivery streamlining that is often underappreciated.

Guidance materials and other technical assistance resources have been developed in response to statutes, regulations, and executive orders that make clear the legal authority and obligations for compliance. This first chapter contains such references for that purpose. However, the real challenges that dedicated practitioners may face working within their agencies, or the benefits to the agency or the disadvantaged populations that may be achieved through successful collaborations and initiatives, are less often the subject of research. The Effective Practices and the Tools and Techniques chapters present many case examples, offering context and descriptions of the specific activities that agencies and practitioners are using to identify and involve traditionally underserved populations in the decision-making process. Sharing examples presents an opportunity to step into the shoes of another practitioner and observe how others are creatively working in ways that influence decision-making processes and deliver tangible benefits to disadvantaged persons and communities. While the examples do not fully measure whether the methods chosen are "optimal" or truly "cost-effective," cost and performance-related information is presented for many of the case examples in order to better assess the merits and limitations of these various initiatives. Authoritative resources and contacts are listed for follow-up research and networking.

Chapter 6, **Data Sources and Tools**, describes data sources and other tools that can be used to prepare a profile of the existing social and economic characteristics of a community, to identify potential partnering organizations, and to conduct additional policy-related research or advocacy-based activities on behalf of traditionally underserved populations. The description of each data source identifies the key indicators available from the source, the patterns and trends that the data can measure, the available geographic coverage, timeliness, pros and cons of the dataset, and the potential value of the data source for policy research, planning, impact assessment, and advocacy purposes. Web links to the data sources can be followed to learn more about the source and/or to access datasets.

The **Bibliography** contains reference materials and other research that informed the development of the guidebook. Several strands of academic, professional, legal, and community- and issue advocacy–based research are organized alphabetically into the following sections: Community and Cultural Perspectives; Cultural Competency; Demographic and Cultural Trends and Patterns; Environmental Justice/Title VI, Community Impact Assessment, Health Impact Assessment, and Mitigation; Job Training, Mentoring, and Disadvantaged Business Procurement; Legislation, U.S. Code, Regulations, and Guidance Policies; Planning and Project Development: Context Sensitive Solutions, Bicycle and Pedestrian, and Safe Routes to Schools and Transit; Public Involvement in Decisionmaking; Transportation History; and Tribal Transportation and Tribal Consultation.

The Historical Mission and Its Consequences

The automobile's arrival and its widespread adoption led to ever-rising levels of urban traffic congestion in the first half of the twentieth century. Unclogging gridlock within the nation's cities became a critically important problem for the nation's professional engineers and planners to solve, as was connecting cities to their suburban and rural areas to support population growth, land development, labor markets, and commerce and trade. Historically, transportation agencies, particularly the state highway agency and the city public works department, were led by those trained in the engineering profession and who hewed closely to a narrowly defined mission—the efficient processing of traffic to ensure mobility and safety. The solutions proposed and constructed by transportation agencies were considered synonymous with the public good. Transportation agencies believed they had the authority and the expertise to define and meet the critical transportation needs of the society.

> *Both planners and engineers embraced the freeway, but they embraced it with different goals in mind. Planners sought to use freeways both as a means of dealing with urban traffic congestion and as a tool for shaping the future development of the city. Planners appreciated the traffic carrying advantages of the new roadways, and they were quick to include the new roads, variously called superhighways, expressways, limited motorways, and freeways in their plans. But planners were also concerned how to integrate freeways into the built landscape, how to coordinate freeway transit and local street planning. Most planners included lengthy discussions of the potential non-transportation effects of freeways in their plans, but they often lacked the hard data needed to convince politicians and engineers of the soundness of their views. . . . Engineers defined the problem of urban transportation as the need to maximize the throughput of motor vehicles, at as low a cost, and they embraced freeways because they were more efficient conduits for the movement of motorized traffic than other roads. . . . Unfortunately, this led some engineers to route freeways in such a way that they caused the invasion of parks, the demolition of scarce low-cost housing units, and the loss of other amenities* (Brown, 2002).

Urban expressway building in the post-war Interstate era was costly, particularly in the urban sections. There were critics of this approach to addressing the nation's urban and transportation problems. Daniel Patrick Moynihan, then a professor and former advisor to a New York State governor, wrote of the Interstate program in 1960, that "it was a 'vast program thrown together, imperfectly conceived and grossly mismanaged, and in due course becoming a veritable playground for extravagance, waste and corruption' " (Weingroff, 2006). Moynihan continued:

> *It is not true, as it is sometimes alleged, that the sponsors of the interstate program ignored the consequences it would have in the cities . . . they exulted in them. Thanks to highways, declared the Clay Report, 'We have been able to disperse our factories, our stores, our people; in short, to create a revolution in living habits. Our cities have spread into suburbs, dependent upon the automobile for their existence.' . . . In general, the program is doing about what was expected. throwing up a Chinese wall across Wilmington, driving educational institutions out of downtown Louisville, plowing through the center of Reno. When the interstate runs into a place like Newburgh, New York, the wreckage is something to see . . .* (Moynihan, 1960, 19–20).

For those interested in the future of the central city from the elite professions—engineering firms, urban planners, real estate developers, central city business organizations, big-city mayors—the highway program in the 1950s dovetailed neatly with urban economic development policy. The post-WWII era of Interstate highway construction provided a federally-funded means for rebuilding or enhancing the central city's central business district and eliminating blight and deteriorating housing stock through slum clearance and urban renewal.

> *Working within federal traffic engineering guidelines, but with few other constraints, highway builders at the state and local levels routed the new urban expressways in directions of their own choosing. Local agendas often dictated such decisions. In most cities, the result was to drive the interstates through black and poor neighborhoods. Urban blacks were heavily concentrated in areas with the oldest and most dilapidated housing, where land acquisition costs were relatively low, and where organized political opposition was weakest. Displaying a "two-birds-with-one stone" mentality, cities and states sought to route Interstate expressways through slum neighborhoods, using federal highway money to reclaim downtown urban real estate. Inner-city slums could be cleared, blacks removed to more distant second-ghetto areas, central business districts redeveloped, and transportation woes solved all at the same time—and mostly at federal expense* (Mohl, 2002, 28).

The damage inflicted upon communities in the New York metropolitan region is vividly detailed along with the extraordinary technical engineering accomplishments of this highway building era in the Pulitzer Prize–winning, *The Power Broker: Robert Moses and the Fall of New York.* The Gowanus Expressway tore through the Sunset Park neighborhood of Brooklyn, dislocating 100 stores and 1,300 families and draining the area's commercial vitality even as it became awash in truck movements. The area became a ". . . place for cars. And as the roadways became more crowded, its sidewalks began to empty." Along a single-mile stretch of the Cross-Bronx Expressway in the East Tremont section of the Bronx, 1,530 families who were living in 159 buildings were evicted despite seemingly viable routing alternatives (Caro, 1974, 522, 878).

Urban neighborhoods throughout the United States were split apart by large scale demolition and displacements, including in Miami (FL), Nashville (TN), Columbia (SC), Birmingham (AL), Camden (NJ), Kansas City (MO), Charlotte (NC), St. Paul (MN), Pittsburgh (PA), Chicago (IL), Cleveland (OH), Columbus (OH), Milwaukee (WI), Tampa (FL), Jacksonville (FL), Orlando (FL), Pasadena (CA), and Boston (MA), among other cities. These communities were often predominantly occupied by blacks, but urban highway projects also threatened other ethnic minorities generally living in low-income neighborhoods (Mohl, 2002, 30–37).

In San Francisco, organized opposition to Interstate development took shape in 1959 with a movement to stop the Embarcadero Freeway (I-480), a proposed link between the San Francisco–Oakland Bay Bridge (I-80) and the Golden Gate Bridge (U.S. 101). In New Orleans, a successful battle was waged in the mid-1960s by local preservationists who were alarmed at the threat to the French Quarter presented by a 40-foot-high elevated Riverfront Expressway slated to connect to the port district. But far less opposition citywide had been mobilized against Interstate 10's construction, which opened in 1968 and proved devastating to Black businesses and residences along Claiborne Avenue, an area north of the French Quarter (Lewis, 1997, 188–189). Greater citizen activism and public opposition to the urban highway construction program and its destructive social consequences began to emerge in the latter half of the 1960s, leading to new political pressures to critically evaluate and reform the relationship between agencies making transportation decisions and the affected public:

> *Until 1968 citizen involvement in highway decision-making was generally limited to a single public hearing, required by law but for information purposes only. These public hearings on urban expressways came very early in the process. They generally attracted little notice and light attendance. Years later, when right-of-way acquisition and then construction began, people became outraged that such crucial decisions about their cities and neighborhoods had been made by outsiders with minimum community involvement. They protested the demolition of stable neighborhoods, the destruction of parks and historic districts, damage*

to sensitive environmental areas, and the use of riverfronts and waterfronts for automobiles rather than for people (Mohl, 2002, 76).

By the mid-1960s, sufficient political pressure pushed the U.S. Congress to pass legislation to mitigate the plight of relocating families displaced by the ambitious highway and urban renewal programs. In the early 1960s, federal highway construction was estimated to be displacing 33,000 families, mostly located in urban centers, from their homes each year. Meanwhile, urban renewal and new public housing projects were annually displacing another 38,000 families. In 1967, the newly established U.S. Department of Transportation foresaw that over 56,000 families and businesses would be displaced annually to complete the urban Interstate program by the early 1970s. By 1969, federal highway construction was estimated to be demolishing over 62,000 housing units annually, potentially affecting as many as 200,000 persons each year (Mohl, 2002, 59).

The Federal Highway Administration and the U.S. Department of Transportation began to reassess their policies, moving away from the prevailing technocratic engineering ethos that had characterized prior administrations. Some expressway projects were cancelled, while other routes were altered to avoid neighborhood destruction.

Looking back at this legacy, it is undeniable that the transportation highway program fundamentally transformed the American way of life, altering the nation's landscapes and lifestyles, and reshaping patterns of commercial and residential land development. Transportation systems delivered regional benefits such as mobility to job centers, particularly for those non-minority Americans who were part of the initial waves of families relocating from the cities and who did not face barriers settling in suburban communities. But these regional-connecting transportation systems also imposed burdens to politically marginalized communities that bore the brunt of the adverse public health and safety impacts from the siting of new urban highway alignments.

Reflecting upon the lessons of this highway building era—a period that intersected with rising environmentalism, civil rights, and Vietnam anti-war protests—the public and its advocate practitioners came to a deeper appreciation of the impacts of transportation systems on the human environment. Observing the scarring effects of siting highways through urban regions, citizen advocates and community leaders realized the enduring consequences of being kept from the decision-making table. They began to question the priorities and the cited benefits extolled by the governing institutions, including transportation agencies.

Communities today continue to bear witness to these past decisions—how resources were invested and allocated—and their cumulative effects upon livability and access to opportunities. Given these consequences, communities today recognize that they cannot afford to be excluded from the siting and design of transport systems and services. The rationale for individual projects as well as the design features of these projects is even more likely to be questioned by the public when that same public is excluded from *meaningful* participation. Projects have been seriously delayed or stopped in recent years not only due to objections about the proposed design, but because the proposed solutions did not meet the community's needs and preferences, which are often broader in scope than the objectives laid out by the transportation agency.

Landmark Legislation: Opening Transportation Decision-making Processes

Over the past 60 years, landmark legislation like the **Federal Aid Highway Act of 1950**, which required states to hold public hearings if a federal-aid highway project involved bypassing or going through a city, town, or village and to consider the economic effects of the location, and the federal transit laws originally enacted in 1964, gave new opportunities for interested persons to voice their perspectives in the development of transportation solutions. The **Federal Highway**

Act of 1962 limited the authority of state highway departments by enabling other voices to be heard during the decision-making process on interstate routing. A new "3C Process" required that state highway departments develop "a cooperative, comprehensive, and continuing urban transportation planning process, including coordination with plans for other modes of transportation and for local land development, with greater participation in planning by local government." The comprehensive planning process endorsed in the legislation was new in transportation. State highway agencies were expected to get input from local officials and consider mass transit alternatives. The legislation also recognized the need for state highway departments to deliver location assistance to displaced families and businesses, although implementation of this protective remedy for urban communities was delayed until July 1, 1965.

The balance of power between the champions of highway building and local opposing interests was also altered through other major federal laws and regulations established between 1966 and 1970. For example, the Section 4(f) provision of the **Department of Transportation Act of 1966** established legal protections for publicly-owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historical sites. The relocation requirements of the Federal-Aid Highway Act of 1968 and the subsequent **Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970**, the FHWA's "two-hearing" regulation in 1968 (i.e., one on highway corridor location and a second on specific design issues), the **Freedom of Information Act of 1966**, the **National Environmental Policy Act of 1969 (NEPA)** and the **Clean Air Act of 1970** were other ground-shifting laws and regulations of this era. Creating new processes for the highway builders to follow, the new legal and regulatory environment provided better access to information for citizen groups and opened new opportunities for litigation for those opposed to new highway development (Mohl, 2002, 93).

From this era, other statutes, regulations, executive orders, and agency guidance have followed, further establishing the legal foundation as well as the rationale for public involvement, social impact assessment, and a commitment to nondiscrimination throughout the transportation decision-making process. A brief synopsis of various legal protections and guidance follows.

Environmental Legislation and Policy under the NEPA Umbrella

NEPA requires an agency using federal funds to conduct a review of the social, economic, and environmental impacts that a proposed action would have upon the environment. NEPA makes clear the need to analyze these impacts and promotes the use of the social sciences to assess the effects on the human environment. The **Federal-Aid Highway Act of 1970 (23 USC 109(h))** reinforced NEPA by defining specific adverse economic, social, and environmental impacts to communities that must be considered in developing any project on any federal-aid system. The act calls for final decisions to be made "in the best overall public interest" balancing the need for fast, safe, and efficient transportation, public services, and the costs of "eliminating or minimizing such effects as air, noise, and water pollution; destruction or disruption of manmade and natural resources; aesthetic values; community cohesion; the availability of public facilities and services; adverse employment effects; tax and property value losses; injurious displacement of people, businesses, and farms; and disruption of desirable community and regional growth."

Other regulations, guidance, and initiatives have since been developed as part of the NEPA process to further emphasize the importance of identifying and addressing potential impacts on the human environment that may result from transportation projects. **Executive Order 11514, "Protection and Enhancement of Environmental Quality,"** signed in 1970, requires federal agencies to monitor, evaluate, and control activities to protect and enhance the environment,

and to develop procedures to provide information to the public concerning federal plans and programs with environmental impact. Executive Order 11514 includes a provision for public hearings, requires that the public be apprised of alternative courses of action, and affords interested parties the opportunity to comment on proposed actions.

The Council on Environmental Quality (CEQ) issued **Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500–1508)**. These regulations required federal agencies to use all practicable means, consistent with NEPA, to avoid and minimize any possible adverse effects of their actions upon the quality of the human environment and established the environmental documentation process.

In 1987, the Federal Highway Administration issued **Environmental Impact and Related Procedures (23 CFR 771)**, which detailed policies and procedures for implementing NEPA and the CEQ regulations, including the need for early and continuing opportunities for the public to be involved in the identification of social, economic, and environmental impacts during project development (see box titled, "Need for Early Coordination and Public Involvement"). The FHWA also issued its **Guidance for Preparing and Processing Environmental and Section 4(f) Documents (TA6640.8A)**, which emphasized early and continuing coordination with agencies and the public and the exchange of information throughout the environmental review process.

NEPA and FHWA's guidance established several procedural requirements giving opportunity for public review and comment to influence decision-making processes, including 1) the identification of the purpose and need for a proposed project or program; 2) an assessment of a project's or program's effects, including its human health, economic, and social effects; 3) consideration of alternatives when significant impacts are anticipated; 4) identification of mitigation measures to avoid and minimize significant impacts; and 5) a public process for review of need, impacts, alternatives, and mitigation options (Sanchez and Brenman, 2007, 77).

The concept of *mitigation,* in particular, is critical for ameliorating significant adverse impacts when they are expected. Under CEQ rules for NEPA (40 CFR 1508.20), mitigation includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

Opponents of specific transportation projects have also found that some courts are receptive to challenges of agency decisions that are based on NEPA documents, particularly arguments over procedural failings in which agencies did not appear to consider alternatives in good faith, when there is an absence of evidence that research was conducted, or when findings were not adequately supported by the research presented. For example, the indirect and cumulative effects analyses have been vulnerable to challenge when they have been inadequately prepared. "Cumulative effects" include the total of all impacts to a particular resource that have occurred, are occurring, or will likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of a federal activity. Cumulative effects can result from actions that are individually minor, but collectively significant over a period of time. Communities, having been burdened by a greater share of locally unwanted facilities or land uses based upon past decisions, may question upcoming transportation decisions. Projects have been slowed, altered, and even canceled after the courts have sided with opponents and agencies have been ordered to prepare such sections of the NEPA documents again with greater diligence.

Need for Early Coordination and Public Involvement

The need for early coordination and public involvement by state transportation agencies is made clear in FHWA's Regulations for Environmental Impact and Related Procedures:

(2) State public involvement/public hearing procedures must provide for:

  (i) Coordination of public involvement activities and public hearings with the entire NEPA process.

  (ii) Early and continuing opportunities during project development for the public to be involved in the identification of social, economic, and environmental impacts, as well as impacts associated with relocation of individuals, groups, or institutions.

  (iii) One or more public hearings or the opportunity for hearing(s) to be held by the State highway agency at a convenient time and place for any Federal-aid project which requires significant amounts of right-of-way, substantially changes the layout or functions of connecting roadways or of the facility being improved, has a substantial adverse impact on abutting property, otherwise has a significant social, economic, environmental or other effect, or for which the FHWA determines that a public hearing is in the public interest.

  (iv) Reasonable notice to the public of either a public hearing or the opportunity for a public hearing. Such notice will indicate the availability of explanatory information. The notice shall also provide information required to comply with public involvement requirements of other laws, Executive orders, and regulations.

  (v) Explanation at the public hearing of the following information, as appropriate:

   (A) The project's purpose, need, and consistency with the goals and objectives of any local urban planning,

   (B) The project's alternatives, and major design features,

   (C) The social, economic, environmental, and other impacts of the project,

   (D) The relocation assistance program and the right-of-way acquisition process.

   (E) The State highway agency's procedures for receiving both oral and written statements from the public.

  (vi) Submission to the FHWA of a transcript of each public hearing and a certification that a required hearing or hearing opportunity was offered. The transcript will be accompanied by copies of all written statements from the public, both submitted at the public hearing or during an announced period after the public hearing.

Source: FHWA's Regulations for Environmental Impact and Related Procedures, 23 CFR Section 771.111 (excerpt).

U.S. Civil Rights Laws and Policy

Title VI of the Civil Rights Act of 1964 prohibited discrimination in the conduct of all federal activities. Section 601 of Title VI states:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Pursuant to Title VI of the Civil Rights Act of 1964 and other related legal statutes and non-discrimination authorities, it is the policy of the U.S.DOT that discrimination on the ground of race, color, national origin, disability, sex, and age shall not occur in connection with programs or activities receiving financial assistance. The Civil Rights Restoration Act of 1987 subsequently clarified the intent of Title VI to include all programs and activities of federal-aid recipients, subrecipients, and contractors, whether those programs and activities are federally funded or not.

The focus of Title VI is on both intentional forms of discrimination and disparate impact discrimination—that is, an adverse effect of a practice or standard that is neutral and nondiscriminatory in its intention but, nonetheless, disproportionately affects individuals having a disability or belonging to a particular group based on their age, ethnicity, race, or sex. The U.S. DOT seeks to ensure compliance with Title VI in all of its programs and activities whether or not those programs and activities are federally funded. Their efforts to prevent discrimination extend to a program's impact upon access, benefits, participation, treatment, services, contracting opportunities, training opportunities, investigation of complaints, allocation of funds, prioritization of projects and the functions of planning, project development, design, right-of-way acquisition, construction, and research. As a result of the U.S. Supreme Court decision, *Alexander v. Sandoval* in 2001, citizens can only petition through the courts for relief from intentional discrimination, but cannot bring a private right of action to enforce disparate impact regulations promulgated under Title VI.

In 1994, **Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,"** directed every federal agency to "make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on minority populations and low-income populations." The executive order reinforced what had been law for more than three decades—Title VI of the Civil Rights Act of 1964. Executive Order 12898 essentially reminded all government agencies receiving federal funding that they are required to address discrimination as well as the consequences of all of their decisions or actions that might result in disproportionately high and adverse environmental and health impacts on minority and low-income communities. By its issuance, the executive order called upon federal agencies to examine the treatment of low-income groups—a population group that was not explicitly referenced in the body of civil rights legislation. Executive Order 12898 was a catalyst for agencies, particularly the U.S.DOT, to assess their policies, programs, and activities. However, an executive order is limited in scope and authority; it is intended to improve the internal management of the executive branch and does not create any right, benefit, or responsibility enforceable by law and does not create any right to judicial review.

In 1997, the U.S.DOT issued its **Order to Address Environmental Justice in Minority Populations and Low-Income Populations (U.S.DOT Order 5610.2)**. The U.S.DOT order addressed the requirements of Executive Order 12898 and set forth the U.S.DOT's policy to promote the principles of environmental justice in all programs, policies, and activities under its jurisdiction. Since the U.S.DOT order was issued, the FHWA and the FTA have been working with their state and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their mission. These efforts include **"Implementing Title VI Requirements in Metropolitan and Statewide Planning,"** a memorandum issued in 1999 that addresses the integration of environmental justice efforts in the planning phase. The essence of effective environmental justice practice has been distilled into three fundamental principles that have been summarized in U.S.DOT and FHWA guidance (see box titled, "Fundamental Principles of Environmental Justice") and embody concerns for processes by which transportation decisions are made, their effects upon communities, and in the equitable distribution of benefits that are allocated through the prioritization and spending of funds.

Fundamental Principles of Environmental Justice

The essence of effective environmental justice practice, distilled into three fundamental principles, has been summarized in U.S.DOT and FHWA guidance:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Source: FHWA, An Overview of Transportation and Environmental Justice, May 2000, http://www.fhwa.dot.gov/environment/ej2000.htm

LEP Guidance—Four Factors

The U.S.DOT guidance outlines four factors that recipients should consider in reviewing how they interact with the public in order to assess language needs and decide what reasonable steps should be taken to ensure meaningful access for LEP persons.

1. the number or proportion of LEP persons eligible to be served or likely to be encountered by a program, activity, or service of the recipient or grantee;
2. the frequency with which LEP individuals come in contact with the program;
3. the nature and importance of the program, activity, or service provided by the recipient to people's lives; and
4. the resources available to the recipient and costs.

Source: U.S.DOT *Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons,* http://www.dotcr.ost.dot.gov/asp/lep.asp

In 2000, **Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency,"** required recipients of federal financial assistance to develop and implement guidance on how they will provide meaningful access to limited English proficiency (LEP) persons in order to comply with the regulations set forth in Title VI of the Civil Rights Act of 1964. The U.S.DOT issued **Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons**, in accordance with the executive order, which makes clear that U.S.DOT recipients are required to take reasonable steps to ensure meaningful access to their programs and activities by LEP persons (see box titled, "LEP Guidance—Four Factors").

The guidelines seek to find a balance that ensures meaningful access by LEP persons to critical services and programs while not imposing undue burdens on recipients or subrecipients.

Reaffirming and extending Title VI of the Civil Rights Act of 1964, the **Americans with Disabilities Act of 1990 (ADA)** prohibits discrimination on the basis of disability. Title II of the ADA provides that "no qualified individual with a disability shall, by reason of such disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination by a department, agency, special purpose district, or other instrumentality of the state or local government." All public meetings and events need to be held in ADA-accessible facilities. If requested, sign language interpreters and other assistance for visually or hearing impaired individuals can be secured for meetings, and documents can be translated into alternative formats.

The rights of the hearing and sight impaired were also addressed in the **Rehabilitation Act of 1973**, which prohibited discrimination on the basis of disability in programs conducted by federal agencies, in programs receiving federal financial assistance, in federal employment, and in the employment practices of federal contractors. In 1998, the Rehabilitation Act was amended

to require federal agencies to make their electronic and information technology accessible to people with disabilities. **Section 508** of that law established requirements for electronic and information technology developed, maintained, procured, or used by the federal government and required federal electronic and information technology to be accessible to people with disabilities, including employees and members of the general public. An accessible information technology system is one that can be operated in a variety of ways and does not rely on a single sense or ability of the user. Amendments of Section 508 make clear that federal employees with disabilities are entitled to have access to and use of information and data that is comparable to the access and use by federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless undue burden would be imposed on the agency.

Major Transportation Legislation and Supporting Policy Guidance

By 1991, the Interstate highway system was close to complete, costing more than $125 billion over 35 years rather than $27.5 billion over 10 years as had been projected back in 1956. Unlike prior rounds of highway reauthorization legislation, the **Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)** recognized that system preservation and maximizing its efficiency would need more attention. Senator Daniel Patrick Moynihan, the trenchant critic of prior highway legislation, was instrumental in the passage of this new legislation. ISTEA sought to strengthen planning practices, give metropolitan areas greater control over transportation decisions within their jurisdictions, and improve multi-modal planning. The legislation required integrated planning and recognition of fiscal constraints as well as rejection of project wish-lists whose costs exceeded available funding. It also envisioned a transportation planning process, broader in representation and sustained over time, that would require better coordination between states and metropolitan areas and between the public and private sectors. Transportation agencies, elected officials, and practitioners were thus challenged to establish involvement processes to engage a broader set of stakeholders, including the public, community groups, businesses, and other governmental agencies. Better and more locally responsive decisions were expected to result from widening the circle of participants.

ISTEA also made clear the importance of protecting the human and natural environments as well as of making a greater commitment to accessibility and equity in the provision of transportation services. In recognition of the wide-ranging effects of transportation investment decisions, ISTEA called for closer consideration of planning factors such as land use as well as the social, economic, energy, and environmental effects of transportation decisions. Public involvement processes were recognized as instrumental to adequately considering these impacts. This commitment to public involvement and other collaborative input processes was expected to yield better outcomes that reflected the community's mobility and accessibility needs (see box titled, "Raising the Bar for Public Involvement under ISTEA").

In 1996, the FHWA disseminated *Community Impact Assessment: A Quick Reference for Transportation, (CIA Quick Reference)* offering this important justification for the guide:

> *In the past, the consequences of transportation investments on communities have often been ignored or introduced near the end of the planning process, reducing them to reactive considerations at best. The goals . . . are to increase awareness of the effects of transportation actions on the human environment and emphasize that community impacts deserve serious attention in project planning and development—attention comparable to that given the natural environment. . . . [T]his guide is intended to provide some tips for facilitating public involvement in the decision-making process* (FHWA, 1996, 2).

Raising the Bar for Public Involvement under ISTEA

The federal government raised the bar for the public involvement process conducted by metropolitan planning organizations (MPOs) when ISTEA regulations required that a formal public involvement process—itself the product of public involvement—be adopted by the MPO. The FHWA and FTA foresaw several desirable outcomes from this commitment as seen in *A Guide to Metropolitan Transportation Planning Under ISTEA—How the Pieces Fit Together* (FHWA/FTA, 1994):

- Informed and involved citizens who have access to public records and the decision-making process;
- A planning approach that is proactive and open to participation by all;
- A process that not only encourages broad public participation but also considers and responds to public input;
- Ample opportunity for public comment when the final plan or Transportation Improvement Program (TIP) differs from the draft. In air quality nonattainment areas which are transportation management areas (TMAs), at least one public meeting must be held to review planning assumptions and the plan development process. At least one meeting must be held during the TIP development process;
- MPOs are encouraged to have public involvement in all planning activities. Some elements, such as the provision of timely information and access to information, should be part of the MPO's routine operations; and
- In planning certification reviews, federal agencies would explicitly consider whether adequate public involvement opportunities were provided and they may suggest that the planning partners augment their efforts to increase participation of *underserved* groups.

The methods and processes for assessing the social and economic impacts of transportation projects under NEPA, according to the *CIA Quick Reference*, are carried out through the **CIA** process. The *CIA Quick Reference* emphasizes the importance of integrating public involvement as part of the planning and project development process. The CIA assessment should identify all items of importance to people, allowing community concerns, such as changes in population, mobility and access, safety, employment effects, displacements, relocation, isolation, quality of life, physical aspects (e.g., barriers, noise, dust), among others issues to be properly considered. Information gathered from public involvement during the CIA process is expected to support: the development of the project's purpose and need; the identification, refinement, and selection of alternatives; the investigation of transportation impacts; and the identification of avoidance, minimization, mitigation, and enhancement opportunities.

A 1998 national conference, *Thinking Beyond the Pavement National Workshop on Integrating Highway Development with Communities and the Environment While Maintaining Safety and Performance,* laid the groundwork for experimentation with the principles of Context Sensitive Design (CSD), now more commonly referred to as Context Sensitive Solutions (CSS). CSS is a collaborative and interdisciplinary approach for involving all stakeholders to develop a transportation facility that fits its physical setting and preserves and enhances scenic, aesthetic, historic, community, and environmental resources, while maintaining or improving safety, mobility, and infrastructure conditions. CSS considers the total context within which a transportation

improvement project will exist, dealing with "context" as both a constraint and an opportunity. Through better understanding of context, project sponsors are more likely to advance projects in harmony with the community and preserve resources that otherwise might be lost or harmed. The conference emphasized the importance of local involvement in transportation decisionmaking and good design that is sensitive to the surrounding environment. See the box titled "Key Principles of Context Sensitive Solutions" for key principles that emerged from the seminal conference report about the qualities of a CSS project that characterize excellence in design and the integral role of involvement processes to yield this excellence.

> *"Context Sensitive Solutions is not a philosophy to be selectively applied to certain categories of projects, but an approach to transportation planning, design, construction and maintenance that is scalable to use on every transportation project."*
>
> —TransTech Management, Inc. et al., *NCHRP Web-Only Document 69: Performance Measures for Context Sensitive Solutions—A Guidebook for State DOTs*. Transportation Research Board of the National Academies, Washington, D.C., 2004.

Five states and one federal highway design agency worked to integrate the principles of CSD/CSS into their project design processes after this conference. These states developed training sessions, teaching guides, and manuals related to specific problems. During this period, the FHWA also promoted the use of AASHTO standards to lend flexibility to highway design. This guidance can be found in the 1997 FHWA document, *Flexibility in Highway Design.* Many states and communities have made a commitment to CSS and documentation of this change in approach and outlook can be found in several publications, links to which can be found at www.contextsensitivesolutions.org.

The 1998 **Transportation Equity Act of the 21st Century (TEA-21) (PL 105-178)** repeated the ISTEA's call to balance protection of the natural and human environments and continued the financial commitment to transportation improvements. TEA-21 broadened the notion of "interested parties" to include freight shippers, providers of freight services, and representatives of public transportation users. The establishment of "environmental stewardship and streamlining" as one of the FHWA's three "Vital Few Goals" grew out of this legislation. Objective number one of this goal calls for "integrated approaches to multimodal planning, the environmental process, and project development at a systems level; and/or Context Sensitive Solutions (CSS) at a project level." Signed into law in 2005, the most recent reauthorization legislation for transportation, the **Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** emphasized improved community quality of life through exercising flexibility in solving transportation problems. The legislation, **Section 109(c) (2) US Code, Title 23** was amended in 2005 by Section 6008 to include material that supports CSS procedures in project planning and implementation. This material originated in the *Thinking Beyond the Pavement* conference already mentioned. Collaborative decision-making and stakeholder engagement that includes communities are embraced as effective processes for striking the right balance between meeting transportation needs and protecting and enhancing the physical and human environments likely to be affected by proposed transportation decisions.

No Guarantee That Public Involvement Will Foster Meaningful Involvement

Prior sections have described a trend toward opening the transportation decision-making processes to allow for greater participation from the "public" and various interested parties, including greater attention to populations protected under the nation's civil rights laws and identified in executive orders on environmental justice and on LEP. The landmark statutes, regulations, guidance, and technical assistance resources that have been highlighted affirm the

Key Principles of Context Sensitive Solutions

Qualities of a CSS Project That Characterize Excellence in Transportation Design:

- It satisfies the purpose and needs as agreed to by a full range of stakeholders and agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- It is a safe facility for both the user and the community.
- It is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area (i.e., exhibits context sensitive design).
- It exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- It involves efficient and effective use of resources (time, budget, community) of all involved parties.
- It is designed and built with minimal disruption to the community.
- It is seen as having added lasting value to the community.

Characteristics of the CSS Process That Yield Excellence:

- Communication with all stakeholders is open, honest, early, and continuous.
- A multidisciplinary team is established early, with disciplines based on the needs of the specific project, and with the inclusion of the public.
- A full range of stakeholders is involved with transportation officials in the scoping phase. The purposes of the project are clearly defined, and the consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances. This process should examine multiple alternatives that will result in a consensus of approach methods.
- A commitment to the process from top agency officials and local leaders is secured.
- The public involvement process, which includes informal meetings, is tailored to the project.
- The landscape, the community, and the valued resources are understood before engineering design is started. A full range of tools for communication about project alternatives is used (e.g., visualization).

- Excerpted from "Thinking Beyond the Pavement: A National Workshop on Integrating High-way Development with Communities and the Environment," Maryland, May 1998.

importance of public involvement in legitimate decision-making processes. They do not, however, provide guarantees that *meaningful* involvement processes will be fostered or implemented by agencies and practitioners.

What Is Meaningful Involvement?

During the course of this study, interviews were conducted with public involvement practitioners from the public and private sectors as well as with select academics and community-based advocacy organizations to elicit their varied perspectives about the "state of the practice" in

public involvement. Several interviewees sought to make a distinction between "public involvement" and "meaningful involvement" or "meaningful participation," cautioning that the type of activities that they suspected were typical of the "state of the practice" in transportation did not achieve the standard implied by *meaningful* involvement.

Public involvement, as suggested by several interviewees, is often treated as an "event" to hold, for example, a public hearing or an informational meeting, rather than a "process" woven into decision-making processes. Transportation agencies were thought more likely to "manage" their interactions with the public—adopt a public relations approach that can place a spin upon information—rather than foster truly collaborative processes as intended through CSS or CIA best practices guidance.

Many of those interviewed cautioned that this preference or tendency toward information-sharing or a top-down style of communicating can lead to several troubling practices: unveiling plans and projects too late in the process to influence the definition of the project's purpose and need or the development of alternatives; framing outreach narrowly so as to limit sincere consideration of expressed community needs and preferences toward particular alternatives or concerns; confining involvement processes to taking comments at a public hearing; scheduling events at inconvenient times or difficult-to-reach locations for segments of the affected community; and narrowly defining "success" as securing the "buy-in" from local elected officials whether or not there is support from locally affected communities. Some interviewees commented on the importance of additional technical training as well as professional challenges for the practitioner—for example, the community impact analyst, the public involvement specialist, and the project manager—working to reform or overcome these preferences or tendencies within a large-scale transportation organization.

Meaningful involvement, in contrast, recognizes the essential importance of getting people participating in their government. Fostering meaningful involvement requires finding strategies to overcome potential cynicism or mistrust, and facilitating opportunities for informed participation to influence decisions taken by government that will affect individuals and their communities.

The transportation industry could benefit from the principles, observations, innovations, and practices communicated in the wider field of public involvement—ideas advocated by associations and networks of professionals dedicated to professional training and skills development in public involvement. The current body of transportation literature on public involvement and decisionmaking is largely silent on the skills and expertise needed by individuals responsible for managing the design and implementation of public involvement efforts, or what type of professional development and training is warranted for agency staff involved in these activities. For example, there is little mention of the existing professional organizations, such as the International Association of Facilitators (IAF), the International Association of Public Participation (IAP2), the Public Relations Society of America (PRSA), and the U.S. Institute for Environmental Conflict Resolution (USIECR) that focus on democratic decision-making processes, outreach, and information strategies and that can offer valuable guidance for transportation agencies and practitioners.

In its development of "Core Values for Public Participation," the IAP2 outlines a system that is intent upon fostering meaningful participation (see text box titled "Core Values for Public Participation"). These "core values" embrace a high standard of engagement with potentially affected parties—informed by periodic self-assessments of effectiveness—that demands a disciplined commitment from the agency and the practitioner greater than warranted when duties are confined to a lower standard of public information dissemination. The core values, according to the IAP2, are expected to help lead to better decisions that reflect the interests

Core Values for Public Participation

The IAP2 has developed its "core values for public participation" to foster meaningful participation. The IAP2 holds that public participation:

- Is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- Includes the promise that the public's contribution will influence the decision.
- Promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- Seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- Seeks input from participants in designing how they participate.
- Provides participants with the information that they need to participate in a meaningful way.
- Communicates to participants how their input affected the decision.

- International Association of Public Participation, http://www.iap2.org/

and concerns of potentially affected people and entities and cut across national, cultural, and religious differences.

Barriers to Achieving Meaningful Involvement

At the institutional level, transportation organizations, particularly state departments of transportation that have been historically focused on highway development, can present formidable barriers to the achievement of meaningful involvement. Leadership has traditionally come from the engineering profession in which training and culture is focused on the technical solution—the solution that makes the most sense from an engineering perspective. Although not as typical today, engineering curricula at colleges and universities historically focused exclusively on engineering and related technical education. One of our interviewees, an engineer who served as a project manager for a state highway agency—someone who had made a huge commitment to public involvement for a major highway widening project—characterized the prevailing ethos and culture of their transportation organization heading into the project: "we're the engineers and we know better than you do." This outlook can be inflexible or dismissive in the face of challenges posed by resource agencies, members of the public, and advocacy or community groups that would question a project in terms of problem identification, purpose and need, or the range of alternatives or solutions that should also be under consideration. For some agency managers and leaders, the fear of losing control of a project's agenda, schedule, or cost, or the perhaps predetermined approach, is genuine. There may be a reluctance to commit time, money, or staffing to more collaborative approaches if these would create uncertainty about the outcomes.

The leadership within transportation agencies can exert organizational pressures on project managers and practitioners to stay firm to predetermined or preferred types of solutions. Imposing budgetary or staffing constraints in carrying out the public involvement program presents another form of constraint and control over the permissible scope of the decision-making processes.

The agency and its assigned project manager and public involvement practitioners set forward the strategies and agenda, the very ground rules and basis for interactions between the agency

and the public. Cultural differences and an imbalance in political power can affect the nature of the exchange between the agency and the lay public. This distance or gap can be further aggravated when the public involvement practitioner or project manager lacks adequate skills or expertise in public involvement to pursue strategies to promote meaningful participation. Inadequate training of project managers and practitioners responsible for public involvement can be a critical barrier to fostering meaningful participation.

However, a core project management team fortified by trained public involvement professionals and community impact practitioners can make a valuable contribution to establishing and implementing credible processes. For example, no matter how welcoming or interesting an agency may make a meeting, not everyone can or wishes to attend such events. This type of team recognizes when conditions, controversy, or community preferences warrant that typical processes need be changed or adapted to reach affected communities.

The individual project manager and the public involvement practitioner can critically influence an agency's ability to commit to achieving meaningful involvement. Different professional orientations and levels of training present one sort of barrier to achieving meaningful participation, but there are other cultural differences that can divide the agency practitioner from the diverse public possibly affected by transportation plans, projects, and operations. Even good-faith attempts at achieving meaningful participation can be subverted by a failure to appreciate these cultural differences.

What is meant by "culture"? Culture has many definitions, but it generally refers to a group or community that shares a set of beliefs, traditions, language, values, customs, rituals, manners of interacting, forms of communication, expectations for behaviors, roles and relationships, and common experiences that influence how they understand the world and environment. These elements define how things are supposed to be—what may be referred to as the "norms"—and which are unconsciously accepted by those within the culture. Culture includes groups that are defined by race, gender, national origin, sexual orientation, or class as well as groups that people may join or become affiliated with by choice or through circumstance such as religion, immigration status, age, or disability, among others. Each individual belongs to several cultures.

Beyond one's own peculiar family and genetic inheritance, culture helps shape a person's identity and experiences and influences how one observes the world and communicates with others. In fact, each of the cultures with which a person is affiliated has a unique historical experience to relate back to the individual and to others, including a history of relationships and interactions with other groups within the world and within society. Knowledge of this cultural history can help people better understand themselves and others and can improve the capacity to engage in effective cross-cultural communications.

Recognizing the significance of cultural differences is invaluable but does not mean that communication will be free of the types of misunderstandings that may undermine the ability to interact effectively with other cultures. Difficulties in cross-cultural communications can stem from several types of cultural differences. Six fundamental patterns of cultural differences (see box titled, "Six Fundamental Patterns of Cultural Differences") have been posited as factors that can interfere with successful interactions, and include communication styles, attitudes toward conflict, approaches to completing tasks, decision-making styles, attitudes toward disclosure, and approaches to knowing (DuPraw and Axner, 1997, 2–4).

Cultural Competency to Bridge the Social and Cultural Gaps

Nowhere is the need for commitment to overcome barriers more evident than in the activities, manners, and preparedness with which practitioners seek to "bridge the gap" between themselves and the "traditionally underserved populations," oftentimes peoples and cultures with

Six Fundamental Patterns of Cultural Differences

Six fundamental patterns of cultural differences can impede effective cross-cultural communications according to DuPraw and Axner's "Working on Common Cross-Cultural Communication Challenges," excerpted and paraphrased below. Recognizing these differences is an important step toward respecting different cultures and honing the skills and temperament for handling potential conflicts effectively. However, particular individuals or groups may not exhibit the patterns or match the generalizations ascribed to the culture with which the practitioner has identified them. Groups that are "lumped together" such as "Asian" or "Latin American" or "African" also do not readily conform to generalizations. Leveraging the capacity of organizations and persons who are already familiar with a specific culture, however, is an effective means for bridging cultural differences.

1. **Different Communication Styles**—Different cultures attach different shades of meaning to words and phrases. For example, even in countries that share the English language, the meaning of "yes" varies from "maybe, I'll consider it" to "definitely so" with many shades in between. Non-verbal communications is another major aspect of communication style, which varies across cultures. Facial expressions and gestures may come to mind, but it also involves seating arrangements, personal distance, and sense of time. Different norms regarding the appropriate degree of assertiveness in communicating can add to cultural misunderstandings. For instance, some white Americans consider raised voices to be a sign that a fight has begun, while some black, Jewish and Italian Americans feel that an increase in volume is a sign of an exciting conversation among friends. Thus, some white Americans may react with greater alarm to a loud discussion than would members of some American ethnic or non-white racial groups.

2. **Different Attitudes Toward Conflict**—Some cultures view conflict more positively than others. In the U.S., conflict is not usually desirable, but people often are encouraged to deal directly with conflicts that do arise. In fact, face-to-face meetings customarily are recommended as the way to work through whatever problems exist. In contrast, open conflict is experienced as embarrassing or demeaning in many East Asian countries. As a rule, differences are best worked out quietly; a written exchange might be the favored means to address the conflict.

3. **Different Approaches to Completing Tasks**—From culture to culture, there are different ways that people move toward completing tasks influenced, in part, by their access to resources, perceived rewards from task completion, their notions of time, and how relationship-building and task-oriented work should go together. When it comes to working together on a task, cultures differ with respect to the importance placed on establishing relationships early in the collaboration. For example, Asian and Hispanic cultures, it has been argued, may attach more value to developing relationships at the beginning of a shared project, placing more emphasis on task completion toward the end than European-Americans. European-Americans tend to focus immediately on the task at hand, and let relationships develop as they work on the task. This does not mean that people from any one of these cultural backgrounds are more or less committed to accomplishing the task or value relationships more or less; it means they may pursue them differently.

4. **Different Decision-Making Styles**—The roles individuals play in decision-making vary widely from culture to culture. For example, in the U.S., decisions are frequently delegated—that is, an official assigns responsibility for a particular matter to a subordinate. In many Southern European and Latin American countries, there is a strong value placed on holding decision-making responsibilities oneself. When decisions are made by groups of people, majority rule is a common approach in the U.S.; in Japan consensus is the preferred mode. An individual's expectations about his/her own role in shaping a decision may be influenced by his/her cultural frame of reference.

5. **Different Attitudes Toward Disclosure**—In some cultures, it is inappropriate to be frank about emotions, about the reasons behind a conflict or a misunderstanding, or about personal information. When dealing with a conflict, be mindful that people may differ in what they are prepared to reveal. Questions that may seem natural to you—What was the conflict about? What was your role in the conflict? What was the sequence of events?—may seem intrusive to others. As cultures may hold different attitudes toward disclosure, the practitioner should take pause before characterizing the views, experiences, and goals of the people with whom they are working.

6. **Different Approaches to Knowing**—Cultural groups differ when it comes to the ways people come to know things. European cultures tend to consider information acquired through cognitive means, such as counting and measuring, more valid than other ways of coming to know things. This differs from African cultures' preference for affective ways of knowing, including symbolic imagery and rhythm. Asian cultures may tend to emphasize the validity of knowledge gained through striving toward transcendence. Our diverse society is paying increasing attention to previously overlooked ways of knowing. Different approaches to knowing could affect ways of analyzing a community problem or finding ways to resolve it. Some members of a group may want to do library research to understand a shared problem better and to identify possible solutions. Others may prefer to visit places and people who have experienced similar challenges to get a feeling for what has worked elsewhere.

whom neither the agency nor the practitioner may have real familiarity. Ideally, the effective practitioner will consider social and cultural gaps and how those may be overcome to foster meaningful participation to inform transportation decisionmaking.

The ability to work effectively across cultures requires skills and knowledge, which can broadly be defined as "cultural competency." For the individual, cultural competency is an approach committed to lifelong learning, communicating, and respectfully working with people different from themselves. This means achieving a better understanding of the individual within cultural groups that are currently served or that could be better served by an agency or service.

Knowledge and respect for the history, culture, traditions, customs, language or dialect, values, religious or spiritual beliefs, art, music, learning styles, and practices of individuals can lay the foundation for making meaningful connections with other cultural groups. This knowledge acquisition can make it possible to better understand members of a particular community and how they interpret their world. Respecting and learning about other cultures can often promote a focus on the positive characteristics and strengths of a community and the individuals who

reside within it (Okun et al., 1999). It may also lead to an appreciation of cultural differences that is less judgmental, bringing about greater self-awareness of the assumptions, biases, and values in one's own background.

In this increasingly diverse society, the persistent fact of cultural differences suggests that committed practitioners should be inclined toward self-reflection and, more specifically, toward the need to develop an awareness of other cultures as part of their professional development. For example, the practitioner should consider how their professional status—their easy familiarity with transportation concepts, as well as their appearance and behavior—may affect how segments of the public respond to a particular event or involvement processes.

This type of self-reflection is far from an academic exercise; it relates directly to the best tactics to implement in order to bridge cultural gaps that may be encountered: How can a practitioner run a meeting that actively engages attendees and channels their input into something other than meeting minutes? What will work best to educate and inform citizens about transportation so that they will have the ability to participate in decisionmaking? Where in the agency or elsewhere can a practitioner find persons or community organizations already knowledgeable of this community, this culture, and this language to ensure that the parties can understand and communicate effectively with each other?

There are many important lessons to learn and strategies to devise. For example, the practice of translating materials into multiple languages may be effective in advertising an event, but if the transportation jargon, or "transportationese," used in English materials is translated without any interpretation, it may prove less than helpful for meaningfully engaging non-English speakers. Attention should be paid to the fact that terms in English, while they can be translated into another language, may not exist as institutions, situations, or commodities in other cultures.

Stakeholders attending public events may have a history of contact with government and specific attitudes toward authority. Thus, stakeholders, as well as the practitioners, will be bringing their cultural baggage with them to events. The past treatment of stakeholders by any governing agencies, including agencies not remotely engaged with the subject or event topic, will likely color how the event actually proceeds and the degree of trust or suspicion that will be communicated by attendees. The prepared and mindful practitioner, aware of this history, will need to summon the professional temperament to hear dispassionately whatever messages are delivered from the public even if those comments are intended to cause discomfort. The practitioner that understands this history and can remain tactful, or that can exhibit respect and knowledge of the encountered cultures or norms, is better able to bridge potential social and cultural gaps and deflect barbed comments reflecting distrust. Cross-cultural communications that can "bridge the gap" can be of particular challenge to the individual practitioner. Some basic principles and approaches for fostering trust are listed in the text box titled, "Bridging the Gap—Finding Effective Approaches for Cross-Cultural Communications."

For agencies, cultural competency requires the establishment of policies and practices that will make its programs, plans, and activities more accessible to diverse populations, providing appropriate and effective services in cross-cultural situations. Leadership and management, no less than the individual practitioner, have duties and responsibilities to create an inclusive, tolerant organization. They should be prepared to make reforms and undertake new initiatives to better adapt their organization's dominant culture and practices to new demographic realities.

Cultural competency is intertwined with the goals of recognizing LEP persons, Title VI, and environmental justice in its mission to ensure that an agency's programs, plans, and activities are fully accessible to its diverse customers and are not discriminating—intentionally or unintentionally—in the delivery of services. It is comprehensive in its scope, touching all of the transportation organization's programs, plans and activities—each of which is expected to be

**Bridging the Gap—Finding Effective Approaches
for Cross-Cultural Communications**

Finding an effective approach and outlook for improving cross-cultural communications is essential for the practitioner. Below are some suggestions, excerpted and paraphrased from DuPraw and Axner's "Working on Common Cross-Cultural Communication Challenges," and distilled from interviews and other readings.

- **Learn from generalizations about other cultures,** but avoid stereotyping or oversimplifying your ideas about other persons or groups or what you will encounter in a community. Have the capacity to reconsider or change beliefs and behaviors that are counterproductive. We have several cultures that distinctively define us as individuals and our communities include layers of overlapping cultures.
- **Practice your craft** because it is in the doing that we actually get better at cross-cultural communication. Recognize that cultural beliefs and behaviors offer invaluable sources of data and feedback.
- **Question your assumptions about the "right way" to communicate.** Think about your body language; recognize that postures that indicate receptivity in one culture might indicate aggressiveness in another.
- **Breakdowns in communication do not always occur because other people are on the wrong track.** Search for ways to make the communication work, rather than searching for parties to blame for the breakdown.
- **Listen actively and empathetically.** Try to put yourself in the other person's shoes. Especially when another person's perceptions or ideas are very different from your own, you might need to operate at the edge of your own comfort zone.
- **Respect others' choices about whether to engage in communication with you.** Honor their opinions about what is going on.
- **Suspend judgment** and try to look at the situation as an outsider.
- **Be prepared for a discussion of the past.** Acknowledge historical events that have taken place. Be open to learning more about them. Honest acknowledgment of the mistreatment and oppression that may have taken place on the basis of cultural difference is vital for effective communication.
- **Awareness of current power imbalances and being open to hearing each other's perceptions of those imbalances** is also necessary for understanding each other and working together.
- **Cultural norms may not apply to the behavior of any particular individual.**

the subject of periodic self-assessment with the intention of fostering improvement where performance fails to align with the promises extended by law.

Concluding Observations: State of the Practice Review/Need for Guidebook

Some concluding observations about the state of the practice that have not yet been highlighted were synthesized by the study team based upon professional experience, literature review, and interviews with transportation and public involvement practitioners, academics,

and individuals from advocacy organizations. They are mentioned here to further explain the rationale for this guidebook and the scope of topics covered.

- *Only a small segment of the practitioner and academic communities are currently giving attention to the needs and strategies for reaching out to traditionally underserved populations typically during the statewide and metropolitan planning and project development processes in transportation.* Certain segments of the population are not being seriously engaged or taken into account as transportation projects are planned and built around them. Environmental justice concerns, as well as concerns for good planning practices, have begun to nudge some transportation agencies toward looking more closely at how to reach out to historically disadvantaged communities and achieve a standard of meaningful involvement.

- *Public involvement resources frequently do not recognize that involving traditionally underserved populations may require different approaches in different circumstances.* Those that do address the issue head-on primarily outline goals and objectives and emphasize the importance of involving traditionally underserved populations without offering specific tools, techniques, and information that would improve the practitioners' capacity to effectively reach diverse communities.

- *The fact that a given involvement approach will have varying outcomes from community to community is best addressed in project-specific outreach plans.* The advantage that these plans have is that they are tailored to the communities where the public outreach is being conducted.

- *Public involvement guidance in the current literature tends to overlook the community impact discipline or the nuances of identifying and understanding the social and demographic characteristics of a community before selecting public involvement tools and techniques.* While some reviewed documents did address specific social and cultural differences in populations, only rarely were they likely to give context or depth to the consideration of how the affected communities' heterogeneity or homogeneity may have evolved over time, and the significance of that history.

- *There are key differences within communities and social groups that must be understood and for which a "one-size-fits-all" mentality will be ineffective.* Agency practitioners need to gain a better understanding of the communities that they are trying to engage before committing resources to public involvement approaches and a public involvement plan. Once resources are committed, emphasis must also be given to the need for continued monitoring of their effectiveness with the message that organizations and individuals be flexible and prepared to respond to feedback or problems with further adjustments.

- *There are three main steps in involving traditionally underserved populations that are not routinely recognized: (1) identify and locate underserved populations; (2) foster participation by underserved populations; and (3) create opportunities for meaningful public involvement.* These three steps are interrelated and equally important for effectively engaging traditionally underserved populations; however, the emphasis in the existing practice appears to be on outreach strategies to promote attendance at events. Less consideration is given to how underserved populations are identified or to developing effective mechanisms by which participation can influence outcomes—that is, to establishing opportunities to create meaningful public involvement.

- *Few public involvement documents in transportation look for insights outside the field of transportation where organizations and professions are also challenged to achieve "cultural competency" in their practices such as in health care, social services, and education, among others.* Public involvement, as it is practiced within transportation, suffers from this insularity, perpetuating a gap in existing tools and techniques for involving traditionally underserved populations.

- ***The range of practical approaches for involving the traditionally underserved populations in transportation decisionmaking is extensive, extending into areas of leadership and management on how to better adapt the dominant culture and practices of an organization to the implications of changing demographics.*** The literature on Title VI, "LEP," and "cultural competency" all suggest that a governing organization's internal systems, values, and typical practices should be the subject of periodic self-assessments. In transportation, strategies for improvement should be fostered (e.g., diversity in hiring practices, professional development and training, cultural awareness training, identification of language speakers/translators, establishment of internships, mentoring programs, youth career training, minority vendor education, and rigorous enforcement of set-aside programs and reporting). It is recommended that this self-assessment extend into the priorities for resource allocation and the decision-making processes undertaken to support various agency programs, work activities, and research efforts. The scope of such an assessment should reflect upon the range and effectiveness of initiatives embraced by the agency, including: the agency's willingness to partner with community-based or academic and applied research organizations to examine the needs of individual ethnic communities through workshops or market research; the efforts to diversify the social composition of boards and technical committees that are regularly formed; the extent to which public involvement processes will explore community needs to define locally feasible alternatives; the types of mitigation or environmental performance commitments that are made; and the types and size of construction packages available to solicit minority or small business contracting, among other issues.

- ***A toolkit that guides and leads but does not prescribe processes is necessary to promote effective processes for involving traditionally underserved populations toward a standard of meaningful involvement.*** With sufficient research, information on public involvement and other practical approaches for engaging diverse populations in a range of settings can be found in the existing literature and through discussions with practitioners. How ready most practitioners may be to locate these tools or choose to implement them remains the core challenge. Thorough consideration is needed for the types of training, work experience, and life situations that best prepare the practitioner for effectively engaging traditionally underserved populations toward a standard of meaningful involvement. There is a continued need for tools and techniques that can be tailored to help practitioners identify and effectively involve the full range of constituents at all stages of decisionmaking.

Patterns, Trends, and Factors Driving Change

As discussed in the prior chapter, this nation has made a commitment to equal protection of the laws through the Constitution's 14th Amendment and its Equal Protection Clause, through Title VI of the Civil Rights Act of 1964 (as extended), and through regulations and executive orders on environmental justice (Executive Order 12898) and limited English proficiency (Executive Order 13166). The duty of government under these laws, regulations, and executive orders is to ensure nondiscrimination and equal access to opportunities. Several patterns, trends, and factors of relevance to transportation agencies and practitioners today and that promise to be of enduring importance over the next several decades are described in this chapter. These patterns, trends, and factors—in the realms of demographics, economics, and communications—will drive changes in transportation demand and transform the existing socioeconomic context. They will create new challenges for practitioners, agency leadership, elected officials, and the larger society of citizens and stakeholders to fully grasp and address.

Effective transportation decisionmaking depends upon identifying and properly addressing the unique needs, cultural perspectives, and financial limitations of different socioeconomic groups. Developing an understanding of the values and viewpoints of these groups requires that agencies and practitioners be more *comprehensive* in recognizing various populations— their unique attributes and the issues they may face using transportation or living in its shadow—when assessing the effects that their programs, plans, and activities may have. Agencies and practitioners also must be more *inclusive* in devising practical approaches that go beyond simply informing the public and toward a standard of meaningful involvement that consults, engages, collaborates with, and even empowers populations affected by transportation decisions.

Subsequent chapters of this guidebook present many practical approaches that agencies and practitioners can take at all stages of decisionmaking. At the core of these practical approaches is an assumption—a model for credible or legitimate transportation decisionmaking—that asks agencies and practitioners to fulfill the core values of public participation and pursue the standards of meaningful involvement outlined in Chapter 1. Those who are affected by a decision have a right to be involved in the decision-making process and there are responsibilities and obligations on the part of the agency and the practitioner to actively work to fulfill this vision and meet this commitment even as society becomes increasingly more diverse and faces economic, environmental, and fiscal challenges.

How agencies ultimately set priorities, allocate resources, and distribute the benefits of the nation's policies and programs will be heavily shaped by the adaptation and preparedness for the changing patterns and trends highlighted in this chapter.

U.S. Population Size and Growth Trends

Between 1970 and 2009, the size of the U.S. population increased from 203.2 million to an estimated 307.1 million persons. The nation grew by more than 50 percent over the nearly four decades, adding more than 103 million persons—an average increase of 2.6 million persons annually (see Figure 2-1).

Population growth dispersed across the nation, but the South and West regions attracted significantly more growth than the Northeast or the Midwest. Catalyzed by several factors, growth spread over several Sunbelt states. Baby boomers entered the labor force and began to form families and less traditional non-family households. U.S. manufacturing dispersed from traditional industrial cities with aging infrastructure in the Midwest and Northeast Rustbelt into suburban and exurban areas of the metropolitan area as well as toward the South and West regions of the U.S. Industries made these siting and investment decisions, seeking to modernize their production facilities, shed labor costs, and hone their distribution strategies. They were often wooed by states and localities offering an appealing package of infrastructure, land, taxation, and favorable regulatory conditions. During this period, there were major changes in the patterns of federal defense spending, the Interstate highway system was nearly completed, and innovative housing finance mechanisms such as the secondary mortgage market funneled capital to growing regions. Generous tax deductions and depreciation schedules further spurred the real estate sector toward heightened levels of housing and commercial production. Lower land and housing prices and central air conditioning made the move to the Sunbelt highly attractive for those in search of the "American Dream" of owning an affordable home or easing the way to second homes and retirement. The region's warmer climes, modern homes and infrastructure, greater open space, and fewer urban ills were irresistible amenities for many migrating populations.

The South grew by 80 percent, absorbing nearly one-half of the nation's entire population increase from 1970 to 2009. The West doubled in size over this nearly four decade span, increasing by 35 percent. The Midwest and the Northeast regions, combined, experienced only 16 percent of the nation's population increase. In 1970, the Midwest had accounted for 27.8 percent of the U.S. population—second only to the South in terms of population size, but dipped to 21.8 percent by 2009. The Northeast slipped from nearly one-quarter of the U.S. population to only 18 percent over this period. Meanwhile, the South increased its share to 35 percent and the West to nearly 23 percent of the U.S. population by 2009 (see Figure 2-2). Within these regions, the East North Central region of the Midwest and the Middle Atlantic region of the Northeast had the slowest growth while out West, the Mountain and Pacific states were among the fastest
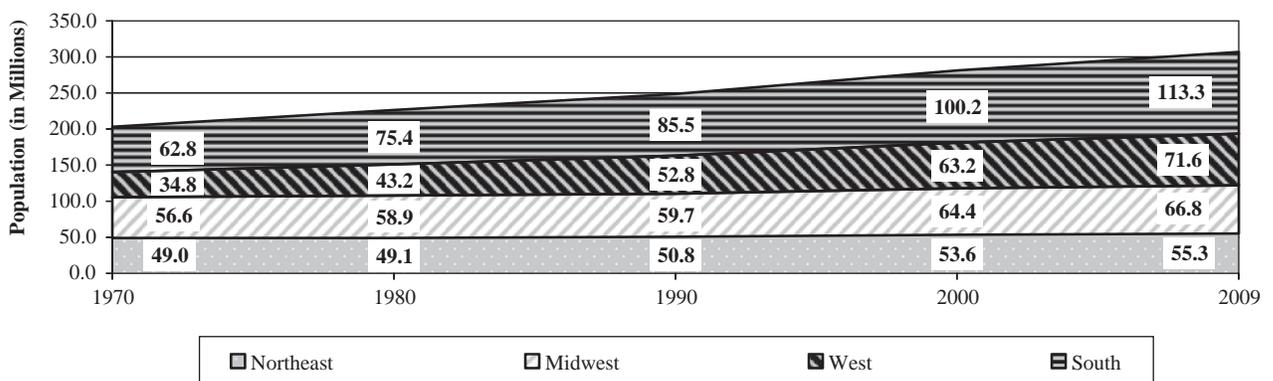
Source: Hobbs and Stoops, U.S. Census Bureau, *Demographic Trends in 20th Century*, 2002; U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Figure 2-1.   *Total population in the U.S. and regions, 1970–2009.*
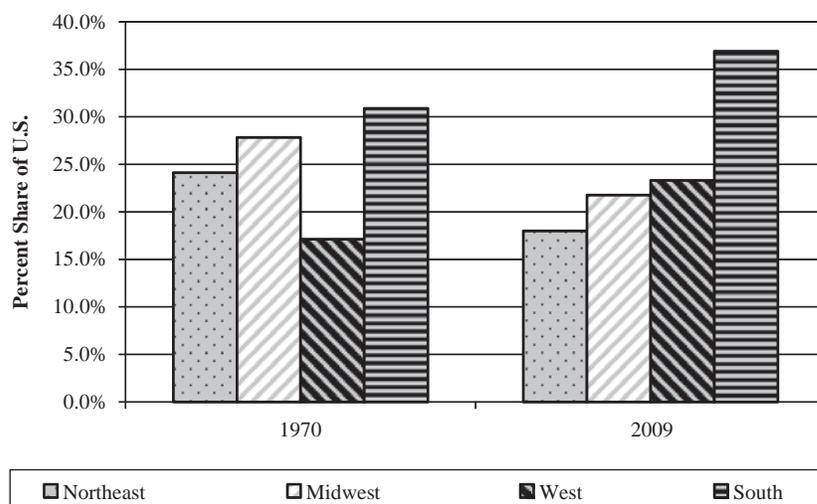
Source: Hobbs and Stoops, U.S. Census Bureau, *Demographic Trends in 20th Century*, 2002;
U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Figure 2-2.   *Region's share of U.S. population, 1970 and 2009.*

growing. This spatial redistribution of growth changed the regional balance of political power in the U.S., and how national fiscal resources were allocated.

Population growth has been concentrated primarily in the nation's metropolitan areas over the 1970 to 2009 period. In 2009, metropolitan areas contained 83.8 percent of the total U.S. population with 16.2 percent living outside the metropolitan region. One-third of the nation's population lives within the nation's principal cities, while the suburban and periphery regions account for one-half of the U.S. population. Metropolitan statistical areas were conceived as regions with a core area containing a substantial population nucleus joined with adjacent communities that are economically and socially integrated with the core. The "principal city" is the largest city in each metropolitan statistical area, but additional cities may qualify if specific requirements are met concerning population size and employment.

The nation's metropolitan areas have already have faced significant challenges adjusting to their changing fortunes. Las Vegas, Austin, and Phoenix have more than tripled in size since 1970, while Buffalo, Cleveland, Pittsburgh, and Detroit along with other smaller industrial Rustbelt areas have shrunk in size. Metropolitan areas enjoying rapid growth have expanded roadway capacity or made investments in public transportation to meet demand. Where public transportation service extensions to the suburbs have been minimal, such as in Las Vegas, Phoenix, or Orlando, roadway construction has far exceeded public transportation investments. Older metropolitan regions such as Cleveland, Pittsburgh, and Buffalo strain to maintain essential public services, including public transportation, despite a weakening local economy and tax base (Sanchez and Brenman, 2007). Table 2-1 examines the difference in population growth of metropolitan statistical areas (MSAs) with more than 1 million residents in 2009.

Even as the nation faces fiscal difficulties and higher rates of joblessness, investments in the nation's infrastructure must continue to address demographic growth and change, accommodate the future, and maintain a state-of-good-repair. Ensuring access and mobility for the workforce is one of several transportation-related goals for those who aspire to leadership and governing. Building and maintaining efficient and reliable connections between an expanding fringe and the core areas and "edge cities" of the metropolis will be essential to deal with congestion

Table 2-1. Fastest and slowest growing metropolitan areas, 1970–2009 (metropolitan areas with more than 1 million persons in 2009).

Metro Areas	1970	2009	Absolute Change, 1970-2009	Percent Change, 1970-2009	Rank Percent Change	Rank Absolute Change
Fastest Growing Metro Regions:						
Las Vegas-Paradise, NV	273,288	1,902,834	1,629,546	596.3%	1	13
Austin-Round Rock, TX	398,938	1,705,075	1,306,137	327.4%	2	17
Phoenix-Mesa-Scottsdale, AZ	1,039,807	4,364,094	3,324,287	319.7%	3	5
Orlando-Kissimmee, FL	522,575	2,082,421	1,559,846	298.5%	4	15
Riverside-San Bernardino-Ontario, CA	1,139,149	4,143,113	3,003,964	263.7%	5	7
Raleigh-Cary, NC	317,563	1,125,827	808,264	254.5%	6	25
Atlanta-Sandy Springs-Marietta, GA	1,840,280	5,476,664	3,636,384	197.6%	7	4
Tucson, AZ	351,667	1,020,200	668,533	190.1%	8	29
Houston-Sugar Land-Baytown, TX	2,201,849	5,865,086	3,663,237	166.4%	9	3
Dallas-Fort Worth-Arlington, TX	2,424,131	6,447,228	4,023,097	166.0%	10	2
Sacramento-Arden-Arcade-Roseville, CA	847,626	2,127,355	1,279,729	151.0%	11	18
Tampa-St. Petersburg-Clearwater, FL	1,105,553	2,747,272	1,641,719	148.5%	12	12
Miami-Fort Lauderdale-Pompano Beach, FL	2,236,885	5,547,051	3,310,166	148.0%	13	6
Charlotte-Gastonia-Concord, NC-SC	741,118	1,745,524	1,004,406	135.5%	14	23
Salt Lake City, UT	486,031	1,130,293	644,262	132.6%	15	31
Slowest Growing or Declining Metro Regions:						
Cincinnati-Middletown, OH-KY-IN	1,692,590	2,170,828	478,238	28.3%	37	39
Louisville-Jefferson County, KY-IN	990,050	1,259,031	268,981	27.2%	38	43
Chicago-Naperville-Joliet, IL-IN-WI	7,882,640	9,580,609	1,697,969	21.5%	39	10
Boston-Cambridge-Quincy, MA-NH	3,919,024	4,588,680	669,656	17.1%	40	28
Hartford-West Hartford-East Hartford, CT	1,035,195	1,195,998	160,803	15.5%	41	45
Providence-New Bedford-Fall River, RI-MA	1,394,023	1,600,642	206,619	14.8%	42	44
Philadelphia-Camden-Wilmington, PA-NJ-MD	5,323,603	5,968,252	644,649	12.1%	43	30
New York-New Jersey-Long Island, NY-NJ-PA	17,068,869	19,069,796	2,000,927	11.7%	44	9
Milwaukee-Waukesha-West Allis, WI	1,403,884	1,559,667	155,783	11.1%	45	46
St. Louis, MO-IL	2,551,274	2,825,769	274,495	10.8%	46	42
Rochester, NY	961,516	1,035,566	74,050	7.7%	47	47
New Orleans-Metairie-Kenner, LA	1,125,058	1,189,981	64,923	5.8%	48	48
Detroit-Warren-Livonia, MI	4,435,051	4,403,437	-31,614	-0.7%	49	49
Cleveland-Elyria-Mentor, OH	2,320,572	2,091,286	-229,286	-9.9%	50	51
Pittsburgh, PA	2,759,560	2,354,957	-404,603	-14.7%	51	52
Buffalo-Niagara Falls, NY	1,349,211	1,123,804	-225,407	-16.7%	52	50

Source: U.S. Census Bureau, 2010; Real Estate Center at Texas A&M University, 2010.

and ensure mobility of persons and goods in the face of population growth and to adapt to the nation's changing social composition.

Establishing favorable conditions for a productive economy has been an essential responsibility for governing institutions and decisionmakers at all levels of government (federal, state, regional, and local). But encouraging growth through investments or re-investments can have consequences for the livability and health of communities if natural resources and quality-of-life are not protected. Mobilized citizenry, with unprecedented access to information and networks of like-minded groups, are increasingly effective at giving their input and exacting more conditions before growth is permitted. Finding the right balance between growth and preservation may bring decisionmakers and the public to embrace a diversity of urban forms as a means for advancing more financially and environmentally sustainable outcomes.

In the future, population densities can be expected to increase in the cities but also in the nation's suburbs. Population growth and the dispersion of population between and within metropolitan regions will demand attention; the vocabulary and toolbox to understand and address these challenges will grow as the indicators that are measured and managed expand to include land consumption, environmental and public health, and equity along with more traditional economic measures (see box titled, "Environmental Justice Addresses Which Groups?").

Environmental Justice Addresses Which Groups?

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin. The Office of Management and Budget (OMB) has issued policy directives, identifying five minimum categories for data on race. Executive Order 12898 and the U.S.DOT and FHWA orders on environmental justice address persons belonging to any of the following groups:

- **Black**—a person having origins in any of the black racial groups of Africa.
- **Hispanic**—a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- **Asian**—a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.
- **American Indian and Alaskan Native**—a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.
- **Native Hawaiian or Other Pacific Islander**—a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **Low-Income**—a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines.

Source: Federal Highway Administration and Federal Transit Administration, *An Overview of Transportation and Environmental Justice,* 2000.

Reinventing the nation's existing metropolitan regions will require persuasive, forward-looking leadership to tackle big issues and to make difficult choices within their region. Technically rigorous research will be needed from agencies and practitioners to inform decisionmakers about these issues and the possible trade-offs associated with solutions. But agencies and practitioners have responsibilities to prepare accessible products and processes as well—customized to different audiences as appropriate—to encourage a broader civic dialogue. Through various forms of information exchange and feedback with citizenry and stakeholders, agencies can be better assured that the fullest range of innovative and workable solutions have been considered towards making sustainable and credible decisions.

Minority, Race, and Hispanic Population Patterns

Changes in metropolitan area growth have had important effects on the race and ethnic composition in the central city and suburban areas as shown in Table 2-2, which illustrates how various minority and non-minority populations are distributed in the nation. The nation's metropolitan areas have been ranked in terms of the size of their Hispanic, Black, and Asian populations, the three largest minority segments in the U.S., in Table 2-3.

Minority populations remain more concentrated in the nation's central cities than its suburbs. Minorities, defined as populations other than non-Hispanic Whites, account for 35.1 percent of the U.S. population in 2009, but 50 percent of all persons in the nation's principal cities within metropolitan areas. Outside the principal cities within the metropolitan region, minorities constitute 30 percent of the population, but only one-fifth of the population living outside the nation's metropolitan regions in rural America. Of the nation's

Table 2-2. Race, Hispanic, and minority status by type of metropolitan region, 2009.

Category	U.S.	In MSA	In MSA—Principal City	In MSA—Not in Principal City	Not in MSA
White Alone	229,773,131	187,634,446	63,996,696	123,637,750	42,138,685
- Non-Hispanic White	199,325,978	159,572,131	50,240,194	109,331,937	39,753,847
- Hispanic White	30,447,153	28,062,315	13,756,502	14,305,813	2,384,838
Non-White	77,233,425	69,703,829	37,460,053	32,243,776	7,529,596
- Black or African American	38,093,725	33,924,820	19,383,611	14,541,209	4,168,905
- American Indian and Alaska Native	2,457,552	1,514,139	662,760	851,379	943,413
- Asian	13,774,611	13,340,273	6,766,788	6,573,485	434,338
- Native Hawaiian/Pacific Islander	454,001	383,482	170,657	212,825	70,519
- Other*	22,453,536	20,541,115	10,476,237	10,064,878	1,912,421
Total	307,006,556	257,338,275	101,456,749	155,881,526	49,668,281
Hispanic Origin	48,356,760	44,835,362	22,822,608	22,012,754	3,521,398
Minority Population**	107,680,578	97,766,144	51,216,555	46,549,589	9,914,434
Racial Composition of Population					
White Alone	74.8%	72.9%	63.1%	79.3%	84.8%
- Non-Hispanic White	64.9%	62.0%	49.5%	70.1%	80.0%
- Hispanic White	9.9%	10.9%	13.6%	9.2%	4.8%
Non-White	25.2%	27.1%	36.9%	20.7%	15.2%
- Black or African American	12.4%	13.2%	19.1%	9.3%	8.4%
- American Indian and Alaska Native	0.8%	0.6%	0.7%	0.5%	1.9%
- Asian	4.5%	5.2%	6.7%	4.2%	0.9%
- Native Hawaiian/Pacific Islander	0.1%	0.1%	0.2%	0.1%	0.1%
- Other*	7.3%	8.0%	10.3%	6.5%	3.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Hispanic Origin	15.8%	17.4%	22.5%	14.1%	7.1%
Minority Population**	35.1%	38.0%	50.5%	29.9%	20.0%
Spatial Distribution of Population by Race					
White Alone	100.0%	81.7%	27.9%	53.8%	18.3%
- Non-Hispanic White	100.0%	80.1%	25.2%	54.9%	19.9%
- Hispanic White	100.0%	92.2%	45.2%	47.0%	7.8%
Non-White	100.0%	90.3%	48.5%	41.7%	9.7%
- Black or African American	100.0%	89.1%	50.9%	38.2%	10.9%
- American Indian and Alaska Native	100.0%	61.6%	27.0%	34.6%	38.4%
- Asian	100.0%	96.8%	49.1%	47.7%	3.2%
- Native Hawaiian/Pacific Islander	100.0%	84.5%	37.6%	46.9%	15.5%
- Other*	100.0%	91.5%	46.7%	44.8%	8.5%
Total	100.0%	83.8%	33.0%	50.8%	16.2%
Hispanic Origin	100.0%	92.7%	47.2%	45.5%	7.3%
Minority Population**	100.0%	90.8%	47.6%	43.2%	9.2%

Source: U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.
* The Other Category includes "some other race alone" or "two or more races."
** Minority population includes all populations but non-Hispanic Whites.

minorities, Blacks, Hispanics, and Other (i.e., persons of more than one-race) are the least spatially assimilated—that is, the most concentrated in the nation's cities. The concentration of minorities in cities could be viewed as beneficial, given higher levels of accessibility to public transportation options. This could be true if employment opportunities and other amenities such as shopping, good schools, and health care were also concentrated in central cities. But employment growth has been located away from the central cities in the nation's suburbs (Sanchez and Brenman, 2007).

When ranked by size of Hispanic populations, the top 15 metro areas account for six of 10 Hispanics. The Los Angeles and New York metropolitan areas remain the most important gateways for Hispanics, accounting for 22.1 percent of the nation's Hispanic popula-

Table 2-3.   Largest metro areas by race and Hispanic origin by location within metro area, 2009.

Rank	Metro Area	2009 Population	Share Metro Area Population	In Principal Cities	Percent of Principal City	Spatial Distribution: Principal Cities Share	Outside Principal Cities
	Hispanic						
1	Los Angeles, CA	5,763,181	44.8%	2,852,942	46.5%	49.5%	50.5%
2	New York, NY-NJ-PA	4,151,211	21.8%	2,404,903	27.7%	57.9%	42.1%
3	Miami, FL	2,234,001	40.3%	323,805	52.4%	14.5%	85.5%
4	Houston, TX	2,015,528	34.4%	959,683	42.4%	47.6%	52.4%
5	Riverside, CA	1,920,133	46.3%	511,163	49.6%	26.6%	73.4%
6	Chicago, IL-IN-WI	1,902,323	19.9%	779,218	27.3%	41.0%	59.0%
7	Dallas, TX	1,803,362	28.0%	1,094,762	35.1%	60.7%	39.3%
8	Phoenix, AZ	1,382,427	31.7%	877,786	35.4%	63.5%	36.5%
9	San Antonio, TX	1,107,864	53.4%	845,307	61.5%	76.3%	23.7%
10	San Diego, CA	957,246	31.3%	373,574	28.6%	39.0%	61.0%
11	San Francisco, CA	893,612	20.7%	370,244	20.0%	41.4%	58.6%
12	Washington, DC-VA-MD-WV	712,951	13.0%	112,339	11.6%	15.8%	84.2%
13	McAllen, TX	665,244	89.8%	n/a	n/a	n/a	n/a
14	El Paso, TX	614,467	81.8%	499,242	80.5%	81.2%	18.8%
15	Denver, CO	570,216	22.3%	305,931	32.8%	53.7%	46.3%
	Black						
1	New York, NY-NJ-PA	3,369,106	17.7%	2,249,680	25.9%	66.8%	33.2%
2	Atlanta, GA	1,727,337	31.5%	277,976	51.4%	16.1%	83.9%
3	Chicago, IL-IN-WI	1,683,203	17.6%	946,127	33.2%	56.2%	43.8%
4	Washington, DC-VA-MD-WV	1,422,669	26.0%	367,875	38.0%	25.9%	74.1%
5	Philadelphia, PA-NJ-DE-MD	1,221,558	20.5%	694,244	42.7%	56.8%	43.2%
6	Miami, FL	1,132,749	20.4%	143,541	23.2%	12.7%	87.3%
7	Detroit, MI	1,002,212	22.8%	695,092	76.3%	69.4%	30.6%
8	Houston, TX	987,007	16.8%	513,449	22.7%	52.0%	48.0%
9	Dallas, TX	904,709	14.0%	554,644	17.8%	61.3%	38.7%
10	Los Angeles, CA	895,931	7.0%	502,609	8.2%	56.1%	43.9%
11	Baltimore, MD	764,778	28.4%	396,518	62.2%	51.8%	48.2%
12	Memphis, TN-MS-AR	580,308	44.5%	412,656	61.0%	71.1%	28.9%
13	Virginia Beach-Norfolk, VA	522,859	31.2%	183,341	27.5%	35.1%	64.9%
14	St. Louis, MO-IL	505,587	17.9%	169,920	47.7%	33.6%	66.4%
15	New Orleans, LA	414,543	34.8%	218,919	61.7%	52.8%	47.2%
	Asian						
1	New York, NY-NJ-PA	1,807,680	9.5%	1,007,995	11.6%	55.8%	44.2%
2	Los Angeles, CA	1,790,140	13.9%	790,292	12.9%	44.1%	55.9%
3	San Francisco, CA	965,347	22.4%	503,058	27.2%	52.1%	47.9%
4	San Jose, CA	555,003	30.2%	439,449	34.4%	79.2%	20.8%
5	Chicago, IL-IN-WI	514,135	5.4%	150,116	5.3%	29.2%	70.8%
6	Washington, DC-VA-MD-WV	471,763	8.6%	41,938	4.3%	8.9%	91.1%
7	Honolulu, HI	378,101	41.7%	189,797	50.7%	50.2%	49.8%
8	Seattle, WA	358,849	10.5%	96,366	11.8%	26.9%	73.1%
9	Houston, TX	355,203	6.1%	134,133	5.9%	37.8%	62.2%
10	Dallas, TX	318,023	4.9%	173,570	5.6%	54.6%	45.4%
11	San Diego, CA	315,594	10.3%	189,668	14.5%	60.1%	39.9%
12	Boston, MA-NH	275,250	6.0%	64,867	7.9%	23.6%	76.4%
13	Philadelphia, PA-NJ-DE-MD	268,143	4.5%	88,927	5.5%	33.2%	66.8%
14	Sacramento, CA	240,968	11.3%	109,820	14.9%	45.6%	54.4%
15	Riverside, CA	239,056	5.8%	59,529	5.8%	24.9%	75.1%

Source: U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

tion in 2009, but this share is down from 30 percent in 1990, suggesting changes in settle-ment patterns. During this period, interior California areas such as Riverside and Stockton, among other new regions, gained significant numbers of Hispanics (Frey, 2006).

The Southeast has become an important destination for Hispanics in recent years, attract-ing migrants to fill jobs in construction, services, and retail. While not the traditional centers for Hispanic populations, nine of the top 10 metro areas in terms of their percentage growth in

Hispanic populations since 2000 were in the Southeast and include Cape Coral–Fort Myers (FL), Port St. Lucie (FL), Charlotte (NC-SC), Fayettesville (AR-MO), Raleigh (NC), Lakeland (FL), Nashville (TN), and Atlanta (GA) (Frey, 2006).

While patterns of settlement vary by metropolitan areas, Hispanic population growth has spread to parts of suburbia, particularly in metropolitan areas such as Miami (FL); Washington, D.C.; and Riverside, San Francisco, and San Diego (CA). But Hispanics still constitute a larger proportion of the central city population in most of the major metro areas. Texas metro areas such as San Antonio, Dallas, Houston, and El Paso markedly exhibit this pattern, as do several other metro areas including Phoenix (AZ), Denver (CO), and New York (NY-NJ-PA), among others.

Asian populations are more likely than Hispanic populations to be settled within only a small number of major metropolitan areas. Ranked by size of Asian populations, the top 15 metro areas account for over two-thirds of the nation's Asian population, with the Los Angeles, New York, and San Francisco metro areas serving as home to one-third of the nation's Asians. However, newer destinations for Asians have grown significantly in the past decade including Las Vegas (NV), Phoenix (AZ), Riverside (CA), and Austin (TX) (Frey, 2006).

While Asians are more likely to be concentrated in the primary cities of select metro regions— for example, San Francisco, San Jose, Honolulu, San Diego, Sacramento, among others—the pattern is far less dramatic than is evident for Hispanics and Blacks. Asians have often settled outside the central city, clustering together in some suburban areas, but also exhibiting a greater tendency over time toward spatial assimilation—movement away from ethnic enclaves into areas where another ethnic majority predominates.

Blacks, in comparison to Asians and Hispanics, are somewhat more dispersed throughout the U.S. The top 15 metro areas ranked by size of Black populations in 2009 contained one-half of all Blacks in the nation. New York's metropolitan area and primary city have the largest populations of Blacks, but its primary city is more racially and ethnically mixed than many other metro areas. Several of the primary cities within metro areas exhibit majority Black populations, including Detroit (MI), Memphis (TN), Baltimore (MD), Atlanta (GA), and New Orleans (LA). These cities, along with several other major cities including New York, Chicago, Philadelphia, Dallas, Houston, and Los Angeles, exhibit a higher concentration of Blacks in the primary city than in the surrounding suburban areas.

The Black population has been steadily reversing historic trends, and returning to southern states over the last two decades. Beginning in the 1970s and 1980s, the movement of blacks southward has been an important migration flow, driving Black population gains in several southern metropolitan areas including Atlanta (GA), Houston (TX), Dallas (TX), Miami (FL), Charlotte (NC), and Washington (DC-VA-MD-WV) (Frey, 2006).

Poverty and Low-Income Persons

The U.S. Department of Transportation Order on Environmental Justice (5610.2) defines "low-income" as a person whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. Several federal programs use the poverty guidelines (or percentage multiples of the guidelines—for instance, 130 percent or 185 percent of the guidelines) in determining eligibility. Programs that reference poverty guidelines include Head Start, the Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program, the Low-Income Home Energy Assistance Program, and the Children's Health Insurance Program. Table 2-4 presents how the poverty levels vary by household size. The poverty level for a family of four was $22,350 under the 2011 guidelines for the 48 contiguous states and the

Table 2-4. 2011 poverty guidelines.

Number of Persons In Household	48 Contiguous States and D.C.	Alaska	Hawaii
1	$10,890	$13,600	$12,540
2	14,710	18,380	16,930
3	18,510	23,160	21,320
4	22,350	27,940	25,710
5	25,170	32,720	30,100
6	29,990	37,500	34,490
7	33,810	42,280	38,880
8	37,630	47,060	43,270
For each additional person, add	3,820	4,780	4,390

Source: U.S. Department of Health and Human Services. *Annual Update of the HHS Poverty Guidelines*, 2011.

District of Columbia. Cost-of-living adjustments are made for those living in Alaska and Hawaii, but not for the other 48 states and the District of Columbia.

Who Are the Poor?

In 2009, about one out of seven U.S. residents lived in poverty with an official poverty rate of 14.3 percent. There were an estimated 43.6 million persons in poverty in the U.S.—the third consecutive annual increase in the number of people in poverty. This was the largest number of persons ever reported in poverty since estimates were first published in 1959. The poverty rate in 2009 was the highest poverty rate since 1994, but it was 8.1 percentage points lower than in 1959.

Most persons living in poverty were White in 2009—29.8 million were White and 18.5 million were non-Hispanic Whites. Whites in poverty accounted for about 68 percent of all persons in poverty. Hispanics and Blacks accounted for 28 and 23 percent, respectively, of all persons in poverty in 2009.

Hispanics and Blacks exhibit persistently higher rates of poverty than non-Hispanic Whites. The poverty rate was 25.3 percent for Hispanics and 25.8 percent for Blacks—far higher than the 9.4 percent rate for non-Hispanic Whites in 2009. This gap persists even as it closed somewhat over the 1990s particularly for Blacks. In recent years, the gap has widened with the economic slowdown and current policy priorities (see Figure 2-3).

Many persons in poverty are children and youth. More than one out of five children lives in poverty (15.4 million persons under 18 years). Seniors account for 3.4 million persons in poverty, but their poverty rate is proportionately less than for children or for adults 18 to 64 years (see Table 2-5).

Single-parent, female-headed families without husbands are among the most vulnerable to falling into poverty, particularly those with children under 18 years. Single-parent female-headed families account for 18 percent of all families, but 50 percent of all families in poverty. While 11.1 percent of all U.S. families are in poverty, 29.9 percent of all female-headed families are in poverty. The poverty rate for all types of families rises when children under 18 years are present, but it is especially high for single-parent families headed by female Hispanics (46%) or Blacks (44.2%). For Hispanics and Blacks, current poverty levels are actually lower than experienced in the 1970s and 1980s, even as the rate rose during the 2000s. For White women (non-Hispanics) with children, there has been a rise in poverty levels over this same period, actually accelerating in the last decade to close some of the gap between the races (see Figure 2-4).
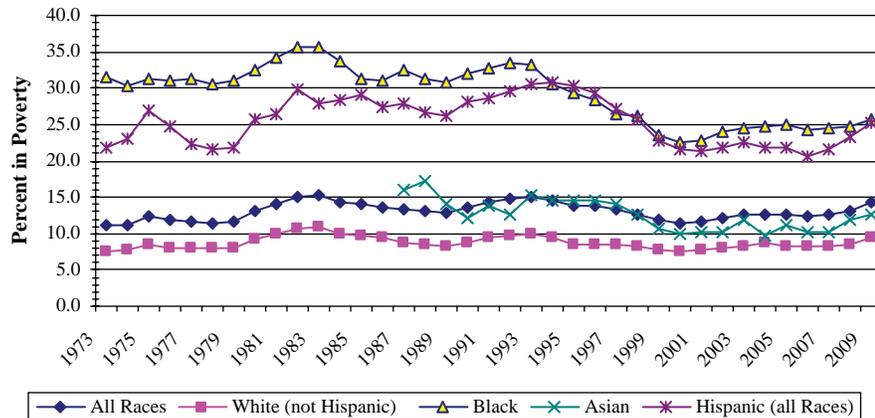
Source: De-Navas-Walt, C., Proctor, B.D, and Smith, J.C., U.S. Census Bureau, *Income, Poverty and Health Insurance Coverage in the U.S.: 2009*, September 2010. Note: Data not reported for Pacific Islanders, Alaska Natives, and Native Americans in census publication.

Figure 2-3.   Poverty rates for persons by race and Hispanic origin, 1973–2009.

Table 2-5.   People and families in poverty by select characteristics, 2009.

Category	Population	Persons in Poverty	Percent in Poverty	Share of U.S. Population	Share of All in Poverty
People:					
Total	303,820	43,569	14.3%	100.0%	100.0%
White	242,047	29,830	12.3%	79.7%	68.5%
Non-Hispanic White	197,164	18,530	9.4%	64.9%	42.5%
Hispanic (any Race)	48,811	12,350	25.3%	16.1%	28.3%
Black or African American	38,556	9,944	25.8%	12.7%	22.8%
Asian	14,005	1,746	12.5%	4.6%	4.0%
In Families	249,834	31,197	12.5%	82.2%	71.6%
Householder	78,867	8,792	11.1%	26.0%	20.2%
Related Children, under 18 Years	73,410	14,774	20.1%	24.2%	33.9%
In Unrelated Subfamilies	1,357	693	51.1%	0.4%	1.6%
Unrelated Individuals	53,079	11,678	22.0%	17.5%	26.8%
Age					
Under 18 Years	74,579	15,451	20.7%	24.5%	35.5%
18 to 64 Years	190,627	24,684	12.9%	62.7%	56.7%
65 Years and Older	38,613	3,433	8.9%	12.7%	7.9%
Nativity					
Native Born	266,223	36,407	13.7%	87.6%	83.6%
Foreign Born	37,597	7,162	19.0%	12.4%	16.4%
- Naturalized Citizen	16,024	1,736	10.8%	5.3%	4.0%
- Not a Citizen	21,573	5,425	25.1%	7.1%	12.5%
Residence					
Inside Metropolitan Statistical Areas	256,028	35,655	13.9%	84.3%	81.8%
Inside Principal Cities	97,725	18,261	18.7%	32.2%	41.9%
Outside Principal Cities	158,302	17,394	11.0%	52.1%	39.9%
Outside Metropolitan Statistical Areas	47,792	7,914	16.6%	15.7%	18.2%
Families:					
Total Families	78,874	8,792	11.1%	100.0%	100.0%
Married Couple	58,428	3,409	5.8%	74.1%	74.1%
Female Householder, no husband present	14,857	4,441	29.9%	18.8%	18.8%
Male Householder, no wife present	5,582	942	16.9%	7.1%	7.1%

Source: De-Navas-Walt, C., Proctor, B.D., and Smith, J.C., U.S. Census Bureau, *Income, Poverty and Health Insurance Coverage in the U.S.: 2009*, September 2010. Note: Data not reported for Pacific Islanders, Alaska Natives, and Native Americans in census publication.
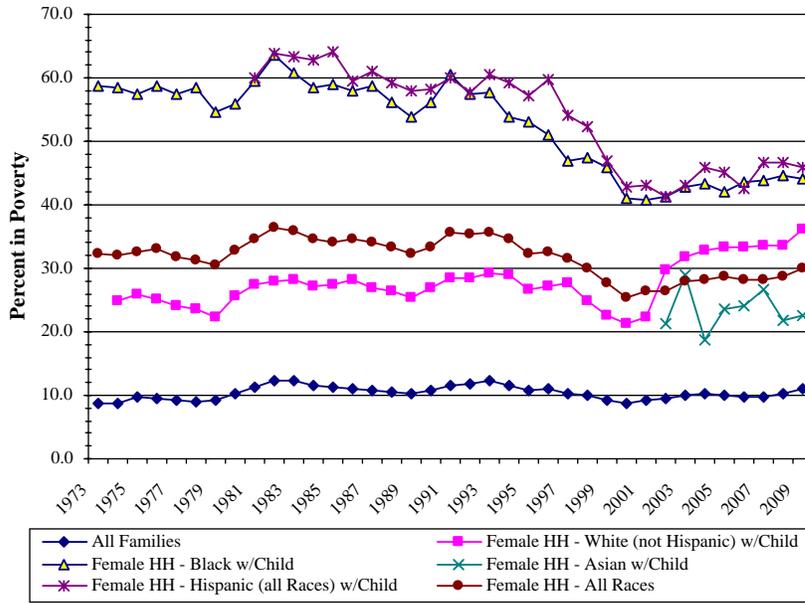
Source: De-Navas-Walt, C., Proctor, B.D., and Smith, J.C., U.S. Census Bureau, *Income, Poverty and Health Insurance Coverage in the U.S.: 2009*, September 2010. Note: Data not reported for Pacific Islanders, Alaska Natives, and Native Americans in census publication.

Figure 2-4.   Poverty rates for families and female-headed families w/children by race and Hispanic origin, 1973–2009.

Location of the Poor

The poor are increasingly spread out over our metropolitan regions, but they are most concentrated in our central cities. In terms of absolute numbers of persons in poverty, those living outside the central city account for nearly as many persons in poverty (17.4 million) as those living within the central city (18.3 million). The poverty rate in the central cities (18.7%) is significantly higher, however, than the outer areas of the metropolitan region (11%).

Many of the poor also live in rural areas outside metropolitan regions—7.9 million persons or 18 percent of the nation's poor live outside metropolitan areas in poverty. Those living in rural areas exhibit a 16.2 percent poverty rate—second only to our nation's central cities in terms of the percent of the population below the poverty threshold (see Table 2-5).

Poverty and Low-Income Persons: Challenges and Considerations

- Limited access to information via Internet or subscription newspapers.
- Limited ability to read and write English or a non-English language.
- Limited access to a personal vehicle and subject to the scheduling and routes of public transit, if available.
- Time restrictions attributable to working second or third shifts or two jobs.
- Time restrictions attributable to single parent and multi-generational family structures.

Foreign-Born Residents

Over the first decade of the 21st century, the total number of foreign-born residents in the U.S. was at an all-time high; the total foreign born as a percent of the total U.S. population approached percentages last reached in 1920. Large migrating populations, including immigrants, sought economic opportunities in the Northeast and Midwest until the Depression of the late 1920s and 1930s slowed immigration. In the aftermath of World War II, the supply of European labor diminished as a post-war recovery took hold.

The foreign-born share of the U.S. population continued to drop in the 1950s and 1960s, bottoming out in the 1970s before steadily increasing until 2009 when the recession slowed the pace of immigration. The Sunbelt states emerged and spread out in this period as already discussed. Immigrant settlements followed this engine of economic opportunity as the Sunbelt spread from the West into the Southwest and Southeast, and as it spread out from the traditional urban cores to the suburban and exurban periphery.

Between 2000 and 2009, the total foreign-born population increased by 23.8 percent from 31.1 to 38.5 million (see Figure 2-5). Foreign-born residents constituted about 12.5 percent of the total U.S. population in 2009, and approximately 42 percent of U.S. population growth has been estimated to come directly from immigration. The foreign-born population includes naturalized citizens, lawful permanent residents (LPRs), certain legal non-immigrants (e.g., persons on student or work visas), those admitted as refugees or asylum seekers, and persons illegally residing in the United States. The nation's deep recession has diminished the estimated annual flow of unauthorized immigration from its peaks earlier in the decade. While the exact percentages are not known, an estimated 28 percent of immigrants in the U.S. were believed to be unauthorized in 2009, which is down from a high of 31 percent in 2007 (Passel and Cohn, 2010). *Foreign-born residents—persons residing in the United States who were not U.S. citizens at birth—are expected to account for a greater proportion of population growth than natural increase by 2027.*

Current immigrant populations come primarily from Asia, Mexico, and South and Central America—a significant transformation of the regions of origin from the first few decades of the twentieth century. In 1970, European immigrants made up 62 percent of the foreign-born population in the U.S., but by 2009 they accounted for only 13 percent of foreign-born populations due to new waves of immigration and the aging of existing immigrant populations (see Figure 2-6).

Mexico is the leading country of origin for foreign-born persons in the United States today, accounting for just under 30 percent of the U.S. foreign-born, but the Philippines, India, China, Vietnam, and El Salvador are also major source countries. Table 2-6 shows the top 20 originating countries of foreign-born populations in 2009 which comprise about 72 percent of the nation's foreign-born populations.
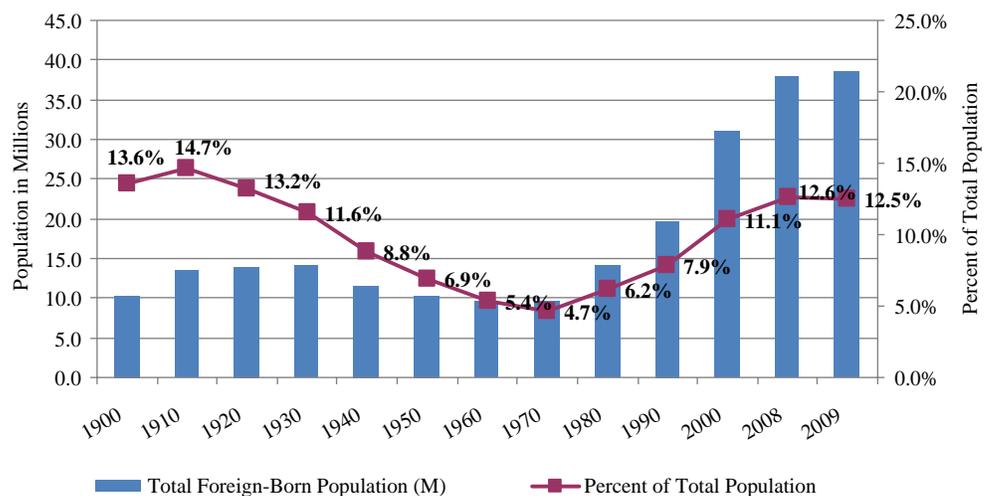
Source: U.S. Census Bureau, American Community Survey; Gibson, C. and Lennon, E., U.S. Census Bureau, Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 2000, U.S. Government Printing Office, Washington, DC, 2006.

Figure 2-5.   Total foreign born and share of foreign born, 1900–2009.
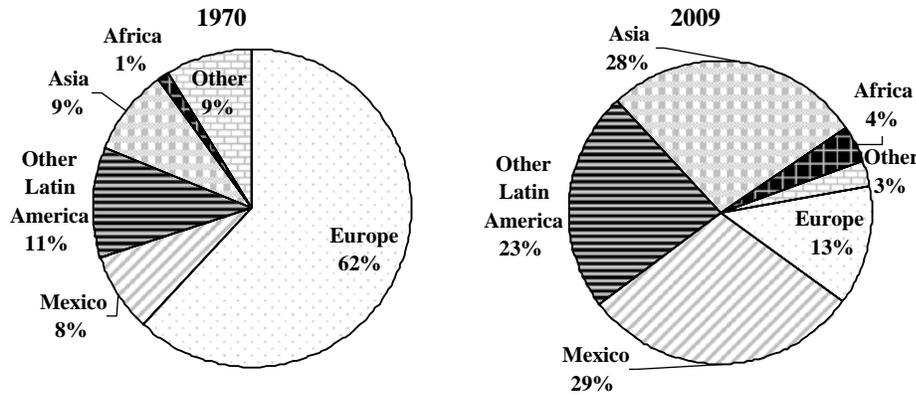
Source: U.S. Census Bureau, American Community Survey; Gibson, C. and Lennon, E., U.S. Census Bureau, Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 2000, U.S. Government Printing Office, Washington, DC, 2006.

Figure 2-6.   Originating regions for foreign-born populations, 1970 and 2009.

The regions and countries of origin, the customs, English proficiency, and the factors that will drive the nation's *future* immigrants to the United States may not be fully foreseeable today, but recognition of changing migration patterns and respect for those who arrive will be essential to designing accessible public involvement processes and to reaching a better understanding of the values, needs, and concerns of the nation's increasingly diverse communities and populations.

Destinations for Foreign-Born Populations Are Changing

Traditional gateways such as California, New York, Texas, and Florida continued to be major points of entry throughout the first decade of the 21st century, but foreign-born persons also arrived in many other states—more than had ever been recorded in their recent history (see Table 2-7). Figure 2-7 presents the 15 states receiving the *most immigrants* since 2000;

Table 2-6.   Top 20 originating countries of foreign born, 2009.

Rank	Country of Origin	Foreign-Born Population	Share of Foreign-Born
1	Mexico	11,478,413	29.8%
2	Philippines	1,725,894	4.5%
3	India	1,665,219	4.3%
4	China	1,432,115	3.7%
5	Vietnam	1,152,384	3.0%
6	El Salvador	1,149,895	3.0%
7	Korea	1,004,329	2.6%
8	Cuba	991,385	2.6%
9	Canada	814,965	2.1%
10	Guatemala	798,682	2.1%
11	Dominican Republic	793,285	2.1%
12	United Kingdom	694,597	1.8%
13	Jamaica	651,177	1.7%
14	Germany	622,608	1.6%
15	Colombia	609,845	1.6%
16	Haiti	538,582	1.4%
17	Honduras	467,943	1.2%
18	Poland	443,173	1.2%
19	Ecuador	411,826	1.1%
20	Peru	406,910	1.1%

Source: U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Table 2-7.   States ranked by number of foreign born: 1990, 2000, 2009.

State	1990 Estimate	Rank	2000 Estimate	Rank	2009 Estimate	Rank
United States	**19,767,316**		**31,107,889**		**38,517,234**	
California	6,458,825	1	8,864,255	1	9,946,758	1
New York	2,851,861	2	3,868,133	2	4,178,170	2
Texas	1,524,436	4	2,899,642	3	3,985,239	3
Florida	1,662,601	3	2,670,828	4	3,484,141	4
New Jersey	966,610	5	1,476,327	6	1,759,467	5
Illinois	952,272	6	1,529,058	5	1,740,763	6
Massachusetts	573,733	7	772,983	7	943,335	7
Arizona	278,205	14	656,183	8	925,376	8
Georgia	173,126	16	577,273	10	920,381	9
Washington	322,144	10	614,457	9	810,637	10
Virginia	311,809	12	570,279	11	805,742	11
Maryland	313,494	11	518,315	13	730,400	12
Pennsylvania	369,316	8	508,291	14	691,242	13
North Carolina	115,077	21	430,000	15	665,270	14
Michigan	355,393	9	523,589	12	614,111	15
Nevada	104,828	23	316,593	19	506,505	16
Colorado	142,434	18	369,903	17	486,615	17
Connecticut	279,383	13	369,967	16	459,515	18
Ohio	259,673	15	339,279	18	433,330	19
Oregon	139,307	19	289,702	20	367,202	20
Minnesota	113,039	22	260,463	21	357,561	21
Indiana	94,263	25	186,534	24	281,327	22
Tennessee	59,114	31	159,004	25	265,658	23
Wisconsin	121,547	20	193,751	23	256,085	24
Hawaii	162,704	17	212,229	22	224,227	25
Utah	58,600	33	158,664	26	218,142	26
Missouri	83,633	27	151,196	27	212,900	27
South Carolina	49,964	34	115,978	32	205,133	28
New Mexico	80,514	28	149,606	28	196,006	29
Oklahoma	65,489	29	131,747	30	189,841	30
Kansas	62,840	30	134,735	29	171,252	31
Louisiana	87,407	26	115,885	33	152,002	32
Alabama	43,533	35	87,772	35	146,999	33
Rhode Island	95,088	24	119,277	31	133,458	34
Kentucky	34,119	39	80,271	36	127,973	35
Arkansas	24,867	42	73,690	38	120,231	36
Iowa	43,316	36	91,085	34	116,161	37
Nebraska	28,198	41	74,638	37	106,186	38
Idaho	28,905	40	64,080	40	97,642	39
Delaware	22,275	44	44,898	42	74,033	40
District of Columbia	58,887	32	73,561	39	72,110	41
New Hampshire	41,193	37	54,154	41	68,462	42
Mississippi	20,383	45	39,908	43	59,538	43
Alaska	24,814	43	37,170	44	48,849	44
Maine	36,296	38	36,691	45	43,958	45
West Virginia	15,712	47	19,390	47	23,129	46
South Dakota	7,731	50	13,495	49	21,765	47
Vermont	17,544	46	23,245	46	20,537	48
Montana	13,779	48	16,396	48	19,309	49
Wyoming	7,647	51	11,205	51	17,108	50
North Dakota	9,388	49	12,114	50	15,453	51

Source: U.S. Census Bureau, Summary File 3, U.S. Decennial Censuses: 1990 and 2000; U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Distribution of Foreign Born by Year of Entry
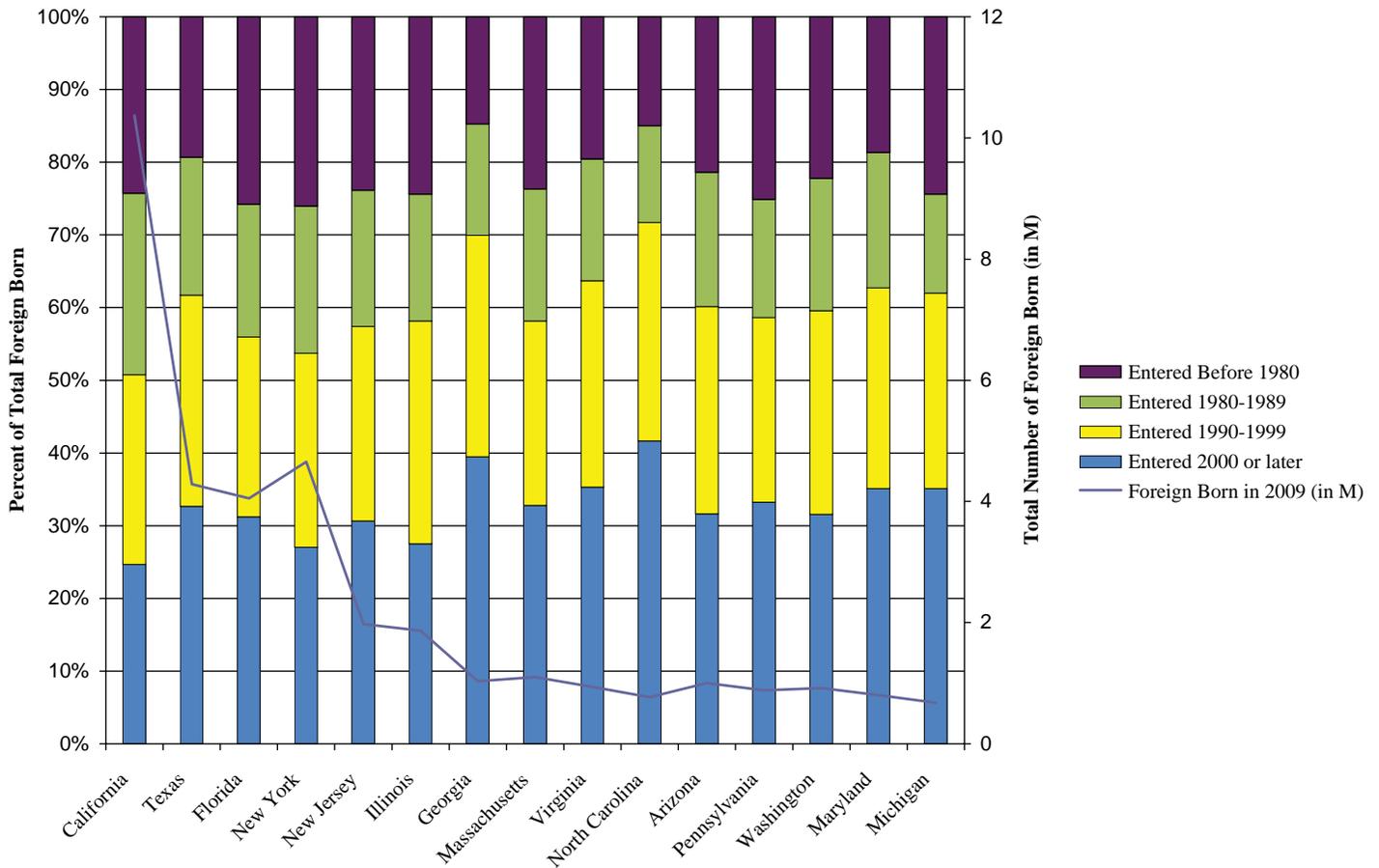
Source: U.S. Census Bureau, Summary File 3, U.S. Decennial Census: 2000; U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Figure 2-7.   *States with the largest number of foreign-born populations entering, 2000–2009 share of total foreign born by year of entry.*

they accounted for 80 percent of all foreign-born entering the country in the first decade of the century.

Until recently, several Southeastern and Midwestern states had only limited experience as destinations for foreign-born populations. The foreign-born arriving since 2000 in North Carolina, Georgia, Minnesota, Indiana, Kentucky, and Tennessee account for nearly 40 to 50 percent of their state's entire foreign-born populations. Figure 2-8 presents the top 15 states in terms of the share of the foreign-born population that arrived in their state since 2000.

The deep recession at the end of the decade inhibited the migration of foreign-born persons, but among the 100 largest metropolitan areas, the foreign-born population still grew by 21.3 percent from 2000 to 2008, an annual growth rate of 2.4 percent. This rate of migration falls well short of the 4.5 percent annual rate of the 1990s, but the foreign born increasingly settled in regions of the country and metropolitan areas that traditionally had not been points-of-entry (see Singer, 2009).

Southeastern metropolitan areas—places that immigrants had not chosen for settle- ment in recent decades—have drawn much larger contingents of foreign born since 2000 (see Tables 2-8 and 2-9). Several metro areas such as Lexington-Fayette (KY); Jackson (MS); Durham-Chapel Hill, Asheville, Winston-Salem, Raleigh-Cary, and Charlotte (NC); Birmingham
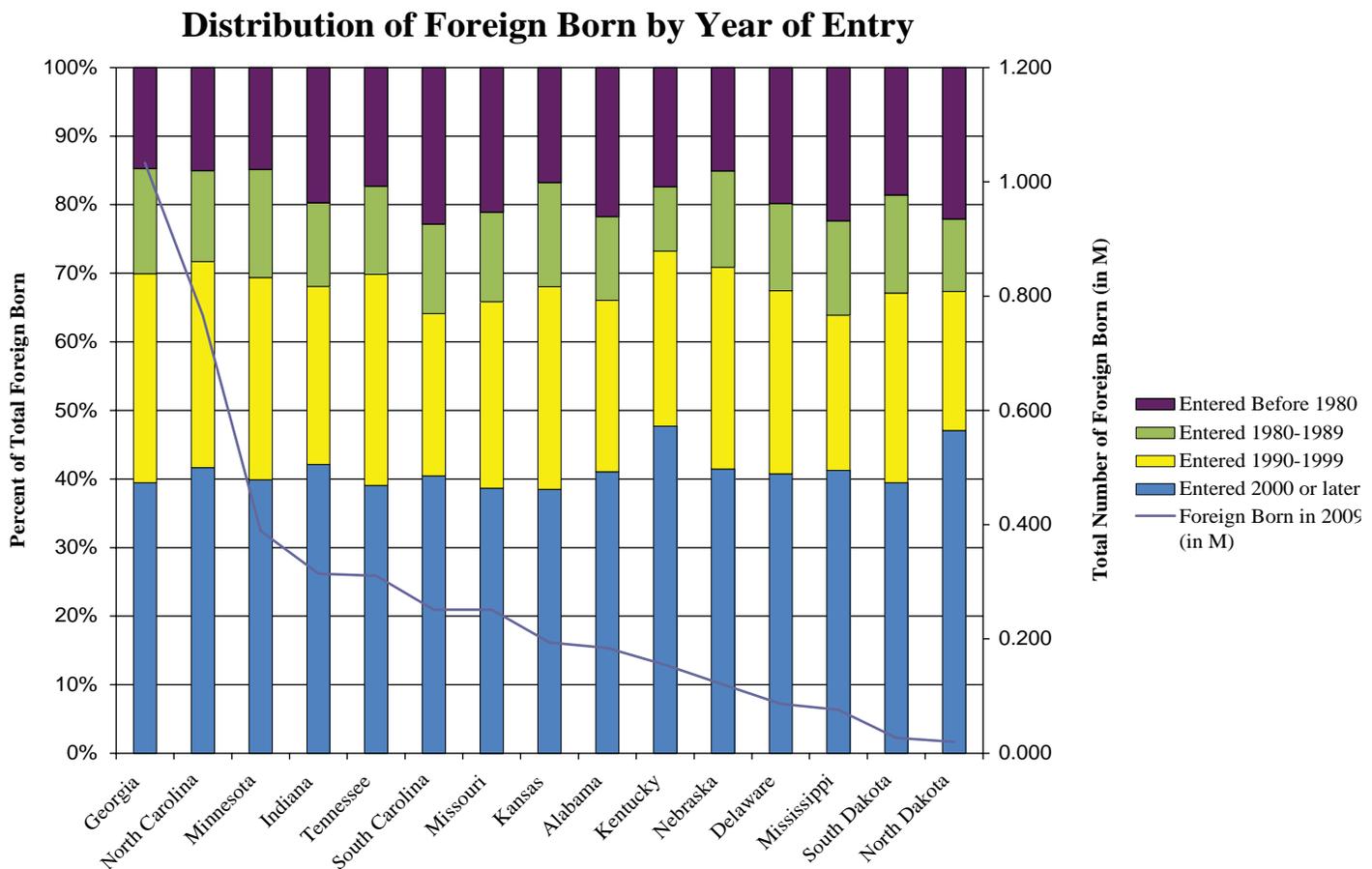
Distribution of Foreign Born by Year of Entry

Source: U.S. Census Bureau, Summary File 3, U.S. Decennial Census: 2000; U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Figure 2-8.   States with largest share of percent of total foreign-born populations, 2000–2009.

(AL); Memphis (TN); and Greenville (SC) have ranked among the most attractive in terms of new arrivals since 2000 as a share of their total foreign born. Several metro areas in older industrial states have experienced an infusion of foreign-born arrivals such as Indianapolis (IN), East Lansing (MI), Harrisburg (PA), and Omaha (NE).

The larger metro areas, such as New York–New Jersey, Los Angeles, Miami, San Francisco, and Houston still have a much larger share of the foreign-born as a percentage of the total population. Similarly, the border states as traditional gateways for low-skilled labor are much more composed of foreign-born persons. When metro areas are ranked by the percentage of foreign-born, 12 of the top 15 are in the Sunbelt states, all with longstanding immigrant populations. Ten are in California (San Jose, Los Angeles, San Francisco, Stockton, Salinas, San Diego, Oxnard, Santa Barbara, Visalia, Modesto); two are situated along the Texas border (McAllen and El Paso); and Las Vegas, Miami, and New York round out the top 15.

While change is occurring at a rapid pace for these new destination regions, the absolute number of foreign-born arrivals since 2000 is far smaller than those destined for the top arrival metro areas or traditional areas of migration. Long-standing residents may express concern over the effects of immigrant populations on local services such as schools, health care, and transportation; but the residents, employers, and governing institutions of these newer destination regions, no less than the traditional gateways, can seek ways to build their cultural competency to effectively integrate and engage new immigrant communities and their families.

Table 2-8.   Metro areas ranked by absolute size and share of foreign-born populations, 2009.

	Ranked by Size of Foreign-Born Populations: Metro Areas	Total Foreign Born	Share of Foreign Born		Ranked by Share of Foreign-Born Populations: Metro Areas	Total Foreign Born	Share of Foreign Born
1	New York, NY-NJ-PA	5,826,648	30.6%	1	Miami-Fort Lauderdale-Pompano Beach, FL	2,215,218	39.9%
2	Los Angeles-Long Beach-Santa Ana, CA	4,550,875	35.3%	2	San Jose-Sunnyvale-Santa Clara, CA	673,528	36.6%
3	Miami-Fort Lauderdale-Pompano Beach, FL	2,215,218	39.9%	3	Los Angeles-Long Beach-Santa Ana, CA	4,550,875	35.3%
4	Chicago-Naperville-Joliet, IL-IN-WI	1,758,250	18.4%	4	San Francisco-Oakland-Fremont, CA	1,332,458	30.9%
5	Houston-Sugar Land-Baytown, TX	1,337,222	22.8%	5	Salinas, CA	125,529	30.6%
6	San Francisco-Oakland-Fremont, CA	1,332,458	30.9%	6	New York, NY-NJ-PA	5,826,648	30.6%
7	Dallas-Fort Worth-Arlington, TX	1,212,557	18.8%	7	McAllen-Edinburg-Mission, TX	222,938	30.1%
8	Washington, DC-VA-MD-WV	1,207,433	22.0%	8	El Paso, TX	206,944	27.5%
9	Riverside-San Bernardino-Ontario, CA	934,262	22.5%	9	Stockton, CA	166,939	24.7%
10	Boston-Cambridge-Quincy, MA-NH	808,698	17.6%	10	San Diego-Carlsbad-San Marcos, CA	748,444	24.5%
11	Atlanta-Sandy Springs-Marietta, GA	780,233	14.2%	11	Oxnard-Thousand Oaks-Ventura, CA	193,674	24.1%
12	San Diego-Carlsbad-San Marcos, CA	748,444	24.5%	12	Santa Barbara-Santa Maria-Goleta, CA	95,897	23.6%
13	Phoenix-Mesa-Scottsdale, AZ	721,152	16.5%	13	Las Vegas-Paradise, NV	446,895	23.5%
14	San Jose-Sunnyvale-Santa Clara, CA	673,528	36.6%	14	Visalia-Porterville, CA	100,001	23.3%
15	Philadelphia, PA-NJ-DE-MD	667,863	11.2%	15	Modesto, CA	118,474	23.2%
16	Seattle-Tacoma-Bellevue, WA	600,153	17.6%	16	Orlando-Kissimmee, FL	477,813	22.9%
17	Orlando-Kissimmee, FL	477,813	22.9%	17	Houston-Sugar Land-Baytown, TX	1,337,222	22.8%
18	Las Vegas-Paradise, NV	446,895	23.5%	18	Bridgeport-Stamford-Norwalk, CT	205,007	22.7%
19	Detroit-Warren-Livonia, MI	424,698	9.6%	19	Riverside-San Bernardino-Ontario, CA	934,262	22.5%
20	Tampa-St. Petersburg-Clearwater, FL	407,675	14.8%	20	Honolulu, HI	203,459	22.4%
21	Sacramento-Arden-Arcade-Roseville, CA	387,363	18.2%	21	Washington, DC-VA-MD-WV	1,207,433	22.0%
22	Denver-Aurora-Broomfield, CO	330,562	12.9%	22	Fresno, CA	201,392	22.0%
23	Minneapolis-St. Paul-Bloomington, MN-WI	320,006	9.8%	23	Vallejo-Fairfield, CA	88,086	21.6%
24	Portland-Vancouver-Beaverton, OR-WA	298,322	13.3%	24	Bakersfield, CA	166,733	20.7%
25	Austin-Round Rock, TX	276,015	16.2%	25	Dallas-Fort Worth-Arlington, TX	1,212,557	18.8%

Source: U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Table 2-9.   Metro areas: absolute number and share of foreign-born populations, 2009 (ranked by size of foreign born arriving since 2000).

	Metro Areas	Total Foreign Born	Share of Foreign Born	Foreign Born Arriving Since 2000
1	Lexington-Fayette, KY	33,343	7.1%	57.9%
2	Jackson, MS	14,449	2.7%	55.6%
3	Indianapolis-Carmel, IN	110,529	6.3%	51.3%
4	Lansing-East Lansing, MI	27,125	6.0%	50.9%
5	Durham-Chapel Hill, NC	62,413	12.5%	46.9%
6	Asheville, NC	25,501	6.2%	46.4%
7	Winston-Salem, NC	41,703	8.6%	45.9%
8	Birmingham-Hoover, AL	51,659	4.6%	44.8%
9	Memphis, TN-MS-AR	69,848	5.4%	44.7%
10	Greenville-Mauldin-Easley, SC	50,302	7.9%	44.6%
11	Columbus, OH	136,359	7.6%	44.3%
12	Raleigh-Cary, NC	137,836	12.2%	43.6%
13	Charlotte-Gastonia-Concord, NC-SC	187,642	10.7%	43.6%
14	Louisville-Jefferson County, KY-IN	59,440	4.7%	43.5%
15	Cincinnati-Middletown, OH-KY-IN	93,753	4.3%	42.2%
16	Scranton—Wilkes-Barre, PA	27,283	5.0%	41.3%
17	Kansas City, MO-KS	132,642	6.4%	41.2%
18	Nashville-Davidson-Murfreesboro-Franklin, TN	127,160	8.0%	41.2%
19	Harrisburg-Carlisle, PA	30,946	5.8%	41.0%
20	Mobile, AL	14,953	3.6%	40.9%
21	Madison, WI	41,014	7.2%	40.4%
22	Atlanta-Sandy Springs-Marietta, GA	780,233	14.2%	40.4%
23	Minneapolis-St. Paul-Bloomington, MN-WI	320,006	9.8%	40.1%
24	Omaha-Council Bluffs, NE-IA	66,827	7.9%	39.8%
25	Tulsa, OK	55,892	6.0%	39.7%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Immigrants are also increasingly settling away from the urban core within metro areas, changing the demographic composition of suburbia. In 1980, 41 percent of immigrants in the U.S. lived in the primary cities of the top 100 metro areas. Recent immigrants may be just as likely to make their first homes in suburbs as in central cities (Garnett, 2007).

Foreign-born residents come from many different regions of the world with varying economic and educational backgrounds, some of whom are prepared for professions requiring advanced degrees, while others, particularly undocumented immigrants, have much less formal education and skills and can pursue only lower-wage offerings. There is a significant occupational and educational divide among U.S. immigrants, split between groups with a substantially higher percentage with advance degrees and a substantially higher share with less than a high school education (Council of Economic Advisers, 2007). Immigrants may also find that their formal education or training is not accepted by U.S. institutions or businesses. More than half of legal migrants reported taking jobs that are below their skill levels (Akresh, 2006).

Over time, the foreign born may eventually disperse toward a wide range of residential and labor markets to pursue employment or education or advance their careers—a form of spatial assimilation—but may initially gravitate toward enclaves where it is easier to join extended families or network with clusters of prior arrivals from their region or country of origin. While varying by region and/or country of origin, the foreign-born, *on average,* have lower overall educational attainment levels, higher rates of poverty, and less proficiency in English than native-born

residents. This is largely because of the high proportion of immigrants from Mexico. In 2009, the foreign-born were more likely to be in the U.S. labor force and, when employed, tended to work in occupations such as construction, production, and services than the native-born.

The foreign born rely more upon public transportation to commute to work and are more likely to reside in a household without a car. Changes in foreign-born mode choice tend to be most dramatic during the first five years in the U.S. Immigrants who have been in the U.S. less than one year are less reliant on autos—just one-third drive to work in a single occupancy vehicle. But more than one-half of those who have been in the country for just five years drive alone to work. The rate of solo commuting becomes higher and the rate of transit and carpooling lessens, the longer that the foreign born have been in the U.S. (Chatman and Klein, 2009). Where the foreign born settle—the type of urban form in which they live and work and the availability of alternative modes to access opportunities (i.e., work, shopping, health care, education)—remain important factors when explaining the changing travel patterns of immigrants.

Foreign Born: Challenges and Considerations

- Lack of familiarity with customs and the planning process; unease with meetings as a safe venue for expressing oneself.
- Limited access to information via Internet or subscription newspapers.
- Limited ability to read and write English or a non-English language.
- Increased dependency on children for information or explanation.
- Need for interpreters and translated materials to access information.
- Holding special events or focus groups and working with intermediary institutions (e.g., community centers, social services, charities, and places of worship) may be the best means for making meaningful connections.

Figure 2-9 provides a quick snapshot comparison of foreign-born residents with native-born populations. However, when considering how best to reach the foreign born in local communities, practitioners will do best to avoid generalizations about the foreign born and look very closely at who comprise the foreign born in their specific communities. This can begin with examination of the *American Community Survey* and other supplementary publications.
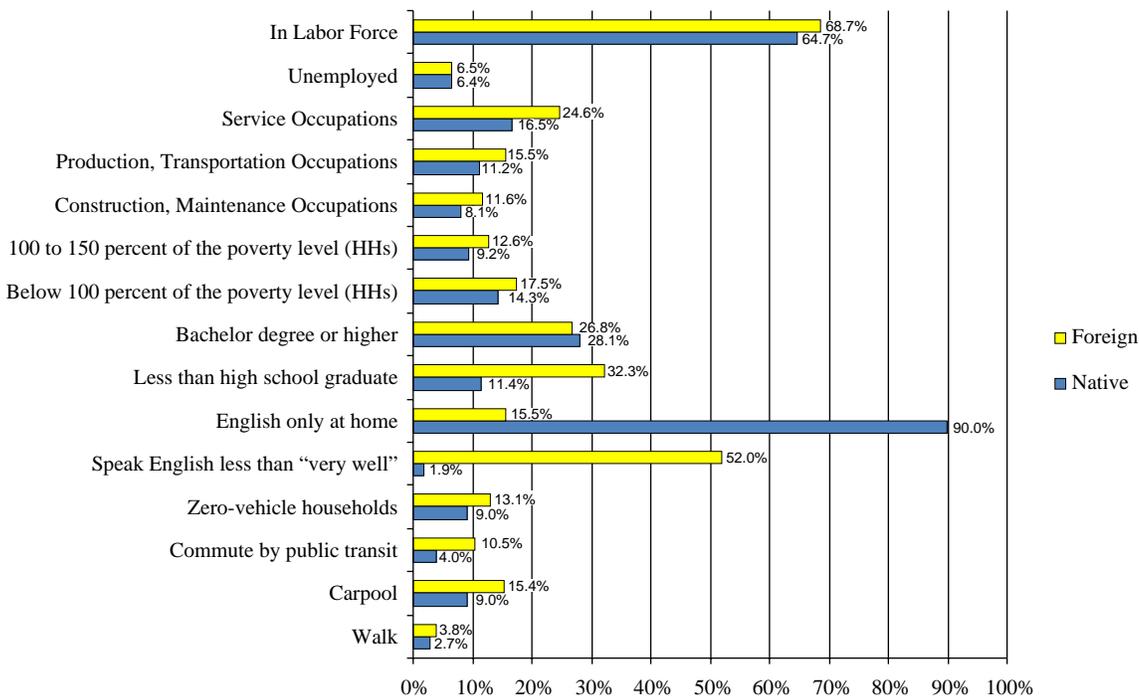
Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Figure 2-9.   Comparison of U.S. native and foreign-born populations, 2009 (HH = household).

But outreach processes through faith-based institutions, social services agencies, settlement organizations, or community centers that work routinely with local foreign-born communities can be particularly valuable in appreciating the extraordinary challenges of adapting to U.S. life and better customizing transportation programs, projects and activities to address their needs and concerns for mobility and accessibility, safety, quality-of-life and participation in civic life.

Refugees and Asylum Seekers

Refugees and asylum seekers from other countries are a small, but compelling sub-segment of the foreign born in the U.S. (see box titled "Definitions for Refugees and Asylum Seekers"). In 2009, the total ceiling for refugee admissions was 80,000 persons, a level unchanged from 2008,

Definitions for Refugees and Asylum Seekers

The U.S. will provide refuge to persons who have been persecuted or have a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion. An applicant for refugee status comes from outside the U.S., while an applicant seeking asylum status is in the U.S. or at a U.S. port of entry. Refugee settlement agencies serve as sponsors and are responsible for meeting the refugee, making housing arrangements, and preparing a resettlement plan. The resettlement agency and other charitable and social services organizations are active in providing needed social services assistance to refugee families and persons—they can be an important resource for reaching some traditionally underserved populations, depending on the region and the project.

Generally, any alien present in the U.S. or at a port of entry may apply for asylum regardless of his or her immigration status. Asylum can be granted "affirmatively" by the U.S. Citizenship and Immigration Services (USCIS) or "defensively" by an immigration judge during removal proceedings.

Individuals granted asylum are authorized to work in the U.S. and are entitled to benefits such as employment assistance, social security card, and social services. If an applicant in a valid immigration status fails to establish eligibility for asylum before USCIS, the application will be denied by USCIS, and the applicant will remain in his or her valid status. If the applicant is not in a valid status, and USCIS finds the applicant ineligible for asylum, USCIS places the applicant in removal proceedings before an administrative judge in the Executive Office for Immigration Review of the Department of Justice. Individuals may face removal proceedings by immigration enforcement officials because they are in violation of their status when apprehended, or were without proper documentation when attempting to enter into the United States. The applicant may appeal the denial to the Board of Immigration Appeals and seek further review by a U.S. Court of Appeals.

The U.S. Department of Homeland Security provides useful information on refugees and asylum seekers as part of its *Yearbook of Immigration Statistics,* a compendium of data tables and other immigration law enforcement information.

Source: U.S. Department of Homeland Security, 2009 Yearbook of Immigration Statistics.
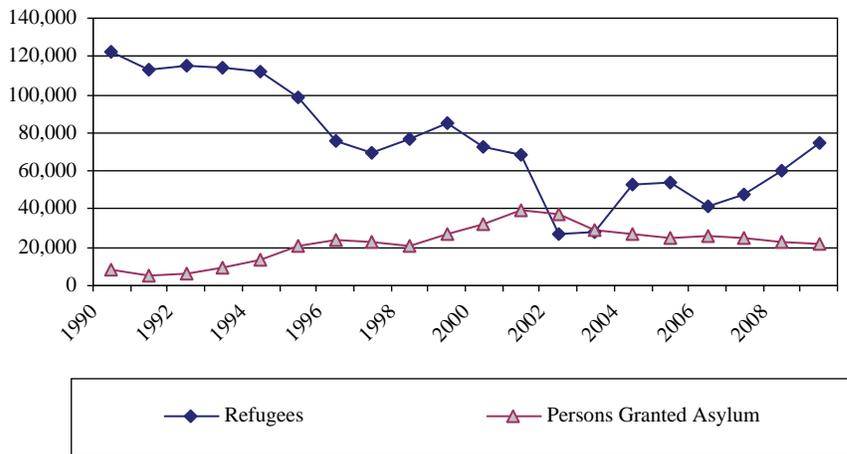
Source: U.S. Department of Homeland Security, 2009 Yearbook of Immigration Statistics.

Figure 2-10.   Refugee arrivals and persons granted asylum, 1990–2009.

but the Near East/South Asian region ceiling was raised to accommodate Iraqi and Bhutanese refugees requiring resettlement. The U.S. government sets an overall refugee admissions ceiling with regional limits and an unallocated reserve each fiscal year. Although levels fluctuate, the U.S. has accepted 75,000 refugees on an annual average since 1990. The U.S. has also granted asylum to around 22,000 persons on annual average since 1990. Figure 2-10 illustrates these annual trends.

Many U.S residents know very little about refugees and asylum seekers and the circumstances that brought them to the U.S. How they were treated in their former homeland by their government, by changing regimes or as persecuted ethnic or religious minorities, can lead to greater distrust of civic institutions. The challenges of fully entering into life in the U.S., navigating work, school and family responsibilities, along with possible literacy and language barriers, may leave little time for participation in transportation-related outreach efforts.

Table 2-10 presents an overview of the originating regions and the top 20 countries of nationality for refugees and those granted asylum between 2000 and 2009. Over this period, there have been a little over a half million refugees entering into the U.S., with the top 20 countries accounting for about 95 percent of the nation's refugees. Somalis, Burmese, Iraqis, Iranians, and Bosnians top the list of nationalities of arriving refugees over this period.

A little over a quarter million people were granted asylum in the U.S. between 2000 and 2009. The top 20 countries accounted for about 75 percent of those receiving asylum over this period (see Table 2-10). China, Colombia, Haiti, and Ethiopia have been the predominant nationalities for those who have received asylum during this period.

Limited English Proficiency

Foreign-born populations living in the U.S. may have difficulties with the English language which can function as a barrier to receiving government services or participating in civic life. Individuals are defined as "Limited English Proficient," or "LEP," when they have a limited ability to read, write, speak, or understand English. An LEP plan describes the policies, services, and information that government agencies, including transportation agencies, will take to ensure that LEP persons have meaningful access to the agency's programs and activities. The need for an LEP plan is set forward in Executive Order 13166, "Improving Access to Services for Persons

Table 2-10.   Refugee arrivals and persons granted asylum by region and country of nationality (summary, fiscal years 2000–2009).

		Refugees			Persons Granted Asylum
	REGION			**REGION**	
	Total	526,737		Total	286,200
	Asia	211,335		Asia	122,097
	Africa	154,060		Africa	62,514
	Europe	127,025		South America	44,758
	North America	32,841		North America	29,301
	South America	1,402		Europe	24,741
	Unknown	74		Oceania	1,475
				Unknown	1,314
	COUNTRY			**COUNTRY**	
	Total	526,737		Total	286,200
1	Somalia	60,982	1	China, People's Republic	61,482
2	Burma	55,863	2	Colombia	34,707
3	Iraq	41,129	3	Haiti	17,916
4	Iran	38,307	4	Ethiopia	10,540
5	Bosnia-Herzegovina	37,933	5	India	7,696
6	Ukraine	36,870	6	Armenia	7,403
7	Cuba	32,735	7	Venezuela	7,019
8	Russia	27,801	8	Albania	6,939
9	Liberia	26,324	9	Indonesia	6,645
10	Sudan	22,144	10	Russia	6,355
11	Vietnam	20,038	11	Cameroon	6,187
12	Bhutan	18,722	12	Iraq	6,181
13	Laos	15,659	13	Somalia	6,158
14	Ethiopia	12,079	14	Iran	5,598
15	Afghanistan	11,653	15	Egypt	5,074
16	Burundi	9,504	16	Guatemala	4,517
17	Moldova	8,807	17	Burma	4,253
18	Sierra Leone	7,354	18	Pakistan	4,076
19	Congo, Democratic Republic	6,080	19	Liberia	3,913
20	Belarus	5,333	20	Guinea	3,273

Source: U.S. Department of Homeland Security, 2009 Yearbook of Immigration Statistics.

with Limited English Proficiency," which reaffirms Title VI of the Civil Rights Acts of 1964 and its prohibition of discrimination on the basis of national origin.

The U.S. Department of Transportation's *Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons* (U.S.DOT, 2005) defines LEP persons as those who speak English "not well" or "not at all." The U.S. Census Bureau's annual *American Community Survey* reports "language spoken at home" and "linguistic isolation" in separate data tables that the practitioner can reference to identify LEP persons and consider their unique needs when developing an LEP plan.

About 20 percent of U.S. persons 5 years and over speak a language other than English at home. When the language spoken at home is not English, the percentage of persons who speak English less than "well"—a category that includes persons who speak English "not well" or "not at all"—is 23 percent. In keeping with recent immigration patterns, Spanish or Spanish Creole, is most often the language spoken, accounting for about 62 percent of non-English speakers. This group also accounts for about 72 percent of all persons who speak English less than "well" (see Table 2-11).

The percentage of persons who speak English less than "well" increases with the age of the speaker. Youth, having the highest propensity to speak English well, can often serve as a bridge to reaching the parents of non-native English speaking residents (see Table 2-12).

Table 2-11.   Language spoken at home, 2009.

Category	Total	Speak English "very well"	Speak English less than "very well"	Speak English less than "well"
		Percent of Specified Language Speakers		
Population 5 years and over	285,797,349	91.4%	8.6%	4.7%
Speak only English	80.0%	n/a	n/a	n/a
Speak a language other than English	20.0%	56.9%	43.1%	23.4%
Spanish or Spanish Creole	12.4%	54.3%	45.7%	27.7%
Other Indo-European languages	3.7%	67.5%	32.5%	12.9%
Asian and Pacific Island languages	3.0%	51.8%	48.2%	22.4%
Other languages	0.9%	69.0%	31.0%	10.8%
Total	100.0%			

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Table 2-12.   Percent of foreign language speakers who speak English less than "well" (language spoken at home other than English by age in U.S., 2009).

Category	Total	5–17 years	18–64 years	65 years and over
Spanish or Spanish Creole	27.7%	7.5%	32.4%	45.5%
Other Indo-European languages	12.9%	5.8%	11.4%	24.3%
Asian and Pacific Island languages	22.4%	8.3%	20.7%	50.1%
Other languages	10.8%	6.6%	10.0%	27.3%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Linguistically isolated households account for 4.7 percent of all U.S. households and can be particularly difficult to reach without intermediary institutions or individuals to translate communications. A linguistically isolated household is defined as one in which no member 14 years and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." In other words, all members of the household 14 years and over have at least some difficulty with English. Households that are linguistically isolated tend to include persons who have fluency in Asian and Pacific Island languages or Spanish (see Table 2-13).

Studies of recent foreign-born migration patterns suggest fewer barriers to suburban settlement for recent arrivals, even when they speak English with difficulty (Alba, Logan et al., 1999). Public involvement plans prepared for specific planning studies or projects, regardless of whether or not they are characterized as LEP plans, should directly consider whether there are affected LEP persons within the study area, including the size, location, and type of languages spoken by those persons.

Table 2-13.   Linguistically isolated households in U.S., 2009.

Category	Percent
Linguistically Isolated Households, Percent of All Households	4.7%
Percentage of Isolated Households speaking:	
- Spanish	25.9%
- Other Indo-European languages	16.6%
- Asian and Pacific Island languages	27.5%
- Other languages	17.2%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Table 2-14.   Means to work by language spoken at home, 2009.

	Workers 16 Years & Over	Car Truck, Van, Drive Alone	Car Truck, Van, Car Pooled	Public Transport	Walked	Taxi, Motorcycle, Bicycle	Worked At Home
Workers	100.0%	76.1%	10.0%	5.0%	2.9%	1.7%	4.3%
Speak Only English	100.0%	78.5%	8.8%	4.0%	2.6%	1.6%	4.5%
Speak Spanish	100.0%	66.1%	16.5%	8.3%	3.5%	2.7%	2.9%
Speak English Very Well	100.0%	73.7%	12.1%	6.6%	2.9%	1.8%	3.0%
Speak Less than Very Well	100.0%	58.4%	21.0%	10.1%	4.2%	3.6%	2.8%
Speak Other Language	100.0%	67.2%	12.5%	10.1%	4.1%	1.9%	4.2%
Speak English Very Well	100.0%	70.1%	10.6%	9.1%	3.9%	1.8%	4.5%
Speak Less than Very Well	100.0%	62.1%	15.7%	11.8%	4.6%	2.1%	3.7%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

LEP: Challenges and Considerations

- Limited access to information via Internet or subscription newspapers.
- Limited ability to read and write English or a non-English language.
- Increased dependency on children for information or explanation.
- Need for interpreters and translated materials to access information.

Those who do not speak English at home, often characteristic of the recently arrived foreign born, tend to rely upon public transportation, carpooling, and walking to get to work to a greater extent than those who only speak English at home or who speak English well. The means for transportation to work are compared by the primary language spoken at home in Table 2-14.

Persons with Disabilities

The Americans with Disabilities Act of 1990 (ADA) extended the nation's body of civil rights laws and the principles of equal protection and nondiscrimination to people with disabilities. The ADA provides a definition of people with disabilities, in part, as those who have "a physical or mental impairment that substantially limits one or more major life activities" and mandates that people with disabilities be afforded legal protections and be provided with essential public services. Other federal laws that offer guidance on issues affecting people with disabilities include the Rehabilitation Act of 1973, the Individuals with Disabilities Education Act, the Fair Housing Amendments Act of 1988, and the Telecommunications Act of 1996.

Transportation agencies and public involvement practitioners are expected to examine the characteristics of those with disabilities in their region and consider how best to adapt their activities to ensure access to decision-making processes. The special census report, *Americans with Disabilities: 2005* (U.S. Census Bureau, 2008), compiles several key national-level facts highlighted below. Practitioners should seek to consider these challenges to preserving access, whether at a state, regional, or local level of decisionmaking.

Nearly one in five U.S. residents–19 percent, or 54.4 million Americans—reported some level of disability in 2005. Among those with a disability, 35 million, or 12 percent of the population, were classified as having a severe disability.

Among people 15 years of age and older, 7.8 million persons (3 percent) had difficulty hearing a normal conversation, including 1 million persons who are unable to hear at all. While not part of the definition of disability used in the report, 4.3 million people reported using a hearing aid.

Nearly 7.8 million people age 15 and older (3 percent) had difficulty seeing words or letters in ordinary newspaper print, including 1.8 million persons who were completely unable to see.

Roughly 3.3 million people, or 1 percent, age 15 and older used a wheelchair or similar device, with 10.2 million, or 4 percent, using a cane, crutches, or walker.

About 16.1 million people, or 7 percent of the population 15 years and older, had limitations in their cognitive functioning or had mental or emotional illnesses that interfere with daily activities, including Alzheimer's disease and mental retardation. This includes 8 million persons with one or more problems that interfere with daily activities, such as frequently being depressed or anxious, or having troubles getting along with others, concentrating, or coping with stress.

Eleven million persons who were 6 years and older required personal assistance to conduct everyday activities such as getting around inside their home, taking a bath or shower, preparing meals, and performing light housework.

Having a disability makes it much more difficult to be employed, particularly for those with severe disabilities. Only about half (46 percent) of persons between 21 and 54 years with a disability were employed, compared with 84 percent of those free of a disability in this age group. Among those with disabilities who were working, 31 percent had severe disabilities and 75 percent nonsevere disabilities. People with difficulty hearing were much more likely to be employed than those with difficulty seeing (59 percent compared with 41 percent).

The *American Community Survey,* while offering less detail than the special census report previously referenced, remains a timely source for select data on persons with disabilities. In December 2010, the ACS finally began reporting data for smaller area geographies—a sampling of data for a five-year period for census tracts and block groups. Social profiles can be prepared with greater timeliness or with greater regularity through the ACS than was possible with the traditional decennial census data product. Table 2-15, for example, illustrates the types of disability by broad age categories. It can be seen that nearly 20 million persons reported ambulatory difficulties, including one-quarter of persons 65 years and older, and that 6.2 million seniors also report difficulty with independent living.

By benchmarking a study area's unique characteristics against patterns of larger areas, practitioners may come to the realization that some persons with disabilities cannot participate without the proactive design of processes to seek their involvement. Going to health care

Table 2-15. Civilian noninstitutionalized population with disabilities by age, 2009.

Category	Hearing	Vision	Cognitive Difficulty	Ambulatory	Self-Care	Independent Living
Total	301,472,074	301,472,074	280,265,551	280,265,551	280,265,551	227,113,721
-With a Difficulty	10,214,797	6,451,397	13,533,535	19,367,109	7,161,997	12,792,159
-% with Difficulty	3.4%	2.1%	4.8%	6.9%	2.6%	5.6%
Under 18 Years	74,358,353	74,358,353	53,151,830	53,151,830	53,151,830	
-With a Difficulty	454,147	485,502	2,067,960	353,508	467,719	
-% with Difficulty	0.6%	0.7%	3.9%	0.7%	0.9%	
18 to 64 Years	189,181,224	189,181,224	189,181,224	189,181,224	189,181,224	189,181,224
-With a Difficulty	3,914,029	3,269,773	7,865,243	9,800,216	3,368,117	6,555,826
-% with Difficulty	2.1%	1.7%	4.2%	5.2%	1.8%	3.5%
65 Year and Over	37,932,497	37,932,497	37,932,497	37,932,497	37,932,497	37,932,497
-With a Difficulty	5,846,621	2,696,122	3,600,332	9,213,385	3,326,161	6,236,333
- % with Difficulty	15.4%	7.1%	9.5%	24.3%	8.8%	16.4%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Table 2-16.   Work experience by disability status and type, civilian noninstitutionalized population, 18–64 years, 2009.

Category	Full-Time, Year Round	Less than Full-Time, Year Round	Percent of Working
Worked	94,718,682	55,706,011	100.0%
-No Disability	90,626,511	51,351,405	94.4%
-Worked w/Disability	4,092,171	4,354,606	5.6%
-Hearing	1,411,696	948,545	1.6%
-Vision	797,144	736,448	1.0%
-Cognitive Difficulty	884,090	1,810,871	1.8%
-Ambulatory	1,564,553	1,717,395	2.2%
-Self-Care	314,545	474,631	0.5%
-Independent Living	497,046	1,052,267	1.0%

Category	Did Not Work	Percent of Not Working
Did Not Work	38,756,531	100.0%
-No Disability	28,148,721	72.6%
-Did Not Work w/Disability	10,607,810	27.4%
-Hearing	1,553,788	4.0%
-Vision	1,736,181	4.5%
-Cognitive Difficulty	5,170,282	13.3%
-Ambulatory	6,518,268	16.8%
-Self-Care	2,578,941	6.7%
-Independent Living	5,006,513	12.9%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

facilities, senior centers, or other community facilities may prove good locations for connecting with persons otherwise unable to attend events.

Table 2-16 illustrates that 5.6 percent of those working between 18 to 64 years of age reported having disabilities. Disabled workers tend to have positions that offer less than year-round full-time employment. Those who are able to work with disabilities tend to be persons reporting ambulatory, cognitive, or hearing difficulties. Those who are not working with a disability far exceed those who are working; they tend to report having difficulty with independent living, self-care, or being ambulatory.

Persons with disabilities often live in economic conditions that are extraordinarily difficult—only 43 percent of persons with disabilities are in the labor force and 35 percent are employed. Those of working age with disabilities comprise 10.3 percent of the entire U.S. working age population but 21.4 percent of those in poverty. Persons with disabilities who are in poverty account for just over one-quarter of all disabled persons. Needless to say, those who are unemployed or out of the labor force are significantly more likely to be in poverty among those who are disabled (see Table 2-17).

Among those disabled who are able to work, about 6 percent nationwide used public transportation to get to work, while 69 percent of people with a disability drove alone, carpooled (13 percent), walked (4 percent), or used a taxicab, motorcycle, bicycle or other means (3 percent).

Persons with Disabilities: Challenges and Considerations

- Limited physical abilities could require personal assistance or specialized transportation.
- Need for American Sign Language signer and Teletype writer (TTY) telephone access.
- Need for Braille or large print format materials.
- Need for meetings during daylight hours for those with visual impairments such as night-blindness.
- Holding meetings or events at non-traditional locations (e.g., health care facilities, senior centers) may better serve persons reporting ambulatory, self-care or independent living difficulties.

Table 2-17.   Poverty and disability, 20–64 years, 2009.

Category	Number	Percent of Population	Percent in Poverty	Percent of Disabled
Poverty and Disability:				
Population, 20 to 64 Years	180,309,078	100.0%	0.0%	n/a
- Persons, 20 to 64 Years Not in Poverty	157,352,659	87.3%	0.0%	n/a
- Persons, 20 to 64 Years in Poverty	22,956,419	12.7%	100.0%	n/a
- Population, 20 to 64 Years, No Disability, Below Poverty Level	18,044,328	10.0%	78.6%	n/a
- Persons, 20-64 Years with Disability in Poverty	4,912,091	2.7%	21.4%	26.5%
Persons with Disabilities, 20-64 Years	18,550,404	10.3%	n/a	100.0%
- Persons, 20-64 Years with Disability, Not in Labor Force	10,532,406	5.8%	n/a	56.8%
- Persons, 20-64 Years with Disability, in Labor Force	8,017,998	4.4%	n/a	43.2%
- Persons, 20-64 Years with Disability, Employed	6,586,519	3.7%	n/a	35.5%
- Persons, 20-64 Years with Disability, Unemployed	1,393,370	0.8%	n/a	7.5%
Poverty and Disability by Labor Force Status				
- Persons, 20-64 Years with Disability in Poverty, Not in Labor Force	3,697,767	2.1%	16.1%	19.9%
- Persons, 20-64 Years with Disability in Poverty in Labor Force	1,214,324	0.7%	5.3%	6.5%
- Persons, 20-64 Years with Disability in Poverty, Employed	704,221	0.4%	3.1%	3.8%
- Persons, 20-64 Years with Disability in Poverty, Unemployed	508,942	0.3%	2.2%	2.7%
With Disabilities, Not in Poverty by Labor Force Status				
- Persons, 20-64 Years with Disability Not in Poverty	13,638,313	7.6%	0.0%	73.5%
- Persons, 20-64 Years with Disability Not in Poverty, Not in Labor Force	6,834,639	3.8%	0.0%	36.8%
- Persons, 20-64 Years with Disability Not in Poverty in Labor Force	6,803,674	3.8%	0.0%	36.7%
- Persons, 20-64 Years with Disability Not in Poverty, Employed	5,882,298	3.3%	0.0%	31.7%
- Persons, 20-64 Years with Disability Not in Poverty, Unemployed	884,428	0.5%	0.0%	4.8%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Means of Transportation and Zero-Car Households

Households without a vehicle (i.e., "zero-car") are truly a minority of U.S. households with most having at least one or two vehicles and many with three or more vehicles. Zero-car households include persons who cannot drive or who cannot afford to own a vehicle as well as persons who have chosen not to own vehicles. In the U.S., less than 9 percent of U.S. households report having no vehicle.

Nonetheless, there were 10 million households in the United States without a vehicle available in 2009—9.4 million of them in U.S. metropolitan regions. Zero-car households are more prevalent in the urban areas (10.5 percent) and in the principal city of MSAs (15.7 percent) than elsewhere in the country. There are small segments of carless households—ranging between 4 and 6 percent—in rural area, non-MSA and MSA regions outside the principal city. Zero-car households in the periphery, however, may be among the most isolated from jobs and other needed services, along with zero-car households in urban areas, without accessible and frequent public transportation (see Table 2-18).

About 60 percent of all households without a vehicle available are located within the major metropolitan regions of the U.S. as shown in Table 2-18, including New York-New Jersey, Chicago, Los Angeles, Philadelphia, Boston, Washington D.C., and San Francisco. While having a larger absolute number of zero-car households than other metropolitan regions not included among the top 25, several of the metropolitan regions (e.g., Los Angeles, Houston, Atlanta, Miami, Dallas, Tampa, and Phoenix) exhibit higher levels of car dependency (i.e., lower percentage shares of zero-car households) than older industrial regions in the Eastern and Midwestern regions such as Baltimore, Cleveland, and Pittsburgh (see Table 2-19).

Table 2-18.   Number of vehicles available in U.S. by household by geographic region, 2009.

Category	Households	No Vehicle	1 Vehicle	2 Vehicle	3 Vehicle	4 Vehicle
United States	113,616,229	8.9%	33.7%	37.6%	13.9%	5.9%
Urban	87,017,081	10.5%	36.3%	36.2%	12.2%	4.8%
Rural	26,599,148	3.8%	25.1%	42.0%	19.6%	9.6%
In MSA	94,276,038	9.4%	34.1%	37.5%	13.4%	5.6%
In MSA - Principal City	38,151,580	15.3%	39.0%	32.3%	9.8%	3.7%
In MSA - Not Principal City	56,124,458	5.4%	30.8%	41.0%	15.9%	6.9%
Not in MSA	19,340,191	6.5%	31.7%	38.0%	16.3%	7.5%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Households without vehicles are also more frequently composed of immigrants (13.1%) than of native-born residents (9.0%).

More than three-quarters of U.S. workers drove alone for their journey to work in 2009, particularly if those workers live in rural, non-MSA regions, or MSA-regions outside the principal city. Conversely, persons who reported taking public transportation to work were more likely to live in urban areas (6.3%) and in the principal cities of MSAs (10.2%) than elsewhere within the MSA or in non-MSA areas where very few public transportation alternatives are available (see Table 2-20)

Urban areas and the principal cities within metropolitan areas are the most likely residential locations for workers who report no vehicle available to get to work. Those living in the urban area

Table 2-19.   Metro areas ranked by no-vehicle-available households, 2009.

	Metro Areas	Total Households	No Vehicles Available	Percent Vehicles Available
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	6,787,155	2,077,851	30.6%
2	Chicago-Naperville-Joliet, IL-IN-WI	3,399,708	410,706	12.1%
3	Los Angeles-Long Beach-Santa Ana, CA	4,142,093	344,855	8.3%
4	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,194,101	298,456	13.6%
5	Boston-Cambridge-Quincy, MA-NH	1,705,413	216,102	12.7%
6	Washington-Arlington-Alexandria, DC-VA-MD-WV	1,986,757	195,612	9.8%
7	San Francisco-Oakland-Fremont, CA	1,559,650	186,570	12.0%
8	Miami-Fort Lauderdale-Pompano Beach, FL	1,970,691	171,699	8.7%
9	San Juan-Caguas-Guaynabo, PR	791,409	154,264	19.5%
10	Detroit-Warren-Livonia, MI	1,649,257	143,636	8.7%
11	Houston-Sugar Land-Baytown, TX	2,004,427	121,822	6.1%
12	Pittsburgh, PA	997,768	118,112	11.8%
13	Baltimore-Towson, MD	1,005,051	116,257	11.6%
14	Atlanta-Sandy Springs-Marietta, GA	1,885,202	115,134	6.1%
15	Dallas-Fort Worth-Arlington, TX	2,201,105	114,451	5.2%
16	Phoenix-Mesa-Scottsdale, AZ	1,472,149	96,271	6.5%
17	Seattle-Tacoma-Bellevue, WA	1,345,187	95,921	7.1%
18	Minneapolis-St. Paul-Bloomington, MN-WI	1,259,095	92,243	7.3%
19	Cleveland-Elyria-Mentor, OH	838,323	89,914	10.7%
20	St. Louis, MO-IL	1,111,547	84,608	7.6%
21	Cincinnati-Middletown, OH-KY-IN	816,646	73,660	9.0%
22	Tampa-St. Petersburg-Clearwater, FL	1,091,408	70,694	6.5%
23	Portland-Vancouver-Beaverton, OR-WA	847,989	65,740	7.8%
24	San Diego-Carlsbad-San Marcos, CA	1,048,975	64,648	6.2%
25	Riverside-San Bernardino-Ontario, CA	1,241,712	64,031	5.2%

Source: U.S. Census Bureau, 2009 American Community Survey, 1-Year Estimate, 2010.

Table 2-20.   Means of transportation to work by geographic region, U.S., 2009.

Category	Workers - 16 Years and Over in Households	Drive Alone	Carpool	Public Transport	Walk	Taxi, Motorbike, Bike	Worked At Home
United States	137,229,873	76.6%	10.0%	5.0%	2.5%	1.7%	4.1%
Urban	105,571,352	75.2%	10.0%	6.3%	2.8%	1.9%	3.8%
Rural	31,658,521	81.2%	10.3%	0.5%	1.7%	1.2%	5.1%
In MSA	116,684,703	76.1%	9.9%	5.8%	2.5%	1.7%	4.1%
In MSA - Principal City	45,453,531	69.8%	10.1%	10.2%	3.8%	2.3%	3.8%
In MSA - Not Principal City	71,231,172	80.0%	9.7%	3.0%	1.6%	1.4%	4.3%
Not in MSA	12,764,470	80.6%	10.8%	0.6%	2.6%	1.6%	3.9%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

(5.2%) and in the principal city within an MSA (8.7%) were much more likely to report no vehicle available than those living outside the MSA or in rural regions. For those reporting no vehicle available for their commuting trip, public transportation was the most common mode to work for those residing in the urban areas and principal cities of MSA. Rural non-MSA areas, by contrast, were more likely to use carpooling than public transportation as a means to get to work when no car was available (see Table 2-21). Only a small percentage of persons who reside in the non-MSA and rural regions report having no vehicle available, but those that do not have a car may be among the most isolated.

Those who drive alone to work enjoy higher median earnings than those reliant upon other transport modes. The differences in earnings by mode are relatively stable regardless of the region of residence for workers, although those taking public transportation to work outside the principal city of MSAs, or in areas described as rural, exhibit the highest median earnings among workers. Those who walk, bike, or carpool to work have lower median earnings than those driving alone or taking public transportation.

Means of Transportation and Zero-Car Households: Challenges and Considerations

- Limited ability to attend and participate in meetings.
- Limited access to a personal vehicle and subject to the scheduling and routes of public transit, if available.
- Dependent on safe, walkable, transit-accessible pedestrian environment near event location to attend events.

Table 2-21.   Means of transportation to work and no vehicle available, 2009.

	Workers - 16 Years and Over in HH	No Vehicle Available	Percent No Vehicle Available	Percent Means Taken for Those with No Vehicle Available for Journey to Work			
				Carpool - No Vehicle Available	Public Transport - No Vehicle Available	Walk - No Vehicle Available	Taxi, Motorbike, Bike - No Vehicle Available
United States	137,229,873	5,934,964	4.3%	12.3%	41.3%	15.0%	7.6%
Urban	105,571,352	5,487,460	5.2%	11.3%	44.5%	15.4%	7.4%
Rural	31,658,521	447,504	1.4%	24.4%	1.8%	10.8%	9.7%
In MSA	116,684,703	5,465,090	4.7%	11.3%	44.6%	14.7%	7.2%
In MSA - Principal City	45,453,531	3,937,084	8.7%	8.9%	53.2%	15.6%	6.5%
In MSA - Not Principal City	71,231,172	1,528,006	2.1%	17.6%	22.4%	12.2%	9.0%
Not in MSA	20,545,170	469,874	2.3%	24.3%	2.8%	19.1%	12.7%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.
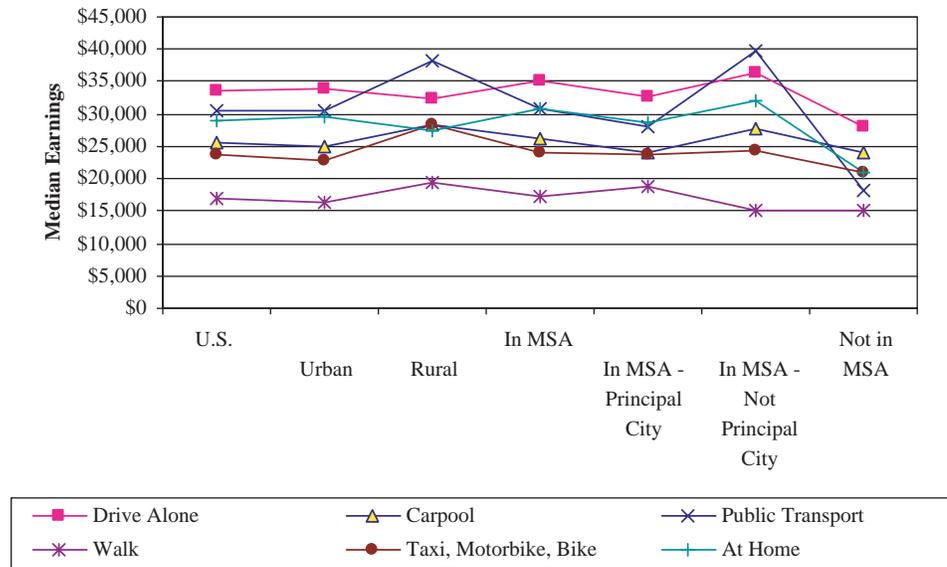
Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

Figure 2-11.   Median earnings for workers by means of transportation and region, 2009.

The greatest differences in the median earnings between the higher earners and the lower earners by mode are evident within the MSA outside the principal city. By contrast, the smallest difference in the median earnings by mode can be seen outside the metropolitan regions primarily because median earnings are much lower for most workers (see Figure 2-11).

Senior Population and the Graying Baby Boomers

The median age for the U.S. in 2009 was 36.8 years while among persons 65 years and over the median age is 74.8 years.

In 2009, persons over 65 years of age were more likely to be female and white, and less likely to have attended college or received a bachelor's degree, or speak a language other than English at home than the U.S. population overall. Seniors were just as likely to be foreign born as the entire U.S. population, but their arrival in the U.S. was more likely to have been before 1990. Seniors were far more likely to be naturalized citizens in comparison to the nation overall. They were also three times more likely to have a disability than the average for the U.S. overall (see Table 2-22).

The U.S. population age 65 and older grew steadily throughout most of the 20th century, and was projected to grow by 10 percent between 2005 and 2010 to 40 million and then by an additional 36 percent to 55 million by 2020 (Colello, 2007). This dramatic growth is expected to begin in 2011, when the initial wave of baby boomers begin turning 65, and continue beyond 2029, when the youngest boomers reach age 65. In 2030 the U.S. population will have an estimated 72 million older Americans, more than twice the number estimated in 2000 (Colello, 2007). By the year 2050, one in every five persons in the U.S. will be 65 or older (Shrestha, 2005).

As the first wave of baby boomers reaches age 65, their numbers are expected to grow fastest in the Intermountain West, the Southeast, and Texas, particularly in metro areas that already have large pre-senior populations (Frey et al., 2009). Because the boomers were the nation's first fully "suburban generation" their aging in place may cause many major metropolitan suburbs to

Table 2-22.   Senior population by race and other select characteristics, 2009.

Category	Total Population	Percent Share	Seniors - 65+ Years	Percent Share
Sex				
Total Population	307,006,556	100.0%	39,506,648	100.0%
Male	151,354,232	49.3%	16,790,325	42.5%
Female	155,652,324	50.7%	22,716,323	57.5%
Race and Hispanic Origin				
Total Population	307,006,556	100.0%	39,506,648	100.0%
One race	299,638,399	97.6%	39,151,088	99.1%
White	229,640,904	74.8%	33,659,664	85.2%
Black or African American	38,068,813	12.4%	3,358,065	8.5%
American Indian and Alaska Native	2,456,052	0.8%	197,533	0.5%
Asian	13,815,295	4.5%	1,343,226	3.4%
Native Hawaiian and Other Pacific Islander	307,007	0.1%	39,507	0.1%
Some other race	15,043,321	4.9%	592,600	1.5%
Two or more races	7,368,157	2.4%	355,560	0.9%
Hispanic or Latino origin (of any race)	48,507,036	15.8%	2,725,959	6.9%
White alone, not Hispanic or Latino	199,247,255	64.9%	31,684,332	80.2%
Educational Attainment				
Population 25 years and over	201,952,383	100.0%	39,506,648	100.0%
Less than high school graduate	29,687,000	14.7%	9,284,062	23.5%
High school graduate, GED, or alternative	57,556,429	28.5%	13,629,794	34.5%
Some college or associate's degree	58,364,239	28.9%	8,612,449	21.8%
Bachelor's degree or higher	56,344,715	27.9%	7,980,343	20.2%
Disability Status				
Civilian noninstitutionalized population	301,472,074	100.0%	37,932,497	100.0%
With any disability	36,176,649	12.0%	14,186,754	37.4%
No disability	265,295,425	88.0%	23,745,743	62.6%
Total Population	307,006,556	100.0%	39,506,648	100.0%
Native	268,489,322	87.5%	34,731,479	87.9%
Foreign Born	38,517,234	100.0%	4,775,169	100.0%
-Entered 2000 or later	12,171,446	31.6%	429,765	9.0%
-Entered 1990 to 1999	10,746,308	27.9%	620,772	13.0%
-Entered before 1990	15,599,480	40.5%	3,719,857	77.9%
-Naturalized U.S. citizen	16,832,031	43.7%	3,461,998	72.5%
-Not a U.S. citizen	21,685,203	56.3%	1,313,171	27.5%
Language Spoken at Home and Ability to Speak English				
Population 5 years and over	285,797,349	100.0%	39,506,648	100.0%
English only	228,637,879	80.0%	33,896,704	85.8%
Language other than English	57,159,470	20.0%	5,609,944	14.2%
Speak English less than "very well"	24,578,572	8.6%	3,279,052	8.3%

Source: U.S. Census Bureau, 2009 American Community Survey, 1 Year Estimate, 2010.

"gray" faster than their urban counterparts. Suburban senior growth rates will exceed those in the urban core, and the rise of large numbers of seniors in suburbia—formerly the destination catering to younger populations and families with children—will bring new challenges to residents and local governments.

An aging American population will place new challenges to achieve strategic goals of mobility, accessibility, and safety. The growth of the senior population will increase the demand for elderly- and disability-friendly fixed-route vehicles, paratransit, and other transit services that can preserve opportunities for independent living by allowing access to basic goods and services. If past trends are any indication, the growing senior citizen population will have a greater share of women because of their longer life expectancy rate. This may also contribute to demand for public transportation because of women's historically unequal earning status. At state and

Senior Populations and the Graying Baby Boomers: Challenges and Considerations

- Time restrictions associated with daylight and personal safety issues.
- Limited transportation may make attendance at meetings difficult.
- Need for large print materials and/or help hearing.
- More likely to be physically impaired.
- Less likely to have a computer and Internet access.

local levels, understanding these new geographic patterns and demographic changes can assist policy makers in allocating resources for needed transport services, improved service delivery, and facilitation of effective land use planning and public outreach efforts.

Low Literacy

The National Center for Education Statistics (NCES) defines literacy as "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." The National Assessment of Adult Literacy (NAAL) has been periodically conducted to assess the nation's level of literacy (see box titled "National Assessment of Adult Literacy").

In 2003, the last time the test was administered, 14 percent of U.S. adults scored at "below basic" levels for prose literacy. According to the NCES criteria, adults who score at the "below basic" level on the prose literacy test range from being nonliterate in English to having no more than the most simple and concrete literacy skills. The literacy levels exhibited by respondents, including "below basic" levels for prose, document, and quantitative literacy, can be seen in Figure 2-12.

Linguistic isolation, disability, and educational attainment are three demographic variables generally recognized for their correlation with low literacy.

National Assessment of Adult Literacy

The National Assessment of Adult Literacy (NAAL) is a literacy assessment test that was administered nationally in 2003 and 1992. In 2003, over 19,000 adults participated in the national and state-level assessments, representing the entire population of U.S. adults who are age 16 and older. Literacy was tested on three scales:

- *Prose Literacy*—The knowledge and skill needed to perform prose tasks such as searching, comprehension, and use of information from continuous texts.
- *Document Literacy*—The knowledge and skills needed to perform document tasks such as searching, comprehension, and use of information from non-continuous texts.
- *Quantitative Literacy*—The knowledge and skills needed to perform quantitative tasks such as identifying and performing computations either alone or sequentially, using numbers embedded in print materials.

The NAAL differs from other approaches to characterizing literacy by asking respondents to demonstrate in a series of literacy tasks their understanding of various texts rather than through self-reporting of literacy skills or educational attainment.

The National Center for Education Statistics also makes available state and county estimates. The data gives useful insights into the social composition of low-literacy persons, making clear that they are present in many communities and may require assistance through other means to ensure their informed participation in decision-making processes.

Source: Kutner, M., et al. *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy.* Washington, DC: National Center for Education Statistics, U.S. Department of Education, 2007.
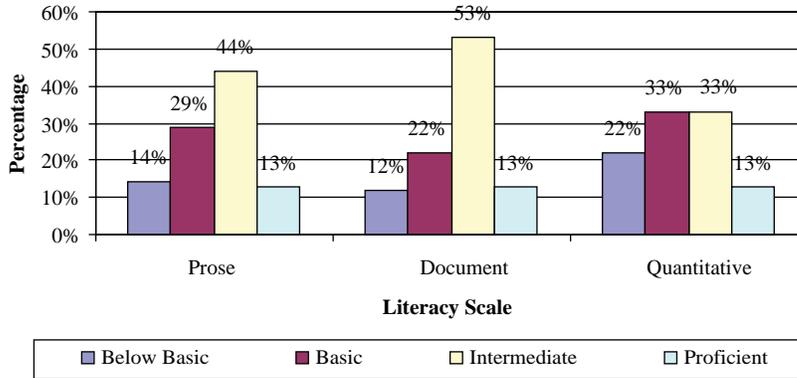
Source: Kutner, M., et al. (2007). *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy* (NCES 2007–480). Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Figure 2-12.   Percentage distribution of adult literacy level nationally for prose, document, and quantitative testing, 2003.

- *Linguistic Isolation*—Foreign-born residents are more likely to have limited English-language skills. Based on current immigration patterns, as the foreign-born population increases, linguistic isolation increases, which is a common characteristic affecting levels of literacy. As shown in Table 2-23, those who spoke only Spanish or Spanish and another non-English language before starting school account for only 8 percent of the NAAL sample population, but 35 percent of those with "below basic" prose literacy.
- *Disability*—Older adults are much more affected by disability than younger adults are, and the elderly are also more likely to have limitations in cognitive abilities. Those over 65 years represented 15 percent of the sample, but 26 percent of those testing with "below basic" prose literacy. Those reporting multiple disabilities were far more likely to be at the "below basic" level than those reporting no disabilities.
- *Education*—Educational attainment has an overarching importance in determining literacy. In fact, increasing educational attainment dramatically reduces the likelihood of having a "below basic" level of low literacy. Those with less than or only some high school education comprise the majority of those reporting "below basic" prose literacy levels. NCES reported that over 60 percent of adults without a high school degree had "below basic" literacy.

NCES prepares an estimate of the percentage of adults lacking Basic Prose Literacy Skills (BPLS) for all states and counties in the United States, derived from statistical models of adults lacking BPLS and data samples from the 2003 National Assessment of Adult Literacy (NAAL). Figure 2-13 presents a state-by-state comparison of the percentage of "below basic" prose.

Low-Literacy Populations: Challenges and Considerations

- Limited ability to read, write, and speak in English.
- Limited access to information on the Internet and in newspapers, newsletters, and handouts.
- Potentially less likely to understand possible impacts.
- Potentially less able to understand and respond to comments.
- More likely to depend on others for information.

Divide in Access and Use of Technology

Internet access and use has been increasing dramatically over the past decade, transforming the way information is disseminated and consumed, and altering traditional patterns of communications between family and friends, businesses and consumers, governing institutions and citizens.

Table 2-23. Select socioeconomic characteristics of adults with below basic prose literacy level, 2003.

Category	Below Basic	Sampled NAAL Population
Race/Ethnicity		
White	37%	70%
Black	20	12
Hispanic	39	12
Asian/Pacific Islander	4	4
Gender		
Male	46%	49%
Female	54	51
Age		
16-18	5%	6%
19-24	9	11
25-39	25	28
40-49	16	20
50-64	20	21
65+	26	15
Language Spoken Before Starting School		
English only	52%	81%
English and Spanish	2	2
English and other language	2	4
Spanish	35	8
Other language	9	5
Educational Attainment		
Less than/some high school	55%	15%
GED/high school equivalency	4	5
High school graduate	23	26
Vocational/trade/business school	4	6
Some college	4	11
Associate's/2-year degree	3	12
College graduate	2	12
Graduate studies/degree	1	11
Disability Status		
Vision problem only	7%	5%
Hearing problem only	4	4
Learning disability only	4	3
Other disability only	10	8
Multiple disabilities	21	9
No disabilities	54	70

Source: Kutner, M., et al. (2007). *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy* (NCES 2007–480). Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Overall, U.S. Internet usage participation rates have increased from 44 percent in 2000 to nearly 80 percent in 2010 of U.S. population (Nielsen, 2011). Usage rates may be nearly 100 percent in the next few years, according to some market analysts, given the expansion of residential broadband service, Wi-Fi, and cell phone–based Internet technologies (see Figure 2-14).

Despite the rapidly growing popularity of the Internet, access and use suffer from what is commonly referred to as the digital divide (Servon, 2002). Appreciating the dimensions of this digital divide—how users vary across Internet, broadband, and mobile device platforms— is important because it is increasingly recognized that poor access can lead to disadvantages in receiving vital information for education, health, and job opportunities, among other issues. The Pew Internet & American Life Project has been closely monitoring the trends and patterns in the digital divide.

According to the Pew research, over the past decade the Internet user population has begun to better resemble the racial composition of the U.S. population as a whole. The percentage of Black or Hispanic Internet users has almost doubled—from 11 percent to 21 percent of all users

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy
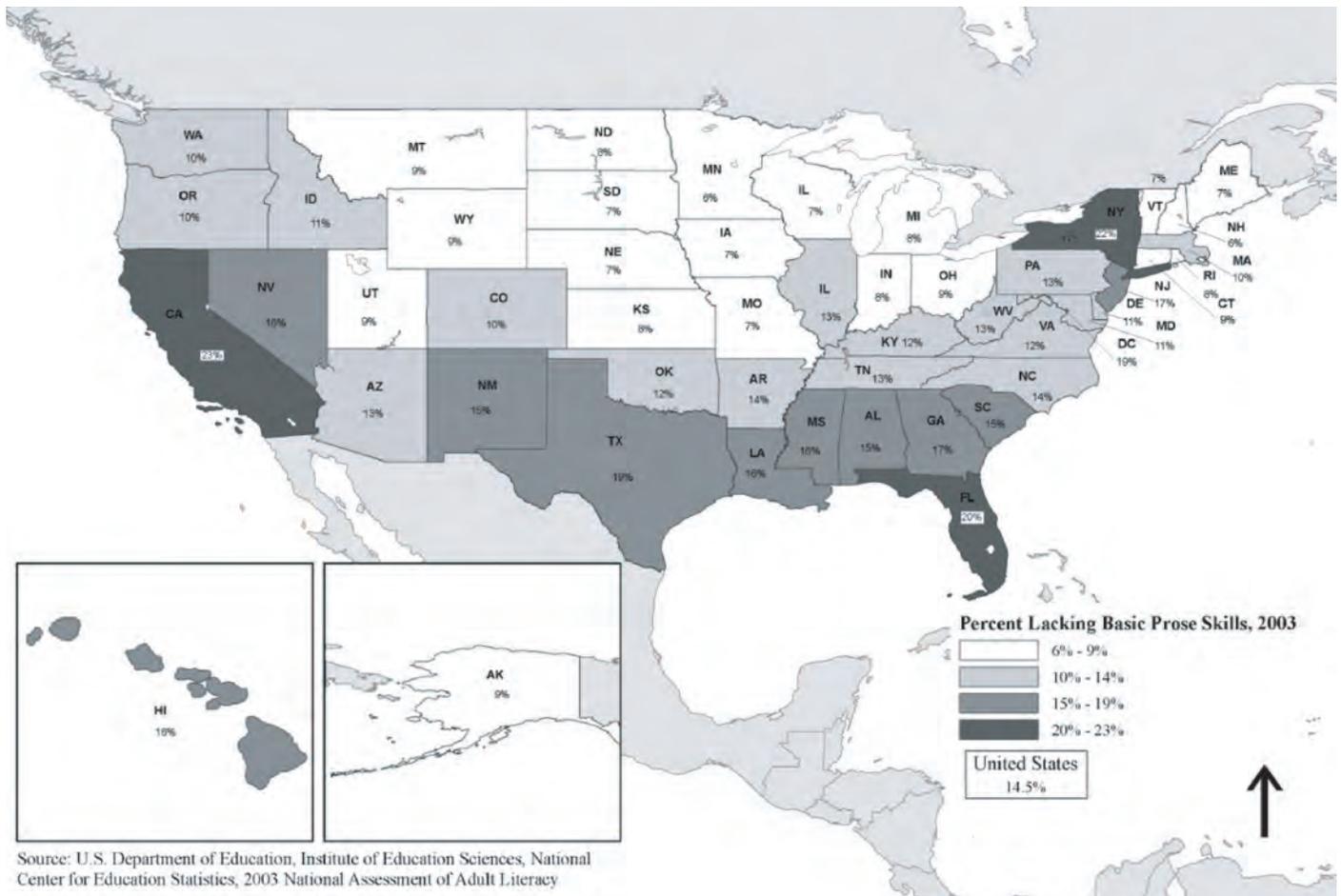
Figure 2-13.   Percent lacking basic prose skills by state, 2003.

between 2000 and 2010, but Whites continue to exhibit disproportionately higher participation rates than Blacks or Hispanics. Similarly, Blacks have also begun to use broadband at home, but their gains are still outpaced by Whites in broadband use at home. Broadband participation rate is still highest among Whites (see Table 2-24). Blacks are also less likely than Whites to own a desktop computer—51 percent of Black adults are owners compared with 65 percent of Whites (Pew Internet & American Life Project, 2010).

Controlling for other demographic factors, language proficiency is one of the most important predictors of Internet use in the U.S., according to Pew's Internet research. English-speaking Hispanics are nearly identical to Whites in their use of the Internet and home broadband. But, foreign-born and Spanish-dominant Hispanics trail Whites as well as English-speaking, native-born Hispanics on both Internet and home broadband use (Pew Internet & American Life Project, 2010).

As expected, younger persons are rapidly adopting Internet technologies compared to seniors. Low-income households, less-educated, and rural residents show significantly lower rates of Internet usage.

The current divide in Internet usage appears to be strongly associated with economic standing, which may prove to be of greater relevance than racial/ethnic categories. Figure 2-15 presents the findings reported by Pew Internet & American Life Project in recent studies in 2009 and 2010, illustrating the gap in participation rates among users of broadband, Internet, and cell
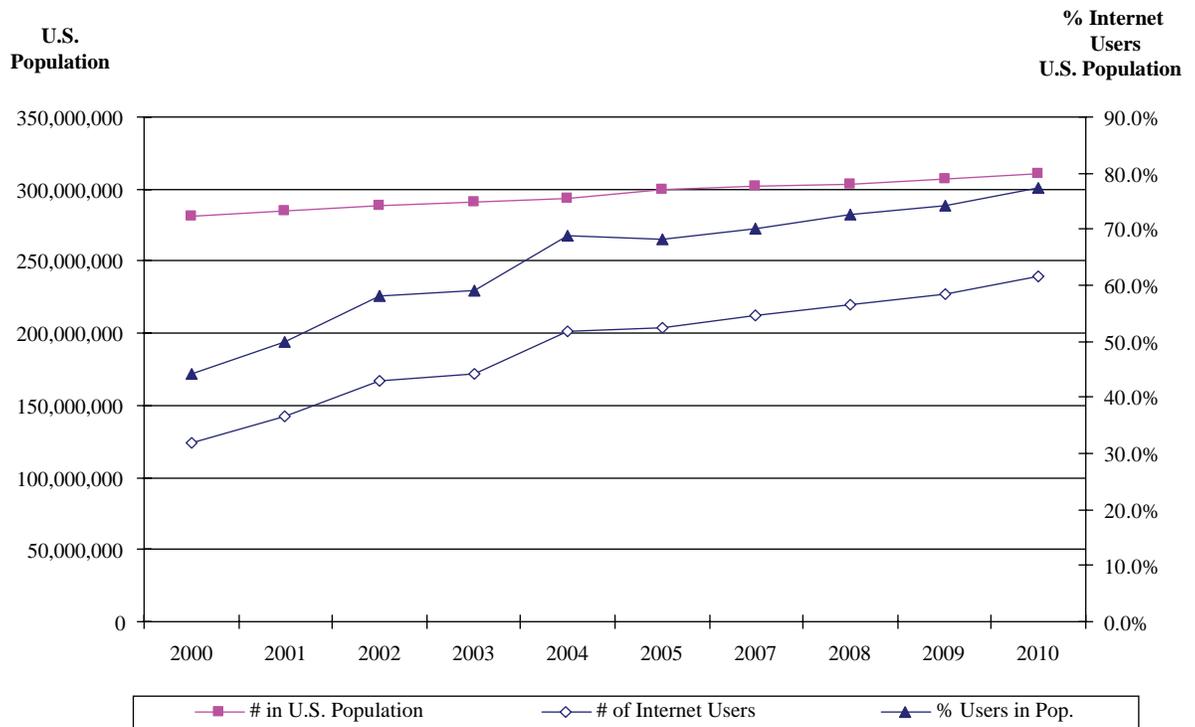
Source: Nielsen Online and ITU, Internet Usage and Population Growth, Internet WorldStats, 2011.

Figure 2-14.   U.S. Internet usage and population growth.

Table 2-24.   Internet, broadband, and wireless Internet users by
select demographic segments in percentage terms.

Category	Internet Users	Broadband Internet Users	Wireless Internet Users
Total Adults	74%	60%	55%
Men	74	61	59
Women	74	58	51
Race/Ethnicity			
White, Non-Hispanic	76%	63%	52%
Black, Non-Hispanic	70	52	59
Hispanic (English and Spanish-speaking)	64	47	62
Age			
18-29	93%	76%	80%
30-49	81	67	66
50-64	70	56	42
65+	38	26	16
Household Income			
Less than $30,000/yr	60%	42%	46%
$30,000-$49,999	76	62	55
$50,000-$74,999	83	73	61
$75,000+	94	83	76
Educational Attainment			
Less than High School	39%	24%	41%
High School	63	46	42
Some College	87	73	63
College+	94	83	69
Community Type			
Urban	74%	61%	57%
Suburban	77	64	56
Rural	70	47	45

Source: Rainie, L., Internet, Broadband, and Cell Phone Statistics. Washington, DC: Pew Internet & American
Life Project, 2010.
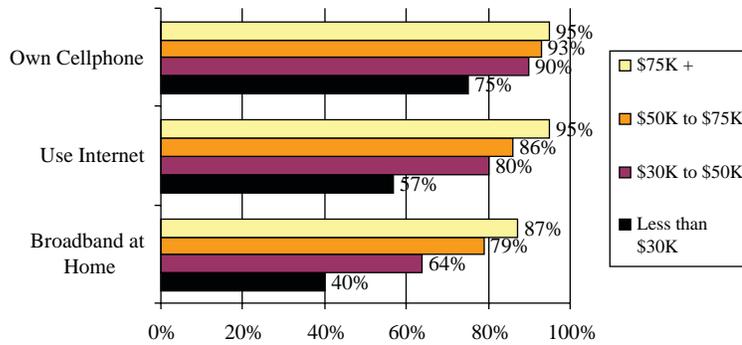
Source: Jansen, J., *Use of the Internet in Higher Income Households*. Washington DC: Pew
Internet & American Life Project, 2010.

*Figure 2-15.   At-home broadband, Internet, and cellphone
use by income segments, 2010.*

phone access between those earning $75,000 or more versus those earning less than $30,000.
This pattern differs from findings often reported for many studies that explore socioeconomic
impacts such as housing discrimination, which find correlations between race/ethnicity and
income. One could ask whether this suggests that technology is color-blind—the predominant
explanatory factor being the ability to afford access along with having available access to high-
speed Internet services in rural areas.

Looking ahead, usage rates for most groups will likely rise over time; however, the mode of
access will play an important role in closing this gap. The evidence suggests that the divide is
less pronounced in terms of cell phone and wireless Internet access compared to residential
broadband service. For example, the Pew Internet & American Life Project has found that
Blacks and Hispanics show the highest rates of wireless access via Internet or mobile devices
(see Table 2-24).

Having disabilities is another critical factor constraining Internet participation. A national
survey conducted in 2010 found that 54 percent of adults living with a disability use the Inter-
net, compared with 81 percent of adults who report none of the disabilities listed in the survey.
For those with disabilities who use the Internet, they are less likely to have high-speed access or
wireless access than those without disabilities. For example, 41 percent of adults living with a
disability have broadband at home, compared with 69 percent of those without a disability (Pew
Internet & American Life Project, 2011).

*Increasing attention has been given to how information communication technologies
can be used to support or improve public involvement in transportation.* Information com-
munications technologies (ICTs) are closely allied with new media, social networking, and
social media—tools and methods to increase social interaction among persons with common
interests. Youth have been at the forefront of exploring video, chat, social media, and other
social networking applications and have also been active—though not alone—in trying to
explore their applications for transportation and public engagement. Some argue that ICTs
have the potential to build social capital by strengthening connections and increasing the flow
of information (Hargittai, 2003). ICTs are also closely associated with "Web 2.0," an umbrella
term for a new era of web-enabled applications that are built around user-generated or user-
manipulated content, such as wikis, blogs, podcasts, and social networking sites. The Web 2.0
model is growing as an interface to better inform citizens of government activities, and raises
the expectation for more accountable, transparent governance. Newer technologies deliver
rapid and real-time communications, allowing citizens, businesses, advocacy organizations,

local affected stakeholders, and the like to better connect with others, including governing institutions.

As people learn to adapt in this new world, the emerging ICTs will present opportunities and challenges for future civic engagement, public involvement, and effective governance. On the one hand, the ICTs suggest new ways to identify and document needs as well as possible solutions to vexing issues. They can build and strengthen social networks to advocate for appropriate remedies for their communities and regions. On the other hand, there is ample evidence that the digital platform can feed the deeply-held convictions of small factions, inflame passions, and limit tolerance for compromise—an often essential but underestimated element of effective government. Ultimately, agencies and practitioners must accept the challenge to understand how to use these tools to encourage and promote civil and informed discourse—in the provision of information, the gathering of feedback from the affected public, and in the building of relationships and partnerships with affected communities.

Continuing innovations in ICTs and the proliferation of new mobile Internet "apps" suggests that transportation agencies and practitioners need to chart their paths for bringing ICTs and the Web 2.0 model into their operating processes for planning, involvement, and decisionmaking. In this spirit, ICTs present a promising path for future employment, including for traditionally underserved groups and particularly for youth who may be highly conversant with the technologies or who may be interested in becoming more active in their communities. Public involvement efforts can and should target these youth to build a culture of participation.

Still, it is an open question whether the signs of technology adoption will actually result in better civic engagement across various segments of the traditionally underserved. These efforts have been typically very resource intensive and suffer from issues that have plagued participation for many years. Because traditionally underserved groups have not realized a fair share of societal benefits from public investments, their expectations are notably lower compared to other groups. Exclusion from political and decision-making processes further lowers their expectations and therefore there is little incentive to participate. This means that participants in planning efforts must see how their input will be directly beneficial to them and their communities or they will choose not to be involved.

Outreach efforts to traditionally underserved populations have achieved some success in the cases of health promotion, especially in relation to active living and physical health (Yancey et al., 2006). It can be argued that these successes, such as increased awareness and changes in behavior, have resulted because there are tangible benefits involved (in the form of improved health outcomes).

Outreach to traditionally underserved groups in the context of transportation decision-making processes, either with or without information and communications technologies, will need to be appropriately structured to achieve similar successes. For example, an estimated 45 million Americans do not speak English at home and many want information in languages other than English (Lazarus and Mora, 2000). An estimated 8.5 percent of Americans have at least one disability that requires special features on computers and the Internet to make these resources accessible (Lazarus and Mora, 2000). With an increasing number and broader cross section of Americans using the Internet, the practitioner must recognize new challenges: digital material in multiple languages; information disseminated at a basic literacy level; development of interfaces and content accessible to people with disabilities; and guidance on how to use online resources.

Divide in Access and Use of Technology: Challenges and Considerations

- Less likely to be able to receive important and time-sensitive information.
- Less likely to have access to information in their own language.

Transportation Cost's Rising Share of Household Budget

For people with low incomes, a key limiting factor for where they decide to live is, by definition, the cost of housing. But their rent or mortgage payments do not represent the total cost of living in their home. Recent research shows that the cost of transportation changes considerably based on the transportation infrastructure and design of their community. In some cases, transportation costs can actually exceed the cost of housing in the average household, or lower-income household budget.

Land development patterns accommodative of the automobile-centric lifestyle favored over the past six decades have created many communities on lower cost, green-field lands on the urban fringe. These communities are oriented around Interstates and highways and lack robust public transit services. Housing, schools, job centers, shops, and government services are not concentrated, but dispersed throughout the area. They often boast lower housing costs than older, more established communities closer to town or urban centers.

One consequence of these development patterns is that they foster communities that require their residents to drive for virtually all household trips. The result is higher car ownership and more vehicle miles traveled per household, which have the end result of costing residents more to live there. The low costs of housing can be swamped by high transportation costs, which are obscured by their disaggregation—weekly fuel payments, monthly car payments, and periodic costs for repairs and insurance. They are also vulnerable to swings in gas prices. When people with low incomes commit to a lease or a mortgage in one of these areas, the hidden cost of transportation can put them into a financial situation that rapidly becomes untenable. Foreclosure data, for example, tends to support higher foreclosure rates in areas with low-to-moderate income and high transportation costs (Bernstein et al., 2009). Further, car-oriented communities show higher per capita instances of air pollution, pedestrian injury and fatality, automobile crashes, and obesity (Frumkin, 2002). Urban, suburban, and rural communities and neighborhoods that have transportation alternatives and close proximity to jobs, shopping, and schools are often more healthy and affordable—even if their housing costs are higher—than dispersed, car-oriented communities that enjoy low housing costs.

Tools exist for agencies and planning practitioners to examine how their decisions on transportation and land use issues may influence neighborhood affordability or to better understand areas within a metropolitan region that exhibit higher or lower levels of "location efficiency." The Housing + Transportation Affordability Index (H+T Index) measures the true affordability of housing based on its location. Housing policy has traditionally deemed housing as "affordable" if it costs 30 percent or less of income. The H+T Index reexamines this assumption, in recognition that the true cost of housing is heavily influenced by location within a metropolitan region, and measures the transportation costs associated with place. The Center for Neighborhood Technology (CNT) has compiled housing and transportation cost data from 161,000 neighborhoods in 337 metropolitan areas of the United States and aggregated their research into a publically accessible, online database, the Housing + Transportation Affordability Index. Their research, reported in several publications including *Penny Wise Pound Foolish: New Measures of Housing + Transportation Affordability* (CNT, 2010), finds evidence that particular development patterns can significantly reduce household travel costs. Several findings from CNT's research are highlighted below.

Following the traditional criterion that housing costs should not exceed 30 percent of income, 69 percent of the 337 metro areas under study were defined as "affordable." But when housing and transportation costs were taken together, only 40 percent of the metro regions were deemed affordable. An estimated 48,000 communities were no longer affordable when a combined housing and transportation benchmark was applied, using 45 percent of income as the threshold.

Families living in neighborhoods with a compact urban form were found to enjoy cost savings over those living in dispersed communities. Savings ranged from $1,580 per year in Little Rock or $1,700 in Charlotte to $3,610 in Phoenix or $3,850 in Boston. Capturing this level of savings is particularly welcome for lower-income households in periods of rising unemployment and economic contraction.

Regions enjoy benefits from the household savings accumulated by those living in more compact communities because more income is available for wealth building or other purposes. The CNT report projects the magnitude of total regional savings that would be captured by 12 metro areas from encouraging more compact forms of development. Their aggregate regional saving calculation assumes that 50 percent of future growth through 2030 could be accommodated by compact urban form development patterns. For example, this study estimated that cost savings could total $345 million in a smaller region like Minneapolis while Chicago could register savings of $1.1 billion and Phoenix, $2.1 billion, by changing the way they grow. Table 2-25 illustrates these savings as estimated by CNT in their report.

Working with the Center for Housing Policy, CNT also applied their model to 28 metropolitan areas around the U.S., profiling the burden facing working families—those earning between $20,000 and $50,000 per year. This focused research study revealed that the combined housing and transportation burden for the working families segment was 57 percent of household income. There was considerable variability in the relative burden on household budgets attributable to housing and transportation depending on the metro region, but transportation was more costly than housing for working family budgets in 17 of the 28 studied metro regions (Center for Housing Policy, 2006).

Table 2-26 divides the data into a table with four separate quadrants—based upon whether a metro area exhibits "higher than" or "less than" the average costs for metro areas for transportation (columns) and housing (rows), respectively. Seattle, Atlanta, Boston, Portland, and Anchorage exhibit both higher housing *and* higher transportation cost burdens for working families than the average metro area (in terms of percent of household income). Metro areas like Phoenix, Minneapolis, Tampa, Kansas City, and Dallas exemplify the rationale for measuring transportation costs as a percentage of the household budget for various income segments.

Table 2-25.   Estimates of households and regional savings from living in compact urban form.

MPO Region	Sample Dispersed Neighborhood (1)	Sample Compact Neighborhood (1)	Difference in Annual Household Transportation Costs (2)	Difference in Annual Regional Transportation Costs (millions) (3)
Austin, TX	Round Rock	Old West Austin	$2,310	$716.10
Boston, MA	Braintree	Somerville	$3,850	$613.5
Charlotte, NC	Sterling	Dilworth	$1,700	$239.8
Chicago, IL	Schaumburg	Oak Park	$3,110	$1,110.2
Cincinnati, OH	Milford	CUF Neighborhood	$3050	$236.8
Denver, CO	Arvada	Washington Park	$2,240	$661.3
Little Rock, AK	Sherwood	Pulaski Heights	$1,580	$79.9
Minneapolis, MN	Orono	Seward	$1,830	$345.1
Newark, NJ	Butler	Montclair	$2,300	$550.8
Phoenix, AZ	Gilbert	Encanto	$3,610	$2144.3
Portland, OR	Troutdale	Roseway	$2,230	$492.2
San Francisco, CA	Antioch	Rockridge	$2,780	$1,126.8

Source: Center for Neighborhood Technology, (2010). *Penny Wise Pound Foolish: New Measures of Housing + Transportation Affordability*.
Notes:
(1) Representative compact and dispersed neighborhoods to estimate savings.
(2) Household savings from compact urban form over dispersed community form.
(3) Assumes 50 percent of projected household growth through 2030 achieve savings from compact urban form.

Table 2-26.   Transportation costs of working families by metro regions sorted by percentage of income spent on transportation and housing.

	Higher Transportation >= 30% of HH Income				Lower Transportation < 30% of HH Income		
	Metro Areas	**Transportation**	**Housing**	**Total**	**Metro Areas**	**Transportation**	**Housing**	**Total**
High Housing >=28%	Seattle	30%	31%	61%	San Francisco	27%	35%	63%
	Anchorage	30%	31%	60%	Washington D.C.	28%	32%	60%
	Atlanta	32%	29%	61%	Los Angeles	27%	32%	59%
	Boston	30%	29%	59%	New York	24%	32%	56%
	Portland	31%	28%	60%	San Diego	28%	31%	59%
					Miami	28%	31%	59%
					Honolulu	25%	31%	56%
					Denver	29%	29%	58%
					Chicago	27%	28%	55%
Low Housing <28%	Phoenix	30%	27%	57%	Philadelphia	29%	27%	56%
	Minneapolis	30%	27%	57%	Baltimore	29%	27%	56%
	Dallas	31%	26%	57%				
	Tampa	33%	25%	58%				
	Milwaukee	30%	25%	55%				
	Cincinnati	32%	24%	56%				
	Houston	31%	24%	56%				
	Detroit	31%	24%	56%				
	Cleveland	30%	24%	54%				
	Kansas City	33%	23%	56%				
	St. Louis	32%	23%	55%				
	Pittsburgh	33%	22%	55%				

Source: Center for Housing Policy (2006), *A Heavy Load.*

These and other metro areas in their quadrant of the table deliver relatively lower housing costs for working families than other metro areas, but those families on average are likely to endure a trade-off involving higher transportation costs. Notably, their transportation costs also claim a greater share of their household budget than housing—some by quite significant amounts.

Today, transportation is second only to housing as a share of U.S. household expenditures nationally, rising in relative significance as Americans have increased their purchases and use of automobiles. The amount set aside for gas, insurance, and repairs has grown even as food and apparel have declined in relative terms in the household budget. The cost burden experienced by lower income households—a metric that the H+T Index can monitor—should be of increasing interest for transportation planners, local and neighborhood planners, and policy researchers. The significance of this cost burden research—whether it is by income segment or neighbor- hoods within the region—should be recognized by transportation agencies and practitioners as an important element of any social profile for a regional transportation plan or land use plan that purports to describe the characteristics and needs of the traveling public and workforce. MPOs, for example, should seriously consider this dataset and its implications as part of their environ- mental justice work program to inform discussions and analyses in future planning processes.

Population Growth Projections and the Majority–Minority "Tipping Point"

Population in the U.S. is expected to grow by 42 percent between 2010 and 2050, reaching nearly 440 million persons by 2050, an addition of 128.7 million persons. Net international migration will be the critical factor driving this level of growth. The U.S. Census Bureau projec- tions presented in Figure 2-16 assume this growth level despite declining mortality rates and birth rates remaining at "replacement" levels.
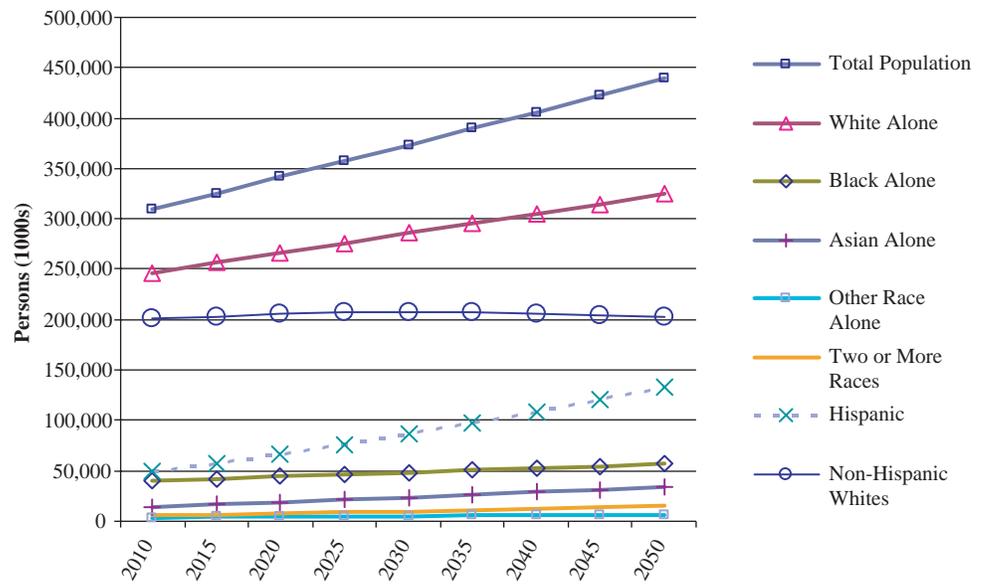
Source: U.S. Census Bureau, United States Population Projections: 2000 to 2050, 2009.

Figure 2-16.   Projections and distribution of the U.S. population by race and Hispanic origin: 2010 to 2050.

The demographic composition of the U.S. population will be transformed by economic and social factors such as an aging population and workforce and the need for infusions of students and skilled and unskilled immigrant workers to support the economy and maintain the nation's social institutions and physical infrastructure. Persons of Hispanic origin are projected to nearly triple, from 46.7 million in 2008 to 132.8 million by 2050 (see Figure 2-16). The Hispanic share of the nation's population (Hispanic alone) will change dramatically—from 15 percent to 30 percent over this period, while the Black population share will hover around 12–13 percent. Those of Asian origin will become an increasing share of the U.S. population by 2050 as will those who report being of Two or More Races. In contrast, non-Hispanic Whites, comprising nearly two-thirds of the nation's population in 2000, will account for less than one-half of the U.S. population by 2050.

Immigration and higher birth rates among minorities have put the United States on a path to become "majority–minority"—when less than 50 percent of the population will be non-Hispanic white. Racial and ethnic minorities, currently accounting for one-third of the U.S. population combined, are projected to reach 50 percent by 2050. In this future, multiple racial minorities reflecting multiple cultures will collectively become the majority of Americans.

Historically, several states in the South were "majority–minority" in the past (e.g., Louisiana, South Carolina, Mississippi) or close to being so (e.g., Florida, Georgia, Alabama). An estimated 6.5 million Blacks migrated from the South to cities in the industrial Northeast, Midwest, and California in two waves of migration between 1910 and 1950, in pursuit of better-paying jobs than possible in the South after mechanized agriculture and to escape from "Jim Crow" laws. The racial composition of several southern states was significantly changed by this migration pattern. However, after the Supreme Court decision in *Brown v. Board of Education* in 1954, and the later advancement of the Civil Rights Act of 1964 and the Voting Rights Act of 1965, which improved civil liberties, there was a reversal of the former "Great Migration." In the 1970s, Blacks began to leave behind areas of deindustrialization in the Northeast and Midwest and return to several economically attractive southern states (e.g., Georgia, Virginia, North Carolina, Tennessee, Maryland, Florida, Texas) for cultural and economic reasons (Frey, 2004).

In 2009, four states were "majority–minority": Texas, Hawaii, New Mexico, and California. The District of Columbia and U.S. populated territories (e.g., U.S. Virgin Islands, Guam, Puerto Rico, and Northern Mariana Islands, American Samoa) were also majority–minority. The percentage of non-Hispanic White residents has also fallen below 60 percent in Maryland, Georgia, Nevada, Arizona, New York, and Mississippi.

Majority–minority counties are found in both metropolitan and rural areas but are highly concentrated in certain parts of the country, in particular, the Southeast, the Southwest, Central and Southern California, parts of the rural Great Plains, most of Alaska, and Hawaii (Frey et al., 2009). In most majority–minority counties, a single minority group makes up more than 50 percent of the county population, with different minority groups predominating in different areas of the country. The U.S. Census Bureau estimated that about 10 percent of the country's 3,141 counties had passed that threshold by 2007 (Pollard and Mather, 2008). Another 218 counties were expected to reach the "tipping point" toward becoming majority–minority in the next few years—between 40 percent and 50 percent of the population in those counties are minorities. Most of the majority-minority counties in the Southeast are Black; most in the Southwest, southern Florida, and parts of California are Hispanic; and most in Alaska, the Great Plains, and the "four corners" (i.e., Colorado, Utah, New Mexico, and Arizona) area are American Indian (Pollard and Mather, 2008).

Lower incomes and poverty are prevalent in many "majority–minority" counties today. Median household income was below $30,000 in 43 percent of the 302 counties identified as majority-minority in 2007; according to Census Bureau estimates, at least 20 percent of persons were living below the poverty level in 66 percent of majority-minority counties (Pollard and Mather, 2008).

In recent years, it was estimated that "minority" populations of the U.S. will constitute a majority of the population by 2042 (Frey, 2008). This shift will occur sooner in some geographies and demographics. For example, by 2021 Whites in pre-grade school will be the minority, largely due to differences in birth rates (Frey, 2008).

The evolution of the nation to a "majority–minority" is certain to bring political, economic, cultural, and social changes, but how the nation's governing institutions, transportation agencies, and practitioners prepare and adapt to the emerging demographic realities is a chapter not yet written . . .

Preparing for Change, Holding to Core Values

As noted at the beginning of this chapter, effective transportation decisionmaking depends upon identifying and properly addressing the needs, cultural perspectives, and financial limitations of different socioeconomic groups who use transportation or are affected by transportation decisions. In that spirit, this chapter presented a profile of the nation's population, highlighting key patterns, trends, and other factors that governing institutions and transportation practitioners must understand to work in accordance with the core nondiscriminatory principles and laws which are an important foundation of this civil society. Several topics and considerations were presented relevant to identifying the basic socioeconomic conditions and concerns of traditionally underserved populations, including minority populations, low-income populations, foreign-born residents and LEP persons, low-literacy populations, transit-dependent households, seniors, and persons with disabilities.

Information communications technologies (ICTs) and their extraordinary proliferation in recent years were also highlighted in this chapter. Transportation agencies are exploring new ways to inform and interact with their customers or the public through social media and new

media applications that blend traditional media (e.g., film, images, music, spoken and written word) with the interactive power of computers and communications technologies particularly over the Internet. However, the persistence of a digital divide for some segments of the traditionally underserved cannot be ignored and differences in utilization rates for various digital technologies were referenced. Agencies and practitioners should critically assess ICT's limitations as well as its benefits—for example, it is an insufficient means for building trust or interest in local communities that have been historically excluded from decisionmaking or underfunded. The creative focus should therefore be on finding ways to employ ICTs that overcome continuing usage barriers for some populations to achieve a standard of meaningful involvement.

The growing burden of transportation costs on our household budgets was also highlighted— along with data sources that can be used to undertake such an analysis—because transportation-related plans, projects, and other studies tend to be inattentive to how the high costs of transportation can greatly alter mobility and access to opportunities for working, job-seeking, and lower-income households.

In touching upon several patterns and trends, the chapter invited the practitioner and the agency to consider factors driving change and how to best adapt to the new challenges ahead. As the nation's population increases, demand for all modes of transportation will grow. The nation's transportation network will become more congested, the existing infrastructure older and, perhaps, more deteriorated unless ways are found to keep one step ahead with an effective program of policies and investments. Many strategies are being put forward to meet these complex challenges and include, but are not limited to a commitment to a "state-of-good-repair" standard for maintenance; investments in multi-modal and non-motorized transportation solutions; safety improvements; intelligent transportation solutions to achieve operational efficiencies; better use of pricing to change user behaviors; expansion of capacity; and livability and transit-oriented development initiatives to better coordinate transportation, land use, and housing in pursuit of sustainable urban forms.

Workable solutions will need to be devised for an era of higher and perhaps volatile energy costs, continuing innovation in communications and other technologies, and relentless global and local competition, among other challenges. To find solutions for advancing safety and mobility, transportation spending will depend, as it always has, upon finding viable revenue streams and funding sources, setting priorities, and establishing processes for allocating finite resources. How funding will be prioritized between competing modes, regions, and program categories is far from foreseeable.

In the realm of transportation, the sources and levels of funding will continue to be debated. There will likely be clashes over the proper roles of the federal and state governments, and whether solutions should be government-led or the provenance of private markets. Strong differences over the philosophy and proper role of governing institutions and the extent of an individual's freedoms and social obligations have been a continuing thread in the national and local political discourse.

This society is heterogeneous and pluralistic and can be divided along many lines—income class, cultural, social, geographical, generational, ideological, and so forth. There are many ways in which these differences can be exploited by factions in pursuit of their specific philosophical, political or economic interests. In difficult times, these differences can become magnified, weakening historic social commitments that recognize shared responsibilities for others, including the traditionally underserved.

Future events will confront society in ways difficult to anticipate. But "shocks" need not become an excuse for forsaking the core principles of fair treatment, meaningful involvement, and equal access to opportunities that are embodied in the nation's civil rights, environmental and transportation laws, regulations and executive orders. Surely, the nation's demographic

transition to a "majority–minority" society over the next two generations cannot become the rationale for weakening the long-standing commitments to the core principles that protect the disadvantaged and traditionally underserved.

Transportation systems and services have historically imposed burdens upon communities with disadvantaged populations—particularly low-income and minority populations and other vulnerable populations who generally did not have access to the decision-making process. Projects delivering tangible benefits—for example, improved access to jobs and other opportunities, safer routes to school, elimination of accident or air quality "hot spots," or other community livability initiatives—have not traditionally been equitably targeted to disadvantaged communities. Such projects will be welcomed in long-overlooked or disadvantaged communities, but timely receipt of such benefits—a core nondiscrimination principle under the nation's civil rights laws—is difficult to achieve even in the best of economic times and only becomes more challenging when fiscal resources are lacking.

In the realm of transportation, future approaches need not forsake the "qualities of excellence in design" or the "qualities of excellence in process"—attributes that are faithful to the vision behind the CSS movement, which embraces meaningful involvement processes as a means to equitably deliver benefits harmonious with community values. Beyond adhering to core principles, agency decisionmakers and practitioners will find that tangible and intangible benefits extend not only to the affected community but also to the governing institutions and transportation agencies through their good-faith actions with the affected public. It is likely that better outcomes, broader support, and better transportation decisions will follow.

Practical Approaches

There are practical approaches for involving traditionally underserved populations that can be taken at every stage of transportation decisionmaking. Identifying traditionally underserved populations and ensuring that their concerns, issues, and needs are understood and addressed can take many different forms and be expressed in many different types of activities in transportation. What is "practical" or "effective" will vary by stage of transportation decisionmaking. Table 3-1 illustrates the typical types of programs, plans, and activities at each stage of transportation decisionmaking.

Many contextual factors or attributes of transportation decisions are likely to influence the agency and the practitioner's approach to interactions with the affected public and traditionally underserved populations, including:

- Geographic scale of the transportation activity or decision;
- Public or community attitude toward the agency and its past history and treatment;
- Understanding of the issues raised by the transportation decision and the degree of controversy it engenders;
- Cultural, social, and economic composition of the populations affected;
- Nature of input needed or sought by the agency;
- Timeline for decision; and
- Level of public involvement, and type of engagement or collaboration desired by the agency.

With so many contextual factors relevant to selecting the "right approach" for involving the public, including those who are thought to be traditionally underserved, the transportation practitioner might take some comfort in recognizing that there is no "one-size-fits-all" approach or a defined series of steps or processes that must or should be followed. What will prove to be a practical approach is *context-specific;* the practitioners seeking to improve decision-making processes will adapt and customize their strategies and processes as the best means for achieving a standard of meaningful involvement.

Practical approaches may be better characterized, not by prescription as to where and when they should be used, but as an outlook or perspective adopted by the agency or the practitioner as they orchestrate the creative use of various tools or techniques toward reaching a standard of meaningful involvement. For this toolkit, practical approaches have been categorized based on seven nonsequential, but often interrelated task objectives:

1. Identify Populations,
2. Implement Public Involvement Plan,
3. Provide Information,
4. Gather Feedback,
5. Build Relationships,

Table 3-1.   Typical programs, plans, and activities by stage of transportation decisionmaking.

Policy/Research	Statewide/ Metropolitan Planning	Project Development/ NEPA Compliance	Right-of-Way	Construction	Operations & Maintenance

• Advertising and Solicitation of Problem Statements
 	
• Research Topic Selection
 	
• Procurement Selection of Agencies, Universities, and Consulting Firms
 	
• Prequalified List of Agencies, Universities and Consulting Firms
 	
• Research and Policy Reports
 	
• Technical Assistance & Training
	• Policy Decisions
	
	• Systems Planning
	
	• State Planning and Research (SPR)
	
	• Unified Planning Work Program (UPWP)
	
	• Statewide Transportation Improvement Program (STIP)
	
	• Transportation Improvement Program (TIP)
	
	• Statewide Long-Range Transportation Plan (LRTP)
	
	• Metropolitan LRTP
	
	• Public Involvement Plan
	
	• Needs Assessment Study
	
	• Congestion Mitigation System
	
	• Environmental Screening
	
	• Grants Administration and Funding
		• Purpose and Need Development
		
		• Project Scoping
		
		• Alternatives Development
		
		• Public Involvement
		
		• Interagency Cooperation and Coordination
		
		• Analysis of Reasonable Alternatives
		
		• Environmental Impact Analysis
		
		• Community Impact Assessment
		
		• Mitigation and Enhancements
		
		• Documentation and Commenting
		
		• Location Studies
		
		• Preliminary Design and Feasibility
		
		• Compliance of Other Laws
		
		• Permitting Decisions
			• Coordination with Project Development
			  ○ Environmental Impacts and Public Involvement
			  ○ Right-of-Way Plans
			
			• Appraisals and Valuation
			  ○ Meetings with Owners
			  ○ Acquiring Agency Valuation Approval
			  ○ Appraisal Reports
			
			• Acquisition of Real Property
			  ○ Written Offer and Negotiations
			  ○ Payment Before Possession
			  ○ 90-Day Notice to Vacate
			
			• Relocation Assistance and Payments
			  ○ Adequate Notice
			  ○ Guarantee of Comparable Dwelling
			  ○ Relocation Assistance Advisory Services
			  ○ Payments: Moving and Replacement Costs
			
			• Property Management
			  ○ Pre-construction
			  ○ Post-construction
				• Post-Planning and Project Development Review of Changed Conditions
				
				• Public Relations, Education, and Outreach
				
				• Community Advisory Councils / Traffic Management Committees
				
				• Traffic and Safety Prediction Modeling and Impact Analysis
				
				• Traffic Management Plans
				
				• Contracting and Bidding Procedures
				
				• Notice of Construction
				
				• Fulfill Pre-construction Mitigations Commitments
				
				• Construction Program Design
				
				• Implement Best Management Practices
				
				• Monitor Performance and Impacts
				
				• Utilize Technologies for Traveler and Traffic Information
				
				• Document, Manage, and Resolve Citizen Complaints
					• Plowing and Snow Removal
					
					• Pothole and Surface Maintenance
					
					• Parking
					
					• Traffic Signalization
					
					• Noise Barriers
					
					• Safety Features
					
					• Location of Maintenance Facilities (e.g., salt sheds)
					
					• Landscaping
					
					• Grade Crossings
					
					• Bikeway and Pedestrian Facilities
					
					• Information Dissemination
					
					• Transit Stop Locations
					
					• Service Features and Route Selections (Modifications, Extensions, Disruptions, and Deletions)
					
					• Police, Safety, and Security
					
					• Park and Ride and Modal Interfaces
					
					• Weather Protection
					
					• Pedestrian Facilities

6. Mitigate Impacts, Deliver Benefits, and
7. Overcome Institutional Barriers.

These task objectives provide an organizing framework for presenting various effective practices, tools, and techniques. How and why these practices are used and why they are effective at reaching and engaging traditionally underserved populations are described, including examples of how they have been successfully applied. The framework reflects the varying levels of public participation and engagement that are undertaken at various times as well as more tangible expressions of commitment to traditionally underserved populations by transportation agencies and practitioners at various decisionmaking stages.

These task objectives are described here in greater detail and several types of tools and techniques are then described to accomplish each objective. Subsequent chapters devoted to "Effective Practices" (Chapter 4), "Tools and Techniques" (Chapter 5), and "Data Sources and Tools" (Chapter 6) provide additional information about strategies for engaging traditionally underserved populations along with more detailed descriptions of the context, the reasons for using various tools and techniques, and level of resources committed to undertaking various approaches. Links to websites for these examples of successful practices and other resources can be found in subsequent chapters of the toolkit.

Identify Populations

Identifying populations is a critical task objective for agencies and practitioners who are seeking to understand who are likely to be affected by transportation decisions within their jurisdiction—whether it is for statewide and metropolitan planning, project development and environmental assessments for corridor- or facility-specific projects, policy research, or for other activities at other stages of transportation decisionmaking. Identifying the location of affected populations, including traditionally underserved populations, is a prerequisite step for the development of public participation plans to ensure that these plans are inclusive and to ensure that impacts of transportation decisions can be comprehensively assessed as to the benefits and burdens that are borne by affected populations. Periodic evaluation of the effectiveness of the public involvement plan—which is an important means by which the agency and the practitioner can assess whether outreach activities have been successful in creating opportunities for meaningful involvement—requires consideration of the location and diverse characteristics of the affected populations.

Identifying populations implies a careful and detailed consideration of the socioeconomic composition of the affected populations. Properly prepared, this profile can offer insights into the demographic realities within a region or study area, describing the social conditions and context of life for populations who reside or work within the affected communities and how various segments of the public may use transportation to access jobs, education, or other essential destinations for health care, groceries, and recreation. Without reference to a social and economic profile, it is nearly impossible for an agency to begin to understand the diverse affected populations that an agency will encounter within a region or community, consider the potential constraints that may impede their access to public participation events, or design or prioritize projects that will be harmonious with affected communities.

Understanding the demographic, social, and economic characteristics of affected communities is more than a "desktop" exercise involving the use of statistics and geographic information systems (GIS) mapping. Key stakeholders and community leaders should also be identified and contacted. They can provide highly relevant information about the affected populations—their social relationships, customs, and values—that are difficult to glean from secondary data sets. Having discussions with these contacts can foster greater insights about communities and

strengthen relationships with influential leaders or institutions that can evolve into the types of partnering arrangements that will make future activities by the agency more successful. Several tools and techniques supportive of the task objective of identifying populations are described below.

Develop Social and Economic Profile.   Creating a profile is critical to understanding the needs of low-income and minority groups as well as other segments of the traditionally underserved populations. A detailed profile that explores social and economic demographic characteristics such as income, race and ethnicity, disability, age, limited English proficiency (LEP), educational attainment, time leaving home for work, and "zero-car" households provides an important building block for many types of studies and plans. Identifying the population segments that an agency is trying to engage and understanding their abilities and constraints to participation provide the foundation for the development and implementation of thoughtful and inclusive public involvement plans. It is a prerequisite element for environmental justice analyses, such as benefits and burdens assessments, and for preparing plans for working with LEP populations.

- The *Missouri Department of Transportation* (MoDOT) partnered with the Office of Social and Economic Data Analysis to provide authoritative data and information for use in transportation planning and project development. Their *Socio-Economic Indicator Resource Web Page,* which they created, includes maps, tables, charts, and graphics at different geographic levels meaningful to MoDOT personnel and their partners. Data is available for the following topics: Race/Hispanic Status; Employment Status; Housing Units; Households; Income and Poverty; Population; Age; Educational Attainment; Disability; and Transportation (see Figure 3-1).
- The *Delaware Valley Regional Planning Commission (DVRPC)* has created a methodology to identify disadvantaged populations within its region. The commission's guidance document, *Planner's Methodology,* offers background on Title VI and environmental justice and instructs DVRPC staff on the protocols to follow at the systems planning and project levels as part of their efforts to mitigate adverse project or program consequences, or to direct public outreach efforts. DVRPC currently analyzes eight possible degrees of disadvantage (DOD) within census tracts in the nine-county area: Poverty; Non-Hispanic Minority; Hispanic; Elderly; Carless Households; Physically Disabled; Limited English Proficiency; and Female Head of Household with Child. Their method is also used to assist in targeting specific populations as part of their public participation plan.

Define the Project and Study Area.   The study area is the area expected to be affected by a proposed project. Each technical analysis topic (i.e., air quality, noise and vibration, traffic, wetlands, etc.) may have its own individual study area based upon the geographic area of probable project consequences to the subject resource. Community impact analysts must also identify a geographic region that includes the communities expected to be affected by the project by drawing upon early scoping activities, public involvement, and interagency coordination. Those involved in community impact assessment (CIA) and those responsible for leading the public involvement plan process have often taken a back seat to transportation engineers and transportation planners in defining projects at the earliest stages of the project delivery process. However, practitioners who conduct early screening of a community's social and economic characteristics and notable community features bring an important perspective to a multi-disciplinary project team about the key issues of concern articulated by those living in the affected communities, including traditionally underserved populations. Drawing upon the community perspective, the project team can gain critical input for defining the project study areas, formulating a purpose and need, and developing project alternatives that can be locally accepted.

- The *Community Impact Assessment: A Quick Reference for Transportation* (FHWA, 1996), a primer prepared by the FHWA, succinctly communicates the importance of making a
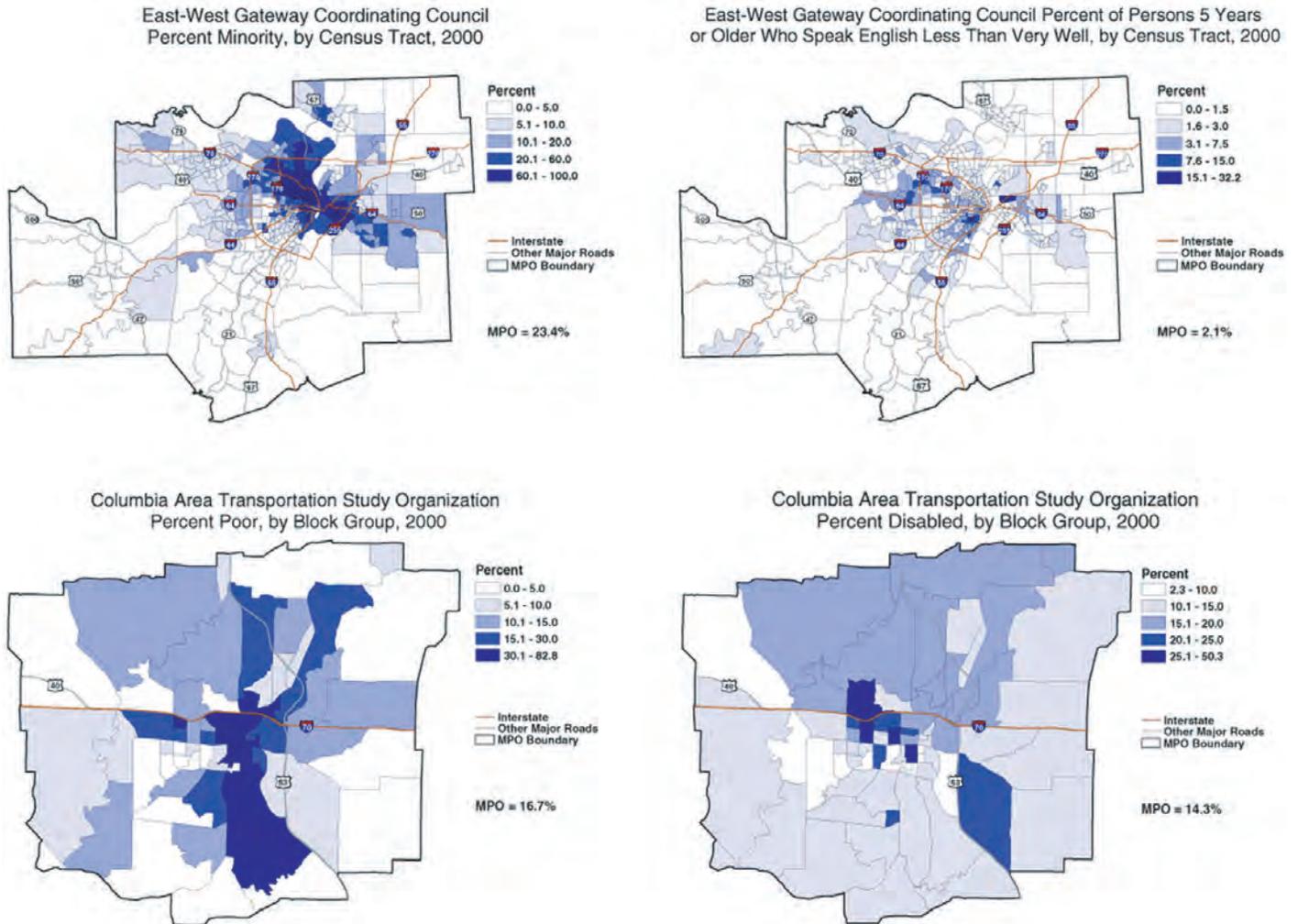
Figure 3-1.   MoDOT's website provides thematic socioeconomic maps for metropolitan planning organizations, among other jurisdictions. http://oseda.missouri.edu/modot/

commitment to early and continuing public involvement to support defining the project and the study area, and discovering project alternatives that may enjoy widespread community support. The *CIA Website* serves as an information clearinghouse for transportation officials, regional development professionals and the general public interested in evaluating the effects of transportation planning and project implementation on a community and its quality of life (see Figure 3-2).

- The *California Department of Transportation (Caltrans)* and the *Florida Department of Transportation (FDOT),* along with other state departments of transportation have prepared handbooks on CIA to help practitioners evaluate the effects of a transportation project on a community and its quality of life. These handbooks include guidance on how to define study areas and how to develop a community profile, among other steps in the CIA process.

Utilize GIS to Engage Communities.   GIS are an excellent tool for identifying the locations of traditionally underserved populations, including low-income and minority populations, linguistically-isolated populations, and transit dependent, "zero-car households," among other populations. GIS are a dominant information transfer mechanism for social and economic data and a principal means of access to U.S. Census and related data presented spatially. GIS tools can
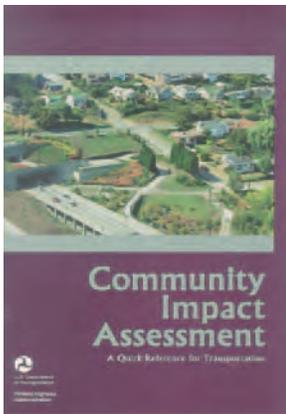
Figure 3-2. The FHWA's CIA primer describes methods and processes for assessing the social and economic impacts of transportation projects, emphasizing the importance of public involvement as part of the planning and project development process.

also be used to inventory notable features in a community (e.g., hospitals, schools, churches, child care facilities, community centers, senior centers, historic districts, etc.) or particularly accessible community facilities for public involvement events. GIS are a valuable tool for assessing how programs, policies, plans and existing activities could affect various populations, including low-income and minority populations (see Figures 3-3 and 3-4).

The tool can improve the transparency and accountability of planning and project development activities. For example, public involvement practitioners can map locations of public outreach events or public comments received in relationship to social characteristics of affected populations. Community complaints, crime incidents, or health-related issues can also be mapped.

- *The Kirk Avenue Bus Yard Case Study,* presented as part of the *Baltimore Region Environmental Justice and Transportation Project* sponsored by the *Baltimore Metropolitan Council,* offers an example of how GIS can visually reveal the impact of large scale bus maintenance operations on a hidden and at-risk concentration of traditionally underserved populations. The Kirk Avenue bus yard had been a point of contention between the surrounding East Baltimore Midway community and the Maryland Transit Administration (MTA) for many years. Noise and emissions from nearby bus operations were frequently the subject of community complaints. Socio-demographic conditions of the community were compiled, utilizing the GIS distance-related buffers, to support geographic comparisons of the local community vis-à-vis the surrounding region. Bus routes were mapped to illustrate the regional function of the transportation facility, illustrating how its benefits were dispersed regionally while few of these routes could actually be reached by local residents. Other air quality, noise, and health-related research was conducted on behalf of the community. The compiled information served as key points of reference for those advocating for environmental justice, smart growth, and sustainability remedies to mitigate the cumulative effects and bring relief to local residents.

- The *Complete Streets Assessment Tool (CSAT)* and the *School Environment Assessment Tool (SEAT)* are examples of mobile GIS data collection tools used to inventory and audit the built environment that are being used to engage and empower community residents. Armed with personal digital assistants (PDAs) or smart phones, the tools integrate with ArcGIS software containing maps of streets, intersections, and landmarks, such as parks or other community facilities. Condition assessments can contain a mix of objective and subjective questions to elicit the users' views about whether the area is safe or accessible for various persons (e.g., those in wheelchairs or reliant upon walkers). The approach invites collection of very localized, spatially-oriented data—particularly important for pedestrian, biking, or public transit modes—and can be used to engage interested members of the community such as youth in schools and others in a public dialogue about unmet needs, unsafe conditions, and infrastructure that must be fixed to ensure a livable community and safe environment for multi-modal transportation options. Holding all-day workshops—overview discussions about safe routes to schools programs, PDA training, walking tours, box lunches, mapping and synthesis of field work observations, and a plenary wrap-up at the day's end—can be instrumental in building local community capacity.

Conduct a Community Characteristics Inventory. Community characteristics inventories are interactive, web-based GIS systems for generating customized demographic reports for a specific community(s). The tool enables information retrieval on a project-specific basis and is designed for planners, project managers, and the general public. The Community Characteristics Inventory may have several components, including the following:

- Interactive mapping and reporting of census-based data for the different demographic groups in the community under investigation;
- A community background report with information about the community's development history, geographic boundaries, transportation and non-transportation projects that have
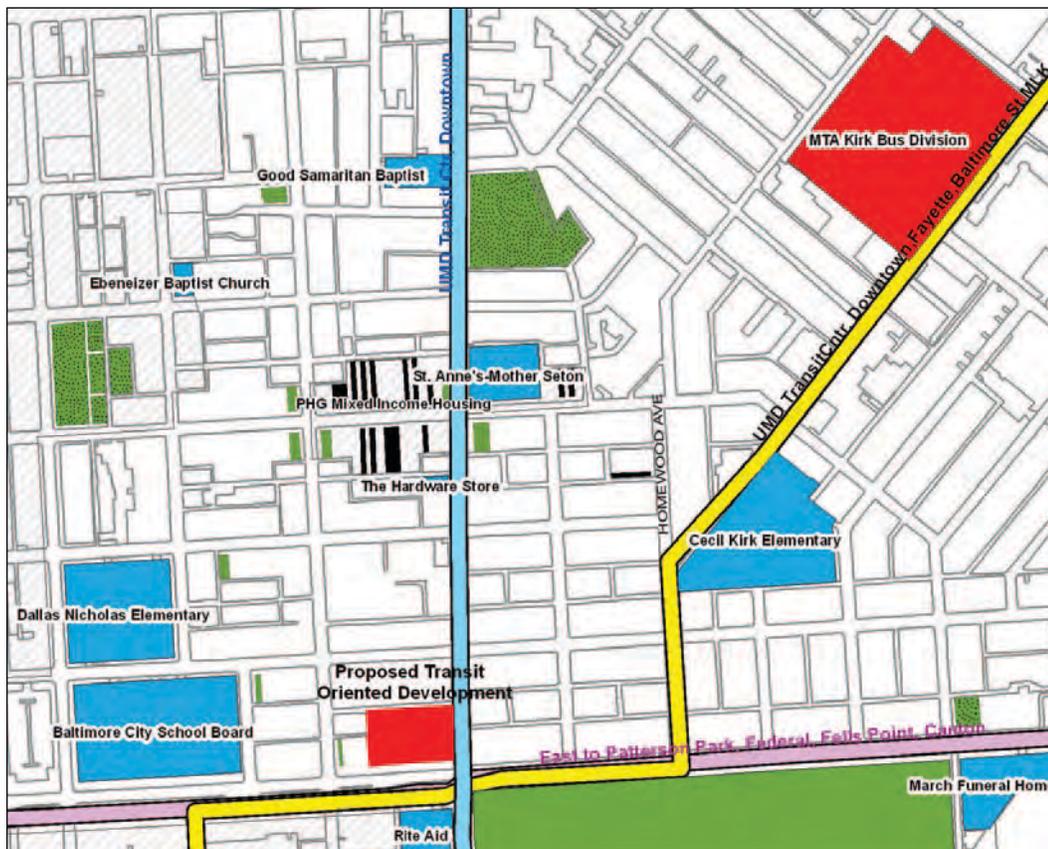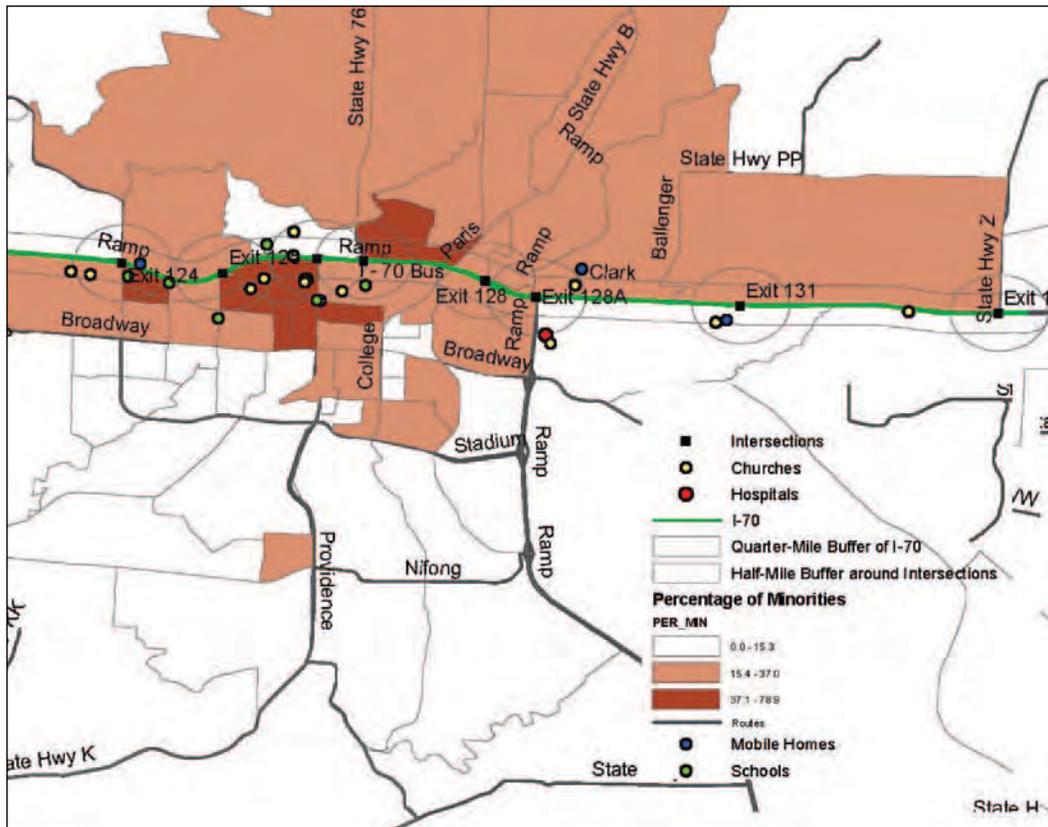
Figures 3-3 and 3-4.   GIS maps display concentrations of minority populations with community facilities as part of a constraints screening exercise at an early stage of a highway environmental impact assessment in Columbia, Missouri (top) and to do asset mapping for a neighborhood-based environmental justice investigation in Baltimore, Maryland (bottom).

been implemented within the community, community attitudes toward transportation-specific projects, and whether attitudes towards those projects were favorable or unfavorable; and

- Public involvement strategies for different groups within the community. Appropriate or recommended public involvement strategies have been identified for different age groups, disabled populations, varying levels of educational attainment, income levels and vehicular ownership, race, and language spoken.

In addition to identifying low-income and minority populations, such tools can be designed to paint a more complete picture of the affected community. Adding a community history component to a community background report can offer historical context for the current conditions of the community. Such information can help to better define and capture community characteristics not reported by the census.

- The *Miami-Dade County MPO,* in collaboration with Florida International University, has developed the *Integrated Transportation Information System (ITIS),* formerly known as the *Community Characteristics Program.* Initially the MPO created community background reports for 35 municipalities in Dade County. This was followed by the creation of community background reports for the 20 major neighborhoods in the unincorporated areas of the county. The MPO went back to the municipalities, once the initial tasks were completed, and created 22 additional community background reports for the different neighborhoods within the municipalities. The MPO has now established the capacity to go from the macro level to the micro level and to identify niche places and neighborhoods within the county. Each year, the MPO attempts to identify 20 additional neighborhoods.
- *FDOT* made a major investment in its *"Environmental Screening Tool" (EST),* an Internet-accessible interactive database and mapping application. The EST establishes a shared information platform to support the assessment of the natural and sociocultural effects at the planning, programming, and project development stages. The EST provides analytical and visualization tools to communicate information in a user-friendly fashion, albeit most effectively for those with access to computers, high-speed Internet service providers, and basic proficiency with English as well as the navigation requirements of the EST platform. Community characteristic inventories are among the many features of the tool with data layers reporting race, income, age, and other demographic indicators. The EST tool permits flexibility in setting "buffer area" distances from project alternatives to map community facilities. The application supports civic involvement and inter-agency participation—for example, between FDOT district offices, MPOs, and resource agencies—throughout the project life cycle.

Identify "Affected Populations" Using a Community Attribute Index. A community attribute index (CAI) is a multi-dimensional index method for describing the attributes of communities. It is an alternate approach for identifying "affected populations" or "populations of concern" for the purposes of preparing the analytical component of a benefits and burdens analysis—an activity more often undertaken for metropolitan planning purposes, but also potentially applicable to project-specific studies once the data has been assembled. The CAI approach scores the attributes of communities, indicating those communities exhibiting stronger or weaker quality-of-life attributes.

- The *Atlanta Regional Commission (ARC)* commissioned the study of a CAI to identify environmental justice communities at a regional level. Modeled after the United Nations' Human Development Index, a CAI was prepared for ARC, the region's MPO. In "majority–minority" communities, such as Atlanta, the approach can place a greater emphasis on dimensions of poverty, economic opportunity, educational attainment, and family stability in order to target resources to communities that are in need. The Atlanta study contrasted the zones most in need using the CAI approach with those that were indicated using the thresholds typically

used to define environmental justice communities in Atlanta. Their study found that the latter, or typical, approach included some environmental justice communities with higher than expected quality of living standards.

Implement Public Involvement Plan

Developing a public involvement plan (PIP) is a key step toward better integrating the needs and concerns of traditionally underserved populations in transportation decision-making processes. The PIP serves as a procedural guide for agencies and practitioners and describes effective strategies for encouraging public participation. The PIP should guide all stages of transportation decisionmaking, but is particularly relevant in statewide and metropolitan planning, project development, and environmental review stages of decisionmaking. Some PIPs will be broad and cover all public involvement conducted by the transportation agency, while others will be project specific but in keeping with the agency's overall PIP. Creating a PIP should be preceded by exploratory and research activities, such as creating a demographic and economic profile or holding meetings with community leaders and organizations, which should be undertaken as early as possible, before project decisions are made.

Tools and techniques for implementing PIPs necessarily include establishing the plan, as well as identifying policies and practices that can be incorporated into the plan, such as those described in this section, and setting in motion procedures to periodically evaluate the PIP's effectiveness in achieving its goals and carrying out its prescribed procedures.

Upfront Site Visits to Establish Scope of PIP.   Prior to establishing the scope and scale of a PIP, a thorough analysis of the social and economic characteristics data for the study area communities should be prepared. A preliminary inventory and mapping of community facilities and other notable features can be compiled from websites and secondary datasets and should include community gathering places (e.g., playgrounds, senior centers, schools, faith-based institutions, etc.) and natural or historic features such as important viewsheds. Field visits should be taken to verify the quality of the demographic and community facilities data compiled from secondary data sources.

Before the field visit, the practitioner should reach out to knowledgeable persons from the community (e.g., city planners, municipal officials, neighborhood associations, etc.) to learn more about the area. Scheduling time to meet and conduct scoping-type interviews with select stakeholders will make it possible to discover community characteristics not revealed from maps or secondary sources. Field visits provide an opportunity to hear the languages spoken on the street, experience some of the everyday transportation problems, notice the age of cars parked in residential driveways, see who works the second-shift, identify areas where people gather, and examine the absence or presence of foot traffic on the street. The information obtained from the upfront site visit and interviews should be woven into the collected social and economic demographics and serve as the basis for establishing the scope and scale of the public involvement plan. Community facilities that would be particularly convenient to reach for neighborhood residents and other stakeholders should be noted. Most importantly, the observations and insights of the community impact practitioner and the public involvement professional should be shared with the project management team early enough to help shape the process to come.

• For the *Business 40 Project, North Carolina Department of Transportation* (NCDOT) issued its first task order for the preparation of a PIP that would extend from planning through construction. NCDOT gave its consultants a month to collect social and economic demographic data, complete a physical reconnaissance of the project area, and identify and interview formal and informal leaders. During the field visit, 85 informal and formal leaders were interviewed,

Figure 3-5.   Early site visits included stops at "mom and pop" stores to discuss the most effective ways to identify transportation concerns for the Business 40 Project in Winston–Salem.

local planning officials and large public and private employers were contacted, all streets within the project area were surveyed, all potential meeting places (e.g., faith-based organizations, recreation centers, schools, etc.) were inventoried, media representatives were contacted, and local food vendors were identified (see Figure 3-5). Following the field visit, a PIP was submitted to NCDOT for approval. More than 4 years later, the PIP remains intact after outreach to more than 21,000 members of the public.

Develop and Maintain Community Contacts Database.   Developing a community contacts database involves traditionally underserved populations in two ways. In creating the database, the practitioner and the agency are refining their knowledge of existing community organizations and leaders, gaining greater insight about which individuals and organizations have the capacity to engage traditionally underserved populations as part of their membership or constituency. The database itself is a valuable communications management tool. It will ensure that information is being targeted to as wide or narrow a range of community members as appropriate for a particular event.

- *The Miami Dade MPO* maintains a *public involvement database* that stores all correspondence from the public and creates customizable outreach lists. The database contains over 1,000 businesses and organizations that the MPO's Public Involvement Office can call upon when organizing community outreach events, mailing newsletters, and for other correspondence. For example, the MPO distributes "Citizen Guides" in English, Spanish, and Creole, which are intended to assist the public in understanding the transportation planning process. The MPO also distributes a "Call for Ideas" brochure to contacts in the public involvement database early in the plan development process (see Figure 3-6).

Prepare a Limited English Proficiency (LEP) Plan.   Individuals who have a limited ability to read, write, speak or understand English are considered to have limited English proficiency, or "LEP." An LEP plan describes the policies, services, and information that a government agency, including transportation agencies, will take to ensure that LEP persons have meaningful access to the agency's programs and activities. The need for an LEP plan is set forward in Executive

Figure 3-6.   The Miami-Dade MPO media events list is used to track comments and attendance at public events, among other issues.

Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," which reaffirms Title VI of the Civil Rights Acts of 1964 and the prohibition of discrimination on the basis of national origin. All programs and activities of entities that receive assistance from the U.S.DOT, including FHWA and FTA, must comply with Executive Order 13166.

The government has the obligation and responsibility to be accessible to its citizens and residents and communicate with them. An LEP plan will identify the size and locations of low-literacy populations and various foreign-born populations that may not speak English "very well" as well as describe the most appropriate approaches that can be taken by the governing entity to ensure meaningful access is provided to all their programs and activities without imposing undue additional cost burdens.

- *Caltrans* has developed materials, posted to its LEP website, that include a training video for its staff which highlights appropriate language assistance strategies; a volunteer list of state transportation employees with certified bilingual capabilities (more than 60 languages and dialects) by department, "I Speak" cards (explained later in this chapter), a list of interpreter and translator services that departmental staff have used as well as services for the visually- and hearing-impaired populations. California established an LEP protocol pamphlet for Caltrans employees who encounter the traveling public. The Highway Emergency Language Protocol (HELP) pamphlet was targeted to highway personnel to support communications with the public in six different languages. California DOT worked with the state's Department of Education to identify the largest student groups of limited-English-proficient students statewide. Using this information, the California Statewide Transportation Plan's tri-fold brochure was translated into Spanish, Chinese, and Vietnamese.
- *LEP.gov,* the website of the Federal Interagency Working Group on LEP, serves as a clearing-house of information, tools, and technical assistance regarding LEP and language services for federal agencies, recipients of federal funds, users of federal programs and federally assisted programs, and other stakeholders.

- The *New York City Department of Transportation (NYCDOT)* prepared a *Language Access Plan* with a four-factor analysis. The plan illustrates several strategies and tools it uses, including "I Speak" cards and its 311 telephone service, and sets forward several actionable commitments with timelines to improve access to services for its customers (see Figures 3-7 and 3-8).

Use "I Speak" Cards to Ensure Communications with LEP Populations.   "I Speak" cards are two-sided bilingual cards that invite LEP persons to identify their language needs to transportation agency staff. Such cards, for instance, might read "I speak Spanish" in both Spanish and English. They may also include information about language access rights. These cards can be used to assist people with limited English proficiency in communicating their need for interpretive and translation services.

- *Merrimack Valley MPO* in Massachusetts outlines in its LEP plan that "I Speak" cards will be provided at all workshops and conference sign-in tables. The Plan states that while interpretation may not be present at that particular meeting, the cards will help the MPO anticipate future needs.
- *New Jersey DOT, Division of Statewide Traffic Operations* outlines in their LEP Plan that "I Speak" cards should be used when Emergency Service Patrol drivers come in contact with LEP persons and carried by all incident management response team (IMRT) member trucks.

Offer Assistance for Hearing Impaired.   Some hearing impaired or deaf individuals can speak and/or read lips while others may rely upon American Sign Language or written and visual information (see Figure 3-9). Others may not be able to write or read well. The first thing to do when encountering a person who is hearing impaired is to identify how the person communicates best. The advent of telephone texting has allowed many to receive and send information of 160 characters or less through their telephones. Because of this, it is important to obtain not only an individual's email address, but also that person's telephone number. Telephone texting has allowed project information, including short surveys, to be sent to those who are hearing impaired and deaf and for them to respond in a like manner. The telephone's vibration option provides them with notice that a message has been received. If possible, an annotated agenda for any upcoming meeting or a copy of the proposed presentation with notes can be sent to an individual's email address prior to the meeting. This will give the recipient a general idea of topics under discussion and allow time to formulate any questions or comments for the project staff.

When talking with individuals who are hearing impaired or deaf, the practitioner should always look directly at them and not at the individual that is signing the message or verbally relaying their response. If they read lips, the practitioner should not block their view of his/her face and should talk with them in a well lighted area, speaking in a normal and not an exaggerated manner, and using short, simple sentences. When releasing any written information (e.g., press releases, newspaper articles, emails, website, or newsletters), the practitioner should always provide the TTY number and ask if anyone needs a signer to be present.

- For the *Business 40 Project* in Winston–Salem, *sign language signers* were provided during the first round of neighborhood meetings. This service and interpretation in Spanish were advertised in all written materials.
- The *Center for Neighborhood Technology* (CNT) in Chicago has utilized *Transopoly,* a version of the "Strings and Ribbons" game (explained in Chapter 4) played with ribbons and dots. The game is a good process for identifying transportation infrastructure needs as part of the LRTP process. Transopoly is designed to engage a broad spectrum of people in transportation planning, especially those who are unlikely to be familiar with professional planning terms and

Figures 3-7 and 3-8.   NYCDOT's Language Access Plan describes how it translated a bike lane informational brochure into Chinese and Spanish versions (top). The city uses language identification posters (bottom) and "I Speak" cards to determine the primary language of customers.

Figure 3-9.   Residents have used sign language to express their priorities for transportation spending in versions of the Center for Neighborhood Technology (CNT) Transopoly game.

methods because of limitations in their education or experience. The game has been played with residents who are deaf or hard of hearing, who cannot read, or who are sight impaired (see Figure 3-9).

Offer Assistance for Sight Impaired.   Some sight impaired or legally blind (20/200 vision) persons can distinguish colors and/or read large print while others may rely upon Braille materials or their hearing. When choosing colors for a display, practitioners should be aware that some people may be color blind and the name of the color should be written near it. Those who are elderly may require information in a large print format. Those who have a computer with a speech component and Internet access can access websites that are Section 508 (1973 Rehabilitation Act, as amended in 1986) compliant. All federal agencies, and those agencies receiving federal funds or under contract with a federal agency, are required to comply with this law. For those who do not have computer access, radio reading services for the blind, public service announcements on radio and television, and news stories on radio and television are ways to get information to those that are sight impaired or blind.

When encountering those who are sight impaired or blind at a public event, the practitioner should first introduce himself/herself and identify who he/she is and what role the practitioner plays on the project. The practitioner should be sure to describe information readily apparent to those who can see, and should indicate that new items have been brought into the environment, describing what they are, and where they have been put. The practitioner should offer to lead someone, but wait for them to accept his/her offer before proceeding, allowing them to hold his/her arm rather than holding their arm so they can control their own movements. The practitioner should be descriptive when giving directions—"over there" has little meaning to someone who cannot see. The practitioner should instead say, "starting at the corner of Main Street, then going south and crossing Wales Street and Ivey Street. . . ." Practitioners should describe things from the perspective of the impaired, not the practitioners'. Some people who are blind use a "clock" reference for things directly in front of them. If a blind person is accompanied by a guide dog, the practitioner should not interact with it while it is working (or, in the harness).

- The *Volusia County MPO* in Florida held a meeting with a sight-impaired group and adapted its *"strings and ribbons" game* so the members could play as part of the public involvement outreach for their LRTP.

Offer Assistance for Low-Literacy Populations.   Literacy, as defined by the National Literacy Act of 1991, is "an individual's ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential." Assistance offered to members of the public that are low literate varies depending upon their literacy level. Those who cannot read and/or write often give physical and verbal clues—often one person will sign in everyone, or someone will say they cannot sign in because their arthritis is bothering them, or they need to take the comments sheet home and think about what they want to say before they send it back. Having a well-known member of the community stand at the door and introduce residents to a scribe who takes down their name and contact information may help avoid any embarrassment. Giving a staff member a comment sheet, escorting residents through the displays, recording their comments as they speak among themselves, and reading these comments back to them for clarification can be an effective way of capturing residents' thoughts and concerns.

Using a different color to identify each alternative and tying this color to a specific rendered typical section can clarify what an alternative looks like at different locations (see Figure 3-10). Comparing existing photographs to a proposed alternative rendering, showing a before picture morphing into finished concept, or creating a three-dimensional drive through can help simplify the most complex projects. Graphic representations of local facilities can be used as substitutes for words to help those with low-literacy (see Figure 3-11).

- The *Mississippi DOT* produces in-house *videos* for approximately 85 percent of its public hearings. For most projects, a 10 to 12 minute, continuously running loop is prepared. However, larger, more complex projects require longer videos. The video provides the public with background information before they proceed to the part of the public hearing where aerial photographs, cross section views, and alternatives are shown.

Treat People Courteously and Respectfully.   Members of all populations should be shown respect, addressed courteously, and treated with dignity. In social settings concerning projects, practitioners should adopt a style of interpersonal interactions that avoids seeming judgmental and recognizes differences. Agencies, in turn, should foster a culture of continued learning and adapt their policies, procedures, and services to be appropriately respectful to cultural differences and diverse populations.

Beyond having good manners or treating people politely—which is a great first step—this approach is about an outlook of developing habits of practices that respect cultural differences. The practitioner should seek to be mindful of cultural differences and recognize there will be differences in communication styles, in ways of learning, in attitudes toward conflict, in disclosure of information, in the ways tasks are completed, and in styles of decisionmaking. Developing a knowledge and appreciation of different cultural groups and individuals—their history, traditions, language or dialect, values, art and music, spiritual beliefs—can reveal positive attributes of a particular culture or community. In addition to instilling greater respect, it can lead the practitioner to discover better strategies for reaching diverse populations.

Agencies and practitioners can utilize many techniques to treat people courteously and with respect at meetings, workshops, and other events in the field, but, depending on the context, some techniques can be wildly inadequate or more effective for a particular population or setting. Getting out into the field can be a great way outside meetings and workshops to engage the public as well as a means to publicize upcoming meeting events. In addition, training community residents to conduct interviews can be a very effective way of gaining real insights into community life.

- For the *Colorado Department of Transportation's I-70 Project* in Denver and *NCDOT Business 40 Project* in Winston–Salem, local residents were hired to interview people in their community,
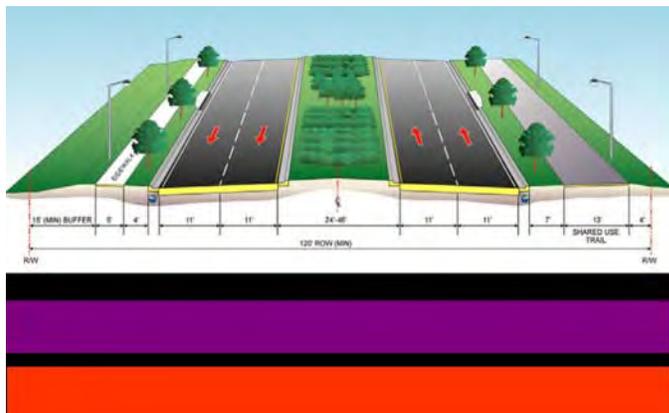
Figures 3-10 and 3-11.   Different colors can represent each alternative and the color can be tied to a specific rendered typical section to clarify what an alternative looks like at different locations (top). Symbols can be used instead of words for low-literacy populations (bottom).

providing temporary jobs for folks living near the project corridor and eliminating the need to train outsiders. Residents selected to be field staff were instructed on appropriate etiquette and procedures to protect their personal safety in the field (see Figure 3-12).

Assess Public Involvement Plan (PIP) Effectiveness.   The PIP's effectiveness should be periodically assessed to determine if the goals and objectives established in the PIP were achieved. The PIP should be changed to improve future performance in response to the assessment. The PIP should include specific strategies for reaching affected traditionally underserved populations. The assessment should determine if the practices were effective in reaching each of these populations and, equally important, whether the events and processes created opportunities for meaningful involvement. It is entirely possible that it may be necessary to do something different to involve traditionally underserved populations.

Including the traditionally underserved populations as target populations in the PIP assumes that the plan's developers have determined, either formally or informally, the need to reach out and involve them. The inclusion of the affected population in the development of effectiveness measures aids in identifying goals, objectives, and practices that are meaningful to both

Figure 3-12.   A one-day training session prepared residents for their neighborhood outreach activities for the I-70 Corridor project.

planners and to the community. The assessment may be done at different stages of the project (e.g., project planning, detailed design and construction documents, and construction), as well as at the end of the project and monitoring. The process of assessing the PIP's effectiveness should be accessible to the public.

- The *Ohio DOT, Opportunity Corridor, Environmental Justice Analysis.* Over a 6-month period, the Ohio DOT held two kick-off meetings and six neighborhood meetings for their Opportunity Corridor project in Cleveland. Black and low-income populations are located within the corridor's study area. Following a series of meetings, an environmental justice analysis was undertaken to assess the level of participation by the affected populations within the corridor's study area. Sign-in sheets provided at each of the eight meetings were used to locate the addresses of attendees, utilizing color-coded "sticky strips" to pinpoint addresses on a large aerial map. Each meeting was assigned a unique color with corresponding color "sticky strips." There were 570 attendees at the events, but only 141 of them gave an address within the corridor's study area. Similar assessments were conducted for each of the events to consider whether the event location influenced attendance by the environmental justice populations living within the corridor area. The findings from this analysis were helpful in determining possible different locations, times of day/night, and days of the week/weekend for the next series of public meetings.

- The *Hillsborough County (FL) MPO* adopted evaluation measures to assess the effectiveness of its proactive public involvement process. Their public participation plan (PPP) is regularly updated. The PPP is refined through a series of reviews and recommendations that are enhanced by ongoing feedback, surveys, and updates that coincide with each LRTP update. In addition, the MPO provides information on its website, via newsletters, interactive web tools, Twitter feeds, online surveys, email comment access, and mailing lists. The MPO publishes a biennial *Public Participation Measures of Effectiveness Report* that details PPP activities during the period, projects or plans addressed, the number of attendees or participants, suggested refinements to the PPP, and a summary of activities and results. The effectiveness report includes a measure of the numbers of meetings and attendees from designated "environmental justice" areas. The publication itself provides an opportunity for the public to comment on the effectiveness of the PPP.

Offer Refreshments.   Refreshments foster a more relaxed setting and put people at ease. Providing food at a meeting can be a way to increase meeting attendance. It allows parents to pick up their child at the day care facility or at home and come directly to the meeting without having to eat first. When people go home first to eat supper, their willingness to attend a meeting may wane and they may remain at home. Having a meal at a meeting can provide an incentive for someone who is low income to attend a meeting. Often having a meal at a meeting provides neighbors an opportunity to get together and becomes a reason to attend the event. Serving refreshments also provides a time and space for people unwilling to speak out in a crowd to have one-on-one discussions and ask questions in a less formal setting. When served in the middle of a meeting, refreshments can enliven, reinvigorate, or *refresh* a group that has become tired, bored, or frustrated. Serving more substantial refreshments can also be a way to get around holding meetings at times that may conflict with meals (see Figure 3-13)

Brand Project through Clothing and Other Paraphernalia.   Branding projects through clothing and other paraphernalia visually identifies members of the project team in the field or at public events. Clothing and other paraphernalia can include one or multiple distinct articles of clothing such as t-shirts, hats, jackets, badges, and the like. It brings attention to members of the project team, giving them an identity in places where they may not be known. It can be difficult to enter a community as an outsider where trust has not yet been established. Branding projects in this fashion makes it easier for community members to see that outsiders have a purpose for being there. By making team members easily identifiable, they will be more approachable and open to receive comments and questions from the public. This can also ensure a certain level of accountability among project team members because it instills in them the idea that they are representing the project to the public.

Figure 3-13.   Design fair attendees cooled off with popsicles while developing traffic calming and safety improvements for the Hoopa Valley Reservation.

- The *SR126 Project in Kingsport, Tennessee* expected a large turnout for a meeting event with a segment of the public highly interested in venting concerns over past project controversies. All members of the project team—public agency employees and consultants—wore green shirts with the specific intention of being visible and receptive to a skeptical public (see Figure 3-14).
- The *I-70 East Project Team in Denver, Colorado,* wore yellow shirts with project logos and photo identification badges. At meetings, the project sponsors from the Colorado DOT and the Regional Transit District and consultant project staff also wore these branded shirts (see Figure 3-15).
- The *Business 40 Project* in Winston–Salem, North Carolina, utilized orange t-shirts with logos and photo identification badges. During the winter months, orange jackets the same color as the t-shirts were worn. During public meetings, NCDOT and consultant project staff also wore orange t-shirts.

Figures 3-14 (top) and 3-15 (bottom).   Branding projects with colorful logos and coordinating apparel makes the project team easily visible and approachable, open to comments and questions from the public at events.

Provide Information

Providing information to the public is a duty of transportation agencies and applies to nearly all stages of transportation decisionmaking. U.S. citizens are entitled to access information from their government to responsibly interact with officials and to have sufficient information to question government decisions. Traditionally underserved populations, no less than other segments of the public, are entitled to interact with transportation agencies to (1) communicate their needs and concerns, (2) assess the potential impacts of government agency decisions, and (3) learn about opportunities to influence decision-making processes. Providing information to traditionally underserved populations may require an agency to look more closely at its typical practices and adjust them, if needed, to better advertise events, to describe its activities (i.e., policies, programs, plans, projects) in a way that clearly conveys coming changes or potential impacts, and to work with affected communities, where warranted, to facilitate their informed involvement on projects that may affect them.

Information should not be wrapped in mystifying technical jargon, but designed for "regular folks." The importance of presenting information clearly should not be minimized or treated cavalierly. The credibility of the agency's decision-making process and the legitimacy of the proposed action can be undermined by a poor communications strategy or insufficient transparency. Inadequate disclosure of information and insufficient candor about project issues can easily backfire, stoking greater opposition and controversy, which can cause the agency to lose control over their project as it endures delays, political wrangling, and even legal proceedings.

Use Videos to Convey Information.   Videos are a proven means for drawing attention and making material more digestible to a wider audience. Video may be particularly useful in presenting information to LEP persons. It can be disseminated widely to promote a message, frame issues of concern, or deliver information to stakeholders.

- The *Atlanta Regional Commission (ARC)* has produced more than a dozen TV shows and videos that are posted on its website and highlight key planning issues confronting the metropolitan region. *The Changing Faces of Our Region* examines the changing social composition of the region. Increasing ethnic diversity and the aging of the baby boomers has transformed the region's residents and workforce. The video offers key facts and observations from national and regional experts about the implications of these changes (see Figure 3-16).
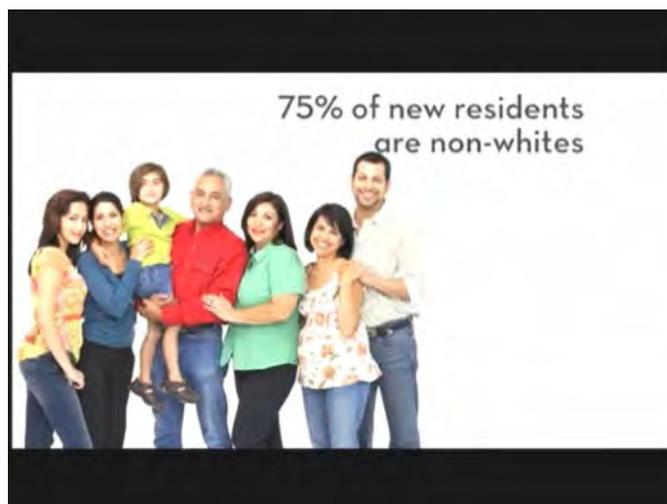
Figure 3-16.   Screenshot from ARC's The Changing Faces of Our Region *video, which explored Atlanta's demographics for their long-range plan.*

- *Sound Transit* in Seattle, Washington, used the production of videos in a student film competition—and the publicity surrounding it—to spread an educational message about pedestrian safety for at-grade light rail crossings. The student films were posted online through the agency's website and on YouTube. The contest brought favorable attention to their campaign.
- *Caltrans* has developed an LEP training video and uses it for staff training on how best to interact with customers requiring language assistance. Caltrans maintains video archives for a range of other projects, programs, and activities on its website.

Distribute Flyers.   Flyers can effectively provide information to traditionally underserved populations because they provide flexibility in information dissemination. Flyers can be placed at community activity centers frequented by traditionally underserved populations, written in the language and tone that will best communicate to those populations. Activity centers where flyers are posted can include public buildings such as libraries and post offices, community and senior centers, places of worship, as well as local businesses such as grocery stores, hair salons, and cafes. Flyers can be posted for all to see, and copies of the flyers can be left for people to take with them. Flyers can also be distributed during "walk-throughs" in residential neighborhoods (see Figure 3-17).

- For the *Business 40 Project* in Winston–Salem, NCDOT conducted surveys in neighborhoods. Once the surveys were completed, a series of neighborhood meetings was held. Outreach specialists posted flyers in each neighborhood prior to each meeting.
- For the *South Coast Rail Project,* the Massachusetts DOT advertised station area workshops with English, Spanish, and Portuguese-language flyers.
- For the *Buford Highway Pedestrian Safety Project,* the Georgia DOT spread the word about a survey being conducted at a public mall by distributing flyers printed in both English and Spanish to all apartment complex managers and business owner/operators within the project corridor.

Advertise on Billboards, Marquees, and Variable Message Signs.   Billboards and marquees are a way to display large-scale advertisements in highly-visible places, such as alongside highways or on the sides of buildings (see Figures 3-18 and 3-19). Billboards, marquees, and variable

Figure 3-17.   Flyers were left in small orange bags hung on the door knob—to reduce nuisance to residents from litter—announcing neighborhood meetings for the Business 40 Project in Winston–Salem.

Figures 3-18 and 3-19.   Variable messaging signs can grab the attention of the traveling public (top). Prominent display of banner announced a design fair to be held on the Hoopa Valley Reservation (bottom).

messaging signs can draw attention and communicate a simple message to a captive community traveling through an area. They can be used to advertise for a public event, provide notification of upcoming construction, direct people to an online survey, or thank the community for their involvement. Because of their prominent placement and high visibility, billboards can be particularly effective in reaching groups that are not currently engaged in the topic and creating a buzz about the issue.

- *Ridewise,* a nonprofit in Somerset County, New Jersey, used variable message signs to advertise an online commuter survey about an upcoming roadway corridor project along Route 202. Over 1,000 online surveys were collected from commuters over the two-month period during which the survey was posted.
- A plan for *Traffic Calming and Safety Improvements for the Hoopa Valley Reservation* was deeply informed by the Hoopa Design Fair event—a several day design charette process held on the reservation. Banners were prominently displayed on a local building in the days leading up to the event.

Figure 3-20.   Miami Dade MPO participated in a "call-in" radio show for the local Haitian community.

Publicize through Local and Ethnic Media Outlets.   Local and ethnic media outlets are key means for reaching populations not necessarily relying upon "regular" media outlets (see Figures 3-20 and 3-21). "Local" refers to neighborhood media such as weekly newspapers targeting a particular part of town or a neighborhood. "Ethnic media" refers to media in a particular language, such as Spanish or Arabic, or English-language media directed to a particular ethnic group such as Asian Americans or Blacks. Local media will focus on neighborhood-related information, so people in that neighborhood are very likely to read it since they know it will contain news about things that may directly affect them. Ethnic media outlets are tailored to the language and cultural interests of the group to which they are targeted. Many ethnic groups look for the media that is directed at them because they know it will have information about activities and persons that are likely to be of interest to them. The overall readership or listenership may be less than the larger, mainstream media outlets, but they are relevant to particular populations and consequently the information can reach its intended audience.

* The *Texas Department of Transportation (TxDOT)* regularly sends news releases, requests for coverage, public service announcements, and requests for interviews to Spanish-language and

Figure 3-21.   Local cable coverage of South Carolina DOT's Route 6 widening project in Lexington, South Carolina, increased awareness and turnout.

local community media with minority audiences. TxDOT have purchased ads and paid for legal notices in Spanish and in local community newspapers with a high minority readership. For a project along the border, they even sent press releases to the newspapers on the Mexican side to be able to reach more of the stakeholders on both sides of the border who used the international bridges.

Employ Visualization Techniques.   Making visualizations an integral part of any presentation, newsletter, PowerPoint presentations, website, or newspaper article provides the public with a picture of what is actually being proposed. This increases the public's awareness of the project and allows individuals to consider how the project may affect their lives, communicate this information and awareness to others, and participate more fully in transportation decisionmaking. Depending on the size and complexity of a project and its budget, a variety of visual techniques can be used (see Figures 3-22 and 3-23).

If the project is a simple roadway widening, before-and-after photos can be used: one photo would show the existing "before" condition and a photographic rendering would show the "after" condition. This technique provides a relatively inexpensive way to show several widening
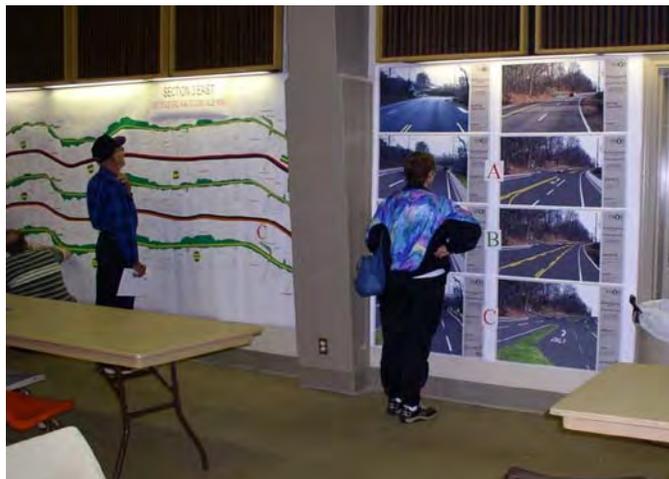
Figures 3-22 and 3-23.   Visualizations used at public meetings involving comparisons of alternatives and different concepts for a specific location (top) and use of different colors and widths of lines to indicate size of traffic volumes (bottom).

alternatives at the same location and/or at different locations. If the project is a more complex widening, before-and-after pictures or a computer-generated series of different pictures (i.e., a morph) can be used. The morph representation starts out as a still photograph and then slowly adds features, such as additional lanes, a planted median, bike lanes, sidewalks, or bus pull offs. This presentation can be repeated in 30-second cycles. If the project is a new multi-lane road, a computer-generated "3D drive through" can draw interest. The simulation can show what it would be like to drive the new facility, but it is more expensive to produce.

Photo images of communities and visualizations of future conditions are often appealing (see Figure 3-24). But they can also undermine public trust in projects and sponsoring agencies when the photos or illustrations fail to reflect the diversity of the community within a subject area. This can be a problem, in particular, when "before" and "after" visualizations are depicted of future community life. Practitioners should critically assess their photographs, digital library, and visualizations: How diverse is the library? Are there hidden biases in terms of race, ethnicity, income, and age, among other considerations?

- The *Atlanta Regional Commission (ARC)* sponsored a photo contest, inviting people of all ages to take photographs and share them with ARC staff members, explaining what their images represented. The approach gave ARC greater insight into what residents valued most and what they wanted to change. ARC uploaded the pictures to Flickr, a social media platform, to share with others. Metro Atlanta Arts and Cultural Coalition, an arts-advocacy organization, served as ARC's advisors and representatives of the Boys and Girls Club, the museum community, and Atlanta Celebrates Photography, among other organizations, judged the submissions and selected four winners.
- For the *Northwest Huntersville Area Study,* consultants working with the Mecklenburg-Union Metropolitan Planning Organization and the Town of Huntersville, North Carolina, used visualization software to present traffic simulations of the proposed roadway network alternatives. A two-minute video was created for each of the three alternatives. The videos were used in a series of public meetings to show the proposed roadway networks displayed with aerial photography, and the future year 2030 traffic operations.
- The *Mississippi DOT* produces in-house videos for approximately 85 percent of their public hearings. For most projects, a 10 to 12 minute, continuously running loop is prepared. Larger, more complex projects may require longer videos. Each video begins with the DOT's Executive Director welcoming citizens to the meeting and providing an introduction to the project. Environmental and project development project processes are described, specific issues are identified, and the project's purpose and need are discussed. Footage of the project corridor is shown from a driver's perspective, and environmentally sensitive areas are highlighted.

Figure 3-24.   The Atlanta BeltLine Redevelopment Plan prepared for the Atlanta Development Authority drew upon a digital library that envisioned a future recreational trail accessed by the region's diverse communities.

Conduct Periodic Field Visits.   An upfront site visit is critically important at the beginning of a project, but periodic field visits throughout the duration of a project are also valuable. Patterns of life can vary during different times of the year, elected and appointed officials can change, development priorities can shift, and natural disasters can occur. Some changes are attributable to local conditions or customs, but others are shaped by broader national, economic, religious, or seasonal forces or currents (see Figure 3-25). For example, from Thanksgiving through the middle of January, many workers will use their leave rather than lose it and are not at their place of work. "Black Friday," the day after Thanksgiving, marks the beginning of the Christmas shopping season and is the busiest shopping day of the year with stores opening their doors before dawn or open 24 hours that day. Religious events such as Ramadan, a one-month period in which participating Muslims refrain from eating and drinking from dawn until sunset, will affect when peak traffic periods occur in some places. Prior to making any field visit, local calendars should be examined to identify potential event conflicts or opportunities to piggy-back on planned events.

Field visits also provide occasions for staff to touch base with residents and leaders to help build their relationships with individuals and communities. Staff can use these visits to demonstrate that they have not only heard the concerns of the local residents and leaders, but how they have responded to them. The field visits can be a means for building or restoring trust in communities where it has never existed or had been broken, and for fortifying existing relationships. Staff can also gain a better understanding of the inner workings and fabric of communities, the interdependencies of families and individuals, and what locals truly value and why.

- For the *U.S. Route 17 Project,* NCDOT's consultant staff timed a field trip for the second week in November, dovetailing their outreach activities to a national election day. Voter registration offices were contacted to identify polling places along or near the subject corridor, discovering that more than 70 percent of the registered voters in three targeted precincts had voted in the last election. Advised that they could station themselves relatively close to polling place entrances, consultant staff brought along tables, chairs, project signs, copies of project maps,

Figure 3-25.   The Alaska DOT will work with the Association of Village Council Presidents, a coordinating nonprofit tribal organization, to ensure turnout of Alaskan Natives in southwest Alaska. Scheduling meetings during hunting season is generally avoided.

newsletters, information about an upcoming public meeting, as well as cookies and soft drinks (see Figure 3-26). Not surprisingly, candidate representatives were also in the vicinity passing out literature, including members of a local Black caucus. Consulting staff introduced themselves to caucus members and asked if they would be willing to direct their voters over to the project table to take a project survey. They agreed and with their help staff members were able to ensure that Blacks were provided with the opportunity to be surveyed. White voters were also interviewed by staff at these three locations.

- For the *Business 40 Project,* NCDOT's consultant staff contacted the management of a local mall in Winston–Salem to rent space inside the building at its main entrance. On Black Friday and the following Saturday, project consulting staff dressed in their orange project shirts informed shoppers about the Business 40 project, passed out project information, and conducted more than 800 surveys. Surveys were also taken in surrounding strip malls (see Figure 3-27).

Figures 3-26 and 3-27.   By setting up a table and chairs near a polling place, voters could be approached and asked to take a survey for the U.S. Route 17 project (top). Shoppers were intercepted in parking lots of strip shopping centers and inside the entrance of a Winston-Salem mall to take a survey for the Business 40 project (bottom).

Gather Feedback

Gathering feedback from all populations, including the traditionally underserved, is critical to formulating transportation solutions that will meet the needs of users and address the concerns of affected communities where facilities and services are to be sited. Traditionally underserved populations may represent a significant portion of the transportation network's users, or bear the burden of potential transportation impacts, yet oftentimes they are not heard from during the decision-making process. Their feedback is particularly needed in the earlier stages of decisionmaking, such as statewide and metropolitan planning, and project development/NEPA compliance as well as in applied research to support policy development.

Tools and techniques for gathering feedback include methods for engaging those who do not attend traditional public events as well as creative mechanisms for collecting their input. Gathering feedback from the traditionally underserved may require the broad application of a general technique (such as holding a meeting in *every* neighborhood of a study area), or efforts targeted towards specific populations, such as conducting focus groups.

Conduct Outreach at Nontraditional Locations.   Holding formal and informal events and activities at nontraditional locations is an invaluable means for connecting to traditionally underserved populations. Depending on the targeted population, these locations will vary significantly. They may include places of worship, community centers, social service agencies, settlement houses, senior centers, meeting rooms in apartment complexes, restaurants, hair salons or barber shops, feed stores, shopping malls, convenience stores, community fairs, sporting events, and any other place where traditionally underserved populations may congregate. Practitioners have repeatedly found that by going to places where traditionally underserved populations meet, rather than waiting for them to come to an agency's event, those who are in attendance are likely to feel more comfortable. Not all who are encountered will have an interest in learning more about transportation matters, but there will be a segment in attendance that are willing to listen, curious about what the practitioner has to say, and prepared to give candid feedback.

- *Caltrans* has found that setting up information tables at high school football games, a major event in small farming communities in California's Central Valley, can be a highly effective method for distributing information and getting feedback. Caltrans has used this approach for specific transportation projects and updates of the Statewide Transportation Plan. Caltrans will also distribute flyers or door hangers throughout the project area or send information to churches and schools before their attendance at the games.
- *Washington State DOT* practitioners attended community fairs, festivals, and community markets (e.g., farmers markets and flea markets) as a way to engage members of the public who may not have been aware of the *Alaskan Way Viaduct Replacement Project Supplemental Draft EIS* involving the demolition of a viaduct and bored tunnel alternatives. Informational booths were set up at approximately 150 fairs, festivals, and farmers markets throughout the Seattle area over a 4-year period. Many of these events were sponsored by traditionally underrepresented communities. Materials on display at information booths have been translated into Vietnamese, Chinese, Tagalog, and Spanish. For several years, multilingual high school students fluent in Mandarin, Cantonese, and Vietnamese were hired to interact with LEP booth visitors for the Chinatown–International District Festival.

Go to "Their" Meetings.   Cosponsorship, participation in, or other support of meetings held by advocacy groups, employers, and human service or public agencies that serve traditionally underserved populations can effectively reach target populations "where they live." This practice provides opportunities to build partnerships with groups and agencies with expertise in working

with the target groups and often can build trust. Practitioners can begin by creating an asset map or database of associations, employers, and institutions that work with the target populations in the study area. The association and institutional database can be used to identify contacts within the organizations to advise on issues affecting the target communities, meetings, and key individuals. Working with these contacts, it may prove effective to work through their media (e.g., newsletters, websites, etc.) to exchange information. For example, practitioners may want to write short pieces for their newsletters, providing contact information or other facts about ongoing projects, or request to add links to their websites regarding a proposed project or other action. Adding supplementary materials to their mailings about a project can also work.

Keep in mind that the "meeting" may not actually occur at a gathering. The real goal is to "reach people where they are." The organization's contacts and key individuals may provide information through informal discussions, structured interviews, or review of plans or other proposed actions. Request to be included on the agenda of meetings that the organizations may hold for their client groups. At such events, practitioners should be prepared to discuss information about the proposed project, solicit input, and describe the type of follow-up that will occur after the meeting.

- *Seattle Neighborhood Plan.* In a two-month period, Seattle's neighborhood planning process mobilized liaisons to host 41 workshops and small group discussions throughout Southeast Seattle that were attended by 1,200 participants that represented 14 historically underrepresented communities. Events were held at convenient locations, including community centers, senior citizen centers, community service organizations, churches, apartment buildings, assisted living facilities, high schools, and libraries. The liaisons held 21 follow-up workshops and discussion groups to further refine concepts that had been raised during the prior workshop series, which had engaged over 700 participants. Transportation improvements discussed during the process included better maintained sidewalks, adequate street lighting, implementation of new technologies to assist pedestrians with disabilities, crosswalk improvements, multilingual traffic control signs, and better pedestrian and bicycle connections to the new light rail stations, among others (see Figure 3-28).

Figure 3-28.   The Beacon Tower Tea Time Group met at a Seattle Housing Authority apartment building. The Chinese Information Service Center (CISC), an advocacy settlement organization for Asian immigrants, provided another venue for Chinese Community Workshops.

- *The Community Planning Association of Southwest Idaho (COMPASS),* for its long-range plan update, hosted a series of focus groups targeted to underserved populations or people that do not traditionally participate in the transportation planning process, including minorities, persons with disabilities, college students, and parents with young children. COMPASS partnered with other organizations, actively engaging these groups and going to their venues to meet with them. For example, COMPASS partnered with the American Association of Retired Persons (AARP) to organize a focus group for older and retired people, collaborated with a parents group at a church to meet parents of young children, and worked with the social services agency responsible for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC Program) to organize a meeting for low-income individuals. COMPASS also met with a leadership club of teens and young adult refugees. Staff worked with the club organizers and held a focus group at one of their scheduled club meetings.

Go to the Schools.   Working with the administration and teachers of local elementary, middle, or high schools is an effective means to reach the children and youth of minority, low-income, and LEP households via assemblies, flyers, classroom projects, and other events. Transportation practitioners can work with the student populations to publicize information about upcoming plans and projects, explore transportation needs, and solicit the views of parents and caregivers as to convenient times and places for meetings, preferences for particular project alternatives, or perceived impacts from projects. Students, in some cases, can also serve as the connecting party to linguistically isolated, low-literacy, and single-parent households, facilitating opportunities for dialogues and communications with hard-to-reach communities (see Figure 3-29).

- *The Wisconsin Department of Transportation (WisDOT)* partnered with three low-income elementary schools with diverse minority populations in Racine, Kenosha, and Milwaukee that were affected by the reconstruction of Interstate 94—35 miles of repaving, ramp changes, and lane additions from the Illinois state line through Racine and Kenosha to central Milwaukee. WisDOT began working with their public outreach consultant to adapt a weeklong *Careers in Motion* curriculum, which brings practitioners into fifth-grade classrooms to discuss careers in transportation and to examine how the project would affect the communities (see Figure 3-30). Each day for a week, practitioners spent about two hours with students and worked on engineering-related projects like building model bridges out of popsicle sticks. On another day, the students had to map plans for new roads and bridges, the construction of which would not impact neighborhoods or the environment. Students submitted designs for a mural to cover the noise barrier that separated the school from the highway, and when a winner was chosen, WisDOT brought in an artist to paint it. The *Careers in Motion* program received favorable press but also created a pipeline to community parents to get them information about the project and about how they could participate further.
- For *NCDOT's Route 17* project, a community impact practitioner met with an elementary school principal to get a better understanding of the social characteristics and needs of the local community likely to be affected by the roadway project. The principal challenged the practitioner to give a presentation to her fourth and fifth grade students, hoping to expose her students who mostly come from low-income and sometimes low-literacy households, to possible future career directions. The CIA practitioner accepted the assignment and developed a slide presentation, "Where Do Roads Come From," and a "take home" item targeted to parents. Children were promised a "certificate of participation" as a reward for those who returned their "take home" item which required their parents' signature. Nearly all students were rewarded with this certificate. The approach helped the CIA team inform a segment of the public about the project and solicit input as to the best time and place for future meetings.

Figures 3-29 and 3-30.   The Kentucky Transportation Cabinet District office (top) and the Wisconsin Department of Transportation (bottom) have used student classrooms to raise awareness of real-world issues and to draw their parents' attention to projects and upcoming events.

Go to the Faith-Based Institutions.   Faith-based institutions can be a very effective venue for holding events and providing information to, and getting feedback from, the institution's leadership and lay membership about transportation, social, or other community-related issues. Practitioners have found that working in partnership with the institution and/or seeking its endorsement can encourage participation and/or build support for plans and projects. The institution's staff and members can be engaged to assist in data collection (e.g., survey administration, interviewing, etc.) and information dissemination. They can also be partners in monitoring and evaluation of projects, plans, and so forth. Their continuing involvement can help to build trust and "cement" relations during the life of the project and future actions. The approach can involve the broader faith-based community affected by the project, provide contacts to the affected community, and act as a conduit for information exchange on project updates. Public meetings in faith-based institutions can establish the trust needed to conduct focus groups, interviews, surveys, and the like, among various committees, boards, subgroups (e.g., women, youth, "soup" kitchens, etc.) affiliated with the institution. The institution can also act as a partner in information dissemination and gathering.

Faith-based institutions are effective in involving traditionally underserved populations for several reasons. They may be the *only way* of reaching some underserved populations who might otherwise be suspicious of government; standard outreach and public involvement activities will not overcome this distrust. Some minority groups may not feel welcomed by the general populace—for example, because of religious intolerance (e.g., "Islamophobia") or because of undocumented status. Faith-based institutions are often dedicated to fostering a deeper appreciation, recognition, and understanding of other cultures and may be perceived as particularly safe venues for promoting outreach.

Faith-based institutions, in serving their constituents, often overlap and coordinate with human service agencies. Therefore, it is possible to find individuals in both the faith-based institutions and in the social service agencies that truly understand and can express problems or issues confronted by local populations. Their knowledge and insights about the affected populations or their clientele are often effective in devising outreach and communications strategies that will make it possible to disseminate information and receive meaningful feedback.

- For the *State Route 28 Wenatchee Eastside Corridor Study* (aka the Sunset Highway), the *Washington State Department of Transportation* (WSDOT) broadened its public involvement activities to work with four faith-based institutions serving the Hispanic community. Building upon the relationships already fostered by the faith-based institutions and the Hispanic community, WSDOT and its consultants arranged for announcements to be made from the pulpits. The public involvement effort interwove outreach for the transportation study with the activities of existing meetings, such as those held at churches, and by using familiar locations as venues for outreach. In some instances, the churches were located outside of the project area, but served people affected by the project. WSDOT's efforts successfully engaged leaders and participation from several disparate groups, drawing interest and attendees from a mobile home park with a high Hispanic population, the agricultural community, and the Hispanic Chamber of Commerce. Newsletters about the proposed activities also were provided in English and Spanish to provide information and feedback.
- The *San Antonio–Bexar County Metropolitan Planning Organization* employed a "beacon" for the development of the *East Corridor Multi-modal Alternatives Plan* in San Antonio, TX. The project team met with the Coalition of Churches for Social Action (CCSA), an East Side faith-based organization, to get input and feedback on the project as well as to get help conducting outreach with their predominantly Black church membership. The preachers announced the public meetings in their churches, spoke with their members about the importance of the plan, and one of the preachers attended the public meeting. The preachers were instrumental in spreading the word about the potential impact of the plan on the transportation needs of that region of the city, increasing attendance at public meetings, and enhancing knowledge of the project.

Apply Social and New Media Appropriately.   Social media are tools and methods to increase social interaction among persons with common interests. Users are able to link with other users and share information in a variety of online formats. The resulting networks allow users to be content producers as well as content consumers. New media is a broad term that encompasses the blending of traditional media such as film, images, music, spoken and written word, with the interactive power of computer and communications technology, computer-enabled consumer devices, and, most importantly, the Internet. New media suggests new possibilities for on-demand access to content anytime, anywhere, on any digital device. User feedback, creative participation, and community formation around the media content in an interactive relationship with the media consumer are features of new media. Social and new media applications have the potential to effectively involve traditionally underserved populations with their innovative approaches and accessible content. They have the potential to build social capital by strengthening

connections and increasing the flow of information. Social and new media applications have been increasing dramatically for public involvement activities.

Web 2.0 is an umbrella term for websites or online applications that are user-driven and emphasize collaboration and user interactivity such as wikis, blogs, podcasts, and social networking sites. The public sector has begun to move away from static web pages and toward a user-driven Internet model through greater use of dynamic web pages and "government 2.0" applications to promote transparent governance and citizen involvement in decisionmaking. Web applications termed 2.0 are distinguished from earlier generation online resources because they emphasize greater participation in content creation, editing, or distribution by users, as well as the ability to deliver information (e.g., online government data) customized to the user's specific interests or requests through web-based applications.

As promising as these innovations may be for enhancing interactive communications with the public, these tools may fail to reach segments of the population including traditionally underserved populations. Segments of the population may be slow to adopt new technologies, or may be infrequent users, due to costs of accessing high-speed Internet services, visual impairment, low-literacy, language barriers, lack of computer literacy, or discomfort with the technological changes being made. Nonetheless, the era of digital and mobile technology is rapidly progressing for the majority of the U.S. population able to possess and adapt to life with the emerging technologies. For example, cell phone usage continues to grow among nearly all populations, including minority and low-income households. With mobile technology, it is possible to send and receive text messages so although many poor do not have Internet access through a home computer, they may be able to receive text messages.

Looking ahead, the benefits and limitations of social media and new media applications for reaching various segments of the affected populations will be a recurring issue for transportation agencies. Practitioners should critically assess the quality of the interactions that are facilitated by using various technologies. The core question should remain how best to deploy and adapt new technologies in service of promoting meaningful participation, including how best to reach traditionally underserved communities in light of differences in mastery or preference for these technologies (see Figure 3-31).

- *FHWA* and the *Volpe Center* have prepared case studies of seven state DOTs' efforts at developing Web 2.0 tools for transportation. The case studies are based upon discussions with agency contacts and review of related documents and describe each agency's approach to development of Web 2.0 tools such as a blogs, Twitter, Facebook, YouTube, Flickr and other applications, the challenges encountered, and the lessons learned in design and implementation.
- For the *Southwest Georgia Interstate Study,* the Georgia Department of Transportation (GDOT) conducted surveys via the Internet that were accessed by students from their schools. This approach reached all homes with school-aged children in a large, predominantly rural and low-density region, overcoming the lack of Internet access in homes. By working with the public schools, the approach dealt with the Internet's relatively low penetration rate in rural area homes. Tapping the schools' access to the Internet, combined with other flexible strategies, ensured that the project team was able to leverage the Internet as a low-cost means for delivering project-related materials and that a relatively isolated segment of the study area population was given access to information being shared about the project.

Conduct Market Research Interviews and Focus Groups.   Interviews and focus group meetings can be effective methods for exploring the transportation needs and practices of traditionally underserved populations. Different population groups have distinct transportation needs and preferences, travel behavior characteristics, and values. Especially for low-income persons and groups with limited literacy or English proficiency, gleaning those needs and values

Figure 3-31.   The Michigan DOT (MDOT) partnered with the state library for their state's long range plan. The library promoted an online survey which helped MDOT reach disadvantaged populations who frequent libraries and use their computers.

can present a challenge for transportation practitioners. With proper pre-planning, face-to-face meetings can eliminate literacy, language, and cultural barriers. They can help practitioners develop a better understanding of how various population segments access transportation services and travel, which can vary significantly depending on the group.

- The *Minnesota Department of Transportation (MnDOT)* contracted with the *University of Minnesota's State and Local Policy Program (SLPP)* to study the transportation values and practices of Hispanics, Somalis, and Hmong populations in urban, suburban, and rural environments. From the focus groups, SLPP was able to produce a study identifying that the communities did indeed have specific transportation needs and values for which there were policy implications. Some of the major opportunities that emerged for improving mobility and accessibility to these immigrant communities included rural and urban car-sharing programs and increased investment in public transit. Information gathered during a focus group with Somali participants living in a rural area eventually led to the extension of a bus line that reached an employment center.
- The *New Jersey Department of Transportation,* working in association with *New Jersey Transit,* contracted with *New Jersey's Institute of Technology* to prepare a policy research report on the *Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey.* One of the study task elements was the design and conduct of ten focus groups with LEP populations to understand their travel needs. Community colleges were contacted as well

as private, nonprofit organizations and communities groups who offer English as a second language (ESL) classes in churches, night schools, and community centers. The research team contacted several types of community organizations working with LEP populations—churches, weekend schools, career to family centers, among others—to explore their willingness to host focus group discussions about their mobility information needs. The study team also contacted the Hispanic Development Corporation, Polish TV stations, Italian newspapers, and various consulates from particular community groups to locate LEP populations.

- The *Mineta Transportation Institute* examined how very low-income households manage the costs of travel and, in the face of a significant financial burden, the mobility strategies that they adopt to reach jobs and needed services. Interviews were conducted with 73 low-income people living in and around San Jose, California. The research design and implementation of interviews were conducted by graduate research assistants and undergraduates in anthropology at *San Jose State University*. CommUnivCity, a town-gown collaboration whose mission is to strengthen ties between a disadvantaged neighborhood, the university, and faith-based community services organizations, was instrumental in recruiting interviewees. The interviews explored how families manage their mobility needs, given the sometimes crushing costs of travel in both out-of-pocket costs and time.

Undertake Surveys to Understand Needs, Preferences, and Impacts.   Surveys and questionnaires can be used at any stage of project decisionmaking, but are particularly applicable to the policy research, planning, and project development stages. They can be used to solicit preferences and needs, priorities for project investments, and the perceived impacts of various project alternatives, among other topics. They can be an effective tool in determining the best way to conduct outreach in specific communities (e.g., What newspapers or publications do you read? What time of day is most convenient for you to attend meetings?, etc.). They can be used to gather information remotely from a wide range of diverse stakeholders via telephone, email, websites, or hotlines. And they can be used as a tool to improve direct communications through intercept or in-person interviewing conducted in target communities or with specific stakeholders. Surveys and questionnaires are extremely versatile tools and can be implemented to gather information from a large and/or statistically significant population, or simply as a tool for starting and guiding individual conversations.

- For the *Buford Highway Safety Pedestrian Project,* GDOT wanted to survey local residents and business owners about pedestrian safety issues along the highway. To reach Hispanic residents, GDOT went to a shopping mall and distributed surveys on a Sunday between 4:00 pm and 8:00 pm using bilingual interpreters and offering low-cost incentives, such as balloons, for participation. The shopping area was very popular with immigrant communities and proved to be a low-cost, time-efficient approach for reaching stakeholders to solicit their input on solutions for nearby Buford Highway's pedestrian safety issues. Through partnering with local agencies and businesses, GDOT was able to conduct its survey in the most efficient way possible and returned quality information that improved the overall project design.

- For the *Washington State DOT, Alaskan Way Viaduct Replacement Project,* structured interview questions were targeted to several social service providers so that the project team could better understand the mission of the organization, its clients, and the characteristics of its operations. Social service representatives, generally the executive director or the program manager, were asked to consider the potential issues and impacts that the project might have on their services and their clientele. Social service providers included day care centers, homeless shelters, food kitchens, drug treatment centers, single-room occupancy housing complexes, and the like.

- *Coastal Carolina University* developed a study with its students to investigate the working conditions of Latin American immigrants in Horry County, South Carolina, including those who may be undocumented workers. Researchers hoped to reach 1,000 participants to gather feedback from a broad and diverse representation of Latin American immigrants, but they doubted that standard methods for attracting survey participants (e.g., door-to-door recruitment, direct mailings, specific questions regarding the legal status of participants, etc.) would work because of fears among immigrants over giving out personal information of any kind. Instead, the researchers opted for a more deliberate and personal approach to get better results and higher levels of participation, albeit at some risk that the sampled population would differ from the overall Latin American immigrant population. The co-principal investigators for the study were both Spanish language speakers. They used initial visits to activity centers within the Hispanic community to discuss the students' desire to conduct interviews using a survey instrument. The researchers gained a degree of acceptance for their survey once they had laid the groundwork as to why the surveys were being conducted, how privacy would be maintained, and what the potential benefit would be to the community for participating in the survey. The student researchers were then deployed to soccer fields, Mexican restaurants, and Hispanic grocery stores to conduct the surveys. The local Catholic churches lent their support and their facilities for making contact with the Hispanic community; this validated the importance and credibility of the survey to the target community.

Try "Meeting-in-a-Box."   A Meeting-in-a-Box gives stakeholder groups and individuals all the materials necessary to hold a successful self-guided meeting. Volunteers host meetings, inviting small groups of their friends, neighbors, coworkers, or family members into their homes, workplaces, or other convenient locations to discuss a specific topic. The meeting host is provided with an instruction sheet and discussion guide. Since participants are typically asked only for their opinions, it is not generally necessary to distribute a great deal of technical information about the topic at hand. Following the discussion guide, the group will generally discuss a topic for 30 to 40 minutes. People are then asked to individually complete response forms about the same topic. All forms are collected and the box is returned to the sponsoring organization for compilation.

- The *City of Austin* distributed "Meeting-in-a-Box" kits in English and Spanish during the development of its *Imagine Austin Comprehensive Plan.* In total, 1,242 people participated with these kits during the initial phase—equal to upwards of 150 tables at a typical public input meeting (see Figure 3-32). Special targeted events were held at the Asian American Cultural Center and Mexican American Cultural Center. For the event held at the Asian American Cultural Center, the city had reached out to the head of the Asian American Cultural Center and, in turn, she agreed to host the event and invite her contacts in the Asian community. The turnout was a sign of respect for the head of the center. It did not hurt that she also offered dinner in accordance with traditional customs. The Meeting-in-a-Box tool itself was designed to be easy to use regardless of the cultural context. It proved successful in the general Austin population, in a fairly well-educated Asian community and, to a lesser extent, with its Spanish-only speaking community. A midpoint assessment of the demographic representation for their "Imagine Austin Community Forum Series #1"—composed of a public meeting, completion of a survey, or participating in a Meeting-in-a-Box event—affirmed the effectiveness of the Meeting-in-a-Box approach for reaching Asian Americans.
- *COMPASS,* the MPO for Treasure Valley, used Meeting-in-a-Box as a method for gathering input from traditionally underserved communities while preparing the LRTP, *Communities in Motion.* COMPASS sought hosts from among those individuals who maintain regular contact with the underrepresented populations. For example, a church in Boise conducted a meeting in conjunction with a dinner served to low-income and homeless populations.

Who participated in CFS1 events (forum, survey, MIAB)?

These charts show who used three different ways to participate in Imagine Austin Community Forum Series #1: attended a public meeting, completed a survey, or participated in a Meeting-in-a-Box. These figures are combined for a "Total CFS1" break-down. **Please note:** "Total CFS1" figures count each instance of a person participating, rather than counting each person once, regardless of how many ways he or she participated.

Legend with approximate # of responses
- City of Austin (2007)
- Total CFS1 (~1240)
- Attended a forum (~220)
- Completed survey (~900)
- Meeting-in-a-Box (~120)
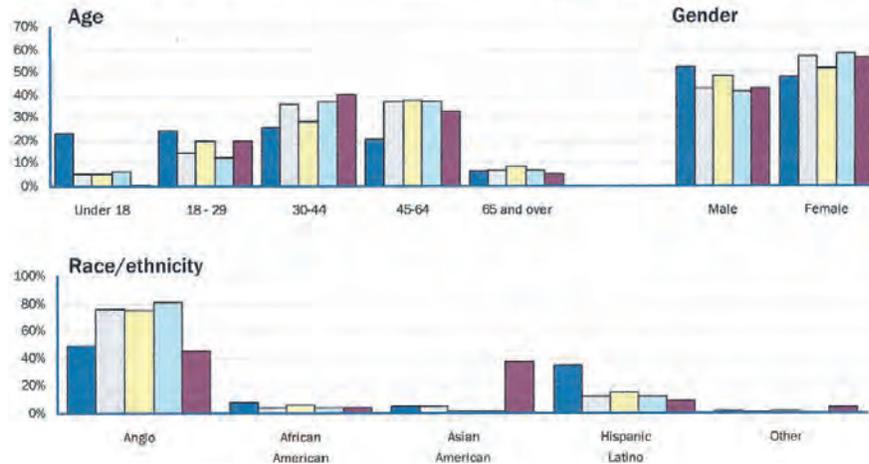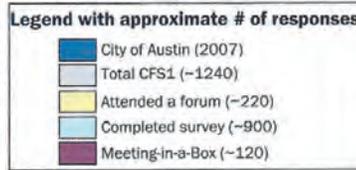
Figure 3-32.   "Meeting-in-a-Box" attracted participants unlikely to attend a public meeting. Individual feedback sheets allowed the agency to track participant comments anonymously but permitted spatial and several demographic metrics of participation by type of event (note that MIAB = Meeting-in-a-Box).

Those attending dinner heard a presentation on the transportation plan. Afterwards, a group discussion was held and questionnaire forms were distributed so those in attendance could write-down any additional input on topics that they may have been uncomfortable raising during the group exchange

- *Rails-to-Trails Conservancy* (RTC) offers Meeting-in-a-Box as a toolkit to assist in organizing projects. This toolkit provides helpful tips on how to organize and conduct events and models that can be adapted to local communities.

Use Computer-Assisted Technologies to Explore Preferences.   Many members of traditionally underrepresented groups have never participated in public planning and outreach activities; therefore, they may be reluctant to participate due to their unfamiliarity with the decision-making process and its protocols. They may not be able to attend events or activities because they occur during their work hours, or would require that they hire baby-sitters to watch their children. The inaccessibility of geographic locations of public participation events can also impede access to events. Computer-assisted methods may, in some cases, assist in overcoming some barriers to participation by offering new avenues for participation through online services. If structured appropriately, computer-assisted technologies can be 1) less daunting than public meetings because supplementary, background information can be easily provided; 2) participation can occur at more convenient times (assuming online, open-hours access); and 3) online access can also help to overcome physical and/or geographic barriers.

These tools can be designed to solicit input from stakeholders in a variety of settings from one-on-one individual interactions to multiple respondents in the course of focus groups or neighborhood workshops. This can include data collection in a single location or at multiple

locations. The appropriate tool depends on the particular type of preferences being explored and the type of forum (individual, group, etc.). Computer-assisted methods can provide aggregate results quickly, present provocative graphics for visualization and maps, and support real-time interactivity.

- In 2009, *Chicago Metro Area Planning (CMAP)*, the region's MPO, held 57 *GO TO 2040 Invent the Future* workshops as part of their LRTP across the seven-county region. Events were held in community centers, churches, public libraries, social service offices, among other locations. Cosponsors for events included churches, civic organizations, community colleges, environmental justice and ethnic heritage organizations (e.g., Hispanic), League of Women Voters, Mayor's associations, city council members, state representatives, and environmental organizations. Participants were invited to use a scenario software tool and keypad polling to create their own detailed versions of 2040 and compare them with CMAP's scenarios. Keypad polling devices let participants create a scenario based on six different inputs: development density, development location, road investments, transit investments, transportation policies, and environmental policies.

Use Games to Educate and Explore Priorities.   A game engages multiple parties in a single activity around a predetermined set of objectives and rules for play. Games played in the transportation decision-making process have been used as a way to educate and inform players about challenges in transportation planning, project development, and priority setting and alternately as a way to gather information from players.

- The *City of Seattle* developed a table-top game to explore the public's understanding of the land-use relationships and densities required to support retail services and other commercial activity adjacent to new light rail stations. City staff developed a workshop exercise using aerial photos and three dimensional building blocks to represent various building heights. Workshop participants were asked to position the building blocks in locations and configurations they believed suitable to achieve the needed densities. Participants were asked to site parks and other community facilities and to consider needed transportation improvements. Members of many of the ethnic communities were comfortable with higher densities in close proximity to the rail stations (see Figure 3-33).
- The *Bureau of Indian Affairs (BIA), Federal Land Highways Program,* and the *Lummi Nation* developed the *Reservation Road Planner Game* as a means to train and build understanding of the transportation planning process among tribal leaders and staff. In the game, players make difficult decisions and confront consequences. They learn about laws and regulations as well as trade-offs. After playing the game, tribal leaders have a better understanding of transportation planning, and when it comes time to adopt transportation plans, they know why it is important and what they should be looking for when they review the plan (see Figure 3-34).
- Kentucky's ten-county *Barren River Area Development District (ADD)* and 17-county *Bluegrass ADD* adapted the "Strings and Ribbons" game to help prioritize their unscheduled transportation needs projects. During the game, residents explained their choices to each other and created rankings with clear information about the cost of transportation investments and the financial constraints of the decisionmakers. By making members of the public work together to seek consensus, the game empowers and challenges participants and eliminates the conflict between the public and the MPO. At the end of the game the ADDs had gained crucial information: an understanding of the public's perceived needs and project-specific recommendations that were listed and mapped. Members of the public, in turn, had gained a better understanding of why and how the LRTP is developed and the difficult choices that must be made when prioritizing project investments. The process also gave the public an opportunity to promote the projects they felt were most worthy.
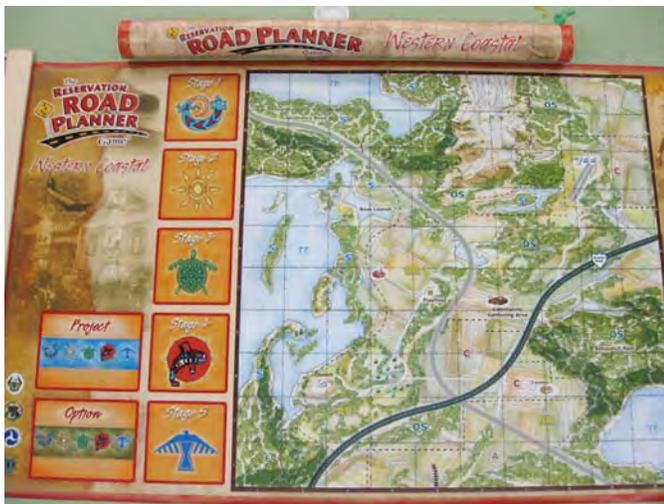
Figures 3-33 and 3-34.   The City of Seattle asked workshop participants to locate sites suitable for higher density near transit (top). The **Reservation Road Planner Game** *is an inviting tool for training tribal leadership and staff about the transportation planning process (bottom).*

Build Relationships

Efforts to involve the public are often criticized as being "too little, too late." Citizens want to work with responsive public agencies that involve them in a meaningful, collaborative process from the outset, not just when they are upset and feeling left out halfway through a project. Building relationships with leaders from traditionally underserved communities will help agencies involve traditionally underserved populations more effectively and from the outset of the decision-making process.

Tools and techniques for building and maintaining relationships with those who represent traditionally underserved populations can be used during various stages of decisionmaking. They may include mechanisms for initially "breaking the ice" and beginning a civil discussion or a continuing dialogue, defining and establishing formal relationships, as well as other methods for garnering trust and strengthening contacts.

Form Advisory Boards, Committees, Taskforces, and Working Groups.   A group of volunteers that meets regularly on a long-term basis to provide advice and/or support advisory committees can be formed around specific geographic regions, a particular project's stakeholders, a special interest, or a population group. They can include diverse stakeholders such as individual citizens, community-based organizations, elected officials, business owners, and others, including representatives from minority or low-income traditionally underserved communities (see Figure 3-35).

- The *MnDOT Advisory Council for Tribal Transportation (ACTT)* convenes quarterly to discuss policies and work on issues that involve roadways on or near Indian reservations. Membership includes representatives from 11 Minnesota tribes, MnDOT, FHWA, BIA, Michigan Tribal Technical Assistance Program, Minnesota Indian Affairs Council, and Minnesota counties and cities. To encourage participation, the ACTT rotates the location of meetings between tribal areas and other venues around the state. The quarterly events cover a broad range of topics as does their annual tribal transportation conference. These events provide a forum to share information and learn about federal, state, and tribal transportation policies, improve data-sharing, discuss issues requiring cooperation (e.g., development of cooperative agreements such as roadside vegetation management), disseminate information for training purposes (e.g., NEPA), strengthen working relationships, and gain a greater appreciation for cultural and tribal differences.
- The *Tahoe MPO* in Nevada created the Social Service Transportation Advisory Council (SSTAC) to serve as an advisory body regarding the transit needs of transit-dependent and transit-disadvantaged persons, including the elderly, handicapped, and persons of limited means. The *Alameda-Contra Costa Transit District* in California created an Accessibility Advisory Committee to review, to comment, and to advise the board of directors and district staff regarding the implementation of District planning, programs, and services for seniors and individuals with disabilities.

Figure 3-35.   The Tennessee Department of Transportation (TnDOT) brought its "Community Resource Team" together for a two-day team building exercise early in the SR126 project. Team members either did not know or did not trust each other because of unresolved issues with a prior study. Training was given about the CSS process.

- *WSDOT* convened working groups along the SR99 corridor for the *Alaskan Way Viaduct Replacement Project* during the preparation of its supplemental environmental impact statement (EIS), to inform stakeholders of project progress, provide geographic specific information, and seek input from working group members. Representatives from neighborhoods, freight, economic interests, and advocacy-based organizations were included in these working groups. To ensure broad-based representation, the working groups included transit users and pedestrian groups; low-income housing; and neighborhoods with higher concentrations of LEP, minority, and low-income populations.

Foster Understanding of Communities through Relationships with Community Organizations and Other Local Experts.   Leveraging relationships with community organizations entails fostering—formally or informally—a working arrangement or alliance with social services organizations, faith-based institutions, community-based organizations, or other groups at the local level that regularly interact with or include members from traditionally underserved populations. These organizations can identify important individuals to contact, become an intermediary with other organizations, and act as a cosponsor on projects. In addition, these organizations can help distribute project information through their own membership, facilitating input and feedback from members of the organization.

Leveraging relationships with other local experts involves establishing a partnership or strengthening the social bonds with people who know the community and customs of the people with whom the practitioner would like to interact. Most likely they would be members of that community. This approach is effective in involving traditionally underserved populations because it works through known individuals who have established social networks and who possess insights on how, where, and when to contact underserved populations to get them involved. In some cases, it may be very difficult to connect with underserved populations because of their work status or their difficult individual circumstances; in such cases, local experts may speak with a certain sensitivity to these conditions or advocate on behalf of underserved populations for specific policies or projects as these experts tend to be highly informed about the community.

Working with the "right" organizations and individuals can ensure access to the community leaders and encourage participation in planning and other transportation-related processes. Building partnerships with community organizations and other local experts can foster trust and be a valuable means for establishing long lasting two-way communications to begin to address critical issues interfering with effective public involvement.

- For the *FDOT U.S. 301 Project in Hillsborough and Sarasota County,* staff conducting a field visit to prepare environmental studies unexpectedly discovered an enclave of homeless "urban campers"—a community of more than 100 tents—that would be adversely affected by a proposed roadway alignment. Seeking to learn more the persons living in the impromptu settlement, FDOT reached out to several health and social services organizations including the Salvation Army, Red Cross, churches, soup kitchens, medical clinics, emergency rooms, and housing agencies. With a better understanding of their socioeconomic and health circumstances, FDOT then developed its strategy for a communications plan, resolving to work with these local health and social service organizations to distribute critical project- and construction-related notices to better prepare the transient population for relocation.
- The Caltrans *Third River Bridge Crossing Replacement Project* held a community information meeting in Marysville, a small town about 30 miles north of Sacramento, but failed to attract attendance from the local Hmong community despite the distribution of flyers announcing the date, time, and place of the meeting. The Caltrans project manager, looking for reasons for the poor turnout, came to appreciate how the Hmong community's history as refugees from Laos could have suppressed their interest in attendance. Their harsh treatment and exile

at the hands of their former government may have made them more hesitant to attend government sponsored meetings. To overcome this, the project manager recruited school teachers and clergy members whom the Hmong trusted to encourage their attendance. Members of the Hmong community participated in the second community information meeting. Having taken the time to learn more about the community, Caltrans came to the realization that middle-aged and older Hmong spoke very little English and follow-up invitations were translated into Hmong to encourage attendance.

Recruit and Mobilize Community Ambassadors, "Beacons," or "Trusted Advocates."
Community ambassadors, "beacons," or "trusted advocates" are individual citizens or leaders who are capable of bridging the communication gap between agency practitioners and members of the public. They are individuals who are perceived by other members of the community as trustworthy, approachable and effective. These ambassadors may be a member of a specific ethnic, racial, and/or cultural group with particular expertise in the culture, language, history, and values of the local community. They know who to contact and how to approach them, which makes it easier to get the word out about what is going on and how and why to participate. A word-of-mouth approach is effective with most populations, but is especially effective with traditionally underserved populations because the ambassador or beacon is someone they know and trust to give them good advice. The relationships are already established and people rely on the network to give them good information.

- The *City of Seattle* established the *Planning Outreach Liaison* (POL) program to formalize the use of community members in conducting outreach efforts for its neighborhood plan updates. The city recognized the growing importance of foreign-born populations in shaping city life and neighborhood character and determined that it was critical to secure their engagement in the plan update process to better understand their hopes and aspirations. The city sought candidates to reach non-native English speaking ethnic groups residing within the three neighborhoods: Somali, Eritrean, Oromiffa, Amharic, Chinese, Cambodian, Vietnamese, Filipino, and Latino. Trusted advocates were also recruited to connect to Blacks, Native Americans, persons with disabilities, seniors, and youth as prior outreach efforts to these groups had not been particularly successful. Trusted advocates were selected by a city interview panel interested in finding bilingual persons who were well connected to their respective communities with the interpersonal skills to be an effective communicator and group facilitator (see Figure 3-36).

Figure 3-36.   Trusted Advocates were given a stipend under the terms of their work for the City of Seattle.

- The *San Antonio-Bexar County MPO* mobilized community beacons for the *East Corridor Multi-Modal Alternatives Plan,* working in a neighborhood where over several decades residents and employers had borne the consequences of inadequate investment in essential infrastructure and poor access to vital services such as public safety, health care, education and shopping facilities, among other issues. The beacon was able to open doors for transportation planners to meet and get to know community leaders. She helped both the community leaders and the transportation planners feel more comfortable with each other and facilitated effective communication for both groups. Once community members became more familiar with the transportation planning process through this approach, they were better able to participate effectively. Transportation planners, in turn, developed a better understanding of the transportation priorities for residents, which they were not fully aware of prior to the public meetings.

Provide Technical Training to Citizen Groups.   Training is often used to leverage advocacy, community-based, nonprofit, education, and other groups to assist in data collection, analysis, and other public involvement and outreach activities. Although they may be unfamiliar with transportation decision-making processes or concepts, community-based and nonprofit groups have existing contacts and relationships with the target disadvantaged populations. Through better access to these populations, the transportation agency can improve its understanding of their needs and concerns. Where there is sensitivity or fear about working with outsiders (e.g., due to lack of trust, immigrant status, past history, etc.), data collection, information dissemination, and other outreach activities may be more effective if provided by trusted individuals or organizations.

- *Crime Prevention Through Environmental Design (CPTED) Training and an Audit* exercise were undertaken on behalf of Bay Area Rapid Transit (BART) near the Oakland Coliseum station. CPTED is concerned with designing the local environment to minimize opportunities for crime. The consultant team with professional training in urban design, planning, and community policing was retained to prepare a CPTED study focused on the safety of BART patrons walking to and from the station and from the surrounding neighborhoods and businesses. Staff from BART, the Oakland Coliseum, and the public housing authority were brought together along with nearby business association members and local residents to conduct a CPTED field audit. Three field teams were assembled for the field audit, mixing the professional and community stakeholders to build relationships for possible future collaborations. Each team was led by a facilitator and assigned a geographic area to cover for the CPTED physical audit. The facilitators took photographs during the field visits and were responsible for facilitating the final team discussion on issues and potential resolutions (see Figures 3-37 and 3-38). Prior to the field exercise, two presentations were given to prepare participants: one was on the concept and principles of CPTED and the other on conducting a field assessment. Each field team brought back its observations to the consultant team. Issues of concern and deficiencies were then organized thematically by the consulting team in terms of access, visibility, land use, surveillance, and territoriality. Possible strategies and recommendations in the area of policy (e.g., policing, code enforcement), operations and maintenance, and physical capital improvements (e.g., design improvements, pedestrian and bicycle facilities, signage, etc.) were presented at subsequent workshops to address each of these key themes. Community priorities for strategies and recommendations were then expressed by event participants who were given sets of stickers (red, blue, green dots)—each reflecting a different weight of importance—to prioritize initiatives of greater or lesser priority for various locations.
- The *American Cancer Society (ACS)* has an extensive network of existing staff and volunteers who serve as patient navigators throughout the country. The navigators help patients to
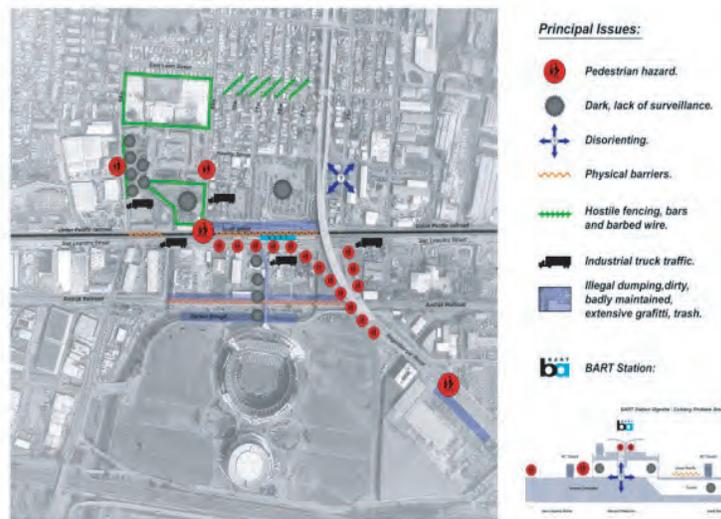
Figures 3-37 and 3-38.   CPTED field teams took pictures of issues of concern while touring their assigned areas (top). Issues for improvement were identified by each field team and the subject matter consultants which became the focus of remedial strategies and recommendations (bottom).

understand the available resources in their community. Some programs are funded by grants; others are supported by local healthcare providers. While many work solely with individuals, this service guides users through the system. "Navigators" may be the first link in providing technical assistance to citizen groups. By developing citizen experts on the proposed process or plan, much of the day-to-day outreach to the target populations can be managed at this level. As the navigators become more knowledgeable or as the plan or project evolves, the experts can be trained to carry out other activities. Many transit agencies and advocacy groups (e.g., Easter Seals/Project Action) provide travel training programs to teach potential users how to access public and human service transportation resources.

Mitigate Impacts/Deliver Benefits

Mitigation, in the context of developing projects compliant with NEPA and its CEQ regulations and guidance, broadly encompasses: *avoiding* an impact by not taking a certain action or parts of an action; *minimizing* impacts by limiting the degree or magnitude of the action and its implementation; *rectifying* impacts by repairing, rehabilitating, or restoring the affected environment; *reducing or eliminating* the impact over time by preservation and maintenance operations during the life of the action; or *compensating* for the impact by replacing or providing substitute resources or environments.

This broad definition of mitigation is a central tenet at the heart of achieving environmental justice. It is reaffirmed in the three "fundamental principles of environmental justice" communicated in FHWA's technical assistance guidance (FHWA, *An Overview of Transportation and Environmental Justice,* 2000) presented in italics below:

> *To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.*

Effective mitigation starts early in the NEPA process, not at its end; it is an integral part of the alternatives development and the analysis process. Throughout this report, examples are provided of the importance of engaging all affected populations—early and often. When mitigation strategies are explored early in the NEPA process—while alternatives are still being developed and analyzed—agencies and practitioners can better align their decision-making processes with input from those affected by the possible effects and/or benefits of each project alternative. This recognition is at the heart of the second of three fundamental principles of environmental justice:

> *To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.*

Paralleling this broad definition of mitigation and ensuring full and fair participation by all affected communities, is the concept of nondiscrimination as articulated in Title VI of the Civil Rights Act of 1964 (as amended) which states that: "no person in the United States shall on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." The third fundamental principle of environmental justice makes explicit the importance of close evaluation of benefits and whether they are fairly delivered by transportation decision-making processes:

> *To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

Develop Mitigation Strategies.   Earlier public involvement can lead to a better understanding of the concerns, priorities, and issues of the affected public before the transportation agency has committed to a specific project alternative or design. Better integration of mitigation strategies throughout the project development stage can ensure that projects and alternatives that ultimately get selected will be welcomed, potentially resulting in less opposition, litigation and delays. However, selected project alternatives can still have significant adverse effects upon communities. When the adverse effects of a project are appreciably more severe or greater in magnitude for low-income or minority populations than for non-minority or non-low-income populations, there is a strong likelihood that the project will raise concerns about environmental justice impacts. When there is no practicable alternative, mitigating the significant impacts of projects expected to have a disproportionately high and adverse effect upon minority or low-income

populations is an important means for addressing threats to the livability of communities that may be imposed by transportation projects.

- The *West State Street Corridor Study* prepared by the *Illinois DOT (IDOT)* in cooperation with *FHWA* and the *City of Rockford* seeks to revitalize an economically depressed corridor, largely populated by very low-income and minority populations. Community members raised concerns in meetings conducted for the environmental assessment about the loss to community cohesion resulting from displacement of four churches and a funeral home (see Figure 3-39). With few realistic sites to relocate within the corridor, the study team realized that the expected compensation, in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act),* would be insufficient to support new construction of these community-serving institutions. The displaced institutions and business did not have the financial resources to make up the gap between the "fair market value" of their acquired properties and the higher costs of new construction or extensive reconstruction of existing buildings. The project sponsors were concerned that environmental justice issues were triggered by the project because the loss of these institutions within the corridor would be borne disproportionately by the area's low-income and minority community residents. However, Rockford officials had successfully used deferred mortgages along the same corridor for HUD-funded owner-occupied rehab housing; they felt that the mortgage concept could be adapted to ease the burden for displaced institutions interested in relocating within the corridor. The *West State Street Environmental Justice Mitigation Plan* outlines the terms of a deferred mortgage program; the program would give each of the property owners $150,000 in state transportation dollars to build a new property or purchase an existing one in the corridor. For each year of continuing operations over a 15-year period, $10,000 would be forgiven from the total loan. But, if the property was sold or the operations discontinued at any point, the remaining balance would become due. IDOT and Rockford are enthusiastic about how deferred mortgages may ameliorate some of the cost burden for community-based institutions choosing to relocate within the corridor.

- *WSDOT* has periodically prepared a *Project Mitigation Cost Case Studies* report that closely examines environmental mitigation: the regulatory factors driving mitigation, the types of

Figure 3-39.   The First Hispanic Church of God was one of four churches and a funeral home included in the **West State Street Environmental Justice Mitigation Plan** *to mitigate adverse impacts to the community.*

mitigation, their costs, and the percentage of the overall project costs for mitigation, among other issues. This includes tracking the costs for "CSS" items—projects that tend to exhibit design flexibility to achieve greater compatibility with the existing built and natural environment and often utilize transportation enhancement elements to ensure this compatibility. CSS designs are fostered through collaborative, interdisciplinary approaches, involving stakeholders and the public. Features of such projects include community gateways, community connectivity, special landscaping, bikeway and pedestrian underways, guardrails and railings, and concrete stamping, among other elements.

Provide a Citizen-Driven Community Enhancement Fund.   A citizen-driven enhancement fund sets aside a portion of a transportation project infrastructure budget for small-scale side projects that the community has a significant voice in choosing. Transportation agency staff help create a citizens advisory board to represent the targeted communities. That board is then charged with receiving applications for use of the funds, weighing the benefits and applicability of those projects, and then sending their recommendations for funding to decisionmakers at the transportation agency. By bringing representatives of the communities onto the advisory board, transportation agencies are able to increase community engagement on a project. The process gives community members real power over a project, fostering general community interest, which can be difficult to achieve if the project does not directly or adversely impact the community.

- *The Oregon Department of Transportation (ODOT), I-5 Delta Park: Victory Boulevard to Lombard Section (I-5 Delta Park).* For a broad, bi-state effort to ease congestion on Interstate 5, ODOT instituted a citizen-directed, community enhancement fund approach along the corridor in the Delta Park community in Portland. Historically, the siting and construction of I-5 cleaved through minority neighborhoods and sowed enduring resentment in the Delta Park area. The subsequent *I-5 Delta Park Project* explored various alternatives to address a chokepoint between Portland and Vancouver, involving road widening, ramp configuration changes, local street network improvements, and bridge modifications. The NEPA environmental assessment prepared by ODOT found that the project would not result in disproportionately high and adverse impacts on the low-income and minority populations. Therefore, no mitigation and conservation measures were identified. But, the blighting legacy of I-5 through North Portland neighborhoods was raised during outreach meetings including environmental justice working groups formed for the study.

    The ODOT project manager decided to go "above and beyond mitigation" to give residents a voice on the selection of a package of smaller projects for the benefit of the community. A community enhancement fund was established that set aside one percent, or $1 million, of the project budget from state funding. Communities were invited to apply for these funds, provided that they could demonstrate that their project 1) had a relationship to the I-5 Delta Park project and its potential impacts; and 2) could qualify for state or federal transportation dollars. The projects required endorsements from neighborhood organizations. A community enhancement advisory board was established, consisting of representatives from several neighborhood associations, the regional Watershed Council, the Environmental Justice Working Group, the housing authority, and local elected officials. Running concurrently with significant public outreach, the board met for a year's time and reviewed 13 applications, totaling about $3 million. The board recommended several projects, subsequently approved by ODOT, including neighborhood tree planting along the corridor ($65K); bicycle lanes along the adjacent Rosa Parks Boulevard ($90K); planning studies for improving the safety of a pedestrian overpass ($50K); widening, lighting improvements, and screens on another pedestrian overpass ($200K); extension of a pedestrian and bicycle trail ($460K); traffic calming on an adjacent street in the Kenton neighborhood ($75K); and crosswalk improvements ($60K).

Recognize Community Benefits Agreements.   A community benefits agreement (CBA) is a project-specific, legally binding contract between a project sponsor (i.e., developer or transportation agency) and a group or coalition of community representatives reflecting a range of stakeholder interests. In the agreement, the project sponsor documents how the proposed project will contribute to the community, usually through community employment, development, or environmental provisions. In return, residents and coalition representatives agree to support the proposed project, stopping costly delays before they start. CBAs are designed to be part of a "win-win" strategy that encourages early and meaningful communication between the project sponsor and the affected community.

Over the past decade, CBAs have brought engineers, planners, and community members together to discuss project objectives and to convey issues of concern that could lead to concerted opposition. CBA requirements are usually minor when compared with the overall project budget, but ensure that projects bring jobs into the community, enhance livability, or address environmental health concerns expressed by the community representatives. CBAs tend to be established for local hiring and training, noise and air quality mitigation, or neighborhood beautification elements such as trees and lighting. Such agreements can give the community greater influence over the projects and establish a greater stake in seeing the project successfully implemented.

- In 1998, the *Alameda Corridor Transportation Authority* established a CBA with the Alameda Corridor Jobs Coalition to hire local residents for 3,500 of the estimated 10,500 jobs created by the $2.4 billion project to strengthen and streamline transportation links between the Port of Long Beach and the City of Los Angeles. The agreement also created funding for construction job training to benefit 1,281 local residents and for community-based organizations to recruit and train local residents for jobs, apprenticeships, or pre-apprenticeships.

Create Transportation Planning Grant Programs to Support Environmental Justice and Community-Based Planning.   Funding programs typically established by DOTs or MPOS can be targeted to local governments or nonprofit organizations capable of demonstrating that their transportation planning project will meet statewide, regional, or local goals. Such goals may include smart growth or strategic land use planning; congestion relief; efficient movement of people, goods, and services; promotion of urban design and projects to ensure safe and healthy communities; pedestrian, bicycle, and transit mobility and access; public and stakeholder participation; measures to reduce air pollution and greenhouse gas emissions; conservation of energy and natural resources; and protection of sensitive habitat and farmland. The approach recognizes the need for better coordination of regional transportation planning with local land use planning and decisionmaking.

Plans and projects funded by the programs can foster public involvement and/or collaborative planning processes along with project planning studies that support livability and sustainable solutions for diverse and underserved communities. Program funding criteria can be developed to prioritize plans and projects that satisfy program purposes and meet grant eligibility provisions intended to benefit traditionally underserved populations and improve the quality of life of their communities.

- *Environmental Justice: Context Sensitive and Community-Based Transportation Planning Grants (CBTP)* are categories of the Caltrans Planning Grant Programs. Caltrans used the program to fund many community-based projects, including the *Traffic Calming and Safety Enhancements for the Hoopa Valley Indian Reservation.* The Hoopa Valley Indian Reservation formed a partnership with the local government commission, a nonprofit organization dedicated to technical assistance around creating healthy and walkable communities, to address traffic, safety, and accessibility issues in addition to redevelopment opportunities. The outreach process included

meetings, design fairs, and walking tours of the study area to introduce residents to the proposed project and solicit ideas, concerns, and suggestions. The study area, which includes a half-mile section of Highway 96 that bisects Hoopa Valley Tribal lands, had been plagued by numerous accidents in the past due to inadequate sidewalks, turning lanes, and lighting. In previous town meetings, safety concerns had been voiced. Final recommendations for the project included crosswalk improvements, traffic calming, a gateway entrance to the town, a village and cultural center, and a village grid. Caltrans received an award for the success of the project and it has been recognized nationally as a model for improving relations between state DOTs and tribal communities (see Figures 3-40 and 3-41).

- *DVRPC,* the MPO for the nine-county Philadelphia region, established its *Transportation and Community Development Initiative* (TCDI) program to target funding to the region's core cities, developed communities, and economically disadvantaged areas. Grant awards are made directly to municipalities, county governments, and nonprofit organizations within the City of Philadelphia. Project sponsors may apply for planning dollars for a variety of eligible


Figures 3-40 and 3-41.   Tribal leaders, residents, and businesses in the Hoopa Valley Indian Reservation were invited to a walking tour (top) and a design fair (bottom)—elements of a collaborative planning process to improve safety for motorists, pedestrians, and bicyclists.

activities to improve the climate for redevelopment and improve the overall quality of life for residents. The TCDI program has been highly popular with local governments in the region. The communities and census tracts eligible for TCDI grants are consistent with the criteria used in the regional transportation plan, as well as DVRPC's policy to proactively support the region's disadvantaged communities and populations, drawing upon the agency's social profile and mapping prepared as part of its annual environmental justice research program.

Implement Safe Routes to Schools Programs. Safe Routes to Schools (SRTS) programs and projects encourage children to walk and ride bicycles to schools. Communities are using federal, state, and local SRTS funding to construct infrastructure projects including sidewalks, safer crossings, pathways, bicycle lanes, and traffic calming measures. Funding is also used for education, encouragement, and enforcement programs including promotional events, bicycle and pedestrian safety and security, and crosswalk or speed enforcement stings. SRTS funds are being used to increase community awareness, change attitudes, and foster collaboration and partnerships among organizations and agencies to educate and promote walking and bicycling by school-aged children.

Children from low-income families are twice as likely to walk to school as children from higher income families and they also have a higher risk of being injured or killed as pedestrians, according to the Safe Routes to School National Partnership in their recent publication, *Implementing Safe Routes to School in Low-Income Schools and Communities: A Resource Guide for Volunteers and Professionals* (see Figure 3-42). SRTS programs, at their inception, tended to favor moderate-to higher-income communities that had the resources to prepare the grants and undertake the pre-planning activities leading to a successful grant application. Seeking to redress this disparity, this resource guide describes effective strategies for ensuring that resources reach disadvantaged communities, illustrating the types of planning considerations and projects that have yielded beneficial outcomes.
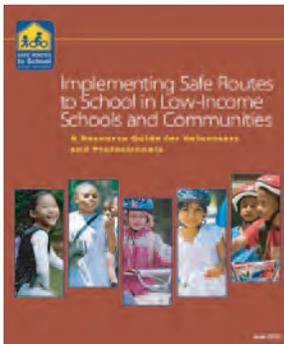
Figure 3-42. SRTS National Partnership prepared a resource guide to encourage more projects in low-income communities.

- *Coconino County Health Department, Flagstaff (AZ)* initiated several crime prevention strategies through community policing and environmental design to alter the perception of the parents, students and the community about the safety of walking and bicycling to the Thomas Elementary School. Placement of a police substation within a neighborhood, zero tolerance for loitering and public drunkenness, voluntary prohibitions of selling 40-ounce bottles of liquor by local merchants, cleaning away litter and broken glass, and recruiting parents for "Walking School Buses" were several elements of a coordinated strategy to reclaim public spaces, including a nearby park that had become both a sign of disorder and a danger for students walking to school.
- *Chicago Alternative Policing Strategies (CAPS),* a community policing initiative, established "Safe Havens" as an element of its Safe Passages program. Safe Havens are places where children will find a friendly shelter and can turn to a trustworthy adult for assistance in the event that they feel threatened and need refuge. Safe Havens are clearly marked by signs and include all municipal facilities as well as participating convenience stores, barber shops, retailers, libraries and other local businesses. It is one of several strategies along with Walking Buses and Parent Patrols under the umbrella of the city's Safe Passage program.
- *The New Jersey Department of Transportation's SRTS Urban Demonstration Program* focused on disadvantaged schools in Camden, Newark, and Trenton—cities that exhibited disproportionately high rates of pedestrian crashes, poverty, and crime. The Urban Demonstration Program was designed, in part, to assist urban schools previously unsuccessful in getting SRTS funding but that had shown an interest in the SRTS program. Needs and opportunities to improve conditions were identified through evening community workshops held at each school and through a student classroom assignment. On the day of the evening workshop, the project team observed students at arrival and dismissal times and engaged with students during the

Figure 3-43.   Students took photographs and recorded observations about the walking environment around their schools in the City of Camden. These perceptions were shared with adult attendees at the community workshops held later in the evening.

school day in both a classroom session and a neighborhood walkabout. For the classroom exercise, students were asked to participate in a visual preference survey to solicit their perceptions on what they would like to see done to improve their neighborhood if they were the mayor. During their walking audit, students were asked to photograph and record positive and negative conditions in their walking environment and suggest improvements (see Figure 3-43). Their perceptions offered valuable information for framing discussions during the evening community workshop attended by parents, caregivers, school administrators, teachers, police, and community leaders.

Develop Solutions for High Risk Pedestrian Crossings.   Transportation planning studies can be designed to identify and address persistent safety issues for pedestrians in communities affected by high volumes of auto and truck vehicular traffic. High risk areas for pedestrians— "hot-spots"—can be identified and subsequent projects can implement solutions to improve the safety and livability for underserved communities. Projects can be designed to encourage public involvement and collaborative processes to find feasible solutions that can be widely accepted by local residents and businesses. Community-based organizations can be leveraged to bring local knowledge and additional capacity to bear on problem identification and preferred solutions.

- *La Casa de Don Pedro,* a community-based organization in Newark, New Jersey, has received funding for their *Caminos Seguros Program* from the *National Highway Traffic Safety Administration* through the *New Jersey Department of Transportation* to provide education, advocacy, and other activities geared to reduce the incidence of traffic-related injuries and fatalities. The program has included the formation of an advisory team comprised of community-based advocates, university researchers, transportation agencies, local elected representatives, and municipal staff in public works and police departments. Advisory team meetings review the program status, conduct strategic planning, and provide a forum for interaction and partnership with other stakeholders such as county engineers who are undertaking their own corridor planning initiatives. The outreach element of the program has included developing a database of interested parties, distributing traffic safety information to local schools, and holding public

TABLE 2: HOTSPOTS (2008-09)		All Accidents	Injuries	Pedestrian	Alcohol
One	1A. Broadway and 4th Ave.	23	11	0	0
	1B. Broadway and 3rd Ave.	27	16	4	0
	Total	50	27	4	0
Two	2A. Broadway and Chester	18	22	6	1
	2B. Broadway and Delavan	18	9	2	0
	Total	36	31	8	1
Three	3A. Broadway and Grafton	19	8	3	1
	Total	19	8	3	1
Four	4A. Broadway and Verona	19	18	0	0
	4B. Broadway and Sylvan	11	10	2	0
	Total	30	28	2	0
Five	5A. Bloomfield and Mt. Prospect	22	15	5	3
	5B. Bloomfield and Clifton	16	9	1	1
	Total	38	24	6	4
Six	6A. Bloomfield and Highland	10	5	0	0
	6B. Bloomfield and Lake	19	6	4	0
	Total	29	11	4	0
Seven	7A. Bloomfield and 3rd St.	21	17	4	3
	7B. Bloomfield and 4th St.	11	6	3	0
	7C. Bloomfield and 5th St.	11	8	2	0
	7D. Bloomfield and 6th St.	11	6	2	1
	Total	54	37	11	4
Eight	8A. Park and Mt. Prospect	14	7	1	0
	8B. Park and Clifton	19	15	0	0
	Total	33	22	1	0
Nine	9A. Park and 4th St.	20	10	1	0
	9B. Park and 5th St.	20	18	0	1
	9C. Park and 6th St.	14	5	1	0
	Total	54	33	2	1

Figure 3-44. *La Casa de Don Pedro conducted a "hot spot" accident analysis of corridors with high concentrations of lower income and minority households to draw greater attention to areas in need of transportation improvements.*

safety events, including celebrations of successfully implemented traffic safety improvements. Upcoming outreach is expected to incorporate door-knocking and intercept discussions with persons in the vicinity of "hot spots," developing an informational pamphlet about the program, distributing an information form to expand their mailing list and screen for committed local individuals to join in grassroots organizing, and designing and implementing focus groups (see Figure 3-44).

- The *Tri-State Transportation Campaign (TSTC),* a regional transportation advocacy group, joined with La Casa de Don Pedro to secure safety improvements such as improved signage and new striping of crosswalks in Newark's Lower Broadway neighborhood in the vicinity of a local school and community park. These efforts included holding a walking tour as a means for drawing attention to the critical safety issues.

Conduct a Health Impact Assessment. The health impact assessment (HIA) is a combination of procedures or methods by which a policy, program, or project may be evaluated as to the effects it may have on public health and offers strategies for mitigating those effects. Used in a broad variety of fields—from transportation planning to housing development, company sick-leave policies, school discipline practices, and federal farm legislation—its broader purpose is to bring a public health perspective and make health consequences part of policy, program, plan, and design decisionmaking.

Since their creation in the late 1990s, HIAs have been prepared for many purposes including for environmental investigations of infrastructure and facility investments and operations. For a highway project, this could mean that in the planning and project development stages, HIA professionals will take the projected impacts on air quality, for example, and from those projections model the effects on rates of asthma and cardiovascular disease. HIAs conducted

in the policy and planning stages may explore many public health topics that have physical, environmental, and social and equity dimensions, including crime and public safety, the availability of multi-modal transportation or biking and walking to school options, accessibility to jobs or other services, access to healthy foods, and opportunities for active recreation, among other issues.

HIA professionals say that when transportation agencies and practitioners encounter the prospect of conducting an HIA on their project, they are often initially skeptical or fearful, thinking that HIA will delay or halt the project for arbitrary reasons. HIA professionals counter that their intentions are:

- To bring greater rigor to the environmental review process to ensure that its findings benefit from a public health perspective;
- To establish a working and trusting relationship with the community early on in the project, both to inform the community and to mitigate the threat of later community opposition;
- To ensure that projects that get advanced to project development stages do not result in unreasonable health impacts; and
- To stimulate closer inspection of long-standing threats to public health from the cumulative effects of prior decisions.

The HIA process includes a commitment to meaningful public involvement. A solid HIA begins its community involvement early, often by creating an HIA steering committee composed of community members, HIA professionals, transportation practitioners, and other stakeholders. HIA professionals or the steering committee will present information and findings to the public at each stage of the HIA—from deciding the factors for study to unveiling the recommendations. Also, HIA can bring community members into the process, in part, by providing them with research tasks like truck counting or air quality monitoring. Following this process, organized opposition or lawsuits are more likely to be avoided that will consume the sponsoring agency's time and credibility.

- *ARC's Plan 2040* provides an opportunity for metropolitan Atlanta stakeholders to comprehensively consider the transportation, land use, resource protection and infrastructure investment strategies that will best prepare the region to manage the growth and change to sustainably accommodate an additional three million persons, becoming a region of eight million people. The *Center for Quality Growth and Regional Development* (CQGRD) at the *Georgia Institute of Technology's College of Architecture* is leading the first ever HIA on a major metropolitan transportation and comprehensive growth plan. The HIA is funded by the *Health Impact Project,* an initiative of The Pew Charitable Trusts and Robert Wood Johnson Foundation. CQGRD seeks to answer questions about how to build metro Atlanta to maximize the health of its people and to mitigate the potential health damages of growth. The HIA will examine the plan's land-use patterns and transportation infrastructure investment to predict how it will affect air-quality- and mobility-related public health. The HIA will examine the plan's potential impact on a range of health issues, such as injury and asthma rates, and the risks of obesity and diabetes. In recent years, the CQGRD has prepared highly noteworthy HIA studies in the Atlanta metro region about the central importance of public health, including the *Atlanta BeltLine Health Impact Assessment* and the *City of Decatur Community Transportation Plan and Rapid HIA*. The BeltLine HIA closely examined access—to healthy foods, transit, health facilities, and parks and trails, among other issues, and their potential association with public health outcomes. As illustrated in Figure 3-45, the study explored key metrics of physical activity, safety, social capital, and the environment and their linkages to potential health outcomes in the course of the study. The BeltLine study received a grant from the Robert Wood Johnson Foundation and the public health experts from the Centers for Disease Control and Prevention provided technical assistance to ensure rigor and quality.

Figure 3-45.   The Atlanta BeltLine project will convert a 22-mile loop of freight rail to parks and trails. It will catalyze transit and residential and commercial development. A logic model framework illustrates the Beltline's potential direct and indirect effects in five dimensions such as access and physical activity—each having a bearing on potential health outcomes.

An HIA advisory committee was also formed to bring experts in public health, civil engineering, transportation, and urban design to the project.

- *Public Health—Seattle & King County* and the *Puget Sound Clean Air Agency*. In the 1960s in Washington State, a 13-mile highway was built in the Seattle area, including a 7,500-foot floating bridge spanning Lake Washington. By the late 2000s, the bridge was due for reconstruction. State legislation that authorized reconstruction directed the regional air quality and public health agencies to conduct an HIA of the three plans under consideration for the project. The HIA examined public health effects ranging from greenhouse gas emissions and noise to effects the project would have on emergency medical services. Recommendations from the study were grouped into four key categories, listed below:
  - Construction period - control construction-related pollution and noise; enhance traffic management.
  - Transit, bicycling, and walking - increase and improve transit service; install connected bicycling and pedestrian facilities with appropriate signage and advertising; and establish safety measures throughout the corridor.
  - Landscaped lids and green spaces - enclose highway approaches with pedestrian parks as was mandated in the legislation; landscape throughout the corridor; improve adjacent arboretum and other nearby green spaces; and preserve waterfront access.
  - Design features for healthy communities - reduce noise throughout the corridor; add to visual character with art and design; and use innovative stormwater management techniques.

Monitor Health and Environmental Impacts.   Heavy trucks, buses, and automobiles travel along high-volume freeways and through underpass routes, exposing nearby neighborhoods to air pollutants that include ultrafine particulate matter, oxides of nitrogen, black carbon, and carbon monoxide. Often found at elevated levels near highways, these pollutants have been found to have adverse health effects. Health studies show elevated risk for development of asthma and reduced lung function in children who live near major highways. Studies of particulate matter have shown associations with cardiac and pulmonary mortality that appear to indicate increasing risk as smaller geographic areas are studied, suggesting localized sources that likely include major highways. Cumulative exposure at high levels can contribute to higher rates of asthma—particularly in children—and cardiovascular health problems for older, susceptible persons living in the project area. Many particulates emitted from automobile vehicle exhaust and highway construction are "ultra-fine"—so small that they have the potential to enter peoples' bloodstreams upon contact. These particulates are particularly dangerous within about 1,300 feet of the source. Traditionally underserved communities across the country are often located in residential areas nearer to highways.

Concerned residents, community organizations, and public health professionals have developed project teams to carry out initiatives to measure the cumulative environmental effects of transportation projects upon communities and their vulnerable or at-risk populations. They have sought to make measurements available to the public for discussion about public health impacts and risks, and to seek greater accountability and implementation of mitigation strategies.

Rigorous, data-driven research can help practitioners and community advocates better educate the public on the potential health risks of construction and traffic operations and advocate for appropriate mitigation strategies. Agencies and their project managers will be better able to improve local environmental conditions when they can measure emissions and exposure levels, when they can assess their own progress toward stated goals, and when stakeholders can hold them accountable for making improvements. Perceptions of risk are heightened in the absence of frank communications between sponsoring agencies, mediating institutions (e.g., universities or public health agencies) and the public. Agencies that are prepared to commit themselves to exchange health- and science-related information in a process that allows for an open dialogue with trusted intermediaries are more likely to build a degree of trust and find common solutions to persistent health issues confronting some communities.

- *People Organizing to Demand Environmental and Economic Rights* (PODER), a local grassroots environmental justice organization, teamed with the *San Francisco Department of Public Health* and the *University of California, Berkeley,* to conduct collaborative, participatory research focused on the health effects of proximity to an intraurban highway near a low-income, Excelsior neighborhood in southeast San Francisco. PODER members surveyed community residents regarding pedestrian conditions, air quality, and noise in their neighborhood. Surveys were conducted in English, Spanish, and Chinese. The research also included air quality, traffic counts and pedestrian safety, environmental noise, community health investigations, and personal testimony of residents regarding public health and safety concerns. The work has supported other community actions the organization has taken to advocate for solutions to protect community public health focused on issues like traffic calming, truck routes, bike plans, among others (see Figure 3-46).
- *Community Assessment of Freeway Exposure and Health Study (CAFEH)* is a five-year community-based participatory research project funded by the National Institute of Environmental Health Sciences (NIEHS) initiated by the Somerville Transportation Equity Partnership (STEP) and led by Tufts University researchers to assess the cardiac effects of near-highway pollution on residents living between 50 and 400 meters from the I-93 highway in the greater Boston area. Their ongoing research project includes measurements of highway-generated air

Figure 3-46.   San Francisco's Public Health Department prepared a retroactive health impact assessment of traffic in Excelsior's Still/Lyell Freeway Channel. Highest-day cumulative exposure maps for PM2.5 particulates were modeled and mapped to show freeway traffic, informal diesel truck routes, diesel bus routes, as well as neighborhood traffic volumes. The analyses assess and communicate additional public health risks associated with neighborhood traffic volumes.

pollution using a mobile laboratory, including ultrafine particulates (UFPs) measured in billionths of a meter in diameter, carbon monoxide, and nitrogen oxides. The study is examining the relationship of these pollutants and cardiac health impacts as a function of distance from highways in three Boston-area communities. The study also explores community and cultural perceptions of the effects of air pollution on health among people living in neighborhoods adjacent to major highways. The study has hired and trained residents as field staff to recruit and conduct health-related surveys of residents. All of the community partner agencies serve on the study steering committee and have led the outreach efforts. Interviews are conducted in English, Spanish, Portuguese, Haitian Creole, Chinese, and Vietnamese in order to engage residents living near the highway across the study area. Drawing upon the research, the project will develop culturally appropriate, educational modules to raise awareness of risks, use the findings to influence local and state policy regarding land use near highways, and identify possible mitigation approaches.

Overcome Institutional Barriers

Overcoming institutional barriers is a task objective that seeks to tackle potential root causes—through an array of enforcement, mentoring, training, and technical assistance strategies—for why some population groups are persistently underserved by transportation decision-making

processes. Tools and techniques for overcoming barriers are founded on a recognition of the importance of conducting periodic assessments of agency policies, programs, and procedures. Such research may explore hidden or overt biases, or conflicting objectives that may exist within transportation organizations—embedded in daily practices or widely expressed in the views held by executive or senior leadership or staff within the organization—that repeatedly result in disparate and unfavorable outcomes for traditionally underserved populations.

Each stage of decisionmaking may have standard operating procedures and traditional ways of defining or meeting with the public that preclude opportunities for traditionally underserved to participate meaningfully in proceedings. This task objective seeks to reform standard practices to find ways for traditionally underserved populations to take on greater roles and responsibilities within the transportation agency's daily management and operations, in contract procurement, or in planning and project development processes.

Train Community Members to Be Transportation Leaders.   Low-income persons and people of color are often underrepresented on planning boards and commissions and, if appointed, they may find themselves isolated and without a robust social network to call upon to strengthen their capacity to influence policy. This is a long-standing problem within transportation, but some advocacy organizations are taking the initiative to tackle this form of inequity in representation by instituting leadership training programs for potentially well-qualified candidates. Graduates from such training are given mentorship and alumni networks to tap once they leave the program. With a thriving technical assistance network designed specifically to support them in their roles on commissions, they will have the capacity and community support to advance a regional agenda for economic, environmental, and social justice and are better prepared to serve as the next generation of elected officials who are representative of and responsive to the issues of concern to the region's low-income communities and communities of color.

- The *Boards and Commissions Leadership Institute* in the San Francisco-Oakland Bay Area region is an initiative of *Urban Habitat* and the *Social Equity Caucus.* Its "seats first" model relies on an analysis of key boards and commissions seats throughout the region, including city, county, and regional appointments. Boards and commissions that have been targeted have existing or potential influence over policies in areas with equity implications, including transportation, housing, development, jobs, and climate change. The prospective list of seats is distributed to advocacy organizations so that they may nominate participants from within their own organizations, campaigns, and networks. Nominees are interviewed by a selection committee, including representatives from the coalition of advocacy groups. Leadership training nominees participate in training sessions, meetings, mixers, brief online assignments, observations, and one-on-one meetings with mentors, training staff, and technical support staff. Trainings are regularly held and may include a variety of topics, including role-playing exercises to understand how to use *Robert's Rules of Order* and how to work with the media.

Establish Public Involvement Training Programs.   A public involvement training program teaches transportation professionals about the importance of meaningful participation in transportation decision-making and describes the tools and techniques for achieving it. Public involvement training programs include modules on how to prepare and implement a PIP that will examine and promote strategies to engage all sectors of the public including low-income and minority populations or LEP persons. Part of this training will teach how to identify the various stakeholders and affected groups that need to be involved in order to have an effective PIP. The training should also include tools and techniques for involving traditionally underserved populations that are likely to be effective in overcoming barriers to participation. Critical to effective public involvement training is continuing evaluation of the PIP's effectiveness in achieving its goals. Such training programs also fully explore why effective public involvement

programs can prove invaluable to getting better information to decisionmakers so that they can make better decisions.

- The *National Highway Institute (NHI)* and the *National Transit Institute (NTI)* conduct adult education training courses for transportation practitioners in the area of public involvement. The NHI conducts a course, *Public Involvement and the Transportation Decision Making Process,* and the NTI has its own course, *Public Involvement in Transportation Decision Making.* These two courses both touch upon specific strategies appropriate to reaching out to low-income and minority populations. The NHI course, *Fundamentals of Title VI/Environmental Justice,* presents participants with a framework for using a variety of approaches and tools for accomplishing environmental justice goals in federal-aid programs and other transportation projects. The course includes modules on the critical importance of public involvement and explores forms of collaboration and partnering to plan and deliver projects welcomed by affected minority and low-income communities and populations The NHI course, *Effective Communications in Public Involvement,* offers a web-based course focused on helping transportation officials become better communicators when conducting the public involvement component of transportation planning and project delivery. Participants are offered strategies and techniques to design an effective communications plan, prepare for and conduct all types of public meetings, handle hostile groups and individuals, give effective presentations, and conduct appropriate follow-up activities following events.
- The *Arizona Department of Transportation* trained a cadre of engineers, planners, and other professionals in public participation planning, practices, and evaluation that created a cohesive approach to its public involvement activities. They were able to successfully resolve challenges from communities to their projects by applying some of the approaches and techniques for involving affected stakeholders in the project development process.

Establish Cultural Competency Training Programs. Cultural competency training starts from the assumption that there is a body of knowledge and practice that agencies and individuals should strive to possess to better perform their work in a diverse and changing society. For organizations, cultural competency means establishing practices and policies that will make services more accessible to diverse populations, and that provides for appropriate and effective services in cross-cultural situations. This requires greater inclusion of all populations as well as addressing inequities when they arise and conducting a continuous process of self-assessment to evaluate the success of such policies. For individuals, cultural competency is an approach to lifelong learning, communications, and working respectfully with people different from themselves.

- Juliet Rothman's *Cultural Competence in Process and Practice: Building Bridges* identifies different ways to assess cultural competency both at the individual and agency levels, which may prove useful to some agencies when designing training sessions. The *Linguistic and Cultural Competency Self-Assessment Survey* may also be used to stimulate initial thoughts about cultural competency. Training sessions typically include participatory and role-playing activities for those in attendance. Those being trained may be asked to consider a diverse variety of cultural situations in which the practitioner is called upon to consider possible solutions to "bridge the gap." These activities are usually done in smaller groups to facilitate self-critical reflection and open discussions. It may be helpful to showcase effective practices—either from within or outside the agency—to stimulate the conversation.
- The *Leading Institute's Leading from the Middle* is a leadership training program targeted for mid-level professionals in urban planning and community development that teaches how to better manage conflict, lead teams, and promote issues and agendas. Among their one-hour sessions is a module devoted to cultural competency in which participants explore challenges of leadership in diverse organizations and communities as well as how to manage the challenges of diversity to find more creative solutions to problems.

- The *FHWA* and the *FTA* both run courses, seminars, and/or workshops in nondiscrimination. For example, *Preventing Discrimination in the Federal-Aid Program: A Systematic Interdisciplinary Approach* is not specifically about "cultural competency" but emphasizes an interdisciplinary approach for the early recognition of potential adverse impacts that might be discriminatory and the need to develop alternative solutions in all stages of the Federal-Aid Highway Program (e.g., planning, project development, construction, and research). The LEP Executive Order 13166 is described, among other topics, in the context of nondiscrimination, noting the importance of ensuring LEP persons receive meaningful access to services to avoid discrimination on the basis of national origin. It also stresses the need for interdisciplinary staff from the transportation organization to be involved in the development and implementation of Title VI plans that recipients must prepare to meet their nondiscrimination obligations— compliance is not solely an obligation of the civil rights enforcement department.

Develop Community Hiring Program.   A significant problem for transportation agencies— one that can result in delays due to community opposition—may occur when community members see a project affecting their neighborhood that does not provide employment opportunities or other benefits to local residents. Transportation agencies, community groups, contractors and unions have come together to establish community hiring programs to better connect area residents to project jobs, building broader community support, and give unions and contractors access to pipelines of willing and able workers. Even in periods of economic growth, many traditionally underserved populations suffer from disproportionately high rates of unemployment. A community hiring program can increase employment, build skills, strengthen résumés, and boost area economies for traditionally underserved populations. Many jobs created by community hiring programs are in the construction trades, which are accessible for people without college degrees and for ex-offenders—segments of the traditionally underserved populations who often have difficulty entering or staying in the labor force.

- In 2005, *MoDOT* entered into a community benefits agreement with a coalition of 30 community organizations to create a community jobs program on its I-64 project, a $535 million Interstate reconstruction—the largest project in MoDOT history. MoDOT, using the 0.5 percent of the budget that the FHWA allows to be allocated to training, funded an innovative preapprenticeship program for contractors. The project came in three weeks early, $11 million under budget, and was celebrated throughout the region for bringing communities together. It strengthened minority, low-income, and female hiring streams for contractors and unions. It made 450 workers from traditionally underserved communities more qualified, stronger candidates for future employment. And it addressed negative public perceptions of MoDOT, making it easier for them to efficiently complete projects in the future (see Figure 3-47).
- The *Green Construction Careers Model,* inspired in part by the Missouri Model, has been adopted in various versions in Kansas City (MO), Wisconsin, Michigan, and Minnesota. The U.S.DOT recently funded a pilot project to implement the Green Construction Careers model for several major transportation projects with budgets of more than $500 million. The Transportation Equity Network (TEN) and the Conference of Minority Transportation Officials (COMTO) have been holding workshops with transportation officials, faith-based organizations, prime and subcontractors, and small businesses in areas with eligible projects. The workshops outline the approach for dedicating 30 percent of workforce hours on projects to low-income people, women, and minorities, and invest 0.5–1 percent of project budgets on job training.

Commit to On-the-Job Training and Workforce Development Programs.   On-the-job training (OJT) focuses on skills acquisition within the work environment, generally under normal working conditions. Workers acquire both general skills transferable to another job and specific

Figure 3-47.   The Missouri Model and MoDOT's On-the-Job Trainee program delivered construction job opportunities to minorities and women and is highlighted in the video, Connecting the DOTs: On the Job Training Program, I-64.

skills unique to a particular job. On-the-job training will typically involve verbal and written instruction, demonstration and observation, and hands-on practice. One employee, usually a supervisor or an experienced employee, will offer knowledge and skills advice to a novice employee. OJT is the most widely used training mechanism today in the U.S., and is the oldest form of training.

- The *FHWA On-the-Job Training Supportive Services* lists a number of departments of transportation, women's organizations, trade organizations and others who have OJT programs funded by FHWA for getting traditionally underserved populations into highway construction careers. The programs include the development of manuals and videos for assessing, guiding and conducting outreach to target populations who could apply for OJT programs; provision of on-site technical assistance to state leadership teams on recruitment, training and employment of target populations in highway construction careers; providing training in highway construction crafts, iron working skills, math for trades, physical conditioning, specific skills training in carpentry, equipment operation, cement finishing and shop classes as well as other skills; and providing stipends, transportation, housing and job placement services for those in training.
- The *Oregon Department of Transportation (ODOT) Office of Civil Rights* administers an apprenticeship program for women and minorities to prepare them for journey-level status in highway and bridge construction crafts. The program's specific intention is to recruit, train, and retain minorities and women in the highway construction industry. Classroom training is given, for those who qualify, in math for trades, financial management, and other relevant skills as well as OTJ training in specific skills areas. Stipends are given to program participants during training, which takes about two years to complete, to reach journey-level status. Their apprenticeship program includes a mentoring feature as part of their training.

Institute an Internship Program.   High-performing students from Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Tribal Colleges or Universities (TCUs) are recruited to participate in internship programs run by transportation agencies. HBCUs, TCUs and HSIs often have higher percentages of students of color, and many have strong engineering and transportation programs. By entering into internship partnerships

with these academic institutions, the transportation agencies get a pipeline of smart, capable temporary employees who also bring the benefits of diversity into their workplace. The students do meaningful work and begin to build their career path into the transportation industry. If the agency cannot retain them as an employee at the end of the internship, the student still leaves with real-world experience and an expanded network of contacts to build a career and a strong résumé.

- *Morgan State University* has partnered with the *Maryland Department of Transportation* and the *Maryland State Highway Administration (MSHA),* creating two separate internship programs, one for graduate students and one for undergraduates. The graduate student partnership with the Maryland Department of Transportation has been in existence for nearly a quarter century. These students come from a variety of majors and are assigned to different offices of the transportation department to work 20 hours weekly during the school year and full-time in the summer months. The summer undergraduate internship program has also been successful. The majority, though not all, of the roughly 200 students who have participated in the program have been Black.

Serve as a Mentor.   Mentoring, according to the American Management Association, is "a developmental, caring, sharing and helping relationship where one person invests time, know-how, and effort in enhancing another person's growth, knowledge and skills, and responds to critical needs in the life of that person in ways that prepare the individual for greater productivity or achievement in the future" (Shea, 1994). Mentoring is serving as a "personal educator" for some- one; in this case, a person representing the underserved population who is interested in develop- ing his/her skills and understanding in a particular area or field. The relationship between the mentor and the person being mentored should foster asking questions, trying out new skills and techniques and getting and applying the feedback on the effort, helping the mentee understand his/her strengths and weaknesses and how to employ and/or strengthen them, and "stretching" beyond one's comfort zone.

The mentoring relationship provides for a meaningful level of participation and insight on the part of the mentee. The mentees are able to develop their skills and understanding in a variety of ways, providing special learning opportunities for individuals who are part of a traditionally underserved population. The mentoring relationship can also serve to educate and inform the project management and the mentor on issues, attitudes, and desires of the underserved population represented by the mentee.

- *Lucy Moore Associates,* in Santa Fe, New Mexico, has a mentoring clause in all her consulting contracts. She is currently mentoring four people, two of whom are minorities. She also brings in community members as mentees who come to a meeting and indicate their interest in learning about the process and facilitation. Mentoring is a great way to bring new voices into the process. As mentees develop their facilitation skills and understanding of a given process, they can continue to work in the community long after the project is over, serving as a resource for the transportation planning process and other meaningful activities.
- The *COMTO* offers internships and mentoring to college students from traditionally underserved populations. The program, *Careers in Transportation for Youth (CITY),* focuses on underrepresented youth who are college students that have completed at least their sophomore or junior years and have an interest in public transit or a transportation-related career. This initiative promotes public transportation career opportunities among underrepresented college students, providing internships and mentoring at transit agencies, private transit-related consulting firms, transportation service providers, manufacturers, and suppliers. During that time, the intern will also attend the annual COMTO National Meeting and Training Conference as well as receive the mentoring of transportation professionals.
- The *ODOT Office of Civil Rights* has a *Statewide Mentoring Services Program* aimed at develop- ing people qualified in the heavy highway and bridge construction industry. The mentorship

program was integrated into the apprenticeship program under the direction of ODOT as a means of complementing their existing activities. ODOT developed training materials for mentors and protégés and offered them to organizations interested in including mentoring in their apprenticeship programs. Highway construction contractors also successfully implemented the training program and introduced mentoring as a job training method. The program continues to work with large contractor teams with existing construction contracts and their subcontractors who are Emerging Small Businesses (ESB), pairing them as mentors and protégés.

Unbundle Project Contracts.   Unbundling project contracts means taking single contracts for large projects and breaking them down into smaller contracts for different parts of the projects, making them more accessible for Disadvantaged Business Enterprises (DBEs). DBE is the federal designation for small businesses owned by women or ethnic minorities—groups that have been traditionally underrepresented in the transportation industry. When a large firm wins a single contract for managing a large project, it effectively limits DBEs to competing for fewer, limited subcontracts. Unbundling project contracts allows agencies to award contracts for smaller components of a project, opening up opportunities for DBEs to participate more broadly, both as prime and subcontractors. It also allows DBEs to become familiar with the contracting process so they can compete for more contracts as they grow, allowing them to be more competitive when eventually competing for prime contracts. And, it is often an economical means for an agency to boost its DBE participation.

- *WisDOT* unbundled the reconstruction contract for the Marquette Interchange in downtown Milwaukee. In addition to breaking up the project by geographic area and ramps, WisDOT separated out individual landscaping, sidewalk, and roundabout contracts giving DBEs further opportunities to compete. The $810 million project was completed in 2008 and 19 percent of the contracts were awarded to DBE firms—more than double the federal participation requirement of 8 percent (see Figure 3-48).

Implement DBE Programs.   The U.S.DOT's Disadvantaged Business Enterprise (DBE) program is a vehicle for increasing the participation of minority and/or women-owned businesses in state and local procurement. At minimum, U.S.DOT DBE regulations require transportation

Figure 3-48.   WisDOT increased levels of DBE participation through unbundling construction contracts.

agencies that receive federal assistance to establish goals for the participation of DBEs and review contract scopes and costs to ensure that these goals are met. DBE programs may also include financial or technical assistance, outreach and partnering, or business development to further foster equal opportunity for firm participation. Small business development is a particularly important asset-building strategy among women and minority communities. DBE programs can successfully help minority and women-owned firms increase their capacity and compete for contracts, as well as build confidence within the transportation agency in DBEs' ability to reliably provide services.

- *WisDOT* created a mobilization loan guarantee fund (MLGF) targeted at minority sub-contractors to cover their project startup costs. The MLGF had the twin goals of improving access to capital for minority subcontractors, and of growing these subcontractors into prime contractors. The MLGF is ongoing and has received national recognition for its success. An initial investment of $300,000 in the revolving fund has grown to $376,000 through 26 years of interest without a single default.
- *DBE Mentor–Protégé Programs* have been developed by several state transportation agencies (e.g., California, Ohio, Texas, Wisconsin, Delaware, Illinois, Minnesota), with some variation in their structure and format, to give DBEs the help they need to build their businesses and compete for work in transportation-related contracts. The *Ohio DOT Mentor Protégé Program* seeks to build a broader base of DBEs capable of performing work on highway construction projects. At *Ohio DOT,* once a mentor firm and a protégé are teamed up, they jointly establish a mentor-protégé development action plan. They are expected to hold regularly scheduled meetings and use these meetings to identify barriers to the protégé's success; identify management, accounting, or other professional services that the protégé may still require; set specific targets for further improvement; and set a deadline for hitting each target. The protégé's business plan is a continuing topic of discussion over the life of the relationship—typically a 2-year period during which progress toward goals is measured. A supportive services consultant is made available by ODOT to provide advisory services, as needed, and possibly to attend the meetings between mentors and their protégés. Supportive services may be delivered in any of the following areas: general business management, financial administration, insurance and bond readiness, website development, or business development/marketing,
- *TxDOT* established its *Learning Information Networking Collaboration (LINC)* to provide mentoring to protégé firms. The LINC prepares small businesses to bid and perform on TxDOT projects. LINC mentors introduce the protégé firms to TxDOT staff and to prime contractors by providing networking opportunities. Rather than the traditional arrangement where a non-DBE contractor is a mentor to a DBE firm, TxDOT serves as the mentor in this program.

Effective Practices

This Effective Practices chapter describes public involvement processes, analytical methods, data sources and tools, and proactive strategies that have brought into clearer view for decision-makers the lives and concerns of various disadvantaged populations. Practices are "effective" because they have improved our identification and understanding of traditionally underserved populations or created decision-making processes in which meaningful involvement is possible. They are practices that have sought to be *inclusive*—that fully recognize and explore the needs of traditionally underserved communities when making transportation decisions—as well *comprehensive* in their determination to assess how their various programs, plans, projects, and other activities distribute benefits and burdens across various socioeconomic groups, including the traditionally underserved populations.

Practices are "effective" because they can deliver benefits: for example, solutions that mitigate adverse effects, or change physical, social, and travel conditions in ways that are truly welcomed by communities suffering from poverty, isolation, insecurity, or neglect. Effectiveness can also be defined in terms of the tangible and intangible benefits available to transportation agencies that implement these more inclusive and comprehensive practices. Agencies capable of following through with their commitments to affected communities may foster trust and greater credibility from those affected communities and organizations. This can lead to better outcomes with current projects and in the future through broader support for subsequent initiatives—a form of project delivery streamlining that is often underappreciated, particularly during times when available resources are limited.

For this toolkit, effective practices are categorized in terms of various "task objectives" that may be served through employing the tools and techniques described in the case examples. Task objectives provide an organizing framework for the presentation of the practices and their constituent tools and techniques. They reflect varying levels of engagement, authentic commitment, and beneficial impact to traditionally underserved populations that are undertaken by transportation agencies and practitioners. Task objectives can broadly range from identifying the location or community characteristics of traditionally underserved populations or providing information, to fostering a dialogue, creating opportunities for meaningful participation, instituting reforms, or delivering programs and services to benefit disadvantaged populations. Some effective practices are applicable to a specific stage of transportation decision-making (e.g., Policy Research, Statewide or Metropolitan Planning, Project Development/NEPA Compliance, Construction, etc.), but others can be readily applied throughout all or several decision-making stages.

The task objectives provide a simple framework for organizing and presenting the case examples, but it should be clear that accomplished practitioners are often able to orchestrate the

achievement of multiple task objectives when undertaking their work. Further definition of the task objectives is given in Chapter 3, Practical Approaches, but the general categories include:

- Identify Populations,
- Implement Public Involvement Plan,
- Provide Information,
- Gather Feedback,
- Build Relationships,
- Mitigate Impacts, Deliver Benefits, and
- Overcome Institutional Barriers.

The Effective Practices chapter presents many case examples that provide those who are interested with an opportunity to step into the shoes of another practitioner, to appreciate the context along with the exemplary activities that were undertaken to identify affected populations, or to customize and implement approaches that meet the standard of meaningful public involvement. Through sharing examples, the chapter provides some assurance to agencies and practitioners, including community-based and advocacy-based organizations and researchers, that they are not alone. Others have faced similar challenges and implemented noteworthy approaches. The practices reflect efforts to operate in good faith with affected communities; in most cases, the examples provided are not so clever or extraordinary, so heroic, or so costly that they cannot be replicated by others.

While the examples do not fully measure whether the methods chosen were "optimal" or truly "cost-effective," some cost- and performance-related information is included to better assess the merits and limitations of the efforts along with their influence on decisionmaking. Authoritative resources and contacts are also listed in this chapter to allow interested parties to do additional follow-up research and networking.

Table 4-1 identifies the effective practices described in the chapter. The table also lists for each of the examples the lead agency, stage(s) of decisionmaking for which the practice has been applied, the task objectives of using the practice, and the tools and techniques that were applied in service of achieving the task objectives.

Table 4-1.   Summary of effective practices: case examples, tools and techniques featured, sponsoring agencies, and other characteristics.

Case Example	Agency Lead	Stage of Decisionmaking	Task Objective	Tools and Techniques Featured
Conducting Focus Groups to Examine Immigrants' Needs and Values	Minnesota DOT	• Policy Research • Planning	• Gather Feedback	• Focus Groups • DOT–University Partnerships • Advertising through existing community groups
Using Convenience Surveys to Sample Hispanic Populations	N/A	• Policy/Research	• Identify Populations • Gather Feedback	• Surveys • Demographic Profiling • Leveraging University Resources
Demonstrating Commitment to Communication with the Public through Databases and Management Teams	Miami Dade MPO	• Planning	• Implement Public Involvement Plan •Identify Populations	• Public Involvement Management Team • Public Involvement Database
Using "Degrees of Disadvantage" to Identify "Affected Populations"	Delaware Valley Regional Planning Commission (DVRPC)	• Policy/Research • Planning	• Identify Populations • Build Relationships • Gather Feedback	• Degrees of Disadvantage Method • Environmental Justice Planners' Methodology • Geographical Information System Analysis • Environmental Justice Work Group

Table 4-1.   (Continued).

Case Example	Agency Lead	Stage of Decisionmaking	Task Objective	Tools and Techniques Featured
Identifying "Affected Populations" Using a Community Attribute Index	Atlanta Regional Commission (ARC)	• Policy/Research • Planning	• Identify Populations	• Community Attribute Index
Building Trust Through Transparency	Tennessee DOT	• Statewide/ Metropolitan Planning	• Build Relationships • Provide Information • Gather Feedback	• Steering Committees • Working Groups
Using Games to Solicit Priorities in Regional and Statewide Planning	Kentucky Transportation Cabinet	• Planning	• Gather Feedback	• Games
Engaging a Wider Public Through Community Conversations	Community Planning Association of Southwest Idaho (COMPASS)	• Planning	• Build Relationships • Gather Feedback	• Community Cafés • "Meeting-in-a Box" or "Meeting-in-a-Bag" • Focus Groups
Playing Board Games to Educate Decisionmakers about Reservation Road Planning	Lummi Nation and Bureau of Indian Affairs	• Planning	• Provide Information • Build Relationships	• Games
Adjusting the Strategies and Pace of Outreach to Develop Understanding of Community Values	Navajo Tourism Department	• Planning	• Gather Feedback	• Inventory of Cultural and Community Resources • Consult with Local Communities
Using Popular Shopping Areas and Phone Trees to Engage Immigrant Communities About Pedestrian Safety	Georgia DOT	• Project Development/ NEPA Compliance	• Gather Feedback	• Surveys • Incentives • Interpreters • School Outreach
Using Student Internet Access to Reach Diverse Populations	Georgia DOT	• Project Development/ NEPA Compliance	• Gather Feedback	• Internet Survey • Paper Survey • Working with Schools
Building Relationships with Service and Transit Providers to Measure Paratransit Needs	Southwest Region Planning Commission	• Planning	• Build Relationships • Gather Feedback	• Committee Formation • Working with Service Providers
Using a "Beacon" to Conduct Outreach in Low-Income and Minority Communities	San Antonio–Bexar County MPO	• Planning	• Provide Information • Gather Feedback • Build Relationships	• Community Beacons • Delivering Benefits • Public Meetings
Recruiting and Training Community Insiders to Lead Outreach and Engagement Processes	City of Seattle	• Planning	• Build Relationships • Gather Feedback	• Working Directly with Communities
Applying the Framework of Environmental Justice and Transportation Toolkit to Support Community-Based Initiatives	Baltimore Region/Nationwide	• Policy/Research • Planning • Operations	• Gather Feedback • Build Relationships • Overcome Institutional Barriers	• Building Power Relationships • Public Participation Framework • Alternative Analysis Methods • Triage Committee
Designing a Tiered Outreach Approach to Foster Meaningful Involvement	Colorado DOT	• Project Development/ NEPA Compliance	• Provide Information • Gather Feedback • Build Relationships	• Surveying • Community canvassing • Employing Locals • Uniforms
Hiring Local Residents to Conduct Outreach	North Carolina DOT	• Project Development/ NEPA Compliance	• Provide Information • Gather Feedback • Build Relationships	• Surveying • Community Canvassing • Employing Locals • Uniforms

Table 4-1.   (Continued).

Case Example	Agency Lead	Stage of Decisionmaking	Task Objective	Tools and Techniques Featured
Establishing a Model Comprehensive Tribal Consultation Process	Washington State DOT	• Policy/ Research • Planning • Project Development/ NEPA Compliance	• Build Relationships • Gather Feedback	• Agency Guidance for Consultation Process • Annual Tribal Outreach Meetings • Tribal Transportation Planning Organization
Replacing a Community Resource in a Minority Neighborhood through Functional Replacement	Mississippi DOT	• Right-of-Way	• Build Relationships • Overcome Institutional Barriers	• Functional Replacement • Outreach and Negotiations
Holding a Student Film Competition to Engage Youth	Sound Transit	• Construction • Policy/ Research	• Provide Information • Build Relationships	• Student Competition • Video Messaging
Training Diverse Leaders for Seats on Boards and Commissions	Boards and Commissions Leadership Institute	• Policy/ Research	• Overcome Institutional Barriers	• Training • Coalition Building
Training and Hiring Minority, Low-Income, and Female Workers	Missouri DOT	• Construction	• Overcome Institutional Barriers	• Pre-apprenticeship Program • Open Jobs Pipeline between Community, Unions, and Contractors • Minority, Low-Income and Female Hiring Incentives • Work Force Partnering Plan Agreement
Creating Workforce Diversity through Internship Programs	Maryland DOT	• Operations • Policy/ Research	• Overcome Institutional Barriers	• Internships • DOT-University Partnerships
Training Project Managers and Engineers in Public Involvement Principles	Arizona DOT	• Training	• Overcome Institutional Barriers	• Training
Guaranteeing Mobilization Loans for Disadvantaged Business Enterprises	Wisconsin DOT	• Policy/ Research	• Overcome Institutional Barriers	• Hiring Programs • Training • Financial Assistance

Conducting Focus Groups to Examine Immigrants' Needs and Values: Minnesota Department of Transportation and the University of Minnesota, Urban and Rural Minnesota, Statewide

Background

For the past two decades, Minnesota has been undergoing a demographic shift. Burgeoning immigrant communities across the state have given Minnesota's urban and rural areas sizeable populations of Hispanics, Somalis from East Africa, and Hmong from Southeast Asia. These immigrant communities have different needs, mobility patterns, and relationships with transportation systems and services.

After the 2000 census results were published, researchers at the University of Minnesota's State and Local Policy Program (SLPP) began asking questions about how growing Hispanic, Somali, and Hmong communities used transportation systems. SLPP's research led them to National Highway Traffic Safety Administration reports concluding that foreign-born and ethnic populations have community-specific transportation needs and values. The majority of the research, SLPP concluded, focused on minority or foreign-born populations in urban setting or in rural areas—but generally not in both.

SLPP proposed to conduct focus groups to study immigrant populations in both rural and urban Minnesota to strengthen the Minnesota Department of Transportation's (MnDOT's) work on intelligent transportation systems (ITS). MnDOT agreed that this approach would help the department better plan how to target changes to the transportation system and implement specific technologies to better suit the needs of these emerging populations. MnDOT was able to provide funding for the study through ITS funds provided under TEA-21.

Stages of Decisionmaking:
- Research
- Statewide Planning

Participants:
- Minnesota DOT
- University of Minnesota
- Hispanic, Somali, and Hmong community members and organizations

Tools and Techniques:
- Focus groups
- DOT–University Partnerships
- Local Vendors
- Child Care
- Advertising through Existing Community Groups

Affected Populations:
- Foreign Born
- Minorities
- Low Income
- Limited English Proficiency

Developing the Approach

SLPP chose focus groups as the method for studying immigrants' transportation use because members of the team felt that posing open-ended questions in a group setting would garner more information than an electronic or paper-based survey. The focus group format promised to be less impersonal, permitting discussion in a social setting and allowing researchers to meet participants in their own communities.

The focus group discussion questions were structured to be more anecdotal and example-based than quantitative. Researchers asked for stories about how people got around town on a daily basis and when participants were not able to make a trip, or had difficulties making a trip. Researchers were careful to avoid generalizing the behavior of entire groups from individual stories, but looked to learn from the expressed preferences and reported experiences to see if specific trends and patterns could be illuminated.

"A real key was making sure that we were coming across as meeting them on their terms on their turf, so they would be more comfortable talking to us."

—Frank Douma, University of Minnesota Humphrey Institute of Public Affairs

Implementing the Approach

To implement the focus groups, SLPP and MnDOT drafted a master agreement to outline their collaboration. This step was important in establishing roles and responsibilities as a framework for partnership between two large bureaucracies.

A lead researcher was designated to run the focus groups and the overall study of which the focus groups were a part. A graduate student researcher with experience in community organizing was hired to help organize and conduct the focus groups. Using census data, researchers identified rural and urban communities with higher concentrations, or dramatically increasing populations, of Hispanics, Somalis, or Hmong. It was vital that participants be comfortable talking to the researchers, so SLPP decided to approach potential attendees through community centers and English language classes and to hold the meetings in places where these populations would be most comfortable. Invitations to the focus groups were drafted by SLPP in three languages and delivered to the target attendees both orally and in writing from the community center or language teacher. The community contact would explain that the researchers were interested in the community's travel habits and wanted to conduct a two-hour focus group. As part of this invitation they would establish firmly that the researchers were not representatives of the state or federal government. This last point was important because of cultural or community fears of government authority and immigration policy.

Working with the community groups, SLPP increased its access to information that helped them tailor its approach, ensuring the success of the focus groups. For the Minneapolis Somali focus groups, SLPP separated the men and women into two rooms based on the recommendation of a Somali social organization with whom they partnered and who advised that Somali women tended to defer to the opinion of males in group discussions.

SLPP conducted the focus groups with invited attendees including Hispanic, Somali, and Hmong populations in urban and rural Minnesota. Over the course of 5 months, SLPP held seven focus groups—four in the Twin Cities and three in rural areas. Focus groups were held with each ethnic population separately to allow for more consistent group discussion, to gather data based on specific communities, and to facilitate the conversation by conducting the meeting in each community's respective language. SLPP reserved and paid for meeting rooms, made arrangements for child care and translation, and supplied food at the focus groups from local Hispanic, Somali, and Hmong restaurants.

SLPP reserved a 2-hour time slot for each focus group, which typically had between 10 and 20 attendees. SLPP members collected names in the sign-up process to ensure attendance, but did not publish names in their final reports. Each focus group began with a statement of intent that assured participants that their personal information would be protected, establishing upfront that they were not required to answer questions that made them uncomfortable, and that the SLPP was using funding from MnDOT but was not representing a government agency.

Over the course of the various focus group sessions, SLPP learned how much time to set aside for each question: typically about 5 minutes for responses. If a group was particularly interested in an issue, or particularly responsive to being in a focus group, responses would last about 10 minutes. Because of time constraints, SLPP had to trim the number of questions that they wanted to ask and build greater flexibility into the facilitator's script. In addition to questions about trip-taking and mode preferences, the focus groups touched upon issues such as safety, personal technology use, and preferred methods for receiving information and communicating.

Types of Focus Group Questions: Discussion of Trips

Several focus group questions discussed trip taking, as shown below, but other issues were explored such as mode preferences, safety, personal technology use, potential language barriers, and preferred methods for receiving information and communicating.

1. Do you prefer it when you can stay here in this neighborhood, or do you go to other parts of town? *<also talk about why people like to visit other parts of town if they do, or why they like staying in their own neighborhood>*
2. When you go somewhere here in town, what kinds of problems do you have getting there? *<make sure discussion addresses the following:>*
   - *How important is it to people to get where they're going quickly?*
   - *How concerned are people about getting in accidents?*
   - *How important is it for people to have transportation that takes them all the way to where they're going (they don't have to walk a long way, or use a secondary mode).*
   - *Do people feel like they have access to the types of transportation choices they really want and why/why not?*
   - *How important is it for people to have a type of transportation that is ready to go whenever and wherever they are (as opposed to having to wait, schedule in advance, or depend on others)?*
   - *How concerned are people about physical security as they travel?*
   - *How important is it that people have a comfortable physical environment when they travel (and what makes an environment comfortable)?*
3. Now let's talk about going out of town. Has anyone here gone out of town in the last year or so? *<if so, follow up with:>*
   - *Why did you go out of town?*
   - *What did you do (discuss general answers like vacation, business, family etc.)?*
   - *How did you get there?*
   - *Was it a good trip? What made the trip good or bad?*

Influence of the Approach on Decisionmaking

Building upon the insights offered through the focus groups, SLPP was able to produce a study identifying specific transportation needs and values for each community and assessing the potential policy implications of these expressed needs and values. Some of the major opportunities that emerged for improving mobility and accessibility to these immigrant communities included rural and urban car-sharing programs, and increased investment in public transit.

For example, information gathered in the focus groups led to the extension of a bus line used to reach an employment center. The Somali participants in rural Faribault, Minnesota, said that they would take the bus to work at a meat-packing plant, but the bus line only extended to city limits—two miles short of the plant. Researchers identified this transportation need to MnDOT, which funds many of the rural transit lines in Minnesota and ended up extending the line.

SLPP's relationships with community contacts faded after the end of the study, and the focus group participants have not been contacted for further collaborations. The researcher involved

believes that the focus group approach provided insight on the relative merits of a range of ITS applications—strategies such as community-based transit (CBT), car-sharing, telework and telemedicine, and advanced traveler information services (ATIS)—and how they can be tailored to the diverse travel needs of affected populations living in urban and rural areas. Since the study's publication, Minnesota's transit agencies have increased access to transit information, strengthened their online trip planner, and instituted the announcing of arrival times at transit stations. MnDOT has continued to use the focus group approach to gather information on transportation behavior.

The collaboration between the university and MnDOT helped to build a relationship that has continued since the project. SLPP and MnDOT have since worked together to get competitive U.S.DOT grants and to implement demand-based toll lanes called MnPass, a bus-only shoulder system, and an examination of ITS solutions that promote telecommuting. Congressional leadership has taken notice of the success of this collaboration and is working to expand opportunities for such partnerships in the upcoming multi-year federal transportation appropriations bill.

Challenges

A major potential barrier to conducting the focus groups was distrust of government agencies by members of the community. Though the Hispanic, Somali, and Hmong populations continue to grow and play important roles in Minnesota, federal raids against these communities have sown fear and, for some individuals, distrust of government employees. SLPP researchers mitigated these concerns by approaching the communities through established organizations, by not taking participants' names, and by being forthright about disclosing their intentions and funding sources. While these techniques can be replicated, overcoming distrust will continue to be a challenge for those conducting focus groups in the future.

While the partnership between the university and MnDOT has been fruitful, barriers to coordination between the two institutions persist. Universities have highly developed Institutional Review Board (IRB) processes to ensure that research done in the university's name does not exploit the participants or the university's reputation. This review process took time and required a certain amount of patience on behalf of MnDOT. But overall, forging the partnership was relatively painless. The often significant barriers that may arise when two large institutions work together were addressed before the focus group project started because MnDOT and the university had drafted a master agreement to deal with potential issues; the focus groups were consistent with this pre-established framework.

Continuously changing and growing immigrant populations in Minnesota will not necessarily have the same transportation needs and preferences as those in the past. Additional focus groups or other methods for gathering input will be required in the future to maintain the level of understanding necessary to create a transportation system that continues to serve all Minnesotans. For the transportation agency, the challenge will be to identify the nature of the gap between these emerging needs and existing services, and to find ways to use technology to bridge the gap, both in terms of providing better transportation options and in reducing the cost of these options.

Benefits of the Approach

The focus groups gave SLPP and MnDOT the opportunity to illuminate some of the cultural differences related to ethnic background or immigrant status. It allowed them to recognize—at an institutional level—that the population is changing and to learn that understanding those differences is crucial in planning the transportation system. Without access to that informa-

tion, planners using the "business-as-usual" approach risk marginalizing an important part of the population and undermining the transportation system's ability to serve the mobility and accessibility needs of the state.

Costs of the Approach

Focus groups require research to target populations, to determine where to meet them, and to ascertain how to effectively stimulate dialogue during such activities. Focus groups also involve drafting the focus group questions and orchestrating the event, making contacts, securing venues, running the focus groups, and drafting summary reports. The most significant costs of the focus groups were the lead and assistant researchers' wages, which were about $25/hour plus benefits and $15/hour plus a full in-state tuition waiver. The lead researcher worked about 10 hours a week on the project while the assistant worked 20 hours per week for an academic year—about 30 weeks total. This roughly equals about $16,500 for the project, not counting administration or overhead costs or other fringe benefits applied to labor, or the tuition waiver. The per event cost would be approximately $2,500 to $3,500 for labor (excluding administration and overhead expenses and direct reimbursable expenses for transportation, printing, food), recognizing that there are some minor efficiencies from holding similarly-themed focus groups in multiple locations.

The venues generally had no cost and the food bought from local providers was of moderate cost. Staff conducting the focus groups consisted of the two SLPP researchers and an interpreter. Including commute time, the focus groups each took about a day to conduct. No incentives were provided to participants other than a meal.

Contacts/Resources

Contacts

Frank Douma
Assistant Director of the State and Local Policy
    Program
University of Minnesota Humphrey Institute of
    Public Affairs
130 Humphrey Center, 301 19th Ave. S.
Minneapolis, MN 55455
(612) 626-9946
douma002@umn.edu
http://www.hhh.umn.edu/people/fdouma/

Susanna Wilson
Community Development Coordinator
1616 Humboldt Avenue
West St. Paul, MN 55118
(651) 552-4144
susanna.wilson@ci.west-saint-paul.mn.us
http://www.ci.west-saint-paul.mn.us/

Resources

Wilson, S., and Douma, F. (2005). *Transportation Needs of Foreign-Born Ethnic Sub-Populations in Rural and Urban Communities: An Environmental Justice Perspective.* http://www.hhh.umn.edu/img/assets/20163/transportation_needs_douma.pdf

Douma, F. (2004). *Using ITS to Better Serve Diverse Populations.* http://www.lrrb.org/pdf/200442.pdf

Using Convenience Surveys to Sample Hispanic Populations: Coastal Carolina University, Conway, SC

Background

Stage of Decisionmaking:
- Policy

Participants:
- Coastal Carolina University

Tools and Techniques:
- Surveys
- Demographic Profiling
- Leveraging University Resources

Affected Populations:
- Low Income
- Hispanic
- Limited English Proficiency
- Foreign Born

Between 2000 and 2008 the Horry County, South Carolina's Hispanic or Latino population increased by 78 percent while the South Carolina state overall saw a 9.7 percent increase (U.S. Census Bureau, American Community Survey, 2009).

In 2008, the South Carolina state legislature enacted the South Carolina Illegal Immigration Reform Act which required that

> . . . *every public employer participate in the federal work authorization program to verify all new employees, to require contractors or subcontractors who contract with public employers for the physical performance of services to register and participate in the federal work authorization program, to define terms, to establish deadlines to comply for public employers, contractors, and subcontractors . . . to provide exceptions for verification of a person's lawful presence in the United States, to provide a procedure for a person to verify his or her lawful presence in the United States, including executing an affidavit that the person is a United States citizen or legal permanent resident or a qualified alien or nonimmigrant under the immigration and naturalization act, to require that eligibility for benefits shall be made through the federal systematic alien verification of entitlement program.*

Beyond existing federal legislation, the law seeks to reduce the number of undocumented workers and to reduce abuse of workers. However, this law and others may serve to increase fears of ethnic profiling among persons of Hispanic or Latino origin, thus decreasing participation in project, program, and service public involvement processes.

Developing the Approach

Two students and a professor from the Department of Politics and Geography, Coastal Carolina University, developed a study to investigate the working conditions of Latin American immigrants in Horry County (see Figure 4-1). This study furthered the 2006 and 2007 investigations of researchers with the University of South Carolina (USC) Consortium for Latino Immigration Studies. That study, *The Economic and Social Implications of the Growing Latino Population in South Carolina,* found that South Carolina's foreign-born population grew more rapidly than in any other state in the U.S. between 2000 and 2005 (Consortium for Latino Immigration Studies, 2007).

In order to assess working conditions in Horry County, the Coastal Carolina research group wanted to administer a survey on the topic that would identify the reasons for migration to the region, working conditions, and the immigrants' future plans. The goals included gaining a better understanding of the Hispanic immigration issues.

Initially, the researchers hoped to reach 1,000 participants (an oversample) to gather feedback from a broad and diverse representation of Latin American immigrants. However, the researchers felt that standard methods for attracting survey participants (e.g., door-to-door recruitment, direct mailings, specific questions regarding the legal status of participants, etc.) would not work because of fear among immigrants of providing personal information of any kind.

Nonetheless, gathering survey information was viewed as essential to understanding working conditions and drawing attention to immigrant needs and issues. The researchers believed that

Figure 4-1.   Members of the Carolina Coastal research team implemented a convenience survey to investigate the working conditions of Latin American immigrants.

if they used a more deliberate and personal approach to encourage participation they would get better results and higher levels of participation, albeit at some risk that the sampled population might differ from the overall Latin American immigrant population.

This method of nonprobability sampling is referred to as convenience surveying or judgment sampling. While the research conducted for this project did not focus on the transportation issues of immigrants, the approach may be valuable for transportation-related surveys in that it provides methods of accessing hard-to-reach communities. The survey described here also provides an excellent example of how an agency could expand and enhance its understanding of a community by leveraging the research capabilities of universities and student researchers.

Implementing the Approach

The co-principal investigators for the study were both Spanish language speakers: one was Hispanic and the other had ties to the Hispanic community through work. Initial visits were made to activity centers within the Hispanic community to discuss the students' desire to conduct interviews using a survey instrument.

Having laid the groundwork as to why the surveys were being conducted, how privacy would be maintained, and what the potential benefit to the community of participating in the survey would be, the researchers gained a degree of acceptance for their survey. They were able to deploy student researchers at soccer fields, Mexican restaurants, Catholic churches, and Hispanic grocery stores to conduct the surveys.

While conducting the surveys, the students found that assistance from the local Catholic churches was a critical element in making contact with the Hispanic community and validating the importance and credibility of the survey to the target community. The researchers visited the priests and other clergy of the churches, explained the study, and received permission to make presentations on the study to the congregations. The churches were not the sole source for the sample population; however, the support of the clergy aided in the study outreach. One researcher was also able to draw on her past experience working at a local Mexican restaurant to gain better access on behalf of the research team.

Influence of Approach on Decisionmaking

The research study was not intended to directly influence transportation decisionmaking, but it was intended to shed more light on the values and needs of the sampled population to foster a deeper understanding of the lives of the immigrant Hispanic population living within the immediate region. The researchers secured 174 usable surveys in Horry County, or roughly 2 percent of the estimated 2006–2008 Hispanic/Latino origin population. The study supplemented earlier work conducted by another South Carolina university.

The sample population included a large cohort in the age group of 19-to-35 years, the majority of whom were married and living with their family in the U.S. Many respondents who participated expressed their willingness to take any job, at any wage, as long as they were employed and had some income. Many spoke of living the "American Dream," which prompted the researchers to develop YouTube videos featuring some of the respondents and students.

In addition to developing national and international papers for conference presentations and academic journals, the professor and students are continuing to collect survey data and make videos. The findings also will be shared with the USC Consortium for Latino Immigration Studies and state policymakers.

Challenges

Rather than pursue a probability sample that would be more representative of the entire Hispanic or Latino population of Horry County, the researchers relied upon those participants they were able to reach out to through their contacts and other connections in the community.

Establishing a more representative sample of the target population is a continuing challenge. The sample derived from the convenience survey method was 69 percent male, 82 percent of Mexican descent, more than 60 percent between the ages of 19 and 35, and nearly 90 percent married or in a common-law relationship. By comparison, the 2006–2008 American Community Survey reported that nearly 40 percent of the Hispanic or Latino population was male (U.S. Census Bureau, 2010). As this research did not gather information on immigration status, it is not possible to determine the number of participants who were documented residents or had other legal residency or work status in the U.S. The researchers steered clear of the immigration status question for fear it would have a chilling effect on participation.

Benefits of the Approach

The convenience survey approach may be useful for many hard-to-reach populations that regularly use or are affected by transportation systems. There are three types of situations that justify convenience samples—the exploratory, the illustrative, and the clinical (Ferber, 1977). All three situations may be met depending on additional tools and techniques used.

- Exploratory purposes may be served by using convenience surveys to identify broad concerns, topics, solutions, and enhancements.
- Illustrative purposes may be served by using convenience surveys to test or gather opinions on anticipated adverse impacts, distribution of benefits, or otherwise gain a better understanding of new or untested methods, services, projects, and so forth.
- Clinical purposes may be served by drawing a convenience sample to identify and conduct pilot or case studies within a specific group meeting certain criteria.

Convenience surveys allow researchers to use trusted sources to explain the research goals, purposes, and anticipated outcomes to target respondents so that participation in the process can be secured.

Costs of the Approach

In terms of time and other resources, convenience samples are not as costly as probability samples. The convenience lies in the agencies' ability to connect with universities, human service agencies, faith-based organizations, and others who have existing ties with the target population. This decreases time and other resources needed to identify the target population, develop trusting relationships, and conduct a probability sample. In this instance costs were extremely low, approximately $3,500, because of the use of existing community contacts and the mobilization of lower-wage students with Spanish language proficiency working at $7.50 per hour. Approximately 460 labor hours were expended on labor for the efforts. If the research team were paid more, the sample population were larger requiring more researchers, or the period of outreach were longer, costs would rise due to increased labor and the marginal costs for reproducing survey instruments, and data analysis.

Contacts/Resources

Contacts

Dr. James David Henderson
Politics and Geography
Coastal Carolina University
Arcadia Hall 125
P.O. Box 261954
Conway, SC 29528-6054
henderj@coastal.edu

Elsa Crites
Professor
Coastal Carolina University
P.O. Box 261954
PRIN 105 B
Conway, SC 29528-6054
(843) 349-2168
ecrites@coastal.edu

Beverly G. Ward, Ph.D.
BGW Associates, LLC
13705 Lazy Oak Drive
Tampa, FL 33613-4923
beverly@bgwassocs.com

María Luisa Torres
Associate Professor
Coastal Carolina University
P.O. Box 261954
PRIN 105 I
Conway, SC 29528-6054
(843) 234-3494
mtorres@coastal.edu

Resources

The Consortium for Latino Immigration Studies, (2007). *The Economic and Social Implications of the Growing Latino Population in South Carolina.* Columbia, SC: South Carolina Commission for Minority Affairs and the University of South Carolina.

Ferber, Robert (1977). Research by Convenience. *The Journal of Consumer Research.* 4 (1): 57–2.

Journey to American Dream, YouTube Video, http://www.youtube.com/watch?v=jz1Seagj4Rc

U.S. Census Bureau. 2006–2008 American Community Survey 3-year Estimates. 2009. http://factfinder.census.gov/servlet/

Demonstrating Commitment to Communication with the Public through Databases and Management Teams: Miami-Dade Metropolitan Planning Organization

Background

Despite possessing an intimate familiarity with the transportation system and its day-to-day users, members of the public are reluctant to get involved with metropolitan area planning studies and activities. Mistrust of government and a dismissive cynicism that the public's views will not be taken seriously by officials is surely near the top of any list of reasons for not participating in planning-related studies. Constraints upon time due to family or work, discomfort with public speaking, and language impediments also keep people away from the public processes. The long-term horizon of many statewide and metropolitan planning studies may also suppress involvement because of the absence of tangible benefits or immediate threats. Aware of these barriers, the Miami-Dade Metropolitan Planning Organization (MPO), the MPO for the Miami Urbanized Area, has tried many approaches to make participation convenient and accessible for the diverse populations making up their region.

Making it easy for citizens to register a complaint or to make a suggestion about transportation in the region is one of the simplest ways for the public to participate. Done properly, the "eyes and ears" of the public can bring to the attention of the agency critical deficiencies and unmet needs such as potholes, broken traffic lights and stop signs, unsafe bus shelters, overcrowded buses, or the need for a pedestrian crosswalk or pedestrian-activated traffic light. The MPO took one small but important step when it developed a centralized database for tracking comments, questions, and concerns raised by the public (see Figures 4-2 and 4-3). The compiled information was then appropriately routed to responsible parties for resolution. This technological solution proved complementary with another of the MPO's successful initiatives, which was to strengthen coordination among the several agencies involved in transportation planning, programming, and operations in the region.

Stage of Decisionmaking:
- Planning

Participants:
- Miami-Dade MPO
- Florida DOT
- Miami-Dade Transit
- Multiple Local Transportation Agencies

Tools and Techniques:
- Public Involvement Management Team
- Public Involvement Database

Affected Populations:
- Black
- Hispanic
- Haitian
- Low Income
- Homeless

Developing the Approach

The MPO established a public involvement management team (PIMT) to bring several agencies responsible for transportation and community-related concerns together to ensure a coordinated response to public comments and to organize future public involvement efforts. The PIMT is comprised of the Miami-Dade MPO and partner agencies including South Florida Regional Transportation Authority (Tri-Rail), Miami-Dade Public Works, Miami-Dade Expressway, Miami-Dade Aviation, Florida DOT, the 5-1-1 System, South Florida Commuter Services, Miami-Dade Seaport Department, Florida's Turnpike Enterprise, the Miami-Dade County School Board, and the Citizens Independent Transportation Trust (CITT). The public involvement managers of each of the agencies meet on a quarterly basis to discuss issues emerging on major projects underway and to receive briefings from project consultants and sponsors on schedule progress and public outreach strategies being undertaken.
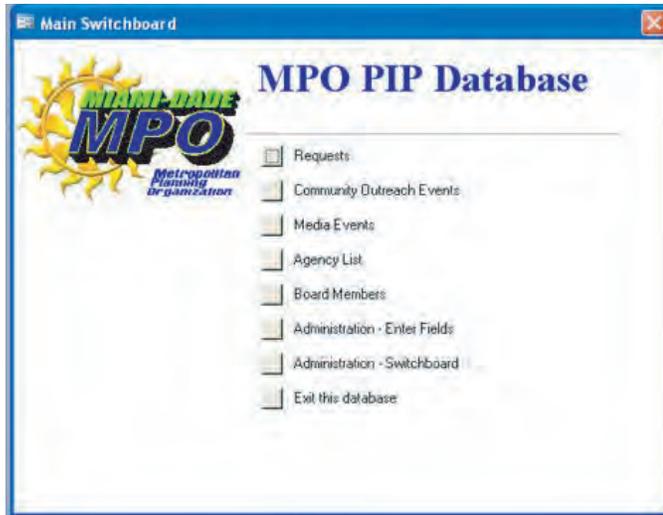
Figure 4-2.   The Miami-Dade MPO created the PIP database to track and monitor citizen concerns. Different contact and event lists can be entered from the main switchboard.

Figure 4-3.   The location, number of attendees, and an assessment of the event is recorded along with the ideas, concerns, and questions that were raised for each event.

The MPO Public Involvement Plan Database (PIP Database) was designed to collect, organize, and track every comment, question, or inquiry that the MPO receives from anyone in the community as well as from elected officials, representatives of member agencies, human service providers, or nonprofit organizations. After being entered in the PIP Database, comments received during outreach events and through other staff correspondence are distributed to the appropriate agency on a monthly basis. The MPO is not an implementing agency so many of the questions regarding physical planning and operations of transportation are sent to other agencies where the appropriate action or response is taken. When agencies respond to the comments, MPO staff is copied on the response and is then able to enter it into the PIP Database.

Implementing the Approach

The team approach to public involvement exercised through the PIMT has helped the agencies share ideas, coordinate project efforts, better address the public's questions, and enhance relationships between the different agencies.

The PIP Database stores all correspondence from the public and contains an "agency list," a "citizen request list," and an "outreach and media events list." The agency list consists of over 1,000 businesses and organizations that the MPO's public involvement office (PIO) can draw from when organizing community outreach events. The citizen request list documents and tracks all citizen contact with the MPO, including, but not limited to, phone calls, emails, faxes, and comment cards. This documentation helps ensure that citizens receive feedback on their comments, questions, concerns, and so forth. Once entered in the citizen request list, the citizen is contacted with a letter of appreciation informing them that their issue is under consideration and will be addressed by the appropriate agency, if not by the MPO. The PIP Database also has the ability to track language preference and respond in the appropriate language.

The outreach and media events list is used to track comments and attendance of public events. For each event the location, contact, number of attendees, and perceived success of the event is recorded along with the ideas, concerns, and questions that were raised. Event attendees who provide an email address and agree to being placed on the citizen distribution list will be included in future public involvement information emails.

The database has been used to pull up comments relating to a project, issue, or geography for evaluation or inclusion in a report. By tracking comments from the public, the database has helped the involved agencies access important comments related to their projects and has provided tangible evidence to those in the community that they can turn to government to address their needs and concerns. The relationships between the PIMT members help to facilitate the proper disbursement of any correspondence received to the agency that can appropriately address the inquiry.

From the information collected at workshops, the MPO realized that attendance for many events was low. The MPO has subsequently devised strategies to take its comment gathering out into the community and now sends a staff member at least twice monthly to locations throughout the region where people work, play, and shop to talk to people in the community and gather information about their thoughts on transportation improvements and needs. Through this process, the MPO ensures that staff gathers more diverse comments than could otherwise be obtained.

The MPO has also used contact information in the PIP Database to send out newsletters and other correspondence. For example, the MPO distributes citizen guides in English, Spanish, and

Creole, which are intended to assist the public in understanding the transportation planning process. The MPO also distributes a "Call for Ideas" brochure to contacts in the PIP Database early in the plan development process. The brochure solicits ideas for consideration to be programmed in the Unified Planning Work Program (UPWP). The extensive database includes homeowner's associations, churches, citizens at large (from previous inquiries), and various agencies, including all municipalities within the county.

Influence of Approach on Decisionmaking

The public input that the PIMT and PIP Database approach have garnered has been influential in the deletion, deferral, advancement, and modification of project scopes in both the Transportation Improvement Program (TIP) and the Long-Range Transportation Plan (LRTP). The utility of the PIMT and PIP Database approach was recognized in the MPO's most recent tri-annual certification review as a critical component of the MPO's public involvement strategy.

Information systematically gathered and recorded from outreach events in the community also enables the agency to assess where community input has been received and where it has not. Through understanding the reach and limits of their public involvement efforts, the MPO has been better able to tailor its processes and even redouble efforts, in some cases, to engage traditionally underserved populations. For example, the MPO has partnered with the Miami-Dade County Community Action Agency (CAA), which works with homeless and very low-income individuals. MPO staff meets regularly with CAA staff at its 12 branch offices throughout the county. Through this partnership, the MPO has gained access to very low-income people living in those project areas and has been better able to identify their unique needs and issues of concern. The information that the MPO staff received from contact with the CAA is included in the database and shared with other public involvement managers and project managers. Through this process, the MPO has been able to engage those who probably would never have had the opportunity to give their input because they have no means of receiving notices or emails without a mailing address or computer access.

Benefits of the Approach

The PIP Database is a simple approach that has helped to streamline the tracking process and increase the responsiveness of the MPO to its citizens and its customers. The PIMT has been effective in further strengthening a network and support system among the transportation agencies. With difficult and contentious projects, the agencies have been able to consult with each other at the quarterly meetings and explore strategies and possible areas of support from their sister agencies. The network has helped to stop misinformation and garner support for the agencies' projects.

Over time, bringing together public involvement personnel from all transportation agencies has made it easier for the MPO to grow participation in its programs and plans.

Costs of the Approach

There were very minimal costs involved. The database was created in Microsoft Access and the initial template only took about a week to develop. MPO staff spends approximately an hour each day inputting information in the database. There is no separate funding source for the PIMT, which requires MPO staff time to prepare for and host the quarterly meetings.

Contacts/Resources

Contacts

Elizabeth Rockwell
Public Involvement Manager
Miami-Dade MPO
111 NW 1st Street, Ste. 920
Miami, FL 33128
(305) 375-1881
erock@miamidade.gov
http://www.miamidade.gov/mpo/

Resources

Miami-Dade MPO, "Public Involvement Management Team," http://www.miamidade.gov/MPO/m12-comm-pimt.htm

Using "Degrees of Disadvantage" to Identify "Affected Populations": Delaware Valley Regional Planning Commission

Background

Title VI of the Civil Rights Act of 1964 and the 1994 President's Executive Order 12898 on Environmental Justice state that no person or group shall be excluded from participation in, or denied the benefits of, any program or activity utilizing federal funds. Each federal agency is required to identify any disproportionately high and adverse health or environmental effects of its programs on minority and low-income populations. In a joint memorandum issued to their field administrative offices in October 1999, the Federal Highway Administration and the Federal Transit Administration gave clear notification of their intent to closely review compliance with Title VI during planning certification reviews. The memo, *Implementing Title VI Requirements in Metropolitan and Statewide Planning* (U.S.DOT, 1999) recommends several questions be raised during certification reviews about the analytical processes used to assess the distribution of benefits and burdens of regional transportation plans and investments on minority and low-income populations.

During the planning certification review process, MPOs must demonstrate that they have prepared a demographic profile of their metropolitan area that includes the identification of the locations of socioeconomic groups, including low-income and minority populations. Neglecting to prepare a demographic profile, MPOs will find it difficult to substantiate that their planning process has sought to identify the needs of low-income and minority populations—a core Title VI compliance question during certification reviews. MPOs are also expected to assess the service equity of their program, policies, and investments. Drawing upon socioeconomic data, MPOs are expected to assess how the benefits and burdens of the Long-Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP) are distributed among different socioeconomic groups. MPOs must also be able to explain to certification reviewers how their planning process responded to the benefits and burdens analyses: for example, what specific actions or remedies were put into motion by the MPO to address imbalances in the program priorities that may have been identified.

The Delaware Valley Regional Planning Commission (DVRPC), the MPO for the nine-county, bi-state Philadelphia–Camden–Trenton region, responded to this federal guidance on environmental justice with the preparation of "*. . . and Justice for All:*" *DVRPC's Strategy for Fair Treatment and Meaningful Involvement of All People* in September 2001. The initial report provided key definitions for environmental justice; summarized the agency's existing environmental justice–related plans, policies, and public involvement activities; and described a quantitative and qualitative method for evaluating the LRTP, the TIP, and other planning programs. Since its release, DVRPC has regularly published annual updates, "Environmental Justice at DVRPC," with new data and analyses, as appropriate, reporting the agency's ongoing activities related to environmental justice.

Stage of Decisionmaking:
- Planning
- Policy and Programs

Participants:
- Delaware Valley Regional Planning Commission

Tools and Techniques:
- Degrees of Disadvantage Method
- Planner's Methodology
- Geographic Information System Analysis
- Environmental Justice Work Group

Affected Populations:
- Low Income
- Minority
- Limited English Proficiency
- Physically Disabled
- Seniors
- Female Headed Households with Children
- Carless Households

Developing the Approach

DVRPC's work program and planning activities on the topic of environmental justice have continued to evolve and expand since their first report. They have established a "Degrees of

Disadvantage" (DOD) method to evaluate their LRTP and the TIP. This method has been extended to other projects, programs, and studies such as corridor-level studies and assisted in targeting grant programs to eligible communities. DVRPC's DOD method is instructive as to how an MPO can draw upon several data indicators to better identify and work with the traditionally underserved populations in its region.

Conducted at the regional level, the technical analysis locates the people most in need and determines how the regional transportation system and DVRPC's programs, policies, and investments may differently impact these groups. The major steps taken during this stage of the DVRPC's planning process with respect to environmental justice require assessing the existing accessibility conditions of residents within their region:

- Identify groups that may be negatively impacted;
- Locate them in the region;
- Plot key destinations, such as employment or health care locations, that they must access to reach opportunities;
- Acknowledge nearby land use patterns;
- Overlay key destinations with the region's existing and proposed transportation network; and
- Determine what transportation service gaps exist for these disadvantaged groups.

DVRPC's LRTP and the TIP are then evaluated to determine how effectively these accessibility gaps are being addressed.

FHWA and the Federal Transit Administration have developed technical assistance tools and training events to illustrate effective practices for conducting a benefits and burdens assessment at the metropolitan level (see *Transportation and Environmental Justice: Case Studies* (FHWA/FTA, 2000), *Transportation and Environmental Justice: Effective Practices* (FHWA/FTA, 2002); and the National Highway Institute training course, *Fundamentals of Title VI/Environmental Justice*). However, federal agencies do not prescribe a specific method that must be followed for compliance with the subject topic, leaving MPOs with an opening to work out their own methods and practices. DVRPC developed its DOD method to carry out its planning process, including its benefits and burdens assessment. DVRPC characterizes its DOD method as the first step of a demographic analysis that identifies the potentially disadvantaged population groups first, and then draws upon this knowledge as a planning tool for subsequent work. The demographic data has been used by DVRPC's public affairs office to customize outreach strategies to specific population groups—for example, limited English proficiency (LEP) groups.

Implementing the Approach

In its most recent annual update, DVRPC compiled demographic data for eight population groups, including non-Hispanic minorities, Hispanics, carless households, households in poverty, elderly (older than 75 years), persons with physical disabilities, female head of household with child, and LEP. Using the most recent census data, each of these groups were identified and located at the census-tract level. Regional level data was also compiled, combining populations from each of the nine counties, for either individuals or households, depending on the indicator. The total number of persons in each demographic group was then divided by the appropriate category (either population or households) for the nine-county region, providing a regional average for that population group. Any census tract that meets or exceeds the regional average level, or threshold, was designated an environmental justice–sensitive tract for that group. Table 4-2 provides a definition of each of the eight indicators and the applied criteria for identifying higher than average concentrations of a disadvantaged population.

DVRPC uses these thresholds to identify disadvantaged populations at the census tract level by each population group. Each census tract can contain a concentration greater than the

Table 4-2.   Definitions and criteria for identifying "degrees of disadvantage" populations.

Group	Definition	Criteria for Identifying Disadvantaged Populations
Non-Hispanic Minority	"Minority" as: 1) Black: a person having origins in any of the Black racial groups of Africa; 2) Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent, or the Pacific Islands; 3) American Indian and Alaskan Native: a person having origins in any of the original people of North America who maintains cultural identification through tribal affiliation or community recognition	Regional Total: 1,339,000 people Regional Threshold: 24.9% County Threshold: 6.5% to 49.0%
Hispanic	Hispanics are defined by the U.S. Census Bureau as "persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race." Persons of Hispanic origin can be of any race.	Regional Total: 288,300 people Regional Threshold: 5.4% County Threshold: 1.5% to 9.7%
Carless Households	Carless households are defined by the U.S. Census Bureau as having zero vehicle availability. This population is often referred to as "transit dependent," that is, those who must rely on public transit for their daily travel needs and who have limited mobility.	Regional Total: 323,500 households Regional Threshold: 16% County Threshold: 5.1% to 35.7%
Households in Poverty	Poverty, or low income, is defined as personal or household income at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines, established as a relationship between income and the size of the family unit.	Regional Total: 219,000 households Regional Threshold: 10.9% County Threshold: 4.7% to 21.8%
Persons with a Physical Disability	The U.S. Census Bureau identifies six disability categories: sensory, physical, mental, going outside of the home, self-care, and employment. DVRPC was able to compile data on persons with a physical disability. The U.S. Census Bureau defines a physical disability as "a condition that substantially limits one or more basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying.	Regional Total: 387,900 people Regional Threshold: 7.7% County Threshold: 5.1% to 10.7%
Female Head of Household with a Child	"Female head of household with child" is defined in the 2000 U.S. Census as a "female maintaining a household with no husband present, and with at least one child under 18 years old who is a son or daughter by birth, marriage (a stepchild), or adoption, residing in the home.	Regional Total: 149,500 households Regional Threshold: 7.4% County Threshold: 4.0% to 11.0%
Limited English Proficiency	Executive Order 13166 of 2000 on LEP charges all federally funded agencies to make services more accessible to eligible persons who are not proficient in the English language. LEP is defined by the U.S. Census Bureau as "primary language spoken at home other than English" and "speak English not very well."	Regional Total: 121,700 people Regional Threshold: 2.4% County Threshold: 0.8% to 3.9%
Elderly over 75 years	Seniors aged 75 years qualify for most, if not all, mobility programs that have an age requirement.	Regional Total: 353,300 people Regional Threshold: 6.6% County Threshold: 5.3% to 7.9%

Source: Environmental Justice at DVRPC, Fiscal Year 2009.

regional average for each individual population group previously discussed. Therefore, any census tract can contain zero to eight categories—that is, degrees of disadvantage—that have been recognized as regionally sensitive.

Of the region's 1,378 census tracts, 76 percent have at least one DOD, which is not unexpected given the multiple demographic categories under study. More importantly, over a quarter of the census tracts contained five to eight DOD. DVRPC recognizes that those tracts exhibiting greater frequencies of the DOD populations will warrant extra consideration when projects or programs are proposed or planned for these areas. The region's four core cities of Philadelphia, Chester, Camden, and Trenton contain 293, or 83 percent, of the 354 highly disadvantaged (five to eight DOD) census tracts in the nine-county region. Figure 4-4 illustrates an example of DVRPC's DOD mapping.

Influence of Approach on Decisionmaking

The DOD approach has been applied to various project and work program activities as outlined in DVRPC's annual report update. These analytical methods have been applied to the LRTP, the TIP, the Coordinated Human Services Transportation Plan (CHSTP), and corridor studies.
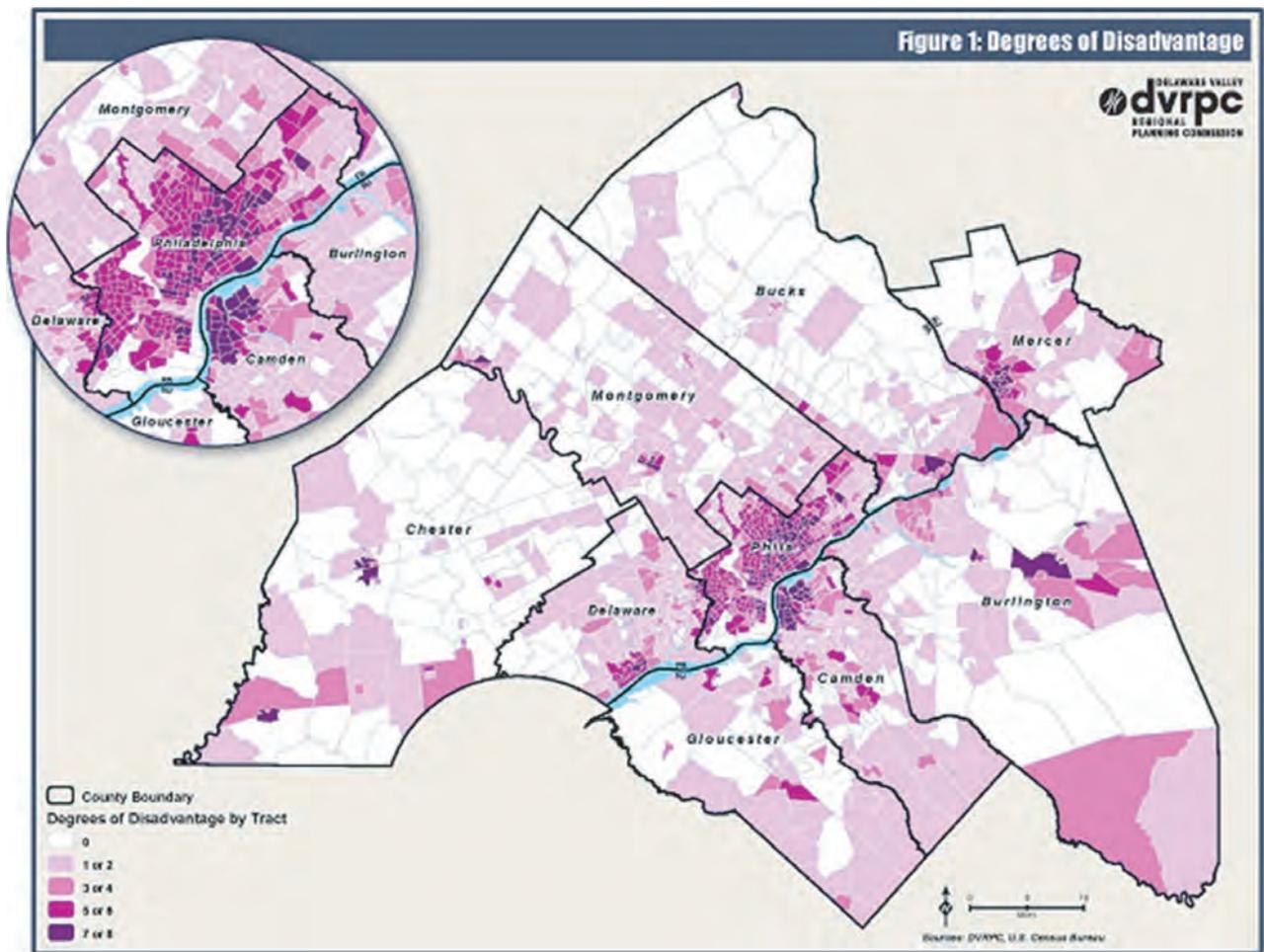
Figure 4-4.   DVRPC uses geographic information systems (GIS) mapping to display census tracts with the highest concentrations of DOD. The region's four core cities of Philadelphia, Chester, Camden, and Trenton contain 83 percent of the highly disadvantaged (five to eight DOD) census tracts in the nine-county region.

DVRPC's Transportation and Community Development Initiative (TCDI) targets program funds to municipalities of the Delaware Valley region to support smart growth and redevelopment efforts that are consistent with municipal, county, state, and regional planning objectives. The program seeks to assist communities facing population or job loss and reverse disinvestment trends that are confronting some of region's core cities and first-generation suburbs. To identify these communities, census tracts that represent at least three DOD are eligible for a TCDI grant; and, in all cases, areas that are appropriate for future growth are targeted.

Challenges

The DOD method of analysis relies on regional averages for each population group, specifically looking at whether a census tract is above or below the regional threshold. However, DVRPC has seen how strict application of this criteria—a simple binary choice of "yes" or "no"—can be questioned. As a large MPO, DVRPC brings to the table a diverse constituency of urban core and suburban members. Differing notions of what is "fair" or "equitable" can be revealed when priorities are being debated and finite resources are being allocated across several jurisdictions, spatially and modally. Recognizing that the majority of the highly disadvantaged tracts are concentrated in just four communities, DRVPC has explored how DOD might be characterized differently if adjustments were made to account for Philadelphia's high share percentage (i.e., distorting effect on regional threshold) on several indicators. When Philadelphia is removed, the regional threshold is lowered by ten percentage points for non-Hispanic minority, eight percentage points for carless households, and five percentage points for households in poverty. By lowering the threshold levels, more census tracts, and therefore more communities outside of Philadelphia, would be recognized as containing sensitive populations.

DVRPC has thus adopted an approach that allows for critical evaluation and flexibility in the application of the DOD criteria and methodology. Through committees like the Regional Citizens Committee and the Environmental Justice Work Group, the agency has created processes to closely scrutinize criteria and avoid pitfalls from uncritical application of the criteria. In its annual report, the agency argues for flexibility by providing an example of a census tract with 12 percent carless households—a level that would not be considered disadvantaged (i.e., the carless household threshold is 16 percent). In the example, DVRPC questions the prudence of overlooking an area that still has such a high percentage of carless households, noting that strict adherence to the method can mask critical differences. DVRPC stresses the importance of considering "notable differences" from the threshold when forming strategies for public involvement. Outreach strategies should be tailored differently for a place (e.g., a census tract) where the LEP percentage of the population was 3 percent or 15 percent, if the regional areas' LEP threshold were 2.4 percent.

Thus, DVRPC has modified its mapping and criteria in recognition of these types of sensitivities, to focus particularly upon census tracts that exhibit the highest concentrations of needs—that is, those census tracts exhibiting percentages that are 1.5 or 2 times the threshold or greater. In recognition of the need for *spatial equity,* the agency has also opted for identifying particular census tracts that may be considered disadvantaged within a particular county, rather than the region as a whole. A further modification is made to ensure that the five census tracts in the region and two census tracts in *each county* with the highest total number and percentage of people (or households) are included for each population group.

Benefits of the Approach

The DOD approach helps the MPO develop a demographic profile that draws upon several socioeconomic indicators typically associated with traditionally underserved populations

in transportation. Combined with geographic information systems (GIS) mapping tools and thematic mapping, the DOD approach provides a useful framework for working transparently with interested members of the public, an environmental justice working group, and other decision-makers to identify potentially disadvantaged populations and discuss their transportation needs. The data and mapping that is compiled—for example, LEP persons or those who are physically disabled—can be shared with those responsible for developing or assessing the effectiveness of planning and project-specific public involvement plans to ensure that outreach strategies are appropriately tailored to the unique conditions of study area communities.

Thus, the agency has made determined efforts to combine its data and analytical tools with communications and public involvement strategies to inform and engage populations in Title VI and environmental justice related public outreach. DVRPC works with a regional citizens committee to provide citizen access to the regional planning and decision-making process. The agency has also established an environmental justice work group that has provided planners, environmental justice advocates, and regional stakeholders with an opportunity to discuss regional environmental justice issues and for the agency to connect with environmental justice organizations across the region. Members of DVRPC's environmental justice work group act as a resource for DVRPC staff in identifying environmental justice concerns as they relate to transportation and regional planning.

Costs of the Approach

In recent years, DVRPC has set aside about $120,000 annually in its *Unified Planning Work Program* (UPWP) for dedicated work activities around the topic of environmental justice. Such activities include revisions, as needed, to the agency's *Public Participation Plan, Title VI Compliance Plan* and the *Planner's Methodology.* The latter product, the *Planner's Methodology,* provides a means of informing staff about Title VI and environmental justice mandates at the project or study level, as defined by the DVRPC UPWP. It offers background on Title VI and environmental justice, provides protocols for DVRPC staff, and explains the DOD methodology. The *Planner's Methodology* also establishes a framework for developing individual public participation plans for specific projects and offers a "toolkit" of public participation strategies. The UPWP products are intended to ensure an ongoing assessment of the benefits and burdens of transportation system improvements and the conduct of public involvement to maximize meaningful participation for all segments of the region's population. The topic of environmental justice is interwoven into many other planning and project assignments as well as in the conduct of the public involvement program. Thus, the MPO draws upon the framework and the insights garnered from its annual commitment to environmental justice and also draws upon the expertise of staff specifically assigned to environmental justice to carry out other elements of the UPWP.

Contacts/Resources

Contacts

Megan Weir
Transportation Planner
Delaware Valley Regional Planning Commission
190 North Independence Mall West
The ACP Building—8th Floor
Philadelphia, PA 19106
(215) 238-2832
mweir@dvrpc.org

Jane Meconi, AICP
Public Involvement and Title VI Compliance
Delaware Valley Regional Planning Commission
190 North Independence Mall West
The ACP Building—8th Floor
Philadelphia, PA 19106
(215) 238-2871
jmeconi@dvrpc.org

Resources

Delaware Valley Regional Planning Commission, *Unified Planning Work Program,* Environmental Justice: http://www.dvrpc.org/asp/workprogram11/print.aspx?prject=11-23-040

Delaware Valley Regional Planning Commission, Title VI and Environmental Justice website: http://www.dvrpc.org/GetInvolved/TitleVI/

Federal Highway Administration, *Transportation and Environmental Justice: Case Studies,* "MPO Environmental Justice Report," Mid-Ohio Regional Planning Commission: http://www.fhwa.dot.gov/environment/ejustice/case/case7.htm

Federal Highway Administration, *Transportation and Environmental Justice: Effective Practices,* "Targeting Communities of Concern in the Benefits and Burdens Analysis," Metropolitan Transportation Commission: http://ntl.bts.gov/lib/12000/12100/12173/booklet.pdf

Identifying "Affected Populations" Using a Community Attribute Index: Atlanta, Georgia

Background

Stage of Decisionmaking:
- Planning
- Policy and Programs

Participants:
- Atlanta Regional Commission

Tools and Techniques:
- Community Attribute Index
- Geographical Information Analysis
- Housing Element Reports

Affected Populations:
- Low Income
- Asian, Hispanic, Black
- Limited English Proficiency
- Foreign Born
- Disabled
- Senior

The Federal Highway Administration and the Federal Transit Administration have given clear notification to metropolitan planning organizations (MPOs) that planning certification reviews are to include assessment of their activities to ensure compliance with Title VI. The Federal Highway Administration and the Federal Transit Administration issued a memorandum in 1999, *Implementing Title VI Requirements in Metropolitan and Statewide Planning* (U.S.DOT, 1999) that recommends several questions be raised during certification reviews about the analytical processes used to assess the distribution of benefits and burdens of regional transportation plans and investments on minority and low-income populations.

The Atlanta Regional Commission (ARC), as the federally designated MPO for 10 counties within the Atlanta Metro Area, has been charged with the responsibility of identifying, monitoring, and mitigating adverse human health and environmental impacts of regional transportation plans and investments on minority and low-income populations.

Developing the Approach

Identifying the size and location of low-income and minority population groups is an important first step toward assessing whether or not transportation system investments are equitably distributed to, disproportionately burden, or meet the needs of the target affected populations. To carry out this analysis, ARC and other MPOs generally follow frameworks set forth in technical assistance guidance publications disseminated by the Federal Highway Administration and the Federal Transit Administration. Adhering to Executive Order 12898 and the U.S.DOT and FHWA Orders on Environmental Justice, minority populations are defined as persons belonging to any of the following groups: "Blacks," "Hispanics," "Asians," and "American Indian and Alaskan Native" populations. Low-income populations include persons whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines.

An important step in such analyses is to identify areas—for example, specific traffic analysis zones, census block groups or census tracts—with higher concentrations of low-income or minority populations within the region of study. In practice, this often involves referencing regional averages or median levels for poverty and minority indicators for the region. For example, environmental justice areas in the Atlanta region are defined as census block groups that meet or exceed any of the following regional race and poverty "threshold" levels: Black population average more than 30.4 percent, Hispanic population exceeding average of 7 percent, Asian-American population average more than 3.6 percent, or poverty level in excess of 9.1 percent (see Figure 4-5).

ARC uses these thresholds to identify "affected" populations, map and overlay the region's transportation network with environmental justice areas, develop technical tools and approaches to assess impacts, and formulate policy recommendations. However, it is not a settled question as to whether the race and poverty criteria currently being used to define environmental justice communities is the most effective means for targeting the allocation of scarce resources

Environmental Justice Communities in the ARC Region
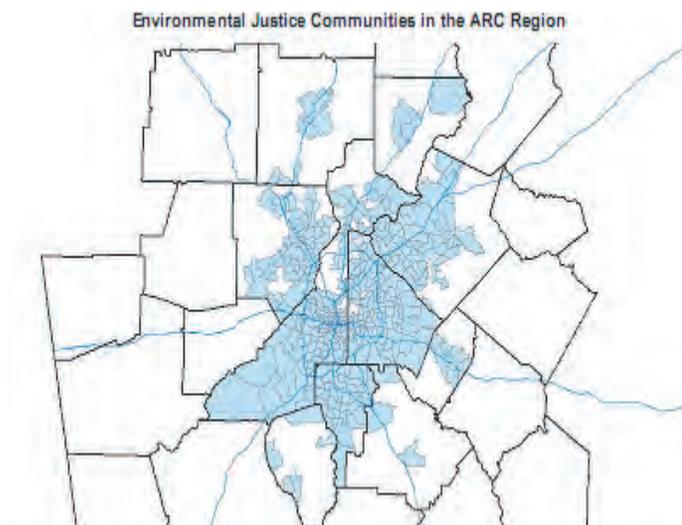
Figure 4-5. Map of "environmental justice communities" based upon ARC's threshold criteria.

to populations who are truly in need. The existing criteria can be faulted for including groups with a higher standard of living or who live in communities better endowed with factors that strengthen communities. ARC retained an economics consulting team, headed by a local university professor, to explore this issue in some depth. As part of this effort, the merits of an alternate multidimensional approach, the community attribute index (CAI), were tested. Their research findings suggest that a multidimensional metric such as the CAI can be a useful supplement to the typical methods for benefits and burdens assessment that have been used by MPOs, applying race and poverty criteria.

Modeled after the United Nations' Human Development Index, the CAI is a multidimensional index whose value ranges from 0 to 1. The index can be used to score the attributes of communities where values closer to 1 indicate communities with better overall characteristics. The CAI was constructed by assembling data at the census tract level on 165 variables. Then, using principal component analysis, these variables were eventually reduced to 13 variables grouped into five dimensions with two to four constituent variables per dimension (see Table 4-3).

Table 4-3.   Elements of the community attribute index: dimensions and constituent variables of each dimension.

Dimensions	Variable Index (% Weighted Mix)
Economic Opportunity	• Median Household Income (50%) • Composite Scores on ITBS (25%) • Writing Assessment (25%)
Poverty Status	• Percent of Female-Headed Households (50%) • Poverty Rate (50%)
Educational Attainment	• Percent of People with Some or No College Degree (50%) • Percent of People with Associate Degree (50%)
Housing and Population Mix	• Total Households (25%) • Total Housing Units (25%) • Total Population (25%) • Total Single Family Housing Units (25%)
Family Stability	• Percent of 45–59 Years Old (50%) • Percent Married Households (50%)

Implementing the Approach

All data for the CAI was collected and geocoded to the census tract level. Census 2000 data was supplemented by information collected at the zip code level and school attendance zone level. Data at the zip code level included information on the number of businesses, average adjusted revenue per establishment, the number of filed tax returns, and the number of people who received the earned income tax credit. The process of merging zip code and other data to census tract boundaries was handled in a variety of ways. A total of 165 variables were compiled at the census tract level.

Principal components analysis was then used to reduce this large number of variables into 13 variables grouped into 5 components (i.e., dimensions): Economic Opportunity, Poverty Status, Educational Attainment, Housing and Population Mix, and Family Stability. The goal during this data reduction stage of the study is to create components (i.e., dimensions) that are framed by strongly associated variables. The variables ultimately selected must have a strong association and be representative of all of the data within the dimension. The researchers for the study offer an instructive example of how this is done using the "Poverty Status" dimension. They note that 14 variables were initially associated with this dimension including employment to population ratio, percent female-headed households, percent of households receiving public assistance, average household size, poverty rate, percent of people without a high school diploma, and the unemployment rate among others. The strength of the correlation led to the selection of only two of these variables—the poverty rate and female-headed households. From other research, high levels of poverty in a community have been shown to be strongly associated with higher levels of the initial 14 variables that were associated with the dimension according to the study's researchers.

The CAI is then derived following the major steps shown in Table 4-4 and summarized here:

- The first step requires using data for each of the selected strongly associated variables and generating a specific "variable index" value for each census tract. To do this, the maximum and minimum values observed within the subject region for each variable must be identified. The variable index score derived for each census tract, using the formula shown in Table 4-4 (i.e., Step 1) is then expressed as a value between 0 and 1. In turn, actual values for each of the 13 variables comprising the CAI are compiled for each census tract.
- In the second step, dimension indexes were calculated for each census tract by combining the separate scores for each variable associated with each dimension and applying the weights as shown in Table 4-3.

Table 4-4.   Calculating the CAI.

Steps	Calculation Method
Step 1 Collect Data for Each Variable and Generate a Variable Index	Variable Index = (Actual Value – Minimum Value) / (Maximum Value – Minimum Value) There are 13 variables that were identified in the principle components analysis—divided into five separate dimensions—which are derived using this formula (see Table 4-3).
Step 2 Calculate the Dimension Index	The dimension index is calculated as a weighted average of all variable indices within the dimension: For example, the Economic Opportunity Index = (0.5 * Median Household Income Index) + (0.25 * Composite Score on ITBS) + (0.25 * Writing Assessment Score).
Step 3 Calculate CAI from Dimension Indices	The CAI is the simple average of five dimension indices. That is, the CAI is equally composed of the five separate dimensions (i.e., 20 percent for each dimension).

Classification of ARC Super Districts by their Community Attribute Index (CAI) Score
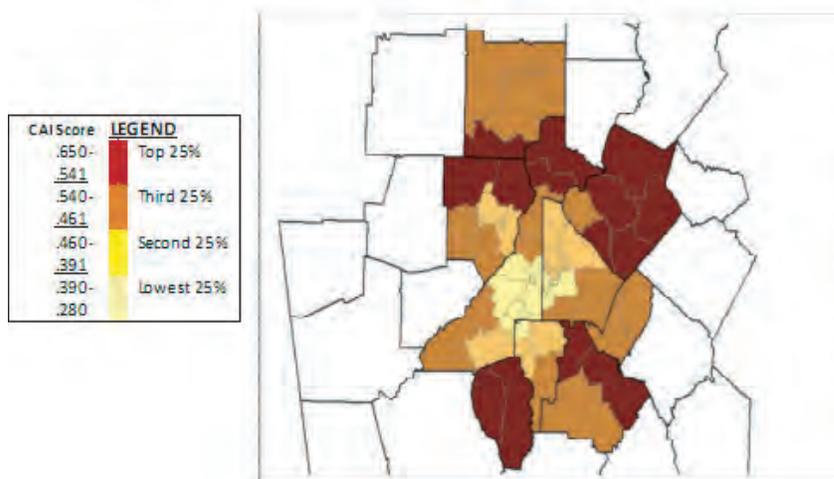
Figure 4-6.   CAI scores were divided into quartiles for GIS mapping at the census tract and super district geographic regions to reveal spatial patterns and areas of greater need. Environmental justice communities were compared with the CAI scores.

- In the third step, the CAI score for each census tract is derived by taking the simple average of the five dimension indices. The CAI score for each census tract was then rank ordered from highest to lowest and mapped into the geographic information system (GIS) (see Figure 4-6).

Influence of Approach on Decisionmaking

The CAI method was inspired by the UN Human Development Index and its core belief that health, education, literacy, and other quality-of-life metrics should be considered to reach any "true" measure of development rather than focusing solely on economic performance through gross domestic product (GDP) or income. The CAI method builds upon this core assumption by looking to an array of social, economic, community, and family factors to reveal where in the region residents have real "needs" that go wanting—essentially the pockets of underdevelopment. Knowledge of these differences within the region can be used to inform the targeting and allocation of scarce resources.

The CAI method explores and identifies a subset of several socioeconomic variables that are found statistically to be associated with strong communities. In so doing, the method seeks to stimulate discussion about how best to achieve equity and environmental justice. It raises questions as to the merits of applying race and poverty criteria solely as a basis for allocating federal funds or targeting resources. Multidimensional metrics are offered as a realistic alternative, capturing a more complete array of social and economic attributes that are central to measuring the quality of life and vitality of communities. The pursuit of this knowledge may be particularly practical for metropolitan regions that are evolving through growth and migration to majority–minority areas. The exploration of the CAI approach by Atlanta's ARC—a region that has a majority–minority population—suggests the importance of considering this path for further transportation equity research.

The CAI tool offers an alternative method or basis for considering how best to direct resources more equitably. By applying the index to the Atlanta region, the report findings validated the conclusion that minority and poverty criteria alone have caused ARC to monitor many areas for

environmental justice that are actually among the more endowed in terms of factors that are believed to strengthen communities. Some of the most important findings are as follows:

1. There are 448 census tracts in the ARC region; 23 of the region's 50 highest ranking census tracts (by CAI score) are designated as environmental justice areas.
2. Fifty of the region's 112 highest ranking census tracts (by CAI score) are designated as environmental justice areas.
3. The primary factor that causes census tracts with significant attributes to be classified as environmental justice areas is the threshold requirement that environmental justice areas consist of census tracts where the Asian population is 3.6% or greater.
4. If the threshold requirement for Asians is eliminated, only 17 of the top 112 census tracts, as ranked by their CAI scores, would be classified as environmental justice areas, in contrast to 50 environmental justice tracts when the Asian threshold is used.
5. If the threshold requirement for Asians is eliminated, only four of the 50 highest ranking census tracts would be designated as environmental justice areas, in contrast to 23 environmental justice tracts when the Asian threshold is used.

Challenges

The CAI is an important step that ARC has taken to evaluate the biases inherent in identifying "environmental justice communities," which is at the heart of its evaluation of benefits and burdens. The CAI questions the continued merits of following a pre-defined race-based definition—that is, the minority definitions made explicit in the environmental justice Executive Order 12898—when there are other indicators available (e.g., poverty and educational attainment) that can be combined into a multidimensional approach to measure environmental justice. This multidimensional approach may better focus resource investments upon those communities that truly exhibit indicators of "need" to be addressed.

The CAI approach can stimulate discussion about the socioeconomic factors that make and keep communities livable. The data sources, methods, and processes followed to develop a CAI can and should be the subject of questions by those interested in understanding how its findings were derived. It is important to recognize the values and choices implicit in the construction and application of any index. The development of indices such as the CAI should be accompanied by involvement processes that ensure that the tool is not a "black-box" but permits rounds of discussion and questioning.

Reflecting upon their research, the authors of the study acknowledge that the approach can be the subject of continuing refinements by incorporating additional transit, accessibility, mobility, public health, and biometric criteria. Other MPOs, seeking to develop similar type indices, would likely find that different variables or dimensions should be included, or the variables or dimensions should be weighted differently. The "strong" variables coming out of the principal component analysis may also differ in other regions. The challenge for conducting a similar study in another region would be not to replicate the CAI method, but rather to build a study in concert with its own advisory committee or working group. Doing so would allow the region to have the discussion and find its own ways to utilize the research process and its findings to ensure that resources are equitably allocated to identify and address the needs of the traditionally underserved and socially disadvantaged groups.

Benefits of the Approach

The CAI is a non-race based index. Through the principal components analysis, it reduces 165 variables into more workable numbers—in this case, 13 variables that are organized into five comprehensive dimensions or measures of community attributes: Economic Opportunity, Pov-

erty Status, Educational Attainment, Housing and Population Mix, and Family Status. The CAI approach will offer its greatest benefits when involvement processes are established to ensure that it is not undertaken as a solely technical exercise; the CAI approach can stimulate discussion about the socioeconomic factors that make and keep communities livable. The method, process, and findings can be a useful tool for more precise identification of communities exhibiting "needs" that may be redressed, in part, through targeted funding programs or the allocation of other resources.

While the CAI may be more generally associated with regional-level transportation planning studies, its various component dimensions (i.e., Poverty Status Index, Economic Opportunity Index, etc.), once developed, can also be used for NEPA-related or project planning studies. They can be used to help further characterize local socioeconomic conditions for affected communities along a corridor and benchmark their conditions vis-à-vis broader regional patterns.

Costs of the Approach

The research activities used to identify "affected communities" or "environmental justice communities" using the CAI approach outlined here include a significant data collection effort, geographic mapping, and intensive principal components analyses. These analytical steps are considerably more expensive to undertake and more time consuming than the methods generally undertaken by most MPOs that are employing a simpler race- and poverty-based threshold approach. However, once the principal components are established, it would be possible to rely upon the principal dimensions and the selected variables to repeat or update the analysis at a somewhat lower cost.

The cost of developing an initial CAI-related study will include staff time, statistical analysis, software, and desktop computers. Assuming high levels of proficiency for the GIS mapping, statistical analysis, and database management activities, excluding time for organizing extensive public involvement processes, it is reasonable to presume approximately 450 to 500 person-hours—split between junior and senior staffers—for comprehensively undertaking the analytics to develop the CAI and prepare a report of the methods and findings.

Contacts/Resources

Contacts

Dr. Catherine Ross
Vice President/Director of Transportation Research
EuQuant, Inc.
100 Galleria Parkway, SE, Suite 250
Atlanta, GA 30339-5959
(678) 424-5615

Dr. Thomas D. Boston
CEO and Director of Research & Innovation
EuQuant, Inc.
100 Galleria Parkway, SE, Suite 250
Atlanta, GA 30339-5959
(678) 424-5615

Resources

Boston, T. D., and Boston, L. R. (2007). *Beyond Race and Poverty: A Multi-Dimensional Approach to Measuring Environmental Justice.* Atlanta, GA: Boston Research Group, Inc. http://www.globalatlantaworks.com/html/202.htm

Building Trust through Transparency: Memorial Boulevard, Kingsport, Tennessee

Stage of Decisionmaking:
- Planning

Participants:
- Tennessee Department of Transportation
- City of Kingsport
- Sullivan County
- Community Resource Team

Tools and Techniques:
- Collaborative Teaming
- Context Sensitive Solutions Training

Affected Populations:
- Low Income
- Low Literacy

Background

SR 126 (Memorial Boulevard) is one of the primary connectors between the City of Kingsport and I-81 in Sullivan County. Like many roadways in rural northeastern Tennessee, its alignment evolved from a frontier trail. Although periodically widened and improved to accommodate modern vehicles and suburban growth, the roadway still retains many hills, curves, and panoramas that make it an exciting and beautiful ride. Driving the road requires a focused awareness of roadway conditions and other drivers to safely navigate it.

As traffic on SR 126 increased with population growth, so did the number of accidents and fatalities until this 8-mile stretch of roadway became one of the most dangerous segments of the Tennessee system. It was one of these fatalities that galvanized advocacy groups, local citizens, and city, county, and state officials to lobby the Tennessee Department of Transportation (TDOT) to address the situation. In response, TDOT authorized the preparation of an advanced planning report (APR), which led to the SR 126 improvement project—the state's first context sensitive solutions (CSS) project initiated in the planning stage.

Developing the Approach

While the APR was being completed, the City of Kingsport and Sullivan County were jointly undertaking their own transportation and land use study, which proved to be highly contentious and divisive—a "bloodbath" according to some locals who were involved. The study was accepted by the city and county, but its recommendations were not implemented. Although TDOT had played no part in the study, they were viewed by many locals as an extension of the same government that had undertaken it. Recognizing the perils of "guilt by association," TDOT was motivated to take a different approach. They designed a public involvement plan for the SR 126 improvements that embodied the CSS principles of transparency, openness, inclusiveness, and responsiveness.

The project began with the selection of a community resource team (the Team) by the mayors of the City of Kingsport and Sullivan County. The Team included 17 community members, TDOT's project manager and assistant project manager, and two consultant representatives. TDOT defined the Team mission to create a variety of alternatives based on input from the public that could be evaluated by the general public, with one alternative being carried into the environmental document and evaluated along with other alternatives that would be identified.

The Team's first assignment was to attend a two-day team-building exercise facilitated by an outside consultant. This activity was considered important because some of the Team members did not know each other, and others knew but did not trust each other. In the concluding exercise, Team members were asked to define a study area based upon their local understanding of the community and its geographic constraints. The defined study area included approximately 4,200 households.

Implementing the Approach

Since CSS was a relatively new concept to TDOT and members of the Team, instructors from the Kentucky Transportation Center were retained to conduct a one-day training exercise with the Team. This event provided the Team with a broad understanding of CSS, exposure to a variety of case study examples, and a vocabulary to enhance communication and understanding.

Following the training, TDOT staff presented information about the existing conditions on SR 126 that covered several topics including traffic growth trends (a major area of contention in the previous transportation and land use study), accident locations, and the design speeds for vertical and horizontal curves and how they compared with posted speed limits at those locations. In addition, TDOT environmental staff reported on cultural resource and ecological surveys that were being conducted. The Team, in turn, offered their local insight into probable accident causes and other issues of concern.

Team members were responsible for discussing this information with the general public and were given copies of all information presented at this meeting. In addition, it was decided that there would be monthly Team meetings in Kingsport or by teleconference, which the public was invited to attend. Meetings would be recorded in real-time and presented on a display screen visible to all in the room. Minutes from all meetings would be posted to the project website.

The Team also committed to publishing a project newsletter, which on several occasions would be distributed to the study area households, placed at public facilities, and distributed to businesses that accepted food stamps. A mailing list for the newsletter was compiled from county tax assessor information and supplemented with information obtained from the city and county water authorities for multi-family dwellings. The first newsletter discussed the kickoff meeting, what had occurred since the kickoff meeting, the members of the Team, the media kickoff, the identification of a toll-free phone number, an email address, and a website, the topics that would be covered by the three upcoming public involvement meetings, and what would happen to the alternative that the public would create.

As part of the first newsletter, a stamped, self-addressed postcard was attached requesting input on the best location, time, and day of the week for a meeting and to identify areas of concern along SR 126. It became apparent, from the 17 percent of all postcards that were returned, that potential participants varied in their availability and preferences for a meeting. Therefore, one meeting was scheduled at a local church for a Tuesday evening event (7:00–9:00 pm) in Sullivan County while the other event was scheduled for a Wednesday near mid-day (11:00 am–1:00 pm) at the Civic Auditorium in downtown Kingsport. A bright green postcard was also sent to the 4,200 study area households identifying these times, days, and locations for the first series of meetings.

Information gathered from the postcards about areas of key concern were used by the Team to better understand key community issues prior to the meeting. The Team resolved to address some of the public's primary concerns before the first series of meetings to demonstrate that they were listening and responsive. This included cutting back brush at several intersections in order to provide better sight distance, stationing highway patrol personnel along the roadway to ticket speeders, and getting TDOT to expedite the permits required for placing a signal at a problem intersection. Thus, the Team was able to credibly start each meeting with "we heard what you had to say and we have already done the following. . . ." The approach was intended to redress the dismay felt by some members of the public who felt ignored during past planning studies and who were hesitant to devote time and energy to the process again without tangible evidence of a commitment by TDOT. The postcard responses also told the Team that officials needed to attend the meeting to address some of the public's specific concerns.

The Team felt the first series of meetings would probably be well attended and that some of those attending would probably want to express some residual anger about the transportation

and land use study. Letting the public express this anger was necessary if the public was to move forward and focus on the SR 126 project. To make it easy for the public to identify Team members, the mayors of Kingsport and Sullivan County provided each Team member with a plain bright green T-shirt and asked them to wear it at all project functions so they could be seen from a distance in a crowded room.

More than 450 people attended the first series of public meetings, with approximately one-third of them attending the mid-day meeting and two-thirds of them attending the evening meeting. At each meeting, the same agenda was followed. The mayors met members of the public at the door and welcomed them to the meeting. This gesture was done to set the tone of the meeting. Residents were then directed to sign in and given a comment sheet and a packet of information that included a description of CSS, a project map, and a questionnaire. In addition, they were given a sticky dot, directed to a large map of the study area, and asked to place their dot where they lived.

This exercise was done in order to see if attendance had been uniform and to determine if there were any attendees from outside the study area (see Figure 4-7).

Team members were stationed at each display to explain what was being shown, why it was important, and answer any questions. Residents were directed to illustrations that showed the existing and forecasted traffic volumes by roadway segment. Aerial maps showed accident locations by type and number. Attendees were asked to write their concerns or information on sticky notes and attach them to these maps or write directly on the aerials. A total of 226 comments were received at the meetings. In addition to using comment sheets, sticky notes, and writing directly on the maps, members of the public were offered the opportunity to talk with a court reporter or address the audience during the open microphone question and answer period that TDOT required.

After members of the public had visited the displays, they were asked to take a seat and complete the questionnaire included in their information packet. A variety of preference questions were asked in order to gather information on community characteristics and values. A total of 254 questionnaires were completed and returned. After the questionnaires were completed, TDOT made a formal presentation about the project, summarized and displayed the responses obtained from the postcard survey, described what TDOT had done to address these concerns, and opened the floor to questions. All questions and the responses to those questions were


Figure 4-7. Attendees placed dots on a large map of the study area to indicate where they live so that attendance could be assessed for geographic coverage.

recorded and transcribed. A thank you postcard was sent to all who attended. An examination of those attending the two meetings showed that those at the mid-day meeting were retirees, second shift workers, downtown business employees, and stay-at-home moms, while those at the evening meeting were young and middle-aged adults, first shift workers, and some retirees.

Following the first series of meeting, the Team held a 1.5 day charrette, reviewed the public's concerns, and broke into four smaller groups, each responsible for creating a concept alternative based on these concerns. Each group presented its concept in front of the other Team members and the concepts were given to TDOT and its consultant to further refine. Members of the public were invited to the charrette and provided with a sitting area where they could observe, although they were not invited to participate directly. Two of the concepts were so similar that they were merged into one. A second newsletter, created and reviewed by the Team, summarized the first series of meetings and the charrette, explained what would be presented at the next series of meetings, and announced the dates for the next series of meetings.

A total of 234 residents attended the second series of meetings. The main focus of these meetings was to provide the public with the revised version of the Team's concept alternatives and ask for feedback. The three concepts were divided into five numbered segments that generally extended between major intersections. They were displayed along with the no build option one concept above the other. The public was asked to use sticky notes and post comments. In addition, each attendee was given a sticky triangle and five sticky dots numbered one through five. They were asked to place the triangle at a location they would like "before and after" renderings done for the three concepts and no build alternatives. They were also asked to take sticky dot number one and place it on their preferred concept in segment one, then proceed to segments two, three, four, and five. By the end of the evening, it was clear that a "combination" concept composed of segments from each of the three concepts was the preferred concept (see Figures 4-8 and 4-9).

Following the meeting, an advocacy group began a letter-writing campaign to local and state officials contesting the results of the "dot exercise." They suggested that the public had not
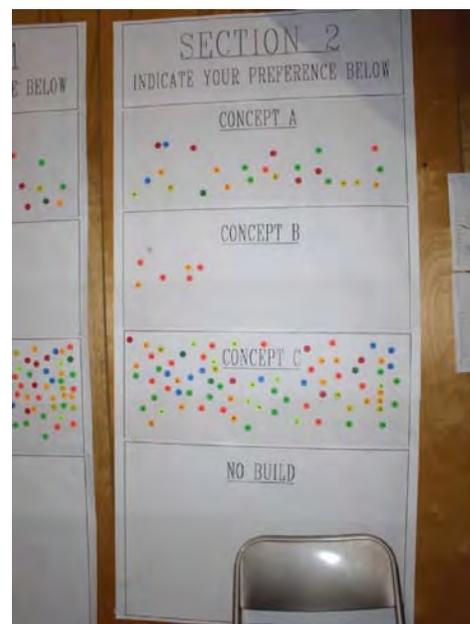
Figures 4-8 and 4-9.   Using sticky notes and sticky dots, attendees indicated which locations they wanted to see rendered and what concepts they preferred for each section of the alignment.

understood the instructions and did not know what they were being asked to do. A 12-member focus group facilitated by a neutral party was held to assess the merits of the allegation. Focus group attendees were randomly chosen from a list of all residents that had attended the first and second meetings. After the focus groups were held, it was obvious that the public had understood the instructions and the exercise. The focus group was videoed and a copy of the transcript was uploaded to the project's website. One of the recommendations that came out of the focus group was to provide "large print" copies of the newsletter at the meetings.

Using more detailed topographic information, TDOT and its consultant refined both the "combination" concept and the original three concept alternatives. These refinements and the "before and after" photographic renderings of four different locations were presented to the Team at a one-day workshop. As with the charrette, the public was invited to be present during the workshop. During the workshop, a bus was provided to take the Team into the project area to examine similarities and differences between concepts. A third newsletter was distributed to the study area households describing recent activities and notifying them about the date and location of an upcoming third series of meetings.

A total of 254 residents attended the third series of meetings. Each attendee was given a packet that included an agenda, an information handout, a copy of the focus group transcript, and a concept preference survey sheet. In addition, "large print" copies of the newsletter were provided. Detailed information was presented about the "combination" concept and the public was asked to complete the concept preference survey. The results of the concept preference survey were the same as the results of the dots survey at the second meeting.

Influence of Approach on Decisionmaking

A Team recommendation meeting was held to discuss the results of the preference surveys and recommend a preferred concept. A vote was taken of the Team members' choice for each segment and several received unanimous support. Where this did not occur, minority reports from those opposing the majority's choice were presented. The "combination" concept was submitted to TDOT and accepted as one of the alternatives that would be taken under consideration in the environmental document. A fourth newsletter, created and reviewed by the Team, summarized the third series of meetings, the final Team meeting, and the preferred concept that was submitted to TDOT. TDOT has funded the project and the environmental document was nearing completion in the summer of 2010.

Challenges

The successful completion of this pilot project has shown TDOT the importance of integrating the CSS process at the planning stage and is expected to serve as a model for future projects. The major challenge ahead will be to maintain the same level of transparency, public involvement, and responsiveness throughout the remaining phases of this project and for other projects that follow.

Benefits of the Approach

In the short term, TDOT's thorough and transparent approach to engaging the public helped improve its reputation as a government agency and reduced the potential for litigation. Furthermore, TDOT built relationships with the community, educated the public about transportation issues, improved the technical solution, and increased safety. The project's success may have a longer-term impact on how TDOT undertakes future projects and engages the public.

By initiating CSS in the planning phase, TDOT minimized existing tensions with the public. Engaging in a publicly-driven alternative selection process, TDOT avoided having to defend its

own alternatives or anyone else's alternatives. Instead, TDOT facilitated a transparent process that invited the public to express its comments, concerns, and values across a variety of alternatives and segments of the corridor.

The public involvement process was designed to provide the public with formal and informal ways to communicate with the Team. Using sticky notes, a toll-free phone number, comment sheets, handwritten notes directly on displays, as well as a court recorder, ensured that the public's voices would be heard while preserving anonymity. The toll-free number and court recorder also effectively overcame any low-literacy issues, as did the use of numbered sticky dots and sticky triangles. By introducing CSS in the planning phase, many of the issues normally encountered during the preparation of the environmental document were identified and addressed early in the process.

Costs of the Approach

The approach required monthly scheduled communication with the Team and the public—in-person in Kingsport or by teleconference. Travel costs were higher because of the desire to attend in person as many monthly meetings as possible. These trips were by car and required overnight accommodations. The costs of preparing the newsletters would have been an integral part of any public involvement process, however, they were mailed first-class rather than bulk rate to ensure prompt delivery and verification of delivery. The before-and-after photographic renderings cost approximately $6,000 or $375 for each of the 16 renderings (four renderings for each of the four locations). The cost of sticky notes and sticky dots was negligible.

- The two-day team building exercise cost $2,500 for the meeting room, catering, hotel rooms for TDOT, and the travel and hotel expenses for the facilitator. The facilitated training for 20 people cost $9,700.
- The one-day CSS training session for 44 people cost $2,500 for the meeting room and catering plus $4,000 for three Kentucky Transportation Center trainers, including their expenses.
- The focus group cost $400 for the facilitator plus $350 for catering for 12 focus group members, two TDOT employees, and the facilitator. These were additional costs that would not have been a part of normal projects but were essential to the project's success.

Contacts/Resources

Contacts

Elizabeth A. Smith
Conceptual and NEPA Planning Office
Project Planning Division
Tennessee Department of Transportation
505 Deaderick Street, Suite 900
James K. Polk Building
Nashville, TN 37234-0344
(615) 532-3200
ElizabethA.Smith@state.tn.us

Anne Morris, Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Becky White
Assistant Vice President
Sain Associates
244 West Valley Avenue, Suite 200
Birmingham, AL 35209
(205) 940-6420
bwhite@sain.com

Resources

Tennessee Department of Transportation, "SR-126 (Memorial Boulevard)," http://www.tennessee.gov/tdot/sr126

Using Games to Solicit Priorities in Regional and Statewide Planning: Barren River and Bluegrass Area Development Districts, Kentucky

Stage of Decisionmaking:
- Planning

Participants:
- Barren River Area Development District
- Bluegrass Area Development District
- Kentucky Transportation Cabinet (KYTC)

Tools & Techniques:
- Games

Affected Populations:
- Low Literacy
- Limited English Proficiency
- Disabled
- Foreign Born
- Seniors

Background

In 1998 the Charlotte County/Punta Gorda, Florida, Metropolitan Planning Organization (MPO) staff set out to:

- Increase the number and diversity of participants in the regional planning process,
- Make the process more interesting and enjoyable for both their staff and the public,
- Transfer complicated information more easily between their staff and the public, and
- Identify specific needs in the context of cost and available revenue for their 1998 TIP.

The MPO found that the standard way of doing things wasn't working, wasn't any fun, and, as a result no one showed up for its meetings. The MPO created a game, "Strings and Ribbons," which invited players to spend a limited amount of funds to buy roads of various types and sizes, bridges, bus transit services, sidewalks, trails, bus shelters, signals, buses and drivers, landscaping, and other transportation projects.

The game was low tech and low cost, but lots of fun, and people wanted to play. The MPO discovered many benefits from playing the game, including increasing the number and diversity of participants, making events more fun for both the public and the MPO staff, and providing a mechanism to transfer complicated information between the public and MPO staff. The effectiveness of Strings and Ribbons caught the attention of other regions where it has been applied to long-range transportation plans (LRTPs), short-term transportation plans, Transportation Improvement Programs (TIPs), and project specific plans.

For example, the Chicago nonprofit advocacy group, the Center for Neighborhood Technology (CNT), created a trio of Strings and Ribbons offshoots called "Transopoly," "Neighborhood Transopoly," and "eTransopoly" in 2001. Transopoly is played with ribbons and dots to explore transportation infrastructure needs as part of the LRTP process. The game documents the public's suggested inputs to the LRTP which then are sent to the Chicago Metropolitan Agency for Planning (CMAP). In past years, information has been collected at small group meetings held throughout the area. Small group reports are then drafted and returned to the participating players to confirm that their vision, values, problems, and solutions have been correctly stated. Following public approval, an area plan is prepared. After all of the area plans are completed, one plan is created for the region. The game has been played with residents who could not read, could not speak English, were deaf or hearing impaired, or were visually impaired.

In 2004, the Volusia County (FL) MPO used a variation of Strings and Ribbons to promote public involvement in their 2025 LRTP. They played games at 34 different locations, engaged 670 people, and identified approximately 2,000 projects for consideration. From the exercise they were able to create maps displaying the projects that were prioritized at each of their sessions and to develop an overall ranking based on how frequently a project was listed at each of the 34 meetings. "Blocks and Ribbons," the Miami-Dade County MPO's version of the game,

increased public participation in the regional planning process from only 24 people several years before to almost 500 people in 2008.

Developing the Approach

In 2005, Kentucky's 10-county Barren River Area Development District (ADD) and 17-county Bluegrass ADD tailored Strings and Ribbons to help them prioritize their unscheduled transportation needs projects. The Barren River ADD had identified a total of 81 unscheduled needs projects valued at $500 million, but the Kentucky Transportation Cabinet (KYTC) had only a $166 million budget available for such projects. Similarly, the Bluegrass ADD had identified 330 unscheduled needs projects valued at $4.8 billion—an amount significantly greater than the $1.6 billion budget KYTC could provide. While most of the participants were neither minority nor low-income populations, they did represent agencies and organizations that included environmental justice populations.

Implementing the Approach

Two separate events were planned for the Barren River and Bluegrass ADDs. For the Bluegrass event over 80 representatives met in Lexington and played the game for almost 3 hours. For the Barren River event over 30 representatives gathered in Bowling Green to play the game for almost 2 hours. For both events, individuals from various city and county councils, commissions, departments and agencies, as well as state agencies were invited.

Before the game can be played, spreadsheets of the unscheduled project needs must be prepared. In Kentucky, each project was given a unique number; identified by name, county, cost, length, and KYTC ID; and was briefly described. A major challenge is figuring out how much each of the projects will cost. This may require looking at past projects to see, for example, what every linear foot of road costs. Because construction costs vary significantly by location, using standard costs may not be appropriate for all cases, but can be used for some items such as traffic lights.

The spreadsheet was sent to invited attendees prior to playing the game so that they could become familiar with the projects and begin to contemplate their priorities. The projects were also mapped to show their relationship to existing major roadways and already-programmed improvements. Each table was provided with large-format maps, play money called "funny munny" in the amount totaling available funding, and a marker for highlighting projects as they were purchased (see Figure 4-10). Because the game was being played in horse country, the funny munny had a horse's head in the center of it. The currency denominations and the amount printed of each denomination were determined by the price of the least and the most expensive projects, the most frequent value of the projects, and the number of players that were expected to play at each table.

Tables were set-up to have 6 to 9 players as well as a non-playing KYTC staff person who acted as banker. The banker's role was to divide the money among the table's players and receive payment for the projects from the players during the course of the game. As people arrived at the meetings, they were able to choose their table. When a table filled up the banker would join the table and distribute the money equally among the players. Starting to the right of the banker, each player identified a project that they would like to purchase from the banker. As projects were purchased they were scratched off the spreadsheet and highlighted on the map. If a project cost more than a single player had, several players could pool their resources to buy it. This process continued around the table until all the funds had been returned to the banker who then declared the game over.

Figure 4-10. Large-format maps, "funny munny" totaling available funding, and a marker for high-lighting projects were set up at each player table.

The bankers then identified the projects that were purchased at their table. The projects and their associated costs were listed on large chart paper at the front of the room. Beginning with the project that had been most frequently purchased, the amount of the purchased projects was subtracted from the total funds available until the money was spent. Those projects then became the ADD's first tier priority projects.

Playing Bluegrass Monopoly

The Bluegrass ADD sent a list of 330 unscheduled needs projects valued at $4.8 billion to participants in advance of playing the game in order for the participants to get more familiar with the projects. Each project was described in terms of its cost, location, length, and so forth. Participants were instructed that their assignment was to create a ranked list of projects without exceeding the $1.6 billion that KYTC had available to spend.

Participants were encouraged to sit in any seat and at any table when they convened to play the game in Lexington. Instructions for how the "Strings and Ribbons" game was played were given.

1. Each table of 6 to 9 participants had a non-playing banker who dispersed the $1.6 billion equally among the participants, recorded the projects that each participant or group of participants bought, and took that amount of money from the participants when they bought a project. The game ended when all money was spent by the participants.
2. The bankers asked the participant to their right or left to start the game by choosing a project to buy.
3. The participant identified a project and then paid the banker for the project's costs.

4. Highlighting the project, the banker then asked the next person to identify a project they wanted to buy. As the game continued, several participants chose to pool their money to buy a project that individually they could not afford. This was allowed.

5. The banker at each table provided the list of projects bought at each table to a moderator.

6. After receiving lists of projects from each table, the moderator compiled a master list of each project bought and tallied the number of times the project was bought. The projects were then sorted and ranked based upon the number of times purchased.

7. Arranged in this rank order, the cost of the project ranked highest in terms of frequency was subtracted from the $1.6 billion. Then, the cost of the next most frequently bought project was subtracted from the amount remaining. This process continued until all the money was expended. The projects that were purchased following this process were recommended for advancement to KYTC.

Equipment needed to play the game:

- Participants were encouraged to bring their list of projects.
- Each table had a large map prepared by KYTC showing major roadways in the region. Each project was shown on the map as a bold line that corresponded with the project list, making it easy for participants to see where all the projects were located. Projects that were planned, but financed from other funding sources, were shown as a bold line of another color.
- Each banker wielded a magic marker to highlight projects as they were bought.
- Money was created in appropriate denominations reflecting the cost of the projects and the amount of money given at the start of the game to each participant. Each denomination was printed on a different colored paper. Lexington is situated in horse country so it seemed only natural to place a horse's face on the currency.

Influence of Approach on Decisionmaking

By bringing all of the representatives together at one place and at one time, participants completed the process faster, were able to select their "pet" projects, contributed to multi-county connector projects they never would have known were important to others in the region, identified the unscheduled needs projects that would be funded that same day, and had fun.

As a result of the Barren River session, one of the county judges in attendance took the game back to his/her county and has used it successfully for local project prioritization. The Bluegrass ADD was so pleased with the response that they created a DVD entitled "Bluegrass Monopoly" that described how to play the game and sent copies to the state's 13 other ADDs, MPOs, counties, and cities encouraging them to use the game at all levels of government. This had the effect of spreading the game throughout Kentucky, to a broader audience.

Challenges

The challenge ahead is getting other ADDs and levels of government within those ADDs to engage as many residents from all populations as possible in the game. This can be done through notifying those groups and individuals already on their mailing lists, including local social service agencies, faith-based organizations, higher educational institutions, and high schools, and organizations that specifically address the needs of environmental justice populations.

Benefits of the Approach

For the Barren River and Bluegrass ADDs and other places the game has been played, Strings and Ribbons offered a number of advantages over traditional public involvement. From the very start of the game, the playing field is leveled by giving every participant the same amount of money and influence, a situation in which environmental justice populations seldom find themselves. Because the game relies on almost no written information, all residents can play, including the low literate, LEP, and visually impaired. The game can be played with any number of participants and takes approximately 1 to 2 hours, which means that it can be easily planned and implemented in varying settings and scales.

During the game, residents must explain their choices to each other and create rankings under fiscally constrained conditions. By making members of the public work together to form consensus, the game empowers participants and eliminates the conflict between the public and the MPO. At the end of the game the transportation agency has gained crucial information: an understanding of the public's expressed needs and project-specific recommendations that can be listed and mapped. Members of the public have gained, in turn, a better understanding of why and how the LRTP is developed.

Costs of the Approach

KYTC staff mailed paper spreadsheets listing information about each of the unscheduled needs projects ($80), plotted maps that showed the multi-county area and identified both the unscheduled projects and the projects that were being paid for under other funding sources ($100), and purchased ball point pens, magic markers, and a calculator for each table ($100). Staff time was also spent creating the spreadsheets, plotting the maps, separating the currency into equal amounts for every participant at each table (0.5 hour), teaching the staff how to play the game so they could serve as the banker at each table (0.5 hour), and playing the game (3 hours).

In the case of the Barren River and Bluegrass ADDs, a consultant was hired to implement the game for a total cost of about $2,000, which covered creating the currency, training the staff, and attending the game.

Contacts/Resources

Contacts
Bruce Duncan
Transportation Planner
Bluegrass Area Development District
699 Perimeter Drive
Lexington, KY 40517
(859) 269-7917
bduncan@bgadd.org

Karl Welzenbach
Executive Director
Volusia County MPO
2570 West International Speedway Boulevard, Suite 120
Daytona Beach, FL 32114-8145
(386) 226-0422
kwelzenbach@co.volusia.fl.us

Elizabeth Rockwell
Public Involvement Manager
Miami-Dade County MPO
111 N.W. First Street, Suite 920
Miami, FL 33128
(305) 375-1881
erock@miamidade.gov
www.co.miami-dade.fl.us/mpo/

David Chandler
Business Analyst for Transportation
Center for Neighborhood Technology
2125 West North Avenue
Chicago, IL 60647-5415
(773) 269-4023
david@cnt.org
www.cnt.org

Anne Morris, Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Resources

Welzenbach, K. (2006). "Volusia County MPO's Public Involvement Efforts." Presented at the Annual AMPO conference, www.ampo.org/assets/322_stringsribbonspresentatio.ppt

Delaware Valley Regional Planning Commission, (2008), "What is the Dots & Dashes Game?" http://www.dotsanddashes.org/game.htm

Federal Highway Administration, (2006), *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking.*

Engaging a Wider Public through Community Conversations: Community Planning Association of Southwest Idaho

Stage of Decisionmaking:
- Planning

Participants:
- Community Planning Association of Southwest Idaho (COMPASS)
- Community Organizations

Tools and Techniques:
- Community Cafés
- "Meeting-in-a-Bag"
- Focus Groups

Affected Populations:
- Low Income
- Homeless
- Minorities
- Refugees
- Seniors
- Youth

Background

The Community Planning Association of Southwest Idaho (COMPASS), the metropolitan planning organization (MPO) for a two-county region in Southwest Idaho, is responsible for preparing the region's long-range transportation plan (LRTP), *Communities in Motion.* The organization started holding small, innovative meetings as part of the public comment process for its 2006 plan update and continued to use the approach for their most recent plan update completed and adopted by the COMPASS Board in September 2010.

Through focus groups, COMPASS came to the realization that people dislike attending large public meetings. In response, the agency became more flexible in its approach to outreach, devising and exploring a range of alternative approaches to encourage community involvement. The "Community Café," focus groups, and "Meeting-in-a-Bag" techniques are examples of informal techniques that the agency has recently employed, which have proven effective in overcoming the barriers that large group events have presented in the past.

Developing the Approach

In order to discover why people did not participate, COMPASS held a focus group in 2006 involving people who had not participated in public meetings and were not engaged with neighborhood associations or other activist groups. Focus groups attendees indicated that they were not likely to participate in activities where they would be asked to speak in front of large groups of strangers because they felt that they were uninformed and were self-conscious about expressing their opinions. They also learned through the focus groups that the elderly do not want to attend evening meetings, persons who are not native English speakers may feel particularly uncomfortable talking to a panel of officials, and transportation issues are a significant barrier to attendance even when events are centrally located for those who are transit-dependent.

The agency developed several new approaches to conducting public involvement for their next LRTP, the 2006 *Communities in Motion* plan, in response to the concerns expressed by the focus groups. "Community Cafés," focus groups, and "Meeting-in-a-Bag" events each embrace the public's preference for informal, smaller scale meetings that are held at highly convenient times and locations.

Implementing the Approach

For Community Cafés, stakeholders were invited to local coffee shops to meet with COMPASS staff and give their input on the *Communities in Motion* plan. These meetings were held in the evening and attracted moderate attendance. COMPASS used venues that were accessible via public transportation, however, the regional bus system only runs from 8:00 AM to 5:00 PM weekdays—

or from 6:30 AM to 6:30 PM within Boise—with minimal weekend service, making attendance at Community Cafés difficult for those without a car. COMPASS found that some of the best locations for holding the Community Cafés were not in close proximity to underserved populations. Despite difficulty in choosing locations, COMPASS found that Community Cafés could be much more effective than large public meetings. The advantage of the Community Cafés and other small-group formats was their intimate size and lack of formality.

Residents, community leaders, and groups were also asked to host a "Meeting-in-a-Bag" with their friends, peers, and/or colleagues to gather final comments on the draft plan (see Figure 4-11). The approach provided meeting materials to volunteer hosts who set the date, time, and location of their meeting, and then collected comments on behalf of the MPO during the event. Such meetings were held in homes, places of work, and community centers. The bags included maps, draft plans, comment forms, host instructions, DVDs, markers, and everything needed to hold a meeting. COMPASS also established a phone number for hosts to use during the meeting if they had questions or needed assistance. The phone number was to a cell phone shared by MPO staff who served as the hot-line responder. More than 200 bags of meeting materials were distributed to nearly 170 persons within the six-county MPO region for the 2006 update.

Figure 4-11.   COMPASS-branded totes contained meeting materials that were distributed to volunteer meeting hosts.

COMPASS identified people to host the meetings during the *Communities in Motion* plan process by advertising through online resources as well as press releases, community presentations, and booths at community events and open houses. There were few requirements to serve as a host for the initial set of meetings. The meetings did not involve much pre-meeting preparation, were informal in nature, and did not require prior familiarity with COMPASS or transportation planning—although the host was expected to exhibit a strong willingness to be part of the public involvement process. However, for the most recent round of meetings for the 2010 transportation plan update, COMPASS held three open house orientations so those who wanted to host a meeting could talk to staff and feel more confident in holding the meetings.

"Meeting-in-a-Bag" was designed to reach all members of the public, including traditionally underrepresented populations. This was accomplished by soliciting the support of key individuals who maintain regular contact with these populations. For example, a church in Boise conducted such a meeting in 2006 in conjunction with a dinner served to low-income and homeless populations. Rather than creating and advertising a separate event that would have required additional travel for people to participate, the meeting was held in an area where people were already gathering. Those attending the dinner heard a presentation on the transportation plan. Afterwards, a group discussion was held and questionnaire forms were distributed so those in attendance could write down any additional input on topics that they may have been uncomfortable raising during the group exchange.

For the 2010 plan update, COMPASS also hosted a series of focus groups that targeted underserved populations or people that do not traditionally participate in the transportation planning process, including minorities, persons with disabilities, college students, and parents with young children (see Figures 4-12 and 4-13). The impetus for the focus groups was the recognition that even though the public comment efforts for the 2006 plan resulted in record-setting numbers in terms of participation, there were still many populations that were not reached and tend not to participate in public involvement activities.
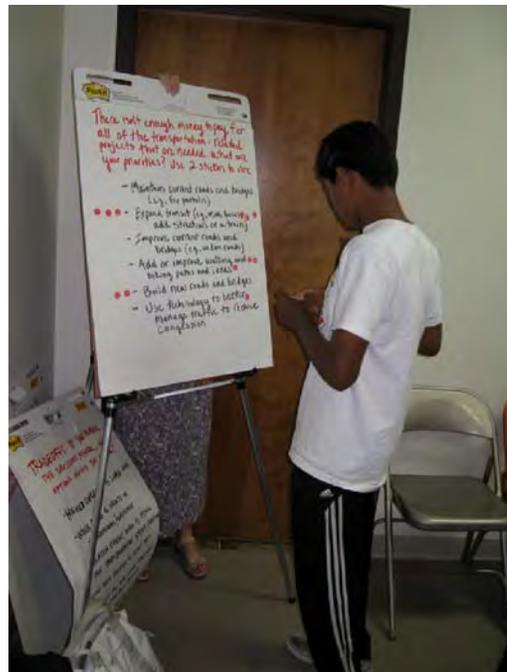
Figures 4-12 and 4-13.   Maps of the region were used in the focus group discussions (top). A focus group session was held with a group of teens and young adult refugees (bottom).

For these focus group meetings, COMPASS partnered with other organizations that were already actively engaging these groups and went to the community to meet with them on their own turf. COMPASS partnered with the American Association of Retired Persons (AARP) to organize a focus group for older and retired people. The meeting with parents was initiated through a parents group at a church, and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC Program) helped organize a meeting for low-income individuals.

Rather than just invite the public to attend a large public meeting, COMPASS went to people in their own neighborhood at a time when they normally gathered. Adopting this flexible approach, COMPASS received a broad range of input from segments of the population that may

not have been heard if only large meetings were held. For example, one of the groups COMPASS met with was a leadership club of teens and young adult refugees. Staff worked with their club organizers and held the focus group at one of their scheduled club meetings. Attendance at these events varied from three to four persons to as many as 20. Although attendance was not always significant, the MPO was confident that it heard from individuals in population groups that were unlikely to attend more traditional meetings.

Influence of the Approach on Decisionmaking

Five "Community Cafés" and 200 "Meeting-in-a-Bag" bags were part of a public involvement plan that successfully gathered input from the community at large for the *Communities in Motion* project in 2006. These approaches allowed COMPASS to meet with people on their own time and in their preferred locations. The input they received was typically from people who did not have a prior agenda on particular transportation issues. COMPASS, by widening its circle and inviting input from various perspectives, was able to develop plans that better matched the needs and preferences of the community. Some of the ideas and concepts that emerged and were included in its LRTP ranged from requests for more pedestrian and bicycle improvements in the plan to specific road improvements.

COMPASS continued to promote "Meeting-in-a-Bag" events for its most recent update in 2010. The MPO also introduced the focus group approach as a means to specifically target underrepresented populations.

Challenges

These approaches can be staff-intensive. For the focus groups and "Community Cafés," there are two to three staff people for a group of 10 to 20 community members. Keeping the groups small and informal increases the comfort of participants, but also limits the opportunity for different groups to hear other ideas and opinions.

> *"They are more interested in whether they are going to have bus service tomorrow, not what the ideal bus service is going to look like in 2025."*
>
> —Charles Trainor, Principal Planner, COMPASS

Another major concern is garnering interest in the planning process in the first place, particularly with traditionally underserved populations who often find it difficult or intimidating to attend government-organized meetings. COMPASS struggles with balancing people's immediate needs and getting their input on longer-term visions. It is difficult to keep the discussion focused around something 25 years in the future when members of the public have unmet needs currently and are focused on what is going to happen to them tomorrow. Demonstrating the importance of planning for the future, and the value of participating in long-range planning, is a constant challenge.

Benefits of the Approach

The "Community Café," "Meeting-in-a-Bag," and focus group techniques make public meetings more accessible for people who are uncomfortable with large groups or feel intimidated by their perceived lack of knowledge. By employing these techniques, COMPASS brought members of the community into the conversation whose voices had previously not been heard as thoroughly or clearly.

> *"Every person who participated liked the Meeting-in-a-Bag format. I had several comments that they felt free to talk in this setting and that they would not normally participate; being at work made it easy."*
>
> —2006 Meeting-in-a-Bag Host

In addition to creating a forum where traditionally underserved populations may feel more comfortable sharing their thoughts on and experiences of the transportation system, the method by which these various events were organized made them truly accessible. In southwestern Idaho, 70 percent of households have Internet, but that statistic would not hold for many of the underserved populations. The "Community Café," "Meeting-in-a-Bag," and focus group approaches take some of the emphasis of organizing and advertising an event away from technology and try to spread information through existing groups and communication channels. By advertising for the events at community fairs, along with online venues, those without Internet access were able to overcome the digital divide.

Costs of the Approach

The "Community Café," "Meeting-in-a-Bag," and focus group techniques have relatively low direct costs but require significant devotion of staff time. Using a small-scale and multi-format public involvement approach required COMPASS to coordinate numerous presentations and meetings among many small groups of people. For instance, for the 50 "Meeting-in-a-Bag" meetings held in the spring of 2010 for the *Communities in Motion* plan update, the direct cost was $5,000 including bags, materials, and advertising. The MPO used radio and newspaper ads as the primary means of publicity in addition to emailing their contacts and use of social media. Indirect costs included staff time for gathering materials and assisting those holding the meetings. MPO staff noted that the process would be somewhat more costly but could be improved with the addition of informational DVDs or other interactive materials.

Contacts/Resources

Contacts

Amy Luft
Communication Coordinator
COMPASS
800 S Industry Way, Ste 100
Meridian, Idaho 83642
(208) 855-2558 x231
aluft@compassidaho.org
http://compassidaho.org/

Charles Trainor
Principal Planner
COMPASS
800 S Industry Way, Ste 100
Meridian, Idaho 83642
(208) 855-2558 x232
ctrainor@compassidaho.org
http://compassidaho.org/

Resources

Community Planning Association of Southwest Idaho. (2010). *News Release: COMPASS Looking for Hosts for "Meeting in a Bag" Discussion Groups.* http://www.compassidaho.org/documents/comm/newsreleases/2010/COMPASS_Communities_in_Motion_Meeting_in_a_Bag_Hosts.pdf

Playing Board Games to Educate Decisionmakers about Reservation Road Planning: Lummi Nation, Bureau of Indian Affairs (BIA), Northwest Region

Background

New roads on Indian reservations are needed for a variety of reasons—to serve new businesses, link remote villages to county and state highway systems, provide access to cultural activities, and to replace unwieldy rutted and gravel-paved tracks, to name a few. Moreover, traffic accidents on reservation roads occur at roughly twice the national per capita rate of accidents on state highways and county roads.

In 2003, the Bureau of Indian Affairs (BIA) began working together with the Lummi Nation to explore possible ways for conducting technical training assistance targeted to tribal communities and their leadership. The three key issues for training that they wanted to communicate to tribal leaders as part of any capacity-building exercise were:

1. The legal environment in which transportation planning decisions are made,
2. The transportation planning process, and
3. How good planning can lead to good projects.

They were determined to find an interesting way to connect to tribal representatives and leaders who were responsible for establishing transportation and land use policies and setting priorities. They were also wary of "transportationese"—training and tools overly steeped in technical jargon that can hinder meaningful involvement in transportation decisionmaking.

Stage of Decisionmaking:
- Planning

Participants:
- Bureau of Indian Affairs (BIA)
- Federal Land Highways Program
- Lummi Nation
- Coordinated Technology Implementation Program (CTIP)

Tools and Techniques:
- Games

Affected Populations:
- Native Americans

Developing the Approach

While their objectives were clear, they were not sure how best to achieve them. Together, staff from the BIA and Lummi Nation went through a brainstorming process. They initially considered role-playing exercises, but soon realized that nobody wanted to play the BIA in Indian Country. The idea of developing a board game was also put forward. It held much wider appeal. It met the primary capacity-building training objectives, it could be applied throughout the country, and it could be designed to be fun and entertaining. The board game format also provided a means to demonstrate in a safe environment how dangerous and harmful bad planning can be to a community.

The BIA Northwest Region modified the Lummi P.L. 93-638 self governance transportation planning agreement with $75,000 to develop a transportation planning board game. Together, the BIA and Lummi Nation began developing the game with a large blank piece of paper. They started sketching out what types of projects require roads and how to teach someone how to build a road. They requested sample boxes from a number of game producers and used the sample components to think about the different types of games that they could make.

They conducted informational interviews with game developers and educators during this stage. They quickly found that it was the educators rather than the "for-profit" game developers who offered the most crucial insights for achieving their training goals. Working with educators from a local college, they explored how complex concepts could be explained through simple

language and tools. The educators helped them tailor their game to the diverse pool of potential players, some of whom may not have graduated high school or have extensive formal education. In order to explain high-level concepts, the game cards were written carefully with thorough explanations and all acronyms spelled-out.

In choosing the information that they wanted the game to convey, they first looked at Indian reservation road regulations for necessary guidance. This provided the groundwork for the essential components of reservation road planning such as the need for public involvement, planning, and environmental approvals, federal bid rules, and the like. Citations for all rules and regulations referenced are included in the game so that players understand the concepts as binding and can look things up if they want to understand them in greater detail.

BIA staff was also surveyed from around the U.S. to further understand the types of problems that were typically encountered before projects were permitted to proceed. Perhaps not surprisingly, they came up with far more issue topics than they had cards; it became essential that they narrow the focus to key teaching themes. In developing emotionally appealing content, they also elected to include random events that can happen for no particular reason but delay projects and put pressure on elected officials and representatives.

After they had substantially completed the game, a period of testing was undertaken. The Lummi Nation Planning Commission was among the first organizations to test a pilot version. The initial feedback was that the text would be too small for the elders, and that the game was somewhat dull. Increasing the text size was easy, but making the game more fun was a bigger challenge. To their growing dismay, members of the commission were subjected to several different test versions of the game before a Lummi Nation planning department intern came to the rescue. The intern's roommate was interning at Nintendo and brought it to the Nintendo offices to get some input. Nintendo staff came up with some keen critical observations following about an hour with the game. The problem came down to having the right ratio of outcomes in the cards. The right balance would mean that the game could be played and won in an hour to keep players engaged and entertained by the prospect of winning.

Implementing the Approach

Before finalizing the *Reservation Road Planner Game* they continued testing by bringing it to several meetings and conferences to get additional feedback. At these large gatherings they would have 30 to 40 people play the game and then conduct a lengthy debriefing to ask each person who played what they learned, what they would take away, and what they liked and did not like about playing it. Through this process they were able to hone the game to ensure that it worked effectively as a teaching tool. They also discovered and fixed flaws in the game such as the need to include $1,000 play-bills in addition to $10,000 play-bills.

A design firm was hired to prepare and design the graphics for the board. The game was developed in five designs reflecting different regions of Indian Country (see Figure 4-14). They considered creating a Navajo-language version for the Southwest, but found that English did not present a barrier when testing the prototype, and were concerned about only translating the game into one of the many languages spoken by tribes.

When it came time to start making the game, they could not find a U.S. game manufacturer. The *Reservation Road Planner Game* would either have to be produced in China or custom made in the U.S. at over twice the price. Ultimately they decided that making the game in the U.S. was important, although they did end up using game pieces that were made in China.

One thousand games were produced and mailed from Federal Land Highways Program to Tribal Technical Assistance Program (TTAP) offices. The 25" × 40" game boards are rolled into

Figure 4-14.   The Reservation Road Planner Game *board was developed in five designs reflecting different regions of Indian Country.*

a tube and delivered with a set of cards, game pieces, and play money. This method of distribution was chosen because the TTAP offices have existing relationships with both the Federal Land Highway Program and the local tribes, and could use their 58 nationwide centers as a bridge to getting the game into the hands of the right people. In its final form, the *Reservation Road Planner Game* is designed to be played by four players with the objective of completing a project by navigating through five phases of development. The game takes about an hour, and everyone has an equal chance of winning. Players must apply the things that they are learning throughout the course of the game to win.

Benefits of the Approach

Tribal leaders and other representatives are able to connect to and learn from the game because it was carefully designed as an education tool. Those who have played the game can relate to the issues that are presented. Often someone in the group will say, "we had a road issue just like this." As players make difficult decisions and confront the consequences, they learn about laws and regulations as well as trade-offs. After playing the game tribal leaders have a greater understanding of transportation planning, and when it comes time to adopt transportation plans, they know why it is important and what they should be looking for when they review the plan.

The *Reservation Road Planner Game* not only filled a need within tribal communities, but it created an entirely new concept about how information can be delivered (see Figure 4-15). In 2009, the game was recognized by the FHWA Planning Leadership Council (PLC) with an award for Transportation Planning Innovation. The FHWA has also begun an effort to create a similar game for metropolitan planning organizations (MPOs) across the country about transportation planning and programming processes.

Figure 4-15.   The Reservation Road Planner Game *was played at the 18th Annual Northwest Tribal Transportation Symposium.*

Challenges

It can be difficult to find a way to fit the game onto a council agenda and convince people to play. Because the game takes only about an hour, a good approach is to do it over lunch and provide pizza and soda. New council and commission members who join after it is initially played should be given a chance to play the game. Scheduling the game on an annual basis can help ensure that all new members are exposed to reservation road planning issues.

The game's proponents have found that it works best if there is a knowledgeable facilitator who can guide the play and reinforce the key points that the game is trying to teach. Some agencies play the game first with staff only so that they can serve as the facilitators to their planning commissions or councils.

Many of the issues faced in the game will remain relevant for decades to come, but the regulations that govern planning will change. As governing laws are changed (such as replacement/ reauthorization of SAFETEA-LU), game cards will be replaced to accurately reflect relevant rules.

> *"Like any tool, if it's not used what good is it?"*
>
> —Kirk Vinish, Lummi Nation Planning Department

Beyond ensuring that the game is played and the information within is accurate, it is also important for players to be aware that road planning is more than following the letter of the law. Although rules and regulations are elemental to road planning, getting community buy-in and working with community members to identify priorities is of utmost importance. Becoming aware of and invested in the road planning process is an important first step, but continuous involvement is required to ensure that roads are meeting the needs of the community.

Costs of the Approach

The game's development took about 2 years from the initial brainstorming to shipping it to the TTAP offices. The timeline for making a game can be fairly lengthy because there are many technical issues in creating the right format and finding a way to reproduce the game. The cost for development over the 2 years was $60,000, and each of the 1,000 games was produced at

a cost of $56 or $56,000 total. Initial funding for development of a project approach came from the BIA. After the idea of the game began to take shape the Federal Lands Highway Coordinated Technology Implementation Program (CTIP) provided funding for development of a prototype. After the approval of the prototype, additional funding was provided to cover production costs.

Contacts/Resources

Contacts

Kirk Vinish
Assistant Planning Director
Lummi Nation Planning Department
kirkv@lummi-nsn.gov
(360) 303-4139
http://www.lummi-nsn.org/

Kyle Kitchel
Indian Reservation Roads, Transportation Planner
Tribal Coordinator
Western Federal Lands Highway Division
610 E 5th Street
Vancouver, WA 98661
Kyle.Kitchel@dot.gov
(360) 619-7700
http://flh.fhwa.dot.gov/

Joe Bonga
Supervisory Highway Engineer
Bureau of Indian Affairs Northwest Region
911 NE 11th Avenue
Portland, OR 97232
(503) 231-6728
http://www.bia.gov/

Resources

The *Reservation Road Planner Game* official website where games can be ordered and a video about playing the game can be watched: http://www.roadplanner.org/

Adjusting the Strategies and Pace of Outreach to Develop Understanding of Community Values: Dine'Bii'Tah Scenic Road, Navajo Nation, Arizona

Background

The Dine'Bii'Tah Road was adopted as a scenic byway in 2008 based upon its outstanding cultural and natural resources and scenic values. As a scenic byway, the Dine'Bii'Tah Road is recognized by Congress in the National Scenic Byways Program of the Federal Highway Administration. The Dine'Bii'Tah "Among the People" Road is approximately 100 miles long and runs through the Navajo Nation from Lupton on Navajo Route 12 through Window Rock to Tsaile and along Navajo Route 64 to Canyon de Chelly.

In 2005, funding was allocated by the Arizona DOT (ADOT)/Navajo Tourism Department to develop a *Resource Protection Plan* to identify cultural and other resources along the Dine'Bii'Tah Scenic Road and initiate strategies to ensure their conservation and protection (see Figure 4-16).

Developing the Approach

The *Resource Protection Plan* was coordinated by the Navajo Tourism Department in conjunction with a *Scenic Byway Interpretive Plan* and *Marketing Plan.* The *Interpretive Plan* evaluates the ultimate use of the resource sites once protected, how the sites will be managed, and how the byway's intrinsic qualities will be displayed at these sites. Features of the corridor that warrant protection and how a byway traveler will benefit from protection of the site are given consideration. The *Marketing Plan* describes how the byway will be promoted to the traveling public and benefit the communities through which the byway passes.

Building a detailed inventory of the potential resources along the 100-mile corridor was a key research activity of the plan development process. Gathering this information from the various Navajo Nation communities along the entire length of the byway was an essential work scope

Stage of Decisionmaking:
• Planning

Participants:
• Navajo Tourism Department
• Chapter Houses

Tools and Techniques:
• Radio advertisements
• Interpreters
• Going to their events

Affected Populations:
• Native American
• Zero-Car Households
• Limited English Proficiency
• Low Income
• Seniors
• Youth

Figure 4-16. Dine'Bii'Tah "Among the People" Scenic Road runs through Canyon de Chelly National Monument, Window Rock Tribal Park, Navajo Nation Tribal Headquarters, Navajo Nation Museum, and the Ned A. Hatathli Museum, among many other points of interest.

element for developing the plans. The Navajo Nation is organized into five major subdivisions called "Agencies," which are broken down further into "Chapters." Dine'Bii'Tah Scenic Road runs through, or is in close proximity to, the Lupton, Oak Springs, St. Michaels, Fort Defiance, Red Lake, Wheatfields, Tfaile, Navajo, Chinle, and Crystal Chapters.

The project team needed to overcome several barriers to conduct outreach within each of the Chapters along the corridor, and effectively engage area residents and business owners. The study area was a very large and low-density area, making it particularly challenging to develop processes that would earn the trust of potential participants to elicit needed information. The study area Navajo population also included concentrations of individuals with low-literacy and/or LEP, especially among elders, presenting additional barriers to communication. Facing these challenges, the project team set out to effectively bring people from across the corridor to the table, explain the project and issues in a way that would make sense, and gather local perspectives and input on how to protect the resources of the byway.

Implementing the Approach

The project team planned to conduct meetings throughout the corridor by going to the Chapter House of each of the six study area Chapters. The Chapter Houses act as both community and government centers and are the hub of much local activity. The team envisioned organizing their outreach as community meetings or open dialogues, as opposed to formal presentations as might be conducted for a traditional project workshop.

Setting up the meetings with the Chapters was not particularly difficult because the project team was led by staff from the Navajo Tourism Department, who had contacts at each of the Chapters from coordination on other projects. In particular, the Navajo Tourism Department relied on their relationship with the Nation's Regional Business Development Offices with which they had worked previously.

To draw people to meetings, the project team aired public service announcements on Navajo and non-Navajo language radio stations. It was particularly important to make sure the message was sent in Navajo because people who attend such meetings are typically elders (age 55 or older) who speak Navajo. Because the Navajo language is primarily spoken, the radio was an especially appropriate outlet for advertising the meetings. Using the Navajo language, however, presented its own problems because it restricted how the project could be described. For example, there is no Navajo translation for concepts such as marketing and promotion.

Radio advertisements were deemed to be the most effective manner to advertise the meetings, but the team also posted flyers at the Chapter Houses targeting those who might be most likely to come there for an event. The meetings were also advertised in newspapers; however, it was generally recognized that many more people relied upon the radio for their news rather than the newspapers.

Written notices or newsletters about the event were not mailed to area residents because most people in the Navajo Nation do not have an individual mailing address and instead use a post office box. Depending on the people and where they live, they may not check their post office box regularly, making advertising events through the mail very difficult. Because Internet access is limited throughout the Nation's territory, it was not viewed as a viable option for advertising events. Similarly, cell phone messaging was not considered because reception is extremely limited in the more rural areas throughout the Nation.

> *"It was easy enough for most to stick around for lunch —it was one of the biggest turnouts."*
>
> —Roberta John, Navajo Tourism Department

The team had the greatest success in attracting attendees when they were able to piggyback on other events. Working with one Chapter they arranged to meet with the community over lunch at the conclusion of an earlier meeting. Offering free food at the meeting proved to be a very good incentive for participation. For another Chapter, the meeting was scheduled as part of an event for foster grandparents, which allowed the project team to meet with over 30 elders. Coordinating with other events was particularly successful because many residents, and especially elders, do not have access to a vehicle and rely upon van service to get to and from the Chapter House for scheduled meetings or meals.

> *"You might have to do outreach in the hour that you are meeting . . . we had to drive down the road and find people."*
>
> —Teresa Townsend, Project Team Leader

Outreach for the Chapter House events was conducted up to and during the meetings. In Chinle, near Canyon de Chelly, the project team approached people who were at the Chapter House or in the area, and they drove down the road to invite last-minute participants, including a Canyon tour guide and a local delegate from the Navajo Nation Council. Because participants did not need to have any prior expertise or knowledge of the project, any and all were welcome to join the meeting. At one meeting, one of the attendees was a school teacher who had intended to go to another meeting but ended up in the wrong room and stayed through the entire event because he found the byway to be so interesting.

Once the project team had successfully scheduled meetings and attracted attendees, they were challenged to run the events in a way that would allow for meaningful participation. The purpose of the project was not clear to many attendees due to the fact that concepts such as marketing could not be easily translated in Navajo. Many attendees thought that the purpose of the project was to improve the roadway itself, such as by fixing potholes.

When the team explained the purpose of the *Resource Protection Plan,* they acknowledged the physical condition of the roadway, but also emphasized the Scenic Byway Program's rules for eligibility and its funding purposes, which are heavily slanted toward marketing. The team hoped to address the concerns of participants who felt that fixing problems should be prioritized over promoting the byway by documenting issue areas and needed improvements for inclusion in the *Plan.*

Bilingual Navajo interpreters were critical to running the meetings and explaining the purpose of the *Plan* because there is a large generation gap between the elders who only want to speak Navajo and the younger generations who do not know the language. Interpreters also helped to administer the guided questions and surveys used to identify resources by working one on one with participants to ensure that they understood the questions and then recorded their responses. Questions on the survey included, "what is there to see and do along Dine'Bii'Tah Road?" The survey was designed to gather information about all types of resources including:

- Community Resources—facilities, institutions, schools, parks, businesses;
- Scenic Resources—vistas and overlooks, geological formations;
- Natural Resources—plants and animals for medicine, dyeing, and weaving;
- Economic Resources—independence through certification (including Lupton);
- Recreational Resources—physical, biological, and/or social;
- Cultural Resources—culture of a living society;
- Archeological Resources—ancient evidence of past communities; and
- Historic Resources—prehistoric or historic.

Figure 4-17.   Window Rock Tribal Park and Veterans Memorial is a distinct symbol of the town and considered a geological and cultural resource.

Understanding how various members of the Navajo Nation valued and interpreted each of the resources along the byway was critically important (see Figure 4-17). Sacred places were particularly relevant constraints and considerations throughout the planning process. For example, if there is a geological formation that has a sacred belief or story associated with it, members of the Navajo community sought to preserve its sanctity. They found it inappropriate to place a pullout in its vicinity. Through several public meetings, the team learned about specific resources that needed to be preserved or protected in the *Plan*. In addition to sacred sites, this included areas that would be adversely impacted by increased vehicle traffic. For example, the team learned that vehicles should not be encouraged or allowed to stop at the side of the road in areas where the plants growing along the roadway are harvested by Navajo people for use in healing, ceremonies, or creating goods such as rugs. Additionally, it was necessary to design attractions in a way that would minimize potential conflicts with livestock, which crossed the byway at will, unrestricted by fencing, and could be particularly dangerous at night.

The meetings were used not only to identify what needed to be protected, but also to identify potential benefits. For many attendees it was hard to understand how a scenic byway would benefit them. They were most concerned with their daily duties such as hauling water to feed their sheep. The project team framed the byway as a catalyst for many issues important to the Nation including tourism and economic development as well as historic preservation and celebration of Navajo culture.

Additional outreach conducted by the project team included reaching out to schools to gather youth input, and one-on-one meetings with local artisans, institutions, and organizations.

Influence of Approach on Decisionmaking

Over about a year's time, the project team conducted extensive public outreach and an in-depth inventory of corridor resources, integrating these components to verify the community values and perceptions of those resources. Meetings at the Chapter Houses allowed the project team to obtain community input on existing natural, cultural, and community resource conditions; consult with local communities about the reported resource inventory and its potential effects upon cultural resources and lifestyles; and review resource management and communications strategies with the communities and other resource planning entities.

Recommendations under each of the resource areas, informed by outreach to the community, were included in the final *Resource Protection Plan* prepared for the Navajo Tourism Department in 2009. The plan identifies the intrinsic qualities most treasured by the communities along this corridor, as well as the most culturally and fiscally appropriate ways to protect and preserve them for future generations. As one of the first byways of the Navajo Nation's Scenic Byway Program (established in 2006), the road represents a possible model on how the Nation's byways are to be defined and established. It also represents an important effort not only to provide information about the Nation and its resources, but also on how best to preserve, maintain, and enhance them.

Challenges

The planning process drew attention to the byway, but physical improvements have not yet been made and no impacts to tourism have been felt. Currently the Nation is trying to secure grants for land use and economic studies to advance the goals identified in the *Resource Protection Plan.*

Since the *Resource Protection Plan* was completed, responsibility for the Navajo Nation's Scenic Byway Program has moved to the Navajo Nation Department of Transportation (NDOT). This administrative change presents new opportunities to better coordinate promotion of the byway with roadway improvements and maintenance; however, challenges ahead nevertheless exist.

As before, under the Tourism Department's jurisdiction, the Nation does not own the byway itself or the land around it and therefore cannot control land uses. The land is held in trust by the BIA in the U.S. Department of the Interior. Most of the areas through which the Dine'Bii'Tah Scenic Road runs is trust land that requires that anything being erected or built on the land must receive approval from the land's permit holders.

Challenges for the Dine'Bii'Tah Scenic Road in the future will include making hardscape improvements given limited funding, building continued momentum for tourism along the byway, and creating connectivity between the Dine'Bii'Tah Scenic Road and other byways both inside and outside of the Nation. The Tourism Department is particularly concerned that tourism along the byway will decrease as a byproduct of Arizona's 2010 law requiring immigrants to carry their alien registration documents at all times and requiring police to question people if there is reason to suspect that they are in the United States illegally.

Benefits of the Approach

Discussing existing resources with the community before promoting the byway to the general public was critical to preserving the byway's value. For smaller tribes it might have been possible to meet with the entire tribe in one day or over a brief period, but as the largest Native American tribe, both in terms of population and geography, a much more extensive approach was needed to gather community input from members of the Navajo Nation. By being flexible in scheduling and working with the Chapter Houses, the project team was able to organize and execute many successful events. Through repeated contact with the communities, the project team was able to screen issues and devise potential strategies over time; by taking its time, the team was able to learn much more than was possible over a more compressed schedule. The project team was eventually able to build trust and gather information about resources from community members, dispelling along the way unfounded fears that had led some to initially refuse to give their name or participate.

   Although management of the byway by ADOT is thought to be a good strategy for its further development, it was beneficial to have the Tourism Department lead the *Resource Conservation Plan* and associated outreach. The Tourism Department was skilled at using its contacts with each of the Chapters and was able to build trust with the community and confidence that the project would benefit it by appropriately framing the project as, "what do you want to share about your community?"

Costs of the Approach

   The entire *Plan,* including outreach to communities along the byway, cost approximately $80,000.

Contacts/Resources

Contacts

Teresa Townsend
Chief Executive Officer
Planning Communities, LLC
8311 Six Forks Road Suite 209
Raleigh, NC 27615
(919) 848-5959
ttownsend@planningcommunities.com

Roberta John
Navajo Tourism Department
P.O. Box 663
Window Rock, AZ 86515
(928) 871-7375
bbiejpress@yahoo.com

Resources

National Scenic Byways Program, "Dine' Tah 'Among the People' Scenic Road Overview," http://www.byways.org/explore/byways/50185/index.html

Arizona Department of Transportation, (August 2008), Dine' Tah "Among the People" Scenic Road, Corridor Management Plan. http://www.azdot.gov/Highways/SWProjMgmt/enhancement_scenic/scenicroads/PDF/cmp_dine_tah.pdf

Using Popular Shopping Areas and Phone Trees to Engage Immigrant Communities about Pedestrian Safety: Buford Highway, DeKalb County, Georgia

Background

Stage of Decisionmaking:
• Project Development

Participants:
• DeKalb County
• Georgia DOT
• Center for Pan Asian Community Services
• Plaza Fiesta
• Mercado del Pueblo

Tools and Techniques:
• Public Involvement Plan
• Contact List
• Consultants
• Surveys
• Incentives
• Interviews
• Interpreters
• Translated Material
• Press Release
• Flyers
• School Outreach
• Phone Trees

Affected Populations:
• Minorities (Hispanic, Korean, Chinese, and Vietnamese)
• Foreign Born
• Low Income
• Zero-Car Households
• Limited English Proficiency

Buford Highway has long been one of Atlanta's major radial highways. It extends from beyond the northern part of DeKalb County south through the City of Chamblee and into Fulton County and the heart of Atlanta. Over 30 years ago, Buford Highway was widened to seven lanes so that it could serve as an overflow reliever for Atlanta's I-285 beltway. As part of this upgrade, access control measures were incorporated to improve traffic flow. These measures reduced the number of curb cuts, limited the number of signalized intersections, and increased the spacing between intersections to at least one mile. Sidewalks were not considered a necessity for project area residents who were predominantly white, middle-income, literate, English speaking, and transportation independent.

While little about Buford Highway has changed physically over the past three decades, there has been a slow but steady change in the population along and surrounding the roadway. Today, Buford Highway is surrounded by one of metropolitan Atlanta's largest Hispanic (Mexican) residential and business communities, and the oldest Korean, Chinese (Cantonese), and Vietnamese business communities. The wholesale change in the population's composition along Buford Highway introduced not only different languages, cultures, traditions, and economic statuses, but also different mobility patterns with fewer vehicle owners and many more pedestrians.

This quiet cultural transformation went relatively unobserved until the number of pedestrians being injured and killed on Buford Highway increased to a point to which it had to be addressed. Between 2002 and 2004, eight vehicle-related fatalities occurred on Buford Highway within DeKalb County; seven of those fatalities were pedestrians. During that same time period, pedestrians were injured in 47 other accidents. Pedestrian safety along the corridor began to get attention in 2005 when DeKalb County announced the beginning of preliminary engineering on a sidewalk and streetscape plan to improve the roadway's appearance. This announcement generated a number of articles in the *Atlanta Journal Constitution* from pedestrian advocacy groups highlighting Buford Highway's pedestrian safety problems and questioning the use of funds for beautification rather than for improving pedestrian safety. Realizing that DeKalb County did not have resources available to address this larger undertaking, the Georgia Department of Transportation (GDOT) proposed a joint initiative and provided additional funding to address Buford Highway's pedestrian safety issues.

The expanded project included constructing 5-foot-wide sidewalks, a 2-foot stamped brick-colored pattern between the sidewalks and the back of the curb, as well as pedestrian lighting and landscaping. GDOT proposed that a continuous median barrier would be used throughout the second phase of the project as a way of stopping pedestrians from crossing Buford Highway

at mid-block locations. When corridor merchants learned of these plans, many went to DeKalb County elected officials and expressed concerns that a continuous raised median would deny left turns and restrict accessibility to their businesses.

Developing the Approach

In response to the project's increased publicity and the heightened public and political interest in it, GDOT developed a list of representative merchants, faith-based and community organizations, advocacy groups, government agencies, and elected officials that would be involved in the design process. These stakeholders had personal and professional links to the project area. The original idea was to hold a series of design charettes; however, before all of the prospective members could be contacted and invited to participate, this approach was deemed unworkable because of the diverse schedules, languages, and cultures of the communities. GDOT then retained a consultant and directed this consultant to prepare a public involvement plan for engaging the corridor's residents and merchants.

This change in direction took place during the summer of 2006 as many Hispanics and others took part in demonstrations across the nation calling for comprehensive immigration reform. In Atlanta, these demonstrations were met with calls from local politicians for increased prosecution of illegal aliens and possible deportations. These actions led to heightened anxiety among residents and created other public involvement challenges. Residents expressed reluctance to attend meetings assuming these were U.S. Immigration and Customs Enforcement stings, and business owners/operators became wary of opening their doors to strangers for fear they were Internal Revenue Service agents.

Given these extenuating circumstances, a different approach to public involvement was necessary. Critical to the success of the public involvement efforts was an understanding of and respect for the cultures of the surrounding communities, a recognition and incorporation of the communities' abilities and constraints to participate in a public involvement process, and the support of DeKalb County, GDOT, and FHWA to pursue nontraditional methods to engage these communities. The resulting public involvement process respected and incorporated their cultures, accommodated their work/life schedules, addressed low literacy or LEP issues, and utilized the stakeholder members' local knowledge and relationships.

GDOT provided the consultant with a stakeholders list that it had developed earlier in the project. The consultant expanded and utilized this list to develop an understanding of the local community. Each stakeholder was interviewed during a visit to their offices or over the telephone during business hours or during lunch outside their office. The interviews generally lasted 30 minutes and dealt with pedestrian operations within the project corridor relative to the interviewee's area of expertise or interest. In addition to providing observations and recommendations, stakeholders provided specific information about how to engage Hispanic, Korean, Chinese, and Vietnamese merchants and residents. Specifically Plaza Fiesta Mall and Mercado del Pueblo were identified as places to survey Hispanic customers; individual Korean, Chinese, and Vietnamese business owners and operators were identified for interviews in their offices.

Implementing the Approach

Prior to the Plaza Fiesta and Mercado del Pueblo survey events, GDOT prepared a press release, which was forwarded to all metro Atlanta media and Hispanic media including Atlanta Latino, La Vision, Mexico Lindo, Mundo Hispanico, Viva 105.3 Radio, and television stations. In addition, flyers printed in both English and Spanish were distributed to all apartment complex managers and business owner/operators within the project corridor and they were asked to display these in a prominent location. Flyers were also distributed through Dresden, Montclair,

and Woodward elementary schools. The principals were visited and asked to distribute the flyers to all fifth grade students with instructions for them to take the flyers home to their parents. The flyers announced the date, time, location and purpose of the surveys.

Plaza Fiesta was an enclosed mall with two major retail stores, an international grocery store, family medical clinics, a food courtyard, children's play area, game arcade, and over 200 small "mom and pop" shops. Almost all shops were operated by Hispanics and Spanish was the language spoken by employees and customers alike. The interior of the mall was designed to resemble the narrow streets of a Mexican village and provided customers with a safe, nostalgic home-like setting. Located in the northern portion of the project area, the mall had access at a signalized intersection with clearly marked crosswalks and a MARTA/Royal Bus Line stop. Mall representatives suggested that surveys be conducted on a Sunday between 4:00 p.m. and 8:00 p.m., as more than 1,000 shoppers would be present in the mall.

On an early spring Sunday between 4:00 p.m. and 8:00 p.m., surveys were conducted at Plaza Fiesta Mall (see Figure 4-18). The mall provided eight bilingual interpreters, and four set-up spaces with tables and chairs. In addition, giveaways such as balloons, toys, and small soccer balls were purchased from merchants within the mall for children regardless of whether or not their parents completed a survey. The eight interpreters roamed the mall and administered surveys to shoppers in English or Spanish, while other shoppers stopped at one of the four tables and completed surveys in English or in Spanish without assistance. Visualizations of possible design options were provided as handouts. A total of 345 surveys were completed. Mainstream television news media attended the event and showed their coverage during their local evening news programs.

Mercado del Pueblo was a large grocery store with a predominantly Hispanic customer base. The Mercado del Pueblo store manager suggested that surveys be conducted on a Sunday between 2:00 p.m. and 6:00 p.m. as this was prime time for shoppers. The store also provided a set-up space in its bakery, a high activity area, and mobilized four bilingual interpreters.

On an early summer Sunday between 2:00 p.m. and 6:00 p.m. surveys were conducted at Mercado del Pueblo. As with the Plaza Fiesta event, small soccer balls were given to children regardless of whether or not the parents completed a survey. The four bilingual interpreters roamed the bakery area and administered surveys to shoppers in English or Spanish, while other shoppers stopped at the table and completed surveys in English or Spanish without assistance. A total of 168 surveys were completed.

**Figure 4-18.   Intercept surveys were favorably
received in the village-like Plaza Fiesta Mall.**

Influence of Approach on Decisionmaking

Following the completion of the surveys, meetings were held with GDOT to provide a summary of the design recommendations made by community members. Some of the recommendations that the community offered included sidewalks on both sides of the highway, pedestrian-level lighting, addition of four midblock signalized pedestrian crossings, bus shelters, crossing signal time lengthening to accommodate mothers pushing strollers, and a pedestrian bridge at the Latin American Association. Additionally, a pedestrian safety education campaign in Spanish, Korean, Chinese, and Vietnamese was proposed.

GDOT revised the design to incorporate all suggestions except the pedestrian bridge which was deemed infeasible given roadway grade changes. GDOT publicized meetings to present the final design using the standard advertisement media and flyering techniques previously utilized. In addition, they created a phone tree to personally engage Korean, Chinese, and Vietnamese community members. The final design was presented to the Hispanic community at a Sunday afternoon event at Plaza Fiesta, and to the Korean, Chinese, and Vietnamese community at a day-long meeting held at the Center for Pan Asian Community Services.

Challenges

Construction plans have been completed and Phase 2 of construction is scheduled to begin in the summer of 2012. Communications with the multicultural and multilingual populations in the project area should continue through right-of-way acquisition and construction. Creating a public involvement plan that addresses the need for interpreters and translated materials, visualizations, appropriate meeting places, and the use of phone trees for these stages will be essential to providing accessible and meaningful information.

Benefits of the Approach

Using popular shopping areas to engage immigrant communities proved to be a cost and time efficient approach to reaching stakeholders whose input was critically needed to find solutions to Buford Highway's pedestrian safety issues. By partnering with local agencies and businesses, GDOT was able to conduct its survey in the most efficient way possible and returned quality information that improved the overall project design. The project also strengthened relationships with area stakeholders who are now more educated and inclined to participate in future transportation projects.

Costs of the Approach

Costs for the survey approach included 20 bilingual (Spanish/English) interpreters for 4 hours each ($1,600), five bilingual (Chinese/English, Vietnamese/English, and Korean/English) interpreters for 13 hours each ($2,115), giveaways ($1,500), survey materials ($50), flyers ($25), and display boards ($300). In addition, getting displays and surveys translated into Spanish, Korean, Chinese, and Vietnamese cost approximately $310. Time spent developing the survey approach was greater than the actual survey effort; however, it was careful upfront planning that ensured the survey effort was conducted efficiently. For example, the small investment in giving away appealing incentives greatly increased the survey return rate and ultimately lowered the overall cost of the effort. The project's collaborative approach to finding solutions for pedestrian safety strengthened key partnerships with the Plaza Fiesta and Mercado del Pueblo, which itself led to cost savings through donated goods and practical advice on how to improve the survey's efficiency.

Contacts/Resources

Contacts

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Michael A. Lobdell, P.E.
GDOT District 7 Traffic Engineer
5025 New Peachtree Road, NE
Chamblee, GA 30341
(770) 986-1765
mlobdell@dot.ga.gov

Resources

Buford Highway website: http://www.bufordhighway.com/

Using Student Internet Access to Reach Diverse Populations: Southwest Georgia Interstate Study, Georgia Department of Transportation

Background

Southwest Georgia is a sparsely populated rural agricultural area with access to few four-lane divided highways and only limited direct access to Interstate 75 (I-75). The Georgia Department of Transportation (GDOT) initiated the Southwest Georgia Interstate Study in response to a perceived need for greater accessibility and an Interstate connector that could promote growth and development. The purpose of the study was to examine the feasibility of possible new Interstate connections between I-75 in Georgia and I-10 in Florida.

The 32-county study area covered approximately 11,871 square miles, or 20 percent, of the state of Georgia. The study area for the project was exceptionally large and low density; getting meaningful participation from the study area's rural populations was a challenge for the study.

The study area had a population of 839,393 in 2000, with an average density of only 70.7 persons per square mile—roughly half the density of the state overall. Twenty-five of the study area's 32 counties had populations of less than 30,000 people, with 12 of those counties having a population of less than 10,000 people.

Fourteen of the counties had minority populations of 50 percent or more and 22 of the counties had low-income populations of 20 percent or more. In addition, 24 of the counties had 30 percent or more of those 25 years old with less than a 12th grade education and no high school diploma.

Stage of Decisionmaking:
- Planning

Participants:
- Georgia DOT
- Local School Districts

Tools and Techniques:
- Internet Survey
- Paper Survey
- Working with Schools

Affected Populations:
- Low Income
- Minority
- Low Educational Attainment
- Limited Internet Access
- Students

Developing the Approach

The initial public involvement effort focused on identifying city and county officials, commissioners, representatives of chambers of commerce, educational institutions, military installations, and environmental groups that could serve as members of a stakeholder committee. These individuals met regularly throughout the study to provide input, feedback, and recommendations to the study and to disseminate and gather information that reflected community needs. The project team determined that they needed to reach a broader and more diverse group of people to ensure that concerns of the study area's low-income and minority populations were identified.

A survey was developed to capture information relevant to the everyday transportation problems experienced by those using the roadway system and to determine if the public felt that a new Interstate would address these concerns. The survey asked about a family's proximity to school, shopping, church, work, medical attention, and after-school events. It also asked if specific types of transportation problems had been experienced—such as traffic backup on roads and at intersections, need for intersection signalization, lack of roadway shoulders, unsafe intersections, tractor trailer trucks, and/or difficulty getting onto a road—to see if these problems could be addressed by a new Interstate facility.

Finding a means for disseminating the final survey to ensure that it reached the broad and diverse set of populations that were targeted was crucial. The project team explored several

Figure 4-19. The Southwest Georgia Interstate Study was challenged to find effective ways to conduct public involvement over a sparsely populated large rural region.

options. Initially, they contacted community coordinators at each Wal-Mart within the study area to see if surveys could be distributed outside their stores on a weekend day. Copies of the information sought along with a copy of Wal-Mart's internal application form were submitted to each community coordinator for approval. Some Wal-Marts did not respond while others said GDOT could not conduct activities outside their stores as they did not meet their definition of a nonprofit institution.

Festivals were also considered as a possible means for disseminating the survey because they might draw large populations, including low-income and/or minority populations. Most of the festivals scheduled to occur in the 32-county area, however, were to take place during summer months after the project was scheduled for completion.

Recognizing these limitations, the project team began to consider the Internet and under what conditions it could be applied effectively within this predominantly rural region. Database marketing companies confirmed the problem—Internet connections existed in only a small percentage of study area households. The region's low-income households were unlikely to have Internet access within their homes due to the one-time and recurring costs of having a computer with Internet access. Internet access was available, however, at all of the schools in the study area. Implementing the survey to students through the Internet at their schools was identified as having great potential for reaching the study area's diverse income, racial, and ethnic groups. It was recognized that this method of engagement would not reach those individuals and families that did not have children in the public schools.

Implementing the Approach

During the middle of the Fall 2008 semester, the superintendents of education for each of the 32 counties and four independent city school districts were contacted by telephone. They were asked if they would allow their students to participate in a road-use survey as part of the Southwest Georgia Interstate Study (see Figure 4-19). During the initial conversation with these individuals, the concept of using an embedded hyperlink placed on the counties' homepages so the students could access the survey during their computer labs, take the survey home to their parents who may be low-literate, conduct the survey, bring the results back to the computer lab, and return the results directly to the consultants was discussed. Each administration requested a copy of the proposed survey.

The project team followed up with a letter to each superintendent with an enclosed copy of the seven-question survey. The survey was intended to take 15 minutes. The letter reiterated that the purpose of the survey was to provide the GDOT with a snapshot of what part the existing roadway system played in the life of the average resident in their county. Engaging school students would allow the GDOT to reach a much larger, more diverse audience that might otherwise be missed using traditional outreach techniques. By allowing students to take home a survey to their parents, the concerns of those that may not have Internet access at home, may not subscribe to a newspaper, may be low-literate, and/or have LEP could be heard and included. The letter also stated that the superintendents would be provided with a hyperlink that could be embedded on their intranet page that would electronically present the survey to their students using the computers in the school's computer labs and return the completed survey to the project team.

The project team worked with the superintendents to get buy-in for implementing the survey. A condition of approval was that no personal information would be requested. The project team was successful in getting all but four of the county superintendents, and one of the independent city school district superintendents, to agree to participate. Some of the superintendents who agreed to participate requested paper copies of the surveys in lieu of a hyperlink. Those superintendents who wished to use paper copies of the survey asked the project team to provide those

paper copies as they could not afford the cost of printing or paper. A letter, addressed to the parents explaining the purpose of the survey, was provided to the superintendents to include with the paper survey.

Links to the survey were placed on the schools' homepages to allow the students access to the survey. Students would click on the survey icon and be immediately connected to the survey, which they could complete online or print and fill out. If printed, the survey could be returned in paper format or entered electronically. If entered electronically the survey would be sent directly to the project team once the "submit" button was clicked. The survey was provided in English because supplemental information provided by the schools in the study area did not identify a non-English speaking student body and most of the very limited Hispanic population in the project area consisted of single men without children.

The project team sent paper and electronic copies of the surveys to the schools at the beginning of the spring 2009 semester. Those schools with older students generally used the hyperlink, while those with students who were too young to complete the surveys by themselves asked the project team to provide paper copies. For return of the paper copies, repaid return envelopes were provided so that the completed paper surveys could be sent to the project team at no cost to the school.

Influence of Approach on Decisionmaking

Nine counties and two of the independent city school districts chose to use the electronic surveys and five counties chose to use paper copy surveys. The remaining 14 county school districts and one independent city school district did not to participate, although they were provided with information. While slightly less than one-half of the 32 county school districts and one-half of the four independent school districts participated, more than 4,400 surveys were completed and returned through this approach to collecting information in a large rural region. Seventy percent of the surveys were completed on paper and 30 percent were completed electronically.

The information obtained from the school surveys supported the recommendations of the study and helped persuade local public officials to accept the study's conclusion that there was little public support for a new Interstate facility and its construction would not be an effective and efficient use of taxpayers' money.

Challenges

The immediate question of whether or not a new Interstate was needed has been resolved and is not expected to be revisited in the near future. Other transportation issues that were identified by the survey and through traditional public involvement methods can now be examined, prioritized, and addressed as funds become available.

Benefits of the Approach

The primary benefit of the approach was to engage a broader portion of the population by using the Internet. The approach overcame a principal barrier to the use of the Internet in a predominantly rural region—its lack of availability to the region's low-income, low-literacy, minority (i.e., Black and Hispanic) and LEP households. By working with the public schools, an institution with a high degree of credibility and importance in community life, the approach confronted the Internet's potential limitations and found a means for its application in the project study. The approach incorporated flexible strategies for ensuring that a portion of the population was not denied access to information even as the Internet's low-cost advantages for delivering information were applied to this large regional planning project.

Costs of the Approach

Making phone calls to the superintendents, sending a follow-up letter to the superintendents, printing paper surveys and sending packets of surveys to the schools, creating the hyperlink, using prepaid return packets, and tabulating the results of the survey cost approximately $10,000 and took approximately 160 hours of effort. The Internet survey was hosted by the consultant because they were writing the report. Creating the hyperlink cost approximately $300.

Contacts/Resources

Contacts
Tom McQueen
Project Manager
GDOT Office of Planning
(404) 631-1987
tmcqueen@dot.ga.gov

Resources
Georgia DOT's *Southwest Georgia Interstate Study* homepage: http://www.dot.state.ga.us/informationcenter/
    programs/studies/SWGAInterstate/Pages/default.aspx

Building Relationships with Service and Transport Providers to Measure Paratransit Needs: Southwest Region Planning Commission, Keene, New Hampshire

Background

The Southwest Region Planning Commission (SWRPC) is one of nine regional planning commissions in New Hampshire established by state statute. The predominantly rural region includes 35 towns within the three counties of Cheshire, Western Hillsborough, and Sullivan with a total regional population of 102,313 persons as of 2010. In 2009, SWRPC proposed to partner with four agencies that provide transit and paratransit services in southwest New Hampshire in conducting a planning study for the purposes of examining the feasibility of expanding public transit and paratransit services on the Route 12 corridor north of Keene. The four participating agencies included the American Red Cross—New Hampshire West Chapter, Community Transportation Services, Connecticut River Transit, and Home Healthcare, Hospice and Community Services (see Figure 4-20).

SWRPC met with the four agencies for several months along with an elected state representative and Easter Seals to discuss coordination and service expansion improvements on Route 12. The state representative (with support from Connecticut River Transit and the American Red Cross) eventually approached the Town of Walpole to seek financial support for funding a shopping shuttle or a local volunteer driver program. At the time, both agencies provided partial service in the area, but additional funding was needed to provide community residents with a sufficient level of service. The town initially agreed to vote on appropriating a local match for a volunteer driver service, but the governing selectboard expressed that it did not have an adequate sense of community need to make informed decisions to support transit or paratransit services at the time.

Stage of Decisionmaking:
- Planning
- Policy and Programs

Participants:
- Southwest Region Planning Commission
- American Red Cross-New Hampshire West Chapter
- Community Transportation Services
- Connecticut River Transit
- Home Healthcare, Hospice and Community Services
- New Hampshire DOT

Tools & Techniques:
- Applying the "United We Ride" Framework for Action Model
- Committee Formation
- Working with Service Providers

Affected Populations:
- Low Income
- Disabled
- Seniors
- Zero-Car Households
- Other Vulnerable Populations

The absence of support from the Walpole selectboard presented a challenge for the four agencies that saw unmet transportation needs and a lack of familiarity with the opportunities provided by alternative transportation services on the part of local public and private-sector organizations. The four agencies had anecdotal evidence suggesting that expanded services were needed, but they recognized that their position could be further strengthened by the development of a market and needs study. Such a study would explore the level of need of various population groups, estimate potential ridership, and focus upon the kind of political and financial support that could be expected from Route 12 community stakeholders. Moreover, the shopping shuttle and local volunteer driver program were just two of several initiatives that the four agencies believed could improve multi-modal connectivity and accessibility in the region. Other services that the group was interested in implementing included:

- A commuter shuttle linking Springfield, VT with Keene, NH or alternatively Rockingham, VT with Keene, NH;
- A shuttle connecting Walpole, NH to Keene, NH;
- A transit or paratransit connection between Walpole, NH and Charlestown, NH;

Figure 4-20.   SWRPC partnered with several agencies to examine feasibility of expanding public transit and paratransit services on the Route 12 corridor north of Keene.

- Coordination of rural rides programs with existing bus services;
- Coordination of transportation among the various agencies for medical appointments to Cheshire Medical Center, Keene Dialysis Center, Springfield Hospital, and Dartmouth Hitchcock Hospital; and/or
- Development of an additional park and ride lot in the region with possible transit or paratransit connections.

Developing the Approach

Through contractual arrangements between SWRPC and the New Hampshire Department of Transportation (NHDOT) Bureau of Rail and Transit, SWRPC proposed to perform a scope of services and deliver prescribed products for the *Route 12 Corridor Transit/Paratransit Development Study.*

The study was funded by NHDOT and began in September of 2009. SWRPC is leading the implementation of the prescribed planning services in cooperation with the American Red Cross, Community Transportation Services, Connecticut River Transit, and Home Healthcare, Hospice and Community Services using a team approach. As funded, a second tier of participants, including Upper Valley Lake Sunapee Regional Planning Commission, Windham Regional Planning Commission, Southern Windsor County Regional Planning Commission, local area employers, and human service providers were also invited to participate in the study.

In New Hampshire, the state DOT contracts with the regional planning commissions (RPCs) to conduct all public involvement activities, not just transit. The RPCs are viewed as having the expertise and local knowledge to facilitate outreach in and dialogue with local communities. This partnership extends into many areas of NHDOT's activities and, in some instances, the RPCs can be considered as extended staff of NHDOT. It relieves NHDOT of duplicating services in the area of public involvement and encourages more local access in the decision-making process. Where the need extends beyond that of the RPCs, consultants may be engaged by NHDOT or

the RPCs; however, these partnerships leverage the resources of the two branches of state and regional government. Before the *Route 12 Corridor Transit/Paratransit Development Study* was funded, important groundwork was undertaken by the SWRPC and the four agencies to learn more about the needs of the traditionally underserved.

Implementing the Approach

The impetus for the study grew out of SWRPC's work in creating a *Coordinated Community Transportation Plan* for southwest New Hampshire in 2006. More than 15 agencies, including the four subsequent partners on this project, made substantial contributions to the development of the plan. Data from a 2003 survey conducted by Southwest Community Services, Inc. (SCS) and Monadnock United Way (MUW) were used to identify transportation needs. A follow-up survey of 189 community leaders found transportation services ranked third behind housing and childcare as a need being poorly met. In addition to these surveys, input from the 15 groups providing services to residents was sought through discussions at meetings and an additional survey. The groups also provided information and other data on their clients' transportation needs.

This effort was essential to building the trust among the agencies to advance subsequent plans. SWRPC has since been able to draw upon the resources provided through the 2006 planning activities for other plans. SWRPC identified resources among the agencies to facilitate future planning initiatives, such as surveys, to provide data, including inventories of vehicles and other assets, and to collect information about client needs. Thus, the 2006 coordination planning process aided SWRPC not only on improving its understanding of existing transit issues, but also in its long-range planning process, and it provided a means to access traditionally underserved populations for the Commission's other transportation projects.

At the first meeting, the United We Ride program planning guide, *The Coordinated Public Transit and Human Service Transportation Plan Self Assessment Tool for Communities,* was distributed by SWRPC to participating agencies. Subsequent meetings were used to discuss findings and develop a coordinated action plan. Additional input and discussion from the public was also fostered by participating agencies.

The United We Ride *Framework for Action* includes two self-assessment tools. The Self-Assessment Tool for Communities focuses on diagnostic questions and a set of "decision helpers" to aid citizens, human service and transportation providers, employers, and the general public in identifying actions needed to improve transportation services. The process somewhat resembles a World Café in that it creates meaningful and cooperative dialogue through questions focused on transportation needs and resources. The Self-Assessment Tool for States poses a series of diagnostic questions for state agencies and also uses a number of "decision helpers" that emphasize partnerships among state agencies, inventory needs at the state level, explore funding streams and strategies, investigate technological solutions, and look to identify efficiency measures. While the emphasis may appear to focus on transit, the benefit of the *Framework for Action* arises from the process of bringing together local and state stakeholders that represent various segments of the population with varying transportation needs and resources. The process creates a unique opportunity for dialogue at multiple levels, enhancing the understanding of local needs and program resources.

Building on the relationships developed during the 2006 coordination planning effort, the four agencies, the American Red Cross—New Hampshire West Chapter, Community Transportation Services, Connecticut River Transit, and Home Healthcare, Hospice and Community Services, met with the state representative (Cheshire County, NH, District 2), Easter Seals, and SWRPC regarding transportation coordination and service on Route 12 in

the Town of Walpole. These meetings were consistent with the three major aspects of the coordinated plan:

- Advancement of Transportation Services,
- Creating a Structural Framework for Coordination, and
- Service Planning.

SWRPC is not considered either a service group or transportation provider; however, as an RPC, it is charged with responsibilities to facilitate regional coordination efforts and support the regional transportation system. The initial work to develop the coordinated transportation plan helped SWRPC identify needs in the region. The partnering agencies, as recognized by SWRPC, have been critical in providing essential information, conducting surveys, convening effective public meetings, and communicating perceived service deficiencies and needs within the region. The *Route 12 Corridor Transit/Paratransit Development Study* is a more discrete initiative that has been fostered by that initial relationship-building planning effort.

Influence of Approach on Decisionmaking

The *Route 12 Corridor Transit/Paratransit Development Study* project includes a market study, a needs assessment, an exploration of support for future transit and paratransit services, and an analysis of suitable future transportation services. SWRPC, with consultation of the four transportation providers and possible assistance from other regional planning commissions, is providing support in the project to understand the potential ridership market, needs, and private- and public-sector support.

Challenges

A private consultant was hired in the spring of 2010 to assist the RPC and the transportation providers in designing a comprehensive market and needs study and to assess the most suitable future service or package of services. Providing local matching funds was considered a key issue for the localities faced with meeting day-to-day needs. Only a small amount of resources are needed to study the feasibility of expanding services, but the capacity of the local communities to operate an expanded system will be a critical challenge in the future.

Benefits of the Approach

The SWRPC has been able to build on existing relationships with human service and transport providers to develop a greater appreciation of the unique needs addressed by these service organizations. The RPC agency has been able to take a longer-term view of the persistent needs of these traditionally underserved segments. Although the larger community may be focused on more immediate needs, the funding of the *Route 12 Corridor Transit/Paratransit Development Study* is itself recognition of the importance of the mission of the human service agencies.

During the consultant's study, a survey was conducted to solicit the views and needs of potential users. The need for increased coordination between the existing public transportation and human service providers was substantiated by the survey and subsequent recommendations. The survey also revealed a strong interest in improving linkages with interstate operators such as Greyhound buses.

One result of the collaboration was the piloting of a new service using the Keene State College Campus Community Shuttle to transport seniors in housing developments in Keene, Hinsdale, Winchester, Troy, Swanzey, and Walpole to destinations in Keene and Swanzey during the summer months, with potential service continuing during the academic year. The general public was

also provided access to the new service, depending on available seating. The American Red Cross explored collaborative efforts through feeder services and continuation of the service using volunteer drivers during the academic year.

Overall, the process has brought together several nontraditional transportation providers with public transit agencies, which facilitated an assessment of available resources and continuing dialogue. SWRPC was viewed as an honest broker and provided a forum for this exchange of information, resources, and plan and service development.

Costs of the Approach

The *Route 12 Corridor Transit/Paratransit Development Study* project was funded by NHDOT and a kickoff meeting was held in September 2009. Project funding of $36,000 came from FTA Section 5304 Statewide Planning & Research Program Projects, with 20 percent local match. The RPC agency is drawing upon outside expertise for the conduct of market surveys.

The community may be faced with the question of funding the local match portion to conduct the study and funding the local match portions should service expansion recommendations be made.

Contacts/Resources

Contacts

JB Mack
Southwest Region Planning Commission
20 Central Square, 2nd Floor
Keene, NH 03431
(603) 357-0557
jbmack@swrpc.org
http://www.swrpc.org/admini/

Christopher (Kit) Morgan
State of New Hampshire Department of
    Transportation
Administrator, Bureau of Rail and Public Transit
7 Hazen Drive
Concord, NH 03302-0483
(603) 271-2468
cmorgan@dot.state.nh.us

Beverly G. Ward
UWR Ambassador, Region 1
(202) 299-6597
ward@ctaa.org
www.NRCtransportation.org/region1/

Resources

United We Ride Program, *A Framework For Action, Building the Fully Coordinated Transportation System: A Self Assessment Tool for Communities:* http://www.unitedweride.gov/FFA-Communities.pdf
The World Café: http://www.theworldcafe.com/

Using a "Beacon" to Conduct Outreach in Low-Income and Minority Communities: San Antonio, Texas

Background

Stage of Decisionmaking:
• Planning

Participants:
• San Antonio-Bexar County MPO

Tools and Techniques:
• Beacons

Affected Populations:
• Low Income
• Black
• Hispanic

San Antonio's East Side has been historically a Black community. As in much of the city, the area has become increasingly populated by Hispanic residents in recent years. The East Side, suffering from physical isolation and plagued by social disorder (e.g., crime, drugs, graffiti, garbage, noise, broken windows, abandoned property, and poor infrastructure, etc.), had long been a target for the siting of industrial facilities. Community residents and employers have borne the consequences of inadequate investment in essential infrastructure and poor access to vital services such as public safety, health care, educational and shopping facilities, among other issues. The presence of several nice neighborhoods and a cohesive core of community residents, however, offered the possibility of revitalization with the appropriate planning and resources.

In 2000, the County Commissioners Court succeeded in convincing the San Antonio Spurs basketball team to relocate to the Freeman Coliseum area of the East Side and to build a new sports arena. Part of this process was to study the economic and community development possibilities that would result from the relocation and the subsequent construction of the new arena. The *Arena District Redevelopment Study,* which began in 2002, assessed the potential for economic development in the area as well as the transportation and traffic impacts the arena would have on the surrounding neighborhood.

As the *Redevelopment Study* was initiated, the San Antonio-Bexar County Metropolitan Planning Organization (SA-BC MPO) began a related study of the greater East Side's traffic and transportation needs (the *East Corridor Multi-modal Alternatives Plan*). The intention of the coordinated plans was to create a future development and revitalization plan with a complementary transportation plan. The transportation element consisted of an evaluation of various transportation alternatives that would support the long-term land use changes proposed within the study area. The range of recommended improvements included those for enhanced economic benefit, improved traffic operations and safety, and improved transit services.

Developing the Approach

The consultant team working with the MPO was also contracted to work on the *Arena District Redevelopment Study* in order to facilitate coordination between the two studies. Because the East Side was by and large underserved in many regards, not just transportation, it was clear that a different outreach approach was needed to gather community input for the study. The public participation consultants discussed the situation with a member of the economic development study team who was a life-long resident of the East Side. Although this team member had no experience in public participation, she agreed to participate in the planning and implementation of the public participation activities for the MPO project. The woman was Black and had considerable experience in public relations and advertising. She was well-connected and highly respected on the East Side, as well as other parts of city. The public participation team engaged her to serve as a "beacon" for the project because she would be able to make personal contact with key leaders of the East Side.

Implementing the Approach

The "beacon" met with community leaders, church leaders, and others in the community to explain the purpose of each of the studies and emphasize the importance of community participation. She also prepared media releases, had articles published in the local newspapers, called specific stakeholders she knew who were also "beacons" within the community, met with businesses and other stakeholders, contacted homeowner associations, and sent out invitations to the public meetings.

> *"It's about giving the leaders enough information to engage them. It isn't enough for them to be able to read about it in the newspaper."*
>
> —Laura Thompson, Public Relations Specialist who was hired as the "beacon"

Knowing many of the East Side leaders personally, she was able to interact with an intimate familiarity during and in advance of events that the rest of the consulting team simply could not match. Community leaders had confidence in her and trusted her word for how things would be done. If people took the time to show up for meetings, they knew that their ideas would be listened to and considered. Although many of the typical distribution outlets were used—newsletters, flyers, church bulletins, and the like—the level of communication was intensified because of the additional word-of-mouth information that resulted from her garnering community leader support. Leaders who had spoken directly with the "beacon" were also able to discuss the issues more clearly with community members than if they had only learned about the studies through limited advertising information. They were also able to contact her for additional information as needed.

In turn, the "beacon" was able to state things in terms of what was most important to the community leaders and the community, which fostered support for involvement in the transportation study. Her knowledge of the community made it possible to have a better sense of what to emphasize to catch people's attention.

Influence of Approach on Decisionmaking

Community participation at the public meetings was significantly greater than past transportation projects. More than 100 people attended the first meeting and about 100 attended the next two public meetings (see Figure 4-21). This level of attendance far surpassed previous transportation study public meetings in the community, which had drawn around 10 to 12 people.

Figure 4-21.   The first public meeting brought diverse attendees who had not participated in past events.

Priorities were identified for the transportation plan and for the economic development study as a result of the input and feedback given at the community meetings. Sidewalks, multi-modal access to activity centers, hiking and bicycling trails, and other amenities were identified as clear priorities, whereas they might not have been if there had been a low turnout at the meetings.

Higher levels of attendance garnered the attention of elected officials who were eager to support the study's findings. The study had recommended a significant commitment of funds for sidewalks and other pedestrian amenities among other things.

Community members followed through with lobbying efforts to the decision-making bodies—the MPO Board and the City Council—as suggested as part of the public participation process and were able to get approval of the study and its results with no opposition in spite of the significant commitment of funds implied.

Challenges

The East Side community must continue to advocate for itself and show that it is able to mobilize significant numbers of residents to lobby and advocate for ongoing funding to meet transportation and other community needs. Drawing lessons from their experience, public officials and transportation planners should appreciate the benefits of continuing contact with East Side community leaders so that they are not greeted with suspicion and face an "Oh, here they come again, it must be time for another study" when they approach the community. Sustaining and renewing relationships is an integral part of any approach in which building relationships is essential to a particular planning study or project development phase.

This predominantly minority and low-income area of San Antonio has often been slighted when it comes to the receipt of funding for private development and public infrastructure. It is important to continue to develop new ways to send a positive message to people to help them see how transportation and transportation planning can directly affect their quality of life.

> *"Going through known groups and alliances generates a big following."*
>
> —Laura Thompson, Public Relations Specialist who was hired as the "beacon"

Benefits of the Approach

The beacon was able to open doors for transportation planners to meet and get to know community leaders from the East Side. She helped both the community leaders and the transportation planners feel more comfortable with each other and facilitated effective communication for both groups.

Through this approach, the community was educated about the transportation planning process and was better able to participate effectively. Community leaders came to better appreciate the transportation planning process and the impact of effective public participation on that process. Many of the up-and-coming leaders were able to establish themselves as knowledgeable members of the community. They took on additional roles and responsibilities as the transportation planning process evolved in this area of town. Elected officials of the East Side were also better able to bring some badly needed attention to critical issues of concern for their constituents and foster strategies for addressing infrastructure deficiencies that they had been advocating for some time.

Through the community input, transportation planners came to a better understanding of the transportation priorities for many East Side residents, which they were not fully aware of prior to the public meetings. They were able to create a two-tiered approach that focused on the most needed/desired improvements the community had expressed for short-term imple-

mentation and the longer-term improvements that were more costly and not as urgent for the community. Consequently, improvements like better bus shelters and pedestrian connectivity to shelters, repaired roadways, safety and traffic calming measures such as roundabouts, and other improvements at intersections with high crash rates were prioritized on the Tier 1 "menu," which addressed immediate needs and deficiencies.

The MPO also enjoyed improved credibility with many East Side residents who now understood better the role of the MPO in the transportation planning process.

Costs of the Approach

Costs for this approach include the fees to hire someone from the community—a beacon. The beacon can be someone with a lot of experience or may be someone who has little experience, but a lot of community savvy. Whoever is chosen as a beacon needs to be seen as impartial and not part of any group or coalition. Time must also be allotted to allow the beacon to interact with community leaders and develop the appropriate information vehicles. The costs for hiring a person with significant community experience would likely be in the range of $25,000 to $50,000 for a full-time person dedicated to the project, depending on what other professional and work experience they have. Other expenses are what would be traditionally included in an effective public participation effort.

Contacts/Resources

Contacts

Laura Thompson
President
Laura Thompson Agency
9504 IH 35 North, Suite 303
San Antonio, TX 78233
(210) 836-6531
theimagemakergroup@sbcglobal.net

Linda Ximenes
Ximenes & Associates, Inc.
421 Sixth Street, #1
San Antonio, TX 78215
(210) 354-2925
lximenes@swbell.net

Scott Ericksen
Public Involvement Supervisor
San Antonio-Bexar County Metropolitan Planning
   Organization
825 S. St. Mary's Street
San Antonio, TX 78205
ericksen@sametroplan.org
www.sametroplan.org

Resources

San Antonio-Bexar County Metropolitan Planning Organization, (2003), *East Corridor Multi-Modal Alternatives Plan:* http://www.sametroplan.org/Studies/EastCorridor/FinaleastcorridorExecSummary%202.pdf
City of San Antonio, (2003), *Arena District / Eastside Community Plan.* Bexar County, City of San Antonio: http://www.sanantonio.gov/planning/pdf/neighborhoods/eastside.pdf

Recruiting and Training Community Insiders to Lead Outreach and Engagement Processes: City of Seattle, Washington

Stage of Decisionmaking:
- Planning

Participants:
- City of Seattle
- Department of Neighborhoods
- Department of Planning and Development
- Seattle Department of Transportation

Tools and Techniques:
- Trusted Advocates

Affected Populations:
- Minority
- Immigrants and Refugees
- Limited English Proficiency
- Disabled
- Seniors
- Youth

Background

In 2008, in concert with planning for a new light rail service, the City of Seattle decided to update neighborhood plans that were created in the late 1990s for 38 neighborhoods throughout the city. The update would begin in Othello, North Rainier, and North Beacon Hill—three neighborhoods in which light rail stations were being sited in southeast Seattle, the city's most diverse and low-income area.

The City had taken several steps to better address issues of race and social justice since the neighborhood plans were initially formulated. These included creating a Race and Social Justice Initiative, directing all city departments to conduct diversity training for staff, and developing a city-wide translation and interpretation policy. Executive Order #5-08 was of particular significance to the neighborhood plan update process. Signed in April 2008, it directed City departments on how to conduct inclusive outreach and public engagement activities. It emphasized that activities must be conducted "in a manner that reflects the racial and cultural diversity of Seattle" and, further, that the City departments should "develop a common approach to outreach and public engagement and coordinate implementation citywide."

Developing the Approach

The Department of Planning and Development (DPD) and the Department of Neighborhoods (DON) were responsible for leading the overall neighborhood plan updates, and the Seattle Department of Transportation (SDOT) acted as the transportation lead. The original plan development had included an extensive outreach process, which utilized steering committees, grants for hiring consultants, and support for publishing outreach materials and organizing events. While extensive, this approach was flawed in that it relied heavily on those community groups that were already working with the City. The outreach efforts failed to engage the full range of groups represented in the neighborhoods. Among those who had attended public meetings during the process, minorities and foreign-born populations were underrepresented.

In undertaking the neighborhood plan updates, Seattle's foreign-born population was recognized as a growing force in city life and in shaping neighborhood character. Foreign-born persons had jumped from 11 percent of the population in 1980, to 17 percent by 2010. The foreign-born were projected to reach 120,000 people, accounting for one-fifth of the city's population by 2020, according to the Seattle DON. The three city agencies sought to ensure that the voices of ethnic minorities and LEP residents would be heard. Effectively reaching this rapidly growing and diverse immigrant segment was recognized as a critical objective of the neighborhood plan update process.

To guide them in developing a strategy, the agencies referred to the City's goals for public outreach and engagement expressed in a City Council Ordinance passed in September 2008, including:

- Producing materials in languages reflective of the community, and using communication venues and means appropriate to those communities to spur the interest and participation in communities that have not participated in past City-sponsored planning activities.
- Using innovative outreach and engagement activities that allow and encourage the diverse participation of the community while respecting cultural customs and traditions.
- Bringing meetings and events to people and making use of already established meetings in the community. Convening City meetings when necessary, particularly to engage hard-to-reach or underrepresented communities.

For the neighborhood plan updates, the City agencies wanted to increase the attendance of persons who would not typically come to a large public meeting *and* get them to feel sufficiently comfortable and engaged during a large public meeting to want to participate. In the past, the agencies had achieved moderate success in reaching traditionally underserved populations by recruiting community members to hand out flyers or introduce City staff at meetings. The practice had been somewhat successful in giving staff credibility and validating its presence within the community.

Recognizing its merits for the neighborhood plan process, the City agencies established the Planning Outreach Liaison (POL) program to formalize the use of community members in conducting outreach efforts. The program included up-front training and devised performance measures to periodically assess the effectiveness of the outreach program. Inspired by the "Trusted Advocate" model, which had been employed in White Center, Seattle, in 2001 through the Annie E. Casey Foundation "Making Connections" initiative, the program recruits members of a specific ethnic, racial, and/or cultural group who are perceived as particularly reputable, trustworthy, and approachable, to reach and facilitate discussions with members of the targeted community.

The role of the trusted advocates in the POL program would be to conduct small and large group workshops with members of their respective communities on issues related to the neighborhood plan updates. Rather than hold meetings at City offices, the liaisons would meet the community groups in the community's activity centers and at meetings being held by the community, and conduct these meetings in the primary language or vernacular of their group affiliation. They would also encourage community members to attend and participate in the large working sessions organized by the City that would be held in each of the neighborhoods and they would also act as interpreters during the meetings to help facilitate discussion.

Implementing the Approach

The three partnering City agencies began actively recruiting liaisons after exhaustively considering the community contacts that they had made over the years. The DON had a particularly wide reach within the community and was able to draw heavily from its contacts. The City sought candidates to represent non-native English speaking ethnic groups residing within the three neighborhoods: Somali, Eritrean, Oromiffa, Amharic, Chinese, Cambodian, Vietnamese, Filipino, and Hispanic. Trusted advocates were also recruited to connect to Blacks, Native Americans, persons with disabilities, seniors, and youth as prior outreach efforts had not been particularly successful with these groups (see Figures 4-22 to 4-24).

> *"When word got out that we were serious, people just showed up from word of mouth."*
>
> —Tony Mazzella, Strategic Advisor, Seattle DOT

The potential liaisons were evaluated on their ability to understand and talk about basic planning and transportation concepts, such as how the city builds sidewalks. The ideal candidate

Figures 4-22, 4-23, 4-24.   The City sought liaison candidates to represent eleven ethnic groups within three neighborhoods. Community workshops were held with Somali (top), Chinese (middle), and Ethiopian (bottom) populations, among other groups.

would be bilingual, bicultural, and skilled at navigating the cultural and language gaps between practitioners and members of the public.

The City convened an interview panel to screen promising candidates and eventually a group of 15 was selected. To prepare the liaisons for their task, City staff educated the liaisons about the issues that were to be addressed in the neighborhood plans, including land use, transportation, open space, housing, economic development, and public safety. Liaisons were offered a stipend to compensate them for their time and to ensure that they felt like fully-integrated members of the project team.

All workshop advertisements and written materials were translated into eight languages: Amharic and Oromiffa (Ethiopian), Tigrinya (Eritrean), Somali, Chinese, Khmer, Spanish, and Vietnamese. Liaisons were given a list of questions to help them run the community workshops and to raise critical issues. Questions were designed to touch upon such issues as gaps in the pedestrian network, unmet transit demand, perceptions of safety and security at bus stops, and potential for increased density near transit stations, among other issues. The liaisons would bring project materials written in their own languages as well as visuals such as maps to the meetings.

Liaisons would record comments received during the event and would extend invitations to individual community members to work deliberatively with City staff on the issues by attending one of the large public meetings. Liaisons were also briefed on how to respond to other issues that community members might raise; typically, this might involve taking the information and bringing it back to the project team so the City could get in touch with them. City staff would also attend the community meetings to act as subject matter experts when it was deemed necessary.

The training that the liaisons received prepared them well for the open house meetings with the community at large. The liaisons attended these meetings generally as interpreters and facilitators. As the liaisons' credibility within the community grew, participation of traditionally underserved populations increased. In the later stages of the public meetings, many members of the ethnic community began to attend because they felt comfortable with the advocates who invited them.

Influence of Approach on Decisionmaking

In a two-month period in the spring of 2009, the liaisons hosted 41 workshops and small group discussions throughout southeast Seattle that were attended by 1,200 participants and that represented 14 historically underrepresented communities. Events were held at convenient locations, including community centers, senior citizen centers, community service organizations, churches, apartment buildings, assisted living facilities, high schools, and libraries. The liaisons held 21 follow-up workshops and discussion groups to further refine concepts that had been raised during the prior workshop series, which had engaged over 700 participants. Transportation improvements discussed during the process included better maintained sidewalks, adequate street lighting, implementation of new technologies to assist pedestrians with disabilities, crosswalk improvements, multilingual traffic control signs, and better pedestrian and bicycle connections to the new light rail stations, among others.

Liaisons kept diary records of attendees' comments and also recorded their own observations. Overall, they reported that those attending the workshops participated with enthusiasm and seriousness, demonstrating a high degree of engagement through the questions asked during the workshop and the comments received throughout the process.

More favorable attitudes toward density were expressed during the neighborhood plan update process than had been registered in the past. This was a striking departure from prior outreach

processes. Typically, when the City had spoken to representatives of neighborhoods adjacent to light rail stations, people had felt threatened by what they considered high-rise development in their community. By engaging new immigrants in the discussion, it was clear that many people living in the neighborhoods were actually comfortable with the idea of increased density and in fact came from countries where higher density residential and commercial development was common near rail stations.

Challenges

The neighborhood plan update employed the trusted advocate model on three of the neighborhoods in Seattle, leaving 24 to be updated in the future. Not all of the 38 neighborhood plans are in need of updates either because the neighborhood has participated in another substantial planning exercise in the past decade, or because the neighborhood has deemed the existing plan sufficient for managing anticipated growth. The City will be challenged to adapt and modify the model to continue to engage traditionally underserved populations from all of Seattle's neighborhoods as plans are updated.

As of 2010, a neighborhood plan update was taking place in the Rainier Beach neighborhood in southeast Seattle where an additional light rail station was opened in 2009. The advocate model could be effective in Rainier Beach in order to engage ethnic communities. In the Broadview neighborhood in northern Seattle, a plan update is being spurred by plans for bus rapid transit. Broadview has a high concentration of Eastern Europeans, seniors, and Koreans, and will require the recruitment of additional liaisons to ensure that the City has a good entry into the community.

In adapting the model for future plans, the City is also hoping to improve the success of the model in reaching Blacks as well as Native Americans. During the 2009 plan updates, the City found that the model was least effective at reaching these populations. For Black communities, the trusted advocates had a difficult time fully penetrating the community social structure and garnering participation. This is thought to be in large part due to historical disappointment with the City and the transportation department. There was little interest for participation among those community members and leaders who did not have confidence that the planning process would reflect their aspirations and interests. In applying the model in the future, the City plans to first and foremost emphasize how the community can benefit from participation and frame events not as "help us do this," but rather "how can we help you improve your community?"

The trusted advocate model may not be suitable for addressing other involvement challenges such as reaching business owners. Outreach to ethnic businesses was extremely difficult for liaisons because owners are often busy throughout the day and especially on evenings and weekends. Effectively reaching them required going back multiple times to catch them when they had a spare moment. In some cases, it was not possible to speak to the owner during business hours and the liaison would leave a written survey and return later to pick it up and have a conversation with the proprietor if possible. Liaisons also found business owners to be particularly wary of the planning effort because of their previous experiences with government, which often involved inspections that could prove costly.

Liaisons may also be unable to overcome persistent divisions that can plague some communities along political, socioeconomic, cultural and ethnic, or religious lines. In such case, liaisons may not be as effective in serving as conduits between the community and government.

Within those communities in which the POL program was undertaken, the City will be challenged to continue to nurture the relationships that were built. While multiple City agencies were able to come together around the engagement process, the City's good intentions must be

matched by actions such as the delivery of resources and improvements. This will make the best case to previously uninvolved community members and groups as to why they should continue to participate in local government planning processes. However, the agencies will be challenged to address the priorities that emerged from the each of the neighborhood planning processes in the current environment of constrained resources.

Benefits of the Approach

Those involved with the implementation of the POLs program measure its success by whether the model was able to "bring people and communities historically underrepresented to the planning table and provide them with the tools to meaningfully engage with other stakeholders and City staff in the effort to improve their communities." There are many benefits associated with the inclusive outreach process used for the plan updates, including a more accurate understanding of community issues and needs as well as the building of relationships between government and the community.

One of the City's major goals was to make working with the government a positive experience for the liaisons and the communities with whom they were working. Through the project, they were able to show the public that citizens can come to government with their issues and be treated with respect and attention. In 2009, several liaisons from the program testified before the City Council committee charged with an oversight role about the effectiveness of the program in building bridges between previously marginalized communities and their government.

Working with the liaisons also proved to be a culturally enriching experience for City staff. The staff was able to expand its understanding of the community and was exposed to a wider range of perspectives than ever before.

> *"In the past you would rarely be speaking to a non-native English speaker or see them at a public meeting."*
>
> —Tony Mazzella, Strategic Advisor, Seattle DOT

Using the liaisons also provided benefits that could not have been gained through translation services alone. By recruiting and training community members rather than translators, the program built an authenticity and integrity and also enhanced communications between the City and the community. The liaisons possessed the skills needed to understand planning concepts and interpret the information in a way that would convey the essence of its meaning, rather than simply translating it word for word. Thus, they could foster a dialogue and get to the heart of the issues more efficiently than if a translation service had been used.

Costs of the Approach

There were about one dozen liaisons working on outreach for 1 year to complete plan updates for three neighborhoods. The City decided to compensate them for their time out of fairness and respect because they were asking people to give up their personal time on evenings and weekends. The cost of the program came to $125,000, of which about $10,000 was for training, and the remainder was to compensate the liaisons for attending meetings, translating materials, and organizing community members to attend meetings.

> *"It is more about appreciation than compensation . . . they are not in it for the money but they can't be treated as if they are expected to do it."*
>
> —Tony Mazzella, Strategic Advisor, Seattle DOT

Working with the liaisons was less expensive and much more effective than paying City staff to do the outreach. However, in communities where resources are not available to compensate liaisons for their time, it may be possible to devise other incentives to ensure their participation

and express appreciation for their efforts. For example, agencies can try employing methods used by nonprofits and other organizations with unpaid boards such as holding a retreat or conference, providing food at meetings, or formal recognition for their service from elected officials and well-respected leaders.

An additional cost of the tool is staff time given to supporting the liaisons. Over the course of the project, the liaisons needed technical and emotional support from the City because of the complex and stressful work they were being asked to do. Liaisons, not unlike City staff, were often faced with complaints and criticisms from the public, not all of whom thought the light rail was a good idea. Having staff available to answer their questions and give them guidance along the way was critical to maintaining their commitment and faith in the project.

Contacts/Resources

Contacts
Tony Mazzella
Strategic Advisor
Seattle Department of Transportation
PO Box 34996
Seattle, Washington 98124-4996
206-684-0811
tony.mazzella@seattle.gov

http://www.seattle.gov/transportation/

Resources

The Annie E. Casey Foundation, (2007), "Trusted Advocates: A Multicultural Approach to Building and Sustaining Resident Involvement," http://www.aecf.org/upload/PublicationFiles/trustedadvocate.pdf

City of Seattle, (1 July 2009), "Neighborhood Plan Update, Planning Outreach Liaison: Community Workshops," http://www.seattle.gov/dpd/cms/groups/pan/@pan/@plan/@neighborplanning/documents/web_informational/dpdp017744.pdf

Seattle Department of Planning and Development, (2010), "Neighborhood Planning: Public Involvement," http://www.seattle.gov/dpd/Planning/Neighborhood_Planning/PublicInvolvement/default.asp

T. Mazzella, (2010), "Innovative Public Engagement Tools in Transportation Planning: Application and Outcomes," Presented at 89th Annual Meeting of the Transportation Research Board, Washington D.C.

Applying the Framework of Environmental Justice in Transportation Toolkit to Support Community-Based Initiatives: Baltimore, Maryland

Background

The *Environmental Justice in Transportation Toolkit* (EJTK) is a collection of transportation planning procedures and processes that are intended to integrate environmental justice analysis into the traditional transportation planning process. The EJTK combines community-based public involvement activities with rigorous technical methods in order to evaluate the benefits and burdens of transportation as they affect low-income and minority populations. The EJTK is designed with low-income and minority communities in mind and is intended for use by metropolitan planning organizations (MPOs), local planning and transportation agencies, community organizations, and environmental interest groups. The core objectives of the tool are to:

- Better link affected environmental justice communities with the relevant steps in the regional transportation planning process,
- Identify tools to better assess environmental justice–related concerns in the planning process,
- Suggest appropriate performance indicators to provide planners, community representatives, and decisionmakers with better information on the consequences and tradeoffs when evaluating alternatives, and
- Strengthen the capabilities of the existing transportation decision-making agencies to ensure objective and informed review and response to important environmental justice issues.

Stage of Decisionmaking:
- Policy and Programs
- Planning

Participants:
- Morgan State University
- Johns Hopkins Center in Environmental Health
- Baltimore Metropolitan Council
- Pittsburgh Interfaith Impact Network
- Urban Habitat

Tools and Techniques:
- Building Power Relationships
- Public Participation Framework
- Alternative Analysis Methods
- Triage Committee

Affected Populations:
- Low Income
- Asian, Hispanic, Black
- Limited English Proficiency
- Foreign Born
- Disabled
- Seniors

The focus of EJTK research was initially guided, in part, by Baltimore area environmental justice communities' general dissatisfaction with past state, regional, and local government outreach efforts on large and small scale projects. In November 2004, an "Environmental Justice Community Dialogue" was held at Morgan State University, a Historically Black College or University (HBCU). At this nonthreatening venue, there were more than 80 persons in attendance, including community leaders, residents, and government officials. The attendees identified over 120 issues—and twice as many solutions—covering a range of topics, including accessibility, noise, air pollution, insensitive agencies, public health, and lack of enforcement. Several follow-up meetings helped to define a workable scope of work and the key topics to be explored in the EJTK.

As the EJTK has evolved, various involvement processes and methods have been applied to identify and address the concerns of transit-dependent populations, local residents, and community leaders in several urban communities: Kirk Avenue, Cherry Hill, Highway-to-Nowhere, and Lexington Market in Baltimore, Maryland; the Pittsburgh Interfaith Impact Network in Pittsburgh, Pennsylvania; Urban Habitat in Oakland, California; and the Arise Network in Albany, New York. Since 2003, this community-driven, "bottom up," collaborative research project has received research funding from several sources including FHWA, the U.S. Environmental Protection Agency (EPA), FTA, and in-kind support from Morgan State University. The research has sought to define ideal frameworks for community-based organizational interactions with government agencies as well as to document the findings of research in selected case study communities where toolkit elements are subjected to "real-world" applications.

## Developing the Approach

Each urban area community selected as a case study for EJTK research has been presented as a profile, beginning with a brief **Description** of the setting and the concerns, followed by an inventory of the **Investigations** undertaken in support of the concerns, and then a presentation of the **Findings** resulting from the analysis and review of the key questions. A final section in each profile summarizes the **Conclusions and Recommendations** resulting from the analysis. The researchers acknowledge that Conclusions and Recommendations should be deemed "preliminary" as the products of the analytical techniques undertaken are expected to stimulate a subsequent stage of community working group deliberations and a process of dialogue and negotiation with responsible public agencies. These proceedings may also result in different or refined analyses.

Implementing the Approach

The EJTK presents a Framework for an Environmental Justice Analysis Process with three core components. The expression of community concerns through public participation and organized community-based actions is an essential catalyst. Analytical tools and performance measures are other core components that are applied to investigate issues of concern identified in low-income communities, but are conducted following the involvement processes, which allow communities to understand findings and offer feedback in a collaborative process.

Of the 10 EJTK implementation steps shown in Figure 4-25, steps 1 to 5 contain the core components that were implemented for the Baltimore Kirk Avenue Case Study—one of several
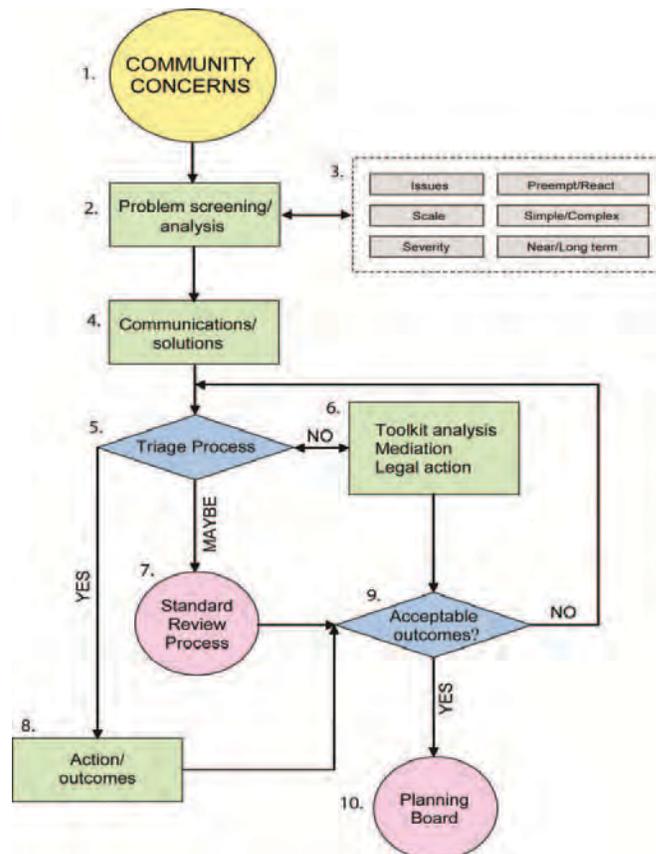
Figure 4-25.   The Framework for Environmental Justice Analysis Process illustrates several steps that communities may take to redress inequities.
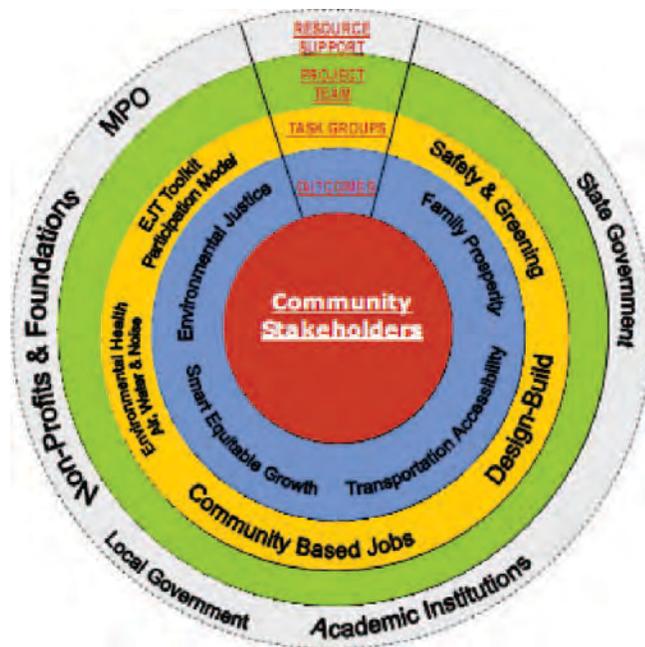
Figure 4-26.   Achieving outcomes valued by community stakeholders is central to the participation framework illustrated in this Power Analysis Diagram.

case examples highlighted in the toolkit research—an investigation of the effects of a regional bus depot on a nearby low-income neighborhood. Listening sessions, community dialogues, community workshops and subsequent follow-up meetings with government officials were held. At these events, stakeholders expressed their visions, offering a range of desired outcomes for their community such as long-term sustainability, transit-connectivity, income-generation, and physical rebuilding of their neighborhood.

Figure 4-26 illustrates a Power Analysis Diagram, used in the Kirk Avenue bus depot case study, which stresses that the concerns of community stakeholders are central to credible planning processes. It depicts a community-centric planning model in which important government and civic institutions are prepared to leverage each other's expertise and insights to advance the community's vision and preferred outcomes. For example, research professors from the Johns Hopkins Public Health Department conducted air and noise technical studies and investigated health complaints of local residents for the Kirk Avenue bus depot case. The diagram shows a series of circles with the community at the center (red). The next-outer ring of the circle (blue) identifies various desirable outcomes for a livable, sustainable community such as environmental justice, smart growth, accessibility, and family posterity. The next outer ring (yellow) identifies strategies for achieving those community-driven values and outcomes—for example, mitigation of threats to air or water and truck noise and other concerns. The fourth ring (green) identifies local stakeholders who will serve on the project team, and the fifth, outermost ring (gray) identifies national and regional stakeholders that can be supportive of the initiative such as federal and nonprofit agencies.

The EJTK Framework for Environmental Justice Analysis also advocates for the institution of a "Triage Committee" as the most credible mechanism for screening and prioritizing complaints and concerns registered by affected communities (see Figure 4-27). The Triage Committee is composed of key organizations that can influence the resolution of transportation-related environmental justice issues. For the Baltimore and Pittsburgh case studies, the Triage

Evaluation of Environmental Justice Issues
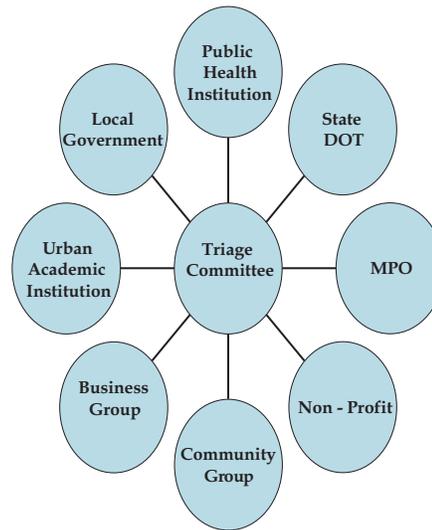
*Figure 4-27.   The Triage Committee includes representation
from diverse organizations. It can function as an advisory
committee for community transportation projects
or as an empowered advisory committee or task force
of an MPO.*

Committee included advocates, transportation planners, academics, low-income populations, stakeholders, and the MPO or regional planning council. The Triage Committee's composition is not necessarily a permanent regional committee of the MPO or other transportation agency institution, although it could be formed as a regularly held environmental justice task force or subcommittee. It can also be developed to vary by project, by community, or by the expertise required to effectively address key issues of concern for specific projects.

The Triage Committee can develop processes and criteria to ensure that decisions will be made about how the environmental justice concern or issue will be treated, especially in relation to its history, urgency, and extent. The Triage Process is a *preresolution process* intended to identify legitimate complaints and devise appropriate work programs to screen and research issues and develop the best solutions and processes to remedy concerns. An MPO, the state and city departments of transportation, planning agencies, urban public health or environmental research organizations, and perhaps one or more community organizations may be part of the Triage Committee. The diverse representation and presumed independence of the Triage Committee—for example, "one vote one member"—can encourage greater vigor in the scrutiny of environmental justice questions. This responsibility would extend to analysis and recommendations to remedy unintended consequences from the cumulative effects of existing transportation programs, operations, or projects. This responsibility would also validate, in a non-contentious way, the need for large- and small-scale project priorities that are important to low-income and minority communities.

Technical analyses are essential for investigating concerns expressed by communities. In Step 6 of the Framework for Environmental Justice highlighted in Figure 4-25, analysis is undertaken to determine what the problem is, what information should be collected, and then what action should be taken. In the Kirk Avenue bus depot case study, the EJTK was used to evaluate

bus transit routes, air pollution, housing noise, and community sentiment. As a result of these investigations, follow-up meetings were held with the transit agency to discuss mitigation strategies, including strengthening buffer zones, redirecting bus tailpipes away from the residents, and perimeter tree planting.

If it is determined that the concern should be addressed relatively soon, actions may be referred to the MPO's standard review process. In Environmental Justice Analysis Process Step 7, the "Standard Review Process," decisions are made about how the concern or issue will be officially treated, especially in relation to its urgency and extent. Given the many tasks and functions linked to the EJTK Triage Committee, it might be expected that there would be a high level of activity. Alternatively the Triage Process can be added to an existing outreach function. Under full deployment, the Triage Committee would either have very stringent rules in selecting issues to get involved with, or have sufficient resources (in-kind, grant, or endowment) to acquire supplemental assistance from staff or consultants. In some situations, solutions may not be known and further exploration will be required (Step 8) to arrive at alternative actions by consensus. Evaluation of each of these three paths should then occur (Step 9) to determine whether the outcomes of the process are deemed acceptable. If the acceptability of an outcome remains in question, the environmental justice analysis framework should lead back to the Triage Process (Step 5) where it can be re-evaluated along with any new information generated during Steps 6 through 8.

Influence of Approach on Decisionmaking

The EJTK is rooted in the recognition that at-risk communities require equal protection from environmental and health hazards under the law. The effect of the EJTK has been to elevate the visibility of environmental justice in transportation by making widely available to planning professionals, community leaders, and environmental and public health researchers several analytical tools, a research framework, a triage process, and other guidance. The EJTK seeks to help the practitioner focus on valid approaches for sensitive situations.

The analytical tools in the EJTK such as a web-based travel diary, community sentiment surveys, public health analysis, accessibility calculators, and alternatives analysis approaches for the "person on the porch" in the affected community are expected to inform community and government-driven public participation processes. While these tools are typically unavailable to at-risk communities they are generally available to most planning agencies. The EJTK reaffirms their importance to planning agencies and professionals, while it serves as an educational tool for low-income and minority communities.

The EJTK shows how a public complaint can lead to an agency action and embodies the strong belief that protecting community quality of life is inseparable from seriously addressing issues of equity and threats to public health, safety, and security. The EJTK encourages low-income, at-risk communities, and planning officials to step back and look at the full picture of neighborhood, community, city, and regional wellness, to consider and measure the dimensions of the problem, and then to decide whether to address it as an immediate concern, or as a longer-term fundamental change, or both. As a guidance tool, the EJTK attempts to help guide the planning process with a better understanding of the development, implementation, and enforcement of environmental laws, regulations, and policies.

- For the *Kirk Avenue Bus Depot Case Study* in Baltimore, the EJTK was used to form a multi-disciplinary team of planners, academics, community stakeholders, public health and environmental professionals, the City's public health department, and a local business owner (see Figure 4-28). These individuals were drawn into the initiative by their interest and expertise in public health–related concerns and environmental pollution. The project met with the region's transit agency, the Maryland Transit Administration (MTA), to

Figure 4-28.   The Kirk Avenue Bus Depot Case Study details analytical methods and involvement processes used to document community concerns and continuing blighting effects that the bus depot has had upon the nearby "at-risk" residential neighborhood.

present its findings. As a result of the meeting, the MTA acknowledged the community concerns and agreed to take several remedial actions in advance of redeveloping the bus yard, including:

– Planting trees around the perimeter of the bus yard,
– Constructing a meshed covered fence,
– Repositioning the bus tail pipes away from the residential properties,
– Eliminating noise from an all call speaker system,
– Increasing the number of community information and feedback meetings, and
– Establishing a 300-foot buffer away from the residential homes.

    Still unsatisfied with the results of the above remedial actions, a committee of five formed to seek redress on other community demands, such as:

– Compensation for lost use of property, and
– Air filters and the sound proofing of residences.

    This committee of five also reached out to Maryland's Commission for Environmental Justice and Sustainability to assess, understand, and resolve cumulative impacts associated with the maintenance and redevelopment of the Kirk Avenue bus depot.

• The *Pittsburgh Interfaith Impact Network (PIIN),* a faith-based coalition and an affiliate of the International Gamaliel Network of interfaith action groups, successfully applied the pub-

lic participation and power relationship–building strategies articulated in the EJTK. In this community-based engagement, a Transit Task Force within PIIN was formed to gather information needed for its Mall Transit Equity Campaign to build interest in the campaign and in the larger community. This direct action was the only means of obtaining the necessary data to improve available transit services in a manner desired by the community. Members of the Task Force, who had been active previously in an Equity Subcommittee advising the Port Authority of Allegheny County, the regional transit agency, in the development of a comprehensive update of its service plan, persuaded the agency to hold one of its six public discussion meetings in East Liberty, a community with a high percentage of minority and low-income residents and a transit hub. This venue was notable because previously scheduled events had been held only in suburban locations or the downtown.

The Task Force subsequently mobilized demonstrations, "Mall Crawls for Transit Equity," to draw attention to the difficulties for transit users, particularly older and disabled riders, caused by the transit-unfriendly locations of stops far from the mall's entrances (see Figure 4-29). The Task Force initially failed to persuade local or national representatives of the mall's owner to join them in a discussion of the problem and possible solutions. Representatives of the mall's owners refused to meet to even consider the possibility of "moving the buses." In the face of this intransigence, the Task Force appealed to the Allegheny County Council, which oversees—along with the county's chief executive office—the Port Authority and all other county agencies. Representatives of the Allegheny County Council made a personal telephone call to the Council Chairman, who was receptive to the complaints. Having met with the Task Force a few days later, the Chairman then persuaded three other Council members to co-sponsor a County Council Resolution, which comprehensively explained the problems the Task Force wanted to see addressed and urged the Port Authority and local shopping mall management companies to work cooperatively to

Figure 4-29.   Mall Crawls for Transit Equity received newspaper coverage about the difficult pedestrian conditions faced by transit riders, particularly older and disabled persons, at local shopping malls.

establish bus stops in safe, well-lit, and well-maintained areas near shopping malls within Allegheny County.

- In Oakland, the *Conference on Minority Transportation Officials (COMTO), Northern California Chapter's Transportation Action Partnership (TAP),* in association with the Bay Area Rapid Transit (BART), has initiated a project to focus on public safety issues centering on pedestrian safety, platform safety, and security in the parking and transit stops areas. Notably, the study will explore how 18- to 25-year-old males and their families experience transportation safety and security issues and will seek to support their ability to communicate their concerns to transportation decisionmakers. The California Department of Transportation's Environmental Justice Planning Grant Program has funded this study to expose young adult males from minority and low-income communities to the practical realities of transportation agency decisionmaking. Project participation has been solicited from community- and faith-based organizations, media, academia, and businesses to provide access to young adults. The project also conducts decision-maker interviews that capture how to access decisionmakers.

The fatal shooting of Oscar Grant, a young adult Black male, by a White transit police officer made clear the urgency of the project and the issues it will raise. The project was envisioned before the shooting, but the importance of improving a dialogue about public safety and security issues was made abundantly clear in its aftermath. That tragic event led to criminal and civil actions, civil rights investigations, reexamination of transit police procedures, and greater recognition that the transit agency must improve its communications and relations with young adult males in the Black community. The goal of this project is to enable both decisionmakers and youth to improve their communication about safety and security concerns for the betterment of their community. Facilitated conversations have been held and participants have been encouraged to develop an action designed to address transportation issues with decisionmakers. Early in the development of the TAP project, TAP had to address the issue of relevancy to young adults. Many young adult males from low-income minority communities have endured marginalization since childhood and do not trust or find relevant government agency outreach efforts.

TAP enlisted the artistry and skill of a spoken word, socially conscious hip hop artist to manage messaging and support the facilitated conversations which have become the hallmark of the TAP project. His performance lecture on social and environmental justice has been developed and presented on the campuses of colleges and universities throughout the country. Morgan State University and soon other major HBCUs will join the effort of fostering participation by future generations in decisionmaking and problem solving. At the conclusion of the project, a guidebook designed to enhance the understanding between public transportation users and planners, patterned after the Baltimore Regional Environmental Justice Transportation Project (BREJTP), is to be created describing the community-led environmental justice process.

Challenges Ahead

Incorporating environmental justice principles into a collaborative decision-making process presents several challenges as it relates to improving transportation planning and project development processes. To effectively represent the concerns of low-income and minority communities, practitioners should be dedicated with expertise and passion to advocate for changes and achieve more favorable outcomes for communities that have borne the burdens of past transportation decisions. This includes the need to reform the ways in which transportation agencies traditionally proceed in their outreach and relationships with the public, in their use of analytic tools, in their application of performance measures to guide decisionmakers, in their media communications, in their methods for prioritizing investments and project selection, and in their appreciation of the effects of transportation on public health and air quality conditions in

communities. The EJTK seeks to reform the typically "top-down" approaches to how planning decision-making processes are made with a "bottom-up" model of public participation and decisionmaking that is more community driven and collaborative.

In short, the user of the EJTK faces the continuing challenge of promoting effective processes and tools for evaluating, analyzing, and implementing transportation solutions that will achieve environmental justice. This is warranted by a steady stream of Title VI complaints and a continuing pattern of planning and decisionmaking that limit the opportunities of the disadvantaged to live in a clean, safe community and to enjoy a respectable quality of life.

Benefits of the Approach

While a combination of federal statutes, regulations, and guidance acknowledge the obligations of Title VI and the importance of taking steps to integrate environmental justice considerations in the transportation planning process, those directives provide little guidance on how states, MPOs, or local governments could better collaborate with disadvantaged populations to redress persistent inequities or threats to community quality of life from the cumulative effects of past decisions. The absence of hard rules and guidance provides flexibility to implementing agencies so they can be creative and innovative, but it also invokes a level of conjecture as to what a proper EJTK process or analysis should look like. The lack of rules also often sets the bar quite low in terms of the standard or level of participation needed to be in compliance.

Finding a single understandable resource to assist in negotiating this complex process is elusive, particularly for low-income and minority groups. In the absence of such guidance, it is argued that implementing agencies have to do more primary research on their own. This often leads to trial and error methods or, worse, an EJTK analysis or process that falls short of its potential. Of paramount importance is the question of how minority, low-income, and other disadvantaged groups are truly able to gain access to "the system" and trust decisionmakers to hear their concerns and act accordingly. The process of defining needs and setting planning and project priorities within a transportation agency seems to outsiders to be a closely held privilege.

In such an environment, the EJTK offers further definition of a structured environmental justice process and is a technical assistance resource for sharing strategies that have been successful for communities in their interactions with transportation agencies in the planning, project development, and operations and maintenance stages. Several strategies for influencing this process are described in the toolkit and can yield benefits, including:

- Formation of EJTK task forces or advisory committees that are empowered to review, comment, and provide guidance to the seated decision-making bodies (e.g., the MPO).
- Making provision for one or more representatives of the EJTK community to sit on one of these decision-making bodies and have voting power.
- Development of the kinds of performance measures and analyses that are helpful in steering conventional decision-making processes toward appreciating and addressing justice outcomes.

Costs of the Approach

The costs of applying the EJTK will vary significantly by the type of project issues being investigated and the degree to which subject matter experts or organizations are leveraged to undertake outreach processes and technical studies. Resources are generally dedicated to technical studies, front porch interviews, field based investigations, statistical analyses, periodic meetings with concerned and impassioned community groups, media communications, and to encouraging strong community-based power relationships.

Contacts/Resources

Contacts

Glenn Robinson, Project Director
Environmental Justice in Transportation Project
Morgan State University
1700 East Cold Spring Lane
Baltimore, Maryland 21251
(443) 838-2435
grobinson@moac.morgan.edu

Bobbi Fischer
Conference of Minority Transportation
　　Officials (COMTO)
Northern California Chapter
(510) 838-0685
comto.bobbi@gmail.com

Marilyn Ababio
Transportation Action Partnership
(510) 839-6120
ababiom@yahoo.com

Resources

Environmental Justice in Transportation Toolkit—http://www.ejkit.com
Baltimore Region Environmental Justice in Transportation Project, Volume I—Environmental Protection Agency/
　　Federal Highway Administration: http://ejkit.com/the-toolkit/ej-toolkit/ej-toolkit-volume-1/
Baltimore Region Environmental Justice in Transportation Project, Volume II—Federal Transit Administration:
　　http://ejkit.com/the-toolkit/ej-toolkit/ej-toolkit-volume-2/
Just Us Dying on Bartlett—Video: http://ejkit.com/2010/01/05/just-us-dying-on-bartlett/
BART Police Shooting of Oscar Grant—http://en.wikipedia.org/wiki/BART_Police_shooting_of_Oscar_Grant

Designing a Tiered-Outreach Approach to Foster Meaningful Involvement: Colorado DOT

Background

In July 2003, after almost 40 years in operation, the Colorado Department of Transportation (CDOT) and Denver's Regional Transportation District (RTD) began a joint study effort that would become the I-70 East Corridor environmental impact statement (EIS). The EIS sought to examine alternatives for improving mobility along the corridor between I-25 and Tower Road as well as rapid transit options from downtown Denver to Denver International Airport. The highway and transit components were later separated into two EISs; however, they are both part of the I-70 East Corridor and share a project area.

When the highway was initially constructed in 1964, it included an elevated bridge that bisected two neighborhoods: Elyria and Swansea. Construction of the bridge left an irrevocable mark upon the lives of these two communities and fostered a distrust of governmental actions for many area residents.

The majority of neighborhoods in the project area have a considerably higher population of low-income persons, minority persons, and children receiving free school lunches than the Denver average. While 43 percent of the Denver area is Hispanic or Black, within the corridor these groups make up 78 percent of the populations (Piton Foundation, 2004). The presence of LEP populations, in particular those speaking Spanish, in the project area is notable.

Stage of Decisionmaking:
- NEPA/Project Development

Participants:
- Colorado Department of Transportation
- Denver Regional Transportation District
- Neighborhood Solutions

Tools and Techniques:
- Hire a Third Party to Design and Lead Outreach Efforts
- Train Community Members to Conduct Outreach
- Tiered Approach to Outreach

Affected Populations:
- Low Income
- Hispanic
- Black
- Limited English Proficiency
- Foreign Born

Developing the Approach

Proposed improvements to the I-70 East Corridor coupled with government distrust associated with its original construction resulted in the need for a community-based outreach approach that would help address and mitigate project-related community concerns. To undertake the extensive public outreach effort that would be required for this project, CDOT retained Neighborhood Solutions, a nonprofit organization specializing in community involvement and the engagement of traditionally disenfranchised populations throughout the various stages of transportation decisionmaking.

The public outreach team conducted an assessment of existing low-income and minority populations to determine how best to customize outreach strategies for specific communities. A community impact assessment (CIA) was initially performed to identify community issues and concerns, develop a forum for scoping, and introduce a broad-based representation of the community. The assessment included mapping the project area and then, for each neighborhood, identifying community assets and services available, conducting a needs assessment of the community, and measuring capacity to support additional community activities and services. Information gathered in the CIA was used as input for designing a context sensitive solutions (CSS) approach for engaging the project area population, previously identified as traditionally disenfranchised.

Principles of Public Involvement Plans

- Go to them—their meeting places, their neighborhoods, their leaders.
- Involve residents, businesses, and stakeholders in decisions.
- Public involvement is the nucleus to better decisionmaking.
- Identify community issues and concerns.
- Encourage innovation while supporting safety.
- Engineers are problem solvers.
- Begin a dialogue about improvements in the environment "above and beyond" required mitigation.

Fundamental public involvement principles were incorporated into the project's public involvement plan (PIP) to ensure meaningful involvement that would be both personal and extensive. The process was designed to begin at the one-on-one level and gradually expand to bring together the varying interests of those residing and working along the corridor. The plan included a variety of outreach activities that could be used in different combinations to ensure maximum levels of participation in each neighborhood. Elements of the PIP included:

- Hiring project area residents to help distribute project information;
- Training consultants, project engineers, and residents in ethnic courtesy and door to door techniques;
- Utilizing as many local vendors as possible;
- Using flyers to notify residents and business establishments of project meetings;
- Developing working groups to address specific issues;
- Proactively involving the media;
- Meeting frequently with local and state officials;
- Distributing mailings and newsletters containing current project information; and
- Advertising in daily and weekly newspapers, including minority and local publications.

Implementing the Approach

<u>Meetings with formal and informal leaders</u> were scheduled to introduce community members to the EIS process and the I-70 East Corridor project team. The objective of these meetings was to solicit input on the outreach process, inform the public that outreach specialists would be going door to door in some neighborhoods, and conduct block, neighborhood, and corridor-wide meetings throughout the EIS process.

<u>Door-to-door outreach</u> became the preferred approach for first contact with several neighborhoods. Outreach specialists were hired from the targeted communities to serve as the first point of contact with neighborhoods. All persons interacting with the public were required to take part in an extensive one-day training program culminating with a test. Training included learning the history of the neighborhoods in the project area and role-playing exercises to create some typical situations that may arise during the outreach process. Trainees were also given guidance on how to interact with persons of different ethnic backgrounds and useful language in describing technical issues to those unfamiliar with transportation planning. Door-to-door outreach conducted by project area residents was viewed as a powerful tool by which to leverage existing relationships and community knowledge, gain credibility and trust for the process, and engage with neighbors. When nontransportation issues were raised, the outreach specialist was trained to offer information on appropriate community service providers and programs (see Figure 4-30).

Figure 4-30.   Residents were most comfortable chatting with strangers on their front porch or stoop.

The door-to-door outreach was conducted by bilingual teams between 12:00 p.m. and 8:00 p.m., Monday through Friday and on Saturday as needed. Conducting door-to-door interviews during daylight savings time was most

effective because people are more comfortable opening their door to strangers when it is light out. Outreach specialists were expected to wear the brightly colored, yellow I-70 East Corridor t-shirts and identification badges so that they were easily identifiable. Outreach specialists would first visit homes between 12:00 p.m. and 4:00 p.m. If no one answered the door, a leave-behind card was left with a number to call to set-up a better time for the visit or indicated when the specialist would return. Second visits were between the hours of 5:00 p.m. and 8:00 p.m. During visits, questionnaires were administered; no personal inquiries were made. Residents were given pamphlets about the project and encouraged to attend public meetings in the future.

Block meetings were hosted in backyards and area parks, and residents living within an 8 to 16 block radius were encouraged to attend. Attendance at these meetings was typically between 10 and 15 people, creating an intimate environment for informal discussions that capitalized upon the social culture of the area. Meals and translations were provided.

Neighborhood meetings typically attracted upwards of 120 people. Flyers were distributed prior to meetings. Child care, translation, and meals were provided at these meetings to encourage residents to attend. Neighborhood issues were discussed and questionnaire results were revealed.

Corridor-wide meetings were advertised in local newspapers, including minority publications, flyers, and the I-70 Corridor newsletter. These meetings typically attracted up to 250 people often bringing a diverse set of perspectives and interest groups. Meals, translation, and child care were provided (see Figures 4-31 and 4-32).

Lessons Learned

Several noteworthy effective practices were undertaken to support discussion in the communities that had borne the cumulative adverse effects of past siting decisions:

- Agency support is a must—spirit and deed.
- Early and often involvement reduces community acrimony.
- The project office should be sited in the project area to allow the team to experience the community.
- Public outreach questionnaires should inquire about meeting time preference and location.
- Bilingual newsletters should be sent in advance of each round of corridor-wide meetings.
- Outreach should be focused on places where people generally congregate such as religious institutions.
- Public involvement works best if it is designed to relate directly to potential impacts.

Figure 4-31.   Meals were provided at meetings held at the block, neighborhood, and corridor-wide levels to better accommodate the schedules of attendees.

Figure 4-32.   Participants at a corridor-wide meeting marked up block-scale maps of the corridor.

Working groups were established to encourage continued community participation after the scoping phase. Working group members were people who attended neighborhood and corridor-wide meetings and the working groups were organized around such issues as community impacts, interchanges, economic development, bicycle/pedestrian mobility, and open space. The working groups exposed participants to the ways in which engineers, planners, and scientists evaluate specific resources. Activities included attendees using noise monitors on Denver streets to get readings on traffic and light rail; developing puzzles to help participants understand the process for matching transportation elements like transit stations, technology, and alignments; conducting a car-buying exercise to help explain the alternatives screening process; and having attendees serve as project planners to site a new postal facility in low-income and minority communities.

Influence of Approach on Decisionmaking

The extensive effort undertaken by the community-based public outreach team, on behalf of CDOT, helped dissolve some of the distrust that existed before the CSS process began. The use of CSS during the project lent itself to a transparent planning process that minimized significant public opposition on a controversial project. Several thousand people were actively engaged and able to meaningfully contribute to the project. Efforts to educate community members about the EIS process and technical aspects of the analysis helped create a more rewarding dialogue between the community and the project team regarding project solutions and potential mitigation needs. The planning of the I-70 East Corridor has been highlighted as a successful practice by the American Association of State Highway and Transportation Official's (AASHTO's) Center for Environmental Excellence.

Challenges

The project made enormous strides toward building trust between the community and government agencies. Continued relationship building with the community will be needed through the investment of time and money to ensure that the goodwill built by the project extends beyond the life of the project. CDOT and FHWA have begun the preferred alternative identification process. This process will build upon the input received during public outreach efforts and will be undertaken by the I-70 East Preferred Alternative Collaboration Team (I-70 PACT), which includes representatives from Adams County, Aurora, Commerce City, and Denver. In identifying the preferred alternative CDOT will be challenged to continue to foster community involvement, transparency, and openness while building consensus among I-70 PACT members.

Benefits of the Approach

Outreach efforts on the individual level afforded residents with the opportunity to consider I-70 enhancements and form their own opinions before being thrust into larger meetings without prior knowledge of project details. By engaging traditionally underserved populations, CDOT was able to gain a greater understanding of community concerns and potential impacts, which helped them save time and money both in terms of mitigation and design.

Costs of the Approach

The overall cost for outreach was about $500,000. The majority of the outreach approach was implemented over a 5-month period, during which the greatest expense was staff time. There were some direct costs that included hiring local vendors to provide food and child care, some printing, and renting meeting space.

Contacts/Resources

Contacts

Jumetta G. Posey, Public Outreach Manager
Neighborhood Solutions
1611 East 22nd Avenue
Denver, CO 80205
(303) 894-8600
jgposey@nsolutions.org

Resources

I-70 Environmental Impact Statement, Community Outreach Program - http://www.i-70east.com

Hiring Locals Residents to Conduct Outreach: I-40 Business Public Involvement Project, Winston–Salem, North Carolina

Background

Stage of Decisionmaking:
- Planning

Participants:
- North Carolina DOT

Tools and Techniques:
- Hiring local residents

Affected Populations:
- Low Literacy
- Limited English Proficiency
- Disabled
- Foreign Born
- Senior
- Black
- Hispanic

Winston-Salem's four-lane East-West Expressway was designed in 1953 prior to the passage of the National Interstate and Defense Highways Act of 1956. After the roadway was opened in 1958, it was brought into the Interstate system and renamed I-40. It retained this designation until the completion of the "new I-40" in 1992 when it was again renamed, this time to I-40 Business.

Today, a 1.1 mile portion of the original East-West Expressway (now I-40 Business) that extends from west of 4th Street to east of Church Street in the center of downtown Winston-Salem is the oldest section of Interstate in North Carolina. This segment includes four interchanges and nine bridges over and two bridges on I-40 Business. Designed prior to the adoption of Interstate design standards, several of its 11 bridges have substandard design features, including horizontal and vertical alignment issues and ramp configurations. In addition, approximately 92,000 vehicles per day use the roadway, almost double the number it was designed to accommodate. Together, these conditions have contributed to congestion and high accident rates at several locations and led to the deterioration of road and bridge surfaces.

The North Carolina Department of Transportation (NCDOT) realized that minor rehabilitation would not address the roadway's needed safety and mobility improvements. They asked the Federal Highway Administration's North Carolina Division to convene a conference to assess the strategies and implications of wholesale reconstruction of the roadway and its bridges, and redesign of its ramp configurations to current standards. The resulting 2-day, invitation-only, Accelerated Construction Technology Transfer conference in Winston-Salem brought together more than 100 attendees from FHWA offices, state DOTs, and consulting firms with expertise on similar type projects, as well as NCDOT's staff, local elected and appointed officials, and state and federal resource agency representatives.

Two distinct construction alternatives emerged from this conference: close I-40 Business completely for a 2-year period; or partially close I-40 Business for a 6-year period allowing only reduced through traffic. A major consideration in deciding which construction alternative should be selected was identifying which alternative the public would support. In order to determine this, NCDOT retained a consultant to design and implement a public involvement plan for the planning, design/environmental, and construction phases of the project.

Developing the Approach

Before a public involvement plan could be designed, six consultant staff members and two NCDOT division staff members met in Winston-Salem to familiarize themselves with the study area, interview key stakeholders, and compile demographic information. Over a period of 2 weeks they interviewed more than 85 city, county, and state elected and appointed officials; neighborhood association representatives; church, synagogue, and mosque leaders; EMS, fire, police, and hospital personnel; media staff from Black, Hispanic, and mainstream organizations; Chamber of Commerce, Downtown Business Partnership, and other formal and informal busi-

ness groups; public school bus drivers and officials; city bus drivers; and other residents. Based upon information obtained from these individuals, a study area map was created that identified 26 neighborhoods. Sixteen of the neighborhoods were designated "core neighborhoods" as they could be directly affected by reconstruction while 10 other neighborhoods that surrounded the core neighborhoods were believed to be potentially subject to the indirect effects of reconstruction. Within the core neighborhoods, every street was driven and information was collected on the location of all schools, recreation centers, faith-based organizations, senior citizen housing complexes, and other potential gathering places for meetings. Demographic information was also assembled to better understand the race, ethnic, and other social characteristics of residents living in the core neighborhoods, utilizing data from the U.S. census, city, and county agencies.

As a result of the field trip, the interviews, and the demographic information, it was decided that 15-minute door-to-door surveys should be used as the primary public involvement tool and these would be targeted to the core neighborhoods. In addition to undertaking the surveys, neighborhood meetings would be held in each of the 16 core neighborhoods with residents from the surrounding neighborhoods also being invited to attend. Supplementing these local events, three corridor-wide meetings would be held to bring together groups of neighborhoods.

The public involvement team recognized that hiring local residents from the core neighborhoods could improve communications within specific neighborhoods. Local residents would be more familiar with local community etiquette or values, connect effectively with formal and informal local leaders, and better ensure that the team would have the capacity to bridge language or other cultural barriers. The majority of the local hires were Blacks and bilingual Hispanics. During this stage, it was decided that 35 local residents should be hired to supplement the consulting team's staff of six. This staffing level was determined, in part, from assessing the size of the target audience for outreach: those 18 years old and over within the core neighborhoods (approximately 21,800 in 2000), and the percentage of those that normally respond to this type a survey (12–15 percent).

Rather than advertise in newspapers, the consulting team recruited outreach staff by contacting many of the individuals that had been previously interviewed as well as the organizations they represented or were affiliated with and asked them for recommendations. While the primary responsibility of these local residents would be to conduct door-to-door interviews, they would also be called upon to conduct surveys at malls, strip malls, big box stores, mom-and-pop businesses, and downtown businesses. They would also be asked to distribute flyers in neighborhoods prior to neighborhood and corridor-wide meetings and attend and participate in these neighborhood and corridor-wide meetings (see Figure 4-33).

Implementing the Approach

Door-to-door surveys were initially scheduled to begin the first of May and continue throughout the summer. They were to be conducted Monday through Friday from 10:00 a.m. to 7:00 p.m. to capture those who worked first and second shifts and those who worked or stayed at home. However, project delays pushed the start date to the first of October, which left only 6 weeks before daylight saving time ended in mid-November. Once daylight savings time ended, it would get dark at or shortly after 5:00 p.m. and people who would normally answer the door during daylight hours would be hesitant to do so after dark. This reduced the number of hours available Monday through Friday to conduct interviews and led the team to conduct interviews on Saturdays during the daylight hours. The compressed schedule also meant that an additional 40 local residents would need to be hired to complete the surveys before daylight saving time ended.

The consultant then scheduled pre-hiring interviews with potential candidates who had been recommended during the initial study area reconnaissance. A background check and a drug

Figure 4-33.   Local residents were recruited to conduct surveys at various locations and distribute flyers prior to neighborhood and corridor-level meetings.

test for prospective hires was part of the hiring process. A cadre of 15 individuals were selected for leadership positions in the field and in the office. Two 1-day group interviews were then held with more than 100 other individuals. Those who survived this screening process were informed that they would be given a second interview; only the first 60 persons that successfully passed that interview would be offered a position. The 75 individuals that survived this process received consultant-directed training for their positions.

Doubling the staff had a profound impact on cash flow of the six-person subconsultant team as the loaded payroll for 75 employees approached $200,000 every 2-week pay period. The prime consultant agreed to extraordinary terms to address the problem—payment within 15 days of receipt regardless of when NCDOT paid the prime consultant. The scale of local staffing had an impact on the size and location of the project office that would be required. The office would have to hold 75 people in the morning as teams were prepped for the day and again in the evening for debriefing, have a parking area sufficient for 35 cars and the four vans used to ferry individuals to the field, be accessible to bus transit, and be near the I-40 Business corridor.

Of these 75 individuals, approximately 15 individuals were engaged in office activities such as preparing payroll and accounting; providing human resources services; doing data entry; creating door-to-door maps; scheduling visits to faith-based organizations, senior centers, shopping centers/big box stores, and downtown businesses to meet with CEOs and employees; packing give-away bags, providing secretarial and management services, creating media packets, and so on. The remaining 60 individuals were divided into four teams of approximately 14 interviewers and a certified van driver. In addition, one person was assigned to ferry employees from the field to the bathroom and back to the field. Each member was dressed in an orange shirt with a project logo and a photo identification badge.

Before commencing the door-to-door survey, an extensive television, radio, and newspaper media campaign announced that project staff would soon be coming into their neighborhood to conduct surveys. This was quickly followed by a newsletter about the project that encouraged the public to open its doors to take the survey. Only after this advance work was completed did the door-to-door survey begin. The media campaign heightened the public's interest in the project and participation rates greatly exceeded the project team's initial estimates: 40 percent of those who were asked to take a survey complied, rather than the 12 to 15 percent that were expected. This outpouring of project interest extended the project through November and into February

Figure 4-34.   Newsletters were regularly prepared in English and Spanish. Survey findings and upcoming meeting dates for corridor-wide meetings were among the featured items in this issue.

to accommodate all of those wishing to complete a survey. As a result of this effort, a total of 11,950 surveys were completed (see Figure 4-34).

Once the surveys were completed, a series of 16 neighborhood meetings were held in the core neighborhoods. The outreach specialist flyered each neighborhood prior to each meeting and at the meeting performed a variety of tasks including signing-in attendees, manning every display board and talking knowledgeably about the information it provided, interviewing residents as they sat at supper, and acting as scribes to record the residents' comments.

Influence of Approach on Decisionmaking

Of the 11,950 individuals that were surveyed, 67 percent favored closing I-40 Business totally for 2 years. Bolstered by this extensive outreach process and the information that it yielded, NCDOT was able to announce that the 2-year alternative would be the selected method of construction. After reaching this decision and announcing it to the public, NCDOT was then able to examine possible alternative design scenarios as part of the NEPA process.

Challenges

While 75 locals were necessary to conduct the daily door-to-door phase of the project, only about 30 individuals were needed to prepare for and conduct the subsequent 1-week corridor-wide meetings phase of the project. Even fewer individuals were needed to support the one-night-a-month working group meetings. The challenge has been and will continue to be maintaining connections with these individuals over the coming years and being able to call on them even if they have other jobs.

Benefits of the Approach

Regardless of the neighborhood, commuters, or business groups surveyed, the preferred alternative was to totally close the roadway for 2 years. Within the nine general groups surveyed, results ranged from 57 to 77 percent selecting the 2-year option with 67 percent overall wanting the 2-year alternative. While both the Chamber of Commerce and the Downtown Business Partnership had told the consultant and NCDOT at the initiation of the project that "no one" would support the total closing of the roadway, 77 percent of the 1,517 downtown business employees and 75 percent of the 143 downtown business owners/CEOs surveyed registered their support for the 2-year option. Having a local staff of 75 people made it possible to have a far-reaching and continuous outreach approach that also grabbed the attention of the public. After reaching out to and communicating with almost 22,000 people, it was difficult to find anyone in the greater Winston-Salem area who had not, in some way, heard about the project.

By hiring local residents, purchasing food and other services from local vendors, leasing vans to carry staff members into the field to conduct interviews, renting housing for the consultant staff, leasing office space, renting meeting locations, and other associated services, more than $2 million was returned to the local economy. In addition, local residents were given the opportunity to develop leadership and management skills as they were placed in positions of responsibility over teams that went into the field every day.

Costs of the Approach

The overall public involvement effort, from February 2006 to May 2011, cost approximately $4.6 million. The majority of the outreach approach was implemented over a 5-month period, during which the greatest expense was hiring 75 local residents (approximately $400,000 per month). In addition, 4 vans ($1,500 per month) were leased, local vendors were hired to provide food ($800) and licensed child care ($200) at each meeting, a project office was leased ($2,000 per month), and meeting spaces were used that cost between nothing and $5,000.

Contacts/Resources

Contacts

Mr. Drew Joyner, PE
Project Development and Environmental Analysis
Human Environment Unit Head
NC DOT
1598 Mail Service Center
Raleigh, NC 27699-1598
(919) 707-6077
djoyner@ncdot.gov

Ms. Jumetta Posey
CEO
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem, NC 27101
(336) 724-2130
jgposey@nsolutions.org
www.nsolutions.org

Establishing a Model Comprehensive Tribal Consultation Process: Washington State Department of Transportation

Background

Federally recognized Indian tribes are governmental entities whose lands and rights are protected through and confirmed by the Constitution of the United States, treaties, statutes, executive orders, and judicial decisions. This unique situation sets them apart from other underserved populations.

The Washington State Department of Transportation (WSDOT) has established relationships with 34 federally recognized tribal governments. Twenty-nine tribes are located in Washington State; the additional six tribes have reservations outside the state, but have traditional homelands, treaty rights, or other interests within the state. WSDOT works with tribes to identify and address their transportation needs as well as to consider how their interests may be affected by projects and operations initiated or maintained by the state.

WSDOT must comply with a wide range of federal, state, and tribal requirements in the development of transportation projects and overall maintenance and operation of the state's transportation infrastructure. Foremost of the federal requirements are those established under the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA). WSDOT concluded that environmental review conducted under NEPA, which is carried out by the agency during conceptual engineering and design, provided the central nexus for tribal consultation on projects that could impact tribal interests. There are also several other compliance paths that run parallel to the NEPA process, including Section 106 of the NHPA.

Stage of Decisionmaking:
- Planning
- NEPA/Project Development
- Policy and Programs

Participants:
- Washington State Department of Transportation
- Washington Department of Archaeology and Historic Preservation
- Washington State Attorney General's Office
- Washington Office of Regulatory Assistance
- Washington Department of Ecology
- U.S. Army Corps of Engineers
- Federal Highway Administration
- Federally Recognized Tribes in Washington State or with Homelands and/or Treaty Rights in Washington

Tools and Techniques:
- Establishment of Agency-wide Policy Agreements
- Tribal Outreach Meetings

Affected Populations:
- Federally Recognized Indian Tribes

The state transportation agency is also bound by Washington State's Executive Policy on the Centennial Accord with the Federally Recognized Tribes in Washington State, the New Millennium Agreement, the WSDOT Executive Order 1025.01 on Tribal Consultation, and the WSDOT Centennial Accord Plan. These requirements establish clear policy direction on the need for WSDOT to actively consult with tribes, but little practical guidance was provided on how best to undertake government-to-government consultation with the tribes. Recognizing this need for clearer direction on how, where, when, and with whom to conduct consultation, WSDOT's Tribal Liaisons met with every tribe in person or by telephone and conducted a letter campaign to gather information on how to improve this process. The outcome of this intensive effort, the *Model Comprehensive Tribal Consultation Process,* was endorsed by the WSDOT Secretary and the FHWA Washington Division Administrator in 2008.

Developing the Approach

The *Model Comprehensive Process* is really the fruit of foundational work achieved years earlier by the state in improving tribal relations. In 1989, federally recognized tribes and Washington State came together to sign the Centennial Accord, the culmination of an earlier round of outreach effort with tribes and the governor's office. The signatories at that time sought *to better achieve*

mutual goals through an improved relationship between their sovereign governments. Ten years later, the governor, attorney general, and tribal chairs renewed their commitment to the fulfillment of the accord's principles with execution of an *Agreement to Institutionalize the Government-to-Government Relationship in Preparation for the New Millennium (New Millennium Agreement)*.

The underlying goal of both agreements was to work to improve communication and consultation. Toward this end, WSDOT launched statewide meetings in 2005 with the natural and cultural resources staff of federally recognized tribes in the state. The purpose of these meetings was to assess how well consultation with tribes under NEPA and NHPA was being carried out, identify consultation opportunities throughout project development, and to develop techniques for more effective and consistent consultation. The *Model Comprehensive Process* emerged largely out of these meetings. Over two years in the making, the *Model Comprehensive Process* was intended as a practical field guide for WSDOT staff and consultants. A major goal was to develop a flexible consistent process that integrated the consultation requirements of several laws and policies including NEPA, Section 106 of the NHPA, treaty rights, and others. It focuses on several broad areas:

- Goals, principles, and legal basis for tribal consultation;
- Guidance on when in the NEPA process to consult with tribes and minimum standards for consultation based on NEPA project classification;
- Guidance on how to consult with tribes; and
- Tools and references to facilitate consultation with tribes.

Implementing the Approach

Large organizations like WSDOT face many challenges to accommodating change. Reaching out to tribal governments and bringing them into project development and environmental evaluation has been a slow ongoing process. The importance of the Centennial Accord and the New Millennium Agreement to improved tribal consultation cannot be overstated. These protocols, which established jointly agreed upon goals and policies between tribal governments and the state, provided the essential direction from the state's leadership that government-to-government consultation with tribes was a state priority. Without this clear direction from the state's executive branch, it is unlikely that the WSDOT staff would have embraced the subsequent *Model Comprehensive Process*.

The guidance recognized that circumstances and characteristics vary from project to project and tribal interests and needs also vary so that a flexible application would be most effective. However, the guidance did establish minimum recommended consultation activities for each type of NEPA review for a project (e.g., categorical exclusions, environmental assessments, and environmental impact statements). These effectively established minimum performance standards that helped ensure that the guidance remained in the forefront of NEPA compliance for each project. To further ensure the implementation of the guidance, WSDOT's Tribal Liaison Office undertook a comprehensive training program for the WSDOT regional offices. This training sought to demystify the guidance and examine it in the context of the particular experiences, transportation issues, and tribal interests of the regions.

Influence of Approach on Decisionmaking

The guidance has been a very practical response to the ongoing need for improving consultation with tribes in transportation decisionmaking. While operational use of the guidance no doubt varies from project to project, the fact that WSDOT invested considerable effort in attempting to upgrade performance in this area throughout the organization has added further reinforcement among tribal governments that WSDOT is taking its tribal consultation requirements seriously. The guidance has had the intended effect of improving outreach to tribes dur-

ing environmental review, and their input has in turn influenced decisions that are reached by WSDOT under NEPA and other environmental requirements.

Challenges

As with any guidance, two principal challenges persist. First, ongoing effort will be needed to ensure that the guidance remains up to date, evolving to reflect the changing interests of both tribal governments and tribal members, legal and regulatory changes, and emerging environmental issues. Second, performance under the guidance by the regional offices will continue to be monitored and effort made through training and other assistance to keep staff throughout the organization focused on the requirements and benefits of effective tribal consultation during environmental analysis.

In addition to the outreach prescribed under its NEPA tribal consultation model, WSDOT must continue to be vigilant in its commitment to tribal outreach in order to understand and identify transportation needs. For over a decade, WSDOT has hosted it annual Tribal/State Transportation Conference. The conference includes breakout sessions on such topics as transportation planning, safety, transit, environment, cultural resources, and workforce development. These meetings, now held every 2 years due to budgetary constraints, have been highly effective in creating a forum for the tribes and WSDOT to look collectively at the transportation needs of tribal communities and to develop collaborative transportation goals.

In 2003, WSDOT worked with tribal transportation planners to establish the Tribal Transportation Planning Organization (TTPO). The TTPO is led by tribal representatives with staffing and receives some financial assistance from WSDOT. The TTPO quarterly meetings provide tribes, WSDOT, and other agencies such as the Bureau of Indian Affairs an opportunity to collaborate on planning issues. The TTPO also helps advance the professional skills and knowledge of transportation officials employed with Indian governments and to encourage cooperation between these professionals and those within WSDOT and other transportation agencies. These meetings, because of their value in building trust and mutual respect, have had a collateral benefit to departmental goals for tribal consultation under NEPA (see Figure 4-35).

Figure 4-35.   Tribal planners along with other transportation professionals, WSDOT Tribal Coordinators and Liaisons, and federal agencies attend TTPO meetings, which provide a valuable forum for discussion about transportation needs and solutions.

> The TTPO "is a very cool conglomeration of transportation proponents and champions who are dedicated to equitable conditions in our collective communities."
>
> —Colleen Jollie, former Tribal Liaison with WSDOT

Benefits of the Approach

Early and ongoing consultation with tribes throughout project development is integral in identifying opportunities to avoid, minimize, and mitigate impacts to tribal resources as well as to reduce risks to project schedules and budgets. One goal of WSDOT's consultation efforts is to build durable relationships with tribes. WSDOT staff has come to realize that successful consultation on a project helps with consultation on future projects. The same is true of poor consultation in that it can have a damaging effect on other projects.

Costs of the Approach

The WSDOT Environmental Office established a full-time tribal liaison position to develop these projects. It took nearly 2 years to complete the tribal meetings and develop, review, and get approval of the guide. The training program was developed and implemented over the subsequent 6 months.

Contacts/Resources

Contacts
Ms. Megan Cotton
Tribal Liaison
Washington State Department of Transportation
310 Maple Park Avenue SE
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7025
cottonm@wsdot.wa.gov

Resources
WSDOT Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act: http://www.wsdot.wa.gov/NR/rdonlyres/BF49CED8-B7C7-46A4-BA89-93153AB70FF3/0/TribalManual.pdf
Tribal Transportation Planning Guide for Washington State: http://www.wsdot.gov/NR/rdonlyres/D9668173-F25F-448B-B571-57EB32122036/0/TribalTransportationPlanningGuideforWashingtonState.pdf

Replacing a Community Resource in a Minority Neighborhood through Functional Replacement: Gulfport, Mississippi

Background

The Port of Gulfport is the second largest importer of green fruit in the United States and the third busiest container port on the U.S. Gulf of Mexico (Mississippi State Port Authority at Gulfport). After arriving at the Port, goods are distributed throughout the Eastern United States via Interstate 10. However, the connection along U.S. Route 49 from the Port to I-10 was not designed to accommodate existing levels of freight and passenger traffic, resulting in higher shipping costs and dangerous conditions for all drivers.

For many decades the Mississippi DOT considered creating a new connection between the Port and I-10 to facilitate goods distribution and alleviate traffic on Route 49. In 1996, the Mississippi DOT began an environmental and location study for the Canal Road-Port Connector.

The Mississippi DOT was confronted with essentially three options for the proposed connector at its intersection with 28th Street, each with its own right-of-way (ROW) acquisition challenges: a western alignment would be adjacent to the Naval Construction Battalion Center (NCBC), which had the power to veto the alignment leaving Mississippi DOT with little recourse; a central alignment would require the acquisition of an 80-year-old Baptist church; and an eastern alignment would require the acquisition of a very expensive and difficult to relocate power company property.

Stage of Decisionmaking:
- Right-of-Way
- Project Development/NEPA

Participants:
- Mississippi DOT
- St. John Baptist Church

Tools and Techniques:
- Functional Replacement
- Outreach and Negotiations

Affected Populations:
- Minority (Black)
- Low Income
- Elderly

Developing the Approach

Where the proposed connector alignment ran parallel to existing railroad tracks, surrounding uses were predominantly industrial. However, at 28th Street, where the alignment began to move away from the railroad and into residential neighborhoods, there were many minority and low-income communities. Although significant residential displacement would occur with any of the alignments, going as straight north as possible at 28th Street would best accommodate existing neighborhoods; however, it would require acquisition of the church (see Figures 4-36 and 4-37). This was thought to be the most likely option given that the other alternatives would require greater residential displacement and force Mississippi DOT to negotiate with either the Battalion Center or power company.

The presence of traditionally underserved communities was obvious to the project team from the very inception of the project. The Mississippi DOT ROW office approached the relocation of the church as an environmental justice issue and sought to address what could potentially be disproportionately high and adverse effects on the low-income and minority neighborhoods in the project area, in keeping with the executive order on environmental justice issued in 1994.

As with all project impacts, establishing what constitutes fair mitigation is a negotiation. However, unlike protected resources such as wetlands, there is no governing body with the authority to determine what mitigation measures are adequate. In acquiring the church, the Mississippi DOT ROW team made an administrative decision that it would be appropriate

Figure 4-36.   Proposed central connector alignment at 28th Street required acquisition of the St. John Baptist Church.

to use functional replacement to mitigate the environmental justice impacts of acquiring the church property. The team believed that helping the church reestablish itself would be critical to making the community whole again after the project, given the church's importance as a center of public activity within the community. Unlike the normal acquisition process, in which land is purchased from the owner at fair market value, functional replacement of real property covers the cost of building or purchasing a structure with "the same utility, including betterments and enlargements required by present-day local laws, codes, and reasonable prevailing standards for similar facilities in the area" (Code of Federal Regulations, Title 23, Part 710.509).

Figure 4-37.   St. John Baptist Church at its 28th Street location.

Implementing the Approach

Before the alignment had been finalized, and with the knowledge that they would be able to offer a functional replacement, the ROW team sought to engage the church in a discussion about relocation. Because the Gulfport community was particularly vocal and politically active, the ROW team started their outreach with a state representative who was a member of the church and operated in the district where the church was located. The state representative was able to give the ROW team advice about how to conduct outreach to the church and introduced the team to the church's minister. The ROW team explained the ROW acquisition process and potential functional replacement to the minister, who then asked that they speak with the church deacons.

> *"Mississippi DOT made themselves completely available to the members of the church—they came whenever and as often as they were asked . . . and they were never short with people."*
>
> —Frances Fredericks, State Representative and St. John Baptist Church Member

Although the church was old, it was in relatively good condition and served the needs of its congregation. When speaking with church members the Mississippi DOT team knew to approach the issue of relocation with careful consideration of the role the church played in its members' lives. They framed the issue as "what if we could relocate you—how would this affect your community?" By going to the church every two or three weeks, the ROW team made its way from the church's leadership to members of the congregation and was able to listen to congregants' concerns as well as provide information about the ROW acquisition process.

Conversations with the church leaders and members revealed many stories of how the Mississippi Coast and its neighborhoods had changed over the years. Most of the church's members were elderly residents of the surrounding neighborhood who had attended the church for several decades and had seen their family members and friends baptized, married, and eulogized at the church. They lamented the blight and deterioration in traditional coastal neighborhoods such as their own as new generations moved elsewhere and as casino gaming and the sprawl of autocentric growth changed the nature of the area. Moving the church, it was believed, would present new opportunities for the ministry, but the size of the congregation and the age of its members would make it impossible for them to afford a new church. The ROW team felt that they had a good understanding of the church's position and concerns after conducting preliminary outreach: moving the church would not cause its demise as long as the Mississippi DOT was willing to help them relocate.

Meetings with the church were conducted as part of the connector study between 1996 and 2002. During this period, the Mississippi DOT conducted more than 17 meetings for the general public, spoke to individual civic and community groups about the project, and worked directly with the City of Gulfport, Mississippi State Port Authority, and Harrison County. Through the process 15 different alternatives were narrowed down to four concepts (one no-build, and three build concepts). In April 2003, the Mississippi DOT's eventual preferred alternative received a Finding of No Significant Impact (FONSI) from the Federal Highway Administration, allowing the Mississippi DOT to initiate consultant contracts for the survey and design of the connector and conduct property appraisals.

When the ROW acquisition phase was initiated in March 2006, the groundwork for relocating the church had already been laid. Following the commitments given during the environmental process, the Mississippi DOT ROW team oversaw functional replacement of the church. The Mississippi DOT purchased the existing church and escrowed the money to buy land for a new church. The church played a large role in determining where they would relocate and selected a site in New North Gulfport, approximately 7 miles away from their 28th Street location—an area experiencing population growth and a greater concentration of young adults and families. The

Mississippi DOT worked with a church-selected architect to create the plans for a new structure that would serve to functionally replace the church.

The reaction of other minority groups and churches to the lengths that the Mississippi DOT went to replace the St. John Baptist Church became an unexpected challenge of the project. There was concern that the Mississippi DOT had played favorites by providing the church with an exceptionally favorable relocation plan. The DOT met with other churches and community groups, in response to these criticisms, to explain the ROW alignment and why building a new church was part of the project costs. They answered the public's questions and explained that they had not meant to slight other groups.

Influence of Approach on Decisionmaking

By conducting appropriate outreach and offering functional replacement, the Mississippi DOT ROW team was able to successfully negotiate the acquisition of the church's property at 28th Street and mitigate unavoidable environmental justice impacts without causing any delays to the connector project. The new church building was constructed on the selected relocation site and meets existing building codes. At its new location the church has additional parking spaces, is in a location that is easier to access, and is less likely to be impacted by flooding (see Figure 4-38).

During the siting and ROW acquisition process, practitioners were challenged to avoid and minimize impacts, but some impacts are unavoidable. For example, some businesses that could continue to operate will not want to reopen and other properties will become more valuable because of the project. There are winners and losers in this decision-making process, and while it was possible to adequately address the impacts of the connector project on the St. John Baptist Church and its members, there are others who may feel that they did not receive adequate compensation or attention.

> *"The main thing is before ROW, they need to know that you made a hard choice and that lots of options were looked at. The environmental review should demonstrate why the project impacts what it impacts so when it gets to ROW the public may not be happy but at least they know their concerns were looked at and taken into account—that the impact to them was justified in some shape or form."*
>
> —Claiborne Barnwell, Federal Highway Administration, Project Team Leader, Mississippi Division

Figure 4-38.   The new St. John Baptist Church on Dedeaux Road, Gulfport.

Challenges

The devastation caused by Hurricane Katrina makes the need for efficient roadways even more apparent in this area of the coast, and the challenge of creating infrastructure while preserving remaining community resources even greater. Following Hurricane Katrina, project staff underwent training to guide them in working with members of the public who were essentially in shock. Those who had been displaced by the hurricane from their homes were still provided with relocation services, which in many instances meant that they were moving not from one home to another, but from a tent to a new home.

The connector will be completed in three sections, each with its own timeline. In March 2010 to avoid project delays, the Mississippi DOT agreed to buy 1,638 acres of wetlands and place them in perpetual conservation easements in order to mitigate the potential impacts of destroying 162 acres of wetlands for construction of the connector. This agreement was reached without going through the courts in order to receive the necessary wetland permit from the U.S. Army Corps of Engineers. As of the summer of 2010, contractors had been hired for land clearing and dirt work and a preconstruction conference was held.

Members of the St. John Baptist Church may have to confront transportation project impacts again in the near future. Dedeaux Road, where their new church is located, is slated to be widened from its current two-lane configuration to four lanes with a median. The church is sufficiently setback from the road so that impacts of the widening will likely be minimal; however, church members are not pleased to find themselves in the ROW yet again.

Benefits of the Approach

Functional replacement is an important and creative tool for transportation and community planners seeking to redress long-standing problems in low-income and minority communities—areas often burdened by aging or obsolete community facilities and poorly designed and intrusively located transportation systems.

Although there were alternative alignments that would have avoided the church property, if the ROW had required acquisition of land from either the NCBC or power company, the process would have likely been more difficult, more expensive, and more time consuming. By going through appropriate channels to gain church buy-in and by offering to functionally replace the church, the ROW team was able to gain approvals and move forward with implementation of the connector project.

Over the summer of 2010, St. John Baptist Church held "exit sermons" at their 28th Street location to celebrate the church's rich 84-year history. Leaving the area will be a significant adjustment for church members, but ultimately they recognize that keeping the church where it is and building the road around it would not have been good for the church. With many residents relocated and associated impacts of truck traffic coming through on the new connector, the church's new location will offer greater peace and quiet as well as the potential to engage a growing community in its ministry.

Costs of the Approach

The cost of a functional replacement for the St. John Baptist Church was around 3 million dollars, approximately five times the value of the church building and land. Additional costs were staff time spent working with the church and other groups to get their buy-in. In considering the cost of the relocation it is important to also consider the costs of the two alternative alignments. Placing ROW adjacent to the NCBC may not have been possible at any cost, and the power company property may well have cost as much if not more than the church to acquire.

Contacts/Resources

Contacts

E. Claiborne Barnwell
Project Development Team Leader
FHWA, Mississippi Division
666 North Street, Suite 105
Jackson, MS 39202-3199
claiborne.barnwell@dot.gov
(601) 965-4217
http://www.fhwa.dot.gov/msdiv/index.htm

Rick Mangrum
Right-of-Way Specialist
FHWA, Mississippi Division
666 North Street, Suite 105
Jackson, MS 39202-3199
Rick.Mangrum@dot.gov
(601) 965-4232
http://www.fhwa.dot.gov/msdiv/index.htm

Dan Smith
Right-of-Way Administrator
Mississippi Department of Transportation
401 North West Street
Jackson, MS 39201
DBSmith@MDOT.State.MS.US
http://www.gomdot.com/

Frances Fredericks
State Representative
PO Box 2305
Gulfport, MS 39505
Frances.fredericks@yahoo.com
(228) 864-9319
http://billstatus.ls.state.ms.us/

Resources

Mississippi Department of Transportation, (2006), "Central Harrison County Connector Highway: Project History." http://www.gomdot.com/home/Projects/Archives/Studies/Southern/I310/pdf/CentralHarrison Connector.pdf

U.S. Department of Transportation, Federal Highway Administration, Office of Real Estate Services, (6 October 2005), "Uniform Act Eligibility in Areas Impacted by Hurricane Katrina," http://www.fhwa.dot.gov/ realestate/katrinaguid.htm

Holding a Student Film Competition to Engage Diverse Youth: Sound Transit, Seattle, Washington

Background

Sound Transit, Central Puget Sound's Regional Transit Authority, operates Central Link, a light rail system connecting downtown Seattle and the Seattle-Tacoma International Airport. When pre-revenue testing began in late 2008, Sound Transit started to focus attention upon educating pedestrians and drivers about hazards and desired behaviors near at-grade-crossings. The agency initiated a light rail safety education program targeted to reach students, kindergarten through twelfth grade. The core messages of the program were:

- Trains are fast and cannot stop quickly. Cross only at designated crosswalks.
- Trains have the right-of-way. Obey all signals and warning signs.
- Trains are quiet. Always look both ways.
- Tracks are for trains. Never walk or play around trains or tracks.
- Stay alert; drop your earbuds; don't text or talk on cell phones.

The 14-mile system included 3 miles of at-grade right-of-way through densely populated neighborhoods with a high concentration of low-income and limited English proficiency persons with diverse ethnic and racial backgrounds. To promote pedestrian safety, Sound Transit would need to develop an educational communications strategy that would appeal and connect to a diverse youth population.

Stage of Decisionmaking:
- Operations
- Construction

Participants:
- Sound Transit

Tools and Techniques:
- Student Competition
- Video Messaging
- Online Voting

Affected Populations:
- Youth
- Low Income
- Minority
- Limited English Proficiency

Developing the Approach

Sound Transit defined the study area as 2 miles on either side of the 3-mile-long at-grade section of the alignment. This area included six high schools in four school districts: Seattle, Highline, Renton, and Tukwila. Because of the large non-English speaking population in the area, Sound Transit had an idea that they wanted to use visual messaging techniques to get its safety message across. They interviewed a former superintendent and teachers to get background information on how kids learn and how best to talk to them. The feedback was clear: creating visually compelling messages was probably the best means for developing a cost-effective and creative safety campaign targeted to youth. Sound Transit also came to the conclusion it did not have the resources in house to develop and implement the type of campaign that would be successful.

The agency issued a request for proposals (RFP) for a light rail safety education program to further solicit ideas for the campaign that would prove to be engaging and fun. Rather than outline specific deliverables, the RFP encouraged consultants to propose their best strategies for meeting the agency's overall goals and offered only a general task framework, including:

- Development of an activity book,
- Facilitation of student focus group(s),
- Creation of a high school ambassador program,
- Development of an interactive web-based safety program, and
- Assistance with outreach events.

The agency was particularly intrigued by a proposal made by a firm that had previously created a driver safety film for students that had included an outreach process with students

during the making of the film. For this effort, they proposed expanding on this concept with an online public safety announcement (PSA) film competition. This approach would combine the "ambassador program" task with development of the "interactive web-based safety program" task; it appealed to Sound Transit because it wanted to *engage* students and not just *talk to* them.

Implementing the Approach

Sound Transit worked with the selected consultant on a plan to work with the six high schools in the study area and make six student films. This required going to the principals and staff for the four school districts within the study area. In Seattle, the biggest of the districts, they met with the district's risk manager and program director. The district told Sound Transit that they could not help them get participation from the schools because they were burdened by too many demands on teaching time to accommodate the many civic and nonprofit organizations that wanted to get information to students. Teachers have limited classroom time to cover set curriculums and testing preparation, and the district could not assign them additional projects. While the district could not help Sound Transit with the project, they gave them permission to approach the school principals one-on-one to gain participation.

Working with the schools and the other districts, Sound Transit approached each of the six schools in their study area and were eventually able to obtain buy-in from five of the schools. Some members of the schools' administration and other agencies suggested reaching the students through their health classes, but Sound Transit was most successful working with the school libraries because they acted as resource centers for the students. During the outreach process, the consultant developed a professional 90-second PSA called "Don't Become a Train Wreck," which portrays a suspenseful moment when a group of students fear that their friend has been hit by a train after he runs toward the tracks to retrieve a football without looking for oncoming trains.

In conducting the competition, the consultant worked with media classes to reach students interested in film. Screenshots from the 90-second professional spot were used to help give students inspiration and ideas for how to shoot their films (see Figure 4-39). The students were given the freedom to present the core safety messages with their own narrative and perspective.
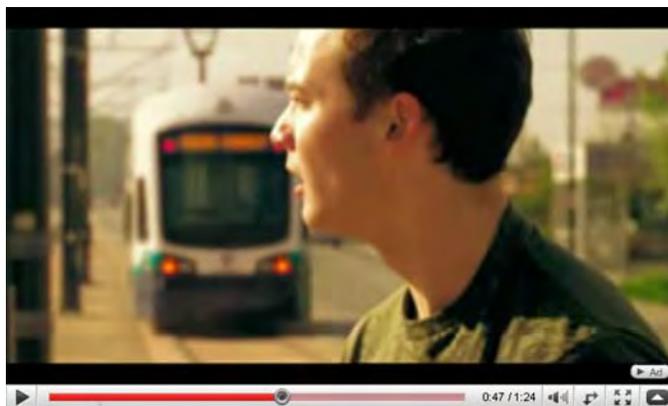
Figure 4-39.   A professional 90-second film was used to inspire students on how to shoot films. The student films were posted on YouTube as part of the Sound Transit safety awareness campaign.

(a)   (b)   (c)

Figure 4-40.   Screenshots from Cleveland High School's winning film.

After authoring their scripts and receiving approval from Sound Transit, the students worked with the consultants to produce the films. The students assumed the roles of director and actors in the production, while the consultants acted as the cinematographers and shot the film. Students were not allowed on the tracks during filming.

From the five high schools came five films:

- *You Can't Beat the Train* by Cleveland High School students: A mock news program reports on the tragic end of a fellow student who tried to cross in front of an oncoming train (see Figure 4-40).
- *Look Both Ways* by students at Rainier High School: A demonstration of the importance of train safety that harkens back to the era of silent films.
- *Take Your Headphones Off* by students at the Seattle Urban Academy: The perils of walking around train tracks while engrossed in an iPod are demonstrated using imagery from popular iPod commercials.
- *Put Your Cell Phones Away* by students at South Lake High School: A humorous look at ways students can cope with putting their cell phones away while crossing train tracks.
- *Use the Crosswalk to Go* by students at Foster High School: Several students talk about the importance of crosswalk safety around train tracks.

During the 5-month competition, videos could be viewed and voted on at Sound Transit's website. DVDs of the films were also distributed at school fairs and events and select local video stores. Two of the high schools have also featured their films and safety messages on their websites. At the end of the competition, the film produced by Cleveland High School students was selected as the winner with over 2,500 hits. In the film, news anchors report on a student who tried to run in front of a train and is hit, leaving only a sneaker and baseball hat behind. Cleveland High School was presented with a certificate and movie camera by the Link light rail chief safety officer at an all-school assembly.

Influence of Approach on Decisionmaking

During the height of the film competition, the Link service was launched officially. In its first year of operation, there had been only one non-life threatening pedestrian accident.

Being able to view the student films online through the Link website and YouTube helped to increase visibility for their campaign. Sound Transit's education campaign, which also included a board game and outreach at numerous public events, reached the majority of the 17,000 K through 12 students in the study area, as well as many of their parents.

The professional PSA which was created with input from the students proved to be a powerful tool for the agency in conducting outreach. During a presentation at an alternate high school, the Link community outreach specialist found that students who appeared to be initially indifferent became quickly engaged by the video presentation. The film resonated with students because the core messages were wrapped in an entertaining package and created by a future "auteur" of their generation. Students could relate to the persons and themes presented and it truly gave them a chance to reflect upon potential and real consequences.

Challenges

Connecting to students and the broader population about pedestrian safety will continue to be a responsibility for Sound Transit going forward. The project left many legacy products for teaching, but simply watching the videos will not have the same "viral" benefits as participation in the interactive program did when it was first established. To ensure their continued success in preventing pedestrian accidents, Sound Transit will have to tailor its future education campaigns to what is now an existing service.

In administering a similar film competition, some of the challenges that outside agencies will face working with schools involve enlisting the support of the school administration and coordinating with student schedules. Sound Transit had to run all activities and materials through the district for approval during the film competition. It was also important for Sound Transit to pay attention to the school calendar to avoid conflicts with holidays, testing, and parent teacher conferences.

Benefits of the Approach

The student film competition created a dialogue with the students rather than presenting the safety message as a series of talking points that students would walk away from without hearing. Their participation in creating the films gave the agency insight into student thinking and also created buy-in from the students on the safety message. Producing and disseminating the films ultimately allowed students to identify with the safety message in a deeper way than could have been achieved through a campaign undertaken unilaterally by the transit agency.

By creating a dialogue, the project allowed students to think critically about safety issues and ask questions of agency staff. Sound Transit staff witnessed a great deal of satisfaction among students about getting involved with a project for the common good. When shown at local events and outside schools, students also enjoyed recognizing friends and family members who are in the films. They felt like they were part of something that was important, and enjoyed being valued as members of their community.

Costs of the Approach

The total cost for their outreach campaign was $156,000. Creating the public service announcements cost $42,000, conducting focus groups with students cost $12,000, and there were also some on-call services for running events at the schools and attending presentations. The board game cost $30,000 to create and additional funds to produce.

Contacts/Resources

Contacts
Carol Doering
Community Outreach Specialist
Sound Transit
(206) 398-5095
carol.doering@soundtransit.org
www.soundtransit.org

Resources
You Can't Beat the Train - by Cleveland High School students: http://www.youtube.com/watch?v=jgIKUQ5VD40
Look Both Ways - by students at Rainier High School: http://www.youtube.com/watch?v=6NqipBP-ap8
Take Your Headphones Off - by students at the Seattle Urban Academy: http://www.youtube.com/watch?v=rcch3vuOg2A
Put Your Cell Phones Away - by students at Southlake High School: http://www.youtube.com/watch?v=TPxFrmnCQWo
Use the Crosswalk to Go - by students at Foster High School: http://www.youtube.com/watch?v=G6flapnVDwk

Training Diverse Leaders for Seats on Boards and Commissions: Boards and Commissions Leadership Institute, Oakland, CA

Background

Stage of Decisionmaking:
- Planning
- Policy and Programs

Participants:
- Urban Habitat

Tools and Techniques:
- Training
- Coalition Building

Affected Populations:
- Low Income
- Minorities
- Limited English Proficiency
- Foreign Born

People of color and low-income people have historically had little say in regional planning or economic and environmental policy making, yet these communities have an important stake in the policy and priorities that are set by regional planning organizations. The purpose of Urban Habitat's Boards and Commissions Leadership Institute (BCLI) is to help overcome the challenge of minority and low-income underrepresentation on regional boards.

When asked why poor communities and communities of color are not appointed to local and regional boards and commissions, decisionmakers often cite an inability to recruit qualified applicants. There is a perception that advocates are knowledgeable about issues in underrepresented communities, but that they are lacking the information and resources to participate effectively in long-term metropolitan planning and policy making.

Developing the Approach

Urban Habitat's mission is to build power in low-income communities and communities of color by combining education, advocacy, research, and coalition-building to advance environmental, economic, and social justice in the San Francisco Bay Area. Since its founding in 1989, Urban Habitat has built bridges between environmentalists and advocates of social justice, and played a key role in the evolving national environmental justice movement. The BCLI project is the product of 20 years of work providing leadership designed to increase power in policy making for low-income communities and communities of color.

Acutely aware of the underrepresentation of minority and low-income persons on regional boards and commissions, Urban Habitat's BCLI identifies, supports, places, and trains low-income people and people of color to take positions of authority on priority boards and commissions in the San Francisco Bay Area. The BCLI seeks to prioritize placements onto boards and commissions that can influence equity in terms of transportation, development, housing, jobs, and the environment. The training process is intended to create a new network of progressive leaders who will be technically and politically prepared and supported to make decisions that reflect the needs and interests of low-income communities and communities of color.

Implementing the Approach

In the first year of the project, staff dedicated to the BCLI project observed over 75 San Francisco Bay Area commissions in their public meetings, and interviewed almost one hundred commissioner-advocates, staff members, elected officials, and community advocates. The end result of this process was development of Urban Habitat's "seats first" model. The "seats first" model relies on an analysis of key boards and commissions seats throughout the Bay Area, including city, county, and regional appointments. Targeted boards and commissions have existing or potential influence over one or more of five core equity areas: (1) transportation, (2) housing, (3) equitable development, (4) jobs, and (5) climate change. The resulting list of seats and their attributes is then distributed to Bay Area Social Equity Caucus member

Figure 4-41.   The BCLI has deepened the insights of Urban Habitat on the role of citizen commissioners and has become a means for influencing agency decisionmaking.

organizations—a coalition of over 75 economic, social, and environmental justice groups as well as labor, faith, and youth organizations—and other allies so that they may nominate participants from within their own organizations, campaigns, and networks. Nominees are interviewed by a selection committee, including past alumni and representatives from Social Equity Caucus member and allied organizations, who determine the final cohort of 10 to 15 participants.

Each cohort in the BCLI engages in a rich training and networking program, meeting from August through January for a total of 80 hours that include training sessions, open sessions, mixers, brief online assignments, observations, and one-on-one meetings with mentors, training staff, and technical support staff (see Figure 4-41). Trainings are held in all-day Saturday sessions once a month and in after-work Wednesday night sessions once a month at the East Bay Community Foundation in Oakland. At training sessions, professionals teach skills about Robert's Rules of Order, legal issues for commissioners, municipal budgeting, deliberation, and decisionmaking. Experts seek to build cohort knowledge about community benefits programs, weighing equity in local transportation projects, affordable housing strategies, and green economic development. Veteran commissioner-advocates are invited to talk about key issues such as setting priorities, working with department staff, and working with community organizations.

Lectures and open panel discussions are also held to address issue areas such as transportation, equitable development, housing, jobs, climate, and public health. Panels bring together speakers from the public sector, labor, nonprofit organizations, and business. The audience is selected deliberately to broaden the cohorts' network and to support advocacy on key issues. Institute graduates are offered mentorship and alumni opportunities and leave the program with a thriving technical assistance network designed to support them in their roles on commissions.

Influence of Approach on Decisionmaking

The Institute has had excellent success placing graduates onto priority boards and commissions in the San Francisco Bay Area. BCLI graduates are seated on such bodies as the City of Oakland Planning Commission; the City of Richmond Planning Commission; the Metropolitan Transit Commission Policy Advisory Council; the Oakland Housing Authority; the

Alameda County Parks, Recreation, and Historical Commission; the City of Richmond Community Development Commission; and the San Francisco Municipal Transportation Agency's Pedestrian Safety Advisory Committee. Alumni of the Institute are also participating in designing curriculum and support networks for the incoming cohorts.

Urban Habitat is working to develop a formal method for evaluating the impact of the Institute on decisionmaking; however, anecdotal evidence suggests that the Institute has been able to advance equity considerations for low-income people and people of color in the Bay Area through knowledge-building, technical assistance, and networking. Graduates have shared stories of how they have influenced decisionmaking; their ability to move others on these topics in the decision-making arena has been enhanced by the skills and knowledge gained through the Institute. Being part of a group of regional commissioner-advocates has also been empowering for some alumni. The Institute's organizers believe that the Institute's impact will be amplified as the program continues and alumni increase their presence on boards and the social network of commissioner-advocates grows. The Institute has graduated a second cohort and is currently recruiting a third cohort.

Challenges

Throughout the Bay Area's nine counties, there are hundreds of boards and commissions seats. At present the commissions do not reflect the demographics of either their cities or counties, nor of the overall region, and there is little indication that these patterns will change on their own. Most seats have term limits that generally range between 2 and 8 years. Looking forward, BCLI organizers see opportunities for continued growth and have begun to target those commissions that serve as feeder pools for even higher decision-making positions or elected status. They are also mindful of the consequences of growth on the effectiveness of the core mission and want to maintain the strong support network that they have established for graduating cohorts.

Benefits of the Approach

While community input is an invaluable part of the transportation decision-making process, the BCLI successfully involves traditionally underserved populations from the inside. An inside-outside strategy to involving low-income, minority, and other underserved populations brings new opportunities not only to inform those at the decision-making table but to be *at* the table as a voting member. Through the BCLI, Urban Habitat has advanced its understanding of how citizen commissioners actually operate and to what extent they may have influence. Being more connected to the decision-making process, the coalition has been able to work more collaboratively with agencies and is better able to coordinate and advocate programming in their interests with various decision-making bodies.

Distilling the valuable lessons learned from its training efforts to date, Urban Habitat has begun to replicate the program through a consultation model. It is sharing its expertise in the development and strategy with other organizations that have the capacity to offer the program in their regions. For example, Urban Habitat is working with the Coalition on Regional Equity (CORE) in Sacramento, which intends to offer the program.

Costs of the Approach

The research phase of this program lasted for 1 year, requiring about one-half of the time of one staff member who was dedicated solely to the project. That staff member received feedback and direction from other Urban Habitat staff members and its management team. Now operational, other staff is dedicated to the project, including a coordinator (about 60 percent of his/her

time), a full-time program associate, and about half-time staffing for an educational technologist and a program assistant.

At its inception, each member of the cohort was estimated to cost about $10,000, but this cost has been reduced to about $7,000 per cohort member. In addition to salary and overhead, other cost items include a training venue, food for participants and guests, stipends for participants ($500 each), travel costs for guest commissioners and other guest speakers, and logo-stamped gifts for participants.

Contacts/Resources

Contacts
Laurie Jones Neighbors
Director of Education and Coalition Building
Urban Habitat
436 14th Street, Suite 1205
Oakland, CA 94612
(510) 839-9510
laurie@urbanhabitat.org

Resources
Urban Habitat, "Boards and Commissions Leadership Institute," http://urbanhabitat.org/uh/bcli

Training and Hiring Minority, Low-Income, and Female Workers: The New I-64, St. Louis, Missouri

Stages of Decisionmaking:
- Project Development
- Construction

Participants:
- Missouri DOT
- Gateway Constructors
- Associated General Contractors of St. Louis
- Metropolitan Congregations United
- Thirty additional Civic, Industry, Labor, and Community Groups

Tools & Techniques:
- Large-scale informational sessions
- Meetings with Community Members and Engineers
- Pre-apprenticeship Program
- Open Jobs Pipeline between Community, Unions, and Contractors
- Minority, Low-Income and Female Hiring Incentives for Contractors
- Work Force Partnering Plan Agreement
- Advisory Committee Headed by Community Leaders

Affected Populations:
- Minorities
- Low Income
- Foreign Born
- Limited English Proficiency
- Women

Background

Interstate 64 stretches from a St. Louis railroad suburb west of the Mississippi River to just short of the Atlantic Ocean in Virginia. In St. Louis, I-64 is one of the primary cross-town highways. A 10-mile-long stretch of I-64 within St. Louis was slated for massive reconstruction in 1999. Residents along this 10-mile-long section were diverse in terms of ethnicity, age, and income. They included Hispanic, White, Chinese, and Black communities, new immigrants and long-standing residents of 50 or more years, wealthy and middle-income neighborhoods, as well as lower-income communities and persons living in poverty.

In the 1950s and 1960s, construction of the St. Louis I-64 corridor was undertaken to complete connections between existing infrastructure, including bridges built as far back as the 1930s. By the mid-1990s, many of the 39 bridges in the project area had deteriorated so drastically that they were on the verge of being closed. Improvements and reconstruction were needed for many parts of the network that I-64 had helped to connect.

The I-64 reconstruction project was eventually designed with the objective of replacing 12 interchanges, repaving the entire 10-mile stretch of project area, widening shoulders, adding a new lane between I-170 and Spoede Road, and connecting I-64 with I-70 via a brand new interchange. The budget was slated at $535 million, making it the largest single project in the history of the Missouri Department of Transportation (MoDOT). The project's breadth would require full closure of the entire project area, implemented in two separate sections.

In the mid-1990s, MoDOT began to draft an environmental impact statement and preliminary engineering drawings in cooperation with Metro Subway and the East-West Gateway Council of Governments, the region's metropolitan planning organization (MPO). MoDOT also began a traditional public outreach campaign, which was heavily biased toward informing the public of MoDOT's intentions without offering opportunities for meaningful involvement in its planning or execution. This approach garnered significant public opposition. By 1998, MoDOT had little to show for its efforts except a deteriorated major roadway still in need of repair and no clear path forward.

Developing the Approach

In 1999, MoDOT decided to restructure its project team and to stage an aggressive public involvement campaign. The first step was outreach. The initial intelligence gathering consisted of driving and walking through neighborhoods, going into local businesses and churches, talking to local agencies, and examining the census data. From this process, the project team came to recognize that they needed to advertise in English, Spanish, and Chinese and to plan their meetings in a way that would accommodate people with limited English proficiency.

The MoDOT team organized multiple open-house-style public meetings that took place over several days throughout the project area. They were well-advertised and scheduled to accommodate different populations—elderly people who wanted to be home before dark, families that needed to be home for dinner, and commuters who really could not attend until the evenings after work. These meetings were extremely successful, some of them having between 1,000 and 1,500 attendees.

To address the challenges of conducting public involvement over a long corridor, MoDOT split the project area into three sub-corridors. Each sub-corridor served as a separate forum in which residents, businesses, major institutions, and elected officials—sitting on sub-corridor committees—could meet with project engineers to exchange information on the issues related to rebuilding the highway. Interested local parties could tell engineers what was important to them based upon familiarity with specific interchanges near their residences and workplaces. The format ensured that participants would be heard and not drowned out by a multitude of voices and interests along the entire corridor. The engineers used the forums as an opportunity to learn from the leaders of the different communities what they needed to do to make the highway safe and improve MoDOT's reputation. The engineers used were open to the communities' concerns and allowed them, when relevant, to guide the actual design of the project.

The public involvement process took place over 5 years while the environmental impact statement (EIS) was drafted. After completing the EIS in July 2005, MoDOT announced that it was entering a year-long design phase that would take place behind closed doors. Closing out community involvement for that year proved to be a serious strategic error.

> *"In that year, we undid a lot of the goodwill we had built up . . . when you're not talking with people, they make up their own minds about what's going on, and it's usually not good."*
>
> —Lesley Hoffarth, Project Manager

In January 2006, the Highway Commission, a nonpartisan governing board of MoDOT, convened a meeting in Missouri's capital, Jefferson City, about 100 miles from St. Louis. Through pressure from Metropolitan Congregations United (MCU), a faith-based coalition that is part of the Gamaliel network, the issue of local hiring was put on the agenda. More than 200 MCU activists from St. Louis thronged the normally staid meeting chamber demanding a commitment to minority hiring.

Recognizing the merits of MCU's objections, MoDOT averted a conflict that could have become a major impediment to implementing the project by inviting MCU into a longer conversation. MoDOT's project manager decided to hire a mediator to hold one-on-one meetings with stakeholders from community organizations, government, unions, and the construction industry. The mediator then brought all the stakeholders and MoDOT together in a series of roundtable meetings. The result of these meetings was the "New I-64 Work Force Utilization Plan Partnering Agreement," a nonbinding agreement between MoDOT and 30 organizations to set aside 0.5 percent of the project budget—$2.5 million—for training and hiring minority, low-income, and female workers. The roundtable also established a Workforce Advisory Committee made up of stakeholders and chaired by an MCU pastor to oversee the creation and operation of the apprenticeship program.

Both sides were inspired by another corridor project, the Alameda Corridor Agreements, a landmark workforce creation accord for a project that rebuilt much of the rail infrastructure that feeds the Ports of Los Angeles and Long Beach—through which one-third of all American waterborne trade feeds. The Alameda Corridor Agreements set new standards for mitigating community impacts and tackling construction workforce issues, and what follows documents the first large-scale application of the techniques pioneered in Alameda.

Implementing the Approach

The Federal Highway Administration (FHWA) allows for 0.5 percent of a project's construction budget to be used for training and the MoDOT Workforce Advisory Committee advocated for these funds—$2.5 million, in this case—to be split between a $1.25 million pre-apprenticeship program and $1.25 million in diversity programs for contractors. The advocacy was successful; MoDOT allocated the funds.

For the pre-apprenticeship training program, the Workforce Advisory Committee helped draft the requests for proposal (RFPs), and met bi-monthly throughout construction to oversee it. The 6- to 8-week training program taught basic jobs skills to individuals tapped by community organizations that enjoyed a "first-hire" status. These individuals were given basic instruction in several trades, then allowed to choose which one they wanted to pursue. The training program also funded counseling, day-care services, and subsidies for car insurance to support trainees in their transition from unemployment or underemployment to a steady job. As the construction industry began to slow with the downturn in the economy, MoDOT increasingly offered commercial drivers license training, so that graduates would also be qualified to drive heavy trucks in periods of slack demand for construction employees. Though the pre-apprenticeship program complied with federal guidelines for training, MoDOT decided that using funds from the state's portion of the funding would smooth the process and avoid federal budget strictures.

> *"A lot of times, back behind closed doors, we were wringing our hands going 'what are we gonna do next?' It's often scary and messy to go through an interactive involvement process, but it is so worth it. You are going to end up with a better product in the end—every time."*
>
> —Lesley Hoffarth, Project Manager

Incentives were established under the diversity programs for contractors to increase their hiring of minority, female, and low-income persons. The initial agreement stipulated that 20 percent of the pre-apprenticeship hours for journeyman and other professional services used on the project had to be done by minority, female, or low-income apprentices who were part of the on-the-job trainee program. Contractors were to receive $10 for every work hour completed by a minority, low-income, or female enrolled as an on-the-job trainee over this 20 percent threshold. The contractors, however, were unable to meet this goal, reaching an 11.5 percent rate for on-the-job trainee workers largely due to a glut of underutilized traditional workers during the economic downturn. As a result, the $1.25 million set aside for the contractor incentive program went untapped and was rolled over into diversity programs for future MoDOT projects.

By improving the linkages between communities, trainers, contractors, and unions, the pre-apprenticeship program was able to bring graduates into the ranks of the construction trades, providing concrete benefits to both the I-64 project and to the community (see Figure 4-42). As part of the model process, MoDOT staggered its reimbursements of the pre-apprentice trainers into three tiers to give the trainers incentives for producing jobs, not just graduates. The training agencies received $1,200 for each student enrolled, an additional $1,200 for each student who graduated, and a final $1,600 for each graduate hired as an on-the-job trainee for the I-64 project.

The training programs enrolled 753 students of whom 488 graduated and 111 were hired as on-the-job trainees, resulting in a cost of $1.6 million—exceeding the initial budget by $350,000. MoDOT came in $11 million under budget for the overall project and was able to reallocate its project budget to address this shortfall.

Figure 4-42.   Red hats were worn by new job trainees for safety reasons to help all workers recognize them.

Influence of the Approach on Decisionmaking

Existing pools of apprentices filled most of the positions on the I-64 project, but this model process helped feed 450 graduates into jobs on the I-64 project and on other projects both inside and outside the construction industry. Each of the pre-apprentices gained job skills and experience translatable into careers. The contractors, unions, and communities affected by the project certainly gained from it. But MoDOT may have been the biggest winner. For MoDOT, the I-64 project resulted in a streamlined process that saved money by avoiding costly delays, gave it access to a reliable workforce, and strengthened the agency's image within the community and in the media.

Not only did the training agreement reached through the roundtable meetings bring diversity into the project, it also helped heal MoDOT's damaged image among community groups. By 2009, the entire reconstruction of I-64 was completed—ahead of schedule and under budget. Its completion was celebrated in the press and by government agencies, community organizations, contractors, and unions. In a December 6th editorial, the *St. Louis Post Dispatch* wrote, "It would strain a metaphor to hope [that I-64] not only will provide a steel-and-concrete link between the city and the county, but also that it will bring them together in other ways. But this kind of collaborative model shows what can happen when regional governments work together with private citizens."

What happened between 1999 and 2009 was an experiment in public involvement that succeeded. The relationship that developed between community groups like MCU, contractors, and transportation practitioners reimagined the traditional, closed model of urban highway building and could prove to be the new mold from which future large-scale urban infrastructure projects will be cast.

Challenges

Applying this Missouri model to future products will require some modifications and flexibility. One challenge is to refine the contractor incentives for diversity hiring. The incentives implemented for the I-64 project fell well short of their target goals.

In 2010, MoDOT began construction on a $667 million project building the new Mississippi River Bridge and components of several Interstates feeding it to link central St. Louis and east

St. Louis, Illinois. For this project, MoDOT went through the same roundtable process as it did for the New I-64. The high unemployment rate that existed during the project led the stakeholders to focus less on new worker training than on employing existing journeymen. MoDOT also decided to focus on exceeding its federal minority workforce goal of 14.6%. Following the model it had used for I-64, the roundtable will feed into a workforce advisory committee that will oversee the program. As this is a joint project with the Illinois Department of Transportation, Illinois has followed suit and created its own advisory committee. Both agencies have come together in partnership to create the Community Information Group, which is composed of elected officials and community representatives who will meet quarterly to discuss the project and then disseminate information to their constituents and members of their communities.

> *"It has drastically changed how we handle things . . . we're not going to go back to the old business as usual."*
>
> —Linda Wilson, MoDOT Public Information Manager

More broadly, MoDOT's experience with I-64 reconstruction has enhanced its approach to public involvement. The Mississippi River Bridge project exemplifies MoDOT's burgeoning agency-wide focus on identifying and communicating with stakeholders. To help institutionalize these policies, MoDOT has used I-64 public information staff to conduct state-wide internal trainings, with the explicit goal of teaching the lessons of I-64 to community relations teams all over Missouri.

Benefits of the Approach

Despite closing vast stretches of a major urban highway for more than a year, and the purchase of all or part of 144 parcels of property, the biggest project in MoDOT history came in 3 weeks early, $11 million under budget, and was celebrated throughout the region for bringing communities together. It strengthened minority, low-income, and female hiring streams for contractors and unions. It made 488 workers from traditionally underserved communities stronger, more qualified candidates for future employment. And it healed the negative public perception of MoDOT, making it easier for the agency to efficiently complete projects in the future.

Costs of the Approach

FHWA allows for up to 0.5% of a project budget to be used for training and MoDOT decided to split it, sending half to a pre-apprenticeship program and the other half for contractors to go above and beyond on their projects for diversity. The costs of the approach included 0.5% of the total budget—$2.5 million—for local workforce training and hiring, as well as contractor incentives. One-half—$1.25 million—was directed toward outside training agencies to train and place new minority, women, or low-income workers. MoDOT allocated the other $1.25 million to contractors to subsidize the salaries of the training program graduates. As the contractors did not achieve their on-the-job training targets, the $1.25 million was left unexpended and is being held by MoDOT for future diversity programs.

Payments to the training programs were tiered in relationship to pre-apprentices' successful performance and placement. MoDOT set up a system wherein they paid $1,200 for each student enrolled, an additional $1,200 when a student graduated, and a bonus of $1,600 when a student was placed in a job. The total cost was $1.6 million.

Additional costs included salaries for the public involvement team. The two full-time staffers who monitored MoDOT's entire minority workforce regulatory program monitored the training as part of their overall responsibilities. There were also other, smaller costs including rent for

meeting space in the communities, publishing costs, and costs for hiring translators for select meetings and communications materials.

Contacts/Resources

Contacts

Lesley Hoffarth
President and Executive Director
Forest Park Forever
5595 Grand Drive in Forest Park
St. Louis, MO 63112
314-367-7275
lhoffarth@forestparkforever.org
http://www.forestparkforever.org/

Linda Wilson
Public Information Manager
Missouri Department of Transportation
1590 Woodlake Drive
Chesterfield, MO 63107
314-453-5063
Linda.Wilson@modot.mo.gov
http://www.modot.mo.gov/

Laura Barrett
Policy Director
Transportation Equity Network/Gamaliel
4501 Westminster Place, 3rd Floor
St. Louis, MO 63108
314-443-5915
laura@transportationequity.org
www.transportationequity.org/

Resources

Swanstrom, T., (2009). Going Regional: Community-Based Regionalism, Transportation, and Local Hiring Agreements. *Journal of Planning Education and Research.* Vol. 28, No. 3, 355–367. http://iurd.berkeley.edu/publications/wp/2007-17.pdf

The New I-64 Work Force Utilization Plan Partnering Agreement, May 12, 2006. http://www.thenewi64.org/download/2006-05-12%20Workforce%20Utilization%20Plan%20Partnering%20Agreement%20Signatures.pdf

Missouri Department of Transportation Website—*The New I-64,* 2000–2010. http://www.thenewi64.org/

Creating Workforce Diversity through Internship Programs: Baltimore, Maryland, Maryland DOT and Morgan State University

Stage of Decisionmaking:
- Policy/Research

Participants:
- Morgan State University
- Maryland Department of Transportation
- Maryland State Highway Administration

Tools and Techniques:
- Internships
- DOT–University Partnerships

Affected Populations:
- Minorities
- Women

Background

Morgan State University (Morgan) has been a Baltimore institution since 1867. Morgan boasts a variety of transportation-based bachelor's and master's programs. Its graduate program in city and regional planning was the first planning program to receive degree recognition at a Historically Black College or University (HBCU) in the 1970s. One of the first interdisciplinary transportation programs in the country at the master's degree level was established at Morgan in 1980, and is now located at Morgan's School of Engineering.

The Morgan campus is situated in Baltimore, a short commute from the central offices of the Maryland Department of Transportation. Despite graduating students in transportation and having proximity to the Maryland Department of Transportation, no pipeline had been established to feed Morgan's transportation students into transportation jobs at Maryland's state agencies.

Developing the Approach

In the early 1980s, Morgan approached the Maryland DOT with a proposal to establish an internship program, wherein Morgan graduate students in transportation would spend a year working at the department's modal agencies. After nearly 3 years of discussions and negotiations, Morgan and the Maryland DOT signed a memorandum of understanding establishing the graduate internship program. The program has flourished and the partnership between the Maryland DOT and Morgan is now over 24 years old.

In 2000, well into the internship program's second decade, a Morgan graduate-student intern was assigned to the Maryland State Highway Administration (MSHA). MSHA found this student to be outstanding, and, in 2001, the administration approached Morgan with the idea of a summer internship program for undergraduate students. The MSHA undergraduate internship program would focus mainly on civil engineering students, but also include students in finance, information technology, and communications, among other fields.

As a state university with students of diverse racial and ethnic backgrounds, neither of the internship programs was conceived as an opportunity for minority students exclusively. Combined with the executive order on HBCUs, which has been enforced since the early 1980s and stipulates that federal agencies should increase their partnerships with HBCUs, the internship programs enjoy a sound legal basis. However, the majority of the students who have become interns—though not all—have been Black.

Implementing the Approach

The reason the internship program was successfully implemented in the 1980s was that Morgan found a champion at the Maryland DOT who worked to see it come to fruition. The internship program has been buoyed over the years by staff-level supporters within the Maryland DOT and its secretary. When new secretaries came in, the staffers would educate them on the

importance of the program and seek to gain their buy-in. Strong leadership support helped to institutionalize the program and achieve backing from all departments.

Morgan is responsible for administrative duties, which include distributing announcements about the program, gathering applications, and sharing them with the Maryland DOT. The Maryland DOT is responsible for interviewing candidates and selecting the interns. Students are then assigned to one of several modal agencies and departments based upon their interests. Graduate students tend to work 20 hours a week during the academic year and full-time during the summer months; the graduate program typically runs the calendar year. Undergraduates work full-time during the summer and may stay on as part-time workers during the fall semester as budgets permit (see Figure 4-43).

Funding for the internship programs comes through the U.S. Department of Transportation's Research and Innovative Technology Administration and Morgan's National Transportation Center. At MSHA, the research division puts the cost for the undergraduate interns in its work program as technical assistance. The Maryland DOT graduate program pays the wages and the students are hired temporarily as interns through the agency's personnel system.

Morgan and MSHA have an umbrella contract for research partnerships and the MSHA undergraduate summer internship is set up on a cost-reimbursement basis. MSHA receives a certain amount for technical assistance. MSHA then gives the notice to proceed to Morgan, which hires the students as student workers. Morgan and MSHA each pay half of the interns' total wage cost, $14 an hour, for which MSHA reimburses Morgan throughout the year.

Influence of the Approach on Decisionmaking

In its 24th year, the graduate student internship program is still going strong. The undergraduate internship program has become a model for other state agencies to follow for establishing like programs. The programs are so well-established at this point that representatives at Morgan and at MSHA say that they practically run themselves. Both programs average about six students per year.

The internship program has also institutionalized the partnership between Morgan and the Maryland DOT through a consistent flow of people and dollars. This relationship has grown stronger over a quarter century, through Republican and Democratic administrations, and through strong and weak budget cycles.

Figure 4-43.   Morgan State students join other interns in the Maryland Department of Transportation Fellows Intern Program.

Challenges

During a hiring freeze or layoffs, it can be financially and politically difficult for agencies to bring on interns. Uncertainty in funding levels can be partially mitigated by employing the MSHA funding model; that is, the school pays the interns and is later reimbursed by the transportation agency. In the case of hiring freezes, it is important to understand that unlike titled positions, interns are temporary employees who are paid lower wages.

For some states, it will be difficult to directly translate this program because of location. There will not always be an HBCU, Hispanic Serving Institution, or Tribal College/University within a short commute of the offices of a participating transportation agency.

Benefits of the Approach

The agencies get a pipeline of smart, capable temporary employees who also bring the benefits of diversity into their workplace. The students do meaningful work and have a path into the industry. If the agency cannot retain them as an employee at the end of the internship, the student still leaves with real-world experience and an expanded network of contacts within the transportation sector with which to build a career and a strong résumé.

Costs of the Approach

Interns are typically paid a living wage of $14 an hour. Each of the graduate interns works about 20 hours a week during the school year (about 15 weeks), and 40 hours a week during the summer (about 10 weeks), with no opportunity for overtime. Undergraduate interns work up to 20 hours per week during the school year and can work up to 40 hours in the summer months, although it is not a requirement. Interns receive 9 percent of their salary for social security and workers compensation. There are also administrative costs incurred for the hiring and implementation of the program.

Contacts/Resources

Contacts

Andrew Farkas
Director of the National Transportation Center
Morgan State University
1700 East Cold Spring Lane
Baltimore, MD 21251
443-885-3761
andrew.farkas@morgan.edu
http://www.morgan.edu/soe/ntc

Dee Outlaw
Diversity, Wellness & Special Projects
    Coordinator
Office of Human Resources—Maryland DOT
7201 Corporate Center Drive P.O. 548
Hanover, MD 21076
410-865-1199
doutlaw@mdot.state.md.us
http://www.mdot.maryland.gov/

Allison Hardt
Chief of the Research Division
Maryland State Highway Administration
707 North Calvert Street
Baltimore, MD 21202
410-545-2916
ahardt@sha.state.md.us
http://www.marylandroads.com/

Resources

Maryland DOT - Morgan State University Graduate School Internships on Morgan State University website: http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/ Education_Initiatives/Internships/MDOT-Morgan_State_University_Graduate_School_Internship.html

Maryland State Highway Administration Summer Internship Information on Morgan State University website: http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/ Education_Initiatives/Internships/SHA_Summer_Internship.html

Training Project Managers and Engineers in Public Involvement Principles: Phoenix, AZ, Arizona DOT

Stage of Decisionmaking:
- Project Development

Participants:
- Arizona Department of Transportation
- International Association of Public Participation

Tools and Techniques:
- Training of Public Participation Principles and Practices

Affected Populations:
- Local Community
- Traveling Public
- Traditionally Underserved Populations

Background

The Arizona DOT (ADOT) spent many years attempting to widen Highway 179 into Sedona without success. The controversial project strained the agency's relationship with the community and led to a spate of bad press for the agency. New state leadership made it a priority to change things and get ADOT off the front pages of the newspapers. The Community Partnerships Program, instituted by the then-governor, provided training through the International Association of Public Participation (IAP2) to 12–15 people, including district engineers and public affairs personnel as well as consultants working on the Sedona project.

Developing the Approach

For 10 years, the highway department had attempted to widen Highway 179 in Sedona. However, faced with a well-organized community and strong opposition, the agency was unable to move the project forward. Over time, ADOT eventually realized that its process for working with the public was not getting the agency closer to implementation of the widening project. The agency realized that it needed to find a new approach for gaining approval of the project.

The instructor for the IAP2 training had been marketing it actively to ADOT. The director of the newly formed Community Partnerships Program liked the course's systematic approach to public involvement and was interested in the core principles at the heart of the IAP2 training. The director hoped that these principles might eventually be applied throughout ADOT so that the entire agency could adopt a standard approach to doing public participation and determining the appropriate level of impact the public might have on each project.

Implementing the Approach

The IAP2 training that ADOT staff and consultants working for the agency received through the Community Partnerships Program gave them insights into new and different ways of approaching the community and those who opposed the project. Twelve to 15 ADOT personnel, including the district and resident engineers from the Sedona area as well as public affairs personnel and others from the Community Partnerships Program attended the training, which consisted of three different modules over a 5-day period (see Figures 4-44 and 4-45).

- The first module, "Planning for Effective Public Participation," provides tools for building a strong foundation by defining when to use public participation, how to identify stakeholders, and how to involve them effectively. An IAP2 tool, the Spectrum of Public Participation, helps public involvement practitioners and project managers establish achievable objectives upfront in terms of the public's impact on the decision-making process. The Spectrum calls upon the public involvement practitioner and other decisionmakers to make and keep their promises to the public on how it will be engaged. The approach requires periodic assessment of the effectiveness of the involvement processes in meeting these promises to the public (see Table 4-5).
  In step two of the process, "Learning from the Public," participants spend time on how to identify groups or individuals who are especially hard to reach such as indigenous people and

***Figure 4-44 and Figure 4-45.   Training participants
present public participation plans developed during
the IAP2 Certificate course.***

low-income people, those who are specifically affected based on culture, ethnicity, or socio-economic class; any group with a potential equity concern; people with special needs, such as hearing, language, child care, long distances, and so forth. The course emphasizes striving for inclusion and suggests strategies for how to reach, inform, and build relationships with these harder to reach groups by going to where they are instead of the other way around. The class also includes a discussion of community, sponsor, and individual values and how they might affect participation.

- The second module, "Communications for Effective Public Participation," trains participants in basic communication tools to use for preparing communication plans and for listening to stakeholders. Included in this module are the essentials of risk communication and working with mass media. This module also incorporates a discussion of nonverbal communication and how this communication may vary from culture to culture as well as with different socio-economic groups.

- The third module, "Techniques for Effective Public Participation," includes techniques and tools that have proved effective in public participation efforts around the world. This module points out how certain techniques work better with populations that are hesitant to partici-pate, have no access to the Internet, and other special considerations.

- All three modules use an interactive approach that facilitates dialogue and exploration of techniques and tools and their application to specific settings introduced by the participants.

Table 4-5.   The spectrum of public participation.

Increasing Level of Public Impact → → → →				
	Inform	**Consult**	**Involve**	**Collaborate**	**Empower**
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities, and solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred alternative.	To place final decisionmaking in the hands of the public.
Promise to the Public	We will keep you informed.	We will keep you informed, listen to, and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decision to the maximum extent possible.	We will implement what you decide.
Example Techniques	• Fact sheets • Websites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberative polling	• Citizen advisory committees • Consensus building • Participatory decisionmaking	• Citizen juries • Ballots • Delegated decisions

Source: International Association of Public Participation, 2009.

The training was not designed specifically for ADOT personnel, but the interactive nature of the course and the tools used during the training provided essential information that fostered greater interest and willingness among participants to explore techniques to use for effective public participation in the design of Highway 179.

Things began to change at ADOT through the influence of the Community Partnerships Program. They divided the 3 million plus Phoenix metropolitan area into four quadrants and put out RFPs that combined government affairs, public relations, and public involvement. The RFPs reflected a newfound understanding of the difference between public involvement and public relations, which the agency had gained through the IAP2 training.

Before ADOT organized the Community Partnerships Department, the public involvement activities were in the Environmental Planning Division. After establishing the Community Partnerships Department, public involvement was moved into it to create a unified approach.

Influence of Approach on Decisionmaking

The Highway 179 project was directly affected by ADOT's openness to authentic public participation. Two of IAP2's core values played a particularly important role in shaping ADOT's public participation practices. These two principles state: 1) all that are affected by a decision have the right to participate in the decision-making process, and 2) public participation seeks out and facilitates the involvement of all of those who are potentially impacted by a decision. The Highway 179 project was refocused to meet the transportation needs of as many people as possible, which completely changed the dynamic of the planning process.

The systematic, step-wise approach recommended in the training and the involvement of internal stakeholders to get their commitment to the approach as part of the IAP2 planning process also impacted the way ADOT structured its activities.

After the training, ADOT developed a more collaborative outreach and participation plan and established a community field office. ADOT also brought in the National Charrette Institute to train the staff and consultants in running the charrettes. Fortified by these new techniques and outlook, ADOT was able to move the Highway 179 project forward.

> *"The completed roadway is phenomenal. This solution was achieved through a collaborative process that combined technical feasibility, economic viability, environmental compatibility and public acceptability."*
>
> —Martha A. Rozelle, Consultant and Former IAP2 President

The process they undertook helped the agency develop a design for the highway that reflected the community's desire for maintaining the natural scenic beauty of the area and their resistance to a four-lane highway, which ADOT initially insisted was necessary for safety reasons. The new approach also addressed the community complaint that ADOT was not acknowledging its concerns. They were able to keep the two-lane road and yet make it safer and more pleasant. Specific changes that resulted from the public participation process included designated pull-outs for cars wanting to take photos and enjoy the scenery; roundabouts instead of stop lights; and the keeping of the roadway a two-lane highway instead of a four-lane highway as initially proposed by ADOT.

The training has also had a tremendous impact on ADOT's public involvement practices in general. For the first few years that IAP2 training was conducted in Arizona, ADOT was used as an example by class participants of what not to do. Over the last several years, after principles from the IAP2 training had been formally instituted, ADOT has been used frequently as a best practice example.

> *"I've been doing these classes in Arizona since 2002. The first few years the ADOT projects were always brought up as bad examples. The last several years, it was amazing. They became the origin of positive stories."*
>
> —Martha A. Rozelle, Consultant and Former IAP2 President

Challenges

Public involvement training is limited in its ability to influence an agency by a number of constraining factors, including staff turnover, the need for sustained leadership support, and the continuing need for resources to disseminate and implement training principles.

The agencies in Arizona are going into their second year of furlough processes. This makes it extremely difficult to sustain training programs for agency personnel. With changing staff and scarce resources, the danger is that the next project will come along and the decision will be made that there is not enough time to do it in a collaborative manner, and people might revert to older and less demanding practices. However, several IAP2 trainers are continuing to work with the Department of the Interior, the Bureau of Land Management in Arizona, and the U.S. Forest Service doing what was done with ADOT.

The challenge is to continue to trust that if agencies spend the time upfront training staff to work with the community, they will have better results. A single training event is not enough—there has to be sustained commitment to convince people that they can get more done by engaging the public.

Benefits of the Approach

The benefits of public involvement training are that people are given a new framework to think about public involvement and the tools and techniques to engage the public. The IAP2 class, especially the planning class, provides a step-by-step process to follow so that practitioners have a systematic way to think about and design public involvement programs. The classes provide a common language for practitioners to use in public involvement planning.

The IAP2 Certificate Training course emphasizes the importance of evaluation. For example, one of the steps is to develop participation objectives that fit within the overall planning and decision process objectives. These are both "process" and "outcome" objectives. At specified points during the project, the team can evaluate the extent to which these objectives are being met and modify the public involvement program as appropriate.

The Spectrum of Public Participation is a useful tool in the alignment of expectations between the public and the decisionmaker. The goals for each level in the Spectrum describe the impact that the public can have on the decision or outcome. Likewise, a "promise" that must be kept by the decisionmaker is stated at each level. The decisionmaker's ability to keep the promise is another way to evaluate the success of the public involvement program. Through this evaluation process, agencies may discover that their activities are at the "inform level" instead of the "involve level." Once trainees learn to identify where on the spectrum the agency needs to be on a specific project, they can learn the planning and participatory techniques needed to get there.

Costs of the Approach

The primary cost for public involvement training is tuition for the training and staff time away from the office. The IAP2 training costs range from $1,200 to $1,750 per person for the 5 days. The cost of other training courses will vary. Training may also be conducted in-house by staff members who have been trained or certified in public involvement techniques.

Contacts/Resources

Contacts
Dr. Martha A. Rozelle
President
The Rozelle Group Ltd.
7000 N. 16th Street, Suite 120, #145
Phoenix, AZ 85020
(602) 224-0847
RGL97marty@rozellegroup.com

Resources
International Association of Public Participation (IAP2) website: www.iap2.org

Guaranteeing Mobilization Loans for Disadvantaged Business Enterprises: Wisconsin Department of Transportation

Background

In 1983, the Wisconsin Department of Transportation (Wis-DOT) was called in front of Congress to explain why it was not meeting its federally mandated minority participation goals.

As part of a larger program to address these federal concerns, WisDOT created a mobilization loan guarantee fund (MLGF) targeted at minority subcontractors to cover their project startup costs. The MLGF had the twin goals of improving access to capital for minority subcontractors, and of growing these subcontractors into prime contractors. The MLGF is ongoing and has received national recognition for its success. An initial investment of $300,000 in the revolving fund has grown to $376,000 through 26 years of interest without a single default.

Stage of Decisionmaking:
- Policy and Programs

Participants:
- Wisconsin DOT
- Minority-Owned Banks
- Minority Subcontractors
- Milwaukee Urban League

Tools and Techniques:
- DOT-Funded Mobilization Loan Guarantee Fund

Affected Populations:
- Minorities
- Women

Developing the Approach

In 1983, WisDOT was meeting only 1.6 percent of the federal Disadvantaged Business Enterprise (DBE) participation target of 10 percent established for federal-aid projects in the Surface Transportation Assistance Act of 1982. Seeing this, Congress called WisDOT to Washington to testify as to why it was not meeting its targets for DBEs, the federally established designation given to small businesses owned primarily by women or ethnic minorities. When the agency realized that Congress was serious about these goals, WisDOT officials decided that they needed to change their practices and start tapping the DBE contractor pools that they had been missing (see Figure 4-46).

When WisDOT's DBE performance gap began to garner attention, a Wisconsin state senator organized and led a successful effort to initiate a $4 million demonstration loan targeted to minority- or woman-owned businesses. Those involved with the program recognized, however, that many of the potentially eligible firms did not have sufficient working capital on-hand to effectively tap this newly available funding source. Transportation subcontractors often need tens of thousands of dollars up front to pay for things like equipment, material, and personnel before checks start coming in from the prime contractor. As small businesses, many of the minority- or woman-owned businesses potentially eligible for the loans were not able to cover project startup costs.

Getting funding has long been problematic for DBEs, particularly in the transportation industry, which lenders generally view as high-risk. The fear that small businesses will be unable to repay their loans is a legitimate issue for banks from bonding, lending, and insurance perspectives, as these loans are often for a relatively large amount of money over a short payback period.

After participating in stakeholder meetings organized by the state senator, WisDOT decided to set aside $300,000 in a minority-owned bank. This money would serve as a guarantee to banks if they made short-term mobilization loans to DBE subcontractors. If the subcontractor defaulted, the bank would be able to take up to 90 percent of the lost sum from this $300,000 fund.

Figure 4-46.   The WisDOT DBE Program provides information about how to gain DBE-certification, a necessary step in participating in the MLGF.

Implementing the Approach

WisDOT's goal was to ensure that if a DBE subcontractor had the ability to do the job, startup capital would not be a barrier. An important force in laying the groundwork to realize this goal was the state senator's ability to write mobilization funding into state statutes. The senator's work also created public support for the program among contractor and labor organizations, community-based organizations (CBOs), elected officials and their constituencies. DBE-firm staff was able to identify banks and CBOs that were interested in becoming partners of the MLGF.

Internally, it was vital to make sure that the DBE program was connected to other sections within WisDOT, such as the contracting section and the policy and practice section. The program would not have worked if the DBE section staff had not worked closely with other WisDOT offices to make sure the mobilization loan program would fit with the agency's overall needs and policies. Interagency partnerships worked in large part because the DBE program had support from the secretary's office. Support from the department's leadership helped staff at all levels understand the necessity of getting the DBE program up and operating.

WisDOT established a clear process for leveraging its MLGF. When a DBE firm wins a contract, it presents the contract to WisDOT and requests mobilization loans, which can be up to 50 percent of the contract's value. These loans are to be repaid over a term of up to 6 months, with the option available of one 6-month extension. While reviewing the contract, WisDOT connects the DBE to its certified public accounting consultant, which works with the DBE to complete the necessary paperwork and also develops projections to allow the bank to create a repayment timeline. This process can take as little as a week to complete.

There are several reasons why the loan that the bank issues will be secure:

1. The contract is presented as collateral. The DBE will be earning this amount of money over several months through a reliable, government-funded project, thus generating a highly stable cash flow.
2. If the DBE defaults, the bank will regain up to 90 percent of the amount they lent.
3. The agreement stipulates that each check the prime contractor cuts has both the DBE and the bank's name on it, and must go directly to the bank. This guarantees that the bank has quick, easy, and transparent access to its repayment funds.

Once the bank approves the loan and signs a letter of commitment, WisDOT brings the letter to the Milwaukee Urban League (MUL), which signs on as the guarantor. WisDOT made this agreement with MUL because WisDOT cannot guarantee its own loan program. Because WisDOT is using its own contract as collateral, serving as guarantor would present a conflict of interest. The partnership has proven very successful because MUL shares WisDOT's Civil Rights Section's goal of "securing economic self-reliance, parity and civil rights"; and because it is cost efficient, because MUL does not charge WisDOT for its services.

After the project is complete, the subcontractor can apply immediately for another mobilization loan. Individual DBEs have received up to four mobilization loans in a year. From 1995 to 2009, the average number of loans guaranteed in a year was eight ranging from a low of $259,300 to a high of $719,208, depending on the year. WisDOT is able to manage this volume of loans because as one loan is being processed, another is being paid. Moreover, as the reliability of the mobilization loan program was demonstrated and WisDOT and DBEs strengthened their relationships with banks, the volume that can be processed increased.

Certified public accountant (CPA) consulting services are also used to manage the program and include outreach and training for DBEs, which further broadens the pool of applicants and strengthens the DBEs as they grow. The CPA firm used by WisDOT has developed a presentation it gives at conferences explaining the MLGF to DBEs, prospective DBEs, and prime contractors. The CPA firm also offers loan recipients free training on accounting practices and accounting software. Because it is so closely involved in the process, the CPA firm is able to compile reports on the MLGF that guide WisDOT's loan strategies.

Influence of the Approach on Decisionmaking

The DBE program at WisDOT measures the MLGF's success, in part, by the number of DBE subcontractor grantees that are able to win contracts as primes. In addition to fostering a healthy pool of DBE subcontractors, WisDOT has enabled 10 of these DBE subcontractors to bid competitively as primes. For example, one full-service civil engineering firm formed in 2001 was able to rapidly grow its operations in part through its participation in the mobilization loan program; by 2010 it was employing more than 70 people. Because the firm is able to draw from pools of DBE subcontractors and primes, WisDOT has had DBE-participation levels achieving 40 percent on some projects.

> "Those loans were very helpful. It made our life a lot easier. Between U.S. Small Business Administration loans and these loans, I'd rather have these loans. It would be great if there were more available."
>
> —Abdulhamid Ali, DAAR Engineering President and CEO

The long-lasting success of the MLGF program has influenced the development of other programs and projects. For example, the department unbundled portions of the reconstruction contract for the Marquette Interchange in downtown Milwaukee on the basis of the agency's growing confidence in the capacity of its DBE-qualified pool to deliver quality projects. In addition to

breaking up the project by geographic area and ramps, WisDOT separated out individual land-scaping, sidewalk, and roundabout contracts giving DBEs further opportunities to compete for contracts. The $810 million project was completed in 2008 and 20.5 percent of the contracts were awarded to DBE firms—more than double the federal 8 percent participation target.

Challenges

During the recession of the late 2000s, many banks retreated from lending to small businesses and began turning down DBEs for mobilization loans. In response to this difficult challenge, WisDOT has followed a communications strategy that makes clear to its lenders how solid WisDOT-backed mobilization loans have been over their quarter century of use. The minority-owned bank with which WisDOT keeps its loan fund has been the most willing to continue lending, as have community banks in general.

Attracting additional capital funding into the program to match the rising costs of construction is a critical challenge for this element of the DBE program. Due to inflation, the fund's current $376,000 value is worth less than the $300,000 amount set aside in the mid-1980s. As the nominal value of contracts grow, the fund has less capacity to assist eligible DBEs in securing larger projects and harnessing the loan guarantee to grow subcontractors into primes.

There are also mundane challenges to the program's effective implementation. For example, the DBE program overseers have found that prime contractors tend to forget to make the check out to both the subcontractor and the bank. This is solved with increased communication.

Benefits of the Approach

In more than a quarter century of operation, the mobilization loan guarantee program has not suffered from a single default. It has facilitated an average of eight loans each year, has served multiple loans to more than 50 firms, and has contributed directly to growing 10 DBE subcontractors into primes. It has done all of this using a comparatively small amount of money.

Guaranteeing mobilization loans allows DBEs to get started quickly and get more work done as they gradually build capacity through experience and hiring. Over time the DBEs build credit and a relationship with the banks, which provides them with a basis for future loans. The bank gets a reliable customer that has the potential to grow and gain larger and larger contracts. The transportation agencies discover the capacity of DBEs to deliver successful results reliably.

Costs of the Approach

The DBE program staff treats its work on the loan guarantees as part of the everyday responsibilities and does not charge extra for performing the duties related to it. CPA consulting services cost WisDOT between $100,000 and $150,000 annually.

If a firm is working on a mega-project and needs a mobilization loan, federal project funds will pay for the CPA consulting services; otherwise, WisDOT includes the CPA costs when it submits its annual justification for state funds used to administer DBE Support Services

Contacts/Resources

Contacts

Suki Han
Contract Administrator
WisDOT—Civil Rights and Compliance
    Section
P.O. Box 7965
Madison, WI 53707
(608) 267-3849
Suki.Han@dot.wi.gov

Michele Carter
DBE Program Manager
WisDOT—Civil Rights and Compliance Section
P.O. Box 7965
Madison, WI 53707
(608) 264-6669
Michele.Carter@dot.wi.gov

Leni Siker
President
Siker Financial Services Group LTD
100 East Pleasant Street
Milwaukee, WI 53212
(414) 265-7388
http://sfsgroupltd.com/

Resources

Insight Center for Community Economic Development, (14 December 2007), "State Policies and Programs for Minority- and Women-Business Development," *Best Practices, Imperfections, and Challenges in State Inclusive Business Programs,* http://www.insightcced.org/uploads///publications/assets/50%20state%20 inclusive%20business%20policy%20scan.pdf

Tools and Techniques

This chapter describes various activities—tools and techniques—that transportation agencies and practitioners (as well as other community- or advocacy-based organizations and academic researchers) can take to identify and engage with traditionally underserved populations and communities. They have been categorized in accordance with various "task objectives" that may be advanced by undertaking the activity. Task objectives provide a general organizing framework for characterizing a large set of potential tools and techniques. Further definition of these task objectives was given in Chapter 3, **Practical Approaches**, but the general categories include:

- Identify Populations,
- Implement Public Involvement Plan,
- Provide Information,
- Gather Feedback,
- Build Relationships,
- Mitigate Impacts, Deliver Benefits, and
- Overcome Institutional Barriers.

The task objectives reflect varying levels of engagement, authentic commitment, and tangible expression of benefits to traditionally underserved populations that can be implemented by agencies and practitioners. They range from identifying the location or community characteristics of traditionally underserved populations—which, in itself, does not ensure even glancing contact with the affected public, to creating opportunities for meaningful interactions and participation, instituting training or other organizational reforms, or delivering specific programs, projects, and services to benefit disadvantaged populations.

As illustrated in Table 5-1, the task objectives and their constituent tools and techniques may be applicable to a specific stage of transportation decisionmaking (e.g., Policy Research, Statewide or Metropolitan Planning, Project Development/NEPA Compliance, Construction, etc.), but many others can be readily applied throughout all or several stages of transportation decisionmaking. Indeed, committed agencies and accomplished practitioners may creatively combine several tools and techniques for a single project or program to work toward the achievement of the standard of meaningful involvement.

Each showcased topic provides a brief definition of the general activity—a tool, a scope of work item, a strategy, and an action—and why it can be effective in involving the traditionally underserved. For each topic, attention is given to describing specific techniques that are associated with the activity and how they can be implemented. Potential limitations or criticisms of the activity or techniques are described. The types of resources that may need to be acquired and the costs that may need to be budgeted to implement the activity are also considered. Brief examples of how other agencies or organizations have successfully used the tool or technique are given. Each tool or technique includes references to resources (e.g., publications, links to reports,

or project websites) to which interested practitioners can turn to learn more about the topic or the successful case examples. Contact information is provided to assist readers in networking with project sponsors, practitioners, or others who are knowledgeable about the specific tool or technique and would be prepared to share additional insights based upon their experience.

Ideally, the examples and background information will inspire agencies and practitioners, including community- and advocacy-based organizations and researchers, to take a closer look at the data sources and tools, analytical methods, involvement processes, relationships and partnering arrangements, communications strategies, and types of programs, plans, and activities that others have initiated to begin to foster meaningful involvement with traditionally underserved populations. In most cases, the examples provided are not so costly or demanding that they cannot be replicated by others who are prepared to commit to the effort.

Table 5-1.   Summary of tools and techniques by task objective, stage of decisionmaking, and successful examples.

Tools and Techniques	Task Objective	Successful Examples	Stage of Decisionmaking
Develop a Social and Economic Profile	Identify Populations	• Missouri DOT • Puget Sound Regional Council • Delaware Valley Regional Planning Commission (DVRPC) • National Neighborhood Indicators Partnership • Community Indicators Consortium	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Define the Project and Study Area	Identify Populations	• FHWA Community Impact Assessment Primer • Community Impact Assessment (CIA) Website • Florida DOT Handbook • California DOT Handbook	• Project Development/NEPA Compliance
Utilize Geographic Information Systems (GIS) to Engage Communities	Identify Populations	• Kirk Avenue Case Study, Environmental Justice Toolkit • Complete Streets Assessment Tool • School Environmental Assessment Tool • Fix This Tool	• Policy/Research • Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Operations & Maintenance
Conduct a Community Characteristics Inventory	Identify Populations	• Miami Dade Metropolitan Planning Organization (MPO), Integrated Transportation Information System • Florida DOT, Environmental Screening Tool	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Right-of-Way
Identify "Affected Populations" Using Community Attribute Index (CAI)	Identify Populations	Atlanta Regional Commission, CAI Index	• Statewide/Metropolitan Planning
Upfront Site Visits to Establish Scope of Public Involvement Plan	Implement Public Involvement Plan	North Carolina DOT, Business 40 Project	All Stages
Develop and Maintain a Community Contacts Database	Implement Public Involvement Plan	Miami-Dade MPO, Public Involvement Database	All Stages
Prepare a Limited English Proficiency (LEP) Plan	Implement Public Involvement Plan	• California DOT • LEP.gov • New York City DOT	All Stages
Use "I Speak" Cards to Ensure Communications with LEP Populations	Implement Public Involvement Plan	• Pacific Asian League Services for Health • Merrimack Valley MPO • New Jersey DOT, Division of Statewide Traffic Operations • Idaho Transportation Department	All Stages

Table 5-1.   (Continued).

Tools and Techniques	Task Objective	Successful Examples	Stage of Decisionmaking
Offer Assistance for Hearing and Sight Impaired Persons	Implement Public Involvement Plan	• Mississippi DOT, Videos for Public Hearings • Center for Neighborhood Technology, Transopoly • Volusia County MPO, Strings and Ribbons Game • North Carolina DOT, Business 40 Project, Sign Language	All Stages
Offer Assistance for Low-Literate Persons	Implement Public Involvement Plan	• Center for Neighborhood Technology, Transopoly • Volusia County MPO, Drive Throughs • South Carolina DOT, SC 6, Morphs • Tennessee DOT, SR 73, Before After Photos • Mississippi DOT, Videos for Public Hearings	All Stages
Treat People Courteously and with Respect	Implement Public Involvement Plan	• FHWA, How to Engage Low-Literacy and LEP Populations in Transportation Decisionmaking • I-70 and Business 40, Training Residents for Field Visit Interviews	All Stages
Assess Public Involvement Plan Effectiveness	Implement Public Involvement Plan	• Ohio DOT, Opportunity Corridor, Environmental Justice Analysis • South Carolina DOT, SC 72, Meeting Locations • Hillsborough County (FL) MPO, Evaluation Measures	All Stages
Brand Project through Clothing and Other Paraphernalia	Implement Public Involvement Plan	• North Carolina DOT, Business 40 Project • Colorado DOT, I-70 Project	All Stages
Offer Refreshments	Implement Public Involvement Plan	• North Carolina DOT, Business 40 Project • Colorado DOT, I-70 Project	All Stages
Use Videos to Convey Information	Provide Information	• Atlanta Regional Commission, Demographics • Sound Transit, Student Safety Competition • California DOT, LEP Training • U.S. Department of Justice (DOJ), Title VI • Regional Transportation District, Denver, Long-Range Transportation Plan (LRTP) • Oregon DOT, Construction Trade • Miami-Dade MPO, Streaming Public Meetings	All Stages

Distribute Flyers	Provide Information	• Massachusetts DOT, South Coast Rail • North Carolina DOT, Business 40 Project • Georgia DOT, Buford Highway Pedestrian Safety • La Casa de Don Pedro, Caminos Seguros	All Stages
Advertise on Billboards, Marquees, and Variable Message Signs	Provide Information	• Ridewise, Variable Message Notice • Denver Regional Transit District, Billboard Advertising • Hoopa Valley Tribal Reservation, Draping Banners	All Stages
Publicize through Local and Ethnic Media Outlets	Provide Information	• Houston Metro • San Antonio-Bexar County MPO • Texas DOT	All Stages
Employ Visualization Techniques	Provide Information	• Mississippi DOT, Project Overview Videos • Atlanta Regional Commission, Photo Contest • Mecklenburg-Union MPO & Huntersville (NC), Simulations	All Stages
Recruit and Mobilize Community Ambassadors, Beacons, or Trusted Advocates	• Provide Information • Build Relationships	• Seattle (WA), Planning Outreach Liaison • San Antonio-Bexar County MPO, Beacons • Alexandria (VA), Local Motion Ambassadors	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Operations & Maintenance
Provide Technical Training to Citizen Groups	• Provide Information • Build Relationships	• American Cancer Society, Patient Navigators • Crime Prevention Through Environmental Design, Oakland Coliseum Bay Area Rapid Transit (BART) Station • Handicapped Adults of Volusia County (HAVOC), Community Advisory Committee Membership • National Consortium on the Coordination of Human Services	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Operations & Maintenance
Conduct Periodic Field Visits	• Provide Information • Gather Feedback	• North Carolina DOT, Business 40 Project • North Carolina DOT, U.S. Route 17 Project	All Stages
Conduct Outreach at Nontraditional Locations	• Provide Information • Gather Feedback	• California DOT, High School Football Games • Michigan DOT, Libraries • Navajo Nation, Annual Fair and Rodeo • Indiana DOT, Churches • Washington State DOT, Fairs and Festivals	All Stages

Table 5-1. (Continued).

Tools and Techniques	Task Objective	Successful Examples	Stage of Decisionmaking
Go to "Their" Meetings	• Provide Information • Gather Feedback	• Community Planning Association of Southwest Idaho (COMPASS) MPO Long Range Plan • Seattle Neighborhood Plan	All Stages
Go to the Schools	• Provide Information • Gather Feedback	• North Carolina DOT, Route 17 • Wisconsin DOT, Careers in Motion • Kentucky Transportation Cabinet, Take Home Questionnaire	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Construction
Go to Faith-Based Institutions	• Provide Information • Gather Feedback	• Washington State DOT, SR 28 Wenatchee Eastside Corridor • San Antonio-Bexar County MPO, East Corridor Alternatives	All Stages
Apply Social and New Media Appropriately	• Provide Information • Gather Feedback	• FHWA & Volpe Center • Georgia DOT, SW Georgia Interstate Study	All Stages
Conduct Market Research Interviews and Focus Groups	Gather Feedback	• Minnesota DOT and State and Local Policy Program (SLPP), Focus Groups • New Jersey DOT & New Jersey Institute of Technology (NJIT), LEP Focus Groups • New Jersey DOT & NJIT, Immigrant Travel Focus Groups • Mineta Institute, Low-Income Traveler Interviews	• Policy/Research • Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Undertake Surveys to Understand Needs, Preferences, and Impacts	Gather Feedback	• Georgia DOT, Local Mall Intercept Interviews • South Jersey TPO, Transportation Needs Survey • Washington State DOT, Alaskan Way Viaduct, Social Services Providers	All Stages
Try "Meeting-in-a-Box"	Gather Feedback	• COMPASS MPO, Long Range Plan • City of Austin, Imagine Austin, Comprehensive Plan • Rails-to-Trails Conservancy, Toolkit • City of Aspen (CO), Community Plan	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Use Computer-Assisted Technologies to Explore Preferences	Gather Feedback	• SANDAG, Otay Mesa - Mesa de Otay Binational Corridor Strategic Plan, Interactive Polling • California DOT, Interactive Polling • Sacramento Area Council of Governments (COG), Region Blueprint Project, Computers and Mapping Scenarios • Chicago Metropolitan Agency for Planning (CMAP), Long Range Plan, Future Workshops	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance

Use Games to Educate and Explore Priorities	• Provide Information • Gather Feedback	• Barren River and Bluegrass Area Development Districts (ADDs), Strings & Ribbons • FHWA & Lummi Nation, Reservation Road Planner • Seattle DOT, Land Use-Transportation Table Top Exercise • DVRPC, Dots and Dashes • Volusia County MPO, Strings and Ribbons	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Form Advisory Boards, Committees, Taskforces, and Working Groups	Build Relationships	• Minnesota DOT, Advocacy Council for Tribal Transportation • Tahoe MPO, Social Services Transportation Advisory Council • Alameda-Contra Costa Transit, Accessibility Advisory Committee • Maryland Bicycle and Pedestrian Advisory Committee • Washington State DOT, Alaskan Way Viaduct, Working Groups	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Foster Understanding of Communities Through Relationships with Community Organizations and Other Local Experts	Build Relationships	• California DOT, Third River Bridge Crossing Replacement Project • Florida DOT, Route 301, Urban Campers • California DOT, SR 68 Design Charette Project	All Stages
Develop Mitigation Strategies	• Mitigate Impacts • Deliver Benefits	• Illinois DOT, West State Street Corridor Study • Washington State DOT, Project Mitigation Cost Case Studies • FHWA Community Impact Mitigation Case Studies	• Project Development/NEPA Compliance • Right-of-Way • Construction • Operations & Maintenance
Provide a Citizen-Driven Community Enhancement Fund	• Mitigate Impacts • Deliver Benefits	• Oregon DOT, I-5 Delta Park Project	• Project Development/NEPA Compliance • Right-of-Way • Construction • Operations & Maintenance
Recognize Community Benefits Agreements	• Mitigate Impacts • Deliver Benefits	• Alameda Corridor Transportation Authority, Jobs Agreement	• Project Development/NEPA Compliance • Construction • Operations & Maintenance
Create Transportation Planning Grant Programs to Support Environmental Justice and Community-Based Planning	• Mitigate Impacts • Deliver Benefits	• California DOT, Hoopa Valley Indian Reservation, Traffic Calming and Safety • DVRPC, Transportation and Community Development Initiative Grants	• Project Development/NEPA Compliance

Table 5-1.   (Continued).

Tools and Techniques	Task Objective	Successful Examples	Stage of Decisionmaking
Implement Safe Routes to Schools Programs	• Mitigate Impacts • Deliver Benefits	• New Hampshire , Selection Criteria • New Mexico DOT, Selection Criteria and Support Services • Zavela Elementary School, Walking Buses and Corner-Captains • Coconino County Health Department, Crime Prevention Strategies • Chicago Alternative Policing Strategies, Safe Havens • Newark Safe Routes to Schools Task Force	All Stages
Develop Solutions for High-Risk Pedestrian Crossings	• Mitigate Impacts • Deliver Benefits	• La Casa de Don Pedro, Caminos de Seguros, Pedestrian Hot Spots • Rutgers Center for Technology and Advanced Infrastructure, Plan4Safety • Tri-State Transportation Campaign, Walking Tour for Safety • Greater Newark Conservancy's Youth Leadership, Visioning Exercise	• Statewide/Metropolitan Planning • Project Development/NEPA Compliance • Operations & Maintenance
Conduct Health Impact Assessments	• Mitigate Impacts • Deliver Benefits	• Atlanta Regional Commission, 2040 Plan • Center for Quality Growth & Regional Development, Atlanta Beltline • Public Health—Seattle & King County, Bridge Reconstruction	• Policy/Research • Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Monitor Health and Environmental Impacts	• Mitigate Impacts • Deliver Benefits	• San Francisco Public Health & People Organizing to Demand Environmental and Economic Rights (PODER), Freeway Exposure and Health • Tufts Univ. Public Health Dept., Freeway Exposure and Health • Ports of Los Angeles and Long Beach, Air Quality Monitoring	• Project Development/NEPA Compliance • Construction • Operations & Maintenance
Train Community Members to Be Transportation Leaders	Overcome Institutional Barriers	• Urban Habitat, Social Equity Caucus, Board and Leadership Training	• Policy/Research • Statewide/Metropolitan Planning • Project Development/NEPA Compliance
Establish Public Involvement Training Programs	Overcome Institutional Barriers	• Arizona DOT, Public Involvement Training Class • Alamo Regional Mobility Authority, Support Training • National Highway Institute and National Transit Institute, Adult Education Training Courses	All Stages
Establish Cultural Competency Training Programs	Overcome Institutional Barriers	• FHWA, Civil Rights Training Courses • National Highway Safety Administration, Walking and Bicycle Safety Curriculum for Adult English Language Learners • Leading Institute, Leading from the Middle	All Stages

Develop Community Hiring Program	• Overcome Institutional Barriers • Deliver Benefits	• Port of Oakland, Maritime & Aviation Labor Agreement • Missouri DOT, I-64, Apprenticeship Training • U.S. DOT, Transportation Equity Network (TEN) and Conference of Minority Transportation Officials (COMTO), Green Construction Careers Model	• Project Development/NEPA Compliance • Construction • Operations & Maintenance
Commit to On-the-Job Training and Workforce Development	• Overcome Institutional Barriers • Deliver Benefits	• FHWA, On-the Job Training Supportive Services • Oregon DOT, Office of Civil Rights, Apprenticeship Program • Mississippi DOT, Worker Training • Cypress Mandela Training Center, Construction Worker Training	• Project Development/NEPA Compliance • Construction • Operations & Maintenance
Institute an Internship Program	• Overcome Institutional Barriers • Deliver Benefits	• Morgan State University & Maryland DOT	All Stages
Serve as a Mentor	Overcome Institutional Barriers	• COMTO, Careers in Transportation • Oregon DOT, Office of Civil Rights, Mentoring Services • Lucy Moore Associates, Mentoring Clause	All Stages
Unbundle Project Contracts	• Overcome Institutional Barriers • Deliver Benefits	• Wisconsin DOT, Marquette Interchange	• Construction
Implement Disadvantaged Business Enterprise (DBE) Programs	• Overcome Institutional Barriers • Deliver Benefits	• Wisconsin DOT, Mobilization Guarantee Loan Program • Ohio DOT, DBE Mentor–Protégé Programs • Texas DOT, Learning Information Network Collaboration • Kansas DOT, Support Services • South Dakota DOT, Support Services	All Stages

Develop a Social and Economic Profile

Identifying Populations

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

A social and economic demographic profile is critical to understanding the needs of low-income and minority populations as well as other segments of the traditionally underserved populations. Social and economic demographic characteristics, such as income, race and ethnicity, disability, age, limited English proficiency, educational attainment, time leaving home for work, and "zero-car" households, provide an important building block for many types of studies and plans. Identifying the spatial locations of these affected populations is an invaluable element of this profile.

Why Is It Effective in Involving Traditionally Underserved Populations?

Identifying the location of the affected populations can better ensure that public participation plans are sufficiently inclusive and that the benefits and burdens of transportation investments can be comprehensively assessed. Sociodemographic information also provides the foundation for assessing compliance with Title VI and environmental justice criteria for agencies engaged in statewide and metropolitan planning. Properly prepared, it can offer insights into the demographic realities within a region/study area, describing the conditions or context (e.g., modal dependency, spatial patterns, transportation costs and affordability) in which various segments of the public use transportation to access jobs, education, and other opportunities.

Social and economic profiles serve as a foundation tool for the development and implementation of inclusive public involvement plans, environmental justice analysis, and limited English proficiency analysis by identifying the audience or audiences an agency is trying to engage and understanding their abilities and constraints to participation.

What Are Some Techniques for Implementing This Tool?

Agencies should link their analytical understanding of these populations to developing strategies for meaningful engagement and relationship building.

- Include summary tables and maps in planning products as a baseline description of the populations you are intending to serve.
- Map demographic characteristics in relation to project impacts (benefits and burdens) to see who is affected by the project.
- Identify commonly spoken languages in areas with a high concentration of limited English proficient persons and provide translation and interpretation services accordingly. Supplemental information on language spoken is available from the Modern Language Association. It extrapolates from the U.S. census on the top 30 languages spoken in every state, county, place, and zip code in the nation by age. Similarly, state departments of education, or their equivalents, along with the U.S. Department of Education's National Center for Education Statistics and GreatSchools, Inc., prepare annual "Report Cards" for

every public school and many of the nation's private schools that provide information on students by minority status, participation in free and reduced price meal programs, and use of English Language Learners curricula.

- Work with community leaders within communities with high concentrations of traditionally underserved populations to gather information. Build a contact database of key institutions, organizations, and gate keepers who work with or represent the traditionally underserved on a regular basis.
- Use the profile to inform the selection of convenient and accessible meeting locations and times. Hold meetings in areas with high concentrations of traditionally underserved populations to maximize their potential involvement.
- Identify individuals or organizations that could be recruited to join "Environmental Justice Advisory Committees" or partner with the metropolitan planning organization (MPO) for specific projects, activities, or events.
- Use administrative records data as it can be an invaluable supplemental source of data for preparing timely and informative community profiles. Through "neighborhood indicators" projects, some cities or organizations have built neighborhood-level information systems that compile vital health statistics, safety/crime statistics, social services statistics, and educational data sets—along with census data—to help build the capacities of distressed urban neighborhoods and inform local government and community leaders. The staff and the institutions that maintain or monitor these administrative records can be among the most knowledgeable about the social and health-related concerns expressed in their monitored indicators. Practitioners engaged in community impact assessment and public involvement may find valuable parties within these sponsoring organizations to scope issues of concern or to recruit as partners into public involvement processes.

What Are Its Limitations?

Oftentimes, the social and economic profile is not adequately connected to other transportation planning processes. Some of the common barriers and challenges to preparing a detailed socio-demographic profile include:

- Disagreement and/or uncertainty as to what criteria to apply for identifying affected populations as well as the best terms for comparing affected populations with the general population (e.g., population concentration, physical density, and/or absolute size).
- Uncertainty as to whether it is appropriate, for the purpose of compliance with Title VI, environmental justice, and limited English proficiency, to establish "degrees of disadvantage" (DOD) approaches or other indices for defining affected populations. The introduction of other indices may broaden or change the definition of what signifies "need" in a benefits and burdens assessment. Using these other indices, such as "elderly" or "transit-dependent," rather than strictly "low income" or "minority" strays from the definitions of affected populations under the Executive Order 12898 on Environmental Justice and the subsequent DOT and FHWA Orders.
- In metropolitan regions that are becoming "minority" majorities, or where select minorities exhibit higher incomes and levels of educational attainment, there is debate and uncertainty as to whether other indicators or metrics should be added or substituted to better address "need" or target specific dimensions of need (e.g., income, poverty, joblessness, low educational attainment, linguistic isolation, transit dependency) that help decisionmakers better understand indicators of social "exclusion."
- Preparation of a social or economic profile may be conducted with insufficient consideration of how it will be used to inform the development of the public participation plan or the benefits and burdens assessment of a Transportation Improvement Program (TIP) or the Long-Range Transportation Plan (LRTP).

- Despite the requirement to prepare benefits and burdens assessments in the planning stage, many MPOs give insufficient attention to compiling detailed socioeconomic data to support a distributional assessment of the key question: does the existing (or planned) transportation system improve or exclude "access to opportunities"? Does access vary by different population segments each of which rightfully seek to secure their basic needs (i.e., work, education, health care, shopping, etc.) to maintain themselves and their households?
- Some transportation agencies responsible for NEPA compliance have failed to establish a culture that provides equal weight to human environment–related considerations in the project development processes. Staff may have been encouraged to focus on compliance or permit-related issues to satisfy resource agencies responsible for protecting the natural environment or cultural resources and may have insufficient staffing or inadequately trained staff to consider socioeconomic-related topics.

What Types of Resources and Costs Are Required?

There are many public sources of social and economic demographic data (see Chapter 6, Data Sources and Tools). Most costs incurred in using this data are for staff time.

Who Has Used It Successfully?

- The *Missouri Department of Transportation (MoDOT)* partnered with the Office of Social and Economic Data Analysis to provide authoritative data and information for use in transportation planning and project development. They have created a Socioeconomic Indicator Resource web page where they've created maps, tables, charts, and graphics at different geographic levels meaningful to MoDOT personnel.
- The *Puget Sound Regional Council* created an Environmental Justice Demographic Profile as a baseline of demographic data describing the central Puget Sound region and identifying population groups to be considered for subsequent environmental justice analyses and activities. The groups highlighted in their profile are grouped by race, poverty status, income, age, disability, vehicle ownership, English proficiency, and languages spoken other than English.
- The *Delaware Valley Regional Planning Commission (DVRPC)* has created a methodology to identify disadvantaged populations within their region. Their guidance document, *Planner's Methodology,* offers background on Title VI and environmental justice and instructs staff on the protocols to follow at the planning and project levels as part of their efforts to mitigate adverse project or program consequences, or to direct public outreach efforts. DVRPC currently analyzes eight DOD indicators for the census tracts in the nine-county area, including Poverty, Non-Hispanic Minority, Hispanic, Elderly, Carless Households, Physically Disabled, Limited English Proficiency, and Female Head of Household with Child. The DOD method assists in identifying disadvantaged populations as part of DVRPC's public participation plan. The DVRPC environmental justice and outreach staff assist project planners in making contacts with representatives of population groups (such as nonprofits or county agencies) and bringing environmental justice–related representatives onto project-level study advisory committees. The DOD findings also offer the planner useful information to guide project context and subsequent recommendations.
- The *National Neighborhood Indicators Partnership (NNIP)* is a collaborative effort by the Urban Institute and more than 30 local partners nationally to further the development and use of neighborhood-level information systems in local policy making and community building.
- The *Community Indicators Consortium (CIC)* is a network of persons and organizations interested in the field of community indicators and their application. They maintain a database of community indicator projects in the U.S. and around the world. Each entry

includes a detailed description of each project's scope and focus, the types of indicators used, contact information, and links to the project website and the website of the project's lead organization.

Contacts/Resources

Community Indicators Consortium: http://www.communityindicators.net/projects

How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking: http://www.fhwa.dot.gov/hep/lowlim/

Federal Highway Administration. 1996. *Community Impact Assessment, A Quick Reference for Transportation:* http://www.fhwa.dot.gov/environment/cia.htm

Delaware Valley Regional Planning Commission, Planners' Methodology: http://www.dvrpc.org/GetInvolved/TitleVI/pdf/Planners_Methodology.pdf

Missouri State Department of Transportation, Socioeconomic Indicator Resource Page: http://oseda.missouri.edu/modot/

National Neighborhood Indicators Partnership: http://www2.urban.org/nnip/

Puget Sound Regional Council, Environmental Justice Demographic Profile: http://psrc.org/assets/1680/ejdem1.pdf

U.S. Census Bureau: http://www.census.gov

Define the Project and Study Area

Identifying Populations

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

The study area is the area expected to be affected by the proposed project. As noted in *Community Impact Analysis: A Quick Reference for Transportation* (FHWA, 1996), each technical analysis (e.g., air quality, noise and vibration, traffic, wetlands, etc.) may have its own individual study area based upon the geographic area of probable project consequences to the subject resource. Community impact analysts must also identify a geographic region—drawing upon early scoping, public involvement, and interagency coordination—that includes the communities expected to be affected by the project.

Those involved in community impact analysis and responsible for leading the public involvement plan process have often taken a back seat to transportation engineers and transportation planners in defining projects at the earliest stages of the project delivery process. However, practitioners who conduct early screening of a community's social and economic characteristics and notable community features have an important perspective to bring to a multidisciplinary project team about the key issues of concern articulated by those living in the affected communities, including the traditionally underserved. Drawing upon the community perspective, the project team can gain critical input for defining the project study areas, formulating a purpose and need, and developing project alternatives that can be locally accepted.

Why Is It Effective in Involving Traditionally Underserved Populations?

Early screening of the social and economic profile and field visits to the community to talk to locals during the preliminary stages of project development can help identify affected populations, including traditionally underserved populations that may have been previously overlooked. Their unique social and transportation needs and perspectives can be considered by practitioners who are empowered and prepared to conduct early and continuing outreach. This approach can help identify the prevalence of traditionally underserved populations in the affected community as well as community resources and notable features that are of particular importance to these populations and other populations within the study area.

What Are Some Techniques for Implementing This Tool?

While the project study area typically includes communities located within or immediately surrounding the subject project, impacts can be borne by communities well beyond this immediate area. For example, bridge or street closures can cause changes in traffic patterns because of detours, causing local businesses to lose passerby traffic or neighborhoods to become more burdened by traffic on local roads. As new information is uncovered or new alternatives are examined, the practitioner should be flexible to the need for changes in the definition of the study area.

Agency staff should recognize that several factors may influence how study area boundaries are to be drawn. At the initial stages, the project team may be quick to apply "rule-of-thumb"

criteria for the primary study area—for example, a quarter or half-mile radius around highway interchanges and 250 to 500 feet on either side of a proposed corridor. However, additional research such as a field visit to the area and talking to knowledgeable local parties may reveal that different study area boundaries are warranted to address actual social patterns and real community concerns. Written guidance materials and staff training can better sensitize community impact and public involvement practitioners, among other professionals, to considerations relevant to defining the study area.

What Are Its Limitations?

Rule-of-thumb or agency-wide rules for defining study areas may assist practitioners in getting started, but they may prove inadequate for capturing the local context or addressing the issues raised by each of the project alternatives. Practitioners should be equipped with an understanding of the full range of socioeconomic considerations relevant to the conduct of required community impact and environmental justice assessments, but they should respond flexibly to the concerns expressed by the public during initial project scoping and preliminary screening field visits. Practitioners should use their best judgment, generally in consultation with those living in the affected community, regarding the size and exact boundaries of the study area.

Moreover, the transportation agency and residents in the affected community, including traditionally underserved populations, may disagree about the extent of potential impacts and therefore where study area boundaries should be drawn.

What Types of Resources and Costs Are Required?

The definition of the project and the study area for further investigations does not, in itself, generally require significant resources or costs beyond the levels expected for the problem screening and concept development stages of project delivery processes. These stages require close attention to scoping of project issues, information gathering, and initial public involvement processes to formulate a defensible purpose and need, among other issues. Early public involvement helps to identify "fatal flaws" and to garner community acceptance for the project. Coordination with stakeholders, including those in the affected community who may be among the traditionally underserved, is undertaken to discover opportunities for community input into the purpose and need and to explore and refine locally preferred alternatives.

Who Has Used It Successfully?

- The *Community Impact Assessment: A Quick Reference for Transportation* (FHWA, 1996), a primer prepared by the FHWA, succinctly communicates the importance of making a commitment to early and continuing public involvement to support defining the project study area and discovering project alternatives that may enjoy widespread community support.
- The *Community Impact Assessment (CIA) website* serves as an information clearinghouse for transportation officials, regional development professionals, and the general public interested in evaluating the effects of transportation planning and project implementation on a community and its quality of life. It serves as a repository for research on the subject, including transcripts and presentations from several regional CIA workshops that have been held. The site offers excellent examples of CIA methods and processes. It contains several valuable links to training resources and best practice examples.
- The *California Department of Transportation* and the *Florida Department of Transportation,* along with other states, have prepared handbooks on community impact assessment to help

practitioners evaluate the effects of a transportation project on a community and its quality of life. These handbooks include guidance on how to define the project, study, and planning area and how to develop a community profile, among other steps, in the CIA process.

Resources/Contacts

Community Impact Assessment (CIA) Website: http://www.ciatrans.net/CIA_Quick_Reference/Purpose.html

California Department of Transportation, Community Impact Assessment, Caltrans Environmental Handbook Volume 4: http://www.dot.ca.gov/ser/vol4/envhb4.pdf

Federal Highway Administration. 1996. *Community Impact Assessment: A Quick Reference for Transportation:* Washington, D.C.: Federal Highway Administration, Office of Environment and Planning.

Florida Department of Transportation, Sociocultural Effects Handbook: http://www.dot.state.fl.us/emo/pubs/sce/sce1.shtm

Utilize GIS to Engage Communities

Identifying Populations			
Policy/Research	☒	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Geographic information systems (GIS) are excellent tools for identifying the locations of traditionally underserved populations, including low-income and minority populations, linguistically-isolated populations, transit dependent–populations, and "zero-car households," among others. Figure 5-1 illustrates the capacity of GIS for communicating various types of data or conditions spatially and linking that information electronically through different "layers." It is of great value when examining the incidence of benefits or impacts across population segments and the graphical elements can often better draw the attention and interest of communities.

Why Is It Effective in Involving Traditionally Underserved Populations?

GIS is a dominant information transfer mechanism for social and economic data. As such, GIS is the principal means of access to census and related data. GIS tools can be used to better understand the locations of affected populations such as the traditionally underserved and, as shown in Figure 5-2, inventory notable features in a community that are valued by communities (e.g., hospitals, schools, churches, child care facilities, community centers, senior centers, historic districts, etc.) or particularly accessible community facilities for public involvement events. GIS are important tools for assessing how programs, policies, plans, and existing activities could affect various populations, including low-income and minority populations. GIS can improve the transparency and accountability of planning and programming priorities. Public involvement practitioners can map locations of public outreach events or public comments received in relationship to affected populations. Participatory GIS processes are also growing as a means
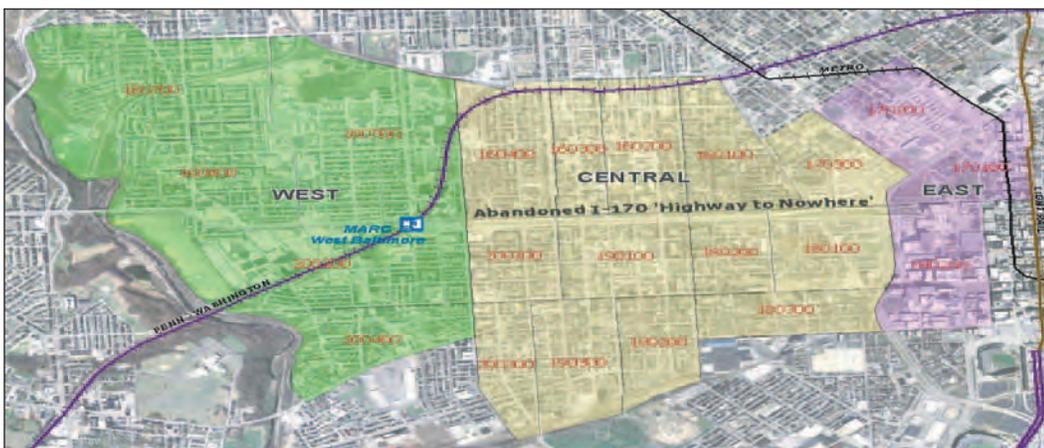
Figure 5-1.   Census tracts over aerial map, West Baltimore and the Highway to Nowhere.

Figure 5-2. Example of asset map, East Baltimore Midway.

for encouraging citizen engagement, inviting local stakeholders to inventory features of the built environment along with subjective perceptions of the physical environment, sometimes with the aid of mobile GIS data collection tools, to advocate and design for safer routes and conditions for pedestrians, bicyclists, and transit users.

What Are Some Techniques for Implementing This Tool?

GIS provides a platform for assessing the spatial patterns of human health, environmental, and socioeconomic conditions as well as the distribution of historic or current investment priorities and patterns. For example, how traffic volumes and their various impacts benefit or burden at-risk communities is of particular interest to planners. This information can be viewed in several ways. One way is through a line-density map, such as is pictured in Figure 5-3, which reflects through "bandwidth" plots the total volume of traffic in each direction along each roadway link segment. By looking at the thickness of the line density at any point it is possible to gauge not only the locations of the greatest flow, but also those segments that are contributing most to flow at the given reference point. This makes it possible to visually trace where the predominant flows are coming from and going to.

States, metropolitan planning organizations (MPOs), county and local governments, and other agencies can become better informed about the current allocation of benefits and burdens and consider whether particular communities are burdened with a cumulatively disproportionate share of facilities detrimental to livability. Investment and resource allocation decisions can be improved when information is compiled about such factors as:

Figure 5-3. Select link traffic flow map, U.S. 40 at Edmonson Village, AM peak.

- *Minority and Low-Income Populations*—percentage of minority populations, persons living below the poverty line, schools with children receiving free and reduced price lunches.
- *Capital Facilities*—sewage treatment plants, power plants, jails, solid waste facilities, bus depots, etc.
- *Community*—crime incidence, property values, building code violations, etc.
- *Health*—reported cases of asthma and other health-related concerns.
- *Environment*—air quality "hot-spots," toxic release facilities inventory.
- *Streets, Traffic, and Public Works*—major accident locations, major congestion locations, maintenance yards, and maintenance investments for pavement, signalization improvements, sidewalk conditions, lighting, etc.
- *Transportation Capital Priorities*—Transportation Improvement Program (TIP) and Long-Range Transportation Plan (LRTP) investments for program funds such as system preservation, Congestion Mitigation and Air Quality Program (CMAQ), transportation enhancements, Safe Routes to Schools projects, among other categories.

The Federal Transit Administration (FTA) *Circular C 4702.1A, Title VI and Title VI-Dependent Guidelines for FTA Recipients* (FTA, 2007) provides excellent guidance on collecting demographic data, developing base maps, and creating charts of population groups. While directed toward analysis of transit service areas, the guidance can be very useful in identifying concentrations of traditionally underserved populations in study areas and potential impacts at any stage of decisionmaking (e.g., Planning, Policy, Research, Statewide Metropolitan Planning, Project Development/NEPA Compliance, Right-of-Way, Construction, or Operations & Maintenance). The maps and/or charts of census tract or traffic analysis zones (TAZs) provide geographic references of concentrations of traditionally underserved populations. Once these populations are located, agencies then have the opportunity to use other techniques to engage them in the process.

Its effectiveness lies, in part, in helping agencies to identify traditionally underserved populations that may not be otherwise "visible." Visuals such as charts and maps may be used in meetings to aid participants in identifying potential adverse impacts and mitigation solutions. The "picture that paints a thousand words" may be developed from aerial or satellite overlays of the study area, the proposed project or plan, and input from the population on how the study area currently is used, and from gathering information on desired potential improvements or enhancements.

What Are Its Limitations?

The technique is limited by the age and accuracy of the data. Census data may need to be updated by other resources (e.g., state and local resource agencies, human service organizations that work with specific underserved populations, transit providers, etc). While the technique can provide a "rapid assessment" of the traditionally underserved populations that live in a study area and inventory other key community facilities and attributes, it does not ensure engagement with the population in the process.

What Types of Resources and Costs Are Required?

GIS is an important tool for conducting asset and thematic mapping, which allows the user to provide a graphic way to visually associate benefits and burdens with concentrations of traditionally underserved population groups. Thematic mapping requires basic GIS software, which can be purchased for around $700 to $1,500 for a desktop computer, and census data. There are also web-based GIS applications available online that can simplify the process. The greatest costs are the labor time for data collection and analysis. Basic proficiency in the use of spreadsheets and databases is needed to maximize the utility of GIS tools.

Who Has Used It Successfully?

In the 1980s, GIS technologies were primarily used by environmental agencies for mapping wetlands, land use development patterns, and socioeconomic patterns. In the early 1990s, the use of GIS was adapted to the field of transportation with a focus on mapping travel behavior and traffic distribution. Today, GIS is routinely adapted to public policy and planning studies on housing, transportation, economic and community development, public health, and social services and has been applied with vigor by government, academia, business, and the nonprofit sectors. In transportation, GIS tools are being widely used by state DOTs, MPOs, county and local planning agencies, transit, and nonprofit agencies, to identify and engage traditionally underserved populations, along with the general public, in public participation processes. GIS can be used to spur the process of engagement by charting and displaying key features of the local environment.

Public health researchers continue to explore the limits and capabilities of GIS to support research on environmental health hazards and environmental justice such as those reported in the "Socioeconomic and Racial Disparities in Cancer Risk from Air Toxics in Maryland" (Apelberg et al., 2005) and "Proximity to Environmental Hazards" (Maantay et al., 2010). The former study does not graphically portray information using GIS, but rather relies on charts to display statistical analyses. In contrast, the latter presentation describes the use of GIS mapping, along with charts and statistical analysis utilities, to map instances of disproportionate exposure to environmental hazards. Such studies can be quite technically rigorous, endeavoring to determine health risks from proximity to environmental hazards, including transportation facilities, but must be careful to acknowledge data limitations and uncertainty about sources and levels of exposure as well as health outcomes for various populations. Through GIS, research studies

can increase transparency in a process that seeks to engage and empower locally affected communities in order to better understand environmental health risks. Conveying complex findings and communicating public health risk issues in ways that can prove informative and accessible to laypersons is a continuing challenge to ensure meaningful involvement of traditionally underserved populations.

- The *Kirk Avenue Bus Yard Case Study,* described in the *Baltimore Region Environmental Justice in Transportation Project* (Robinson et al., 2009), illustrates how GIS can reveal the impact of large-scale bus maintenance operations on a hidden or "at-risk" concentration of traditionally underserved populations. The Kirk Avenue bus yard had been a point of contention between the surrounding East Baltimore Midway community and the Maryland Transit Administration (MTA) for many years. Community complaints have been often registered about noise and emissions from bus operations. Sociodemographic conditions of the community were compiled, utilizing the GIS distance–related buffers, to support geographic comparisons (i.e., ¼ mile, ½ mile, 1 mile) of the local community vis-à-vis the surrounding region. Bus routes were also mapped to illustrate the regional function of the facility—its benefits are dispersed regionally while few of these routes can be availed by local residents. Other air quality, noise, and health-related research was conducted on behalf of the community. For example, records and mapping were prepared of the number of residents reporting problems with noise or fumes, and, particularly, incidences of illnesses or conditions severe enough to require a hospital visit or trip to the doctor. Faculty, staff, and students from the *Johns Hopkins Center for Urban Environmental Health, Bloomberg School of Public Health* led local environmental public health investigations. Their research served as key points of reference to advocate for environmental justice, smart growth, and sustainability remedies to mitigate the cumulative effects borne by local residents.

- The *Complete Streets Assessment Tool (CSAT)* and the *School Environment Assessment Tool (SEAT)* are examples of mobile GIS data collection tools whose purpose is to engage and empower community residents to inventory and prepare an audit of the built environment. Armed with a personal digital assistant (PDA) and an ArcPad GIS software application, the tools seamlessly integrate with the ArcGIS software often used by state and local governments, which contains maps of streets, intersections, and landmarks such as parks or other community facilities. The user taps on the appropriate street segment or intersection and fills in the associated data entry form. Both objective physical condition information and subjective assessment questions are asked of the users to elicit their views about whether the area is safe or accessible for various persons (e.g., those in wheelchairs or reliant upon walkers). The approach invites collection of very localized, spatially-oriented data—particularly important for pedestrian, biking, or public transit modes—and can be used to engage interested members of the community such as youth in schools and others in a public dialogue about unmet needs, unsafe conditions, and infrastructure that must be fixed to ensure a livable community and safe environment for multi-modal transportation options. Holding all-day workshops—for example, overview discussions about the purpose of Safe Routes to Schools programs, PDA training, walking tours, box lunches, mapping and synthesis of field work observations, and a plenary wrap-up of the day's proceedings—can be instrumental in building local community capacity.

- The *Fix This Tool* is an example of a "smartphone" application to audit physical conditions and perceptions of the safety of bicycle and pedestrian environments and can be readily integrated into a citizen-led collaborative process. With the proliferation of smartphones, the mobile GIS approach to collecting spatial information and engaging community participation is likely to grow. It will present new opportunities for transportation- and community-based organizations—specifically, those with individuals who are technically savvy or who can partner with individuals and organizations so inclined—to compile microenvironment information to promote active transportation, safety, and livability.

Resources/Contacts

Federal Transit Administration, *FTA Circular, C 4702.1A, 05-13-07, Title VI and Title VI-Dependent Guidelines for FTA Recipients,* http://www.fta.dot.gov/laws/circulars/leg_reg_5956.html

Federal Highway Administration and Federal Transit Administration, 2002. *Transportation and Environmental Justice: Effective Practices.* Washington, D.C.: Federal Highway Administration & Federal Transit Administration.

Ward, B. G., K., Kramer, J., Smith, C., Gabourel, K., Baptiste, P. 2005. *Measuring the Effectiveness of Community Impact Assessment: Recommended Core Measures.* Tampa, FL: University of South Florida and the Florida Department of Transportation.

Robinson, G., et al. (2008), *Baltimore Region Environmental Justice in Transportation Project,* "Kirk Avenue Bus Depot Case Study," Baltimore, MD: Morgan State University, School of Engineering and Institute for Urban Research. http://www.ejkit.com/the-toolkit/ej-toolkit/ej-toolkit-volume-1/#doc

Apelberg, B. J., Buckley, T. J., and White, R (2005). *Socioeconomic and Racial Disparities in Cancer Risk from Air Toxics in Maryland.* Baltimore, MD: Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology, Department of Environmental Health Sciences, and Risk Sciences and Public Policy Institute, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257593/pdf/ehp0113-000693.pdf

Maantay, J., Chakraborty, J., Brender, J. (2010). *Proximity to Environmental Hazards: Environmental Justice and Adverse Health Outcomes.* Paper presented at EPA Symposium. http://www.epa.gov/ncer/events/calendar/2010/mar17/presentations/maantay.pdf

Shlossberg, M., and Larco, N. (2008). *Active Transportation, Neighborhood Planning and Participatory GIS.* OTREC-TT-08-02. www.otrec.us/project/18/

Shlossberg, M., Evers, C., Kato, K., Maher, D. and Brehm, C. (2010). *Active Transportation, Citizen Engagement, and Livability: Coupling Citizens and Smart Phones to Make the Change,* Paper presented at TRB 2011 Meeting. http://pressamp.trb.org/conferenceinteractiveprogram/PresentationDetails.aspx?ID=42317&Email=

Conduct a Community Characteristics Inventory

Identifying Populations			
Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Community characteristics inventories can be interactive, web-based geographic information systems (GIS) designed for use in generating customized demographic reports for a specific community(s). The tool enables information retrieval on a project-specific basis. It is a tool for planners, transportation project managers, and the general public. Such systems help users determine appropriate public involvement strategies for identified affected populations. The community characteristics inventory may have several components, including:

- Interactive mapping and reporting of census-based data for the different demographic groups in the community under investigation;
- A community background report with information about the community's development history and geographic boundaries; transportation and non-transportation projects that have been implemented within the community; community attitudes towards transportation and/or specific projects; and whether attitudes towards those projects were favorable or unfavorable; and
- Suggestions for public involvement strategies targeted to different groups within the community. Appropriate or recommended public involvement strategies have been identified for different age groups, disabled populations, varying levels of educational attainment, income levels and vehicle ownership, race, and language spoken.

Why Is It Effective in Involving Traditionally Underserved Populations?

The tool can help identify the presence of traditionally underserved populations within a relatively small geographic area. In addition to identifying low-income and minority populations, the tool is equipped to retrieve information regarding language spoken, disabled populations, educational attainment, income, and housing. The variety of indicators paints a more complete picture of the affected community and should be a reference for those responsible for preparing public involvement plans. The community history component can provide valuable context (e.g., key factors and past public- and private-sector decisions) that have shaped existing community conditions.

What Are Some Techniques for Implementing This Tool?

To successfully implement this tool, the sponsor agency must allot sufficient time to ensure the adequate preparation of the various components. Staff (or outside consulting personnel) must fully understand the objectives of the undertaking and make a commitment to ensure its successful implementation. Staff should include subject matter experts in community impact assessment or public involvement and be sensitive to the various cultures, customary practices, and/or linguistic differences that may be encountered in the field.

What Are Its Limitations?

The creation and maintenance of such a tool can be time consuming and costly. Depending on the geographic area for which the tool is being created, site visits for the community history

component of the tool can be a large undertaking. The right leadership is essential to make sure the tool does not become a "technological trap." Organizations can become overly reliant upon the information compiled in its databases, obscuring the fact that practitioners cannot adequately investigate community values and needs, assess project impacts, or explore feasible alternatives solely through desktop tools.

What Types of Resources and Costs Are Required?

Creating and maintaining this tool requires in-house GIS capabilities and/or outside personnel with the capacity to perform the work. In addition to the initial fee to create their tool, *Integrated Transportation Information Systems (ITIS),* the Miami-Dade County metropolitan planning organization (MPO) has paid Florida International University (FIU) $60,000 per year for their services, which covers the creation of the GIS mapping tool, development of the community background reports, research for the public involvement tools, and website maintenance and upkeep. FIU and the Miami-Dade MPO public involvement practitioners conduct site visits to update the community background reports by speaking with residents.

Who Has Used It Successfully?

- The *Miami-Dade County MPO,* in collaboration with FIU's GIS lab, has developed the ITIS, formerly known as the *Community Characteristics Program.* Initially, the MPO created community characteristic inventories for the 35 municipalities in Dade County. This was followed by the creation of community characteristic inventories for the 20 major neighborhoods in the unincorporated areas of the county. Having completed this task, the MPO went back to the municipalities and created 22 community characteristic inventories for the different neighborhoods within the municipalities. Thus, the MPO has developed the capacity to go from the macro level to the micro level and to identify niche places and neighborhoods within the county. Each year, the MPO attempts to identify 20 additional neighborhoods.

- The *Florida Department of Transportation (FDOT)* made a major investment in their *Environmental Screening Tool (EST),* an Internet-accessible interactive database and mapping application. The EST creates a shared information platform for assessment of natural and sociocultural effects at the planning, programming, and project development stages. The application supports agency participation—for example, FDOT district offices, MPOs, resource agencies—and civic involvement throughout the project life cycle. Community characteristic inventories are among the many features of the tool. Data layers include race, income, age, and other demographic indicators. Narratives about community goals and values are also included. The EST tool is also a repository of GIS information, maintained by the Florida Geographic Data Library, with several layers of community facility data that permit the user to flexibly set "buffer area" distances from project alternatives. The EST platform seeks to bring greater transparency to projects and enable all parties to screen and interpret the potential direct and indirect effects caused by transportation projects on the natural and human environments. The tool can be used to help adjust project design to avoid, minimize, or mitigate adverse impacts, to consider mitigation and alternatives, and to identify ways to control project costs. Analytical and visualization tools are designed to be user friendly, but the tool is most accessible to those with English proficiency, broadband computers, and basic competency with computers and the navigation requirements of the EST platform.

Resources/Contacts

Miami-Dade MPO Integrated Transportation Information System (ITIS): http://itis.fiu.edu/itisportal/
Florida Department of Transportation, Efficient Transportation Decision Making Website: http://etdmpub.
      fla-etat.org/est

Elizabeth Rockwell, Public Involvement Manager
Miami-Dade County
Office of the County Manager
Stephen P. Clark Center
111 N.W. First Street, Suite 920
Miami, FL 33128
erock@miamidade.gov

Identify "Affected Populations" Using a Community Attribute Index

Identifying Populations

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☐	*Operations & Maintenance*	☐

What Is It?

The community attribute index (CAI) is a multidimensional index that has been used to describe the attributes of communities. The CAI is an alternate approach for identifying "affected populations" or "populations of concern" for the purposes of preparing a benefits and burdens analysis. The CAI approach scores the attributes of communities, a scoring system ranging from 0 to 1, indicating those communities exhibiting stronger quality-of-life attributes. Modeled after the United Nations' Human Development Index, a CAI was prepared for the Atlanta Regional Commission (ARC), the region's MPO. The index was constructed by assembling data at the census tract level on 165 variables. Then, using principal component analysis, these variables were reduced to 13 variables grouped into 5 dimensions: economic opportunity, poverty status, educational attainment, housing and population mix, and family stability.

Why Is It Effective in Involving Traditionally Underserved Populations?

By looking at these five dimensions, the CAI goes beyond traditional environmental justice criteria of race and poverty alone in defining "populations of concern." The CAI was used by the agency to critically examine and compare populations that were scoring higher on the CAI to determine whether resources were truly being targeted to populations in need. In this case, some zones with higher concentrations of Asian American populations were included as "populations of concern" using environmental justice criteria based upon race, but were among the higher income and better performing populations on attributes that tend to suggest stronger communities.

What Are Some Techniques for Implementing This Tool?

The CAI is calculated using the following steps:

1. Collect data for each variable and generate a variable index:

   Variable Index = (Actual Value − Minimum Value)/(Maximum Value − Minimum Value)

2. Calculate the dimension index: The dimension index is calculated as a weighted average of all variable indices within the dimension.
3. Calculate CAI from the dimension indices:

Dimensions	Variables	Dimension Index	CAI Weight
Economic Opportunity (EO)	Median household income (MHI) (50%) Composite score (CS) (25%) Writing assessment score (WAS) (25%)	EO = (.50 * MHI) + (.25 * CS) + (.25 * WAS)	.2
Poverty Status (PS)	% Female-headed household (FHH) (50%) Poverty rate (PR) (50%)	PS = (.50 * FHH) + (.50 * PR)	.2
Educational Attainment (EA)	% of 45-59 year olds with some education (Age) (50%) % of people with associate degree (AA) (50%)	EA = (.50 * AGE) + (.50 * AA)	.2
Housing & Population Mix (HPM)	Total Households (TH) (25%) Total Housing Units (THU) (25%) Total Family Housing Units (TFHU) (25%)	HPM = (.25 * TH) + (.25 * THU) + (.25 * TFHU)	.2
Family Stability (FS)	% of 45-59 (Age) (50%) % married households (MH) (25%)	FS = (.50 * AGE) + (.50 * MH)	.2

What Are Its Limitations?

This technical, quantitative approach assumes that there are core attributes critical to measuring community well being and quality of life that can be identified; that these core attributes can be combined to establish a better indicator of "need" for targeting programs and policies and allocating resources; and that the technical research team has done an effective job identifying these core attributes. While provocative in its "beyond race" research agenda, the approach is distinct from the mandate or criteria laid out in Executive Order 12898 on environmental justice and the subsequent U.S.DOT Order, which include race categories. As such, the method both highlights the limitations of the traditional environmental justice "threshold-based" approach, but is supplementary to that approach specifically because race is not explicitly addressed.

To implement and/or replicate research over time, the approach demands expertise in statistical methods (e.g., principal components analysis) and a commitment of resources to acquire, manage, and refine data sets to be consistent with the geographic boundaries (e.g., TAZs or Census tracts) which serve as the foundation for the multi-criteria approach. Weights are used for each variable in each dimension and further refinements to the approach are probably inevitable to address the challenging issues of bias. Such an approach is subject to continuing refinement—a strength as well as a possible limitation—to explore and assess the philosophical as well as technical feasibility of introducing other variables or dimensions of social well-being such as accessibility, safety, and environmental quality.

What Types of Resources and Costs Are Required?

The CAI utilizes census and non-census data sources to get timely data and data not available through the census (e.g., writing/reading scores). The approach requires in-house or consulting staff with a strong statistical background and knowledge of GIS software. While a strongly quantitative method, such an approach benefits from involvement processes (e.g., Environmental Justice advisory groups and/or peer groups), to fully understand the analytics and to thoroughly explore assumption behind the analysis.

Who Has Used It Successfully?

ARC commissioned the study of the CAI to identify environmental justice communities at a regional level. Results from the Atlanta study indicated that thresholds typically used to define environmental justice communities target these communities with higher than expected quality-of-living standards (i.e., communities that score higher on the CAI). In

"majority–minority" communities, such as Atlanta, where segments of minority communities occupy middle- and upper-class rings of the social strata, the approach can shift the discussion and place a greater emphasis on dimensions of poverty, economic opportunity, educational attainment, and family stability to target resources to communities that are in need (i.e., lower scoring).

Resources/Contacts

Boston, T. D., and Boston, L. R. (2007). *Beyond Race and Poverty: A Multi-Dimensional Approach to Measuring Environmental Justice.* Atlanta, GA: Boston Research Group, Inc. http://www.globalatlantaworks.com/html/202.htm

Linje Boston, Chief Operating Officer
Boston Research Group
100 Galleria Parkway, SE, Suite 250
Atlanta, Georgia 30339
(678) 424-5615

Upfront Site Visits to Establish Scope of Public Involvement Plan

Implement Public Involvement Plan			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Prior to establishing the scope of a public involvement plan, a thorough analysis of the social and economic characteristics data for the study area communities should be prepared. A preliminary inventory and mapping of community facilities and other notable features should be compiled from websites and other secondary datasets. Notable features are generally defined as those of particular significance to a community and may include community gathering places (e.g., playgrounds, senior centers, schools, faith-based institutions, etc.), natural or historic features, or viewsheds. These initial "desktop" exercises, however, should be supplemented with a field visit to the project area to verify the quality of the demographic and community facilities data compiled from secondary data sources. In planning for the site visit, the practitioner should also reach out to knowledgeable persons from the community (e.g., city planners, municipal officials, neighborhood associations, etc.) to try and learn more about the area and, perhaps, schedule some time to meet and conduct scoping-type interviews.

Maps using aerial photography or compiled topographic information from aerial photography, perhaps overlain with the preliminary inventory of community facilities, should be taken into the field. During an initial site visit, the practitioner should be observing how the potential study area may have grown or changed, became more or less stable, and assess the physical condition and public use of various community-enhancing elements (e.g., parks and other gathering places, historic structures, viewsheds, senior centers, etc.).

During the field visit, the practitioner—perhaps in teams of two, if the budget can allow—should bring a digital or video camera, colored markers and pens, as well as field visit checklist forms for recording what is observed. Streets or roadways should be driven and potential meeting places (e.g., recreation centers, schools, faith-based organizations, senior housing complexes, etc.) identified; neighborhood names and boundaries confirmed; major public and private employers identified; formal and informal leaders identified and/or interviewed; and evidence of a non-English language being spoken noted. The practitioner should also contemplate the history of the project area: close attention should be given to past controversies and how governmental decisions (e.g., facility siting decisions) and/or the condition and maintenance of existing facilities may have colored local perceptions of transportation agencies, and, more generally, trust in government. The information obtained from the upfront site visit and interviews should be woven into the collected social and economic demographics and serve as the basis for establishing the scope and scale of the public involvement plan.

Why Is It Effective in Involving Traditionally Underserved Populations?

Site visits are geared toward understanding who is within the project area—what are their abilities and constraints to participate in public involvement—and what are the most appropriate ways to effectively engage them. Aerial photography can identify the existence of potentially affected residential structures within a specific study area and the U.S. census can

provide critical background demographic information—for example, the age of structure, renter or owner occupancy, and number of vehicles per household. But it is through conversations held during a site visit that the practitioner may learn more about the occupants of the affected residences. This may include discoveries about their complex relationships to family, community, the local economy, and other social networks and community institutions. Site visits make it possible to discover characteristics not revealed from maps or from secondary sources—for example, that the residential units may be occupied by a mother and father with neighboring homes occupied by the families of their children, that the father is one of the most influential ministers in the community, or that their family cemetery is located in a clump of evergreen trees that was not visible from the aerial photograph.

Being in the project area for some time—in some cases, perhaps as long as a week—provides an opportunity to hear the languages spoken on the street, experience some of the everyday transportation problems, notice the age of cars parked in residential driveways, see who works the second shift, identify areas where people gather, and examine the absence or presence of foot traffic on the street.

What Are Some Techniques for Implementing This Tool?

The tool can be implemented by collecting paper and electronic demographic information, identifying local elected and appointed officials and large public and private employers, identifying existing public facilities, and so forth to create a starting place. This information can be verified in the field and added to/subtracted from the paper and electronic information previously collected. To this should be added the information obtained from the interviewing of the identified local elected and appointed officials, informal and formal leaders, and others that these individuals will identify.

What Are Its Limitations?

The upfront site visit is very important to the foundation of the public involvement plan, so sufficient time should be allocated to make it successful. The trip should be planned to bring together in the field at the same time all those parties who will be responsible for the public involvement efforts. If the project is located a substantial distance from the home base of operations, travel time and expenses can be substantial. Travel plans may need to be extended to complete the mission. Resist the temptation to leave early just because living in a motel gets old. It will be far more costly to have to return to the field just to tie up loose ends.

What Types of Resources and Costs Are Required?

The resources and cost will vary depending upon the size of the project area, the potential controversy that may be engendered by the project, whether or not the project area is urban or rural, how many cultures are present in the project area, and how far the project area is from the local data center and from the consultants' offices. These variables will determine how many staff members will be required to complete the reconnaissance, the informal and formal leader identification, and the interview process. To increase efficiency, information should be gathered and examined electronically and by telephone before the field visit to reduce the surprises and the amount of time spent in the field.

Who Has Used It Successfully?

For the *Business 40 Project,* the North Carolina Department of Transportation (NCDOT) issued its first task order for the preparation of a public involvement plan that would extend

from planning through construction. The agency allowed its consultants to take one month to collect social and economic demographic data, complete a physical reconnaissance of the project area, and identify and interview formal and informal leaders. The team that went into the field included five members of the consultant team, a local resident, and two local NCDOT district staff from Winston-Salem. It included members who were White, Black, and Hispanic who spoke English and Spanish. The local knowledge of the resident and the NCDOT district staff proved to be extremely helpful. During the field visit, 85 informal and formal leaders were interviewed, local planning officials were contacted, large public and private employers were contacted, all streets within the project area were surveyed, all potential meeting places, faith-based organizations, recreation centers, schools, and the like were documented, media representatives were contacted, and local food venders were identified. Following the field visit, the consultant prepared a public involvement plan for the Business 40 project and submitted it to NCDOT for approval. More than 5 years later, the public involvement plan remains intact after outreach to more than 21,000 members of the public.

Resources/Contacts

Jumetta Posey, CEO
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem, NC 27101
(336) 724-2134
jgposey@nsolutions.org

Develop and Maintain a Community Contacts Database

Implementing Public Involvement Plans			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

A community contacts database is an electronic list of contact information for community organizations.

Why Is It Effective in Involving Traditionally Underserved Populations?

The use of a community organization database involves traditionally underserved populations in two ways. First, in creating the database, you are strengthening their networks and your knowledge of existing community organizations and leaders making it possible to quickly identify and include organizations that engage traditionally underserved populations as part of their membership or constituency. Second, the database can be used to ensure that information is being transmitted to as wide a range of community members as possible.

What Are Some Techniques for Implementing This Tool?

- Draw upon the contact lists of other agencies.
- Reach out directly to organizations to confirm contact information. Use the opportunity to strengthen your relationship and inform the organizations that they will be receiving periodic contact.
- Ask organizations that you have identified if they can suggest additions to the database.
- Ask contacts to share information, which is sent to them with their contacts, blogs, or listservs.
- Categorize contacts by the constituencies they engage so that you can target your outreach as necessary.
- Continually build and update the list so that it is a living database.
- Include school principals and English as a Second Language coordinators.

What Are Its Limitations?

Knowing who you want to be involved is an important first step, but does not ensure their engagement—contacting someone is not the same as involving them. Successful engagement is not measured by the size of the contact database, but on the strength of your relationships with leaders and organizations. To work properly, someone must be responsible for maintaining the records to ensure that out-of-date and inaccurate records are corrected. The right balance needs to be found to avoid excessive levels of data entry when notes from meetings are stored.

What Types of Resources and Costs Are Required?

The time invested in creating the list will be the greatest cost associated with using this tool. Subsequent updates to the list will be far less time consuming. In the long term, such a database will streamline communications, creating cost and time efficiencies while increasing participation.

Who Has Used It Successfully?

The Miami-Dade Metropolitan Planning Organization (MPO) maintains a public involvement database that stores all correspondence from the public and creates customizable outreach lists. The database contains over 1,000 businesses and organizations that the MPO's Public Involvement Office (PIO) can draw from when organizing community outreach events, mailing newsletters, and for other correspondence. For example, the MPO distributes Citizen Guides in English, Spanish, and Creole, which are intended to assist the public in understanding the transportation planning process. The MPO also distributes a "Call for Ideas" brochure to contacts in the public involvement database early in the plan development process.

Resources/Contacts

Miami-Dade MPO, "Public Involvement Management Team": http://www.miamidade.gov/MPO/m12-comm-pimt.htm

Prepare an LEP Plan

<div style="border:1px solid">

Implement Public Involvement Plan

Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

</div>

What Is It?

Individuals who have a limited ability to read, write, speak, or understand English are considered to have limited English proficiency, or "LEP." An LEP plan describes the policies, services, and information that government agencies, including transportation agencies, will take so LEP persons have meaningful access to an agency's programs and activities. The need for an LEP plan is set forward in *Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency,* which reaffirms Title VI of the Civil Rights Acts of 1964 and the prohibition of discrimination on the basis of national origin.

All programs and activities of entities that receive assistance from the U.S.DOT, including FHWA and FTA, must comply with Executive Order 13166. This extends to the state agencies, local agencies, private and non-private entities, and sub-recipients that receive federal funding. The government has the obligation and responsibility to be accessible to its citizens and residents and communicate with them.

Why Is It Effective in Involving Traditionally Underserved Populations?

An LEP plan will identify the size and locations of low-literacy populations and various foreign-born populations that may not speak English "very well" as well as describe the most appropriate approaches that can be taken by the governing entity to ensure that meaningful access is provided to all its programs and activities without imposing undue additional cost burdens.

What Are Some Techniques for Implementing This Tool?

Recipients of federal assistance have an obligation to reduce language barriers that can impede meaningful access by LEP persons to government services. The U.S.DOT LEP guidance advises grantees to conduct a "four-factor analysis" to determine what steps are necessary to provide meaningful access, including the following broad considerations:

1) *Demography*—the number and proportion of LEP persons served or encountered in the eligible service population;
2) *Frequency of Contact*—how often LEP individuals come into contact with the program, activity, or service;
3) *Importance*—the nature and importance of the program, activity, or service provided by the program; and
4) *Resources*—the resources available to the grant recipient and costs of these resources.

States must document how their agency and subrecipients of federal funds have analyzed the four factors and whether they have developed an implementation plan on language assistance. An effective implementation plan should give consideration to the following:

- Identifying LEP individuals who need language assistance;
- Providing notice to LEP persons of services available;

- Providing language assistance measures such as using telephone and video-conferencing interpretation services;
- Training staff to behave without bias and with respect and courtesy toward all customers, availing it of tools such as "language identification flashcards," "I Speak" cards, symbolic signs, bilingual phone lists, and so forth.
- Training staff or hiring bilingual staff to act as interpreters and translators and formalizing the use of qualified community volunteers;
- Using centralized interpreter and translator services;
- Translating vital written materials into languages other than English, such as applications or instructions on how to participate in a recipient's program, notices of public hearings and other community outreach, and notices advising LEP persons of free language assistance; and
- Monitoring and updating the LEP plan, as appropriate.

Individual states determine what information is considered vital, and how to make it available, but states and their subrecipients should be prepared to fulfill special requests for materials.

What Are Its Limitations?

Written materials provided routinely in English should also be available in regularly encountered languages other than English. "Vital" documents, in particular, should be translated to reach regularly encountered LEP groups eligible to be served or likely to be affected by the program or activity. A document is vital if it contains information that is critical for obtaining services and/or benefits, or is required by law. Vital documents may include applications; consent and complaint forms; notices of rights and disciplinary action; notices advising LEP persons of the availability of free language assistance; letters or notices that require a response from the beneficiary or client; and written tests that do not assess English language competency, but the specific competency for a particular license, job, or skill for which English competency is not required. If a complaint form is necessary to file a claim with an agency, that complaint form would be vital. Nonvital information includes documents that are not critical to access benefits and services.

Vital documents must be translated when a significant number or percentage of the population eligible to be served, or likely to be directly affected by the program/activity, needs services or information in a language other than English to communicate effectively. For many larger documents, translation of vital information contained within the document will suffice and the documents need not be translated in their entirety.

Making a distinction between vital and nonvital documents can be difficult, particularly when considering outreach or other documents designed to raise awareness of rights or services. Meaningful access to a program requires an awareness of the program's existence, but costs and other practical limitations make it impossible to translate all outreach materials into every language. Title VI does not require this of recipients of federal financial assistance, and Executive Order 13166 does not require it of federal agencies. Nonetheless, lack of awareness of a particular program's existence can effectively deny LEP individuals meaningful access; therefore, it is important for agencies to regularly assess the needs of eligible service populations to determine whether certain critical outreach materials should be translated into other languages.

The "safe harbor" stipulation in U.S.DOT guidance seeks to establish greater certainty for recipients on compliance with their obligations to provide written translations in languages other than English. "Safe harbor" means that if a recipient provides written translations under certain circumstances, such action will be considered strong evidence of compliance under Title VI. Strong evidence of compliance with the recipient's written translation obligations under "safe harbor" includes providing written translations of vital documents for each eligible LEP language group that constitutes 5 percent or 1,000 members, whichever is less, of the population

of persons eligible to be served or likely to be affected or encountered. This safe harbor provision applies to the translation of written documents only. It does not affect the requirement to provide meaningful access to LEP individuals through competent oral interpreters when oral language services are needed and are reasonable.

Providing language access is just one part of a larger communication strategy for agencies, which should also include determining how to provide useful information in English, how to communicate with the hearing or sight impaired, and how to deal with communication to persons with cognitive disabilities. Clearly, there is a need in all of these cases for agencies to provide outreach to these various communities and to work in partnership to identify and meet a variety of information needs.

What Types of Resources and Costs Are Required?

The initial cost to prepare an LEP plan is generally low, often ranging from $5,000 to $20,000 for most agencies. The costs to develop, implement, and monitor an LEP plan will vary significantly by agency, depending on the size and social composition of the state or region, the types of services rendered by the agency, and the degree of contact with the public. The four-factor analysis is essential to defining the types of program activities that will ultimately need to be implemented to effectively work with the encountered LEP populations.

The Government Accountability Office (GAO) surveyed select transit service agencies and metropolitan planning organizations (MPOs) and found that the majority of such agencies could not isolate their costs for LEP access services. Costs were spread over several departments, or were not separable from broader cost line items. Extra costs borne by an agency that would be directly attributable to LEP access activities could include outside translation and interpreter costs; cost differentials for developing and printing materials in other languages versus providing these services in English only; the creation of translated website pages; premiums paid to bilingual employees; and the costs of software that is used to deliver multiple languages options at ticket machines for transit agencies. The GAO reported that MPOs and transit agencies typically avoided incurring substantial additional costs by utilizing existing staff. Rather than contracting out for interpreters at public meetings, agencies brought in their bilingual staff, used bilingual board members, or coordinated with community groups or individuals to serve as interpreters. Customer service telephone lines are similarly managed to lower costs.

Who Has Used It Successfully?

- The *California Department of Transportation (Caltrans)* LEP website includes several items: a training video for its staff that highlights appropriate language assistance strategies; a volunteer list of state transportation employees by department with certified bilingual capabilities (more than 60 languages and dialects); "I Speak" cards; and a list of interpreter, translator, and other services for visually- and hearing-impaired populations. California established an LEP protocol pamphlet for Caltrans employees who encounter the traveling public. The Highway Emergency Language Protocol (HELP) pamphlet was targeted to highway personnel to support communications with the public in six different languages.
- *LEP.Gov,* the website of the Federal Interagency Working Group on LEP, serves as a clearinghouse of information, tools and technical assistance regarding limited English proficiency and language services for federal agencies, recipients of federal funds, users of federal programs and federally assisted programs, and other stakeholders.
- The *New York City Department of Transportation's (NYCDOT) Language Access Plan* presents its four-factor analysis, which includes an analysis of the calls for service they receive through 311, New York City's phone number for government information and nonemergency services.

The 311 line provides translation services in over 120 languages to any caller. Most NYCDOT requests are processed by 311 and, consequently, most NYCDOT service requests can be made in any language. The analysis breaks down the share of calls by department and the language spoken on translated calls. The plan also makes commitments with time tables for improvements implementation and assigns responsibilities to carry forward the program.

Resources/Contacts

California Department of Transportation. LEP Web Site: http://www.dot.ca.gov/hq/bep/title_vi/LEP/

LEP.Gov, Website of the Federal Interagency Working Group on Limited English Proficiency: http://www.lep.gov/index.htm

Government Accountability Office, November 2005, *Better Dissemination and Oversight of DOT's Guidance Could Lead to Improved Access for Limited English-Proficient Populations:* http://www.gao.gov/new.items/d0652.pdf

New York City Department of Transportation (2009), *Language Access Plan:* http://www.nyc.gov/html/dot/downloads/pdf/lap_dot_09.pdf

Use "I Speak" Cards to Ensure Communications with LEP Populations

<div>

Implement Public Involvement Plan

Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

</div>

What Is It?

"I Speak" cards are two-sided bilingual cards that invite persons with limited English proficiency (LEP) to identify their language needs to your agency staff. Such cards, for instance, might say "I speak Spanish" in both Spanish and English. They may also include information about language access rights. These cards can be used to assist LEP populations in communicating their need for interpretive and translation services.

Why Is It Effective in Involving Traditionally Underserved Populations?

"I Speak" cards are a tool for improving access to services, operations, and events and can be used by LEP immigrants to obtain interpretive and translation services, which will allow them to partake more fully in public outreach events.

What Are Some Techniques for Implementing This Tool?

- Ask at the beginning of each meeting if anyone in the audience needs interpretive services, and ask this in the languages of the populations you are trying to reach.
- Distribute cards at meetings and offices in advance of the event.
- Distribute cards during events.

What Are Its Limitations?

Using "I Speak" cards at meetings is severely limited in that interpretation assistance services may not be immediately available at the meeting, and that LEP individuals who have not used the cards in the past may be unaware of their language access rights and not attend public events. Distributing the cards at other locations (such as human service agencies or activity centers) in advance of the event is critical for ensuring that language needs can be met. In some areas, immigrant populations and native English speakers may not be able to read their own language as their literacy attainment may have been minimal.

What Types of Resources and Costs Are Required?

Resources for developing "I Speak" Cards can be found online at no cost. Printing the cards is of minimal cost and can be absorbed by office operations.

Who Has Used It Successfully?

- The *Pacific Asian League Services for Health (PALS)* developed "I Speak" cards for use in health services in Los Angeles, California.

- The *Merrimack Valley MPO* in Massachusetts outlines in their LEP plan that "I Speak" cards will be provided at all workshops and conference sign-in tables. The plan states that while interpretation may not be present at that particular meeting, the cards will help the MPO anticipate future needs.
- The *New Jersey DOT, Division of Statewide Traffic Operations* outlines in their LEP plan that "I Speak" cards should be used when emergency service patrol drivers come in contact with LEP persons and carried by all incident management response team (IMRT) member trucks.
- The *Idaho Transportation Department* includes "I Speak" cards as a tool to use at public meetings and includes samples in their LEP plan.

Resources/Contacts

Culture Connect, Inc.: http://www.cultureconnectinc.org/ispeak.html
California Department of Social Services: http://www.dss.cahwnet.gov/civilrights/PG584.htm
Idaho Transportation Department: http://itd.idaho.gov/civil/pdf/LEP.pdf
New Jersey DOT, Division of Statewide Traffic Operations: http://www.nj.gov/transportation/business/civilrights/pdf/lepplan.pdf
Pacific Asian League Services for Health (PALS): http://palsforhealth.org/Training/he.html
U.S. Census Bureau: http://www.lep.gov/resources/ISpeakCards2004.pdf

Paul Thomas
Manager
Division of Civil Rights and Affirmative Action, Bureau of Title VI
New Jersey Department of Transportation
1035 Parkway Avenue
P.O. Box 600
Trenton NJ 08625-3009
(609) 530-3009
Paul.Thomas@dot.state.nj.us

Offer Assistance for Hearing Impaired and Sight Impaired Persons

<div>

Implement Public Involvement Plan

Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

</div>

What Is It?

Strategies to effectively inform and assist those who are hearing or sight impaired so that they can be aware of upcoming events, understand the proceedings at these events, and participate actively in the exchange of information provided at these events and at other times during a project. The rights of the hearing and sight impaired were addressed in the *Rehabilitation Act of 1973,* which prohibited discrimination on the basis of disability in programs conducted by federal agencies, in programs receiving federal financial assistance, in federal employment, and in the employment practices of federal contractors. Section 508 of that law established requirements for electronic and information technology developed, maintained, procured, or used by the federal government and required federal electronic and information technology to be accessible to people with disabilities. An accessible information technology system is one that can be operated in a variety of ways and does not rely on a single sense or ability of the user. In 1998, Section 508 of the Rehabilitation Act of 1973 was amended (29 U.S.C. 794d) to require that when federal agencies develop, procure, maintain, or use electronic and information technology, federal employees with disabilities have access to and use of information and data that is comparable to the access and use by federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 similarly requires that individuals with disabilities, who are members of the public seeking information or services from a federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless undue burden would be imposed on the agency.

Why Is It Effective in Involving Traditionally Underserved Populations?

Offering assistance tailored to those who are hearing impaired/deaf or sight impaired/blind provides such individuals with opportunities to participate more fully in transportation decision-making processes, to be aware of how these decisions may affect their normal everyday lives, and to communicate this information and awareness to others.

What Are Some Techniques for Implementing This Tool?

Assistance offered to members of the public that are hearing impaired or sight impaired will vary depending upon the degree of impairment. Some persons who are hearing impaired can speak and/or read lips while others may rely on American Sign Language or written and other types of visual information. Others who are hearing impaired may not be able to write or read well. Some persons who are sight impaired (e.g., 20/200 vision) can distinguish colors and/or read large print while others may rely on Braille materials and oral information. For the insightful practitioner, the most important thing is to identify how an individual communicates best.

- Videos with captions can provide information to those who are sight impaired or hearing impaired. The videos can be presented at project meetings, made available on a project

website, provided to radio stations as well as free and cable access television stations as public service announcements or as short programs, or sent to a reading service for the blind as a script to read or as a product (e.g., CD, DVD, digital audio file) to play as part of their regular radio programming.

- Radio reading services for the blind were created to provide information to those who were sight impaired, but they also serve as a source of information for those who cannot read. Announcers read from prepared scripts and play prerecorded messages. These programs are available to anyone who has a radio. Each state has one or more reading services for the blind and, often, although not always, these are a part of a state library function.

- Font sizes on personal digital assistants (PDAs) can be enlarged to 14 point and on a computer screen to 72 point and greater to assist sight impaired. Those who have a computer with a "text-to-speech" component and Internet access can access websites if they are Section 508 (1973 Rehabilitation Act, as amended) compliant. The speech component allows a user to open it on a website and have information on that website read to them. All federal agencies and those agencies receiving federal funds or under contract with a federal agency are required to comply with this law.

- Cell phones now offer verbal identification of who is calling for those who are blind.

- Printing materials in larger sizes can be very helpful. Enlarging the font size by 100 percent and placing the information on 11˝ by 17˝ pages rather than 8.5˝ by 11˝ pages can be of great assistance to the elderly and/or sight impaired.

- The advent of telephone texting has allowed many hearing impaired to receive and send information of 160 characters or less through their telephones. Notification of meetings or directions to project information on the web or other electronic source can be conveyed through text messaging. Because of this it is important to ask for peoples' phone numbers as well as their email addresses when signing them in at a meeting. While the hearing impaired may not be able to hear the telephone ring, the vibration option offered on many telephones serves to notify people that a message has been received.

- Smartphones have the ability to connect to the web and have email support and do not have character limits. Scripts of proposed meeting agendas and presentations could be sent prior to the meetings to those who are hearing impaired so that they would have time to formulate questions beforehand.

- Video calls over VoIP (Voice Over Internet Protocols) networks have made it possible for hearing-impaired persons to communicate via sign language over video calling applications. Some of the newest phones also have front-facing cameras that make it easier to communicate remotely via sign language.

- TTY (teletypewriter or text telephone) is machinery or equipment that employs interactive text-based communications through the transmission of coded signals across the telephone network. TTYs may include devices known as TDDs (telecommunication display devices or telecommunications devices for hearing impaired persons) or computers with special modems.

- Visualization techniques to show proposed changes to existing roadways and proposed new roadways are also effective tools to use with those who are hearing impaired at public meetings. These include:
  - Before and after photographic renderings that show the existing conditions and the proposed changes side by side.
  - Morphing, which starts with a still photograph and slowly adds features such as additional lanes, planted medians, bike lanes, sidewalks, or bus pull offs. This computer-generated series of different pictures can be repeated in cycles or shown as a set of static pictures.
  - 3D "drive through" videos that show what driving on the new or improved roadway will look like from a driver's perspective.

- Photographs of landmarks placed on maps or drawings showing where they are located provide orientation rather than relying on text.
- Illustrations of each alternative shown in a different color that corresponds to a specific roadway cross section.

What Are Its Limitations?

Videos with captions or voice tracks are passive methods of getting information to the public. If a hearing impaired person can speak, they could ask questions, but a signer would be required to provide them with the response to their questions. If they are unable to speak, a signer would be required to ask their question and provide them with the responses. Regardless, a signer would be necessary to sign any questions asked by other members of the public and the responses given.

The script for a video with a voice track must include enough detail for a sight impaired person to follow the presentation and ask questions. When others ask questions, the moderator/facilitator may find it necessary to restate their questions to present enough detail so that the sight impaired person can follow the conversation.

When talking with an individual who is hearing impaired always look directly at them and not at the individual that is signing the message or verbally relaying their response. If the individual reads lips, do not block their view of your face, talk with them in a well-lighted area, speak in a normal and not an exaggerated manner, and use short simple sentences. If they sign, do not block their view of their signer; sign with them in a well-lighted area; speak slowly, use simple sentences, and stop frequently enough so the signer can keep up with what is being said.

When releasing any written information (e.g., press releases, newspaper articles, emails, websites, or newsletters), always provide the TTY number and ask if anyone needs a signer to be present.

For those who are otherwise sight impaired, first introduce yourself, identify who you are and your job role, give the person verbal information that is visually obvious to those who can see, tell them when you have brought new items into their environment, describe what those items are, and where you have put them. Offer to lead someone, wait for them to accept your offer, and then allow them to hold your arm rather than holding their arm so they can control their own movements. Be descriptive when giving directions—"over there" has little meaning to someone that cannot see; instead say "starting at the corner of Main Street, then going south and crossing Wales Street and Ivey Street. . . ." Describe things from their perspective, not yours. Some who are blind use a "clock" reference for things directly in front of them—"your potatoes are at 12 o'clock, your carrots are at 2 o'clock, your fish is at 7 o'clock," etc. If a blind person is accompanied by a guide dog, do not interact with it while it is working (in the harness).

What Types of Resources and Costs Are Required?

- A signer would have to be provided at any event where a hearing impaired/deaf person was present. Because of the effort required to sign, a lengthy meeting may require two or more signers. Signers generally charge $35–$50 per hour.
- A voice track for a video or an audio file can be created if a sight impaired/blind person is expected to be present at an event. Prices vary depending on the length of message.
- An AM or FM radio is required to access the radio reading services for the blind or public service announcements on radio. A television is required to access public service announcements on free or cable television. A computer with a text to voice component and Internet access is required to access a website that is Section 508 compliant.

- Large print materials can be produced using a standard copier by increasing the image size and using an 11″ by 17″ sheet of paper rather than an 8.5″ by 11″ sheet of paper.
- The project budget will help determine what level of visualization can be used. Before and after photographic renderings are the cheapest and quickest ways to provide information. Morphs are slightly more expensive and time consuming to prepare, and "drive throughs" are the most expensive and require the most time to prepare.

Who Has Used It Successfully?

- The *Mississippi DOT*'s in-house video group produces videos for approximately 85 percent of its public hearings. For most projects, a 10 to 12 minute, continuously running loop is prepared. However, larger, more complex projects require longer videos. The videos begin with the Mississippi DOT's executive director welcoming citizens to the meeting and providing an introduction to the project. The environmental and project development processes are described, project specific issues are identified, and the project's purpose and need are discussed. Footage of the project corridor is shown from a driver's perspective, and environmentally sensitive areas are highlighted. The video provides the public with background information before they proceed into the next part of the public hearing, with the viewing of aerial photographs, cross-section views, and the alternatives. To date, neither signers nor captioning have been requested.
- The *Center for Neighborhood Technology* has played its "*Transopoly*" game, a process they use to identify transportation infrastructure needs as part of their long range transportation plan, with members of the public that were hearing impaired and visually impaired.
- The *Volusia County Metropolitan Planning Organization (MPO)* has played the *Strings and Ribbons* game, their main public involvement tool for the long range transportation plan, with members of the public who were sight impaired.
- For the *Business 40 Project* in Winston-Salem, American Sign Language signers were provided during the first round of neighborhood meetings. This service and interpretation in Spanish were advertised in all written materials.

Resources/Contacts

Blind Reader Service Radio: http://radiotime.com/genre/c_2695/Blind_Reader_Service.aspx

Kim Thurman
Environmental Division Administrator
Mississippi Department of Transportation
Environmental Division
P.O. Box 1850
Jackson, MS 39215-1850R
(601) 359-7922
kthurman@mdot.state.ms.us

Karl D. Welzenbach
Executive Director
Volusia County MPO
2570 West International Speedway Boulevard,
    Suite 120
Daytona, Beach, FL 32114-8145
(386) 226-0422
kwelzenbach@volusiatpo.org

Mr. David Chandler
Business Analyst for Transportation
Center for Neighborhood Technology
2125 West North Avenue
Chicago, IL 60647
(773) 269-4023
david@cnt.org
www.cnt.org

Offer Assistance for Low-Literate Persons

<table>
<tr><td colspan="4" align="center">**Implement Public Involvement Plan**</td></tr>
<tr><td>*Policy/Research*</td><td>☐</td><td>*Right-of-Way*</td><td>☒</td></tr>
<tr><td>*Statewide/Metropolitan Planning*</td><td>☒</td><td>*Construction*</td><td>☒</td></tr>
<tr><td>*Project Development/NEPA Compliance*</td><td>☒</td><td>*Operations & Maintenance*</td><td>☒</td></tr>
</table>

What Is It?

Literacy, as defined by the *National Literacy Act of 1991,* is "an individual's ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential." Assistance offered to members of the public that are low literate varies depending upon their literacy level. The National Assessment of Adult Literacy (NAAL) is a literacy assessment test that was administered nationally in 2003 and 1992. The latest survey found that 14 percent of the U.S. adults scored at "below basic" levels for prose literacy. Research has also indicated a strong correlation between low literacy and poverty.

Why Is It Effective in Involving Traditionally Underserved Populations?

Offering assistance tailored to those that are low literate provides them with opportunities to participate more fully in transportation decision-making processes, be more aware of how these decisions may affect their everyday lives, and communicate their observations, insights, and concerns about perceived impacts based upon the information provided.

What Are Some Techniques for Implementing This Tool?

Often those that are considered low literate may be embarrassed by their inability to read and/or write and they will try and hide it. The insightful public involvement practitioner should look for physical and verbal clues that can be very subtle and easily overlooked. Often one person will sign in for several people at a meeting. Other times, people will say "my arthritis is bothering me, can you sign me in" or "I left my glasses at home, can you sign me in." When this occurs, the practitioner should offer to sign them in and notify other staff members that this individual will probably not be able to fill out a comment sheet. "I need to take a comment sheet home and think about it, then I will mail it back" is another way in which an individual may be trying to say they cannot read or write. In both of these cases, practitioners should have a blank comment sheet with them and invite the individuals to give their comments verbally to them so that the comments can be written down and added to the comment box. Similarly, members of the public may simply avoid looking at a printed page or say they want to talk about the project rather than filling in a comment sheet. In this case, the practitioner should try and capture their comments, read them back to the individuals, and place the comment in the comment box.

In addition to training staff members to be aware of these clues, there are electronic tools that can be used to communicate with low-literate individuals, including the following:

- A video with a voice track or an audio production could provide information to those who are low literate. These productions could be presented at project meetings or provided to radio stations and free and cable access television stations as public service announcements, or as short programs.
- Radio reading services, while initially created to provide information to those who were sight impaired, can also reach those that are low literate. Radio announcers read from prepared

scripts and play prerecorded messages. These programs are available to anyone who has an AM or FM radio. Each state has one or more reading services for the blind and, often, although not always, these are a part of a state library function.

- Visualization techniques used to show proposed changes to existing roadways and proposed new roadways at public meetings are also effective tools to use with low-literacy populations, including:
  - Before and after photographic renderings that show the existing conditions and the proposed changes.
  - Morphing, which starts with a still photograph and slowly adds features such as additional lanes, planted medians, bike lanes, sidewalks, or bus pull offs. This computer-generated series of different pictures can be repeated in cycles.
  - 3D "drive throughs" that show what driving on the new or improved roadway will look like to a driver.
  - Photographs of landmarks placed on maps or drawings showing where they are located, which provide orientation rather than relying on text.
  - Illustrations of each alternative shown in a different color corresponding to its specific roadway cross section.
  - A video that utilizes a fifth-grade to seventh-grade vocabulary and does not include technical jargon.

What Are Its Limitations?

A video can be utilized as a method to get information to those who are low literate, if the script's level of vocabulary is between fifth grade and seventh grade and avoids technical jargon. The script should include enough detail that a low-literate person could follow the presentation and ask questions. Any oral presentation should also follow these guidelines. Because videos are passive, it may be necessary for the moderator/facilitator to be present to rephrase or reframe any questions or responses.

A team member should be posted next to every display and proactively offer to describe what is shown on the display. After having completed the discussion, the team member ushers the members of the public to the next person posted at a display.

What Types of Resources and Costs Are Required?

A voice track would have to be created if the audience is thought to include low-literate persons. Creating short public service announcements can cost $150 to $300. The price escalates with the length of announcement.

The project budget will determine what level of visualization is feasible. Before and after photographic renderings are relatively affordable and quick ways to provide information. They use off-the-shelf software and can be created in less than one day. Morphs are slightly more expensive and time consuming to prepare. "Drive throughs" require the most time to prepare, and use the most expensive software. They can cost anywhere from $15,000 or more depending upon the amount of background detail shown, length of project, intricacy of design, and so forth.

Who Has Used It Successfully?

- The *Center for Neighborhood Technology* has played the "*Transopoly*" game, a process it uses to identify transportation infrastructure needs as part of their long range transportation plan, with members of the public including those who are low literate.

- The *South Carolina DOT* used morphs to show what widening SC 6 from a two-lane roadway to a five-lane roadway with planted median and bicycle accommodations would look like at several locations along the project corridor.
- The *Volusia County MPO* also used "drive throughs" to show the public and elected officials what the impacts of several proposed projects would be.
- The *Tennessee DOT* used "before and after" colored pencil sketches to illustrate to the public alternative visual treatments for minimizing the visual disruption caused by retaining walls along SR 73 (U.S. 321) to the scenic backdrop of the Great Smoky Mountains National Park.
- The *Mississippi DOT* produces in-house videos for approximately 85 percent of its public hearings. For most projects, a 10 to 12 minute continuously running loop is prepared. However, larger, more complex projects require longer videos. Each video begins with the Mississippi DOT's executive director welcoming citizens to the meeting and providing an introduction to the project. The environmental and project development processes are described, project specific issues are identified, and the project's purpose and need are discussed. Footage of the project corridor is shown from a driver's perspective, and environmentally sensitive areas are highlighted. The video provides the public with background information before that public proceeds into the next part of the public hearing where aerial photographs, cross-section views, and alternatives are shown.

Resources/Contacts

Elizabeth A. Smith
Conceptual and NEPA Planning Office
Project Planning Division
Tennessee DOT
505 Deaderick Street
Suite 900 James K. Polk Building
Nashville, TN 37243-0344
(615) 532-3200
Elizabeth.A.Smith@state.tn.us

Mark Lester, PE
Director of Planning and Environment
South Carolina Department of Transportation
955 Park Street
Columbia, SC 29202
(803) 737-1366
lestermc@scdot.org

Kim Thurman
Environmental Division Administrator
Mississippi Department of Transportation
Environmental Division
P.O. Box 1850
Jackson, MS 39215-1850
(601) 359-7922
kthurman@mdot@mdot.state.ms.us

Treat People Courteously and with Respect

<table>
<tr><td colspan="4" align="center">**Implement Public Involvement Plan**</td></tr>
<tr><td>*Policy/Research*</td><td>☒</td><td>*Right-of-Way*</td><td>☒</td></tr>
<tr><td>*Statewide/Metropolitan Planning*</td><td>☒</td><td>*Construction*</td><td>☒</td></tr>
<tr><td>*Project Development/NEPA Compliance*</td><td>☒</td><td>*Operations & Maintenance*</td><td>☒</td></tr>
</table>

What Is It?

"Treat people the way you want to be treated" is a useful maxim for practitioners to consider in their activities with a diverse public. Members of all populations should be treated respectfully, addressed courteously, and treated with dignity. In social settings concerning projects, practitioners should adopt a style of interpersonal interactions that avoids seeming judgmental and recognizes differences. Agencies, in turn, should foster a culture of continued learning and adapt their policies, procedures, and services to be appropriately respectful to cultural differences and diverse populations.

Why Is It Effective in Involving Traditionally Underserved Populations?

This approach is about an outlook and developing habits of practice that respect cultural differences. The practitioner should seek to be mindful of cultural differences and recognize there will be differences in communication styles, in ways of learning, in attitudes toward conflict, in disclosure of information, in how tasks are completed, and in styles of decisionmaking. Developing a knowledge and appreciation of different cultural groups and individuals—their history, traditions, language or dialect, values, art and music, spiritual beliefs—can reveal positive attributes of a particular culture or community. In addition to instilling greater respect, it can lead the practitioner to discover better strategies for reaching diverse populations.

What Are Some Techniques for Implementing This Tool?

Developing a public involvement plan (PIP) itself is a major opportunity to prescribe the most effective strategies for bridging cultural gaps that can impede communities from participation on projects, plans, and other activities in transportation. Creating the PIP is also a time to plan what will work best to educate and inform various segments of the citizenry about transportation so that they will have the ability to meaningfully participate in decisionmaking. Where in my agency or elsewhere can I find persons or community organizations that are already knowledgeable of this community, this culture, this language to ensure that we can understand each other and communicate effectively? It is a time to set realistic budgets, customize scopes of work, develop performance measures, and establish intermediate milestones or phasing plans to periodically assess the PIP's effectiveness and adjust plans, if necessary, to create meaningful opportunities for participation.

Agencies and practitioners can utilize many techniques to treat people courteously and with respect, but depending on the context, some techniques can be wildly inadequate or more effective for a particular population or setting. How can I run a meeting or organize other events to actively engage attendees and channel their input into something beyond meeting minutes? Below is a just a sampling of techniques applicable to running effective workshops, open houses, and other

meetings that will ensure that the public is given many ways to communicate with the agency. Agencies and practitioners can:

- Choose support staff and recruit staff from the community that resembles the demographics of the community.
- Utilize differently sized or types of meetings for different groups.
- Provide child care, food, or transportation to encourage attendance.
- Use interpreters and translated materials.
- Include a formal presentation at several specific times to inform attendees of the project and key issues.
- Offer question and answer sessions to allow attendees to express their concerns and get answers.
- Write down their concerns so that they are documented.
- Give attendees a comment sheet or, offer to prepare the comment sheet with them, if you believe the persons may have difficulty seeing, reading, or writing on the form.
- Provide a court recorder to keep a transcript, but recognize that some persons may be intimidated by the extra attention of having their words memorialized.
- Break up into small groups to invite open discussions, but also recognize that there are times where persons with a different opinion than the majority will be hesitant to speak up for fear of being singled out for holding a minority view.
- Sit down and talk individually with persons who are most comfortable with a one-on-one exchange. Seating areas or even private areas separated from the main room in an open-house forum can be strategically placed to give privacy to those who prefer it.
- Listen attentively because transportation agencies work on behalf of the public—they are your customers. But also because the values, concerns and priorities of affected persons may be revealed through active listening. Creative solutions to problems—entirely unexpected and outside your vantage point—may be offered to those who are receptive to the messenger and the message.

Getting out into the field can be a great way outside of meetings and workshops to engage the public as well as a means to publicize upcoming meeting events. Training community residents to conduct interviews can be a very effective way of offering temporary employment and gaining real insights into community life. Below are some common-sense techniques, imparted during a one-day training session, to prepare the field crews to be courteous and safe while conducting door-to-door interviews in residential neighborhoods.

- Rattle the entrance gate before knocking on a front door to deliver a flyer or speak with residents as a means to publicly announce your arrival and minimize surprises from a front-door greeting.
- Offer a friendly smile to convey the nonconfrontational nature of your visit.
- Walk only on sidewalks and never cut through lawns to the next residence.
- When offered something to drink while speaking with a hospitable resident, graciously decline the offer and only ask for water. Keep things simple. Place no demands on the host who might feel embarrassed or compelled to supply coffee, juice, or other refreshments that are not in the refrigerator or cupboard.
- While in a home or at a doorway, never pat a child on the head or touch them at all. No matter how galling, the manners of misbehaving children should not be corrected by a field staff member.
- Field crews should operate in two-person teams at all times to ensure their safety. Crews should be armed with cell phones to facilitate regular communications with supervisors and other field crew teams.
- Field teams invited into a home should place their materials about the project as well as other social services information on the front door of the entrance as a means for signaling their whereabouts to others on the team.

- Purchase needed supplies from local merchants as a way of building goodwill for the project. Merchants and residents that are befriended are not only likely to offer constructive advice, but also will support the field crews in some communities.

What Are Its Limitations?

Developing practices to treat people respectfully is within the grasp of most practitioners—provided they are committed to what public involvement is offering. Some practitioners may be uncomfortable talking with those who are not like themselves or being in settings that are foreign to them. Many transportation agencies and project managers underestimate the importance of public involvement processes, or wish to narrowly frame how they are used on their projects because they are uncertain or fearful of the outcome. Agencies and practitioners are often unfamiliar with how they can be used to improve their project or plan. Resistant to upfront costs for additional meetings, they may not be willing to contemplate the potential but avoidable consequences in terms of controversy and delay from not undertaking bolder involvement initiatives.

Training and mentoring of staff is a valuable means for communicating core principles and exploring habits of practice that have been proven to be effective in fostering meaningful public involvement and improving cultural competency with diverse populations. Training can prepare people for working effectively with a diverse public at a meeting, in interviews or during field visit. Role-playing exercises can be useful in getting persons more prepared for a variety of scenarios in which they may be placed. Since opportunities must be seized when they occur, staff members should be comfortable anywhere they find themselves: on a front porch, in a back yard, under a clothesline, in an office, in a Laundromat, or a senior center.

What Types of Resources and Costs Are Required?

Treating people courteously and respectfully does not involve out-of-pocket costs, but the commitment to this principle can stimulate a range of customized activities that involve time and other resource commitments to implement effective public involvement processes. The costs of not treating people courteously and respectfully are steeper, leading to planning and project initiatives that cause controversy, experience delays, and sometimes result in costly litigation.

Who Has Used It Successfully?

- The FHWA publication, *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking* highlights many successful techniques taken by practitioners to do their best to treat people respectfully in an array of meetings and outreach situations.
- For the *Colorado Department of Transportation's I-70 Project* in Denver and the *North Carolina Department of Transportation Business 40 Project* in Winston-Salem, local residents were hired to interview people in their community, providing temporary jobs for folks living near the project corridor and eliminating the need to train outsiders. Residents serving as field staff were instructed on appropriate etiquette and procedures to ensure an effective and safe field interview (see Figure 5-4).

Figure 5-4.   Local residents worked in pairs to do interviews for the Business 40 project in Winston-Salem.

Resources/Contacts

FHWA, Federal Highway Administration. (2006). *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking:* http://www.fhwa.dot.gov/hep/lowlim/lowlim1.htm

NCHRP Synthesis 407 (2010). *Effective Public Involvement Using Limited Resources:* http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_407.pdf

Jumetta Posey, CEO
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem, NC 27101
(336) 724-2134
jgposey@nsolutions.org

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Assess Public Involvement Plan's Effectiveness

<div>

Implementing Public Involvement Plans

Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

</div>

What Is It?

Assessment of the public involvement plan's (PIP's) effectiveness involves the examination of the plan to determine if the goals and objectives established were achieved and the making of periodic changes in response to the assessment to improve future performance. The assessment assumes that the plan incorporates goals and objectives that are measurable or are written in such a way as to be able to determine if they were accomplished. It provides the opportunity to reflect on whether the activities identified in the plan were sufficient and effective in attaining the goals and objectives. The assessment may be done at different stages of the project (e.g., project planning, detail design and construction documents, and construction), including at the end of the project and monitoring. The assessment of PIP effectiveness should be accessible to the public.

There are several steps for implementing this tool:

1. Be sure the plan includes goals, objectives, and practices that can be measured or assessed in order to be able to determine their effectiveness. This step, in part, includes making a determination as to who are the traditionally underserved populations in the project study area.
2. Engage the traditionally underserved population early on to help develop effective measurable goals, objectives, and practices.
3. After each public meeting or activity involving the public, gather the team of professionals working on the project and debrief on the effectiveness of the meeting or activity in accomplishing the goals and objectives.
4. At each logical milestone, the project team can assess how well the practices and activities worked at accomplishing the goals and objectives. These assessment sessions can be short—an hour or so—or longer, depending on the stage of the project at that time. For example, for an environmental impact statement, it may be helpful to assess effectiveness of the practices being used to reach the public and especially the underserved at the end of the initial input and feedback opportunities, assuming the PIP calls for it. A key juncture during the process would be when the project team has received initial input and feedback from the public on the possible alternatives. This assessment could be extensive and last for a few hours if the project team is willing to allot that much time to the process.

Why Is It Effective in Involving Traditionally Underserved Populations?

When the plan contains goals, objectives, and practices that include reaching the traditionally underserved populations, the assessment provides an opportunity to determine if the practices were sufficient and effective in reaching those populations, since it may be necessary to do something different to involve them. Including the traditionally underserved populations as a target population in the PIP assumes that the plan's developers have determined, either formally or informally, the need to reach out and involve them. The inclusion of the affected population

in the development of effectiveness measures aids in identifying goals, objectives, and practices that are meaningful to both planners and to the community.

What Are Some Techniques for Implementing This Tool?

Techniques to do a PIP assessment of effectiveness could include:

- A full "retrospective" which could involve 1 to 3 days during which the project team would reflect on the project to date and the PIP's effectiveness. This would typically include a session conducted by a facilitator familiar with the retrospective process.
- An "after action" meeting to review the effectiveness of the plan with the project team.
- A 1- to 3-hour session with the project team to reflect on the effectiveness of the plan using a series of questions to which answers are brainstormed. Questions might be:
  - "What happened during the past _____ months regarding public involvement?"
  - "What were some of the surprises during that time regarding the involvement of the public?"
  - "What was satisfying about the results of the activities that were planned?" "What was of concern?"
  - "How well did we meet our objectives?"
  - "What happened that kept us from or helped us achieve our objectives for the public involvement?"
  - "What do we need to do differently?" "What should be our next steps?"
- A written assessment can be done in the form of a survey. Survey Monkey and Key Survey are examples of readily available online survey tools that make it easier to respond to the assessment questions.
- Short debriefs with the project team after each public meeting or each activity with the public to determine what worked and what needs to be changed to improve effectiveness.
- After each public involvement activity, short debriefs with the participants from the underserved population can be conducted verbally, through the use of comment cards, short surveys, or the like, to gauge participants' reaction to the activity, provide input on the next steps, gather suggestions for future actions, and identify additional information, resources, or other needs.

What Are Its Limitations?

It takes time to do the assessment and deliberate intention is required to frame the goals and objectives in the plan so they can be assessed later, either formally or informally.

What Types of Resources and Costs Are Required?

The person(s) developing the PIP should be committed to doing periodic or final assessments of its effectiveness. That person(s) should know how to write the goals and objectives in language that would facilitate assessment, either formal or informal, of the plan. There also needs to be a willingness to dedicate project team time to do the assessments. The costs for PIP effectiveness assessment should be an accepted task element of the public involvement budget in the Unified Planning Work Program (UPWP) at the metropolitan planning stage or an explicitly recognized activity for project planning or environmental studies.

Who Has Used It Successfully?

- The *Ohio DOT, Opportunity Corridor, Mapping of Attendees, Environmental Justice Analysis.* Over a 6-month period, the Ohio DOT held two kick-off meetings and six neighborhood

meetings for its Opportunity Corridor project in Cleveland. The populations within the corridor's study area are predominantly Black and low income. Following a series of meetings, an environmental justice analysis was undertaken to assess the level of participation by the populations within the corridor's study area. Sign-in sheets provided at each of the eight meetings were used to locate the addresses of attendees, utilizing color-coded sticky strips to pinpoint addresses on a large aerial map. Each meeting was assigned a unique color with corresponding color sticky-strips. There were 570 attendees at the events, but only 141 of them gave an address within the corridor's study area. Similar assessments were conducted for each of the events to consider whether the event location influenced attendance by the environmental justice populations living within the corridor area. This analysis was helpful in determining possible different locations, times of day/night, and days of the week/weekend for the next series of public meetings.

- The *South Carolina DOT (SCDOT), SC 72, Meeting Locations in a Safe Area.* SCDOT was interested in widening or relocating SC 72, a road that went though the center of Calhoun Falls. This small town of approximately 2,500 people was about equally composed of White and Black populations, but had a history of Ku Klux Klan Activity and racial animosity. The town hall was the site of the first public meeting, scheduled from 4:00 pm to 9:00 pm so that the elderly and workers on different shifts at a local mill could still attend. The town hall was familiar to everyone—it was where the residents paid their water bills—and it was in the middle of Calhoun Falls. One of the six evaluated alternatives went through Bucknelly, a Black community, but, surprisingly, only about 18 of the 90 attendees were Black. After the meeting, the consultant responsible for the outreach and the community impact assessment sought out the Black mayor to ask why so few Blacks had attended. He said that while people knew where town hall was, it was in the middle of a White neighborhood and they were afraid to go through a White neighborhood after dark. The Bucknelly community center, he offered, would be a good alternate location to hold another meeting. On the Monday after Easter, more than 90 Blacks and four Whites attended a meeting held at the Bucknelly center. The attendance levels showed that the Blacks were very interested in the project, but confirmed the mayor's suspicion that fear had played its part in low attendance at the town hall site.

- In 1999, the *Hillsborough County (FL) Metropolitan Planning Organization* (MPO) adopted evaluation measures to assess the effectiveness of its proactive public involvement process. Their public participation plan (PPP) is regularly updated. Beginning in 2003, the PPP outlined guiding principles that include providing opportunities for involvement; being inclusive of constituencies; being responsive to participants; providing a predictable process; being creative and flexible; and maximizing exposure, minimizing costs. The PPP is refined through a series of reviews and recommendations that are enhanced by ongoing feedback, surveys, and updates that coincide with each long range transportation plan update. In addition, the MPO provides information on its website, via newsletters, interactive web tools, social media feeds, online surveys, email comment access, and mailing lists. Since 2005, the MPO has published a biennial *Public Participation Plan Measures of Effectiveness Report* that details PPP activities during the period for specific projects or plans, the number of attendees or participants at events, suggested refinements to the PPP, and a summary of activities and results. The effectiveness report includes a measure of the number of meetings and attendees from designated "environmental justice" areas. The publication itself serves as another opportunity for the public to comment on and provide input about the effectiveness of the PPP (see Figure 5-5).

Figure 5-5.   Hillsborough County assesses its effectiveness working with disadvantaged populations and environmental justice communities in its PPP Measures of Effectiveness Report.

Resources/Contacts

International Association of Public Participation (IAP2): http://www.iap2.org

Public Involvement: Feedback, Evaluation and Customer Satisfaction: http://www.epa.gov/stakeholders/feedback/index.html

South Carolina Route 72, Environmental Assessment, South Carolina Department of Transportation Case Study: http://www.fhwa.dot.gov/environment/ejustice/case/case10.htm

Hillsborough County (FL) Metropolitan Planning Organization (MPO), Public Participation Plan & Effectiveness Reports: http://www.hillsboroughmpo.org/pubmaps/pubmaps_folders/public-participation-plan-effectiveness-reports

Lynn Merenda
Hillsborough County MPO
P.O. Box 1110
Tampa, FL 33601-1110
(813) 273-3774 x342
merendal@plancom.org

Michele Ogilvie
Hillsborough County MPO
P.O. Box 1110
Tampa, FL 33601-1110
(813) 273-3774 x317
ogilviem@plancom.org

Brand Project through Clothing and Other Paraphernalia

Implementing Public Involvement Plans			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Branding projects through clothing and other paraphernalia is a way to visually identify members of the project team in the field or at public events. Clothing and other paraphernalia can include one or multiple distinct articles of clothing such as t-shirts, hats, jackets, badges, and the like.

Why Is It Effective in Involving Traditionally Underserved Populations?

Branding projects through clothing and other paraphernalia can serve the purpose of bringing attention to members of the project team and giving them an identity in places where they may not be known. It can be difficult to enter a community as an outsider where trust has not yet been achieved. Branding projects in this fashion makes it easier for community members to see that outsiders have a purpose for being there. By making the team members easily identifiable, they will be more approachable and invite comments and questions from the public. It can also ensure a certain level of accountability among project team members because it instills in them the idea that they are representing the project to the public (see Figure 5-6).

What Are Some Techniques for Implementing This Tool?

- Use bright colors that are not commonly found in everyday wardrobes in order to stand out.
- Do not use colors that are strongly associated with other groups (i.e., local sports teams, gangs, political organizations, etc.).

Figure 5-6.   Branding projects through such items as clothing makes it easier to be spotted within a community and gain a measure of acceptance as an outsider.

- Incorporate a project logo or agency logo.
- Make people return uniform materials at the end of the project to preserve brand identity.
- When selecting uniforms, consider carefully the seasonal or time-of-day conditions under which people will be wearing them—if people are going door to door in winter, hats and coats of the same color as the t-shirts should be used.

What Are Its Limitations?

Branding projects through such items as clothing makes it easier to be spotted within a community and achieve a measure of acceptance as an outsider, but it by no means assures acceptance. To foster trust, the practitioner will need to take the time to learn about community needs and concerns, which requires skill in communications, patience and curiosity to allow communications to unfold at their own pace, and a respect for cultural differences.

What Types of Resources and Costs Are Required?

Costs for clothing will vary significantly by the article(s) used, the number that are needed, how the branding is applied, and how much wear and tear they get. At their least expensive, clothing can be purchased at discount retailers and rely solely on color to convey a group identity. Professionally customized items will be the most expensive.

Who Has Used It Successfully?

- The *I-70 East Project* in Denver, Colorado, used yellow t-shirts with project logos and photo identification badges. At meetings, the project sponsors from the Colorado DOT, the Regional Transit District, and consultant project staff also wore t-shirts.
- The *Business 40 Project* in Winston-Salem, North Carolina, used orange t-shirts with logos and photo identification badges. During the winter months, orange jackets the same color as the t-shirts were worn. During public meetings, the North Carolina Department of Transportation staff and consultant project staff also wore orange t-shirts.

Resources/Contacts

Jumetta Posey
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem NC 27101
(336) 724-2130
jgposey@nsolutions.org

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Offer Refreshments

Implement Public Involvement Plan			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Offering food and/or beverages is a way to improve attendance and productive dialogue at public events.

Why Is It Effective in Involving Traditionally Underserved Populations?

Providing food at a meeting can be a way to increase meeting attendance. It allows parents to pick up their child at the day care facility or at home and come directly to the meeting without having to eat first. When people go home first to eat supper, their desire to go out again to a meeting may diminish and they may remain at home. Having a meal at a meeting can provide an incentive for someone who is low income to attend a meeting. Often having a meal at a meeting provides neighbors an opportunity to get together and becomes a reason to attend the meeting.

Refreshments can foster a more relaxed setting and put people at ease. Serving refreshments provides a time and space for people unwilling to stand up in a crowd to have one-on-one discussions and ask questions. When served in the middle of a meeting, they can also be a way to enliven, reinvigorate, or refresh a group that has possibly become tired, bored, or frustrated. Serving more substantial refreshments can also be a way to get around holding meetings at times that may conflict with meals.

What Are Some Techniques for Implementing This Tool?

- Serve foods that are culturally appropriate to appeal to the group that you are trying to engage.
- Hire a local business or community organization within the project area to provide refreshments.
- Hold a potluck supper and provide a main course.
- Mention in advertising materials that refreshments will be served.

What Are Its Limitations?

Food has traditionally been a gesture of goodwill and may contribute to a positive atmosphere at your event but, if there are contentious issues at stake, refreshments will not prove a magic elixir for promoting harmony among differing parties. Always remember to find out if food and beverages are allowed in the space where your event is being held. Despite the fact that refreshments can create favorable conditions for successful public involvement events and enhance turnout, some transportation agencies have been criticized by local political opponents and news organizations that have questioned the use of public funds for this purpose.

What Types of Resources and Costs Are Required?

Costs associated with refreshments vary widely and may be perceived as an unnecessary added expense. However, even the least expensive refreshments, such as coffee and cookies, can have a significant impact on the atmosphere and nature of an event. There are many ways to reduce the

cost of refreshments such as avoiding catering companies and buying packaged foods from the supermarket, using volunteer cooks, or soliciting food donations from local businesses.

Who Has Used It Successfully?

- For the *I-70 East Project* in Denver, Colorado, the Colorado DOT and the Regional Transit District incorporated a meal in each of their block, neighborhood, and corridor-wide public meetings. Local vendors within the project area provided this service. This was a line item in the project budget.
- For the *Business 40 Project,* the North Carolina DOT incorporated a meal in each of its neighborhood and corridor-wide meetings. Money for the meals was donated and not part of the project budget.

Resources/Contacts

Jumetta Posey
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem NC 27101
(336) 724-2130
jgposey@nsolutions.org

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Use Videos to Convey Information

Provide Information			
Policy/Research	☐	Right-of-Way	☒
Statewide/Metropolitan Planning	☒	Construction	☒
Project Development/NEPA Compliance	☒	Operations & Maintenance	☒

What Is It?

Videos are recorded images that can be used to present ideas and information. Many different types of materials can be incorporated into a video ranging from framing key issues faced for a plan or project to visualization of traffic simulation or construction sequencing.

Why Is It Effective in Involving Traditionally Underserved Populations?

There are many potential advantages to presenting information via video. Videos can be an engaging format that encourages participation and may be more easily digestible to a wider audience. Video may be particularly useful in presenting information to persons with limited English proficiency (LEP). Like other agency material, videos can be disseminated widely to promote a message or provide information to stakeholders.

What Are Some Techniques for Implementing This Tool?

- For complex projects, use visualization techniques such as fly-throughs of places or scenario sequencing (e.g., land settlement patterns over time).
- Setup a PowerPoint presentation display with a recorded narrative and set slide transitions.
- Use subtitles in English for the hearing impaired and other languages for LEP persons.
- Post videos to the Internet so they can be shared with others, especially youth and young adults.
- Link videos to the agency website as a source of project information for those unable to attend events or to learn more about a project.
- Include contact information or a website at the end of the video for those with comments or seeking further information.

What Are Its Limitations?

Videos are presentations and generally involve a "one-way" information flow. While valuable in framing the information communicated by the agency, they are generally not flexible or responsive to the unique concerns that distinct audiences may want addressed at a proceeding. While multiple videos can be made for multiple audiences, once the video is being used at an event or distributed electronically there is no way to tailor information in the video to the audience as a live presenter might. Additionally, the length of a video, while potentially infinite, may, out of practicality, be too short to provide enough information to address the range of issues that viewers may have.

What Types of Resources and Costs Are Required?

Using the software that may already be on your computer or that can be downloaded from the web, videos that are produced today can be created at a fraction of the costs incurred in prior decades. Expenses for video production such as the cost of film or tapes have declined

significantly with advances in digital recording, storage, and duplication. Professional services can be employed to create especially elaborate or refined videos; however, it is often reasonable to assume that in-house staff will be capable of producing rudimentary to somewhat advanced video presentations.

Who Has Used It Successfully?

- The *Atlanta Regional Commission (ARC)* has produced more than a dozen TV shows and videos highlighting key planning issues confronting the metropolitan region, and this material is posted on its website. *The Changing Faces of Our Region* examines the changing social composition of the region, which has been one of the fastest-growing areas in the country, adding more than one million people in less than a decade, three-quarters of which are from non-White populations. Increasing ethnic diversity and the aging of the baby boomers have transformed the region's residents and workforce, and the video offers not only facts but observations from national and regional experts about its implications for the future.
- *Sound Transit* in Seattle, Washington, used videos to spread an educational message about pedestrian safety for at-grade light rail crossings through a student film competition. The student films were stored online through the Link website and YouTube, and the contest brought attention to their campaign (see Figure 5-7).
- The *California Department of Transportation (Caltrans)* has developed an *LEP training video* posted on its website and used for staff training on how best to interact with customers requiring language assistance. Caltrans maintains video archives for a range of other projects, programs, and activities.
- The *U.S. Department of Justice (DOJ), Civil Rights Division,* produced a video titled, "Understanding and Abiding by Title VI of the Civil Rights Act." The video is approximately 23 minutes in length and covers several topics, including a history of the Civil Rights Act of 1964, an explanation of the requirements of Title VI, an illustration of discrimination against individuals, and discussions of disparate impact and LEP. The video is also available on several state DOT civil rights websites including California, Michigan, and New Jersey.
- The *Regional Transportation District* in Denver, Colorado, produced *A Citizen's Guide to Effective Participation in the Regional Transportation Planning Process,* a short video that describes the purpose of a regional transportation plan, why it is important to get involved in the planning process, and ways that citizens can become engaged in the process. The video is also available on several other metropolitan planning organizations' (MPO) sites.

Figure 5-7.   High school students produced safety videos in a contest to raise awareness of a new light rail system.

- The *Oregon Department of Transportation, Civil Rights Office*'s video, *Start Building Your Future Today: Welcome to the Construction Industry Apprentice Programs* describes what to expect as an apprentice in the construction industry getting on-the-job training.
- *Miami-Dade MPO* and several other MPOs offer live streaming videos and/or make video records of proceedings of MPO meetings and upload them to their website.

Resources/Contacts

Atlanta Regional Commission, *Changing Faces of Our Region:* http://www.atlantaregional.com/info-center/tv-shows-videos/show-12-the-changing-faces-of-our-region

FHWA, "Interactive Video Displays and Kiosks," *Transportation Planning Capacity Building:* http://www.planning.dot.gov/publicinvolvement/pi_documents/4c-c.asp

You Can't Beat the Train—Winning Video in Stay Safe and Sound Student Film Competition: http://www.youtube.com/watch?v=jgIKUQ5VD40

California Department of Transportation. *Language Assistance for Limited-English Proficient (LEP) Persons Your Responsibilities under the Dymally-Alatorre Bilingual Services Act:* http://www.dot.ca.gov/hq/bep/title_vi/training_video_2_ choice.htm

Oregon Department of Transportation, *On the Job Training / Apprenticeship Program:* http://www.oregon.gov/ODOT/CS/CIVILRIGHTS/ojt_program.shtml#OJT_Mission

Distribute Flyers

Provide Information

Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Flyers are one-page paper notices for distribution, and can provide information about upcoming events and project information directly to a wide variety of groups.

Why Is It Effective in Involving Traditionally Underserved Populations?

Flyers can effectively provide information to traditionally underserved populations because they provide flexibility in information dissemination. Flyers can be placed at community activity centers frequented by traditionally underserved populations and written in the language and tone that will best communicate to those populations. Activity centers where flyers can be posted include public buildings such as libraries and post offices, community and senior centers, churches, as well as local businesses such as grocery stores, hair salons, and cafes. Flyers can be posted for all to see and can be left for people to take with them. Flyers convey information that is clearly visible as opposed to letters in mailboxes, which may contain a bill, an advertisement, or a threatening notice that may be thrown away rather than opened.

What Are Some Techniques for Implementing This Tool?

- Use local groups to do the flyering.
- Use multiple languages.
- Design attractively and use straightforward language.
- Distribute widely at locations where the target population congregates.
- Include contact information for inquiries.
- Identify website for more information.
- Indicate for events whether or not the location is wheelchair accessible, whether there will be interpreter services, and whether childcare will be provided.

What Are Its Limitations?

Flyers are most effective at getting the word out about events or service changes to people who already have some level of awareness or interest. Flyers have limited utility in engaging those with no previous knowledge or interest in a project. People who are not informed on the issues or do not see how a project may potentially impact them are unlikely to attend a meeting just because they saw a flyer advertising it. If an agency is truly interested in engaging the communities that may be impacted by a project, then just letting people know about an event only through flyers may not be enough to garner participation, especially among those who have been traditionally underserved.

Flyers are also limited by their size. Only so much information can effectively be conveyed on a single piece of paper. Flyers will not provide people with all the information they need to become educated about complex project issues.

Flyers should always be distributed or posted in a way so that they do not become unsightly litter, such as by attaching to a door knob or placing under a door mat or windshield wiper.

What Types of Resources and Costs Are Required?

Reproduction costs will vary depending on the color and quality of flyers. In-house printing capacity may mean that these costs are possibly absorbed in office operating expenses.

Who Has Used It Successfully?

- For the *South Coast Rail Project,* the *Massachusetts DOT* advertised station area workshops with English-, Spanish-, and Portuguese-language flyers (see Figure 5-8).
- For the *Buford Highway Pedestrian Safety Project,* the *Georgia DOT* spread the word about a survey being conducted at a public mall by distributing flyers printed in both English and Spanish to all apartment complex managers and business owner/operators within the project corridor.
- For the *Business 40 Project,* the *North Carolina Department of Transportation (NCDOT)* distributed flyers to announce upcoming events and the initiation of a survey to explore public preferences for the closure and reconstruction of the highway.
- *La Casa de Don Pedro* publicized its "Safe Passages to Summer" event with a flyer for an event held on the 5th Year Anniversary of the opening of the Coretta Scott King Community Playground in Newark, New Jersey's Central Ward. The flyer was also enclosed along with a letter for a targeted mailing describing the reason for the upcoming event. The event celebrated the installation of a stop sign at a pedestrian "hot-spot" intersection. The stop sign's installation culminated a 2-year advocacy campaign led by La Casa de Don Pedro's *Caminos Seguros Program* in association with a local block club association, local council persons, and other community partners. The community event included free face painting, bicycle give-aways, helmet fittings and helmets, backpacks, food, music, and child safety IDs done by the Latino Peace Officers Association (see Figure 5-9).

Figures 5-8 and 5-9.   Flyers in Spanish, English, and Portuguese invited participation in station area workshops (left) in New Bedford, Massachusetts. An upcoming block party to celebrate the community's successful advocacy for pedestrian safety improvements was distributed in Newark, New Jersey (right).

Resources/Contacts

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Alle Ries
Division Director, Community and
    Economic Development
La Casa de Don Pedro
75 Park Avenue
Newark, New Jersey 07104
(973) 485-0701
aries@lacasnwk.org

Advertise on Billboards, Marquees, and Variable Message Signs

Provide Information			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Billboards and marquees display large-scale advertisements in highly-visible places, such as alongside highways or on the sides of buildings. Variable messaging signs to announce events can grab the attention of the traveling public along roadways.

Why Is It Effective in Involving Traditionally Underserved Populations?

Billboards, marquees, and variable messaging signs draw attention and communicate a simple message to a captive community traveling through an area. They can be used to advertise for a public event, provide notification of upcoming construction activities, direct people to online surveys, or thank the community for its involvement. Because of their prominent placement and visibility, billboards can be particularly effective in reaching groups that are not currently engaged in the topic and in creating a buzz about the issue.

What Are Some Techniques for Implementing This Tool?

- Advertise a survey or public event.
- Consider the languages spoken by those living, working, or commuting when developing text.
- Include a hotline number or web link for those with comments or questions.

What Are Its Limitations?

Billboards can effectively convey a message, but they do not provide detailed information. They can be best used to reach an audience about a single topic (upcoming event, online survey, construction impacts, etc.).

What Types of Resources and Costs Are Required?

The cost of renting a billboard ranges from hundreds to thousands of dollars depending on the density of the site and demand for billboard advertisements. If you are renting more than one billboard you may be able to negotiate a discount. Banners can be draped on buildings for a short period at a lower cost.

Who Has Used It Successfully?

- *Ridewise,* a non-profit in Somerset County, New Jersey, used variable message signs to advertise an online commuter survey about an upcoming roadway corridor project along

Figure 5-10.   Variable messaging signs can communicate simple messages to bring attention to an event, survey, issue, or organization.

Route 202. Over 1,000 online surveys were collected from commuters over the 2-month period during which the sign was posted (see Figure 5-10).

- The *Denver Regional Transit District* has advertised on billboards in English and Spanish to inform people about an upcoming light rail project in Denver, Colorado.
- The *Hoopa Valley Reservation* prominently displayed banners on a civic building to announce an upcoming design fair in order to encourage attendance to devise traffic calming and safety improvements.

Resources/Contacts

Federal Highway Administration, "Public Information Materials": http://www.fhwa.dot.gov/reports/pittd/pubinfo.htm

Publicize through Local and Ethnic Media Outlets

Provide Information			
Policy/Research	☐	Right-of-Way	☒
Statewide/Metropolitan Planning	☒	Construction	☒
Project Development/NEPA Compliance	☒	Operations & Maintenance	☒

What Is It?

Using local and ethnic media outlets is a mechanism for reaching populations that would not necessarily be reached using "regular" media outlets. "Local" refers to neighborhood media, such as weekly newspapers, targeting a particular part of town or a neighborhood. "Ethnic media" refers to media in a particular language, such as Spanish or Arabic, or English-language media directed to a particular ethnic group such as Asian Americans or Blacks. Local and ethnic media may also include radio and local cable TV stations, community blogs, and news sites.

Why Is It Effective in Involving Traditionally Underserved Populations?

Using local and ethnic media outlets provides information on public meetings and project activities that is targeted at, and more likely to reach, traditionally underserved populations. The local media will focus on neighborhood-related information, so people in that neighborhood are very likely to read it since they know it will be news about things that may directly affect them. Ethnic media outlets are tailored to the language and cultural interests of the group to which they are directing their attention. Many ethnic groups look for the media that is directed at them because they know it will have information about activities and persons that are likely to be of interest to them (see Figure 5-11). The overall readership or listenership may be less than the

Figure 5-11.   A Spanish-language display ad for a public meeting held by the Alamo Regional Mobility Authority in San Antonio, TX, for the Environmental Impact Statement for Loop 1604.

larger, mainstream media outlets, but they are more directed at the particular populations and consequently can get the information to them more directly.

What Are Some Techniques for Implementing This Tool?

First, you must identify the local and ethnic media outlets. This can be done by looking on the Internet or asking people from the neighborhood or ethnic group you want to reach.

Once you have identified the media outlets appropriate for your target audience, contact them and find out what their deadlines are for turning in requests for coverage, news releases, interviews, public service announcements, and so forth, and then respect their deadlines. Many of the media guides will explain how to write a press release, request for coverage, and public service announcements so they will be more likely to be used.

It is always helpful to establish a relationship with the people at the media outlet so that they will get to know you and trust that you will send them good information of interest to their customers.

Make the information you send them as comprehensive as possible. Most local and ethnic media outlets have very small staffs; the more that you can give them, the easier that you will make their job. This exchange could pay dividends in more favorable coverage. If possible, send news releases already translated to a media outlet that uses a language other than English. But, be sure the translation is a good one, or else they will have to figure out what you are saying. Avoid technical terms no matter what language you are using. Use clear, commonly used terminology as much as possible. Get someone who is not a technical person to review your material for understandability before you send it out.

When they publish or air something that you have sent them, be sure to thank them for using your material and for publicizing your event. If they do an interview, contact the interviewer and/or the scheduler to thank them for the interview. If true that people mentioned their media outlet as their means of receiving the information they needed to participate in the process, let the outlet know that.

On the sign-in sheets for your events, put something that asks participants to indicate where they got the information about the meeting or event. You can use that information to thank the media outlets and/or modify your outreach plan.

What Are Its Limitations?

Local media outlets may not cover all neighborhoods and it may be difficult to identify ethnic media outlets. Therefore, it is unlikely that they can be used exclusively to get information out about a project. They need to be used in conjunction with mainstream media outlets.

Personnel turnover may be high at media outlets, particularly community-based publications. It is likely that you will need to maintain regular contact with the organization to keep up with who is on the staff.

What Types of Resources and Costs Are Required?

Many media outlets will publicize your events and include information on your project at little or no cost. The costs for advertising through these outlets are usually much less than in the mainstream media outlets and will vary from market to market (city to city). Many of the media lists you can get online are based on a fee.

Costs for the radio ads will depend on the station's market share and how many ads you run. They will usually do interviews at no cost as part of their public service activities. They will also

run PSAs at no cost, but the times they run them will usually be during off-hours—late at night or very early in the morning.

Television stations will usually cooperate with PSAs as well, but the information needs to get to them a couple of months before the event and they need to see that it significantly impacts their viewing audience. They also usually have interview programs at no cost and are always looking for a good interview/story. Most television ads are too costly, but some of the cable stations will run "packages" that are lower in cost, but may still be prohibitive.

Who Has Used It Successfully?

Local and ethnic media outlets are one means of getting communications out to targeted segments of the public, and the approach has been adopted by a range of organizations and professionals, including public involvement specialists, public information officers and public relations firms working for or representing departments of transportation, metropolitan planning organizations (MPOs), transit agencies, and other state, county, and local planning organizations.

- *Houston Metro* placed ads and submitted articles to the Spanish-language newspapers in Houston in order to reach the Hispanic population in the corridors being studied for their light rail alternatives analysis. News releases were sent to the Spanish-language television and radio stations and interviews were scheduled so the study could be discussed and explained orally and not just in a written format.
- The *San Antonio-Bexar County MPO* sends news releases to the local bilingual (Spanish/English) newspaper and local community newspapers when they want to get information to particular neighborhoods with a high density of minority populations.
- The *Texas Department of Transportation* regularly sends news releases, requests for coverage, PSAs, and requests for interviews to Spanish language and local community media with minority audiences. They have purchased ads and paid for legal notices in Spanish and in local community newspapers with a high minority readership. For a project along the border, they even sent press releases to the newspapers on the Mexican side to be able to reach more of the stakeholders on both sides of the border who used the international bridges.
- The *Miami-Dade MPO,* as well as many other agencies, will appear on local and ethnic radio and cable TV stations to discuss issues and upcoming events.

Resources/Contacts

Mass Media Distribution distributes press releases to newspapers, magazines, trade journals, TV, radio, blogs, and online news sites: http://www.massmediadistribution.com/?gclid=CKHmrqiZ_qYCFcfe4Aodnh0jbw
My Media Info provides media lists for U.S. and Worldwide: www.MyMediaInfo.com
Media Contacts Pro: www.MediaContactsPro.com
Mass Media Distribution distributes press releases to newspapers, magazines, trade journals, TV, radio, blogs, and online news sites: http://www.massmediadistribution.com/?gclid=CKHmrqiZ_qYCFcfe4Aodnh0jbw
National Ethnic Media Directory provides online information on more than 2,500 ethnic media organizations in the United States, including print, online, radio, and television: http://news.newamericamedia.org/news/view_custom.html?custom_page_id=263
Texas Media Directory is an example of a statewide media list: www.texasmediadirectory.com

Scott Ericksen
Public Involvement Supervisor
San Antonio-Bexar County Metropolitan
        Planning Organization
825 S. St. Mary's Street
San Antonio, TX 78205
210-230-6902
ericksen@sametroplan.org

Linda Vela
Public Involvement Manager
RJ Rivera Associates, Inc.
601 NW Loop 410, Suite 410
San Antonio, TX 78216
210-785-0888
vela@rjrivera.com

Laura Lopez
Public Information Officer
Texas Department of Transportation,
    San Antonio District
4615 NW Loop 410
San Antonio, TX 78229-0928
210-615-5839
laura.lopez@txdot.gov

Leroy Alloway
Alamo Regional Mobility Authority
1222 N. Main Ave., #1000
San Antonio, TX 78212
Office 210/495-5804
Fax 210/495-5403
Email: lalloway@alamorma.org
www.alamorma.org

Employ Visualization Techniques

Provide Information			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Visualizations are worth a thousand words. They can be very effective in translating a complex scenario into a simple concept. They can foster trust and improve communication between agencies and the public.

Why Is It Effective in Involving Traditionally Underserved Populations?

Making visualizations an integral part of any presentation, newsletter, website, or newspaper article provides the members of the public with a picture of what is actually being proposed. This increases their understanding of the project, allows them to participate more fully in transportation decisionmaking, makes them more aware of how these decisions may affect their lives, and helps them communicate this information and awareness to others.

What Are Some Techniques for Implementing This Tool?

The visualization techniques generally used at public meetings to show proposed changes to existing roadways and proposed new roadways are effective tools in communicating complicated alternative scenarios to the public. These include:

- "Before and after" photographic renderings that show the existing conditions and the proposed changes.
- Morphs, which start with a still photograph, slowly add features such as additional lanes, planted medians, bike lanes, sidewalks, or bus pull offs, and can be repeated in cycles (see Figure 5-12).
- 3D "drive throughs" that show what driving on the new or improved roadway will look like to a driver.
- Photographs of landmarks placed on maps or drawings to indicate where they are located provide orientation rather than relying on text. Each alternative is shown in a different color that corresponds to its specific roadway cross section.
- A video describing the sequence a public hearing will follow, what the project area looks like, and what displays will be presented to the public.
- A flowing simulation program such as VISSIM software that is capable of showing the effects of different alternative scenarios for multiple modes of traffic including pedestrian, bicycle, bus, light rail, and roadway.

What Are Its Limitations?

Visualizations are often appealing, but can undermine public trust in projects and sponsoring agencies when the photos or illustrations fail to reflect the diversity of populations within a subject area. This can be a problem, in particular, when "before and after" visualizations of community life are being provided. Practitioners should critically assess their digital library:

Figure 5-12.   Visual Morphing Display at a public meeting.

How diverse is my library? Are there hidden biases depicted in terms of race, ethnicity, income and age, among other considerations?

In many cases, while visualizations often speak for themselves, a staff member may need to be present near displays or during presentations to offer additional description or to address any questions that the public may have.

What Types of Resources and Costs Are Required?

The project budget will help determine what level of visualization can be used. Necessary commercial software must either be bought or leased through a licensing agreement. "Before and after" photographic renderings are the cheapest and quickest ways to provide information. Morphs are slightly more expensive and time consuming to prepare. "Drive throughs" are the most expensive and require the most time to prepare. Use of VISSIM software requires a license and is more expensive than other commercial software products.

Who Has Used It Successfully?

- The *Mississippi DOT* produces in-house videos for approximately 85 percent of its public hearings. For most projects, a 10 to 12 minute continuously running loop is prepared. However, larger, more complex projects require longer videos. Each video begins with the Mississippi DOT's Executive Director welcoming citizens to the meeting and providing an

introduction to the project. Environmental and project development project processes are described, specific issues are identified, and the project's purpose and need is discussed. Footage of the project corridor is shown from a driver's perspective, and environmentally sensitive areas are highlighted. The video provides members of the public with background information before they proceed into the next part of the public hearing where aerial photographs, cross-section views, and alternatives are shown. To date, it had been done in English only.

- The *Atlanta Regional Commission (ARC)* sponsored a photo contest, inviting people of all ages to take photographs and share them with ARC staff members, explaining what their images represented. The approach gave ARC greater insight into what residents valued most and what they wanted to change. ARC uploaded the pictures to a social media platform to share with others. Metro Atlanta Arts and Cultural Coalition, an arts-advocacy organization, served as ARC's advisors and representatives of the Boys and Girls Club, the museum community, and Atlanta Celebrates Photography, among other organizations, judged the submissions and selected four winners. The winners were announced at an ARC breakfast and given prizes such as airline tickets and photography classes. ARC considered the event such a success that they intend to hold the contest again in the future.

- The *Mecklenburg-Union Metropolitan Planning Organization* and the *Town of Huntersville, North Carolina,* worked with consultants who developed VISSIM simulations of proposed roadway network alternatives for the Northwest Huntersville Area Study. A 2-minute video was created for each of the three proposed alternatives. The videos were used in a series of public meetings to show the proposed roadway networks displayed over aerial photography, and the future year 2030 traffic operations.

- The *Washington State Department of Transportation (WSDOT)* prepared several simulations for the *Alaskan Way Viaduct and Seawall Replacement Project* including a video simulating the collapse of the seawall and viaduct from a strong earthquake, a drive-through video illustrating an early design concept for the bored tunnel, and an interactive visualization of the construction sequencing and traffic detours. These and other simulations along with other project information are on the WSDOT project website.

Resources/Contacts

Federal Transit Administration, "Choosing Visualization for Transportation Knowledge Sharing Web Portal": http://www.choosingviz.org/

Washington State Department of Transportation, Alaskan Way Viaduct and Seawall Replacement Project: Viaduct Vulnerability, Earthquake Simulation (October 2009): http://wsdotblog.blogspot.com/2009/10/earthquake-simulation-highlights.html

SR 99—S. Holgate Street to S. King Street Viaduct Replacement—Detour construction steps http://www.wsdot.wa.gov/Projects/SR99/HolgateToKing/DetourSteps.htm

Kim Thurman, Environmental Division Administrator
Mississippi Department of Transportation, Environmental Division
P.O. Box 1850
Jackson, MS 39215-1850
(601) 359-7922
kthurman@mdot@mdot.state.ms.us

Bill Coxe, Transportation Planner
Town of Huntersville, Huntersville Town Hall
101 Huntersville-Concord Road
Huntersville, NC 28078
(704) 766-2210
bcoxe@huntersville.org

Recruit and Mobilize "Community Ambassadors," "Beacons," or "Trusted Advocates"

Provide Information, Build Relationships

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Community ambassadors, beacons, and trusted advocates are individual citizens or leaders who are capable of bridging the communications gap between professional practitioners and members of the public, including traditionally underserved populations. These individuals and leaders tend to be perceived by members of the community as credible, trustworthy, approachable, and effective in their communications skills.

Why Is It Effective in Involving Traditionally Underserved Populations?

Ambassadors/beacons may be members of a specific ethnic, racial, and/or cultural group possessing particular expertise in the culture, language, history, and values of the local community. Ambassadors or beacons know who to contact and how to approach them, which makes it easier to get the word out about what is going on and how and why to participate. A "word-of-mouth" approach is effective with most populations, but is especially effective with traditionally underserved populations because the ambassador/beacon is someone they know and trust to give them good advice. The relationships are already established and people rely on the network to give them good information.

What Are Some Techniques for Implementing This Tool?

- Find someone from the community that people know and trust who is not generally known for their association with a particular advocacy position or coalition.
- Ask that person for advice on how to approach the community leaders and/or enlist them to get the leaders involved and/or informed.
- Compensate them for their time.
- Train them in transportation issues.

What Are Its Limitations?

Community ambassadors have proven very effective at reaching traditionally underserved populations on their turf, as well as gathering meaningful feedback from them. Ambassadors have proven less successful in changing who attends the agency's public meetings or getting the public to work more directly with practitioners. Furthermore, getting members of the community to openly communicate with ambassadors for a specific project is no guarantee of sustained participation in transportation decisionmaking. Transportation professionals who are effective in working with the ambassadors to foster involvement with underserved populations may be able to build trust with the community and find themselves better positioned to pursue future projects and initiatives through the maintenance of these relationships.

What Types of Resources and Costs Are Required?

Ambassador programs at minimum require staff resources to recruit and educate ambassadors. Additional costs may be compensation or a stipend for Ambassadors, as well as providing them with informational materials to disseminate, such as pamphlets or flyers.

Who Has Used It Successfully?

- The *City of Seattle* established the *Planning Outreach Liaison (POL)* program to formalize the use of community members in conducting outreach efforts for its neighborhood plan updates. The city recognized the growing importance of foreign-born populations in shaping city life and neighborhood character and determined that it was critical to secure their engagement in the plan update process to better understand their hopes and aspirations. The city sought candidates to represent non-native English speaking ethnic groups residing within the three neighborhoods: Somali, Eritrean, Oromiffa, Amharic, Chinese, Cambodian, Vietnamese, Filipino, and Hispanic. Trusted advocates were also recruited to connect to Blacks, Native Americans, persons with disabilities, seniors, and youth as prior outreach efforts had not been particularly successful with these groups (see Figure 5-13).

- The *San Antonio-Bexar County Metropolitan Planning Organization* in San Antonio, Texas, used community beacons in undertaking the *East Corridor Multi-Modal Alternatives Plan,* working in a neighborhood where over multiple decades residents and employers had borne the consequences of inadequate investment in essential infrastructure and poor access to vital services such as public safety, health care, education, and shopping. The beacon was able to open doors for transportation planners to meet and get to know community leaders. She helped both the community leaders and the transportation planners feel more comfortable with each other and facilitated effective communication for both groups. Through this approach, the community was educated about the transportation planning process and was better able to participate effectively. Transportation planners, in turn, came to a better understanding of the transportation priorities for residents, which they were not fully aware of prior to the public meetings.

- The *City of Alexandria's Department of Transportation and Environmental Services,* in partnership with the National Park Service and the Washington Area Bicycling Association (WABA), have trained youth to serve as "*Local Motion Ambassadors.*" The Ambassadors volunteer to

Figure 5-13.   Trusted advocate at work at a senior center in Seattle.

Figure 5-14. Youth volunteer to be "Local Motion Ambassadors" who promote alternative transportation options in the city of Alexandria, Virginia.

assist with promoting transit, walking, and bicycling as travel options. Student ambassadors are trained in safety practices, bicycling equipment, maintenance, and navigating the area's bicycle network. If the opportunity to bike is not reason enough, the Ambassadors—primarily students from middle schools—are incentivized to participate through rewards (e.g., gift cards, electronics, and cell phones) based on the number of outreach hours logged at various events (see Figure 5-14).

Resources/Contacts

City of Alexandria (VA)—Local Motion Ambassadors: http://alexandriava.gov/localmotion/info/default.
aspx?id=11992

Laura Thompson, President
Laura Thompson Agency
9504 IH 35 North, Suite 303
San Antonio, TX 78233
(210) 836-6531
theimagemakergroup@sbcglobal.net

Tony Mazzella, Strategic Advisor
Seattle Department of Transportation
PO Box 34996
Seattle, Washington 98124-4996
(206) 684-0811
tony.mazzella@seattle.gov
http://www.seattle.gov/transportation/

Provide Technical Training to Citizen Groups

Provide Information, Build Relationships			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Training is often used to prepare advocacy, community-based, nonprofit, education, and other groups to assist in data collection, analysis, and other public involvement and outreach activities. Much of this practice comes from ". . . participatory research and includes action research, participatory rural appraisal, practitioner research, and other forms of systematic inquiry that share common ground based on their attention to democratic research principles . . ." (Jacobson and Rugeley, 2007). Some agencies view training as limited to planning activities; however, training may improve public involvement activities in project development or operations and maintenance stages of decisionmaking.

Why Is It Effective in Involving Traditionally Underserved Populations?

Although they may be unfamiliar with transportation decision-making processes or concepts, community-based and nonprofit groups have existing contacts and established relationships with the target disadvantaged populations and, through better access to these populations, the transportation agency or local government can improve its understanding of needs and concerns. Where there is sensitivity to working with outsiders—for example, due to lack of trust, immigrant status, past history—data collection, information dissemination, and other outreach activities may be more effective if provided by trusted individuals or organizations.

What Are Some Techniques for Implementing This Tool?

- Depending on the scope and magnitude of the project or plan, training may be as simple as helping a citizen group to understand the planning, project development, and public involvement processes in order to act as a "navigator" for underserved populations. Citizen groups may need more in-depth training on funding, engineering, or operations of the planned activity.
- Other types of training may be needed if a project or plan requires interviews, surveys, or other types of data collection. Citizen group representatives may be partnered with other experts (e.g., university faculty or students, marketing experts, etc.) to learn to conduct focus groups or interviews, analyze data, monitor outcomes, and report findings.
- Citizen groups may be trained to collect geographic information systems (GIS) data, create photo collections, develop websites, or become the "eyes and ears" of a neighborhood watch or merchant association to address crime and safety issues in a distressed area. For example, crime prevention through environmental design (CPTED) training can focus on remedying threats to public safety in parking lots, transit stations, bus shelters, along safe routes to schools, or other pedestrian areas. CPTED training can stimulate collaborative problem-solving among neighborhood associations or citizens groups, business improvement districts (BID) or merchants, urban planners, landscape designers, law enforcement professionals, and transportation organizations. The design of the physical environment and its continued maintenance are a primary focus for ensuring public safety. CPTED relies on three primary principles: natural access control, surveillance, and territoriality. CPTED audits, which often include field visits

with photo recordation can identify select locations and develop strategies for improving public safety for pedestrians, transit users, and shoppers as they interface with transportation facilities.

What Are Its Limitations?

Perhaps the greatest limitations are the ability of the agency to reach individuals or groups that are trusted by the target population and the individual's or group's capacity to take on the work. It may be necessary to hire a local person who has the contacts and skill set or to contract with a citizen group or organization.

Often, traditionally underserved populations are more concerned with workforce development, safety, education, and access to social services. Transportation planning and project development, while important, may only address these issues obliquely and therefore be less of a priority for many citizens and community groups. Depending on the scope, magnitude, or phase of the project or plan, citizen groups may also need more in-depth training about funding, engineering, or operations of the planned activity.

What Types of Resources and Costs Are Required?

If in-house staff from citizen or community-based groups is available with the needed skills, the resources to bring the individual or agency representative "up to speed" on the proposed plan or project and the process may require only a minimal time commitment. More intensive data collection and information dissemination activities may require hiring experts to provide training for survey administration, focus group or interview techniques, and other data collection activities. Often, citizen or local groups have limited technological resources (e.g., computer hardware and software, Internet access, digital cameras, etc). In these cases, it may be necessary to make arrangements for access to these resources by working with another agency, contractual agreements, equipment loans, among other arrangements.

Transportation agency staff may need to devote time to give basic information to citizen groups on the proposed plans or project to help them effectively communicate with affected populations in their community. This training may take the form of "train-the-trainer" exercises where agency staff provide a broad view of plan or project flow, with additional information on how the proposed action is situated in that flow. One-on-one sessions with key citizen representatives can be effective for addressing specific questions, issues, or processes.

Who Has Used It Successfully?

Community-based research has been extensively undertaken in child development, public health, and mental health care disciplines. Other public and private organizations and disciplines have drawn upon various techniques from these practices to work with their clients. The success of the tool or technique lies in the citizen expert's access to the target population and ability to navigate the process for the community, disseminate information from the agency, and to collect information from the target population. The citizen expert can become an extension of the agency staff.

- The *American Cancer Society (ACS)* has an extensive network of existing staff and volunteers who serve as *Patient Navigators* throughout the country. The navigators help patients to understand the available resources in their community. Some programs are funded by grants; others are supported by local healthcare providers. While many work solely with individuals, the service guides users through the system. "Navigators" may be the first link in providing technical assistance to citizen groups. By developing citizen experts on the proposed process or plan, much of the day-to-day outreach to the target populations can be managed at this level. As the navigators become more knowledgeable or as the plan or project evolves, the

experts can be trained to carry out other activities. Many transit agencies and advocacy groups (e.g., Easter Seals/Project Action) provide travel training programs to teach potential users how to access public and human service transportation resources.

- *Handicapped Adults of Volusia County (HAVOC)* has been a key presence on the *Volusia County Metropolitan Planning Organization's (MPO's) Citizens Advisory Committee (CAC)*. As an advocacy group, HAVOC is a central point of contact between the MPO and many affected communities. Through ongoing participation on the CAC and repeated interactions with the MPO staff, HAVOC members have become increasingly "expert" on transportation issues and processes. In general, the CACs can become a valuable resource for MPOs, particularly when they include representatives of traditionally underserved populations or representatives of agencies serving these populations.

- The *Community Transportation Association of America* has built a network of more than 30 partners through the *National Consortium on the Coordination of Human Services Transportation.* This initiative, part of the National Resource Center for Human Service Transportation Coordination, reaches out to advocacy groups that are interested in transportation issues. It has been replicated on state, regional, and local levels to begin a process of education, training, and information dissemination. By connecting with state, regional, and local representatives of advocacy organizations, regional and state transportation agencies have strengthened their links to traditionally underserved populations and their staff and other resources to aid in the public involvement activities.

- *CPTED Training* and a *Field Audit* were undertaken on behalf of Bay Area Rapid Transit (BART) near the Oakland Coliseum station. CPTED is concerned with designing the local environment to minimize opportunities for crime. With expertise in urban design, planning, and community policing, the consulting CPTED trainers focused on the safety of BART patrons walking to and from the station and from the surrounding neighborhoods and businesses. The CPTED training event and field visit engaged staff from BART and the Oakland Coliseum, nearby business association members, public housing authority staff, and local residents. Field teams were formed to conduct a physical assessment of designated areas. Team leaders, who participated in the assessment, took photographs (see Figure 5-15) and were responsible for

Figure 5-15.   In Oakland, citizens and professionals were trained in CPTED principles before recording their observations and photos to identify pedestrian public safety issues at the Oakland Coliseum transit station and surrounding area.

facilitating the final team discussion on issues and potential resolutions. Two presentations were given to prepare participants before the field visit: one was on the principles of CPTED and the other on conducting a field assessment. Each field team brought back its observations to the consultant team, but on other projects they have reconvened to share their observations in a plenary session. Issues of concern and deficiencies were organized thematically by the training team in terms of access, visibility, land use, surveillance, and territoriality. Possible strategies and recommendations in the area of policy (e.g., policing, code enforcement), operations and maintenance, and physical capital improvements (e.g., design improvements, pedestrian and bicycle facilities, signage, etc.) were presented at subsequent workshops. Event participants expressed their priorities for strategies and recommendations in an exercise in which they were given sets of red, green, and blue sticker dots—each reflecting a different weight of importance—to prioritize initiatives of greater or lesser priority for various locations.

Resources/Contacts

American Cancer Society, Patient Navigators Video: http://www.youtube.com/watch?v=P6wsMDcNwlE

Community-Campus Partnerships for Health (CCPH): http://depts.washington.edu/ccph/commbas.html

Crime Prevention Through Environmental Design (CPTED) for Transit Facilities: http://www.aptastandards.com/Portals/0/Security_pdfs/APTA-SS-SIS-RP-007-10_CPTED.pdf

Easter Seals/Project Action, Travel Training: http://projectaction.easterseals.com/site/PageServer?pagename=ESPA_travel_training&s_esLocation=tc_

Jacobson, M., Rugeley, C. 2007. Community-Based Participatory Research: Group Work for Social Justice and Community Change. *Social Work With Groups 30(4):21–39.*

Oakland Coliseum/Oakland Airport BART Station Access Plan, August 2002: http://www.bart.gov/docs/planning/Coliseum_Access_Plan.pdf

Sherry Plaster Carter, AICP, ICACP
Carter & Carter Associates
37 Grouse Hollow
Murphy, North Carolina 28906
(828) 342-8838
Shercpted@aol.com
http://cccpted.com/

Chris Zeilinger, Director
National Resource Center for Human Service
  Transportation Coordination
1341 G Street, NW, 10th Floor
Washington, DC 20005
(800) 891-0590 ext. 717
(202) 250-4108
www.NRCtransportation.org

Conduct Periodic Field Visits

Provide Information, Build Relationships			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

An upfront site visit is critically important to the beginning of a project, but periodic field visits throughout the duration of a project are also important. Patterns of life can vary during different times of the year, elected and appointed officials can change, development priorities can shift, and natural disasters can occur. Some changes are attributable to local conditions or customs, but others are shaped by broader national, economic, religious, or seasonally-related forces or currents. For example, during Alaska's hunting season, large numbers of Alaska Natives spend their time dedicated to hunting-related activities. From Thanksgiving through the middle of January, many workers will use their leave rather than lose it and are not at their place of work. Black Friday, the day after Thanksgiving and the beginning of the Christmas shopping season, is the busiest shopping day of the year when stores open before dawn or are open 24 hours that day. "Market," the one week period in mid-October in High Point, NC, attracts thousands of national and international furniture buyers, affecting local traffic patterns and the availability of hotel rooms for more than 100 miles. Religious events such as Ramadan, a one month period in which participating Muslims refrain from eating and drinking from dawn until sunset, affects when peak traffic periods occur. Every four years on the second Tuesday in November, millions of voters can be found at polling precincts. The aftermath of natural disasters, like hurricanes, wildfires, and floods, can affect the viability of areas for years if not decades to come. Prior to making any field visit, local calendars should be examined in order to identify potential event conflicts or opportunities to piggy-back on planned events, and local officials should be contacted.

Why Is It Effective in Involving Traditionally Underserved Populations?

In addition to providing an opportunity to see how the project area changes and identifying opportunities to piggy-back on scheduled events, field visits provide occasions for staff to continuously touch base with residents and leaders. This helps to build relationships with individuals and communities. Staff can use these visits to not only demonstrate that they have heard the concerns of the local residents and leaders, but show how they have responded to these concerns. The field visits can be vehicles for building or restoring trust in communities where it has never existed or had been broken, and for fortifying existing relationships. In addition, these visits and relationships help staff gain a better understanding of the inner workings and fabric of these communities, the interdependencies of families and individuals, and an appreciation of what locals truly value and why.

What Are Some Techniques for Implementing This Tool?

The purpose of periodic field visits is to touch base with residents and leaders and to develop a rich understanding of how communities may change or function over time. Techniques can take several forms from additional meetings and small dialogues with local organizations and stakeholders, to walk-throughs of local communities, to attendance at scheduled events held by other organizations, among other approaches. Oftentimes, a good part of these field visits should be spent listening and trying to understand the perspective of those in the project area.

What Are Its Limitations?

Often staff members may not be aware of an event until they are in the field, or they may not realize the significance of the event. By subscribing to the local newspaper or visiting local websites, staff can follow current events in their project area, learn who are informal or formal leaders, identify local issues and concerns, and monitor other changes within the project area.

What Types of Resources and Costs Are Required?

Travel costs should be incorporated into the project budget for field visits. The resources and cost will vary depending upon the size of the project area, whether or not the project area is urban or rural, how many cultures or religions are present in the project area, how far the project area is from an event, and how long the event lasts.

Who Has Used It Successfully?

- For the *U.S. Route 17 Project,* the North Carolina Department of Transportation (NCDOT) consultant staff timed a field trip to the project area for the second week in November, dovetailing outreach activities to the voter turnout on a national election day. Staff had called the voter registration offices in Jones and Onslow counties to identify polling places in Belgrade (Onslow County) and Maysville and Pollocksville (Jones County) along or near the subject corridor, discovering that more than 70 percent of the registered voters in those three precincts had voted in the last election. Staff was advised that they could set up tables and chairs, but could get no closer than 50 feet from the polling place entrance. The consultant staff brought tables, chairs, project signs, copies of project maps, newsletters, other information about an upcoming public meeting, as well as cookies and soft drinks. When staff arrived at one of the locations, they found others passing out various candidate-related information including members of the Black Caucus who were distributing pamphlets to Black voters. After introducing themselves to caucus members, staff asked if they would be willing to direct their voters over to the project table to take a project survey. They agreed and with their help staff members were able to ensure that Blacks were provided with the opportunity to be surveyed. White voters were also interviewed by staff at these three locations.
- For the *Business 40 Project,* NCDOT's consultant staff identified the only mall within 30 miles of Winston-Salem. They contacted its management and rented space inside the mall at the main entrance. On Black Friday and the following Saturday, project consulting staff dressed in orange project shirts and conducted more than 800 surveys, told shoppers about the Business 40 project, and passed out project information. Because there were no other malls in the area, the survey effort captured Winston-Salem residents and commuting residents from Kernersville and Lewisville, major suburbs located east and west of Winston-Salem.

Resources/Contacts

Anne Morris
Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Ms. Jumetta Posey, CEO
Neighborhood Solutions
800 North Cameron Avenue
Winston-Salem, NC 27101
(336) 724-2130
jgposey@nsolutions.org
www.nsolutions.org

Conduct Outreach at Nontraditional Locations

Provide Information/Gather Feedback			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

This technique involves using nontraditional locations to reach out to traditionally underserved populations. Depending on the population, the types of locations will vary significantly. They may include places of worship, community centers, social service agencies, settlement houses, senior centers, meeting rooms in apartment complexes, restaurants, hair salons/barber shops, feed stores, shopping malls, convenience stores, libraries, community fairs, sporting events, and other places where traditionally underserved populations may congregate.

Why Is It Effective in Involving Traditionally Underserved Populations?

This approach is effective in involving traditionally underserved populations because you go to where they are to interact with them rather than wait for them to come to you. Because you are on "their turf" they are likely to feel more comfortable and willing to listen to what you have to say and to give you feedback and/or input.

What Are Some Techniques for Implementing This Tool?

- Speak to people from the neighborhood or minority group with whom you want to interact to identify suitable nontraditional locations.
- Have appropriate (language, etc.) materials available to give to the people with whom you interact.
- Create an opportunity to interact that will "hook" them—that is, get them to stop and talk to you, and then give them your information and/or request input from them. For example, at a church bazaar, have something to attract the children to create the opportunity to speak to parents. Or at a social service agency, have a survey for them to complete with you while they are waiting to see a social service worker.
- Go more than once to establish a presence at the location, so people can see that you are serious about interacting with them in a significant way.

What Are Its Limitations?

The message must be well-honed so that you do not waste their time getting to the reason for talking to them. Up-front attention must be given to the best way to approach people. In some cultures, you get to the business first, then to the personal. In other cultures, it is the opposite. In still others, they expect you to be less direct about what you want. Therefore, you need to have a good idea of what the conversational norms are for the culture/minority group with which you want to interact.

What Types of Resources and Costs Are Required?

Personnel time is needed to identify the location(s), attend the event, and document the information collected. Materials may need to be translated into the language of the group that you are trying to reach, or customized to make them culturally relevant.

Who Has Used It Successfully?

Metropolitan planning organizations, departments of transportation, transit agencies, local governments, and public involvement professionals recognize the effectiveness of going to established community focal points and events to engage populations and conduct outreach:

- The *California Department of Transportation (Caltrans)* found that setting up information tables at high school football games, major events in small farming communities in California's Central Valley, can be a highly effective method for distributing information and getting feedback. Caltrans used this approach for specific transportation projects and updates of the statewide transportation plan. Caltrans also distributed flyers or door hangers throughout the project area or sent information to churches and schools before its attendance at the games.
- The *Michigan DOT (MDOT)* partnered with the state library of Michigan as part of their state long range plan. The library helped MDOT with its outreach to traditionally underrepresented populations who frequented libraries and used their computers. MDOT conducted a marketing effort that appealed to the libraries and worked with the libraries that agreed to participate. With more than 2,000 online questionnaires completed during the library promotion, the initiative underscored the importance of outreach to traditionally underrepresented populations who can least afford Internet access, but make good use of the computers at a public library and want their voices heard. Such partnerships are a natural fit for libraries as they continue to expand their Internet computer offerings and seek to remain an important resource in their communities.
- The *Navajo Nation* has a population of approximately 300,000 members with over 17 million acres of land located around the Four Corners Region of the United States that includes southeastern Utah, northeastern Arizona, and northwestern New Mexico. Their annual Navajo Nation Fair has been deemed the largest American Indian fair and rodeo with more than 25 separate events (e.g., a rodeo, bull-riding, pow-wow, arts and crafts, horticulture, horse show, comedy show, youth events), attracting more than 15,000 visitors daily over a 1-week period. It provides an effective venue for information sharing for exhibitors and organizations that are interested in setting up a booth and offering some incentives such as food, door prizes, raffles, cups, or other handouts.
- The *Indiana DOT (InDOT)* posted notices around the small rural town of Advance and distributed flyers in local churches about a public meeting for a surface repaving project. The meeting was held in a local church along the main road because it was the only place that could accommodate the event. InDOT was surprised to discover that those who attended were hesitant to voice their opinions in front of one another, in part, because there were differences of opinion over the project. It was only when people were separated into smaller groups and in one-on-one situations that they were really willing to speak up.
- *Washington State DOT* staff attended community fairs, festivals, and community markets (e.g., farmers markets and flea markets) as a way to engage members of the public who may not have been aware of the *Alaskan Way Viaduct Replacement Project Supplemental Draft Environmental Impact Statement* involving the demolition of a viaduct and bored tunnel alternatives. Informational booths were set up at approximately 150 fairs, festivals, and farmers markets throughout the Seattle area over a 4-year period. Many of these events were sponsored by traditionally underrepresented communities. Materials on display at information booths have been translated into Vietnamese, Chinese, Tagalog, and Spanish. For several years, multilingual high school students fluent in Mandarin, Cantonese, and Vietnamese were hired to interact with limited English proficiency booth visitors for the Chinatown-International District Festival.

Resources/Contacts

Alaskan Way Viaduct Replacement Project, Supplemental Draft Environmental Impact Statement Appendix H: Social Discipline Report (2010): http://www.wsdot.wa.gov/NR/rdonlyres/21BB772B-BD94-43E2-8052-71D73D4A8FD3/0/2010SDEISAppendixH.pdf

Peter Bond, Senior Environmental Planner
California Department of Transportation
Division of Environmental Analysis
P.O. Box 942874, M.S. 27
Sacramento, CA 94274-0001
(916) 653-8307

Kathleen McKinney, Senior Associate
PRR
2631 17th Avenue NW
Olympia, WA 98502
kmckinney@prrbiz.com

Bob Parsons, Public Involvement/Hearings Officer
Michigan DOT
Bureau of Transportation Planning
P.O. Box 30050
Lansing, MI 48909
(517) 373-9534
ParsonsB@michigan.gov

Jeanette Wilson
Division of Environment, Planning and Engineering
Indiana Department of Transportation (InDOT)
(317) 232-5496
jwilson@indot.in.gov

Go to "Their" Meetings

Provide Information/Gather Feedback

Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Cosponsorship, participation in, or other support for meetings held by advocacy groups, employers, and human service or public agencies that serve traditionally underserved populations.

Why Is It Effective in Involving Traditionally Underserved Populations?

It reaches the target populations "where they live." This practice also provides opportunities to build partnerships with groups and agencies that have expertise in working with the target groups and, often, their trust.

What Are Some Techniques for Implementing This Tool?

Create an asset map or database of associations, employers, and institutions that work with the target populations in the study area. Asset mapping is the process of identifying a community's individual and organizational capacities and other resources by creating inventories or databases of the skills of individuals, citizen groups, business associations, institutions (e.g., education, financial, healthcare, public services, cultural, communication, faith-based organizations, and so on).

The association and institutional databases can be used to identify contacts within the organizations to advise on issues affecting the target communities and key individuals. Work with the organization contacts through their media (e.g., newsletters, websites, etc.) to identify issues and exchange information. For example, write short pieces, including contact information, for their newsletters. Request to add links to their websites regarding a proposed project or other action. Ask to include supplements in their mailings regarding the project. Keep in mind that the "meeting" may not actually occur at a gathering. The goal is to "reach people where they are."

The organization contacts and key individuals may also provide information through structured interviews, informal discussions, and review of plans or other proposed actions.

Request to be included on the agenda of meetings that the organizations hold for their client groups. Be prepared to present the proposed project, solicit input, and describe the type of follow up that will occur after the meeting.

What Are Its Limitations?

Outreach through this process may uncover issues and concerns beyond the scope of the proposed project. The association and institutional organizations, however, may have the capacity to

address these. The emphasis here is on building partnerships with the organizations to "leverage each other."

What Types of Resources and Costs Are Required?

The resources include staff to create the asset map, inventory, or database and to identify key contacts within the associations and organizations. Staff time will also be needed to attend meetings, create materials, disseminate information, and collect information from meetings, key contacts, and other individuals. It also is important to report back to the organizations and the communities the results of their input.

Who Has Used It Successfully?

- The *Community Planning Association of Southwest Idaho (COMPASS),* for its *2010 Long-Range Plan Update,* hosted a series of focus groups targeted to underserved populations, or people that do not traditionally participate in the transportation planning process, including minorities, persons with disabilities, college students, and parents with young children. COMPASS partnered with other organizations actively engaging these groups and went to their venues to meet with them. For example, COMPASS partnered with the American Association of Retired Persons (AARP) to organize a focus group for older and retired people, collaborated with a parents group at a church to meet parents of young children, and worked with a social services agency responsible for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC Program) to organize a meeting for low-income individuals. COMPASS also met with a leadership club of teens and young adult refugees. Staff worked with the club organizers and held a focus group at one of their scheduled club meetings.
- *Seattle Neighborhood Plan.* In a 2-month period, Seattle's neighborhood planning process mobilized liaisons and hosted 41 workshops and small group discussions throughout southeast Seattle that were attended by 1,200 participants and which represented 14 historically underrepresented communities. Events were held at convenient locations, including community centers, senior citizen centers, community service organizations, churches, apartment buildings, assisted living facilities, high schools, and libraries. The liaisons held 21 follow-up workshops and discussion groups to further refine concepts that had been raised during the prior workshop series that had engaged over 700 participants. Transportation improvements discussed during the process included better maintained sidewalks, adequate street lighting, implementation of new technologies to assist pedestrians with disabilities, crosswalk improvements, multilingual traffic control signs, and better pedestrian and bicycle connections to the new light rail stations, among others.
- The *Chicago Area Transportation Study (CATS) (now CMAP)* staff attended meetings and events of faith-based organizations and their leadership to reach members of the Black community. CATS staff has attended civic and county fairs, a Mexican-American Independence Day breakfast, and town meetings to answer questions, distribute brochures, and solicit public involvement for its long range planning process.

Resources/Contacts

McKnight, John L. and Kretzmann, John P. 1996. Mapping community capacity. Evanston, IL: The Asset-Based Community Development Institute, Institute for Policy Research, Northwestern University: http://www.abcdinstitute.org/docs/MappingCapacity.pdf

FHWA Livability Initiative: http://www.fhwa.dot.gov/livability/

Amy Luft, Communication Coordinator
COMPASS
800 S Industry Way, Ste 100
Meridian, Idaho 83642
(208) 855-2558 x231
aluft@compassidaho.org
http://compassidaho.org/

Tony Mazzella, Strategic Advisor
Seattle Department of Transportation
PO Box 34996
Seattle, Washington 98124-4996
206-684-0811
tony.mazzella@seattle.gov
http://www.seattle.gov/transportation/

Go to the Schools

Provide Information/Gather Feedback			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Working with the administration and teachers of local elementary, middle, or high schools to reach the children and youth of minority, low-income, and limited English proficiency households via assemblies, flyers, classroom projects, and other events.

Why Is It Effective in Involving Traditionally Underserved Populations?

Transportation practitioners can work with the student populations to publicize information about upcoming plans and projects, explore transportation needs, and solicit the views of parents and caregivers as to convenient times and places for meetings, preferences for project alternatives, or perceived impacts of projects. Students, in some cases, can serve as the connecting party to linguistically isolated, low-literacy, and single-parent households, facilitating dialogue and communications with hard-to-reach communities.

## What Are Some Techniques for Implementing This Tool?

- Collaborating with teachers to develop lesson plans or small projects that describe the community, environment, or existing transportation needs and deficiencies;
- Making a presentation to an assembly or classroom about a transportation project and/or what a career could be as transportation or environmental professional;
- Distributing project newsletters or questionnaires, written at the fourth/fifth grade level, so that children may read to their parents and interview them. The questionnaire may seek to identify the best days, times, and places for holding accessible and well-attended meetings and surmount potential barriers to attendance for those who work a second or third shift. Questionnaires can solicit preferences about preferred alternatives in order to increase awareness about a project or to learn more about possible impacts. Parents can be asked to sign a newsletter or questionnaire and students can be asked to return it to their teachers.
- Parent-teacher association (PTA) meetings provide another forum to communicate about the goals and upcoming events surrounding a transportation project. Parents in attendance at such events can have their awareness raised by such announcements.

What Are Its Limitations?

Working with the schools to reach the parents of school-age children can be effective at building trust and at connecting to a segment of low-literacy, linguistically isolated, and other households that may be traditionally underserved. While the parents of school children may convey and disseminate information received through media distributed at the schools to a wider audience, it must be recognized that the approach may fail to effectively penetrate into households without school-age children.

What Types of Resources and Costs Are Required?

As a small element of a broader community involvement effort, working with schools can be a low-resource, high-payoff tool. For the *Careers in Motion* program, discussed below, the public involvement consultant had school outreach as part of her larger contract, and additional costs for materials—like t-shirts and goodie-bags for the students—totaled less than $5,000. The Wisconsin Department of Transportation (WisDOT) staff and the consultant spent two hours a day in the classrooms over a week, and additional time to prepare the curriculum and establish relationships with the schools.

Who Has Used It Successfully?
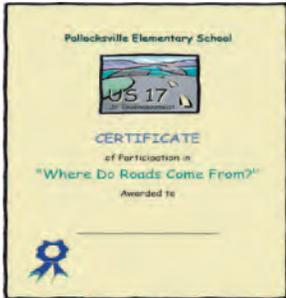
Figure 5-16. Elementary school children received a certificate of participation and raised their parents' awareness of the North Carolina Route 17 project.

- For *North Carolina Department of Transportation's Route 17* project, a community impact practitioner, trying to understand the social characteristics and needs of the local community likely to be affected by the project, took up the challenge given her by an elementary school principal to make a presentation about her project to the fourth and fifth grade students. The community impact assessment (CIA) practitioner gave a slide presentation, "Where Do Roads Come From," which introduced students to the complexities of road building, the types of professionals involved, the laws followed, the environmental concerns considered, and the visual communication techniques used with the public. Students were invited to show where they would put a new road. They were requested to complete a "take home" item so they would talk with their parents about what they had learned, and to get their parents to sign the sheet. Students were promised a certificate as a junior environmentalist for its prompt return (see Figure 5-16).

- *WisDOT* partnered with three elementary schools serving low-income and diverse minority populations in Racine, Kenosha, and Milwaukee that were likely to be affected by I-94's reconstruction—repaving, ramp changes, and lane additions from the Illinois state line to central Milwaukee. In 2006, WisDOT retained a public outreach consultant to adapt a week-long *Careers in Motion* curriculum—which brings practitioners into fifth-grade classrooms to discuss careers in transportation—to examine how the project would affect their communities. Practitioners spent about an hour and a half with students each day for a week, working on engineering-related projects like building model bridges out of popsicle sticks, or laying out alignments to avoid impacts to neighborhoods or the environment. At Garland Elementary in Milwaukee, where the program had been initially piloted, students participated in a mural design competition for a noise barrier that separated the school from the highway. WisDOT later brought in an artist to paint the winning design. *Careers in Motion* enjoyed favorable press and opened a channel for communications with community parents about the project. Schools affected by I-94 reconstruction in Racine and Kenosha invited WisDOT to present the *Careers in Motion* project, and Garland invited WisDOT back for a new class of fifth graders in 2008. That year, Walker Elementary also invited WisDOT to run a *Careers in Motion* project for its school as it was in the impact zone of construction work on Milwaukee County's Zoo Interchange.

- In Bowling Green, KY, the local *Kentucky Transportation Cabinet* district office asked a third-grade class of children, many from low-income households and recent Hispanic and Bosnian immigrants, to beta-test a survey. Students were given information about a project and then given a test survey to see if they could understand it. After their comments were incorporated, students were asked to take the survey home and interview adults, such as their parents or grand-parents. The next day the students returned the interviews and were shown how their information would be used in the project. Later in the process, the students were asked to conduct a second interview to verify the project was on track. The student interviews increased parent interest in the project, the number of visits to the project office, and the project mailing list.

Resources/Contacts

Hass, Kim. *Careers in Motion: Science, Engineering, and Transportation, Hamlin Garland Elementary School Milwaukee, Wisconsin.* Presented at the Fall 2008 ASEE Conference, Mid Atlantic Section. Stevens Institute of Technology, Hoboken, NJ: http://www.stevens.edu/asee/fileadmin/asee/pdf/Haas_-final.pdf

Anne Morris, Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Emlynn Grisar
WisDOT Southeast Region
141 NW Barstow Street
Waukesha, WI 53187
(262) 521-5373
Emlynn.Grisar@dot.wi.gov

Go to Faith-Based Institutions

Provide Information/Gather Feedback			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Using the venue of faith-based institutions to hold events and provide information to, and get feedback from, the institutions' leadership and membership about transportation, social, or other community-related issues. Working in partnership with the institution and/or the endorsement of the institution's leadership in order to encourage participation and/or build support for plans and projects. Institution staff, members, attendees, and the like, also can be engaged to assist in data collection (e.g., survey administration, interviewing, etc.) and information dissemination. These institutions also can be partners in monitoring and evaluation of projects, plans, and so forth. Their continued involvement helps to build trust and "cement" relations during the life of the project and future actions.

Why Is It Effective in Involving Traditionally Underserved Populations?

The approach can involve the broader faith-based community affected by the project, provide contacts to the proximate community, and act as a conduit for information exchange on project updates. It can also be used to drill down to other methods. For example, public meetings in faith-based institutions can establish trust needed to conduct focus groups, interviews, surveys, and the like among various committees, boards, and subgroups (e.g., women, youth, "soup" kitchens, etc.) affiliated with the institution. The institution can also act as a partner in information dissemination and gathering.

There are several reasons why the approach has been effective in involving traditionally underserved populations:

- Engagement of faith-based institutions may be the only way of reaching underserved communities.
- Some communities are suspicious of government and standard outreach. Public involvement activities will not overcome this distrust.
- Faith-based institutions are dedicated to fostering appreciation, recognition, and understanding of other cultures—and are temperamentally suited to promoting better outreach.
- Minority groups that are "running scared" or that do not feel welcomed by the general populace—for example, because of religious intolerance (e.g., "Islamophobia") or because of undocumented status—may be particularly difficult to engage. Faith-based institutions offer a safer venue for engaging these communities.
- Faith-based institutions, in serving their constituents, often overlap and coordinate with human service agencies. It is therefore possible to find individuals in both the faith-based institutions and in the social service agencies that truly understand and can express problems or issues confronted by local populations, leading to better solutions, impact minimization, and mitigation. Their knowledge and insights about the affected populations or clientele are often effective in devising outreach and communications strategies that will make it possible to disseminate information and receive meaningful feedback from a diverse public.

What Are Some Techniques for Implementing This Tool?

Faith-based institutions can accommodate many techniques for providing information (e.g., printed materials, flyers, newsletters, website links) or for gathering feedback from the public, including focus groups, surveys, public meetings, and interviews.

If an inventory of faith-based institutions exists, start with a geographic information system (GIS) query by drawing a ¼-mile boundary around the study area. (The ¼-mile is the de facto transit boundary.) If available, add a layer of faith-based institutions within the boundary. If no local county, planning agency, or other organization has GIS point data on faith-based institutions, try using Internet-based mapping programs or other Internet tools to identify a key feature in the study area. Enter the address of the key feature. Then, enter "faith based organizations" or "churches near the . . ." key feature (see Figure 5-17.) The results will yield key information for initial contacts within the study area. Using popular Internet mapping software searches may yield more than a one-square mile result of faith-based organizations including telephone numbers and other contact information. (More results are available if the term "faith-based" is used.)

Building on this information and contacts, the canvassing effort can be broadened to include institutions identified from the maps and other information. Inquiries should be made as to how members, users, and other contacts should be engaged. Several types of questions may prove helpful:

- Would the institution like a public meeting?
- Would staff be willing to organize focus groups, interviews, help distribute surveys?
- Would staff like to be trained and hired to conduct focus groups, interviews, public meetings, surveys, translation services, and so forth?
- Do the institutions have websites, newsletters, or other media that they are willing to share to both gather and disseminate information?
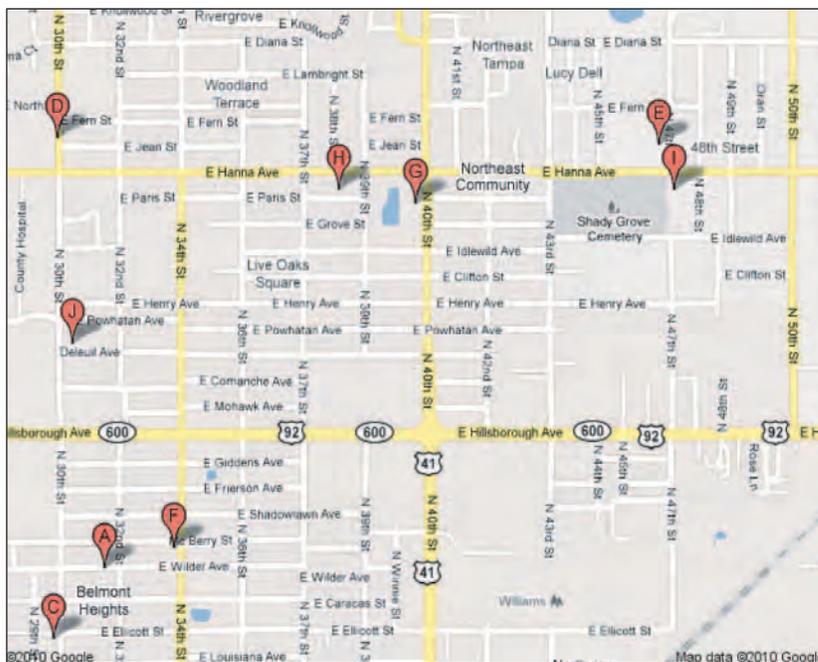
Figure 5-17.   An Internet mapping program can be an effective tool for locating faith-based institutions within a designated study area, including the institution's name, address, and phone number.

- Are the institutions willing to provide additional outreach beyond their membership (e.g., clothing exchanges, congregation meal sites, counseling groups, food banks, ministerial, or other outreach, etc.)?
- When would be the best time to address the congregation at your institution?

Explore the various activities of the faith-based institution, particularly community-wide activities that the project can cosponsor or otherwise provide support through information booths, presentations, surveys, interviews, and the like. Be sensitive to the fact that some participants may be reticent to give information to the "government." It may be more important to educate or otherwise train the institution's staff or membership to disseminate information and collect information.

The critical element is to establish a partnership with the faith-based institution to both disseminate information and to collect data on the perceived impacts of the planned action. Faith-based institutions can be vital resources in reaching not only traditional and traditionally underserved populations, but also the populations that they serve. Many faith-based institutions have a broader mission to serve populations that extend beyond their members and the surrounding community.

What Are Its Limitations?

Contact may be limited to populations who make use of faith-based institutions. The faith-based institution may reach a larger or different population that those near the subject project or activity. Also, those that attend events at the institution may not be representative of the population in proximity to the subject project or activity.

What Types of Resources and Costs Are Required?

Staff or consultant time to conduct training, interviews, surveys, focus groups, and presentations; reproduction of brochures, maps, and so on.

Who Has Used It Successfully?

- For the *State Route 28 Wenatchee Eastside Corridor Study* (aka the Sunset Highway), the *Washington State Department of Transportation* (WSDOT) broadened its public involvement activities to work with four faith-based institutions serving the Hispanic community. The study sought to identify alternatives to achieve several key goals, including the reduction of conflicts between regional and local traffic; making the area safer; and protecting the natural resources of the Wenatchee Valley. Building upon the relationships already fostered by the faith-based institutions and the Hispanic community, WSDOT and its consultants arranged for announcements to be made from the pulpits. The public involvement effort also interwove outreach for the transportation study with the activities of existing meetings, such as those held at churches, and by using familiar locations as venues for outreach. In some instances, the churches were located outside of the project area, but served people affected by the project. These efforts successfully engaged leaders and elicited participation from several disparate groups, drawing interest and attendees from a mobile home park with a high Hispanic population, the agricultural community, and the Hispanic Chamber of Commerce. Newsletters about the proposed activities also were provided in English and Spanish to provide information and feedback. The final environmental impact statement (FEIS), along with other project documents, also was posted on a project website in English and Spanish. Many of these activities were noted as a first for WSDOT.

- The *San Antonio-Bexar County Metropolitan Planning Organization* employed a "beacon" for the development of the *East Corridor Multi-Modal Alternatives Plan* in San Antonio, TX. The beacon and others from the project team met with the Coalition of Churches for Social Action (CCSA), an Eastside faith-based organization that provided input and feedback to the project as well as helped in conducting outreach with their predominantly Black church members. The preachers at several of the churches announced the public meetings in their churches, spoke with their members about the importance of the plan for addressing transportation needs in their area of the city, and one attended the public meeting. These preachers were instrumental in spreading the word about the plan, increasing attendance at public meetings, and raising awareness about the planning process.

Resources/Contacts

SR 28—Wenatchee Eastside Corridor Study: http://www.wsdot.wa.gov/Projects/SR28/WenatcheeEastside Corridor/default.htm

Laura Thompson
President
Laura Thompson Agency
9504 IH 35 North, Suite 303
San Antonio, TX 78233
(210) 836-6531
theimagemakergroup@sbcglobal.net

Kathleen McKinney
Senior Associate
PRR
2631 17th Avenue NW
Olympia, WA 98502
kmckinney@prrbiz.com
(360) 754-4488

Beverly G. Ward
Principal
BGW Associates, LLC
13705 Lazy Oak Dr.
Tampa, FL 33613
beverly@bgwassocs.com

Apply Social and New Media Appropriately

Provide Information/Gather Feedback			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Social media are tools and methods used to increase social interaction among persons with common interests. Users are able to link with other users and share information in a variety of online formats. The resulting networks allow users to be content producers as well as content consumers. New media is a broad term that encompasses the blending of traditional media such as film, images, music, spoken and written word, with the interactive power of computer and communications technology, computer-enabled consumer devices and, most importantly, the Internet. New media suggests new possibilities for on-demand access to content anytime, anywhere, on any digital device. User feedback, creative participation, and community formation around the media content in an interactive relationship with the media consumer are features of new media.

Information communications technologies (ICT) are closely allied with social media, new media, and social networking. ICTs have the potential to build social capital by strengthening connections and increasing the flow of information. Social and new media applications have been increasing dramatically for public involvement activities.

Web 2.0 is an umbrella term for websites or online applications that are user-driven and emphasize collaboration and user interactivity such as wikis, blogs, podcasts, and social networking sites. The public sector has begun to move away from static web pages and toward a user-driven Internet model through greater use of dynamic web pages and "government 2.0" applications that promote transparent governance and citizen involvement in decisionmaking. Web applications termed 2.0 are distinguished from earlier generation online resources because they emphasize greater participation in content creation, editing, or distribution by users, and the ability to deliver information (e.g., online government data) customized to the user's specific interests or requests through web-based applications.

Why Is It Effective in Involving Traditionally Underserved Populations?

Social and new media applications have the potential to effectively involve traditionally underserved populations because they represent innovative approaches with accessible content. Health organizations have been doing research on effective outreach activities for years and provide very good examples. The potential benefits of these technologies are similar to those of *computer-assisted technologies to explore preferences* because they mostly rely on computer and Internet accessibility/literacy.

What Are Some Techniques for Implementing This Tool?

There are a growing number of social/new media techniques that can be used to better engage traditionally underserved populations. It is becoming more common that these techniques are being integrated with each other, therefore extending the reach of those oriented to social networking

Examples of techniques for implementing social and new media include (note that the following lists are not exhaustive):

Communication

- Blogs: Blogger, LiveJournal, Open Diary, TypePad, WordPress, Vox, ExpressionEngine, Xanga
- Micro-blogging/Presence applications: FMyLife, Jaiku, Plurk, Twitter, Tumblr, Posterous, Yammer, Qaiku
- Social networking: Facebook, LinkedIn, Cyworld
- Events: Upcoming, Eventful, Meetup.com

Collaboration

- Wikis: Wikimedia, Wikia, PBworks, Wetpaint
- Social bookmarking (or social tagging): Delicious, StumbleUpon, Google Reader, CiteULike
- Social news: Digg, Mixx, Reddit, NowPublic

Multimedia

- Photography and art sharing: deviantART, Flickr, Photobucket, Picasa, SmugMug, Zooomr
- Video sharing: YouTube, Viddler, Vimeo, Sevenload, Zideo
- Livecasting: Ustream.tv, Justin.tv, Stickam, Skype, OpenCU
- Music and audio sharing: MySpace Music, The Hype Machine, Last.fm, ccMixter, Share-TheMusic
- Presentation sharing: Slideshare, Scribd

Reviews and Opinions

- Product reviews: Epinions.com, MouthShut.com
- Business reviews: Customer Lobby, Yelp.com
- Community Q&A: Yahoo! Answers, WikiAnswers, Askville, Google Answers

Other

- Information Aggregators: Netvibes, Twine
- Virtual worlds: Active Worlds, Second Life, The Sims Online, Forterra

What Are Its Limitations?

Segments of the traditionally underserved have been slow to adopt the new technologies due to costs of accessing high-speed Internet services, visual impairment, low-literacy, language barriers, lack of computer literacy, or discomfort with the technological changes being made. Cell phone usage, however, continues to grow among nearly all populations, including minority and low-income households. With mobile technology, it is possible to send and receive text messages so, although many poor do not have Internet access through a home computer, they may be able to receive text messages.

What Types of Resources and Costs Are Required?

Many planning organizations are investing in the software and hardware infrastructure to match Web 2.0, but there are segments of the public who still cannot afford or do not have access to high speed Internet service. How the agency intends to use social and other new media to interact with the public will define the level of staffing to maintain a social media presence. Social media may require only a relatively minor staffing commitment in terms of hours, but new policies also must be established to maintain a consistent online presence. This involves defining who will be responsible for content development, the frequency of new postings, how comments on the site will be handled, and how social media will be integrated into the agency's

overall communications strategies, including the agency's website. Some DOTs and metropolitan planning organizations (MPOs) are making a greater commitment to interactive webinars, digital video recordings of events and meetings, video sharing, and, in some cases, more polished video productions. Building these capabilities requires considerably greater budgetary commitments for in-house capabilities or supplier services.

Who Has Used It Successfully?

- The *FHWA* and the *Volpe Center* have prepared case studies for seven state DOTs based upon discussions with agency contacts and review of related documents. The case studies describe each agency's approach to considering uses of 2.0 tools for transportation, the challenges encountered, and lessons learned during these activities. The *Massachusetts DOT* case study describes the agency's use of several social media applications, and explains how the agency has focused on publishing open data to encourage third-party data developers to create innovative transportation applications. The *Washington State DOT* case study illustrates the agency's adoption of a range of 2.0 tools, such as a blog, Twitter, Facebook, YouTube, and Flickr. The agency is building upon those applications that are well-received and experimenting with use of other technologies, such as providing live broadcasts of public meetings.

- For the *Southwest Georgia Interstate Study,* the Georgia Department of Transportation (GDOT) conducted Internet surveys accessed by students from their schools. This approach reached all homes with school-aged children in a large region that was predominantly rural and low density—regardless of home Internet access. By working with the public schools, an institution with a high degree of credibility and importance in community life, the approach confronted the Internet's potential limitations and found a means for its application in the project study. The approach incorporated flexible strategies for ensuring that a portion of the population was not denied access to information even as the Internet's low-cost advantages for delivering information were applied to this large regional planning project.

Resources/Contacts

Cunningham, T. Social Media, Transit Agencies and Public Involvement 2.0 Presentation: http://www.slideshare.net/TheCunninghamGroup/tasha-cunningham-social-media-transit-agencies-and-public-involvement-20

Integrating Social Media into Public Involvement Strategies—Transportation Research Board (TRB): http://www.slideshare.net/Sradick/integrating-social-media-into-public-involvement-strategies-transportation-research-board-trb

Social Media Definition, Wikipedia: http://en.wikipedia.org/wiki/Social_media

Current Uses of Web 2.0 Applications in Transportation, FHWA and Volpe Center Case Studies of Select State Departments of Transportation: http://www.gis.fhwa.dot.gov/documents/web20report/web20report.htm

FTA: Social Networking in the Transportation Industry (YouTube.com): http://www.youtube.com/watch?v=nJuARta4Qrk

Metropolitan Washington Council of Governments (MWCOG), Social Media and Social Networking—http://www.mwcog.org/news/socialmedia/

Graham, S. (2002). Bridging Urban Digital Divides? Urban Polarization and Information and Communications Technologies (ICTs). *Urban Studies,* 39(1): 33–56.

Technology for Urban Planning—http://www.facebook.com/group.php?v=wall&viewas=0&gid=65842507676

Elizabeth Rockwell, Public Involvement Manager
Miami-Dade County
Office of the County Manager
Stephen P. Clark Center
111 N.W. First Street, Suite 920
Miami, FL 33128
erock@miamidade.gov
www.co.miami-dade.fl.us/mpo/

Tom McQueen, Project Manager
Georgia DOT Office of Planning
(404) 631-1987
tmcqueen@dot.ga.gov

Conduct Market Research Interviews and Focus Groups

Gather Feedback

Policy/Research	☒	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Convening one-on-one interviews or focus group meetings to discover the transportation needs and practices of traditionally underserved communities.

Why Is It Effective in Involving Traditionally Underserved Populations?

Different population groups have distinct transportation needs and preferences, travel behavior characteristics, and values. Especially for low-income persons and groups with limited literacy or English proficiency, gleaning those needs and values can present a challenge for transportation practitioners. Face-to-face discussions such as during focus groups and market research interviews can be designed to eliminate literacy, language, and cultural barriers. They can help practitioners develop a better understanding of how various population segments access transportation services and travel, which can vary heavily depending on the group.

What Are Some Techniques for Implementing This Tool?

- Holding meetings or focus groups in neighborhoods with significant populations of targeted groups, in well-known buildings (a community center or faith-based institution, for example) at times that do not conflict with work or family obligations.
- Working through community colleges and other English as a second language (ESL) programs or group-specific community organizations, including nonprofit or advocacy organizations, to identify persons to include in the market research interviews and focus groups.
- Serving familiar, group-specific food bought from a local business.
- Contracting out to qualified researchers from academia or the market research industry.
- Printing necessary information in applicable languages and/or making translators available.
- Understanding the group's customary practices toward gender beforehand and structuring communications accordingly to be co-ed or gender specific to permit freer discussion.
- Recognizing that different groups may have different styles or approaches toward information disclosure, communications, and knowledge, and preparing before the event for the possibility of these cultural patterns. The practice of having a selected elder speak for the larger group or community would be an example of a cultural practice that influences information disclosure and communications.

What Are Its Limitations?

Qualitative focus group research is effective in generating hypotheses, but is not a statistically rigorous method for testing hypotheses. Given the small sample size, those who attend focus groups may not be "representative" of the target population or community. Focus group attendees who participate may differ from the target population in their very willingness to be recruited by local community organizations for that purpose. Focus group attendees may also shade their

opinions and express values to fit in rather than deviate from others from their home country also in the focus group.

Some individuals and communities may be reluctant to provide information to representatives of government because of their immigration status or their past experience with governments in the United States or in the nation of their origin. Contracting out services to trusted organizations or individuals, providing unequivocal assurances that data will not be given to law enforcement or immigration authorities, and not collecting names and other personal information can help address these concerns.

What Types of Resources and Costs Are Required?

- Contracting costs for mobilizing researchers or focus group facilitators, if necessary.
- Rental space for meetings.
- Costs for providing food.
- Staff time and transportation.

Who Has Used It Successfully?

- The *Minnesota Department of Transportation (MnDOT)* contracted with the *University of Minnesota's State and Local Policy Program (SLPP)* to study the transportation values and practices of Hispanic, Somali, and Hmong populations in urban, suburban, and rural environments. From the focus groups, SLPP was able to produce a study identifying that each of the communities did indeed have specific transportation needs and values—and that these needs and values had policy implications. Some of the major opportunities that emerged for improving mobility and accessibility to these immigrant communities included rural and urban car-sharing programs and increased investment in public transit. Information gathered in the focus groups led to the extension of a bus line to reach an employment center. The Somali participants in rural Faribault, MN, said that they would take the bus to work at a meat-packing plant, but the bus-line only extended to city limits—two miles short of the plant. Researchers identified this transportation need to MnDOT, which funds many of the rural transit lines in Minnesota, and they ended up extending the line.
- The *New Jersey Department of Transportation,* working in association with *New Jersey Transit,* contracted with the *New Jersey Institute of Technology* to prepare a policy research report on the *Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey.* Among the study elements was the design and conduct of focus groups with LEP populations to understand travel needs. English-as-second-language (ESL) classes in northern New Jersey were selected to locate survey candidates. Community colleges were contacted as well as private, nonprofit organizations and communities groups who offer ESL classes in churches, night schools, and community centers. The research team contacted several types of community organizations working with LEP populations—churches, weekend schools, career to family centers, for example—to explore the possibilities of holding focus group discussions on their mobility information needs. The study team also contacted the Hispanic Development Corporation, Polish TV stations, Italian newspapers, and various consulates from particular community groups. Ten focus groups were ultimately held, addressing the travel needs of Spanish, Portuguese, Arabic, Polish and Russian speakers, among other languages, in separate events. An implementation strategy was developed, in conjunction with the LEP market/demographic analysis, to ensure that the findings and results of this research could be cost-effectively implemented. Common problems or complaints that were expressed were integral to a priority list of actions for implementation.

- The *New Jersey Department of Transportation,* working in association with *New Jersey Transit,* also funded a study that involved a series of focus groups with immigrants from the Philippines, India, and Latin America. The study explored the underlying reasons for changes in routine daily travel by immigrants over time, recognizing that segments of foreign-born populations exhibit increasing levels of auto ownership. Focus groups explored how various immigrants from different places of origin and settlement in New Jersey decided where to live and where to work when first arriving in the U.S. and in subsequent moves. The research looked at the influence of occupational and family changes in residential decisionmaking.

- The *Mineta Transportation Institute* funded research to explore how very low-income households manage the costs of travel and, in the face of a significant financial burden, the mobility strategies that they adopt to reach jobs and needed services. The study was conducted using qualitative data from interviews with 73 low-income people living in and around San Jose, California. The research design and implementation of interviews were conducted by graduate research assistants and undergraduates in anthropology at *San Jose State University.* The interviewees were recruited with the assistance of faith-based community services organizations and a "town-gown" collaboration, CommUniverCity, whose mission is to strengthen ties between a disadvantaged neighborhood and the university. The interviews explored how families manage their mobility needs, given the sometimes crushing costs of travel in both out-of-pocket costs and time.

Resources/Contacts

Blumenberg, E., and Agrawal, A. W. (2010). *Getting Around When You're Just Getting By: Transportation Survival Strategies of the Poor.* Presented at 90th Annual Meeting of the Transportation Research Board, Washington, D.C., 2011.

Chatman, D., and Klein, N (2010). *Immigration, Sustainability, and Alternative Mode Use: Ten Hypotheses from a Qualitative Study in New Jersey, USA.* Presented at 90th Annual Meeting of the Transportation Research Board, Washington, D.C., 2011.

Liu, R. (2004). Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey: http://transportation.njit.edu/nctip/final_report/LEP.htm#_Toc94524845

Wilson, S., and Douma, F. (2005). *Transportation Needs of Foreign-Born Ethnic Subpopulations in Rural and Urban Communities: Environmental Justice Perspective.* Presented at 85th Annual Meeting of the Transportation Research Board, Washington, D.C., 2006.

Frank Douma, Assistant Director of the State and Local Policy Program
University of Minnesota Humphrey Institute of Public Affairs
130 Humphrey Center, 301 19th Ave. S.
Minneapolis, MN 55455
(612) 626-9946
douma002@umn.edu
http://www.hhh.umn.edu/people/fdouma/

Susanna Wilson, Community Development Coordinator
1616 Humboldt Avenue
West St. Paul, MN 55118
(651) 552-4144
susanna.wilson@ci.west-saint-paul.mn.us
http://www.ci.west-saint-paul.mn.us/

Undertake Surveys to Understand Needs, Preferences, and Impacts

Gather Feedback			
Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

A predefined series of questions to be used in gathering information from the public or from knowledgeable representatives from social services or other community-based or advocacy-based organizations.

Why Is It Effective in Involving Traditionally Underserved Populations?

Surveys/questionnaires are extremely versatile tools and can be used to gather information from a large and/or statistically significant population, or simply as a tool for starting and guiding individual conversations. Surveys/questionnaires can be used to gather information from targeted traditionally underserved groups specifically, or the collected information can be differentiated by the social and economic attributes of the respondent. Targeting knowledgeable representatives from social services organizations in structured interviews can enable practitioners to better understand the possible impacts of projects or programs on their clients.

What Are Some Techniques for Implementing This Tool?

Surveys can be used to collect various details:

- Determine the best way to conduct outreach to specific communities (e.g., What newspapers do you read? What time of day is most convenient for you to attend meetings? etc.).
- Find out information about existing travel patterns, transportation needs, and desired improvements.
- Assess community perspectives about preferred project alternatives and their perceived impacts upon quality of life, mobility and access, safety, community cohesion, community facilities, parks, and the like.

Surveys and structured interviews can be implemented as intercept surveys, administered over the phone, or scheduled as appointments with organizations and businesses. More quantitative survey designs can be administered via phone, websites, emails, and mailings. Websites are especially useful for larger areas, low-density areas, and for surveys where a large number of responses are desired, but depth of response is not sought. Survey hotlines can also be set up for this purpose. Intercept-based surveys occur in many types of places, including business lobbies, community fairs, strip malls, assisted living complexes, door-to-door in residential neighborhoods, shopping malls, entrances to transit facilities, etc. Many surveys improve their overall response rate by securing the endorsement of social service and community organizations or local businesses. This requires some upfront coordination in terms of messaging and survey implementation.

What Are Its Limitations?

Depending on the purpose and use of the survey, considerable planning may be required to develop a technically rigorous sampling plan and survey design, resolving a range of issues

such as defining the population of concern, sample size, and margins of error; developing and administering a questionnaire and sampling plan that provides quality information and avoids response biases; and ensuring that the final survey results will address research goals and questions. Of course, not all surveys must be administered with the same degree of technical rigor to provide useful information for sponsoring agencies. Responses from surveys/questionnaires should be analyzed carefully and with a full understanding of the context in which questions were posed. It is important to represent findings from surveys/questionnaires fairly and to not pick and choose which answers are given credence.

What Types of Resources and Costs Are Required?

Survey costs vary greatly, depending on the sampling plan, which must address several considerations, including:

- Preparation of sampling plan and survey design;
- Reproduction and distribution, including postage for mail surveys or online hosting for web-based surveys;
- Staff time for in-person intercept or telephone interviewing; and
- Data input and compilation and analysis of responses.

Who Has Used It Successfully?

- For the *Buford Highway Safety Pedestrian Project,* the Georgia DOT (GDOT) wanted to survey local residents and business owners about pedestrian issues along the highway. To reach Hispanic residents, GDOT implemented the surveys at a popular shopping mall on a Sunday between 4:00 pm and 8:00 pm using bilingual interpreters and offering low-cost incentives such as balloons for participation. Using popular shopping areas to engage immigrant communities proved to be a cost-efficient approach for reaching stakeholders to get their input about solutions to Buford Highway's pedestrian safety issues. By partnering with local agencies and businesses, GDOT conducted its survey efficiently and received quality information to improve overall project design (see Figure 5-18).

Figure 5-18.   Displays about the safety improvement project facilitated survey-taking at the village-like Plaza Fiesta Mall, a destination for local Hispanic residents.

- For the *South Jersey Transportation Planning Organization,* a transportation needs assessment survey was targeted to community, social service, church, and advocacy organizations that serve or work with disadvantaged populations in the South Jersey region as part of the metropolitan planning organization's (MPO's) *Environmental Justice Evaluation and Strategy* report. The qualitative survey research explored each organization's mission, its clients' most pressing needs, critical transportation issues and priorities, its familiarity with the MPO and its mission, and its interest in future participation.
- For the *Washington State DOT Alaskan Way Viaduct Replacement Project,* structured interview questions were targeted to several social service providers so that the project team could better understand their purpose, clients, and their operations. Social service representatives, generally the executive director or the program manager, were asked to consider the potential issues that the project might have on their services and their clientele. Social service providers included day care centers, homeless shelters, food kitchens, drug treatment centers, single-room occupancy housing complexes, and the like.

Resources/Contacts

FHWA, "Public Opinion Surveys," *Public Involvement Techniques for Transportation Decision-Making:* http://www.fhwa.dot.gov/reports/pittd/surveys.htm

Timothy G. Chelius, PP, AICP, Executive Director
South Jersey Transportation Planning Organization
782 South Brewster Road, Unit B-6
Vineland, New Jersey 08361
tchelius@sjtpo.org

David Aimen, AICP, PP, Assistant Director
Alan M. Voorhees Transportation Center
Rutgers, State University of New Jersey
33 Livingston Avenue
New Brunswick, New Jersey 08901
(848) 932-2855
david.aimen@ejb.rutgers.edu

Mike A. Lobdell, PE
GDOT District 7
District Preconstruction Engineer
(770) 986-1258
Mike.Lobdell@dot.state.ga.us

Anne Morris, Senior Project Manager
Atkins
810 Dutch Square Boulevard, Suite 310
Columbia, SC 29210
(803) 772-4404 ext 224
anne.morris@atkinsglobal.com

Try Meeting-in-a-Box

<div style="border: 1px solid black; padding: 10px;">

Gather Feedback

Policy/Research	☐		*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒		*Construction*	☐
Project Development/NEPA Compliance	☒		*Operations & Maintenance*	☐

</div>

What Is It?

A Meeting-in-a-Box gives stakeholder groups and individuals all the materials necessary to hold a successful self-guided meeting. Meetings are hosted by volunteers who agree to invite a small group (10 to 15) of their friends, neighbors, coworkers, or family members into their homes, workplaces, or other convenient locations to discuss a specific topic.

The sponsoring organization for these events provides a prepared bag or box with everything that the host will need to run the event, including an instruction sheet and discussion guide. Since participants are typically asked only for their opinions, and not their judgment, it is not necessary to distribute detailed information about the topic at hand. Following the discussion guide provided, the group generally discusses the topic for 30 to 40 minutes. People are then asked to individually complete response forms that focus on the same topic. All forms are collected and the box is returned to the sponsoring organization for compilation.

Why Is It Effective in Involving Traditionally Underserved Populations?

This tool can be effective in engaging a broad spectrum of local residents in informal, small group discussions about community life. This tool capitalizes on the strength of personal recruitment and very effectively involves people who would not normally participate in public meetings. Because they are being invited to attend by someone they know personally, people generally participate at a very high rate, and since the meetings are comfortable and not intimidating, participants' reactions to the meeting are usually quite positive. Since people normally enjoy these initial meetings, many often stay engaged through the remainder of the process.

What Are Some Techniques for Implementing This Tool?

- Solicit residents' opinions about a broad topic area.
- Include take-home material in the box.
- Ask community organizations or leaders who work with a specific population to volunteer as meeting hosts.

What Are Its Limitations?

Keeping the groups small and informal increases the comfort of participants, but may also limit the opportunity for different groups to hear other ideas and opinions.

What Types of Resources and Costs Are Required?

Materials needed for using Meeting-in-a-Box include a box or other container for meeting materials, hosting instructions, sign-in forms, handouts, discussion guide, surveys/response forms, pencils/pens/highlighters, and a snack if possible, such as microwave popcorn. Additional costs include staff time recruiting hosts, organizing materials, and coordinating with the hosts to distribute and then collect meeting materials. To incentivize participation, hosts might receive a token stipend or be given the opportunity to win a small prize (e.g., digital video cameras, movie theater gift cards, etc.).

Figure 5-19.   COMPASS-branded totes were filled with marketing materials and distributed to volunteer meeting hosts.

Who Has Used It Successfully?

- The *Community Planning Association of Southwest Idaho (COMPASS),* the metropolitan planning organization (MPO) for Treasure Valley, used "Meetings-in-a-Bag" (a variation of the Meeting-in-a-Box concept) for gathering input from traditionally underserved communities while preparing the region's long-range transportation plan, *Communities in Motion.* COMPASS sought hosts from among those individuals who maintain regular contact with the underrepresented populations. For example, a church in Boise conducted a meeting in conjunction with a dinner served to low-income and homeless populations. Those attending dinner heard a presentation on the transportation plan. Afterwards, a group discussion was held and questionnaire forms were distributed so those in attendance could write-down any additional input on topics that they may have been uncomfortable raising during the group exchange (see Figure 5-19).

- The *City of Austin* distributed "Meeting-in-a-Box" kits in English and Spanish during the development of its *Imagine Austin Comprehensive Plan.* In total, 1,242 people (equivalent to upwards of 150 tables at a typical public input meeting) participated during the initial phase. Special, targeted events were held at the Asian American Cultural Center and Mexican American Cultural Center. A mid-point assessment of the demographic representation in their "Imagine Austin Community Forum Series #1"—composed of a public meeting, completion of a survey, or participating in a Meeting-in-a-Box event—affirmed the effectiveness of the Meeting-in-a-Box approach for reaching Asian Americans.

- *Rails-to-Trails Conservancy (RTC)* offers Meeting-in-a-Box as a toolkit to assist in organizing projects. The toolkit provides many helpful tips on how to organize and conduct events as well as models that can be adapted to local communities.

- The *City of Aspen Community Development Department* used Meeting-in-a-Box to gather community input in the process of updating the *Aspen Area Community Plan.* The Meeting-in-a-Box events were used to give residents an opportunity to share their thoughts about the future of Aspen in a flexible format where people could take all the time they needed to discuss those issues that they deemed most important. The vision generated from these events was used to identify discussion topics at the large public meetings held later in the planning process.

Resources/Contacts

Aspen, Colorado, Community Vision for Aspen Area: http://www.aspencommunityvision.com/page_39

Imagine Austin, Meeting-in-a-Box Contents, Demographics, Results, and Video:
   http://www.ci.austin.tx.us/compplan/downloads/iacp_cfs1_miab_download.pdf
   http://www.imagineaustin.net/cfs1-survey-and-miab.htm
   http://www.youtube.com/watch?v=GslENqMXakw (at 5 minute mark).

Rails-to-Trails Conservancy, *Meeting in a Box: Rails-to-Trails Conservancy's Toolkit for Building Rail-Trails:*
   http://www.railstotrails.org/resources/documents/resource_docs/Meeting%20in%20a%20Box.pdf

Amy Luft
Community Coordinator
COMPASS
800 S Industry Way, Ste 100
Meridian, Idaho 83642
(208) 855-2558 x231
aluft@compassidaho.org
http://compassidaho.org/

Use Computer-Assisted Technologies to Explore Preferences

Gather Feedback

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

These tools are used to collect responses from stakeholders in a variety of settings, from one-on-one individual responses to responses from several people in focus groups or neighborhood workshops. This can include data collection in single or multiple geographic locations. The appropriate tool depends on the particular type of preferences being explored and the type of forum (individual, group, etc.). Computer-assisted methods can provide aggregate results quickly, present provocative graphics for visualization and maps, and support real-time interactivity.

Why Is It Effective in Involving Traditionally Underserved Populations?

Effective public participation often requires overcoming social, economic, and physical barriers that inhibit gaining access to information, decisionmakers, and decision-making processes. Many members of traditionally underrepresented groups have never participated in public planning and outreach activities; therefore, they may be reluctant to participate due to their unfamiliarity with the process and protocols. In other cases, the traditionally underserved are not able to attend events or activities because they occur during their work hours or would require that they hire babysitters to watch their children. Physical and geographic locations of public participation events can also provide accessibility challenges. Computer-assisted methods can overcome some of these barriers, sometimes, through online services that provide new avenues for participation. If structured appropriately, computer-assisted technologies can be 1) less daunting than public meetings because supplementary, background information can be easily provided; 2) participation can occur at more convenient times (assuming online, open-hours access); and 3) online access can also help to overcome physical and/or geographic barriers.

Keypad polling is an example of a wireless polling technology that can be used to support community participation and the exploration of preferences at public events. Handheld keypads communicate on radio frequencies with a base station which is connected to a laptop computer which in turn is linked to a VGA projector displaying images on a projection screen. Participants are asked to vote with their keypads to give answers to specific questions. The results are tallied and displayed on the projection screen. Keypad polling can provide real-time feedback to participants to show their opinions in ways they are not accustomed to seeing as well as give them an opportunity to participate more fully in the process. Responses are anonymous, so the intimidation factor is greatly lessened, allowing people to "speak up" in situations where they might not otherwise. The real-time feedback along with the opportunity to participate more fully reinforces participation and can help participants understand the implications and importance of their opinions and participation. Used in conjunction with scenario-planning tools, participants can see the impact of their choices very quickly and revise the scenarios accordingly.

The keypad polling tool can also be used to show people in real time how different groups in the audience are reacting to a particular proposition or concept, potentially reducing the perceived conflict and clarifying some of the perceived differences among groups.

What Are Some Techniques for Implementing This Tool?

There are a wide range of computer-assisted techniques that can be used to explore stakeholder preferences. Many of these methods can also be used in combination depending on the audience and setting:

- Computer image preference surveys,
- Computer/community mapping,
- Scenario creation and modeling,
- Electronic polling (handhelds for public gatherings),
- Email access,
- Interactive television,
- Internet surveys,
- Mobile device interactivity,
- Online tools for public participation,
- Video/multimedia,
- Virtual reality/environments (e.g., Second Life, for one),
- Visualization (2D and 3D).

What Are Its Limitations?

The primary limitations are that traditionally underserved populations may lack access to current information to help them learn about and understand current issues. They may have limited access to technology and/or limited computer literacy.

Some of the equipment and software are expensive to acquire and consultants and transportation agencies may not be willing to invest in obtaining them. Additionally, they require training on the part of the professionals using the technique to apply them well in order to get the desired results. Care needs to be taken to understand how the technology can be used. The approach and desired results should be clear before renting or purchasing software or equipment.

It is important to not view the technology as the primary tool for input on projects. The input from the technological tools should be augmented with other methods to assure a broad range of understanding of the issues and perspectives.

What Types of Resources and Costs Are Required?

Depending on the computer-assisted approach, some of the infrastructure already exists within planning organizations but may be less available on the client side. Agencies may not be as well equipped for electronic polling/keypad technology. The electronic polling/keypad technology can be rented for approximately $1,000 to $1,500 for 100 people for 1 day. This does not include the fee for a trained professional to assist in the design of the questions and how to effectively use the system. Some software may need to be adapted to the particular needs of the project, which adds to the costs.

Who Has Used It Successfully?

- The *San Diego Association of Governments (SANDAG)* used interactive polling technology to help meeting participants prioritize critical issues in development of the *Otay Mesa-Mesa de Otay Binational Corridor Strategic Plan.* Meetings were held in both Mexico and the U.S. where participants each had a remote FM radio input terminal to respond to questions generated by computer and projected on a large screen. The participants prioritized five strategic issues and the polling results were available immediately to the group for focused discussion. The

demographic information that was collected from each person allowed for assessing the different perspectives of the participants based on where they lived, and what organization they represented.

- The *California Department of Transportation* used interactive polling in their meetings for updating the *California Transportation Plan* in three regions. The polling technology was used to collect information from the participants for the purpose of understanding stakeholder perspectives and creating a rich discussion. The technology provided the ability to collect and document real-time opinions and the demographic information collected also provided immediate viewing and understanding of the various stakeholder perspectives.

- The *Sacramento Area Council of Governments* metropolitan planning organization (MPO) initiated the *Sacramento Region Blueprint Project,* an extensive study of the linkages between transportation, land use, and air quality. The Blueprint workshop series began at the neighborhood level with each city or county hosting one workshop in their area highlighting two or more case study areas. Citizens worked in small groups performing interactive planning using computers and table maps. The computer program modeled the impacts of choices made in a "what if" type exercise. More than 30 neighborhood-scale workshops were held in all parts of the region, giving more than one thousand citizens the opportunity to express their preferences for various types of planning solutions. Subsequent workshops were held at the county level and then at the regional level, each building on the information gathered from the previous level of workshops, all using the maps and computers at the tables.

- In 2009, *Chicago Metropolitan Agency for Planning (CMAP),* the region's MPO, held 57 workshops for the *Go To 2040 Invent the Future* plan across the seven-county region. Events were held in community centers, churches, public libraries, social service offices, among other locations. Co-sponsors for events included churches, civic organizations, community colleges, environmental justice and ethnic heritage organizations (e.g., Hispanic), League of Women Voters, mayor's associations, city council members, state representatives, and environmental organizations. Participants were invited to use a scenario software tool and keypad polling to create their own detailed versions of 2040 and compare them with CMAP's scenarios. Keypad polling devices were used to let participants create a scenario based on six different inputs: development density, development location, road investments, transit investments, transportation policies, and environmental policies (see Figures 5-20 and 5-21).

Figures 5-20 and 5-21.   CMAP invited workshop attendees to use scenario software tool and keypad polling.

Resources/Contacts

Chicago Metropolitan Agency for Planning, GO TO 2040: http://www.cmap.illinois.gov/2040/main

Regional Visioning Public Participation—Best Practices: http://www.sustainablepittsburgh.org/pdf/Regional_Visioning_Jan_05.pdf

EPA—Tools for Public Involvement: http://www.epa.gov/stakeholders/involvework.htm

Fowler, G. and K. Allison. 2008. Technology and Citizenry: A Model for Public Consultation in Science Policy Formation. *Journal of Evolution and Technology.* 18(1) 56–69. http://jetpress.org/v18/fowlerallison.htm

Sacramento Area Council of Governments (MPO) Blueprint Transportation and Land Use Study, 2050 Transportation Plan: http://www.sacregionblueprint.org

Tom Garritano, Communications Director
Chicago Metropolitan Agency for Planning (CMAP)
(312) 386-8609
tgarritamo@cmap.illinois.gov

Kaceu Lizon
Sacramento Area Council of Governments
(916) 340-6265
klizon@sacog.org

Erin Aleman, Outreach Coordinator
Chicago Metropolitan Agency for Planning (CMAP)
(312) 386-8816
ealeman@cmap.illinois.gov

Charles Anders
Strategic Initiatives
1886 Deer Canyon Road
Arroyo Grande, CA 93420
(805) 474-8105
canders@strategicinit.com

Use Games to Educate and Explore Priorities

<table>
<tr><td colspan="4" align="center">**Provide Information/Gather Feedback**</td></tr>
<tr><td>*Policy/Research*</td><td>☐</td><td>*Right-of-Way*</td><td>☐</td></tr>
<tr><td>*Statewide/Metropolitan Planning*</td><td>☒</td><td>*Construction*</td><td>☐</td></tr>
<tr><td>*Project Development/NEPA Compliance*</td><td>☒</td><td>*Operations & Maintenance*</td><td>☐</td></tr>
</table>

What Is It?

A game engages multiple parties in a single activity around a predetermined set of objectives and rules for play. Games played in the transportation decision-making process have been used as a way to educate decisionmakers and the public about critical issues in setting budgets and bringing projects to fruition, among other issues, and many times are used to explore the priorities of the participants. Already developed games can be tailored to a specific agency's needs, or the agency can develop its own new and creative games.

Why Is It Effective in Involving Traditionally Underserved Populations?

Games can be particularly effective in involving traditionally underserved populations because they present and gather information in a way that is fun and inclusive. A well-designed game will level the playing field and reduce barriers to participation such as previous understanding of planning concepts or willingness to speak in front of a group. Games can also be designed with almost no written information making them possible for the low literate, limited English proficient, and visually impaired to play.

What Are Some Techniques for Implementing This Tool?

- Solicit priorities in statewide and regional planning.
- Inform participants about the costs for various desired transportation improvements and the limited budgetary resources available for infrastructure.
- Educate players about planning concepts and laws as well as barriers to bringing projects to development.

What Are Its Limitations?

Using games to engage traditionally underserved populations requires that these populations participate in the game. Being able to attract participants to a meeting or event where the game is being played may require the use of various other tools mentioned in this toolkit.

What Types of Resources and Costs Are Required?

The games that have already been developed for transportation decisionmaking have generally been designed with a keen understanding that agencies have limited resources and require very low-tech and inexpensive materials such as sticky dots, strings, and markers. Playing a game will require coordination efforts for the event as well as staffing during the event. It is generally a good practice to have facilitators who are familiar with the rules of the game on-hand to explain rules and answer questions as they arise. Creating a game will necessarily require greater staff time than tailoring an existing game.

Who Has Used It Successfully?

- Kentucky's 10-county *Barren River Area Development District (ADD)* and 17-county *Bluegrass ADD* adapted the *Strings and Ribbons* game to help prioritize their unscheduled transportation needs projects. During the game, residents explained their choices to each other and created rankings under constrained conditions. By making members of the public work together to form consensus, the game empowers participants and eliminates the conflict between the public and the metropolitan planning organization (MPO). At the end of the game, the ADDs had gained crucial information from the public about their perceived needs, and project-specific recommendations were listed and mapped. Members of the public, in turn, had gained a better understanding of why and how the long range transportation plan is developed and had an opportunity to promote the projects they felt were most worthy.

- The *City of Seattle* developed a table-top game to explore the public's understanding of the land use relationships and densities needed to support retail services and other commercial activity adjacent to new light rail stations. City staff developed a workshop exercise using aerial photos and three-dimensional building blocks to represent various building heights. Workshop participants were asked to position the building blocks in locations and configurations they believed suitable to achieve the needed densities. Participants were asked to site parks and other community facilities and to consider needed transportation improvements. Members of many of the ethnic communities were comfortable with higher densities in close proximity to the rail stations.

- The *Bureau of Indian Affairs (BIA), Federal Land Highways Program,* and *Lummi Nation* developed the *Reservation Road Planner Game* as a means to train and build understanding of the transportation planning process among tribal leaders. Throughout the game, players have to make difficult decisions and confront consequences, and they learn about laws and regulations as well as trade-offs. After playing the game, tribal leaders have a greater understanding of transportation planning, and, when it comes time to adopt transportation plans, they know what they should be looking for when they review the plan and why it is important (see Figure 5-22).

- The *Volusia County MPO* has played the *Strings and Ribbons* game, their main public involvement tool for the long range transportation plan, with members of the public who were low literate. This game relies on almost no written information.

- The *Delaware Valley Regional Planning Commission (DVRPC)* developed its *Dots & Dashes* game to give residents and stakeholders an opportunity to discuss and express their priorities for future investments in public transportation in a fun, hands-on game setting. Each group

Figure 5-22.   The Reservation Road Planner Game is designed with the objective of taking a project through five phases of development. The game takes about an hour to play.

developed a list and map of future investment priorities that, together with the results of other groups who played the game, was intended to inform DVRPC's next long range plan and other projects, including a new regional transit vision plan.

Resources/Contacts

Beever, L., and Wagner, N. "Planning Games and Public Participation." Punta Gorda, Florida: Charlotte County-Punta Gorda Metropolitan Planning Organization: http://www.ciatrans.net/Planning.pdf

Reservation Road Planner Website: http://www.roadplanner.org/

Delaware Valley Regional Planning Commission (2008). "What is the Dots & Dashes Game?": http://www.dotsanddashes.org/game.htm

Welzenbach, K. (2006). "Volusia County MPO's Public Involvement Efforts." Presented at Annual AMPO Conference: www.ampo.org/assets/322_stringsribbonspresentatio.ppt

Tony Mazzella
Strategic Advisor
Seattle Department of Transportation
PO Box 34996
Seattle, Washington 98124-4996
(206) 684-0811
tony.mazzella@seattle.gov

Form Advisory Boards, Committees, Taskforces, and Working Groups

---

Build Relationships

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

An advisory board, committee, taskforce, or working group of volunteers that meets regularly on a long-term basis to provide advice and/or support to a plan, project or policy issue under study. Advisory boards and committees can be formed around specific geographic regions, a particular project's stakeholders, a special interest, or population group. They can include diverse stakeholders such as individual citizens, community- or advocacy-based organizations, elected officials, business owners, and others.

Why Is It Effective in Involving Traditionally Underserved Populations?

Transportation agencies can increase involvement of traditionally underserved populations by including individuals and leaders as representatives of those communities on committees or advisory boards that meet regularly. Advisory committees create a channel of communications and give traditionally underserved populations the opportunity to air their concerns or observations about project impacts. This will enable the transportation agency to better understand what the community's needs and issues are, how to reach out to these communities at large, and how to avoid, minimize, or mitigate impacts.

An advisory committee can serve as a forum for groups to participate in statewide or metropolitan planning process and can broaden the metropolitan planning organization's (MPO's) reach beyond traditional public meetings, encouraging greater information dissemination about transportation and related community and land use impacts. The conduct of regular "environmental justice dialogues," for example, can direct the MPO's attention to existing unmet needs and deficiencies experienced by select isolated communities or segments of transportation users. The concerns expressed in such forums can focus research or stimulate other initiatives by the MPO. Over time, such events or forums can bridge the gap between professional practitioners and their diverse clientele.

What Are Some Techniques for Implementing This Tool?

- Gain stakeholder feedback and identify and resolve local concerns.
- Build community support.
- Form regional advisory committees, project stakeholder advisory committees, environmental justice advisory committees, or working groups or special taskforces.
- Recruit participants to include a cross section of opinions and stakeholders.

What Are Its Limitations?

Advisory committees can represent the issues of their constituents, but their participation in the committees does not guarantee buy-in from the community at large. Selecting participants

for the advisory committee is particularly important as the committee will only be as balanced and useful as its members. The time commitment associated with the advisory committee should be clearly laid out to ensure that those who become members are able to sustain participation.

What Types of Resources and Costs Are Required?

The primary cost of advisory committees is staff time to organize the committees and attend their meetings. Additional costs may include providing refreshments for meetings. Time and energy invested in organizing committees and advisory boards can pay off when it comes to creating a public involvement plan for specific projects because channels into the community have already been established.

Who Has Used It Successfully?

- The *Minnesota Department of Transportation (MnDOT) Advocacy Council for Tribal Transportation (ACTT)* convenes quarterly to discuss policies and work on issues that involve roadways on or near Indian reservations. Membership includes representatives from 11 Minnesota tribes, MnDOT, FHWA, the Bureau of Indian Affairs (BIA), Michigan Tribal Technical Assistance Program, Minnesota Indian Affairs Council, and Minnesota Counties and Cities. To encourage participation, the ACTT rotates the location of meetings between tribal areas and other venues around the state. The quarterly events and their annual tribal transportation conference cover a broad range of topics. These events provide a forum to learn and share information about federal, state and tribal transportation policies, data sources, issues requiring cooperation (e.g., development of cooperative agreements such as roadside vegetation management), and training opportunities (e.g., the National Environmental Policy Act (NEPA)). The events strengthen working relationships and foster a greater appreciation for cultural and tribal concerns and differences.

- The *Tahoe Metropolitan Planning Organization (MPO)* in Nevada created the *Social Service Transportation Advisory Council* (SSTAC) to serve as an advisory body regarding the transit needs of transit-dependent and transit-disadvantaged persons, including the elderly, handicapped, and persons of limited means.

- The *Alameda-Contra Costa Transit District* in California created an *Accessibility Advisory Committee* to review, to comment, and to advise the board of directors and district staff regarding the implementation of district planning, programs, and services for seniors and individuals with disabilities.

- The *Maryland Bicycle and Pedestrian Advisory Committee* advises state government agencies on issues directly related to bicycling and pedestrian activity including funding, public awareness, safety, and education. The 21 member committee is appointed by the governor, combining the experience of citizens with the expertise of state officials. Committee members represent geographic regions throughout the state and specific interests, including those of visually and mobility impaired individuals.

- *Washington State DOT* convened working groups along the SR99 corridor for the *Alaskan Way Viaduct Replacement Project* during the preparation of its supplemental environmental impact statement (EIS) to inform stakeholders of project progress, provide geographic-specific information, and seek input from working group members. Representatives from neighborhood, freight, economic interests, and advocacy-based organizations were included in these working groups. To ensure broad-based representation, the working groups included transit users and pedestrian groups; low-income housing advocates; and neighborhoods with higher concentrations of limited English proficiency, minority, and low-income populations.

Resources/Contacts

AASHTO Center for Environmental Excellence, (December 2006), *Utilizing Community Advisory Committees for NEPA Studies:* http://environment.transportation.org/pdf/programs/PG05.pdf

Alameda-Contra Costa Transit District: http://www.actransit.org/wp-content/uploads/board_policies/board_policy_39.pdf

Alaskan Way Viaduct Replacement Project, Appendix H: Social Discipline Report (2010): http://www.wsdot.wa.gov/NR/rdonlyres/21BB772B-BD94-43E2-8052-71D73D4A8FD3/0/2010SDEISAppendixH.pdf

Maryland Bicycle and Pedestrian Advisory Committee: http://www.mdot.maryland.gov/Planning/Bicycle/MBPAC.html

Minnesota Department of Transportation, Advocacy Council for Tribal Transportation (ACTT): http://www.dot.state.mn.us/mntribes/actt/

Tahoe Metropolitan Planning Organization, Social Service Transportation Advisory Council: http://www.tahoempo.org/sstac.aspx?SelectedIndex=3

Foster Understanding of Communities through Relationships with Community Organizations and Other Local Experts

Build Relationships

Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Building relationships with community organizations and other local experts gives the agency and the practitioner an opportunity to develop a deeper appreciation of the traditionally underserved communities that they will encounter. This entails establishing formal or informal working arrangements with community-based and social service organizations, faith-based institutions, or other groups at the local level that regularly interact with, are trusted by, or include members of the traditionally underserved populations with whom you are seeking to engage. Such arrangements will facilitate input and feedback from the members of the organization as well as create opportunities to conduct outreach to their members. It is also effective for strengthening relationships with other local experts who know the community and customs of the people with whom you would like to interact and who have already developed social bonds with persons and organizations in the affected community. Such persons may be members of the community.

Why Is It Effective in Involving Traditionally Underserved Populations?

This approach is effective in involving traditionally underserved populations because it works through known organizations and individuals who have established social and professional networks and know how, where, and when to contact underserved populations to get them involved. The organizations and individuals offer access to the community leaders and others in a position to effectively encourage participation in planning and other transportation-related processes.

Building partnerships with community organizations and other local experts can be a valuable means for establishing long lasting two-way communications that can begin to address critical issues interfering with effective public involvement. Transportation agencies often need partners to leverage their own resources and capabilities. It makes good sense to explore opportunities to bring additional nontransportation resources into projects in communities. Creative, committed, community-based organizations are often at a fulcrum—they can draw in housing agencies, economic development, labor, social services, and universities into their initiatives.

The approach also builds community capacity. Agencies should be interested in how to better empower citizens as they learn about transportation issues and decision-making processes. Community-based organizations bring unique insights about their communities and possess knowledge about a wide range of issues, but they may not have all the expertise and organizational capacity to effectively acquire transportation-related resources or fully understand the transportation planning and project delivery process. With the proper encouragement and guidance, these organizations can bring together other stakeholders and sponsors into potential multi-agency, multi-issue collaborative relationships.

What Are Some Techniques for Implementing This Tool?

- Identify a person or persons of influence in the target community to assist in doing outreach to get people to meetings and/or to get information out to the target audience or get input/feedback from them. The partnership may consist of contracting people to do the work or offering some other kind of reward for their effort (e.g., recognition, training, mentorship, etc).
- Identify and contact community organizations that interact with or represent the target group. Let the organizations and the leaders serve as the project contact for their members so they help to build credibility for the project and give you access to them. You can partner with them by collaborating on events, recognizing them as a partner, and providing them with incentives they identify.
- Ask the partner organization to host gatherings to talk about the project or to reach out to other, similar organizations.

What Are Its Limitations?

The limitations of this tool are that it may be difficult to find an organization that is willing to work with you. It may be difficult to find someone who has the time available and the skills to be able to successfully partner with you.

What Types of Resources and Costs Are Required?

The resources and costs will vary according to the needs of the organization with whom you partner. They might be in the form of a donation to the organization or perhaps some type of in-kind donation. Personnel costs would vary from $10 to $50 per hour depending on the skills of the person with whom you partner.

Who Has Used It Successfully?

Seasoned public involvement professionals, whether working for DOTs, metropolitan planning organizations (MPOs), or county and local governments, have found it advantageous to reach out and/or strengthen relationships with social service and community-based organizations to improve participation and learn more about community needs.

- The California Department of Transportation (Caltrans) *Third River Bridge Crossing Replacement Project* held a community information meeting in Marysville, a small town about 30 miles north of Sacramento, with a large Hmong community, but the meeting failed to attract the attendance despite the distribution of flyers announcing the date, time, and place of the meeting. The Caltrans project manager came to recognize that the Hmong community's history as refugees from Laos may have been an important factor in suppressing their attendance. Exile and harsh treatment at the hands of their former government may have made them hesitant to attend any government sponsored meeting. To overcome this, the project manager set out to recruit school teachers and clergy members whom the Hmong trusted. Leveraging these relationships resulted in some members of the Hmong community participating in the second community information meeting. Having taken the time to learn about the community, it became clearer that middle-aged and older Hmong spoke very little English. Caltrans's follow-up invitations were translated into Hmong to encourage attendance.
- For the *Florida DOT U.S. 301 Project in Hillsborough and Sarasota County,* staff conducting a field visit to prepare environmental studies unexpectedly discovered an enclave of homeless "urban campers"—a community of more than 100 tents—that would be adversely affected by a proposed roadway alignment. Seeking to learn more about the persons living in the impromptu settlement—their economic, social, and health circumstances—the Florida DOT

reached out to several health and social services organizations including the Salvation Army, Red Cross, churches, soup kitchens, medical clinics, emergency rooms, and housing agencies. The Florida DOT then developed its strategy for a communications plan, resolving to work with these local health and social service organizations to disseminate critical project- and construction-related notices to better prepare the transient population for relocation.

- The *State Route 63 Design Charrette Project,* funded under Caltrans Community-Based Transportation Planning Grants, sought to improve the safety of an intersection affecting high concentrations of Hispanic workers in two rural communities, Cutler and Orosi. Community-based organizations were contacted to encourage attendance from Hispanic populations. Mariachis, free food and beverages were part of a festive evening organized to draw attention to the event. A conceptual design charrette was conducted over five consecutive days to craft the community vision. Invitations were sent to over 500 people; project committee members personally invited community and political leaders; information was relayed to the public using phone and face-to-face meetings; and the Cutler-Orosi Unified School District sent a flyer home with every student. A church charity also sponsored a charrette focus group for low-income families that was conducted in English and Spanish. Focus group locations were carefully chosen to maximize participation. For example, one event was held in the community room of a multi-family housing project where many current and former farm workers resided. Portable road signs were placed along the road announcing the event and bilingual fliers were distributed to students, religious institutions, and community groups.

Resources/Contacts

California Department of Transportation, Transportation Planning Grants: http://www.dot.ca.gov/hq/tpp/grants.html

Urban Campers: Unexpected Issues in Community Impact Assessment: Presentation & Transcript:
http://www.ciatrans.net/4th_National_CA_Workshop/Potier-Brown_PowerPoint.pdf
http://www.ciatrans.net/4th_National_CA_Workshop/Potier-Brown_Transcript.pdf

Peter Bond
Senior Environmental Planner
California Department of Transportation
Division of Environmental Analysis
P.O. Box 942874, M.S. 27
Sacramento, CA 94274-0001
(916) 653-8307
peter_bond@dot.ca.gov

Develop Mitigation Strategies

Mitigate Impacts/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Mitigation, in the context of developing projects compliant with the National Environmental Policy Act (NEPA) and its Council on Environmental Quality (CEQ) regulations and guidance, broadly encompasses avoiding an impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or compensating for the impact by replacing or providing substitute resources or environments. Following a logical sequence, measures should first be tried to *avoid,* then *minimize* and/or *mitigate* adverse effects. Effective mitigation starts early in the NEPA process, not at its end; it should be an integral part of the alternatives development and the analysis process.

Why Is It Effective in Involving Traditionally Underserved Populations?

Mitigating the impacts determined to adversely or disproportionately affect minority or low-income populations can redress threats to the livability of communities imposed by transportation projects. When mitigation strategies are explored early in the NEPA process—while alternatives are still being developed and analyzed—agencies and practitioners can better align their decision-making processes with input from those affected by the possible effects and/or benefits of each project alternative. Earlier public involvement with the traditionally underserved populations, among other populations, can lead to a better understanding of the concerns, priorities, and issues of the affected public before the transportation agency has committed to a specific project alternative or design. Better integration of mitigation strategies throughout the project development stage can ensure that projects and alternatives that ultimately get selected will be welcomed, potentially resulting in less formidable opposition, litigation, and delays.

What Are Some Techniques for Implementing This Tool?

Strategies for mitigating community impacts from transportation projects include:

- *Avoidance* measures—alterations to a project so that an effect does not occur. An avoidance alternative can be identified as a part of the project development process. This may include redefining the project description. Examples of avoidance include:
  - Bridging over a roadway segment to avoid cutting off the main access to a community focal point,
  - Shifting a project to avoid displacing a church that serves as the focal point of neighborhood activities,
  - Realigning a project to avoid creating a barrier through a cohesive neighborhood, or
  - Redesigning a project to avoid separating a valued community resource such as a park or a community center from a cohesive neighborhood.

- *Minimization* measures—modifications of a project to reduce the severity of one or more adverse impacts. Examples of minimization include:
  – Providing on-street parking instead of additional travel lanes along a corridor where pedestrian activity is high,
  – Redesigning a project to limit effects to one side of the roadway and not to both sides to minimize community effects,
  – Phase a project to minimize impedance to business access during peak shopping periods, or
  – Limiting construction time periods to reduce noise and vibration impacts to neighboring properties.
- *Mitigation* measures—alleviate or offset an effect or replace a protected resource. Examples of mitigation include:
  – Relocating an affected community facility in a new, easily accessible location within the neighborhood;
  – Improving crosswalks, adding traffic calming devices, and increasing pedestrian walktimes in an area with high levels of pedestrian traffic;
  – Providing a bicycle or pedestrian underpass or overpass to improve safety at crossings and preserve and enhance access; or
  – Erecting noise or visual buffers to the facility.

What Are Its Limitations?

According to FHWA policy, mitigation measures are intended to mitigate adverse impacts and they will be incorporated into the action and eligible for federal funding, provided that 1) the impacts for which the mitigation is proposed actually result from the FHWA's action and 2) the proposed mitigation represents a reasonable public expenditure after considering the impacts of the action and the benefits of the proposed mitigation measures. The FHWA will consider, among other factors, the extent to which the proposed measures would assist in complying with a federal statute, executive order, or FHWA regulation or policy in making this determination.

In practice, local community advocates and other stakeholders may object to strict interpretations of how mitigation will be applied. Stakeholders may dispute the agency's assessment of the project's adverse impacts or their interpretation of appropriate mitigation solutions for affected resources; they may bristle at the amount construed as a "reasonable public expenditure." Community advocates and other stakeholders, recalling past inequitable policies that resulted in locally unwanted land uses or underinvestment, may understandably seek substantial remedies for past policies of neglect. As such, the NEPA approval process can become a high-stakes forum for extracting additional resources or securing compensation. Representatives from sponsoring agencies, too, may differ over appropriate types of mitigation, or seek to avoid establishing precedents that could raise expectations for future projects. Mitigation may be considered by some as too costly while others assert that it is the right thing regardless of cost.

Sponsoring agencies may differ in their willingness to spend on mitigation and for what type of mitigation they will allow. Mitigation may be for "replacement in-kind"—the project took part of a park therefore replacement could be to combine the "uneconomic remainder" parcel that now exists next to the park with the remaining pieces of the park. Mitigation might be for "functional replacement"—the project displaces an old bus garage and it has to be demolished, but it would be replaced with a newer structure—bigger and better than the old garage. Functional replacement might be for a school, a fire or police station, or a church that will be displaced by the project and can be effective means for building support and interest in the project. Putting in sidewalks where none had ever been, adding lighting to the existing park so kids could play at night, or providing a mobile health clinic for a community have also been undertaken to mitigate community impacts. The scope of mitigation is limited by the requirement that it should be

directed specifically to the community that was harmed, and not for general benefit of those who have not been harmed.

At times, agencies may argue that the general benefits of the proposed transportation project will be enjoyed by the community that is harmed and that this benefit is sufficient to "offset" the adverse impacts to the community. Such an argument for "offsetting benefits" is more persuasive when the project benefits are specifically intended for the adversely affected community rather than the general public—for example, the project will deliver new sidewalks, lighting, or safety improvements within the affected community. The offsetting benefits argument may not be well-received in communities where affected stakeholders feel that the project triggers environmental justice impacts—namely, the adverse effects are predominately borne by a minority population and/or low-income population; or will be suffered by these populations and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population. When the benefits are seen to accrue to *all* populations but the adverse burdens are borne predominantly by disadvantaged populations, allegations of unfair treatment could surface and delay or derail the project development process.

The concept of "enhancements" is one means for overcoming the limitations of mitigation strategies. Enhancements include the addition of desirable or attractive features to a project to make it fit more harmoniously into the community. They may include adding trees and park benches, developing bicycle trails or pedestrian paths, providing scenic or rest areas, or providing textured pedestrian crossings in neighborhoods or downtowns. By definition, enhancements are not intended to replace lost resources or alleviate effects caused by the project. Therefore, they are not categorized as mitigation under FHWA policy. Building enhancements into projects through a portion of the project budget, through the leveraging of other funding resources, or the implementation of other independent projects are all strategies for addressing the desire of stakeholders to create and preserve livable communities.

What Types of Resources and Costs Are Required?

Mitigation can take many different forms so it very difficult to generalize the costs that will be set aside for mitigation. In some cases, such as the Washington DOT case discussed further below, attempts are made to monitor the types and amount of mitigation that are set aside in project budgets.

Who Has Used It Successfully?

- The *West State Street Corridor Study* prepared by *Illinois DOT (IDOT)* in cooperation with the FHWA and the City of Rockford seeks to revitalize a very low-income, largely minority corridor. Scheduled to begin construction in 2011, the road would be widened from four to five lanes, and the properties lining the current road would be acquired, razed, and converted into two linear parks. The displaced property owners are expected to be compensated at their full-market value, in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act)*. However, in meetings conducted for the environmental assessment, community members raised concerns about the displacement of institutions delivering valued social services to the community, including four churches and a funeral home. With few realistic sites to relocate within the corridor, the study team realized that the money received in compensation would be insufficient to support new construction for these community-preserving institutions. Certainly, the four churches and the funeral home lacked the financial resources to make up the difference between the fair market value of their acquired properties and the higher costs for new construction or extensive reconstruction of existing buildings. The loss of these institutions within the corridor would be a burden borne

predominantly by the area's low-income and minority residents, leaving the project sponsors concerned about environmental justice. Having successfully used deferred mortgages on HUD-funded owner-occupied rehab housing in the same corridor, Rockford officials suggested that the concept could be adapted to solve the displacement and relocation problem caused by the transportation project. The *West State Street Environmental Justice Mitigation Plan* outlines the terms of a deferred mortgage program; the program would give each of the property owners $150,000 in state transportation dollars to build a new property or purchase an existing one in the corridor. For each year of continuing operations over a 15-year period, $10,000 would be forgiven from the total loan. But, if the property was sold or the operations discontinued at any point, the remaining balance would become due. The phase requiring the churches to move is not scheduled to begin until 2013, but Rockford and IDOT are hopeful about the potential of deferred mortgages to serve as incentive to relocate community-based institutions within the corridor.

- The *Washington State Department of Transportation (WSDOT)* has periodically prepared a *Project Mitigation Cost Case Studies* report that closely examines environmental mitigation: the regulatory factors driving mitigation, the types of mitigation, their costs, and the percentage of the overall project costs for mitigation, among other issues. This includes tracking the costs for "Context Sensitive Solutions" items—projects that tend to exhibit design flexibility to achieve greater compatibility with the existing built and natural environment and often utilize transportation enhancement elements to ensure this compatibility. Context sensitive solutions designs are fostered through collaborative, interdisciplinary approaches involving stakeholders and the public. Features of such projects include community gateways, community connectivity, special landscaping, bikeway and pedestrian underways, guardrails and railings, and concrete stamping, among other elements.

- The FHWA's *Community Impact Mitigation Case Studies* booklet provides five in-depth illustrations of how community impact mitigation can be conducted. The case studies illustrate examples of projects for which environmental studies had been prepared, but for which the state DOT and the FHWA faced controversy and conflicts that had to be resolved before projects could move forward. The case studies describe in detail the context in which the mitigation strategies were planned and implemented. Examples of mitigation included the construction of a "lid" over a highway to better connect communities, development of a new elementary school and landscaping for active and passive recreation, use of the functional replacement program to deliver new community facilities such as a fire house to a low-income community, relocation of an entire neighborhood and development of a senior center, landscaping and fencing to conceal a below-grade highway through an urban neighborhood, and air conditioning and noise walls near schools and churches, among other initiatives.

Resources/Contacts

FHWA's *Community Impact Mitigation Case Studies:* http://www.ciatrans.net/Community_Impact_Mitigation/CIM_Introduction.html

City of Rockford, *West State Street Corridor Study:* http://www.ci.rockford.il.us/1977

Washington State DOT—Project Mitigation Cost Case Studies: http://www.wsdot.wa.gov/projects/mitigation

Washington State DOT—Environmental Justice Frequently Asked Questions: http://www.wsdot.wa.gov/Environment/EJ/EJfaq.htm

Mark Rose, Land Acquisition Officer
City of Rockford—Legal Department
425 E. State St.
Rockford, IL 61107
(815) 987-5543
mark.rose@rockfordil.gov

Mike Hine, Engineering Team Lead
FHWA Illinois Division
3250 Executive Park Drive
Springfield, Illinois 62703
(217) 492-4600
Mike.Hine@dot.gov

Provide a Citizen-Driven Community Enhancement Fund

Mitigate Impacts/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

A citizen-driven community enhancement fund sets aside a portion of a project budget for small-scale side projects that the community has a significant voice in choosing. Transportation agency staff help create a citizens advisory board to represent the targeted communities. That board is then charged with receiving applications for use of the funds, weighing the benefits and applicability of those projects, and then sending their recommendations onto decisionmakers at the transportation agency.

Why Is It Effective in Involving Traditionally Underserved Populations?

By bringing representatives of the communities onto the advisory board, transportation agencies are able to increase community engagement on a project. The process gives community members real power over a project, fostering general community interest, which can be difficult to achieve if the project does not directly and adversely impact the community.

What Are Some Techniques for Implementing This Tool?

- Holding meetings and discussions with regional managers, agency directors, and project managers at the beginning of the environmental review process. Enlisting their support is vital for the establishment of an enhancement fund that is above and beyond mitigation.
- Having the citizens sort through and select the projects and to the greatest extent possible follow their recommendations. Citizens value the input of staff, but giving residents control over a piece of a project can foster trust and build support for the project as a whole.
- Public involvement conducted "early and often" makes it easier to get people engaged. Building awareness and capacity early may involve more time-intensive outreach methods, like going to churches and grocery stores, to engage people on their own ground and on their own terms. Work with established networks of community groups, including contracting with them to help with outreach because ambassadors from the community can be more accessible than professional transportation practitioners from elsewhere.

What Are Its Limitations?

Because of funding limitations, the dollars available to many transportation projects must be spent on transportation-related purposes. This may prove disappointing to some local residents who see that past transportation projects may have directly or indirectly degraded the livability of their community and would prefer wide discretion in selecting projects to remedy cumulative adverse effects. Local residents may believe nontransportation projects—for example, improvements to a community center or a park—should be viewed as a higher priority or greater need for residents.

The citizen-directed community enhancement fund approach is a nontraditional means of delivering benefits to communities. Because it differs from the normal ways of doing business exercised by state DOTs, it requires significant buy-in and support from agency leadership, as well as an active champion in the project manager.

What Types of Resources and Costs Are Required?

The fund itself can come from a variety of sources in the project budget, and its amount will vary based on the size of that budget. Staff time for public outreach as part of the environmental review process includes organizing and conducting meetings to bring the idea of a citizens' advisory board to the targeted communities. Conducting the meetings with the community enhancement advisory board is an additional time commitment, but not necessarily a large one, as the meetings may take no more than 2 hours and take place no more than once or twice a month.

Who Has Used It Successfully?

The *Oregon Department of Transportation (ODOT), I-5 Delta Park: Victory Boulevard to Lombard Section (I-5 Delta Park)*. For a broad, bistate effort to ease congestion on Interstate 5, ODOT instituted a citizen-directed, community enhancement fund approach along the corridor in the Delta Park community in Portland. When it was originally sited and built, I-5 cleaved through minority neighborhoods and sowed enduring resentment in the Delta Park area. The subsequent *I-5 Delta Park Project* explored various alternatives to address a chokepoint between Portland and Vancouver, involving widening, ramp configuration changes, local street network improvements, and bridge modifications. The NEPA Environmental Assessment prepared by ODOT found that the project would not result in disproportionately high and adverse impacts on the low-income and minority populations. Therefore, no mitigation and conservation measures were identified. But, the blighting legacy of I-5 through North Portland neighborhoods was raised during outreach meetings including environmental justice working groups formed for the study.

The ODOT project manager decided to go "above and beyond mitigation" to give residents a voice on the selection of a package of smaller projects for the benefit of the community. The project manager established a community enhancement fund and set aside one percent, or $1 million, of the project budget from state funding. Communities were invited to apply for these funds, provided that they could demonstrate that their project 1) has a relationship to the I-5 Delta Park project and its potential impacts and 2) could qualify for state or federal transportation dollars. The projects required endorsements from neighborhood organizations. A community enhancement advisory board was established, consisting of representatives from several neighborhood associations, the regional Watershed Council, the environmental justice working group, the housing authority, and local elected officials. Running concurrently with significant public outreach, the board met for a year's time and reviewed 13 applications, totaling about $3 million. The board voted to recommend the following projects, which ODOT subsequently approved:

- Neighborhood tree planting along the corridor ($65K),
- Bicycle lanes along the adjacent Rosa Parks Boulevard ($90K),
- Planning efforts for improving the safety of Bryant Street pedestrian overpass ($50K),
- Widening, lighting improvements, and screens on the Killingsworth pedestrian overpass ($200K),
- Extension of a pedestrian and bicycle trail ($460K),
- Traffic calming on an adjacent street in the Kenton neighborhood ($75K), and
- Crosswalk improvements ($60K).

The awards provided partial funding, which was bolstered by leveraging the fund money or through in-kind contributions. Of these, the neighborhood tree planting, the Killingsworth pedestrian overpass, and the Kenton traffic calming are complete. The pedestrian and bicycle trail is on schedule to be completed, but the others have met some delays. Community input led both the Rosa Parks Boulevard project and the Bryant Street pedestrian overpass projects to expand in scope. The time taken to redesign the overpass and to come to agreement on local hiring has delayed completion. But overall, the enhancement fund process helped strengthen the relationship between ODOT and the community, fostering acceptance of the project as a whole.

Contacts/Resources

Overview of Community Enhancement Fund: http://www.oregon.gov/odot/hwy/region1/I-5DeltaPark/communityenhancement.shtml

Overview of I-5 Project: http://www.oregon.gov/odot/hwy/region1/I-5DeltaPark/index.shtml

Kate Deane
Former Delta Park Project Manager—ODOT
Portland Development Commission,
    Community Economic Development
    Manager
(503) 823-3313
deanek@pdc.us

Shelli Romero, MPA
Public Policy & Community Affairs Manager
ODOT—Region 1
123 NW Flanders
Portland, OR 97209
(503) 731-8231

Recognize Community Benefits Agreements

Mitigate Impacts/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

A community benefits agreement (CBA) is a project-specific, legally binding contract between a project sponsor (i.e., developer or transportation agency) and a group or coalition of community representatives. Representatives generally represent a range of stakeholder interests. In the contract, the project sponsor documents how the proposed project will contribute to the community, usually through community employment, development, or environmental provisions. In return, residents and coalition representatives agree to support the proposed project, stopping costly delays before they start. CBAs are designed to be part of a "win-win" strategy encouraging early and meaningful communication between the project sponsor and the community.

Why Is It Effective in Involving Traditionally Underserved Populations?

Large transportation projects can impose significant burdens on communities adjacent to the project corridor. Historically, such burdens have been predominately borne by traditionally underserved populations. Projects located in populated areas can be met with significant opposition which may delay or halt the project altogether. This can simultaneously damage the sponsor agency's prestige and threaten its ability to implement safety improvements and roadway enhancements in a timely and cost-effective way.

The purpose of project-specific CBAs is to ensure that the voice of the affected community is heard and considered when designing project mitigation measures and enhancements. CBAs offer some assurance that traditionally underserved populations affected by a proposed project are engaged and receive some benefits from the implementation of the project. The use of a CBA ensures that history does not repeat itself by alienating and/or disproportionately affecting traditionally underserved populations.

Over the past decade, CBAs have brought engineers, planners, and community members together to discuss project objectives and convey issues of concern that could lead to concerted opposition. CBA requirements are usually minor when compared with the overall project budget, but ensure that projects bring jobs into the community or enhance livability and environmental health objectives sought by the community. CBAs tend to be established for local hiring and training, noise and air quality mitigation, or neighborhood beautification elements such as trees and lighting. Such agreements can give the community greater influence over the projects and establish a greater stake in seeing the project successfully implemented.

What Are Some Techniques for Implementing This Tool?

- Hire a project manager committed to work with the community.
- Tie-in with a community-outreach program that is broad, transparent, accessible and promotes meaningful engagement.
- Give community groups a significant degree of control over agreed-upon programs.

- Make sure that contractors and unions are involved in discussions and agreements.
- Pay for local hiring using the state's cost-sharing portion of project funds.

What Are Its Limitations?

- The inclusion of a diverse group of stakeholders representing the community can be challenging. The alienation of or failure to include certain groups when negotiating the CBA can result in community opposition.
- All parties involved in the CBA must keep to the agreement, otherwise costs can rise and delays can lengthen due to controversy and opposition. Community trust can be lost if commitments are not kept.
- If the resulting programs are not implemented or designed properly, it can add costs to the project.

What Types of Resources and Costs Are Required?

The costs of implementing a CBA are attributable to the time and attention of project leadership and staff who work with the community and negotiate the terms of the agreement. The cost of implementing the commitments made in the CBA are project specific and can vary widely depending upon project size and scale, level of controversy, and the extent of the commitments made.

Who Has Used It Successfully?

In 1998, the *Alameda Corridor Transportation Authority* established a CBA with the Alameda Corridor Jobs Coalition to hire local residents for 3,500 of the estimated 10,500 jobs created by the $2.4 billion project to strengthen and streamline transportation links between the Port of Long Beach and the City of Los Angeles. The agreement also created funding for construction job training of 1,281 local residents and for community-based organizations to recruit and train local residents for jobs, apprenticeships, or pre-apprenticeships.

Resources/Contacts

Alameda Corridor Transportation Authority, Fact Sheet, Alameda Corridor Project: http://www.acta.org/projects/projects_completed_alameda_factsheet.asp

Gross, J. et al. (2005). *Community Benefits Agreements: Making Development Projects Accountable.* California: Good Jobs First and the California Partnership for Working Families: http://www.goodjobsfirst.org/pdf/cba2005final.pdf

Gross, J. "Community Benefits Agreements: Definitions, Values, and Legal Enforceability." *Journal of Affordable Housing.* Vol 17:1–2 (Fall 2007/Winter 2008): http://www.communitybenefits.org/downloads/CBAs%20Definitions%20Values%20and%20Legal%20Enforceability.pdf

MoDOT, "Workforce Partnering Plan, The New I-64 Interstate Project," http://www.thenewi64.org/download/2006-05-12%20Workforce%20Utilization%20Plan%20Partnering%20Agreement%20Signatures.pdf

Swanstrom, T. (2009), "Going Regional: Community-Based Regionalism, Transportation, and Local Hiring Agreements." Journal of Planning Education and Research. Vol. 28, No. 3, 355–367. http://www.iurd.berkeley.edu/publications/wp/2007-17.pdf

Linda Wilson
Public Information Manager
Missouri Department of Transportation
105 W. Capitol Avenue
Jefferson City, MO 65102
314-340-4117
Linda.Wilson@modot.mo.gov
http://www.modot.mo.gov

Laura Barrett
Policy Director
Transportation Equity Network/Gamaliel
4501 Westminster Place, 3rd Floor
St. Louis, MO 63108
314-443-5915
laura@transportationequity.org
www.transportationequity.org

Create Transportation Planning Grant Programs to Support Environmental Justice and Community-Based Planning

Mitigate Impacts/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

Funding programs typically established by state departments of transportation or metropolitan planning organizations (MPOs) are targeted to local governments and select nonprofit organizations capable of demonstrating that their transportation planning project will meet statewide, regional, or local goals. Such goals may include smart growth or strategic land use planning; congestion relief; efficient movement of people, goods and services; promotion of urban design and projects to ensure safe and healthy communities; pedestrian, bicycle and transit mobility and access; public and stakeholder participation; measures to reduce air pollution and greenhouse gas emissions; conservation of energy and natural resources; and protection of sensitive habitat and farmland. The approach recognizes the need for better coordination of regional transportation planning with local land use planning and decisionmaking.

Why Is It Effective in Involving Traditionally Underserved Populations?

Plans and projects funded by the programs can foster public involvement and/or collaborative planning processes along with project planning studies that support livability and sustainable solutions for diverse and underserved communities. Program funding criteria can be developed to prioritize plans and projects that satisfy program purposes and meet grant eligibility provisions intended to benefit traditionally underserved populations and improve the quality of life of their communities.

What Are Some Techniques for Implementing This Tool?

Program funds are distributed competitively to the higher ranked project proposals prepared by prospective grant recipients. Project proposals would typically describe the anticipated approach for developing conceptual-level plans and other study activities that would encourage community-based stakeholder collaboration and consensus building through active public engagement. Proposals are expected to explain the transportation and/or land use concepts that would be studied and how they would induce benefits. For projects funded under an environmental justice category, selected projects would demonstrate a focus upon transportation and community development issues that address the interests of low-income, minority, and other underrepresented communities.

The types of projects favored for funding are enumerated as part of the program guides made available to prospective grant recipients. For example, the California Department of Transportation (Caltrans) suggested the following projects for its community-based transportation planning and environmental justice funding categories:

• Long-term sustainable community/economic development growth studies or plans,
• Community to school linkage studies or plans,
• Jobs and affordable housing proximity studies or plans,

- Transit oriented/adjacent development or "transit village" studies or plans,
- Infill or compact development studies or plans,
- Mixed-land use development studies or plans,
- Context-sensitive streetscapes or town center studies or plans,
- Complete street studies or plans,
- Suburban community or urban commercial corridor retrofit studies or plans, and
- Community revitalization studies or plans.

What Are Its Limitations?

Program manuals are essential for describing procedural hurdles and funding requirements. For example, grant program funding could be restricted to federal grant recipient lead agencies (e.g., MPOs, regional transportation planning agencies (RTPAs), cities, counties, transit agencies, and federally recognized Native American tribal governments). Universities and community colleges, community-based organizations, nonprofit organizations, or other public entities may have to apply as a subrecipient to the lead applicant agency. Subrecipients, therefore, would need to work well in advance of application deadlines to coordinate application development.

Environmental studies, plans, or documents normally required for project development are generally not eligible expenses for these types of grants. Similarly, construction and procurement of equipment or materials, such as building a facility or purchasing computers, are not eligible expenses, even if such purchases might be funded with other funds or provided as match.

Local match funds that are not state or federal sources may be required. While "in-kind" services may be permitted with appropriate documentation of how they will be extended (e.g., staff time, use of equipment, refreshments), the local match amount would typically require a source of additional funds. The grants also have time limitations that necessitate that work be initiated and completed within well-defined time periods.

What Types of Resources and Costs Are Required?

Caltrans established environmental justice and community-based transportation planning grants (CBTP) as part of their Transportation Planning Grant Programs that are funded by the State Highway Account. They have set aside about $3 million annually, capping environmental justice grants per project at $250,000 and CBTP grants at $300,000. The local match from non-state and non-federal funding, including in-kind services, ranges from 10 to 20 percent. In FY 2010–2011, the environmental justice grant program budgeted $2.2 million for 11 projects and the CBTP budgeted $3.7 million for 12 projects.

The Delaware Valley Regional Planning Commission (DVRPC), the MPO for the nine-county Philadelphia region, recognized that the Transportation Equity Act for the 21st Century (TEA-21) offered the flexibility to distribute federal funds to community-oriented projects. DVRPC committed federal dollars to the Surface Transportation Program (STP), Transportation Enhancements (TE), and the Congestion Mitigation and Air Quality Program (CMAQ) for transportation projects, but there were no targeted grant programs to assist local communities to develop their plans for revitalization. In 2002, the Transportation and Community Development Initiative (TCDI) program was established to get more planning dollars to local governments. In 2007, the TCDI program moved to a 2-year funding cycle, providing up to $3 million during that funding round. In New Jersey, there was $1.075 million per year for project administration and project completion from Surface Transportation Program—Urban Allocation (STP-STU) funds. In Pennsylvania there was $2.5 million for project administration and project completion from

STU and local funds. Through fiscal years 2002–2007, DVRPC had distributed $9 million to over 100 communities for TCDI planning grants.

Who Has Used It Successfully?

- *Caltrans* has funded a wide variety of community-based transportation studies under its program, including *Traffic Calming and Safety Enhancements for the Hoopa Valley Indian Reservation.* The Hoopa Valley Indian Reservation formed a partnership with the local government commission, seeking to involve the tribal community and other local stakeholders, to address traffic, safety, and accessibility issues in addition to redevelopment opportunities. The outreach process included meetings, design fairs, and walking tours of the study area to introduce residents to the proposed project and solicit ideas, concerns, and suggestions. The study area, which includes a half-mile section of Highway 96 that bisects Hoopa Valley Tribal lands, had been plagued by numerous accidents in the past due to inadequate sidewalks, turning lanes, and lighting. In previous town meetings, safety concerns had been voiced. Final recommendations for the project included crosswalk improvements, traffic calming, a gateway entrance to the town, a village and cultural center, and a village grid. Caltrans received an award for the success of the project and it has been recognized nationally as a model for improving relations between state DOTs and tribal communities (see Figure 5-23).

- *DVRPC's TCDI* program targets the region's core cities, developed communities, and socially or economically disadvantaged areas. Grant awards are made directly to municipalities, county governments, and nonprofit organizations within the city of Philadelphia. Project sponsors may apply for planning dollars for a variety of eligible activities that must improve the climate for redevelopment, enhance community character, and improve the overall quality of life for residents. The communities and census tracts identified as eligible for TCDI grants are consistent with the Long-Range Transportation Plan as well as DVRPC's policy to proactively support the region's disadvantaged communities and population, drawing upon the agency's social profile and mapping prepared as part of annual environmental justice research. The TCDI program has been highly popular with local governments in the region. The program seeks to fund initiatives built around density centers and multi-modal use of the transportation network, but provides leeway for applicants to describe how their projects satisfy the policies

Figure 5-23.   Focus group discussions were held with tribal leaders as one element of the traffic calming and safety enhancements in the Hoopa Valley Reservation study funded under Caltrans' environmental justice and community-based planning grants program.

and goals of DVRPC's regional plan. TCDI funding has been used by grant recipients to reevaluate their zoning ordinances and comprehensive master plans (e.g., to permit mixed use districts and limit highway commercial sprawl), update design guidelines, develop plans for transit-oriented development, develop multi-municipal corridor plans (e.g., economic development plans, corridor studies), create business improvement districts, and prioritize capital transportation improvements, among other studies.

Resources/Contacts

California Transportation Planning Grants Website: http://www.dot.ca.gov/hq/tpp/grants.html

Community-Based Transportation Planning (CBTP) and Environmental Justice (EJ) Transportation Planning Grants Program Toolbox: http://www.dot.ca.gov/hq/tpp/offices/ocp/ej_cbtp_toolbox.html

California Department of Transportation, Community Based and Environmental Justice Transportation Planning Grants Handbook: http://www.dot.ca.gov/hq/tpp/offices/ocp/ej_cbtp_toolbox_files/PDFs_of_files/EJ_CBTP_Handbook_v8revisions.pdf

Delaware Valley Regional Planning Commission, Transportation and Community Development Initiative (TCDI): http://www.dvrpc.org/TCDI/

Josh Pulverman
Associate Transportation Planner
California Department of Transportation
Office of Community Planning (OCP)
1120 N Street, MS-32
Sacramento, CA 95814
(916) 653-0808
josh_pulverman@dot.ca.gov

Implement Safe Routes to Schools Programs

Mitigate Impacts/Deliver Benefits			
Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Safe Routes to Schools (SRTS) programs and projects are designed to encourage children to walk and ride bicycles to schools. Communities are using federal, state, and local Safe Routes to School funding to construct infrastructure projects, including sidewalks, safer crossings, pathways, bicycle lanes, and traffic calming measures. Funding is also used for education, encouragement, and enforcement programs including promotional events, bicycle and pedestrian safety and security education, and crosswalk or speed enforcement stings. SRTS funds are being used to increase community awareness, change attitudes, and foster collaboration and partnerships among organizations and agencies to educate and promote walking and bicycling by school-aged children.

Why Is It Effective in Involving Traditionally Underserved Populations?

Children from low-income families are twice as likely to walk to school as children from higher income families. They also have a higher risk of being injured or killed as pedestrians, according to the Safe Routes to School National Partnership in its recent publication, *Implementing Safe Routes to School in Low-Income Schools and Communities: A Resource Guide for Volunteers and Professionals (SRTS Resource Guide for Low-Income Communities)*. SRTS programs, at their inception, tended to favor moderate-to higher-income communities that had the resources to prepare the grants and conduct the preplanning activities leading to a successful grant application. The *SRTS Resource Guide for Low-Income Communities* seeks to tackle this disparity by describing effective strategies for ensuring that resources reach disadvantaged communities, illustrating the types of planning considerations and projects that have yielded beneficial outcomes.

What Are Some Techniques for Implementing This Tool?

The *SRTS Resource Guide for Low-Income Communities* recognizes what FHWA has identified as the Five "E"s—evaluation, education, encouragement, engineering, and enforcement—as integral dimensions of a comprehensive and successful Safe Routes to School Program. Several key considerations for achieving success in disadvantaged communities are emphasized:

- *Develop Partnerships.* A successful SRTS program will need to get involvement from several types of partners including parents, students, civic leadership (e.g., mayor or city manager, city council representative), local public works department, school personnel, and non-governmental organizations in the community. It is important to establish a formal team of diverse stakeholders with clearly defined goals for the overall committee as well as for individual team members. Trusted organizations already working in the community should be recruited and several types of events held to build awareness and support.
- *Know Your Community.* Several formal and informal methods of assessment should be used to identify local community needs. Work with schools, community organizations, local police, public works, local officials, and neighborhood residents to review crime patterns, accident

records, and participate in neighborhood walkability audits. Conduct focus groups and workshops with parents, students, school officials, and teachers to identify concerns.

- *Identify Champions.* Parents and volunteers are essential, but the SRTS programs also often involve solutions that will require the support of civil and transportation engineers, school officials (superintendents, principals, school boards), elected officials (city managers, supervisors, local elected officials), police, and public works and public health agencies—each with specific roles and responsibilities to ensure success.
- *Contact the State SRTS Coordinator.* Each state has a designated coordinator for the SRTS program who should be able to offer practical advice on what programs, resources, and technical assistance may be available to aid low-income communities and schools. Some states will provide engineering or other technical assistance through a grant or in-house services to low-income communities to devise workable strategies. Some state DOTs are also actively involved in national networks that are sharing information on best practices.

What Are Its Limitations?

In addition to being time-consuming to prepare, an SRTS federal grant funded through a state DOT will often require expertise and assistance from engineers and planners, as well as require extensive coordination with other governments (e.g., school districts, city or county). Local recipients will also need to comply with all FHWA regulations if funding is awarded, which will involve paperwork and expertise that could result in an increased staff burden. Local schools and communities, particularly in low-income urban or rural areas, may not have the resources and staffing to lead such an initiative. As a federal reimbursement program, SRTS program funds require that funds be expended for project completion before any reimbursement is made—a provision that can place a financial burden on a local school or community.

What Types of Resources and Costs Are Required?

In August 2005, Congress approved $612 million for state implementation of the SRTS programs over 5 years. Each state was to receive a minimum of $1 million per fiscal year through 2009 for SRTS, and a full-time SRTS coordinator associated with the U.S. Department of Transportation was to be designated. Congress had extended the program at $183 million per year starting in FY2010 until a long-term transportation reauthorization is complete. Other requirements related to funding included:

- Each state must spend 10 to 30 percent of its funds on noninfrastructure activities, including encouragement, public awareness, enforcement, and educational programs; and
- 70 to 90 percent of funds must be spent on infrastructure—sidewalks, bike lanes, pathways, and traffic-calming activities.

The types of projects funded under the federal SRTS program and their costs are reported by the Safe Routes Partnership on its website and/or can be discovered through discussions with SRTS coordinators. Program funds will vary substantially depending on the breadth of project planning (e.g., site specific, multiple sites, community wide) and stage in the project delivery process for which funds are to be used (e.g., project planning, construction, operations). SRTS Action Plans, concept-level engineering or planning technical assistance efforts, can be prepared for individual schools at a relatively low cost—perhaps as low as $10,000 to $25,000. SRTS projects can also be elements of a larger neighborhood revitalization strategy, attracting a significantly greater planning study budget (e.g., $100K to $150K, or more). Costs for infrastructure improvements (e.g., signalization, traffic calming, sidewalks, lighting, curb ramps, signage) can vary widely from project to project, depending on the scale and quality of the capital improvements.

The capital costs may also be absorbed or leveraged with other county or municipal capital improvement program items, making it difficult to isolate project costs solely for SRTS. Operating costs can be equally difficult to track, depending on what types of nonengineering services are employed (e.g., student safety training, crossing guards, bike clubs, etc.), how the program services are operated, and whether some operating costs are absorbed through other agency operating budgets (e.g., police or public health department). Costs for a Walk-to-School program coordinator can require budgeting for a half- or full-time employee. "Walking School Buses," a non-infrastructure solution that relies on parents and volunteers to escort children to school, may also need to set aside a stipend (e.g., $100/month) for parent volunteers in recognition of how difficult it can be to consistently maintain such a program. Finding a continuing source of funds for that effort over time can prove challenging.

Who Has Used It Successfully?

- The *Active Living Resource Center (ALRC),* a nonprofit organization funded in part by the Robert Wood Johnson Foundation, observed that lower-income urban schools had less capacity and/or were less prepared than middle- and upper-income suburban communities to prepare grants and acquire SRTS program funds at the inception of the program. In 2006, ALRC staff began working on a City-SRTS pilot program for diverse populations in urban communities with the objective of ensuring that SRTS program resources reach all of its targets, including traditionally underserved populations. The ALRC conducted five pilot City-SRTS programs in three different cities: Birmingham, Alabama; Chicago, Illinois; and St. Paul, Minnesota. Several criteria were used to select pilot cities, including their diversity, interest in SRTS and the City-SRTS program, prevalent indicators of need (e.g., large numbers of students enrolled in free and reduced price lunches programs), and the capacity of local organizers (e.g., community groups, program managers, city staff)—persons who are knowledgeable about local conditions and respected—to work creatively with ALRC to customize a local outreach program. ALRC's *City-Safe Routes to School, Pilot Programs—2006* report describes lessons learned surrounding the location of workshops or meetings, the food or refreshments served at events, the agenda followed, the walking tours arranged, among other considerations. The process sought to solicit from attendees several core questions: How are the students traveling to school? Is it working? Where is safety threatened or compromised? What would make it better (safer) and more likely for students to walk to school?

- The *New Jersey Department of Transportation's SRTS Urban Demonstration Program* focused on disadvantaged schools in Camden, Newark, and Trenton—cities that exhibited disproportionately high rates of pedestrian crashes, poverty, and crime. The Urban Demonstration Program was designed, in part, to assist urban schools that were previously unsuccessful in getting SRTS funding, but had shown an interest in the SRTS program. An SRTS task force was formed at each of six demonstration sites in three cities, bringing together state and local government staff, school officials, teachers, police officers, transportation management associations, and representatives from local and regional nonprofit organizations interested in promoting health, safety, walking, and bicycling. Needs and opportunities to improve conditions were identified through evening community workshops held at each school and through a student classroom assignment. On the day of the evening workshop, the project team observed students at arrival and dismissal times and engaged with students in both a classroom session and a neighborhood walkabout during the school day. For the classroom exercise, students were asked to participate in a visual preference survey to solicit their perceptions on what they would like to see done to improve their neighborhood if they were the mayor. During their walking audit, students were asked to photograph and record positive and negative conditions in their walking environment and suggest improvements. The students' perceptions offered valuable information for framing discussions during the evening community workshop,

Figure 5-24.   SRTS Urban Demonstration projects in the city of Newark included evening workshops with parents, caregivers, school administrators, teachers, police, and community leaders. Safety and enforcement issues are addressed by including local police in the event. Traffic and enforcement of other laws, including property maintenance, may be a point of community discussion.

which was generally composed of parents, caregivers, teachers, police, and community leaders. The evening workshops identified barriers, areas of concern, and opportunities for change in the school environment and a mapping exercise was facilitated by the project team (see Figure 5-24). The program and involvement processes have made clear several safety-related and resource-related constraints confronting urban disadvantaged schools. NJDOT has resolved to lend further technical assistance for specific non-infrastructure programs, grant applications and, because of their participation in the program, grant extra points on future SRTS applications for the participating schools.

- The *New Hampshire DOT (NHDOT)* offers bonus points in its scoring of applicants from disadvantaged communities. The agency also offers two categories of awards—start-up awards with a simple application form as well as funds to support comprehensive travel plans—that can be useful to low-income communities.

- The *New Mexico DOT (NMDOT)* developed criteria for its application review process to ensure that communities with fewer resources are not excluded. NMDOT offers $15,000 awards for communities that want to develop Safe Routes to School action plans. The state also provides engineering assistance to all communities that receive funding as most do not have access to engineering staff.

- The *Zavala Elementary School* in Central East Austin, Texas, mobilized "Walking School Buses" and "Corner Captains" to avoid crime and drug-related activity in a low-income Hispanic community. The school's parent-support specialist recruited and trained parents to be walking school bus leaders. Parents and students meet in a central location at two separate housing facilities and walk to and from school together. To increase "eyes on the street," responsible adults including a Catholic church nun have volunteered to serve as corner captains.

- The *Coconino County Health Department, Flagstaff (AZ)* initiated several crime prevention strategies through community policing and environmental design to alter the perception of the parents, students, and the community about the safety of walking and bicycling to the Thomas Elementary School. Placement of a police substation within a neighborhood, zero tolerance for loitering and public drunkenness, voluntary prohibitions of selling 40-ounce bottles of liquor by local merchants, cleaning away litter and broken glass, and parents recruited for walking school buses were several elements of a coordinated strategy to reclaim public spaces, including a nearby park, that had become both a sign of disorder and a danger for students walking to school.

- *Chicago Alternative Policing Strategies (CAPS),* a community policing initiative, established "Safe Havens" as an element of its Safe Passages program. Safe Havens are places where children will find a friendly shelter and can turn to a trustworthy adult for assistance in the event that they feel threatened and need refuge. Safe Havens are clearly marked by signs and include all municipal facilities as well as participating convenience stores, barber shops, retailers, libraries, and other local businesses. It is one of several strategies along with Walking Buses and Parent Patrols under the umbrella of the city's Safe Passage program.

Resources/Contacts

Safe Routes to Schools National Partnership, *Implementing Safe Routes to School in Low-Income Schools and Communities: A Resource Guide for Volunteers and Professionals,* July 2010: http://www.saferoutes partnership.org/lowincomeguide

Active Living Resource Center Website: http://www.activelivingresources.org/saferoutestoschool8.php

Roerty, Sharon (2006). *City-Safe Routes to Schools, Pilot Programs—2006:* http://www.activelivingresources.org/assets/City-SRTS_report_fnl.pdf

New Jersey Department of Transportation, SRTS Urban Demonstration Program (2008). *Safe Routes to New Jersey's Disadvantaged Urban Schools:* http://policy.rutgers.edu/VTC/srts/Walk21.pdf

National Center for Safe Routes to School, Walking School Bus Guide: http://www.saferoutesinfo.org/guide/walking_school_bus/index.cfm

Safe Routes to Schools National Transportation Coordinator: http://www.saferoutespartnership.org/state/5043

Chicago's Community Alternative Policing Strategies (CAPS): https://portal.chicagopolice.org/portal/page/portal/ClearPath/Get%20Involved/How%20CAPS%20works/What%20is%20CAPS

Mendoza, J., Levinger, D., and Johnston, B (2010). *Pilot Evaluation of a Walking School Bus Program in a Low-Income, Urban Community:* http://www.biomedcentral.com/1471-2458/9/122

Develop Solutions for High-Risk Pedestrian Crossings

Mitigate Impacts/Deliver Benefits

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Transportation planning studies intended to identify and address persistent safety issues for pedestrians in communities affected by high volumes of auto and truck vehicular traffic.

Why Is It Effective in Involving Traditionally Underserved Populations?

Plans and subsequent projects funded by these studies to identify and address high-risk areas for pedestrians—"hot-spots"—can foster livability solutions for underserved communities. Such projects can be designed to encourage public involvement and collaborative planning processes to find feasible solutions that will be welcomed by local residents and businesses. Community-based organizations can be leveraged to bring local knowledge and additional capacity to bear on studying problems and preferred solutions.

What Are Some Techniques for Implementing This Tool?

- Identify study area and research crash incidents in federal and state databases.
- Map the crash locations in terms of the type of crash—total, pedestrian, bike, alcohol, and the like.
- Identify the length of corridor and the total number of bicycle- or pedestrian-related crashes along that corridor, including metrics that support benchmarking and comparisons across regions such as per linear mile, or per 1,000 residents.
- Rank corridors in terms of the number of bicycle and pedestrian crashes to designate "hot-spot" corridors.
- Utilize geographic information systems (GIS) mapping tools to overlay maps of the "hot-spot" corridors along with the percentage of the populations that are minorities (e.g., Hispanics, Blacks, etc.), low-income, or more transit dependent.
- Review police reports to fully characterize crashes at the hot-spots such as to the time of day, day of week, number and/or severity of injuries, direction of vehicles, and type of collisions.
- Conduct field visits to "hot-spots" along the corridor to photograph, video record, and document visual observations to advance problem identification and assess roadway conditions and potential causes for crashes.
- Hold workshops or speak informally with pedestrians, nearby businesses, residents, and youth to draw upon their perspectives of traffic safety problems. Walking tours of neighborhoods can bring greater attention to unsafe conditions for pedestrians.
- Recruit students to participate in visioning or charrette exercises to develop ideas on how best to make a subject area a more livable community or a "great place" to live and work.

What Are Its Limitations?

An accident analysis can be highly valuable for informing the community-based organization along with other partnering agencies (e.g., metropolitan planning organizations (MPOs), state

DOTs, local governments, transit agencies) about "hot-spots" with severe types of accidents or high-frequency locations. However, such studies are only a step along the way to bringing a traffic safety project through to implementation. A comprehensive strategy will be needed to prioritize from among competing safety-related projects. Site-specific solutions will need to be acceptable to various affected stakeholders, to avoid any conflicts between those more focused upon regional mobility and those advocating for a safer environment for bicyclists and pedestrians. Building support may require intensive advocacy for bike and pedestrian infrastructure projects with state or regional decisionmakers to acknowledge the problem and fund solutions. Workshops and focus groups with community members and the conducting of traffic safety outreach programs within communities cannot be overlooked to ensure that workable project solutions will be accepted locally. Implementing solutions often will require design and engineering services to ensure safe and accessible roadways and pedestrian facilities. Effective implementation may also require educating roadway users about rules, rights, and responsibilities, and enforcing proper behaviors and use of roadway facilities.
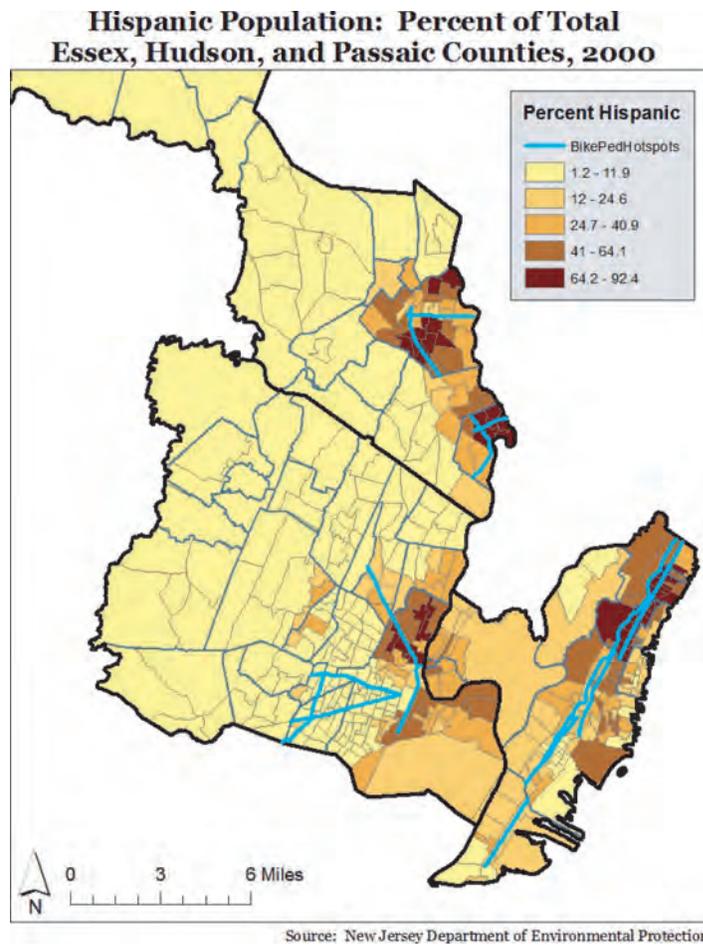
What Types of Resources and Costs Are Required?

Several technical disciplines can be mobilized to identify and address high-risk pedestrian crossings, including transportation planners, traffic engineers, urban designers, and public involvement specialists. Other local stakeholders can be creatively engaged to offer insights about traffic safety concerns, such as residents, merchants, students and parents, public works, public safety, school officials and staff, and community-based organizations, among others.

The costs of undertaking planning studies or subsequently implementing roadway design, traffic calming, signage, or nonengineering solutions can vary widely depending on the scope of work and the types of recommended solutions. The Pedestrian and Bicycle Information Center is an excellent resource for sorting through key considerations and cost information for implementing roadway and pedestrian facility design improvements, including lane reductions, sidewalks, crosswalks, signs, pedestrian signal timing, curb radius reductions, and roadway lighting, among other strategies. For example, within school zones, they have suggested costs might include $50 to $150 per sign plus installation costs. A marked crosswalk may cost from $300 to $1,000 depending on the crosswalk marking design, materials used, and the width of the street. A traffic signal may cost from $150,000 to $200,000, assuming substantial street improvements are not needed for the new signal.

Who Has Used It Successfully?

- *La Casa de Don Pedro,* a community-based organization in Newark, New Jersey, has received funding from the National Highway Traffic Safety Administration through the New Jersey Department of Transportation to provide education, advocacy, and other activities geared to reduce the incidence of traffic-related injuries and fatalities for their *Caminos Seguros Program.* The organization has assembled a four-person team to implement the program that includes analytical research, outreach processes, and organizing initiatives. The analytical work has included a "hot-spot" crash analysis of corridors in three counties in northern New Jersey with high concentrations of minority and low-income persons (see Figure 5-25). The program has included the formation of an advisory team composed of community-based advocates, university researchers, transportation agencies, local elected representatives, and municipal staff in public works and police departments. Meetings with the advisory team have been used to review program status, conduct strategic planning, and provide a forum for interaction and partnership with other stakeholders such as county engineers who are undertaking their own corridor planning initiatives. The outreach element of the program has included developing a database of interested parties, distributing traffic safety information to local schools, and

Hispanic Population: Percent of Total Essex, Hudson, and Passaic Counties, 2000

Source: New Jersey Department of Environmental Protection

Figure 5-25.   Example of "hot-spot" mapping undertaken by a community-based organization to educate and advocate for traffic safety improvements in a low-income Hispanic community.

holding public safety events, including celebrations of successfully implemented traffic safety improvements. Upcoming outreach is expected to incorporate door-knocking and intercept discussions with persons in the vicinity of "hot-spots," developing an informational pamphlet about the program, distributing an information form to expand their mailing list and screen for committed local individuals to join in grassroots organizing, and designing and implementing focus groups.

- *Plan4Safety,* a decision support tool created for the *New Jersey Department of Transportation (NJDOT)* by the *Rutgers Center for Technology and Advanced Infrastructure,* was made available to La Casa de Don Pedro researchers to conduct the accident analysis. Plan4Safety is made available to transportation engineers, planners, enforcement, and decisionmakers in New Jersey's transportation and safety agencies to analyze crash data in geospatial and tabular forms. The tool offers more than 140 data elements about any given crash, including crash type, injury level, type and number of vehicles, time and location of incident, cell phone use, alcohol impairment, seatbelt use, and age and gender.

- The *Tri-State Transportation Campaign (TSTC),* a regional transportation advocacy group, joined with La Casa de Don Pedro to secure safety improvements such as improved signage and new striping of crosswalks in Newark, New Jersey's Lower Broadway neighborhood in the

vicinity of a local school and community park. These efforts included holding a walking tour as a means for drawing attention to the critical safety issues.

- The *Greater Newark Conservancy's Newark Youth Leadership Project (NYLP)* is a year-round job and leadership training program for Newark high school and college students to introduce them to different career options and offer job training, and leadership development. *NYLP*, in partnership with *TSTC,* invited 45 high school interns to imagine downtown Newark as a "great place" for residents and visitors. The 2-day visioning exercise included classroom discussions, a walking tour of Newark's University Heights neighborhood, and role playing. For the walking tour, students were divided into groups—transportation, retail, human services, housing and parking, parks, culture and art, and streetscape. For the role playing exercise, students were asked to be the stakeholders and decisionmakers in the redevelopment process—for example, the "mayor's office" ran the charrette, the "city council" focused on economic development strategies, "city planners" envisioned complementary land use patterns, "transportation engineers" examined circulation to and around the neighborhoods, the "parks department" made new parks and improved existing greenspace, and "neighbors" represented the interests of the affected community. Murals and public art, more streetlights, additional express bus service, and other land use changes were recommended. Previous exercises with the NYLP had focused on traffic calming solutions for the Newark section of the East Coast Greenway and around a train station, leading to physical improvements such as better pedestrian signage and more visible crosswalks.

Resources/Contacts

Pedestrian and Bicycle Information Center, Roadway and Pedestrian Facility Design & School Zone Improvements: http://www.walkinginfo.org/engineering/roadway.cfm

Rutgers Center for Advanced Infrastructure and Transportation, Transportation Safety Research Center: http://cait.rutgers.edu/tsrc/plan4safety

Greater Newark Conservancy, Youth Leadership Project: http://www.citybloom.org/job-training.htm

Tri-State Transportation Campaign, Reworking Newark: http://blog.tstc.org/2010/07/30/reworking-newark/

Alle Ries
Division Director, Community & Economic Development
La Casa de Don Pedro
75 Park Avenue
Newark, NJ 07104
ARies@lacasanwk.org

Conduct a Health Impact Assessment

Mitigate Impacts/Deliver Benefits

Policy/Research	☒	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☒	*Construction*	☐
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☐

What Is It?

The health impact assessment (HIA) is a combination of procedures or methods by which a policy, program, or project may be evaluated as to the effects it may have on public health, and to offer strategies for mitigating those effects. Used in a broad variety of fields—from transportation planning to housing development, company sick-leave policies, school discipline practices, and federal farm legislation—its broader purpose is to bring a public health perspective and make health consequences part of policy, program, plan, and design decisionmaking.

Since their birth in the late 1990s, HIAs have been prepared for many purposes including for environmental investigations of infrastructure and facility investments and operations. For a highway project, this could mean that in the planning and project development stages, HIA professionals will take the projected impacts on air quality, for example, and from those projections model the effects on rates of asthma and cardiovascular disease. HIAs conducted in the policy and planning stages may explore many public health topics that have physical, environmental, and social and equity dimensions, including crime and public safety, the availability of multi-modal transportation or biking and walking to school options, accessibility to jobs or other services, access to healthy foods, and opportunities for active recreation, among other issues.

HIA professionals say that when transportation agencies and practitioners encounter the prospect of conducting an HIA on their projects, they are often initially skeptical or fearful, thinking that HIA will delay or halt the project for arbitrary reasons. HIA professionals counter that their intentions are:

- To bring greater rigor to the environmental review process to ensure that its findings benefit from a public health perspective;
- To establish a working and trusting relationship with the community early on in the project, both to inform the community and to mitigate the threat of later community opposition; and
- To ensure that the project does not result in unreasonable health impacts—and, hence, opposition and lawsuits that, in addition to money, will consume the sponsoring agency's time and credibility.

Depending on the scope of the HIA study, it may take anywhere from 2 weeks to 18 months to prepare. How HIAs are administered varies by project, region, and even practitioner, because there are no strict criteria for the content of an HIA. But industry standards have been established and HIAs generally follow these major steps:

- *Screening:* Deciding whether a project warrants an HIA.
- *Scoping:* Identifying what factors to study—air quality or traffic, for example—and the ways the study of those factors could affect the project.
- *Appraisal and Assessment:* Modeling the potential impact of a project, then modeling the effects of that impact on a variety of public health outcomes—for example, modeling the effects of a project on pedestrian conditions or walkability, then using those results to model effects on project-area obesity rates.

- *Recommendations:* Providing solutions based on the modeled data to maximize the project's benefits, minimize the project's harm, and mitigate inequality among the groups that the project affects.
- *Communication:* Providing the findings and recommendations to all stakeholders.
- *Monitoring and Evaluation:* Once the project is completed, HIA professionals measure the HIA's effectiveness in identifying and mitigating health effects.

Why Is It Effective in Involving Traditionally Underserved Populations?

The HIA process includes a commitment to meaningful public involvement. A solid HIA begins its community involvement early, often by creating an HIA Steering Committee composed of community members, HIA professionals, transportation practitioners, and other stakeholders. HIA professionals or the Steering Committee will present information and findings to the public at each stage of the HIA—from deciding the factors for study to unveiling the recommendations. Also, HIA can bring community members into the process by providing them with research tasks like truck counting, air quality monitoring, or administering community surveys.

What Are Some Techniques for Implementing This Tool?

- Budgeting enough time and money for the process—and making sure it comes early enough to be effective in influencing the project.
- Making sure that those conducting the HIA have relevant training in the field. This may be achieved by creating a relationship with a relevant health agency, like a local health district or a county health department. Others are partnering with universities that have relevant programs in public health as subject matter experts to carry out or oversee analytical tasks.
- Hiring a community member to serve as a liaison for the HIA. This is a member of the community who is hired to encourage people to get involved, to translate, to bridge cultural gaps, and to answer questions about the process.
- Topics addressed in the HIA can reflect the public health dimensions that should be addressed during environmental review and that the point has been successfully argued for inclusion during scoping processes for an environmental impact statement (EIS).

What Are Its Limitations?

The assessment of beneficial and adverse health outcomes related to new projects or the existing built environment is challenging. Project teams require serious multidisciplinary capabilities and technical skills in modeling. Data is not typically at the appropriate scale and additional data gathering which is necessary can be costly.

- Government agencies rarely require, or even request, HIAs in the United States. They are almost entirely voluntary and almost entirely funded through foundations or private entities.
- HIAs require specific training to conduct. HIAs undertaken without public health professionals as partners are at risk of making incorrect claims about public health effects.
- HIAs need to be started early enough in the process—for example, at the planning stages, so that various project alternatives can be considered.
- Project managers or developers fear that an HIA will result in additional costs and delays to their projects.

What Types of Resources and Costs Are Required?

- The cost of preparing an HIA will vary depending on the scope of a project and the time, from a few days to a month, and cost up to $10,000; a medium-level HIA with public engagement will cost at least $50,000 and take several months; a comprehensive HIA can cost up to $250,000 and can last up to 2 years, with as many as six full-time HIA professionals producing a significant amount of engagement and original research.

Who Has Used It Successfully?

- The *Atlanta Regional Commission's (ARC)'s Plan 2040* provides an opportunity for metropolitan Atlanta stakeholders to comprehensively consider the transportation, land use, resource protection, and infrastructure investment strategies that will best prepare the region to manage the growth and change to sustainably accommodate an additional 3 million persons to become a region of 8 million people. The *Center for Quality Growth and Regional Development (CQGRD)* at the *Georgia Institute of Technology's College of Architecture* is leading the first-ever HIA on a major metropolitan transportation and comprehensive growth plan. The HIA is funded by the Health Impact Project, an initiative of The Pew Charitable Trusts and Robert Wood Johnson Foundation. CQGRD seeks to answer questions about how to build metro Atlanta to maximize the health of its people and to mitigate the potential health damages of growth. The HIA will examine the plan's land use patterns and transportation infrastructure investment to predict how they will affect air-quality- and mobility-related public health. The HIA will examine the plan's potential impact on a range of health issues, such as injury and asthma rates, and the risks of obesity and diabetes. In recent years, CQGRD has prepared HIA studies in the metro region for the *Atlanta BeltLine Health Impact Assessment* and for the *City of Decatur Community Transportation Plan and Rapid HIA*.
- *Public Health—Seattle & King County* and the *Puget Sound Clean Air Agency.* In the 1960s, in Washington State, a 13-mile highway was built in the Seattle area, including a 7,500 foot floating bridge spanning Lake Washington. By the late-2000s, the bridge was due for reconstruction. State legislation that authorized reconstruction directed the regional air quality and public health agencies to conduct an HIA of the three plans under consideration for the project. The HIA examined public health effects ranging from greenhouse gas emissions and noise to effects the project would have on emergency medical services. Recommendations from the study were grouped into four key categories, listed below:
  - Construction period—control construction-related pollution and noise, enhance traffic management.
  - Transit, bicycling, and walking—increase and improve transit service; install connected bicycling and pedestrian facilities with appropriate signage and advertising; and increase safety measures throughout the corridor.
  - Landscaped lids and green spaces—enclose highway approaches with pedestrian parks as was mandated in the legislation; landscape throughout the corridor; improve adjacent arboretum and other nearby green spaces, and preserve waterfront access.
  - Design features for healthy communities—reduce noise throughout the corridor; add to visual character with art and design; and use innovative stormwater management techniques.

Resources/Contacts

Public Health—Seattle & King County, Health Impact Assessment for SR520 Bridge Reconstruction: http://www.kingcounty.gov/healthservices/health/ehs/hia.aspx
Atlanta Regional Commission, Atlanta's PLAN 2040:
   http://www.atlantaregional.com/transportation/plan-2040
   http://www.cqgrd.gatech.edu/projects/plan_2040_hia/pdfs/About_Plan_2040_HIA.pdf

Center for Quality Growth and Regional Development (CQGRD): Atlanta Beltline HIA Assessment—http://www.cqgrd.gatech.edu/projects/beltline_hia/index.php

City of Decatur Community Transportation Plan: http://www.cqgrd.gatech.edu/projects/decatur_transportation_plan/index.php

American Public Health Association, Transportation Issues from Public Health Perspective: http://www.apha.org/advocacy/priorities/issues/transportation/

Centers for Disease Control and Prevention, Health Impact Assessment: http://www.cdc.gov/healthyplaces/hia.htm

The Health Impact Project, a partnership between the Robert Wood Johnson Foundation and the Pew Charitable Trusts, funds and promotes HIAs: http://www.healthimpactproject.org/

Human Impact Partners, an Oakland, CA based non-profit, performs HIAs, and provides HIA training and technical assistance: http://www.humanimpact.org/

The HIA Collaborative is a Bay Area partnership between non-profits, government agencies and academic institutions designed to study, conduct and offer technical assistance on HIA: http://hiacollaborative.org/

The HIA Gateway is funded by England's Department of Public Health to serve as an international resource for studying and conducting HIA: http://www.apho.org.uk/default.aspx?QN=P_HIA

Michelle Marcus, MPH
Research Scientist
Center for Quality Growth and Regional Development
Georgia Institute of Technology
760 Spring St, Suite 213
Atlanta, GA 30308
(404) 385.5133
http://www.cqgrd.gatech.edu/
michelle.marcus@coa.gatech.edu

Jennifer Lucky, MPH
Project Director
Human Impact Partners
304 12th Street, #3B
Oakland, CA 94607
(510) 452-9442
www.humanimpact.org
jlucky@humanimpact.org

Monitor Health and Environmental Impacts

Mitigate Impacts/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Measuring the individual and cumulative environmental effects of transportation projects upon communities and their vulnerable or at-risk populations, and making those measurements available to the public for discussion about public health impacts and risks and to ensure accountability and implementation of mitigation strategies.

Why Is It Effective in Involving Traditionally Underserved Populations?

Heavy trucks, buses, and automobiles travel along high-volume freeways and through underpass routes, exposing nearby neighborhoods to air pollutants including ultrafine particulate matter, oxides of nitrogen, black carbon, and carbon monoxide. Often found at elevated levels near highways, these pollutants have been found in studies to have adverse health effects. Health studies show elevated risk for development of asthma and reduced lung function in children who live near major highways. Studies of particulate matter have shown associations with cardiac and pulmonary mortality that appear to indicate increasing risk as smaller geographic areas are studied, suggesting localized sources that likely include major highways. Cumulative exposure at high levels can contribute to higher rates of asthma—particularly in children—and cardiovascular health problems for older and susceptible persons living in the project area. Many particulates emitted from automobile vehicle exhaust and highway construction are "ultra-fine"—so small that they have the potential to enter peoples' bloodstreams upon contact. These particulates are particularly dangerous within about 1,300 feet of the source; traditionally underserved communities across the country are often located in residential areas nearer to highways.

Concerned residents, community organizations, and public health professionals have developed project teams to measure the cumulative environmental effects of transportation projects upon communities and their vulnerable or at-risk populations. Rigorous, data-driven research can help practitioners and community advocates better educate the public on the potential health risks of construction and traffic operations and the need for appropriate mitigation strategies. Agencies and project managers will be better able to improve local environmental conditions when they can measure emissions and exposure levels, when they can assess their own progress against stated goals, and when stakeholders can hold them accountable for making improvements. Perceptions of risk are heightened in the absence of frank communications between sponsoring agencies, mediating institutions (e.g., universities or public health agencies), and the public. Agencies that are prepared to commit themselves to exchange health- and science-related information in a process that allows for an open dialogue with trusted intermediaries are more likely to build a degree of trust and find common solutions to persistent issues confronting some communities.

What Are Some Techniques for Implementing This Tool?

There is a continuum of community-based research approaches ranging from engaging residents to carry portable monitors to record their exposure to some pollutants to more sophisticated research protocols with research institutions.

- Partnering with research universities, research hospitals, or public health agencies to conduct scientific research into investigations of the linkages between air quality and public health.
- Drawing upon the services of environmental engineering firms capable of employing air monitoring equipment as a feature of a project.
- Partnering with the Environmental Protection Agency (EPA) to develop an air quality monitoring program.
- Recruiting local organizations and residents to assist in surveys of local residents' habits and health, particularly when residents have limited English proficiency.
- Reducing exposures by reexamining land use and siting policies, locating housing and commercial developments, bicycling and walking facilities, schools, parks, and transit stations at least 1,300 feet away from highway projects.
- Limiting diesel emissions through retrofits for equipment, watering down asphalt regularly during construction, and replacement of old equipment—particularly scrapers and installation of air filters in homes and businesses.
- Reaching out to neighborhood organizations to hold meetings at convenient times to accommodate residents' work and family schedules and convening events to facilitate dialogues with representatives from responsible agencies (e.g., state or local public health departments, environmental protection agencies), elected officials, a trusted intermediary, and the public.

What Are Its Limitations?

- The science and health risks of near-highway exposures for local populations are complex to assess and not fully understood. The research question has potentially significant cost and policy implications for land use planning and development for the siting of new facilities such as schools and residential communities and, potentially, for strategies to retrofit existing community and residential facilities.
- There is little precedent for effective air quality monitoring and mitigation on highway projects during construction.

What Types of Resources and Costs Are Required?

By partnering with academic researchers and graduate students armed with passive collection devices like Ogawa Passive Samplers, air monitoring can cost as little as $10,000. Comprehensive plans are significantly more expensive, requiring more extensive staff time and the deployment of more intricate equipment.

Who Has Used It Successfully?

- The *Community Assessment of Freeway Exposure and Health Study (CAFEH)* is a 5-year community-based participatory research project funded by the National Institute of Environmental Health Sciences (NIEHS) initiated by the Somerville Transportation Equity Partnership (STEP) and led by Tufts University researchers to assess the cardiac effects of near-highway pollution on residents living between 50 and 400 meters from the I-93 highway in the greater Boston area. Their ongoing research project includes measurements of highway-generated air pollution using a mobile laboratory, including ultrafine particulates (UFP) measured in billionths of a meter in diameter, carbon monoxide, and nitrogen oxides. The study is examining the relationship of these pollutants and cardiac health impacts as a function of distance from highways in three Boston-area communities. The study also explores community and cultural perceptions of the effects of air pollution on health among people living in neighborhoods adjacent to major highways. The study has hired and trained residents as field staff to recruit and conduct health-related surveys of residents. All of the community partner agencies serve

on the study steering committee and have led the outreach efforts. Interviews are conducted in English, Spanish, Portuguese, Haitian Creole, Chinese, and Vietnamese in order to engage residents living near the highway across the study area. Drawing upon the research, the project will develop culturally appropriate, educational modules to raise awareness of risks, use the findings to influence local and state policy regarding land use near highways, and identify possible mitigation approaches.

- *People Organizing to Demand Environmental and Economic Rights* (PODER), a local grassroots environmental justice organization, teamed with the *San Francisco Department of Public Health* and the *University of California, Berkeley (UC-Berkeley)* to conduct collaborative, participatory research focused on the health effects of proximity to an intraurban highway near the low-income, Excelsior neighborhood in southeast San Francisco. Project research included research by UC-Berkeley students on the history of the highway's siting and PODER staff invited community residents to share pictures of the factors in their community environment that have affected their health, among other activities. PODER members surveyed community residents regarding pedestrian conditions, air quality, and noise in their neighborhood. Surveys were conducted in English, Spanish, and Chinese. Prior to survey taking, PODER members hung door hangers announcing that they would be knocking on doors in the coming days. Two-person teams surveyed the community on several Wednesday afternoons and Saturday mornings, knocking on visible doors. The research also included air quality, traffic counts and pedestrian safety, environmental noise, community health investigations, and personal testimony of residents of public health and safety concerns. The work has supported community-based actions to advocate for solutions to protect community public health focused on issues like traffic calming, truck routes, and bike plans, among others.
- The *Ports of Los Angeles and Long Beach* monitor air quality in their areas through a network of collection sites. They publish their collected data online, and it is accessible through an interactive web tool which allows the public to graph current and historical air quality figures. Their air monitoring is part of a Clean Air Action Plan that the Ports volunteered to draft in partnership with the EPA and local air quality agencies. Their Clean Air Action Plan is linked to a broader program of emissions reductions and community involvement, which includes regular public input meetings, aggressive emissions standards for trucks, and a robust community hiring agreement.

Resources/Contacts

Brugge, D., Durant, J. L., Rioux, C. (2007). Near-Highway Pollutants in Motor Vehicle Exhaust: A Review of Epidemiologic Evidence of Cardiac and Pulmonary Health Risks: *Environmental Health,* 2007, 6:23: http://www.tufts.edu/med/phfm/CAFEH/pdfs/Near-highway%20pollutanta%20in%20motor%20vehicle%20exhaust.pdf

Community Assessment of Freeway Exposure and Health Study: http://www.tufts.edu/med/phfm/CAFEH/About%20CAFEH.html

Daily Emissions for the Ports of Long Beach and Los Angeles: http://caap.airsis.com/

Port of Long Beach Environmental Program: http://www.polb.com/environment/default.asp

Morello-Frosch R. and Jesdale, B. (2006). Separate and Unequal: Residential Segregation and Air Quality in the Metropolitan U.S. *Environmental Health Perspectives,* 113: 386–393: http://ehp03.niehs.nih.gov/article/fetchArticle.action?articleURI=info:doi/10.1289/ehp.8500

Health Effects Institute (2010). Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects Report: Special Report 17, 2010-01-12: http://pubs.healtheffects.org/view.php?id=334

Ogawa Passive Samplers Website: http://www.ogawausa.com/index.html

San Francisco Department of Public Health, Environmental Health Section, Program on Health Equity and Sustainability Health (undated). *Traffic and Environmental Justice: A Health Impact Assessment of the Still/Lyell Freeway Channel in the Excelsior District:* http://www.sfphes.org/HIA_PODER.htm

Wier, M., Sciamanns, C., Seto, E., Bhatia, R., and Rivard, T. (2009). Health, Traffic and Environmental Justice: Collaborative Research and Community Action in San Francisco, California. *American Journal of Public Health Vol. 99, No. S3.*

Ellin Reisner, Ph.D.
Somerville Transportation Equity Partnership
51 Mt. Vernon Street
Somerville, MA 02145
Reisnere51@gmail.com

Richard D. Cameron, Director of Environmental
    Planning
Port of Long Beach
(562) 590-4156

Train Community Members to Be Transportation Leaders

Build Relationships/Overcome Institutional Barriers

Policy/Research	⊠	*Right-of-Way*	☐
Statewide/Metropolitan Planning	⊠	*Construction*	☐
Project Development/NEPA Compliance	⊠	*Operations & Maintenance*	☐

What Is It?

Prepare low-income people and people of color to secure appointments to boards and commissions and build networks of support to strengthen the capacity of appointees to influence policy.

Why Is It Effective in Involving Traditionally Underserved Populations?

Studies have found that many metropolitan planning organization (MPO) boards are over-represented by suburban interests, in part, attributable to a "one-area, one-vote" system. Denser populated urban areas are underrepresented compared with suburban zones with lesser population densities. Research on MPO board and voting structures suggests it promotes voting patterns that have an impact on transportation investment funding priorities to the detriment of transit and the urban core. The system may inhibit participation of persons based on residential location, which can be significantly adverse for low-income and minority neighborhoods in urban core areas.

Although it may not be sufficient to break formal voting structures, training can better empower qualified persons from affected communities to enter into the debate over representation, equity in funding, and decision-making processes. Community members can also advocate for greater attention by the agency to data collection, analysis, and system evaluation that assesses the equity of funding and other decisions—methods that are transparent and create opportunities to have a forum to consider possible corrective measures.

Training leaders can dispel perceptions about the lack of qualified candidates from diverse populations. These new leaders will have the capacity and community support to advance a regional agenda for economic, environmental, and social justice and serve as the next generation of elected officials who are representative of and accountable to the region's low-income communities and communities of color.

What Are Some Techniques for Implementing This Tool?

Urban Habitat's "seats first" model relies on an analysis of key boards and commissions seats throughout the region, including city, county, and regional appointments. Boards and commissions that have been targeted have existing or potential influence over policies in areas with equity implications, including transportation, housing, development, jobs, and climate change. The prospective list of seats is distributed to advocacy organizations so that they may nominate participants from within their own organizations, campaigns, and networks. Nominees are interviewed by a selection committee, including representatives from the coalition of advocacy groups.

Nominees participate in training sessions, meetings, mixers, brief online assignments, observations, and one-on-one meetings with mentors, training staff, and technical support staff.

Trainings are regularly held and may include a variety of topics, including role-playing exercises to understand how to use Robert's Rules of Order and how to work with the media.

Lectures and discussion groups are used to address issue areas such as transportation, equitable development, housing, jobs, climate, and public health. Veteran commissioner-advocates are invited to talk about their experience and key issues such as setting priorities, working with department staff, and working with community organizations.

Graduates from the training are also offered mentorship and alumni opportunities and leave the program with a thriving technical assistance network designed specifically to support them in their roles on commissions.

What Are Its Limitations?

The training program is a labor-intensive model, particularly in terms of getting folks placed on more influential boards and commissions. It needs a good deal of dedicated staff time with particularly qualified staff.

What Types of Resources and Costs Are Required?

Urban Habitat's "seats first" model estimates that the cost for training is approximately $7,000 per cohort member. Program costs are required to have dedicated support staff for developing professional networks and training along with costs for meeting space, stipends for participants (e.g., $500 each), travel for guest commissioners or other guest speakers, food, logo-stamped gifts for participants, and research. Staff is dedicated to the project, including a Coordinator (about 60 percent of his/her time), a full-time program associate, and about half-time for an educational technologist and a program assistant.

Who Has Used It Successfully?

Urban Habitat has been integral to the establishment of a Boards and Commissions Leadership Institute in the San Francisco Bay Area region.

Resources/Contacts

Nelson, A. C., Sanchez, T. W., Wolf, J. F., and Farquhar, M. B. (2004). Metropolitan Planning Organization Voting Structure and Transit Investment Bias: Preliminary Analysis with Social Equity Implications. *Transportation Research Record: Journal of the Transportation Research Board, No. 1895,* Transportation Research Board of the National Academies, Washington, D.C., 2004, pp. 81–87.

Sanchez, T. W. (2008). An Equity Analysis of Transportation Funding. *Race, Poverty & the Environment.* http://www.urbanhabitat.org/files/Thomas%20Sanchez-%20An%20Equity%20Analysis%20of%20Transportation%20Funding.pdf

Urban Habitat, "Boards and Commissions Leadership Institute": http://urbanhabitat.org/uh/bcli

Laurie Jones Neighbors
Director of Education and Coalition Building
Urban Habitat
436 14th Street, Suite 1205
Oakland, CA 94612
(510) 839-9510
laurie@urbanhabitat.org

Establish Public Involvement Training Programs

Overcome Institutional Barriers

Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

A public involvement training program teaches transportation professionals about the importance of meaningful participation in transportation decisionmaking and describes the tools and techniques for achieving it.

Why Is It Effective in Involving Traditionally Underserved Populations?

An effective public involvement training program teaches participants how to prepare and implement a public involvement plan (PIP) that will examine and promote strategies to engage all sectors of the public including low-income and minority populations. The public involvement plan will include consideration of the methods and actions that the agency intends to take to consider the needs of those traditionally underserved by existing transportation systems, including, but not limited to, low-income and minority persons. Part of this training will teach how to identify the various stakeholders and affected groups that need to be involved in order to have an effective PIP. The training should also include tools and techniques for involving traditionally underserved populations that are likely to be effective in overcoming barriers to participation. Critical to effective public involvement training is continuing evaluation of the PIP's effectiveness in achieving its goals.

What Are Some Techniques for Implementing This Tool?

- Approach the appropriate decisionmakers to argue for the benefits of offering/taking the course.
- The course can be tailored to the needs of a specific organization and offered in-house, or participants can be recruited to participate in a course open to the public.
- Several organizations can pool their resources to offer the course to their employees or members.
- Those who attend the training can be encouraged to present the tools and techniques they learned at the training to colleagues when they return from the course.

What Are Its Limitations?

- Often the people who need the training the most do not see the value in it.
- It is difficult to be effective in implementing new principles and practices if only one person from a department gets the training. Unless they are in a position to influence what the others do, he/she will be operating without sufficient levels of agency/organization support.
- Transportation agency personnel and key decisionmakers change, so the training should be repeated regularly to effectively influence the culture and way of doing business within the agency.

- Training is the first item to suffer from budget cuts. Many decisionmakers do not see training as a priority.

What Types of Resources and Costs Are Required?

Public involvement training costs $1,000 to $1,500 per participant depending on the length of the course. In addition to the tuition, there is also the overhead cost of dedicating personnel to the training for one or more days.

Who Has Used It Successfully?

- The *Arizona Department of Transportation* trained a cadre of engineers, planners, and other professionals in public participation planning, practices, and evaluation that created a cohesive approach to their public involvement activities. They were able to successfully resolve challenges to their projects from communities by applying some of the approaches and techniques for involving affected stakeholders in the project planning process.
- The *Alamo Regional Mobility Authority* has sent its community relations staff to attend training in participatory management and planning; training in planning, practices, and evaluation of public participation activities; and offered its staff and consultants the opportunity to attend audio conference "Brown Bag Seminars" to brush up on consent-building skills. Consequently, its approach is comprehensive and the Authority is cognizant of its challenges and handles them proactively. The staff is aware of the different demographics in the affected stakeholders and takes steps to address their diverse needs.
- The *National Highway Institute (NHI)* and the *National Transit Institute (NTI)* conduct adult education training courses for transportation practitioners in the area of public involvement. The NHI conducts a course, *Public Involvement and the Transportation Decision Making Process,* and the NTI has its own course, *Public Involvement in Transportation Decision Making.* These two courses both touch upon specific strategies appropriate to reaching out to low-income and minority populations.
- The NHI course, *Fundamentals of Environmental Title VI/Environmental Justice,* presents participants with a framework for using a variety of approaches and tools for accomplishing environmental justice goals in federal-aid programs and other transportation projects. The course includes modules on the critical importance of public involvement and explores forms of collaboration and partnering to plan and deliver projects welcomed by affected minority and low-income communities and populations.
- The NHI course, *Effective Communications in Public Involvement,* offers a web-based course focused on helping transportation officials become better communicators when conducting the public involvement component of transportation planning and project delivery. Participants are offered strategies and techniques for designing an effective communications plan, preparing for and conducting all types of public meetings, handling hostile groups and individuals, giving effective presentations, and "closing the loop" with proper meeting follow-up activities. The course also explores how and why the public develops entrenched and sometimes inflexible, emotionally charged positions, traces the root causes of hostilities and anger in public involvement, and teaches strategies to help the practitioner and the agency build their credibility with the public.

Resources/Contacts

International Association of Public Participation (IAP2): www.IAP2.org
Institute for Participatory Management and Planning: http://www.ipmp.com
National Highway Institute Courses: http://www.nhi.fhwa.dot.gov/training/course_search.aspx
National Transit Institute Course: http://www.ntionline.com/

Dr. Martha A. Rozelle, President
The Rozelle Group Ltd.
7000 N. 16th Street, Suite 120, #145
Phoenix, AZ 85020
(602) 224-0847
RGL97marty@rozellegroup.com

Leroy Alloway
Alamo Regional Mobility Authority
1222 N. Main Ave., #1000
San Antonio, TX 78212
Office 210/495-5804
Fax 210/495-5403
Email: lalloway@alamorma.org
www.alamorma.org

Establish Cultural Competency Training Programs

Overcoming Institutional Barriers			
Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

The ability to work effectively across cultures—oftentimes with peoples and cultures with whom the agency and the practitioner have little or no familiarity—requires skills and knowledge, which others in the healthcare, social services, and education professions often define as "cultural competency." Culture can refer to an individual's race, class, gender, sexual orientation, age, immigration status, physical functionality, and religion, among other things. Cultural competency training starts from the assumption that there is a body of knowledge and practice that agencies and individuals should strive to possess to better perform their work in a diverse and changing society.

- For organizations, cultural competency means establishing practices and policies that will make services more accessible to diverse populations, and that provides for appropriate and effective services in cross-cultural situations. This requires greater inclusion of all populations as well as addressing inequities when they arise and conducting a continuous process of self-assessment to evaluate the success of such policies.
- For individuals, cultural competency is an approach to lifelong learning, communications, and working respectfully with people different from themselves.

Hiring ethnically and culturally diverse staff and individuals who are cognizant of the customs and traditions of different cultural groups is a valuable step. But, cultural competency is also intended to build internal processes within the agency's operations to foster continual learning and an outlook focused on ensuring agency services are respectful, effective, and appropriate for diverse populations. The ultimate goal is for transportation agencies to become "proficient" or skilled when working with various subgroups of the population, bringing about an organizational change (Cross, 1988; Wells, 2000).

Why Is It Effective in Involving Traditionally Underserved Populations?

Public involvement as it is practiced within the transportation sector can suffer from insularity, which can perpetuate a gap between even the well-intentioned public involvement practitioner (or the agency's project manager) and traditionally underserved populations. Cultural competency training seeks to foster a greater understanding of the cultural frames of reference that may serve as barriers to meaningful participation, allowing the practitioner to more effectively "bridge the gap" that can prohibit certain populations from engaging in the decision-making process.

Understanding the extent to which cultural barriers may be present can help ensure public involvement activities as well as other agency-sponsored programs and services (e.g., Safe Routes to Schools, "I Speak" cards, traffic safety programs, etc.) are responsive to the unique needs and practices of affected communities. Agencies that become more sensitive to cultural differences can better identify specific products and services needed to meet the needs of and connect services to their diverse customers.

What Are Some Techniques for Implementing This Tool?

Training sessions typically include participatory and role-playing activities for those in attendance. Those being trained may be asked to consider a diverse variety of cultural situations in which the practitioner is called upon to consider possible solutions to "bridge the gap." These activities are usually done in smaller groups to facilitate open discussions. It may be helpful to showcase effective practices—either from within or outside the agency—to stimulate the conversation. Juliet Rothman's *Cultural Competence in Process and Practice: Building Bridges* (Rothman, 2008) identifies different ways to assess cultural competency both at the individual and agency level which may prove useful to some agencies when designing training sessions. The Linguistic and Cultural Competency Self-Assessment Survey (California Department of Public Health, 2007) may also be used to stimulate initial thoughts about cultural competency.

What Are Its Limitations?

Ensuring that agency staff is cognizant of the various components that contribute to cultural competency requires a commitment of time and resources to adapt training to specific agency practices. Without periodic observations or updates, it may be difficult to assess what practitioners take away from the training sessions and employ in their daily work routine. Many agencies already require diversity training, so they may see cultural competency training as duplicative. While the goal may be to improve the agency's skills in this area, in some instances, it may be appropriate to partner with representatives of the affected population (e.g., advocacy groups, community leaders, etc.). This may depend on the scope of the action, the amount of time available to staff, or the length of time needed to conduct public involvement activities.

What Types of Resources and Costs Are Required?

The resources and costs for cultural competency training will depend on the approach used by the agency. The agency may elect to prepare a short guidance manual or pamphlet for staff about cultural competency, ways to stay abreast of current challenges, and things to keep in mind moving forward. Training sessions can be prepared and conducted by in-house staff or an outside organization that specializes in cultural competency training. Training can be directed to the entire agency in small groups or to a smaller group of managers who then train their staff. The costs associated with either of these methods can vary widely. The agency will need to determine how they want to sustain a commitment of cultural competency training over time.

Who Has Used It Successfully?

Cultural competency training has been primarily undertaken by health care, social services, police departments, and educational institutions, among other organizations that have frequent interactions with an increasingly diverse public. Transportation agencies also have many continuing interactions with the public but have been slower to appreciate the objectives and lessons learned from this training. The issuance of Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency" now provides additional impetus for agencies receiving federal funding, including transportation agencies, to broadly consider how to improve the accessibility of their agency services. Cultural competency assessments and training target an important dimension of the agency's interactions with the public, which are not often directly addressed.
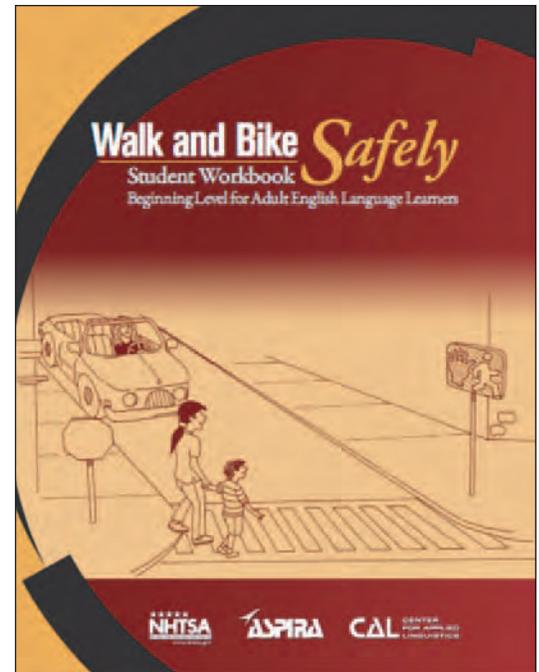
- The *FHWA* and the *FTA* both run courses, seminars, and/or workshops in nondiscrimination. For example, *Preventing Discrimination in the Federal-Aid Program: A Systematic Interdisciplinary Approach* is not specifically about "cultural competency" but emphasizes an interdisciplinary

approach for the early recognition of potential adverse impacts that might be discriminatory and the need to develop alternative solutions in all stages of the Federal-Aid Highway Program (e.g., planning, project development, construction, and research). It stresses the need for interdisciplinary staff from the transportation organization to be involved in the development and implementation of Title VI plans that recipients must prepare to meet their nondiscrimination obligations—compliance is not solely an obligation of the civil rights enforcement department. The limited English proficiency (LEP) Executive Order 13166 is described, among other topics, in the context of nondiscrimination, noting the importance of ensuring LEP persons receive meaningful access to services to avoid discrimination on the basis of national origin.

- The *Walk and Bike Safely for Beginning English Language Learners* curriculum was funded by the *National Highway Traffic Safety Administration (NHTSA)* for use by teachers and volunteers working with adult immigrants (see Figure 5-26). The curriculum was developed in recognition that newly arriving immigrants tend to be more reliant upon walking and bicycling as a primary mode of transportation. New immigrants are likely to be less familiar with U.S. traffic signage and practices and are likely to face greater dangers because of language barriers. In fact, NHTSA statistics indicate a higher risk of being involved in pedestrian and biking crashes among immigrants. As the largest immigrant population in the U.S. today, Hispanic populations are disproportionately affected by pedestrian and bicycle traffic-related crashes in the United States. The adult education curriculum includes a teacher's guide, a student workbook, and two audio listening segments for student practice. The program presents key safety messages and appropriate behaviors while bicycling and walking. The curriculum encourages the adult students to share the curriculum information with their children and other family members. The NHTSA has also developed safety-related posters, brochures, and radio announcements specifically targeted to newly arriving Hispanic populations.

Figure 5-26.   Recent immigrants are at higher risk of pedestrian and bicycle crashes. The **Walk and Bike Safely for Beginning English Language Learners** *curriculum was designed to reinforce safe behaviors for this particularly at-risk segment.*

- The *Leading Institute's Leading from the Middle* is a leadership training program for mid-level professionals in urban planning and community development to manage conflict, lead teams, and promote issues and agendas. Its module on cultural competency invites participants to explore the challenges of leadership in diverse organizations and communities, and how to manage the challenges of diversity to find more creative solutions to problems.

Resources/Contacts

Cross, T. L., (1988). Cultural Competence Continuum. Reprint from *Focal Point,* Fall 1988, a Bulletin of The Research and Training Center on Family Support and Children's Mental Health, Portland State University: http://www.unc.edu/courses/2008fall/sowo/804/957/Readings/cultcompetencecont.htm

Saldana, D. (2001). Cultural Competency: A Practical Guide for Mental Health Service Providers: http://www.hogg.utexas.edu/uploads/documents/cultural_competency_guide.pdf

Enhancing Cultural Competence, The Community Tool Box: http://ctb.ku.edu/en/dothework/tools_tk_content_page_237.aspx

Olsen, L., Bhattacharya, J., and Scharf, A. (2006). Cultural Competency: What is it and Why it Matters: http://www.lpfch.org/informed/culturalcompetency.pdf

California Department of Public Health. (2007). Linguistic and Cultural Competency Self-Assessment Survey: http://www.familypact.org/Files/Cultural%20Competency%20Toolkit/Survey_CulturalCompetency-Tool-20090514.pdf

Federal Highway Administration, Resource Center, Civil Rights Team, Training Web Page: http://www.fhwa.dot.gov/resourcecenter/teams/civilrights/courses.cfm

National Highway Traffic Safety Administration, Walk and Bicycle Safety Curriculum: http://www.nhtsa.gov/Driving+Safety/Pedestrians/For+English+as+Second+Language+%28ESL%29+Teachers+and+Learners

National Highway Traffic Safety Administration, Pedestrian and Bicycle Safety Among Hispanics: http://www.nhtsa.gov/Driving+Safety/Bicycles/Pedestrian+and+Bicycle+Safety+among+Hispanics

Rothman, J. (2008). Cultural Competence in Process and Practice: Building Bridges: http://www.ablongman.com/samplechapter/0205500692.pdf

Wells, M. I., (2000.). Beyond Cultural Competence: A Model for Individual and Institutional Cultural Development. *Journal of Community Health Nursing* 17(4):189–199.

Leonardo Vazquez, AICP/PP, Director, The Leading Institute
Edward J. Bloustein School of Planning and Public Policy
Rutgers, the State University of New Jersey
33 Livingston Avenue, #278
New Brunswick, NJ 08901
(732) 932-3822, x711
vazquezl@rci.rutgers.edu

Develop Community Hiring Program

Overcome Institutional Barriers/Deliver Benefits

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

What Is It?

Established by transportation agencies, community groups, contractors, and unions, these programs feed project-area residents into project jobs, creating community buy-in, giving unions and contractors access to pipelines of workers, and ensuring quick completion times and good public relations for transportation agencies.

Why Is It Effective in Involving Traditionally Underserved Populations?

Even in periods of economic growth, many traditionally underserved populations suffer from disproportionately high rates of unemployment. A significant problem for transportation agencies—one that can result in delays due to community opposition—may occur when community members see a project affecting their neighborhood without providing employment opportunities to their local residents. Community hiring programs can increase employment, build skills, strengthen résumés, and boost area economies for traditionally underserved populations. Many jobs in the construction trades also are accessible for people without college degrees and for ex-offenders—each of which are traditionally underserved populations in and of themselves but are also prevalent in other, broader underserved populations.

What Are Some Techniques for Implementing This Tool?

- Enter into a Community Benefits Agreement (CBA) with community groups, unions, and contractors.
- Use a pre-apprenticeship training program.
- Establish a functioning pipeline for workers to move from the pre-apprenticeship program into unions and jobs with contractors.
- Use the state matching funds to pay for the training program to avoid federal hiring requirements.

What Are Its Limitations?

- Especially in a recession or slower economy, it may invite opposition from non-local workers who are qualified and unemployed—especially on-the-job training programs.
- If community groups do not actually represent the community, it could result in community opposition, delays, and bad public relations.

What Types of Resources and Costs Are Required?

Community hiring programs require a portion of the project's budget and attention from agency and project staff to establish agreements and to administer the program.

Who Has Used It Successfully?

- In 1999, the *Port of Oakland* began a large scale expansion of its facilities that would take place over several years through several different projects. The Port established a labor agreement, the *Maritime and Aviation Project Labor Agreement (MAPLA),* which increased local hiring. Through the agreement, the Port and the unions established local hiring goals and created a Social Justice Committee to provide education and oversee the goals' implementation. The agreement established two tiers of workers, one from the local impact area (the surrounding municipalities) and the other from the local business area (the two surrounding counties), each with their own participation goals. It enjoyed support from the Port, unions, contractors, and the community, and according to Port data, local workers filled 67 percent of construction positions and the local apprenticeship program participation increased by 75 percent.
- In 2005, the *Missouri Department of Transportation (MoDOT)* entered into a Community Benefit Agreement with a coalition of 30 community organizations to create a community jobs program on its I-64 project, a $535 million Interstate reconstruction—the largest project in MoDOT history. MoDOT, using the 0.5 percent of the budget that the FHWA allows to be allocated to training, funded an innovative pre-apprenticeship program for contractors. The project came in 3 weeks early, $11 million under budget, and was celebrated throughout the region for bringing communities together. It strengthened minority, low-income, and female hiring streams for contractors and unions. It made 450 workers from traditionally underserved communities more qualified, stronger candidates for future employment. And it addressed negative public perceptions of MoDOT, making it easier for it to efficiently complete projects in the future.
- The *Green Construction Careers Model,* inspired in part by the Missouri model, has been adopted in various versions in Kansas City (MO), Wisconsin, Michigan, and Minnesota. The U.S.DOT recently funded a pilot project to implement the Green Construction Careers model for several major transportation projects with budgets of more than $500 million, including a light rail commuter line in Denver (CO), Ohio River Bridge projects in Louisville (KY), the Connecticut Busway project in Hartford (CT), new freeway construction in Phoenix, AZ, and the Kosciuzsko Bridge replacement project in New York City. In each of these cities, the Transportation Equity Network (TEN) and the Conference of Minority Transportation Officials (COMTO) have been holding workshops with transportation officials, faith-based organizations, prime and subcontractors, and small businesses. The workshops outline the approach for dedicating 30 percent of workforce hours on projects to low-income people, women, and minorities, and investing 0.5 to 1 percent of project budgets on job training.

Resources/Contacts

Swanstrom, T. (2009). *The High Road to Greater Inclusion in the Construction Industry: Problems and Prospects.* A Discussion Paper for the Anne E. Casey Foundation. http://www.aecf.org/news/fes/mar2009/pdf/Discussion_Paper_Construction_2-09.pdf

Rubin, K. and Slater, J. (2005). *Winning Construction Jobs for Local Residents: A User's Guide for Community Organizing Campaigns.* Brennan Center for Justice at NYU School of Law: http://nelp.3cdn.net/319dbb595 9ea88bd77_7sm6iy4lf.pdf

MoDOT, (2006). "*The New I-64 Work Force Utilization Plan Partnering Agreement*": http://www.thenewi64.org/download/2006-05-12%20Workforce%20Utilization%20Plan%20Partnering%20Agreement%20Signatures.pdf

FHWA On-the-Job Training Program: http://www.fhwa.dot.gov/civilrights/programs/ojt.htm

FHWA On-the-Job Training Program FAQs: http://www.fhwa.dot.gov/resourcecenter/teams/civilrights/ojtfaqs.cfm

Conference of Minority Transportation Officials (COMTO), Community Partner Agreement Process and "The Missouri Model": http://www.youtube.com/watch?v=E8sWrHuUAFY

Connecting the DOTs: On the Job Training Program, I-64: http://www.youtube.com/watch?v=uVy8TlvaKT0&feature=related

Linda Wilson, Public Information Manager
Missouri Department of Transportation
105 W. Capitol Avenue
Jefferson City, MO 65102
314-340-4117
Linda.Wilson@modot.mo.gov
http://www.modot.mo.gov

Laura Barrett, Policy Director
Transportation Equity Network/Gamaliel
4501 Westminster Place, 3rd Floor
St. Louis, MO 63108
314-443-5915
laura@transportationequity.org
www.transportationequity.org

Commit to On-the-Job Training and Workforce Development Programs

Overcome Institutional Barriers/Deliver Benefits			
Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☐	*Operations & Maintenance*	☒

What Is It?

On-the-job training (OJT) focuses on skills acquisition within the work environment, generally under normal working conditions. Workers acquire both general skills they can transfer from one job to another and specific skills unique to a particular job. OJT typically involves verbal and written instruction, demonstration and observation, and hands-on practice. The OJT process involves one employee—usually a supervisor or an experienced employee—passing knowledge and skills onto a novice employee. OJT is the most widely used training mechanism today in the U.S. and is the oldest form of training.

Why Is It Effective in Involving Traditionally Underserved Populations?

Training and upgrading of minorities and women to journey status is a primary objective of OJT programs. An OJT program is mandated by the U.S.DOT. The OJT program requires that agencies set a trainee goal on each federally funded project. Contractors are contractually required to meet the training requirement, or show that they made a good faith effort to do so.

OJT can target a specific group or population and focus on developing skill levels in particular areas of need or attention because of low representation of the target population in that workforce. It is the most widely used training method, particularly in the trades where apprenticeship programs are common. It complements traditional classroom-based training by giving the trainee the opportunity to apply skills learned in the classroom. Some of the OJT/apprenticeship programs offer classroom training in math related to the job, financial management, and other skills.

What Are Some Techniques for Implementing This Tool?

- Identify a particular population that is not well represented in a specific workforce area such as women in highway construction or minorities in construction administration and project management, and focus the OJT on providing the necessary skills to that population.
- Develop manuals aimed at supporting the population selected and the particular skill.
- Conduct targeted outreach activities to recruit the underrepresented population(s) into special training programs.

What Are Its Limitations?

- It requires coordination between a firm/organization that is willing to provide the OJT services to the target population and the agency sponsoring or supporting the training.
- It is staff-time intensive for the provider since it requires coordination, training, and follow-up.

What Types of Resources and Costs Are Required?

- Identification and implementation of the training program and the materials that accompany it. Although many training materials are available, they will need to be purchased and may need to be adapted to the particular situational needs. There will also be the cost for staff to actually conduct the training as well as the cost of the materials reproduction and other expenses of implementing the training.
- Time dedicated to the trainee by the person doing the OJT.
- Outreach costs will vary with the amount of time and staff dedicated to conducting the outreach activities.

Who Has Used It Successfully?

- The *Federal Highway Administration (FHWA) On-the Job Training Supportive Services* lists a number of departments of transportation, women's organizations, trade organizations, and others who have OJT programs funded by FHWA that are focused on getting traditionally underserved populations into highway construction careers. The programs include the development of manuals and videos for assessing, guiding, and conducting outreach to target populations who could apply for OJT programs; provision of on-site technical assistance to state leadership teams on recruitment, training, and employment of target populations in highway construction careers; providing training in highway construction crafts, iron working skills, math for trades, physical conditioning, specific skills training in carpentry, equipment operation, cement finishing, and shop classes as well as other skills; and providing stipends, transportation, housing, and job placement services for those in training.
- The *Oregon Department of Transportation (ODOT), Office of Civil Rights* provides classroom training in math for trades, financial management, and other relevant skills, as well as OJT in specific skills areas. Program participants receive a stipend while in training, which takes about 2 years to reach journey-level status. The apprenticeship program includes a mentoring feature as part of the training methodologies (see Figure 5-27).
- The *Mississippi Department of Transportation,* in cooperation with the *Road Builders of Mississippi* and the FHWA has an OJT program to develop workers in the skilled craft trades of

Figure 5-27.   The Oregon Department of Transportation, Office of Civil Rights has an apprenticeship and mentoring program to recruit, train, and retain minorities and women in the highway construction industry.

highway construction. The program is conducted with contractors and subcontractors in the highway construction industry who must follow the training and tracking procedures instituted by the Mississippi DOT. Contractors and subcontractors are paid a specific amount for every hour of training received by each employee enrolled in the program. The focus is on employees who are women, minorities, and economically disadvantaged and interested in achieving full journey status. The contractor or subcontractor assigns an experienced person to the trainee to oversee training. The trainee receives the minimum wage during the training period along with full benefits, where applicable, and full wages for the journey level of the trade upon completion of the training.

- The *Cypress Mandela Training Center* in East Oakland, California, is committed to enhancing the viability of the construction trades industry through life skills development and technical training in a 16-week directed, pre-apprentice program. The Cypress Mandela Pre-Apprenticeship Training Program was created in 1993 in response to the damage and rebuilding needed in the aftermath of the 1989 Loma Prieta Earthquake. Its original mission was to provide local residents with training and employment in repairing damaged freeways.

Resources/Contacts

Federal Highway On-the-Job Training Support Services: http://www.fhwa.dot.gov/ojtss.htm

Mississippi Department of Transportation: http://www.gomdot.com/Divisions/CivilRights/Resources/Forms/pdf/OJT_AlternateProgram.pdf

Oregon Workforce Development Program: http://www.oregon.gov/ODOT/CS/CIVILRIGHTS/wdp.shtml
http://www.oregon.gov/ODOT/CS/CIVILRIGHTS/appren_programs_vid.shtml

Cypress Mandela Training Center: http://www.cypressmandela.org/

Federal Highway Administration
On-the-Job Training Supportive Services
Hattie H. Brown, HCR-10
(210) 366-1591

Oregon Department of Transportation Office of
Civil Rights
Michael Cobb
(503) 986-4350

Institute an Internship Program

<div>

Overcome Institutional Barriers

Policy/Research	☒	*Right-of-Way*	☒
Statewide/Metropolitan Planning	☒	*Construction*	☒
Project Development/NEPA Compliance	☒	*Operations & Maintenance*	☒

</div>

What Is It?

Internship programs targeted to recruit high-performing students from Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Tribal Colleges or Universities (TCUs).

Why Is It Effective in Involving Traditionally Underserved Populations?

HBCUs, TCUs, and HSIs often have higher percentages of students of color, and many have strong engineering and transportation programs. By entering into internship partnerships with these institutions, the agencies get a pipeline of smart, capable temporary employees who also bring the benefits of diversity into their workplace. The students do meaningful work and build a path into the transportation industry. If the agency cannot retain them as an employee at the end of the internship, the students still leave with real-world experience and an expanded network of contacts on which to build a career and a strong résumé.

What Are Some Techniques for Implementing This Tool?

- Reach out to federally registered HBCUs, TCUs, and HSIs, specifically to their career centers.
- Use the Garrett A. Morgan program and the Eisenhower Fellowship program to secure fellowships.
- Use the Summer Transportation Internship Program for Diverse Groups (STIPDG) to secure interns.
- Contact the U.S.DOT Office of Civil Rights.
- Contact the office that manages the Disadvantaged Business Enterprise program in your transportation agency.
- Enter into cost-sharing agreements with the schools to provide stipends.
- Share responsibility with the HBCUs, TCUs, and HSIs for advertising the program.

What Are Its Limitations?

- Securing funds for providing interns with stipends.
- Finding and keeping a champion for the program within the agency or organization with the authority and capacity to overcome potential obstacles and reliably advocate for the program.
- Overcoming misconceptions about targeted outreach—which is legal and conforms to executive orders and White House Initiatives on HBCUs, HSIs, and TCUs.
- Not every agency is located within convenient proximity to an HBCU, HSI, or TCU.

What Types of Resources and Costs Are Required?

Costs associated with instituting an internship program include providing students with a living wage or travel expense stipend, as well as staff time spent on organizing and administering the program.

Who Has Used It Successfully?

Morgan State University has partnered with the *Maryland Department of Transportation* and the *Maryland State Highway Administration (MSHA),* creating two separate internship programs, one for graduate students, and one for undergraduates. The graduate student partnership with the Maryland DOT entered its 24th year in 2010. These students come from a variety of majors, and are assigned to different offices of the transportation department to work 20 hours weekly during the school year and full-time in the summer. The summer undergraduate internship program has also been successful. Both programs are ongoing, and the majority, though not all, of the roughly 200 students who have participated have been Black.

Resources/Contacts

FHWA Office of Professional and Corporate Development, "Eisenhower Freight and Transportation Logistics Scholarship": http://www.fhwa.dot.gov/ugp/eis_ftl_ann.htm

FHWA Office of Professional and Corporate Development, "Garrett A. Morgan Technology & Transportation Education Program": http://www.fhwa.dot.gov/tpp/gamttep_brochure.pdf

United States Department of Transportation, "Summer Transportation Internship Program for Diverse Groups (STIPDG)": http://www.fhwa.dot.gov/education/stipdg.htm

Allison Hardt, Chief of the Research Division
Maryland State Highway Administration
707 North Calvert Street
Baltimore, MD 21202
410-545-2916
ahardt@sha.state.md.us
http://www.marylandroads.com/

Andrew Farkas, Director of the National Transportation Center
Morgan State University
1700 East Cold Spring Lane
Baltimore, MD 21251
443-885-3761
andrew.farkas@morgan.edu
http://www.morgan.edu/soe/ntc

Dee Outlaw
Diversity, Wellness & Special Projects Coordinator
Office of Human Resources—Maryland DOT
7201 Corporate Center Drive P.O. 548
Hanover, MD 21076
410-865-1199
doutlaw@mdot.state.md.us
http://www.mdot.maryland.gov/

Serve as a Mentor

Overcome Institutional Barriers			
Policy/Research	⊠	*Right-of-Way*	⊠
Statewide/Metropolitan Planning	⊠	*Construction*	⊠
Project Development/NEPA Compliance	⊠	*Operations & Maintenance*	⊠

What Is It?

Mentoring, according to the American Management Association, is a "a developmental, caring, sharing, and helping relationship where one person invests time, know-how, and effort in enhancing another person's growth, knowledge and skills, and responds to critical needs in the life of that person in ways that prepare the individual for greater productivity or achievement in the future (Shea, 1994)." Mentoring is serving as a "personal educator" for someone: in this case, a person representing the underserved population who is interested in developing his/her skills and understanding in a particular area or field. The relationship between the mentor and the person being mentored should foster an environment of asking questions, trying out new skills and techniques and getting and applying the feedback on the effort, helping the mentee understand his/her strengths and weaknesses and how to employ and/or strengthen them, and "stretching" beyond one's comfort zone.

Why Is It Effective in Involving Traditionally Underserved Populations?

- It provides for a meaningful level of participation and insight on the part of the mentee and can serve to educate and inform the project management and the mentor on issues, attitudes, and desires of the underserved population represented by the mentee.
- It allows for the development of skills and understanding that are useful to the person and the community in a variety of ways.
- It can be used to provide special learning circumstances for individuals who are part of a traditionally underserved population.

What Are Some Techniques for Implementing This Tool?

- The mentor can approach community members to see if they are interested in being a mentee.
- A community leader may recommend someone she/he thinks would be a good mentee.
- In most cases, the mentor/mentee relationship is one of mutual learning and benefit. The mentor may be seeking the assistance of a mentee when it comes to understanding the community, and the mentee is seeking to develop particular skills or understandings.
- The term of the mentorship should be determined beforehand along with the specific outcomes sought by the mentor and the mentee. Roles and responsibilities as well as desired results should be clearly delineated from the beginning. It is also a good idea to determine the amount of time (*x* hours per week) that will be spent in the mentoring process.
- Mentorships may be developed for a particular interest area to develop skilled individuals in that field or area of interest.

What Are Its Limitations?

- Not everyone is a good mentor. Mentoring takes more than just knowledge of the subject. It also requires the ability to transmit the information clearly and understandably and patience when there are a lot of questions and/or mistakes to avoid getting too critical with the mentee.

- Mentoring requires dedicating a specific amount of time on a regular basis to the mentoring relationship.
- Ending a mentoring relationship once the project is complete can sometimes be difficult.
- The mentor should be someone with several years of experience in the field who can actually teach the mentee the desired skills as well as offer some practical insights. An entry-level person should not be designated as the mentor.

What Types of Resources and Costs Are Required?

- Staff time to function as the mentor is a necessary expenditure.
- Depending on what the arrangement is, there may be a stipend for the mentee.

Who Has Used It Successfully?

- The *Conference of Minority Transportation Officials (COMTO)* offers internships and mentoring to college students from traditionally underserved populations. The program, *Careers in Transportation for Youth (CITY),* focuses on underrepresented youth who are college students that have completed at least their sophomore or junior years and have an interest in public transit or a transportation-related career. This initiative promotes public transportation career opportunities among underrepresented college students, providing internships and mentoring at transit agencies, private transit-related consulting firms, transportation service providers, manufacturers, and suppliers. Three to four students each are recruited in Atlanta, GA; Austin, TX; San Francisco, CA; and Washington, D.C. The COMTO chapter in each of these cities hosts the interns for 10 weeks. During that time they will also attend the annual COMTO National Meeting and Training Conference as well as receive the mentoring of transportation professionals.
- The *Oregon Department of Transportation (ODOT) Office of Civil Rights* has a *Statewide Mentoring Services Program* aimed at developing qualified people in the heavy highway and bridge construction industry. The mentorship program was integrated into the apprenticeship program under the direction of ODOT as a means of complementing their existing activities. ODOT developed training materials for mentors and mentees and offered them to organizations interested in including mentoring in their apprenticeship programs. Highway construction contractors also successfully implemented the training program and introduced mentoring as a job training method. Other contractors have requested the training for mentors in order to implement the program at a later date. The program also continues to work with large contractor teams with existing construction contracts and their subcontractors who are Emerging Small Businesses (ESB), pairing them as mentors and mentees.
- *Lucy Moore Associates,* in Santa Fe, New Mexico, has a *mentoring clause* in all its consulting contracts. The company is currently mentoring four people, two of whom are minorities, and it also brings in community members as mentees who come to a meeting and indicate their interest in learning about the process and facilitation. Mentoring is a great way to bring those voices into the process. As mentees develop their facilitation skills and understanding of the process, they can continue to work in the community long after the project is over, serving as a resource for the transportation planning process and other meaningful activities.

Resources/Contacts

Conference of Minority Transportation Officials: http://www.comto.org
Shea, G. (1994). *Mentoring: Helping Employees Reach Their Potential.* New York: American Management Association.
Oregon Statewide Mentoring Plan: http://www.oregon.gov/ODOT/CS/CivilRights/docs/AgencyStatewide MentoringPlan.pdf

Lucy Moore
Lucy Moore Associates
(505) 820-2166
lucymoore@nets.com

Michael Cobb
Oregon Department of Transportation Office of Civil Rights
(503) 986-5753
Michael A.Cobb@odot.state.or.us

Unbundle Project Contracts

Overcome Institutional Barriers

Policy/Research	☐	*Right-of-Way*	☐
Statewide/Metropolitan Planning	☐	*Construction*	☒
Project Development/NEPA Compliance	☐	*Operations & Maintenance*	☐

What Is It?

Unbundling project contracts means taking single contracts for large projects and breaking them down into smaller contracts for different parts of the projects, making them more accessible for Disadvantaged Business Enterprises (DBEs).

Why Is It Effective in Involving Traditionally Underserved Populations?

DBE is the federal designation for small businesses owned by women or ethnic minorities—groups that have been traditionally underrepresented in the transportation industry. When a large firm wins a single contract for managing a large project, it effectively limits DBEs to competing for fewer, limited subcontracts. Unbundling project contracts allows agencies to award contracts for smaller components of a project, opening up opportunities for DBEs to participate more broadly, both as prime and subconsultants. It also allows DBEs to become familiar with the contracting process so they can compete for more contracts as they grow, allowing them to be more competitive when eventually competing for prime contracts. And, it is often an economical means for an agency to boost its DBE participation.

What Are Some Techniques for Implementing This Tool?

- Design teams can aim to create the smallest contracts feasible and contracts can be unbundled both by discipline and by physical sections of the project.
- Reaching out to DBE firms and target-marketing certain contracts to them based on their specific skill sets.
- Requiring prime contractors to subcontract out portions of work they normally would do themselves.
- Point DBEs toward contracting trainings offered by the U.S.DOT Office of Small and Disadvantaged Businesses, state DOTs, and trade associations like the Conference of Minority Transportation Officials.

What Are Its Limitations?

- It can require more staff time to establish many different contracts instead of just one.
- Additional training may be necessary for DBEs to learn how government contracting works and to effectively access federal and state loan programs.

What Types of Resources and Costs Are Required?

Staff time on establishing contracts and educating DBEs on training opportunities.

Who Has Used It Successfully?

The *Wisconsin Department of Transportation (WisDOT)* unbundled the reconstruction contract for the Marquette Interchange in downtown Milwaukee. In addition to breaking up the

project by geographic area and ramps, WisDOT separated out individual landscaping, sidewalk, and roundabout contracts giving DBEs further opportunities to compete for contracts. The $810 million project was completed in 2008 and 19 percent of the contracts were awarded to DBE firms—more than double the federal participation requirement of 8 percent.

Resources/Contacts

Madison Times, Interview with Wisconsin DOT on Unbundling Contracts:
    http://www.madtimes.com/archives/oct2004_1/madtimes_101.htm
U.S.DOT Office of Small and Disadvantaged Businesses Website: http://www.osdbu.dot.gov/index.cfm
Wisconsin DBE program Website: http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm

Michele Carter, DBE Program Manager
WisDOT—Civil Rights and Compliance Section
P.O. Box 7965
Madison, WI 53707
(608) 264-6669
Michele.Carter@dot.wi.gov

Implement DBE Programs

Overcome Institutional Barriers			
Policy/Research	⊠	*Right-of-Way*	⊠
Statewide/Metropolitan Planning	⊠	*Construction*	⊠
Project Development/NEPA Compliance	⊠	*Operations & Maintenance*	⊠

What Is It?

The U.S. Department of Transportation's (U.S.DOT) Disadvantaged Business Enterprise (DBE) program is a vehicle for increasing the participation of minority and/or women-owned businesses in state and local procurement. At minimum, U.S.DOT DBE regulations require transportation agencies that receive federal assistance to establish goals for the participation of DBEs and review contract scopes and costs to ensure that these goals are met. DBE programs may also include financial or technical assistance, outreach and partnering, or business development to further foster equal opportunity for firm participation.

Why Is It Effective in Involving Traditionally Underserved Populations?

Small business development is a particularly important asset building strategy among women and communities of color. DBE programs can successfully help minority and women-owned firms increase their capacity and compete for contracts, as well as build confidence within the transportation agency in DBEs' ability to reliably provide services.

What Are Some Techniques for Implementing This Tool?

- Procurement goals;
- Link DBEs to loan programs;
- Vendor outreach and networking events;
- Provide technical assistance related to construction projects (such as blueprint and specification reading and bid estimation);
- Reimbursement to DBEs for training opportunities, small business development services, or for membership in professional organizations; and
- Small business development, including business planning, accounting, marketing plan, certification assistance, and website development.

What Are Its Limitations?

DBE programs can help ensure that minorities and women have greater involvement in transportation decisionmaking from the inside of the process; however, they do not ensure that the communities being impacted by a given transportation project will be heard. DBEs are not community representatives, they are businesses with their own self-interests and should be regarded as such.

What Types of Resources and Costs Are Required?

In addition to program administration, some states provide services to DBEs using their own staff or go through the private sector.

Who Has Used It Successfully?

- The *Wisconsin DOT (WisDOT)* created a mobilization loan guarantee fund (MLGF) targeted at minority subcontractors to cover their project startup costs. The MLGF had the twin goals of improving access to capital for minority subcontractors and of growing these subcontractors into prime contractors. The MLGF is ongoing and has received national recognition for its success. An initial investment of $300,000 in the revolving fund has grown to $376,000 through 26 years of interest without a single default.

- *DBE Mentor–Protégé Programs* have been developed by several state transportation agencies (e.g., California, Ohio, Texas, Wisconsin, Delaware, Illinois, Minnesota), with some variation in their structure and format, to give DBEs the help they need to build their businesses and compete for work in transportation-related contracts. The *Ohio DOT Mentor–Protégé Program* seeks to build a broader base of Disadvantaged Business Enterprises (DBEs) capable of performing work on highway construction projects. At the *Ohio DOT,* once a mentor firm and a protégé are teamed up, they jointly establish a mentor-protégé development action plan. They are expected to hold regularly scheduled meetings and use these meetings to identify barriers to the protégé's success; identify management, accounting, or other professional services that the protégé may still require; set specific targets for further improvement; and set a deadline for hitting each target. The protégé's business plan is a continuing topic of discussion over the life of the relationship—typically a 2-year period during which progress toward goals is measured. A supportive services consultant is made available by the Ohio DOT to provide advisory services, as needed, and possibly to attend the meetings between mentors and their protégés. Supportive services may be delivered in any of the following areas: general business management, financial administration, insurance and bond readiness, website development, or business development/marketing.

- The *Texas DOT (TxDOT)* established its *Learning Information Networking Collaboration (LINC)* to provide mentoring to protégé firms. LINC prepares small businesses to bid and perform on TxDOT projects. LINC mentors introduce the protégé firms to TxDOT staff and to prime contractors by providing networking opportunities. Rather than the traditional arrangement where a non-DBE contractor is a mentor to a DBE firm, TxDOT serves as the mentor in this program. Six meetings are held with the DBE firm: an introductory meeting followed by five meetings held in a specified district within the state. The DBE firm receives presentations on several topics, including: bidding and estimating (with a hands-on bid review by a support services provider), contract administration, record keeping, construction-related legal issues, inspections, equipment usage, material/product testing, and marketing plan development. Participating DBE firms also get introductions to prime contractors who have been provided with an information packet about the LINC protégé firm. The final session focuses on upcoming opportunities for bidding on maintenance contracts as prime contractors. Several other topics are addressed to prepare firms for bidding such as prequalification, bidder's questionnaire, bonding, insurance, and specific contract requirements.

- The *Kansas DOT (KDOT)* provides supportive services to all certified DBEs, which include a toll-free assistance hotline; project plans to any interested DBEs; and workshops on plan reading, estimating, cost accounting, business plans, insurance, financing, equipment, and other requested topics.

- The *South Dakota DOT (SDDOT)* provides a virtual sign-in for DBEs and contractors to meet electronically, prior to each bid letting, as part of their electronic bidding. To help DBEs gain name recognition, a DBE directory with the owners' photographs and business profiles is sent by mail to prime contractors and placed on the Internet. SDDOT also sends a monthly DBE newsletter to all DBEs by email and/or regular mail with business articles, events, and bid opportunities.

Resources/Contacts

U.S. Department of Transportation, Office of Small and Disadvantaged Business, "Disadvantaged Business Enterprise (DBE) Program": http://www.osdbu.dot.gov/dbeprogram/

Insight Center for Community Economic Development, (14 December 2007), "State Policies and Programs for Minority- and Women-Business Development": http://www.insightcced.org/uploads/publications/assets/ 50%20state%20inclusive%20business%20policy%20scan.pdf

Ohio Mentor-Protégé Program: www.dot.state.oh.us/Divisions/. . ./DBE/DBE_MP_ProgramInfo.doc

Management of Disadvantaged Business Enterprise Issues in Construction Contracting: http://onlinepubs.trb. org/onlinepubs/nchrp/nchrp_syn_343.pdf

Kansas Department of Transportation: http://www.ksdot.org/divadmin/civilrights/pdf/DBE_Manual.pdf

Data Sources and Tools

There are many data sources and tools to consider in preparing a profile of the existing social and economic characteristics of a community, and many of these sources and tools will also be geared toward identifying the needs, concerns, and locations of traditionally underserved populations. Key demographic data used in preparing a comprehensive community profile—whether within a specific area, a set of communities along a corridor, or for a larger region—may include information about race and ethnicity, sex, age, income, poverty, mobility (e.g., travel time to work or number of vehicles available), educational attainment, disabilities, linguistic isolation, home ownership, and employment (e.g., labor force status, occupation, industry, location). Demographic data is an essential first step in preparing public involvement plans to ensure that the location and needs of traditionally underserved populations are fully understood when practical approaches are developed during the planning and project development stages of transportation decisionmaking.

Those responsible for understanding community needs and how agency decisions may affect communities cannot depend solely upon "desktop" demographic exercises. Practitioners should be fully prepared to make visits to the field to meet with knowledgeable stakeholders—both within and outside government—in potentially affected communities. Reaching stakeholders in places and at times that are convenient to engage in a two-way dialogue is likely to inform and improve decision-making processes. Practitioners should explore information in referral guides and reach out to organizations with a presence in communities. Social service, faith-based, and community-based organizations can prove invaluable when seeking to make contact with segments of traditionally underserved populations. Leaders and staff from these organizations often advocate on behalf of their constituents. These organizations may be interested in partnering with transportation organizations or recruited to participate in involvement processes to inform transportation decisionmaking. Representatives from these organizations may be able to offer valuable contextual information (e.g., key needs, recent controversies, and past history), provide practical insights on how best to proceed with outreach processes, or even serve as "trusted advocates" for outreach events.

In preparing a profile and strategizing approaches to public involvement, it is appropriate to review various data sources and tools to better understand the specific needs and values of the communities that will be affected by transportation decisions, including traditionally under-served populations that reside or seek to access opportunities within the study area. In choosing the right data sources to prepare an informed community profile or conduct planning studies or policy research, the practitioner should consider several attributes of the data being used:

- *Geographic Coverage*—Is the subject community (e.g., the primary or secondary study area) covered by this data source? Is the data more suited for national, state, or regional planning or policy studies, or local or small areas for planning or impact assessment purposes?

- *Timeliness*—How current is the reporting of this data? Does the data reflect the current characteristics of the community? How often is the data released?
- *Pros and Cons*—How reliable is the dataset in representing the concerns of the affected population? Does the data source accurately reflect the community? How easy is it to use the data or tools that are available on the site? Does the data source allow customized querying to gain local information within a specific study area?
- *Value to Practitioner*—What types of practitioner activities (e.g., planning studies, projects, policy research, advocacy, or communications) does this data resource most effectively serve?

Table 6-1 summarizes several data sources and tools that can be used to better understand the social and economic characteristics of communities and various segments of traditionally underserved populations. A description of each data source and tool is presented after the table. This description provides additional information about the tool, its geographic coverage, the pros and cons of using the data source to support efforts to reach traditionally underserved populations, and the type of project or activities for which the data source would be most applicable. The identification of the organizations in this chapter should not be construed as endorsement of the organization, nor is the listing here an endorsement of this report by the referenced organization.

The data sources and tools described throughout this section should be relevant to transportation practitioners as well as policy researchers and community- and advocacy-based organizations as they undertake studies, formulate new initiatives, or assess the effectiveness and inclusiveness of existing programs, policies, plans, and operations.

Table 6-1.   Data sources and tools for inventorying social and economic characteristics and researching issues relevant to traditionally underserved populations.

Data Sources and Tools	Dataset	Referral Guide/ Website	Advocacy	Communities
ABYZ News Links		√		Traditionally Underserved Populations
African American Yearbook		√		Black, Low Income
American Community Survey Data	√			Traditionally Underserved Populations
American FactFinder	√			Traditionally Underserved Populations
Arab American Yearbook		√		Arab-American, Low Income
Asian American Yearbook		√		Asian-American. Low Income
Black Church Page		√		Black, Low Income
Census Hard to Count 2010	√		√	Traditionally Underserved Populations
Census Transportation Planning Products Data	√			Traditionally Underserved Populations
Disability Statistics	√	√		Disabilities by Minority, Low Income, Elderly
Diversity Data Project	√	√	√	Traditionally Underserved Populations
Eldercare Locator		√		Elderly
Food Stamp Program Mapping Machine	√			Low Income
GreatSchools, Inc.	√	√		Minority, Low Income, Limited English Proficiency (LEP)
Hispanic Yearbook		√		Hispanic, Low Income
Housing and Transportation Affordability Index	√		√	Low Income, Transit Dependent
Kids Count Data Center	√	√	√	Traditionally Underserved Populations
Literacy Information and Communications System	√		√	LEP
Melissa Data Nonprofit Organization Lookup		√		Traditionally Underserved Populations
MetroTrends (Urban Institute)	√			Traditionally Underserved Populations
Migration Policy Institute—Immigration Data Hub	√	√	√	Foreign Born
Mobile Home Park Store		√		Minority, Low Income, Elderly
Modern Language Association	√	√	√	LEP, Foreign Born
National Association for the Advancement of Colored People		√	√	Black, Low Income
National Black Chamber of Commerce		√	√	Black, Low Income
National Center for Education Statistics	√	√		Minority, Low Income, LEP
National Center for Health Statistics	√	√	√	Traditionally Underserved Populations
National Congress of American Indians		√	√	Native Americans, Low Income
National Council of La Raza		√	√	Hispanics, Low Income
National Neighborhood Indicators Partnership	√	√		Traditionally Underserved Populations
National School Lunch Program		√		Low Income
National Transit-Oriented Development Database	√		√	Traditionally Underserved Populations
National Urban League		√	√	Black, Low Income
OnTheMap	√			Low Income, Elderly
100 Black Men of America, Inc.		√	√	Black, Low Income
Public Use Microdata Sample (PUMS)	√			Traditionally Underserved Populations
RadioBlack.Com		√		Black, Low Income
Refugee Council USA (RCUSA)		√	√	LEP, Foreign Born
Salvation Army		√	√	Low Income, Elderly
Small Area Income and Poverty Estimates	√			Low Income
State Handbook Guide Resources		√		Traditionally Underserved Populations
Southern Poverty Law Center	√	√	√	Traditionally Underserved Populations
U.S. Department of Housing and Urban Development—Low Rent	√			Low Rent, Elderly
U.S. Department of Labor	√	√		Traditionally Underserved Populations
U.S. Hispanic Chamber of Commerce		√	√	Hispanic, Low Income
Wal-Mart Store Locator		√		Low Income
Yearbook of Immigration Statistics	√			Foreign Born

ABYZ News Links

About	ABYZ News Links is a portal to online news sources from around the world. It is primarily composed of newspapers but also includes broadcast stations, Internet services, magazines, and press agencies.
Source	http://abyznewslinks.com/unite.htm
Geography	National data set, which allows for searches on the state and city level.
Indicates	Media sources for organizing public involvement to target specific communities. Lists newspapers by language which can help identify potential media to connect to specific segments of traditionally underserved populations, including limited-English proficiency (LEP) populations.
Timeliness	It is unknown how often this data source is updated.
Pros	ABYZ News Links provides a list of U.S. newspapers and news media by states, cities, counties, and regions, and identifies them by media type (broadcast, Internet, magazine, and newspaper), media focus (alternative, college/university, ethnic, and general interest), and language.
Cons	Specific contact information is not provided but can be obtained through an online search.
Value	This website is a **communications resource** for public involvement practitioners to find the best networks for conveying information and publicizing events to reach segments of the traditionally underserved populations.

African American Yearbook

About	The *African American Yearbook* is a resource and referral guide for and about Blacks. It provides a listing of historically Black colleges and universities as well as Black churches, organizations (i.e., artistic, business, chamber of commerce, communications, cultural, entertainment, law enforcement, multipurpose, political action, professional, religious, research, community based, health and social services, including: AIDS, alcohol/drug center, child care, education, employment, family planning, gay and lesbian, housing, human relations, immigration, legal assistance, seniors, sports, voluntary services, women, youth, and students). Publications in addition to radio and television stations with their contact information are provided by state.
Source	http://africanamericanyearbook.com
Geography	National data aggregated at state and city levels.
Indicates	The *African American Yearbook* provides a listing by city and state of Black churches, organizations, publications, and radio and television stations.
Timeliness	The 2010/2011 edition is the most current available.
Pros	Useful source of information for identifying local resources to support public involvement strategies**.**
Cons	The *Yearbook* needs to be purchased annually to be current; however, the previous year's information can be downloaded for free. Other data sources available for purchase can be costly.
Value	The yearbook is a valuable **communications resource** that practitioners can reference for identifying community- and social services-based institutions, facilities and possible partnering organizations to facilitate access and communications.

American Community Survey Data

About	The American Community Survey (ACS), a product of the U.S. Census Bureau, provides current demographic, social, economic, and housing information about the country's communities. The ACS collects and produces population and housing information every year instead of every 10 years. Approximately 3 million households across the country participate in the ACS annually.
Source	ACS data is published by the U.S. Census Bureau and can be accessed through multiple sources, including American FactFinder, an online clearinghouse maintained by the U.S. Census Bureau. http://www.census.gov/acs/www/index.html

Geography	The ACS publishes single-year data for all areas with populations of 65,000 or more. Areas with populations less than 65,000 will require the use of multiyear estimates to reach an appropriate sample size for data publication. In 2008, the U.S. Census Bureau began releasing 3-year estimates for areas with populations greater than 20,000. The first 5-year estimates for all census tracts and block groups were released in December 2010 based upon data collected from January 1, 2005, to December 31, 2009. With this release, data is now available for every state, county, city, town, and place as well as for census tracts and block groups. Block group data is available via download on the ACS website. The multiyear estimates will be updated annually, with data published for the largest areas in 1-, 3-, and 5-year formats, and for those meeting the 3-year threshold, in both 3- and 5-year formats. Even the lesser populated communities will be able to obtain ACS data based on 5-year estimates annually.
Indicates	Low-income, minority, limited English proficiency (LEP), zero-car, elderly, and disabled persons, among other census-related variables; can be used to reveal social, economic, and travel patterns.
Timeliness	Data is updated every year.
Pros	ACS data is an up-to-date source of population information since it is collected and published every year instead of every 10 years. One and 3-year estimates are generally available with a 1 to 2 year lag.
Cons	For small areas and population groups of 20,000 or less, it has taken 5 years of continued sampling to provide estimates that are expected to be accurate at the local level. The quality of the data at the local level has not been closely investigated and many analysts are not familiar with how to use this new but potentially highly valuable and informative data product. Census 2000 data described population and housing characteristics as of April 1, 2000; ACS data will describe a period of time and require data for 12 months, 36 months, or 60 months to do so. Smaller sample sizes for 5-year ACS estimates will reduce the reliability of estimates.
Value	The ACS data set makes it possible to prepare a relatively current **demographic profile** of a community that can be applied to **planning** or **project development** studies. The latest release of the 5-year estimates can help identify the presence of minority, LEP, among other traditionally underserved populations at the sub-municipal geographic levels for planning and project development studies and can also be referenced for **policy research.**

American FactFinder

About	American FactFinder is an easy-to-use portal to population, housing, economic, and geographic data collected by the U.S. Census Bureau. It is a product of the U.S. Census Bureau and provides access to data collected through the Decennial census, American Community Survey (ACS), Puerto Rico Community Survey, Population Estimates Program, Economic Census, and Annual Economic Surveys. From the 2010 Decennial census, total population as well as racial and ethnic data has been compiled in Summary File 1 (SF1)—data that was collected in the short-form census questionnaire distributed to all households. This information is a 100 percent sample of the population. The SF1 file shows detailed tables on age, sex, households, families, relationship to householder, housing units, detailed race and Hispanic or Latino origin groups, and group quarters. Most tables are shown down to the block or census tract level. Some tables are repeated for nine race/Hispanic or Latino origin groups. The nine groups are (1) White alone; (2) Black or African American alone; (3) American Indian and Alaska Native alone; (4) Asian alone; (5) Native Hawaiian and other Pacific Islander alone; (6) Some other race alone; (7) Two or more races; (8) Hispanic or Latino; (9) White alone, not Hispanic or Latino. The long form is generally being discontinued for most U.S. populations (except territories such as the Virgin Islands and Guam) in favor of the American Community Survey.
Source	http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
Geography	National data aggregated at metropolitan statistical area (MSA), State, County, Place, Census Tract, Block Group, and Block Level, among others.
Indicates	Low-income, minority, linguistic isolation, zero-car, elderly, and disabled populations, among other social, economic, and travel indicators.
Timeliness	ACS data is updated with a lag of 1 to 2 years.

Pros	Provides access to multiple data sources and allows users to create and save detailed and custom tables.
Cons	Requires some familiarity with data contained in census surveys and does not provide flat data files, limiting the utility of the portal data as a source for performing cross-tabulations.
Value	This website can be used to prepare a **demographic profile** of a community, which can be applied to **planning** or **project development** studies. Depending on how long it has been since the release of the last decennial census, it may be increasingly appropriate to use ACS data, also available on the U.S. Census website, to prepare a demographic profile with intercensal survey estimates.

Arab American Yearbook

About	The *Arab American Yearbook* is a resource and referral guide for and about Arab Americans. It provides a listing of Arab American organizations (i.e., artistic, business, chamber of commerce, communications, cultural, entertainment, law enforcement, multipurpose, political action, professional, religious, research, community, health, and social services). Publications, in addition to radio and television stations, with their contact information are provided by state.
Source	http://www.arabamericanyearbook.com
Geography	National data organized at state and city levels.
Indicates	The *Arab American Yearbook* provides by state and city lists of Arab American organizations, publications, and radio and television stations.
Timeliness	The 2010/2011 edition is the most current available.
Pros	Useful source of information for identifying local resources to support public involvement strategies**.**
Cons	The *Yearbook* needs to be purchased annually to be current; however, the previous year's information can be downloaded for free. Other data sources available for purchase can be costly.
Value	The yearbook is a valuable **communications resource** for identifying community- and social services–based institutions, facilities, and possible partnering organizations to facilitate access and communications.

Asian American Yearbook

About	The *Asian American Yearbook* is a resource and referral guide for and about Asian Americans. It provides a listing of Asian Pacific American organizations (i.e., artistic, business, chamber of commerce, communications, cultural, entertainment, law enforcement, multipurpose, political action, professional, religious, research, community, health and social services, including AIDS, alcohol/drug center, child care, education, employment, family planning, gay and lesbian, health services, housing, human relations, immigration, information referral, legal assistance, seniors, special sports, voluntary service, women, youth, and students). Publications in addition to radio and television stations with their contact information are provided by state.
Source	http://asianamericanyearbook.com
Geography	National data organized at state and city levels.
Indicates	The *Asian American Yearbook* provides by state and city lists of Asian Pacific American churches, organizations, publications, and radio and television stations.
Timeliness	The 2010/2011 edition is the most current available.
Pros	Useful source of information for identifying local resources to support public involvement strategies**.**
Cons	The *Yearbook* needs to be purchased annually to be current; however, the previous year's information can be downloaded for free. Other data sources available for purchase can be costly.
Value	The yearbook is a valuable **communications resource** for identifying community- and social services–based institutions, facilities, and possible partnering organizations to facilitate access and communications.

Black Church Page

About	The Black Church Page is a portal to Black churches across the United States. It provides a church locator with contact information by city and state.
Source	http://www.theblackchurchpage.com
Geography	National data aggregated on the city and state level.
Indicates	List of churches whose congregations are primarily composed of Blacks.
Timeliness	It is unknown how often this data source is updated.
Pros	Provides a list and contact information for Black churches by city and state.
Cons	Although free, it requires registration and is not an inclusive list.
Value	This website is a **communications resource** for identifying churches whose membership is principally comprised of Black churchgoers. Building relationships with respected clergy and church leaders can foster trust and facilitate access and communications with traditionally underserved populations.

Census Hard to Count 2010

About	A project of the City University of New York's (CUNY) Mapping Service at the Center for Urban Research, CUNY Graduate Center. The website allows users to map the "hard to count" population for states, metropolitan areas, counties, and neighborhoods (census tracts). The U.S. Census Bureau identified 12 population and housing characteristics that were closely aligned with low mail return rates in the 2000 census. The Bureau combined these data into a hard-to-count (HTC) score. Tracts with lower scores were the easiest to enumerate, while tracts with higher scores were harder to count.
Source	http://www.censushardtocountmaps.org/
Geography	Data is displayed on the state, metropolitan area, county, and census tract level, among other geographies. When zoomed to tract-level maps, it is possible to get a detailed view of where the HTC population lives. The tract-level maps can help plan door-to-door efforts, phone banking, and other in-person outreach to locate and engage HTC populations. The mapping tool also provides links to detailed data for the specified area from the U.S. Census Bureau's American FactFinder website, detailed HTC statistics, and links to other organizations that are working on outreach for the 2010 census.
Indicates	The U.S. Census Bureau found correlations between the 2000 census HTC populations and higher concentrations of the following indicators: poverty, linguistic isolation, renters, unemployment, public assistance recipients, no high school diploma, recent movers, multi-family housing units, vacant housing units, crowded housing, no husband/wife families (i.e., nontraditional households), and no telephone in the home.
Timeliness	The data is based upon 2000 decennial census patterns.
Pros	Informative data series to support creative preplanning for the 2010 census based on factors believed to be influential in counting populations.
Cons	While suggesting factors that may constrain participation, the data set may have only limited practical utility for most transportation and community practitioners engaged in planning-related studies, developing public involvement strategies, and preparing a community profile.
Value	This website can supplement a **demographic profile** for **planning** or **project development** studies. It can be referenced by those responsible for preparing public involvement plans to ensure that events and activities engage traditionally underserved populations. The website is also an **advocacy resource** for those interested in avoiding a census undercount that would lead to underfunding of some programs and less resources for addressing needs of traditionally underserved populations.

Census Transportation Planning Package Data

About	The Census Transportation Planning Package (CTPP) is a set of special tabulations historically compiled from the decennial census and more recently from 3-year American Community Service (ACS) estimates for transportation planners. Census data on demographic characteristics, home and work locations, and journey-to-work (JTW) travel flows are key inputs to a variety of state, regional, and local transportation policy and planning efforts. Data also supports corridor studies, environmental analyses, and emergency operations management. The CTPP is divided into three parts: Part 1 contains residence-based data summarizing worker and household characteristics; Part 2 contains place-of-work–based data summarizing worker characteristics; and Part 3 contains JTW flow data. With the replacement of the decennial census long form with the ACS, future CTPPs will be based on the ACS. In late 2006, the American Association of State Highway and Transportation Officials (AASHTO) committed to a new multi-year CTPP consolidated purchase to begin incorporating ACS data into transportation planning practices.
Source	http://www.fhwa.dot.gov/ctpp/
Geography	In support of the CTPP, the U.S.DOT and the U.S. Census Bureau will seek to obtain 2010 census block equivalencies for traffic analysis zones (TAZs) from metropolitan planning organizations (MPOs) and state departments of transportation in 2011. The 2010 TAZ geography will then be added to the U.S. Census Bureau's file and these equivalency files will be used for smaller area tabulations (i.e., CTPP 5-year tabulation such as 2006 through 2010 ACS records).
Indicates	The CTPP will provide data on households (e.g., size, income, vehicles per household), workers (e.g., age, gender, occupations, earnings), JTW (e.g., mode to work, commuting time, work departure time), and workplaces (work locations, times of arrival at work).
Timeliness	Data will be updated annually with ACS data providing greater timeliness of information about populations. Sufficient sample sizes will also be required to rely upon the data (e.g., 5 years of data for areas with less than 20,000 persons and 3 years of data for places with less than 65,000 persons and more than 20,000 persons).
Pros	Allows for cross tabulation of worker flow data with demographic characteristics. The CTPP is a very important source of travel flow data for small- to medium-sized MPOs that cannot afford to conduct detailed travel surveys.
Cons	Data confidentiality restrictions may result in suppression of data, limiting the available sociodemographic information on commuting between origin and destination pairs that may affect data reliability.
Value	Cross-tabulated data from the CTPP can inform a **demographic profile** for planning or project development studies. For example, it can help reveal where transit-dependent populations reside, among other important indicators for identifying the presence of traditionally underserved populations. It is also important to understand where people work in relation to where they live and at what times of day that they commute to work. The resource can help public involvement practitioners arrange events at more convenient times when the members of the workforce would be able to attend.

Disability Statistics

About	Cornell University maintains an online resource for U.S. disability statistics. The estimates provided on the website are based on analyses of three different data sources: the American Community Survey (ACS), current population survey (CPS), and the 2000 census. Each data source has different strengths and uses different questions to identify disability. The *Americans with Disabilities Act of 1990 (ADA)* defines people with disabilities, in part, as those who have "a physical or mental impairment that substantially limits one or more major life activities" and mandates that people with disabilities be afforded legal protections and be provided with essential public services. The ADA recognizes that improvements in the environment (access to public transportation, workplace accommodations, etc.) can reduce disability and thus improve the inclusion of all people. Other federal laws that offer guidance on issues affecting people with disabilities include the *Rehabilitation Act of 1973*, the *Individuals with Disabilities Education Act*, the *Fair Housing Amendments Act of 1988*, and the *Telecommunications Act of 1996*.
Source	Statistics—http://www.ilr.cornell.edu/edi/disabilitystatistics/index.cfm Links - http://www.ilr.cornell.edu/edi/disabilitystatistics/links.cfm
Geography	U.S. as a whole and individual states
Indicates	The ACS provides definitions of disability as persons who may possess any of the following disabilities: hearing, visual, cognitive, ambulatory, self-care, and independent living. Definitions for each of these disabilities are provided. The ACS data source offers the most indicators, including Prevalence, Employment Rate, Not Working but Actively Looking for Work, Full-Time/Full-Year Employment, Annual Earnings, Annual Household Income, Poverty, Supplemental Security Income (SSI); Educational Attainment; Veterans Service-Connected Disability; and Health Insurance Coverage. The website offers useful links to government and international sources for disability statistics, children and disabilities, and other sites with disability research and technical assistance training resources.
Timeliness	The ACS data provides the most detailed and timely information on disabilities. The data includes 6 disability types and the indicators listed above. The CPS provides historical time series at the national and state levels from the 1980s for persons with a "work limitation disability" including prevalence, poverty, and several employment measures. Census 2000 estimates provide the most geographically specific information for small areas, but are based on data collected in 2000. The Census Bureau's American FactFinder website provides basic ACS based disability data.
Pros	The site provides a query tool and can be a quick means for getting specific state information on disabilities controlling for type of disability, age, race, Hispanic origin, and educational attainment. The site also efficiently supports comparative benchmarking of all states on a variety of ACS, CPS and U.S. Census Bureau data on disabilities. The website offers definitions and citations on disabilities.
Cons	The site does not provide detailed geographic information below the state level for ACS and CPS data. The U.S. census 2000 data is reported for state, metropolitan region, and county but not for the municipal, census tract, block group, or block level.
Value	This information tool is particularly suited for supporting **policy research** that is specific to the U.S. or individual states. The tool can inform practitioners preparing a **demographic profile** at the statewide level and, in limited cases, for the metropolitan level**.**

DiversityData Project

About	The DiversityData Project presents metropolitan area indicators of diversity, opportunity, quality of life, and health for various racial and ethnic groups. The project makes available a website for users who are interested in describing, profiling, and ranking metropolitan areas in terms of quality of life. The choice of indicators reflects research on urban inequality and health inequality, recognizing the existence of racial/ethnic disparities in health, education, and employment and housing opportunities across metropolitan areas. Indicators allow researchers, policymakers, and community advocates to compare metropolitan areas and to support advocacy for policy action and social change.
	The project is intended to challenge urban researchers, policymakers, and activists to define quality of life and health broadly—including opportunities and access to good schools, housing, jobs, wages, health and social services, and safe neighborhoods—to compare achievement across metropolitan areas while also facilitating continuous changes to keep metropolitan life healthy for all populations. Public policies may enhance or harm the well-being of diverse populations. Important policy areas include neighborhood integration, residential mobility, antidiscrimination in housing, urban renewal, school quality, and economic opportunities.
Source	http://diversitydata.sph.harvard.edu/
Geography	All U.S. Metropolitan Areas
Indicates	Profiles and rankings of metropolitan areas, tracking over 100 indicators related to population demographics and diversity; housing opportunities; education; health, residential integration, and neighborhood characteristics; economic opportunities; crime; and the physical environment. Several data sets allow metropolitan area comparisons by race.
Timeliness	Timeliness varies by data set, which ranges from annual to decennial census reports.
Pros	User-friendly interface provides rankings and mapping, enabling quick comparisons of the nation's metropolitan areas for a broad range of indicators. For example, it is a good source for metropolitan area data on foreign-born populations, migration, and segregation or isolation of populations by race/ethnicity, among a wealth of other indicators. The DiversityData Project is a particularly useful source for national or regional policy research and policy advocacy.
Cons	Data is only available at the metropolitan region level.
Value	This information tool is particularly suited for supporting **policy research** that is specific to one or more metropolitan areas. The indicators reported on this site can inform practitioners on several data elements relevant to preparing a **demographic profile** or quality-of-life assessment.

Eldercare Locator

About	The Eldercare Locator—a public service of the U.S. Administration on Aging—provides information for finding local agencies, in every U.S. community, that can help older persons and their families access home and community-based services such as transportation, meals, home care, and caregiver support services**.**
Source	http://www.eldercare.gov/Eldercare.NET/Public/index.aspx
Geography	National data is compiled for states, cities, counties, and zip codes.
Indicates	The Locator identifies local agencies that can help older persons and their families access home and community-based services like transportation, meals, home care, and caregiver support services. Information can be searched by zip code, city, or county.
Timeliness	Data is periodically updated.
Pros	Can provide useful information on organizations and institutions that serve senior populations.
Cons	Data is not comprehensive.
Value	The website can be a useful reference for identifying community- and social service–based institutions and possible partnering organizations to facilitate access and communications with elderly populations.

Food Stamp Program Map Machine

About	The Food Stamp Program (FSP) Map Machine is an interactive web-based mapping utility that illustrates program participation and benefit levels at the county level. The Map Machine illustrates per capita participation and per capita benefits. Tabular data can be generated by county or state. Data in the FSP Map Machine originates with the U.S. Department of Agriculture's Food and Nutrition Service and is compiled and prepared for public use by the U.S. Census Bureau and U.S. Bureau of Economic Analysis.
Source	http://maps.ers.usda.gov/fsp/
Geography	Data is available on the county and state level.
Indicates	Participation in the Food Stamp program, and receipt of Temporary Assistance for Needy Families (TANF) benefits.
Timeliness	Data has not been updated since 2002.
Pros	Useful mapping tool.
Cons	Out-dated (1999–2002), and only aggregates data on the county and state level.
Value	This website can be used to identify the presence of low-income populations for a **demographic profile**. However, the smallest geographic area for which this information is available is the county, and the data is becoming outdated. Understanding the spatial distribution of low-income populations can also be used for **policy research** and/or serve as an **advocacy resource** on poverty-related issues.

GreatSchools, Inc.

About	GreatSchools, Inc. is a national nonprofit whose mission is to inspire and to guide parents in becoming effective champions of their children's education at home and in their communities. GreatSchools, Inc. provides public school profiles in every state. Profiles include grade levels served, school type, enrollment, student composition by ethnicity and other important statistics about teachers and students.
Source	www.GreatSchools.org
Geography	National data available for states, cities, school districts and schools.
Indicates	Number of students by race and ethnicity, eligibility for the Free and Reduced Price Meal programs, and percentage of students who are limited-English proficient.
Timeliness	Data is generally 2 years old.
Pros	Provides lists of public schools by county, city, and school district.
Cons	Does not provide any private school information and lacks current information by approximately 2 academic years.
Value	This resource supports the preparation of a **demographic profile** to consider race and Hispanic origin, low income, and those who are limited English proficient. School districts draw enrolled students from geographic areas that may include places outside the study area, so it is important to proceed cautiously in generalizing from school or district-specific data. Schools often serve as locally accessible facilities for community events or as intermediary institutions for reaching parents; thus, the data set can be a valuable **communications resource**. Where limited English proficiency is of concern in engaging parents, school-age children may, in some cases, translate materials for the parents or serve as a conduit for communications.

Hispanic Yearbook

About	The *Hispanic Yearbook* is a resource and referral guide for and about Hispanic Americans. It provides a listing of institutions serving Hispanic populations (colleges and universities) and Hispanic organizations (artistic, business, chamber of commerce, communications, cultural, entertainment, law enforcement, multi-purpose, political action, professional, religious, research, community, health and social services, including AIDS, alcohol/drug centers, child care, counseling, education, employment, family planning, gay and lesbian, housing, human relations, immigration, legal assistance, seniors, sports, voluntary service, women, youth, and students). Publications in addition to radio and television stations with their contact information are provided by state.
Source	http://hispanicyearbook.com
Geography	National resource guide with data available at state and city levels.
Indicates	*The Hispanic Yearbook* provides a list of Hispanic churches, organizations, publications, and radio and television stations.

Timeliness	The 2010/2011 edition is the most current available.
Pros	Useful source of information for identifying local resources to support public involvement strategies.
Cons	The *Yearbook* needs to be purchased annually to be current; however, the previous year's information can be downloaded for free. Other data sources available for purchase can be costly.
Value	The yearbook is a valuable **communications resource** that can assist in identifying community- and social services–based institutions, facilities, and possible partnering organizations to facilitate access and communications.

Housing + Transportation Affordability Index

About	For people with low incomes, a key limiting factor for where they decide to live is, by definition, the cost of housing. But rent or mortgage payments do not represent the total cost of living in their home. Recent research shows that for the average household, the cost of transportation changes considerably based on the availability of transportation alternatives and the built environment of their community. In some cases, transportation costs can actually exceed the cost of housing. Tools exist for practitioners and planners interested in examining how their work on transportation and land use issues may influence neighborhood affordability or to better understand areas within a metropolitan region that exhibit higher or lower levels of "location efficiency." The *Housing + Transportation Affordability Index (H+T Index)* measures the true affordability of housing based on its location. Housing policy has traditionally deemed housing as "affordable" if it costs 30 percent or less of income. The *H+T Index* reexamines this assumption, in recognition that the true cost of housing is heavily influenced by location, and measures the transportation costs associated with place. The Center for Neighborhood Technology (CNT) has compiled housing and transportation cost data from 161,000 neighborhoods in 337 metropolitan areas of the United States, and aggregated their research into a publically accessible online database, the *Housing + Transportation Affordability Index.* CNT has also created a consumer-oriented transportation cost database that allows individuals to type their address into a free, online map to find out the average transportation costs associated with that location.
Source	Housing + Transportation Affordability Index—www.htaindex.org Average Transportation Costs by Location — http://abogo.cnt.org/
Geography	The *H+T Index* compiles data at the block group level within metropolitan areas and permits benchmarking against national data. The tool includes the capacity to do on-the-fly mapping of metropolitan areas, sub-areas, and block groups.
Indicates	The *H+T Index* has been developed as a more complete measure of affordability beyond the standard method of assessing only housing costs. By taking into account both the cost of housing as well as the cost of transportation associated with the location of the home, the *H+T Index* provides the true cost of housing decisions. Dividing these costs by *Representative Regional Incomes* illustrates the *Cost Burden* placed on a Typical Household by combined housing and transportation expenses. The data set also permits consideration of the "Regional Moderate Household," which is used to represent a working family in the selected metropolitan area. Income is based on 80 percent of the area median income (AMI) and enables the user to view areas that are affordable to the typical working family, who might have a more constrained household budget. It is also possible to screen for areas with exceptionally high combined housing and transportation cost burdens—for example, areas exceeding 45 percent of their area median income.
Timeliness	The *H+T Index* has been developed based upon a household transportation model that involves several multivariate regression analyses. The model explores the relationship between three dependent variables (auto ownership, auto use, and transit use) and eight main independent household and local environment variables. Neighborhood level (census block group) data on household income (both average and median), household size, commuters per household, journey to work time (for all commuters, transit commuters, and non-transit commuters), household density (both residential and gross), block size, transit access, and job access were utilized as the independent, or predictor variables. The initial specifications for this model are mostly founded upon relationships discovered utilizing the detailed sample data sets of the 2000 census.

Pros	The data can be reported to illustrate comparative neighborhood profiles of several key indicators—for example, autos per household, transit ridership, households per acre, household vehicle miles traveled (VMT), and monthly transportation costs. The data can allow ranking comparisons of neighborhoods by their total cost burden as percent of average median income. The tool can be used to assess policies and investments for their potential impact on affordability under the H+T standard. Projects that promise to lower the sum of housing and transportation costs through location efficiency can be encouraged such as multimodal transport alternatives, transit-oriented development, and the creation of more compact, walkable communities.
	Penny Wise, Pound Foolish is a report that accompanied the most current release of the H + T website. *H+T Metro Reports* are customized reports that have been produced by CNT on behalf of certain cities and regions. The *H+T Community Profiles* summarize H+T results in selected metropolitan areas along with a summary of the national level results.
Cons	Transportation costs have risen to become the second most costly item in the typical household budget. The *H+T Index* is an innovative tool for understanding how these relationships vary geographically and by urban form. The relationships explored by the household transportation model are provocative and important for policy, planning and advocacy for multimodal planning. Continuing research including periodic maintenance of the datasets and testing of the econometric relationships over time could bring further attention to the tool. Transportation and land use planners have yet to absorb the significance of the research or fully integrate such cost considerations into the social profiles or environmental justice analyses that are undertaken.
Value	The *H+T Index* suggests that the current pattern of sprawling development and lack of public transportation alternatives is not affordable for a large number of families or environmentally sustainable. These resources are useful for conducting **policy research, advocacy** for transit-dependent populations, low-income or transit-oriented development (TOD) strategies, and the preparation of **demographic profiles** for transportation or community planning.

Kids Count Data Center

About	The Kids Count Data Center, a product of the Anne E. Casey Foundation, reports more than 100 indicators of child well-being, including economic status, health, safety, and risk factors.
Source	http://datacenter.kidscount.org/
Geography	The Data Center contains data for the nation, states, counties, select cities, and school districts. The availability of data varies by indicator.
Indicates	Profiles and rankings of states, counties and cities for more than 100 indicators on demographics, education, economic well-being, family and community, health, safety and risky behaviors, and reading scores. Several indicators are available to compare by race and ethnicity.
Timeliness	Timeliness varies by data set and can range from annual to decennial census reports.
Pros	User-friendly interface provides rankings and mapping, enabling a comparison of states, counties, and cities over a broad range of indicators. Definitions of all indicators and descriptions of the data sources are provided. Contact information is also reported for the agencies compiling select administrative records data which can be useful for follow-up discussions with participating and informed social service organizations. Data sets are matched to other available resource links to examine related studies and research conducted by the foundations (e.g., research into immigration and refugees, child poverty, etc.).
Cons	Data availability at the county and city level varies by state. Delays in the timing of release or repeating of administrative records can be several years.
Value	This website can support the preparation of a **demographic profile**. However, data is more limited in some geographies and, in such cases, the use of this source would not be appropriate. As the data is not generally available for smaller geographic areas, it will often be appropriate to supplement this information with other data sources for project development–related studies. Information available from this site is particularly applicable for **policy research** on the social welfare of families and children and on poverty. The website offers the names of agencies providing data and is a good **communications resource** and a valuable reference tool and **advocacy resource** for identifying institutions and partner organizations who work on behalf of families and children.

Literacy Information and Communications Systems (LINCS)

About	The Literacy Information and Communication System, commonly referred to as LINCS, is a national dissemination resource and professional development topics, issues, and resources. LINCS provides high-quality resources geared toward improving instruction and delivery of services. Technical assistance is centered on assisting partner organizations and their members in using these resources as well as on providing training developed around these resources. LINCS uses three components: 1) Regional Resource Centers, 2) Resource Collections, and 3) Discussion Lists. The coordinated efforts of LINCS partners continue to provide a national infrastructure for the literacy community to access the most comprehensive collection of family and adult basic skills research, teaching/learning and training resources system providing information on a wide variety of literacy relevant.
Source	http://lincs.ed.gov/ http://literacydirectory.org/
Geography	LINCS maintains several resources for professionals including America's Literacy Directory, which connects those in need of services and information about literacy programs via an easy to use, extensive national database that allows searches at the local level (e.g., city and zip code).
Indicates	Organizations that work regularly with low-literacy and limited English proficiency populations.
Timeliness	Data is updated periodically.
Pros	Valuable source for information on the location of community-based organizations that are dedicated to working with low-literacy and foreign-born populations.
Cons	The website provides many informative reports on issues pertaining to low literacy, but does not include datasets that will directly identify the location and size of low-literacy populations in specific communities.
Value	Literacy is broadly viewed as more than just an individual's ability to read. Literacy is an individual's ability to read, write, speak in English, compute, and solve problems at levels of proficiency necessary to function on the job, in the family, and in society. The LINCS website is a professional development and **advocacy resource** for those interested in learning more about low-literacy issues faced by adults, adolescents, and children. Practitioners will find the website a useful **communications resource** for connecting with organizations that work with low-literacy populations and foreign-born populations taking English as a second language (ESL) classes.

Melissa Data Nonprofit Organization Lookup

About	Melissa Data is a private company specializing in address and phone verification, postal encoding, and data enhancements relevant to businesses. The website also provides a portal into a number of datasets free of charge. Of particular use in involving traditionally underserved populations is the Nonprofit Organization Lookup, which provides information about the 1.4 million registered nonprofit organizations located across the U.S.
Source	http://www.melissadata.com/lookups/np.asp
Geography	National dataset that allows queries at the zip code level.
Indicates	Nonprofit organizations that work with communities.
Timeliness	It is unknown how often this data source is updated.
Pros	Use of this dataset has the potential to identify a broader set of stakeholders than those that usually come to the table.
Cons	Organizations can only be searched by zip code.
Value	The resource offers a lookup feature to identify nonprofits that practitioners may find valuable as **communications resources** to help connect with institutions that can serve as informed, intermediary organizations for reaching traditionally underserved populations in public involvement activities.

MetroTrends (Urban Institute)

About	MetroTrends acts as a repository of datasets prepared by various federal agencies regarding neighborhoods. Many federal agency datasets are not used to their full potential because local users have difficulty navigating the published format, are not aware of what is available, or do not see how it can help their work. This source was designed to address these issues by providing free, well-documented data files with meaningful indicators of community well being.
Source	http://www.metrotrends.org/natdata/index.cfm
Geography	Prepared for differing geographies, the availability of which will depend on the data source.
Indicates	Data sources that can be accessed from the website include the following neighborhood indicators: arts and culture, crime, demographics, economic output, employment, food insecurity, health insurance, housing, nonprofits, unemployment, and wages. Available geographies will vary by source.
Timeliness	Because the website serves as a data repository, information is only as timely as the federal agency responsible for aggregating the data.
Pros	Provides an explanation for the utility of and website addresses for a variety of data sources.
Cons	Data is only as current as the federal agency responsible for its preparation.
Value	The website serves as an easy-to-use tool for practitioners to learn about different data sources available from federal agencies. Depending on the work undertaken by the practitioner, links provided on the website can be used to prepare a **demographic profile**, conduct **policy research,** and/or serve as an **advocacy resource**.

Migration Policy Institute—Immigration Data Hub

About	The Migration Policy Institute (MPI) is an independent, nonpartisan, nonprofit think tank in Washington, D.C. dedicated to analyzing the movement of people worldwide. MPI provides analysis, development, and evaluation of migration and refugee policies at the local, national, and international levels. It aims to meet the rising demand for pragmatic and thoughtful responses to the challenges and opportunities that large-scale migration—whether voluntary or forced—presents to communities and institutions in an increasingly integrated world. The MPI website includes a section entitled the Immigration Data Hub, which is devoted to immigration-related datasets.
Source	http://www.migrationinformation.org/DataHub/
Geography	National and state data in tabular formats. National maps of U.S. by counties.
Indicates	The Immigration Data Hub showcases the most current national- and state-level demographic, social, and economic facts about immigrants to the U.S. as well as stock, flow, citizenship, net migration, and historical data for countries in Europe, North America, and Oceania. The data hub provides information to track historical immigration trends, identify global cities that have the largest immigrant populations, and to learn more about refugee and asylum patterns. U.S. maps by state and county are also provided for a spatial understanding of settlement patterns and the concentration of various immigrant populations in the United States in 2000 and 2008.
Timeliness	Timeliness varies by the dataset. Data drawn from the American Community Survey (ACS) is relatively current—between 1 and 2 years old.
Pros	User-friendly interface provides rankings and mapping, enabling quick comparisons of the nation's states for a broad range of indicators, such as state data on foreign-born populations, immigration flows, issued visas, naturalization, refugees, asylum seekers, legal and unauthorized immigrant flows, and countries of origin. The website is a particularly useful source for national or regional policy research and policy advocacy on such topics as language access, state laws on immigration, and global patterns of migration.
Cons	Website provides prepared maps and tables but only supports limited querying of datasets by country of origin, state, and region, utilizing ACS 2008 or census 2000 data. Limited amount of data available at sub-state levels (e.g., counties).
Value	Information available from this resource is particularly useful for **policy research**. A better understanding of migration patterns can help the practitioner design culturally-sensitive outreach strategies, making the website a potentially valuable **communications resource.** Understanding migration patterns can be invaluable for considering the unique and varied needs of foreign-born populations, including limited English proficiency populations.

Mobile Home Park Store

About	Mobile Home Park Store is a private company specializing in buying and selling mobile home parks nationwide.
Source	http://www.mobilehomeparkstore.com/list.htm
Geography	National data aggregated on the city and state level.
Indicates	Can help identify the presence of low-income, minority, and elderly populations.
Timeliness	It is unknown how often this data source is updated.
Pros	Provides a national directory of manufactured home communities by city and state with contact information and number of units.
Cons	The list is not inclusive.
Value	While the list is not inclusive, information provided in it can be used by practitioners to better understand the spatial distribution of some traditionally underserved populations. This understanding can be used as a **communication resource** to design approaches for engaging populations residing in these communities.

Modern Language Association (MLA) Language Map and Data Center

About	The MLA is a leader in the advocacy for humanistic learning, particularly the study of languages and literatures, and defense of higher education. Founded in 1883, the MLA is chartered "to promote study, criticism, and research in the more and less commonly taught modern languages and their literatures to further the common interests of teachers of these subjects." The MLA Language Map and its Data Center provide information about more than 47,000,000 people in the United States speaking languages other than English at home. A recent survey of higher education institutions conducted in 2009 indicates where languages other than English are taught.
Source	http://www.mla.org/
Geography	National data aggregated on the city, county, and state level.
Indicates	The number, ages, and percentage of speakers of each language by state, county, city, town, or zip code according to the 2000 census. The Data Center also includes information from the 2005 American Community Survey (ACS), which allows for comparison between 2005 and 2000 data. Such a comparison can be made for 30 languages at national, regional, and state levels. In addition, users can add to each map the colleges and universities that teach the selected language and can display fall 2009 enrollments for the language by undergraduate and graduate levels.
Timeliness	Data is occasionally updated.
Pros	Easy to access Language Maps help identify the number of speakers by zip code, town, city, or county for the top 30 languages spoken. The Data Center also compares speakers of different languages by three age groups (e.g., 5 to 17, 18 to 64, and 65 and over) and compares Americans who speak other languages by their ability to speak English. This is a good source of data for quick identification of foreign cultures and their settlement patterns within a region.
Cons	Relies almost exclusively on U.S. census information.
Value	This resource is valuable for conducting **policy research** on the spatial distribution of foreign-born and limited English proficiency (LEP) populations. It can be used to support preparation of a **demographic profile** and **communications resource** for planning public involvement activities to ensure that they are sensitive to potential cultural differences and language barriers.

National Association for the Advancement of Colored People

About	The National Association for the Advancement of Colored People (NAACP) is a nonprofit organization whose mission is to ensure the political, educational, social, and economic equality rights of all persons and to eliminate racial hatred and discrimination.
Source	http://www.naacp.org/content/main/
Geography	National data is aggregated at the city level.
Indicates	Minority populations.
Timeliness	It is unknown how often this data source is updated.
Pros	Use of this dataset has the potential to identify a broader or new set of stakeholders than those that usually come to the table.

Cons	Information about local units is provided by state by their unit number rather than alphabetically by the city in which they are located. Phone and street information is missing for many units.
Value	The website serves as a **communications resource** that references key institutions and organizations that practitioners may wish to contact for information or to partner with on events or activities. The website is also an **advocacy resource**, providing information about various topics, including economic opportunity and education that are critical to the NAACP's mission.

National Black Chamber of Commerce

About	The National Black Chamber of Commerce (NBCC) is a nonprofit, nonpartisan, nonsectarian organization founded to economically empower and sustain Black communities in the United States through entrepreneurship and capitalistic activity and via interaction with the Black Diaspora. The NBCC has 190 affiliated chapters across the U.S. as well as international affiliate chapters.
Source	http://www.nationalbcc.org
Geography	Has 190 affiliates across the United States.
Indicates	Black Businesses.
Timeliness	It is unknown how often this data source is updated.
Pros	This dataset may offer some potential to draw in a broader or new set of stakeholders than those that usually come to the table.
Cons	Does not identify its affiliates.
Value	The NBCC website is an **advocacy resource** seeking to advance minority and disadvantaged business contracting opportunities.

National Center for Education Statistics

About	The U.S. Department of Education's National Center for Education Statistics (NCES) is the primary federal entity for collecting and analyzing data related to education.
Source	Home Page—http://www.nces.ed.gov Data Tools—http://nces.ed.gov/datatools/index.asp?DataToolSectionID=4 Low Literacy Estimates: http://nces.ed.gov/naal/estimates/index.aspx
Geography	National dataset that can be queried on the state, core-based statistical area, metropolitan statistical area, county, school district, or school level. Adult low-literacy estimates are available at the state and county level.
Indicates	Low-income, minority, and limited English proficiency (LEP) student populations are reported. NCES also prepares an estimate of the percentage of adults lacking basic prose literacy skills (BPLS) for all states and counties in the United States in 1992 and 2003, derived from statistical models of adults lacking BPLS and data samples from the 2003 National Assessment of Adult Literacy (NAAL) and the 1992 National Adult Literacy Survey (NALS). Based on the results of these models, NCES derived BPLS literacy estimates for all states and counties in the United States and produced user-friendly tables to compare literacy estimates across states or counties and across years.
Timeliness	Data is generally 1 to 2 academic years behind.
Pros	Use of this dataset has the potential to identify the number of students by race and ethnicity and those eligible for the Free and Reduced Meal Programs in each public and many private schools by city, county, and school district. The address for each school is listed. Also includes information about public libraries by city and county. Low-literacy population estimates for states and counties are based upon the national surveys of adult literacy that are tied to county characteristics, such as levels of educational attainment and race/ethnicity distributions.
Cons	School-related data is generally 2 academic years behind. BPLS literacy estimates for states and counties are founded upon periodic national surveys of adult literacy. The estimates are predictions of how the adults in a state or county would have performed had they been administered the prose literacy assessment. Users of the results are advised to recognize that the margins of error can be large that are associated with these model-based estimates of adults lacking BPLS. Without other available literacy assessment data for individual states and counties, the estimates offer a general picture of literacy for all states and counties.

Value	This resource can be used in the preparation of a **demographic profile**. Information provided as part of these statistics—which is listed by school—includes the racial and ethnic composition of the student body, the number of students receiving either free or reduced lunches, and in some cases, migrant students. Such information can help identify the presence of minority and/or low-income populations in a community. Information about students receiving free or reduced lunches can be used for **policy research**.

National Center for Health Statistics

About	The National Center for Health Statistics (NCHS) is maintained by the Centers for Disease Control and Prevention (CDC) and is a valuable source of information about America's health. As the nation's principal health statistics agency, NCHS compiles statistical information to guide actions and policies to improve the health of the nation. It is a unique public resource for health information and a critical element of public health and health policy.
	Health statistics can document the health status of the population and important subgroups, including an assessment of the disparities in health status and use of health care by race or ethnicity, socioeconomic status, region, and other population characteristics. NCHS collects data from birth and death records, medical records, interview surveys, and through direct physical exams and laboratory testing. The NCHS provides links on the CDC website to numerous other resources including reports and planning guidance on benefits of healthy places and physical activity.
Source	Home Page—http://www.cdc.gov/nchs/about.htm Fast Stats — http://www.cdc.gov/nchs/fastats/default.htm State and Territorial Data—http://www.cdc.gov/nchs/fastats/map_page.htm Healthy Places—http://www.cdc.gov/healthyplaces/factsheets.htm Physical Activity –http://www.cdc.gov/physicalactivity/professionals/data/index.html
Geography	National, state and territories, metropolitan and micropolitan areas.
Indicates	Significant source of information on a variety of health-related data, including fertility and mortality, asthma, cardiac arrest, obesity and overweight populations, injuries, motor vehicle deaths, physical activity, among other data.
Timeliness	The primary considerations on the timely release of NCHS data are 1) protecting the confidentiality of respondents; 2) the availability of resources required to create public-use files and tabulations; and 3) data quality, analytic, or data processing issues that may limit the ability to make public-use data and/or tabulations available.
Pros	NCHS makes available downloadable public-use data files with documentation and questionnaires from NCHS surveys and data collection systems. The Selected Metropolitan/Micropolitan Area Risk Trends (SMART) project uses the Behavioral Risk Factor Surveillance System (BRFSS) to analyze data from select metropolitan and micropolitan statistical areas (MMSAs) with 500 or more respondents. BRFSS data can be used to identify emerging health problems, establish and track health objectives, and develop and evaluate public health policies and programs.
Cons	The relationship between environmental stressors—transportation, air quality and urban form, among others—and public health outcomes for various socio-demographic populations is complex. Practitioners and advocates should recognize the importance of public health training when interpreting data or considering studies such as health impact assessments that explore this nexus.
Value	Data compiled through the use of this resource is helpful when exploring public health impacts of various transportation plans and projects, or disparities in outcomes to different populations who may be at risk from the cumulative effects of past siting decisions. The information can be useful in a comprehensive **demographic profile** of communities for **planning** or **project development** studies, **policy research,** and as an **advocacy resource** for select institutions and organizations.

National Congress of American Indians

About	The National Congress of American Indians (NCAI) works to inform the public and Congress on the governmental rights of American Indians.
Source	http://www.ncai.org
Geography	National data aggregated at tribe level.
Indicates	American Indian/Alaska Native populations.
Timeliness	It is unknown how often this data source is updated.
Pros	Provides a list of federally and state recognized Indian tribes, national and regional Indian organizations, federal government contacts, associate organization members, and Alaska regional corporations. Contact information, and, in some instances, website listings are provided for each.

Cons	Provides information alphabetically by group or organization but not by state.
Value	This website can help practitioners conduct **policy research** regarding American Indian and Alaska Native populations. The website acts as a clearinghouse for policy issues related to emergency preparedness, community development, land and natural resources, among many others. It may also prove beneficial as a **communication resource** for those conducting public involvement activities since tribal contacts are often listed. When conducting public involvement activities with tribes, it is essential to communicate and coordinate all efforts with a tribal liaison.

National Council of La Raza

About	The National Council of La Raza (NCLR) is the nation's largest Hispanic civil rights and advocacy organization. This nonprofit works to improve opportunities for Hispanic Americans in 41 states, Puerto Rico, and the District of Columbia. It has a network of nearly 300 affiliated community-based organizations.
Source	http://www.nclr.org
Geography	National data aggregated on the state level.
Indicates	Hispanic and limited English proficiency (LEP) populations.
Timeliness	It is unknown how often this data source is updated.
Pros	Provides a list of affiliates by state and includes contact information.
Cons	Affiliates are listed in alphabetical order and not by state or other location.
Value	This website can be a **communications resource** for practitioners designing public involvement activities in communities with a significant Hispanic population. Since many of the affiliated organizations are involved with education and English literacy, these groups could be contacted to facilitate engagement with this segment. The website is also an **advocacy resource** for those seeking to understand and advance the opportunities and rights of Hispanics in several issues and program areas central to the NCLR's mission, including civil rights, children and youth, education, health and nutrition, economy and workforce, and immigration.

National Neighborhood Indicators Partnership

About	The National Neighborhood Indicators Partnership (NNIP) is a collaborative effort of the Urban Institute and its local partners to further the development and use of neighborhood-level information systems in local policy making and community building. To become an NNIP Partner, an institution must demonstrate that the following is central to its mission: (1) build and operate an advanced information system with integrated and recurrently updated information on neighborhood conditions in its city, (2) facilitate and promote the direct practical use of data by community and city leaders in community building and local policy making, and (3) give emphasis to using information to build the capacities of institutions and residents in distressed neighborhoods. The candidate must either have already built such a system and be operating it in this manner or have made demonstrable progress toward doing so.
Source	http://www2.urban.org/nnip/
Geography	Neighborhood-level data is compiled for approximately 30 metropolitan or rural areas throughout the United States by partners who are nonprofits, foundations, government, or university research centers. Data may be compiled on the address or parcel level, school, census block group or tract, zip code, city or county depending on the partner and the availability of small area details by indicator.
Indicates	Neighborhood-level information systems vary by participating partner and region, but may include census demographics, vital health statistics (e.g., births, pre-natal weights, birth weight, deaths by cause), safety/crime statistics, public assistance, health care, employment, housing assistance, education, property transactions (e.g., building permits or home foreclosures), and voter registration data sets.
Timeliness	Neighborhood-level information systems seek to supplement census data with other administrative records data that can be updated frequently (generally annually) but some data sets can be updated quarterly or even more often. Data sources are updated more or less often depending on the participating partner and region.
Pros	Non-census administrative records are crucial resources that can provide timely, locally relevant data that can lead to a better understanding of the unique needs and conditions of low-income, minority, and other traditionally underserved communities. Community leaders who possess an in-depth familiarity with neighborhood indicator data sets are better positioned to influence policy making and advocate for solutions that fit community needs.

Cons	Only available for select metropolitan regions.
Value	Data available from this resource can be helpful for someone conducting a **demographic profile**. Information provided in available publications from the website provides a thorough discussion of different ways in which to prepare a detailed demographic profile, some of which may be more appropriate for more complex projects. Case studies demonstrate the success of employing such techniques. Publications can also be used to conduct **policy research** and would be helpful as an **advocacy resource** for groups conducting grassroots organizing.

National School Lunch Program Data

About	The National School Lunch Program (NSLP) is a federally-assisted meal program operating in public and nonprofit private schools and residential child care institutions. Children from families with incomes at or below 130 percent of the poverty level are eligible for free meals. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced price meals, for which students can be charged no more than 40 cents. The program was established under the National School Lunch Act, which was signed by President Harry Truman in 1946.
Source	Published by local boards of education, this data can be located online, if available, or by contacting the board of education. http://www.fns.usda.gov/cnd/lunch/
Geography	National program with data reported on the school district level or for individual schools that participate in the program.
Indicates	Eligibility data are reported at the school-level and not the household's residential location. Provides timely, administrative records reporting low-income households.
Timeliness	Data is updated annually.
Pros	Up-to-date and accurate source of information.
Cons	School district geographies are politically drawn and do not correspond with census geographies.
Value	This resource can be used in the preparation of a **demographic profile**. Information, which is listed either by school district or individual school, can help identify the presence of low-income populations.

National Transit-Oriented Development Database

About	The National Transit-Oriented Development (TOD) Database is a tool for planners, developers, government officials, and academics. TOD is often defined as higher-density mixed-use development within walking distance—or a half mile—of transit stations. The TOD Database includes demographic and economic information for areas surrounding each fixed guideway transit station in the United States. The tool compiles detailed information for a half-mile radius around 4,000 stations. It provides 40,000 variables worth of information for the area surrounding the transit stations individually and as a whole, and it provides information for the metropolitan area of the transit shed. The original version of the TOD Database was funded by U.S. Department of Housing and Urban Development (HUD) in 2004; it is currently funded by the Federal Transit Administration.
	The TOD Database is a project of the Center for Transit-Oriented Development (CTOD), a nonprofit dedicated to providing best practices, research and tools to support market-based transit-oriented development. CTOD partners with public and private sectors to encourage the development of TOD projects around transit stations that maximize their development potential and improve the feasibility of transit systems. CTOD has been funded by the federal government to serve as a national clearinghouse for best practices in TOD, to help develop standards for TOD as well as guidance for transit system planning with the goal of maximizing ridership through planning and development.
Source	National TOD Database—www.toddata.cnt.org
Geography	The National TOD Database aggregates data and creates a statistical output for individual transit zones, selected groups of transit zones, and transit regions. Their website invites users to view maps of the transit region, select stations of interest, and choose data reports from a menu. Users may view snapshots of data, link to standard reports with additional data, or create customized reports.

Indicates	Data on car ownership, journey to work, and other demographic information provide the basis for collaborating with local governments on parking studies, transportation demand management (TDM) strategies, circulation plans, or redevelopment and land use plans. Jobs and workers data within a transit zone by age, sector, income, and commute pattern are also available. Station area profiles report the number of households within one-half mile, median household income, age distributions, educational attainment, and auto ownership, which can be used to market development opportunities to potential developers, or to conduct redevelopment plans for areas or sites in the vicinity of TOD.
Timeliness	Household and demographic data is from the 2000 U.S. census, 2002 to 2007 Local Employment Dynamics (LED) on residence and workplace characteristics, quarterly workforce indicators, where available, and journey to work information from the Census Transportation Planning Package (CTPP). Recent updates also include the addition of housing and transportation affordability data from the Center for Neighborhood Technology's *Housing and Transportation (H+T) Affordability Index*. Transit station location files in geographic information systems (GIS) format have been regularly inventoried which enables tracking of New Starts projects as they progress through the FTA timelines. Future upgrades are planned and include the addition of newly released American Community Survey data and additional national datasets on affordable housing and brownfields.
Pros	The TOD Database provides a valuable, free tool for planners, developers, transit agencies, elected officials, advocates, and academics, among others, to study, plan, develop, or advocate for TOD in U.S. cities. The TOD database is well documented for users. Metropolitan Planning Organizations (MPOs) and local governments can use the database to prepare land use and transportation plans that target infill development and support existing communities. By merging vacant or underutilized land files with the data from the TOD Database, MPOs and local governments can establish priority development areas that can best support future growth without costly infrastructure investments. Stations more suitable for mixed-use residential development can be differentiated from stations only suitable for industrial or commercial development by highlighting residential or job densities and through analysis of the potential for two-way flows and multiple destinations along a corridor. Those conducting academic or market research can assess attributes that contribute to station ridership, among other issues. Interactive mapping features can support public outreach efforts to make the case for transit in a new area by showing the similarities between an existing transit system and its demographics and the targeted area.

Researchers and advocates can also use data in their work at the local and/or national level on transit access issues related to affordable housing, minority, low-income, elderly, or disabled persons. For example, housing and transportation cost data can be used to compare affordability within and across regions. The tool can support research on changes in the socioeconomic composition of neighborhoods around transit stations—for example, to evaluate whether gentrification is a concern—which can affect the core ridership by adversely affecting populations among the most transit dependent. |
| **Cons** | As a large database, the tool will require a commitment of resources over the long term to maintain the integration of datasets in a timely fashion. Although there are plans to integrate the American Community Survey datasets into the tool, the current population demographics do not yet reflect post-2000 census data information. The TOD Database includes datasets that are available nationally, but there has been some interest for the tool to be sufficiently flexible to incorporate more local data sets. |
| **Value** | These resources are useful for conducting **policy research, advocacy** for transit-dependent populations, low-income or TOD populations, and the preparation of **demographic profiles** and analytical research for transportation or community planning**.** |

National Urban League

About	The National Urban League is a nonprofit historic civil rights organization dedicated to economic empowerment to elevate the standard of living in historically underserved urban communities. The organization maintains a network of more than 100 local affiliated organizations in 36 states and the District of Columbia that are committed to 1) Education and Youth Empowerment (i.e., education of all children by providing access to early childhood literacy, after-care programs, and college scholarships), 2) Economic Empowerment (i.e., financial literacy and employability of adults through job training, home ownership, and entrepreneurship), 3) Health and Quality-of-Life Empowerment (i.e., community wellness through a focus on prevention, including fitness, healthy

	eating, and access to affordable healthcare), 4) Civic Engagement and Leadership Empowerment (i.e., encouraging people to take an active role to improve quality of life through participation in community service projects and public policy initiatives), and 5) Civil Rights and Racial Justice Empowerment (i.e., seeking equal participation in all facets of American society through proactive public policies and community-based programs).
Source	http://www.nul.org/in-your-area/affiliate-map
Geography	Searchable national database of local affiliates, including contacts that can be sorted at the zip code level.
Indicates	Listing of National Urban League organizations and their program areas, which are predominantly focused on the advancement of Black populations.
Timeliness	It is unknown how often this data is updated.
Pros	Provides contact information for local affiliates throughout the United States.
Cons	Most local affiliates are concentrated in the Midwest and along the East Coast with less coverage in the Western and Mountain states.
Value	This resource is useful for conducting **policy research,** advocacy for minority populations**,** and can be used as a **communications resource** for coordinating public involvement activities. Depending on the scale and impact of a proposed project, local affiliates may be contacted to discuss ways that they could assist in community engagement, review challenges they have experienced, and possibly build partnerships to design and conduct public involvement activities. Information found on the website can function as an **advocacy resource** for institutions and other organizations.

OnTheMap

About	*OnTheMap* is produced by the U.S. Census Bureau in cooperation with states under the Local Employment Dynamics (LED) partnership. *OnTheMap* Version 4 is made possible through the support of the Employment and Training Administration at the U.S. Department of Labor. This program provides detailed maps showing where workers reside and are employed as well as companion reports on age, earnings, industry distribution, and local workforce indicators. A total of 47 states are currently featured showing data for 7 years (2002 through 2010).
Source	OnTheMap—http://lehdmap.did.census.gov/ LED Program—http://lehd.did.census.gov/led/
Geography	Employment data used for *OnTheMap* are derived from Unemployment Insurance Wage Records reported by employers and maintained by each state for the purpose of administering its unemployment insurance system. States assign employer locations, while workers' residence locations are assigned by the U.S. Census Bureau using data from multiple federal agencies. Age, earnings, and industry profiles are compiled by the U.S. Census Bureau from state records and are supplemented with other Census Bureau source data. Final compilations and confidentiality protection are performed by the Census Bureau.
Indicates	Identifies broad categories of earnings, age, and industry for workers by the location of establishment and the labor commuting shed from the workplace location.
Timeliness	Data is about 1 year behind, but updated annually and currently contains data from 2002 through 2010.
Pros	The program provides up-to-date, interactive, and attractive outputs. There are multiple geographic selection options for determining the area of analysis including county, ArcGIS layer, freehand, ring/buffer, donut, and plume.
Cons	The LED data tables are limited in detail. The Longitudinal Employer-Household Dynamics (LEHD) database, however, which is the source of the LED, contains additional detail that government and university researchers can access. The LEHD database contains confidential longitudinal-linked employer–household microdata. This integrated microdata is generated by the Census Bureau using data collected for federal and state administrative purposes as well as from confidential Census Bureau surveys and censuses. Research projects at LEHD are carried out both by LEHD permanent staff and by research associates using a secure network of eight Research Data Centers (RDCs) administered by the U.S. Census Bureau's Center for Economics Studies. The LEHD can support more intensive research, for example, on low-wage workers' access to suitable jobs over time from investments in transport facilities (e.g., transit stations or highway interchanges).

Value	The LED resource provides a valuable, relatively timely dataset for examining the labor commute shed and the earnings profile of workers, which can supplement a **demographic profile.** The dataset can assist practitioners to identify major origin–destination pairs for transportation planning purposes.

100 Black Men of America, Inc.

About	100 Black Men of America, Inc. is a nonprofit organization whose mission is to improve the quality of life within Black communities and enhance educational and economic opportunities for all Blacks. Four program areas have been established to inspire youth, their families, and members from the communities in which they live to develop self-reliance. Designed to achieve both immediate and long-term goals and to strive for excellence, these programs include mentoring, education, health and wellness, and economic development.
Source	http://www.100blackmen.org/
Geography	The organization reports 116 chapters spread across the United States.
Indicates	Leadership of organization chapters are dedicated to enhancing opportunities for Blacks.
Timeliness	It is unknown how often this data source is updated.
Pros	Contact information is provided for their 116 chapters within the United States.
Cons	Some of the web links for individual chapters are broken. The extent of information available on chapter sites varies by chapter.
Value	The website offers a listing of affiliate chapters that can serve as **communications resources** in select communities to understand local concerns and develop partnering arrangements to reach and engage affected parties.

Public Use Microdata Sample (PUMS) Files

About	Public Use Microdata Samples (PUMS) are computer-accessible files containing records for a sample of housing units. This includes information on the characteristics of each housing unit and the people residing within it. Within the limits of sample size and geographical detail, the files enable users to prepare any tabulations they may require. Identifying information has been removed to protect the confidentiality of respondents. Samples can be extended to an analysis of the whole United States for many purposes and have been available with past decennial censuses. PUMS files from the American Community Survey (ACS) show a wide range of population and housing unit responses collected on individual ACS questionnaires. With the responses given in these files, it is possible to design tabulations to address research needs, providing greater flexibility than the standard tables available through the ACS. Starting with the 2005 PUMS, the number of housing unit records contained in a 1-year PUMS file is about 1 percent of the total in the nation or approximately 1.3 million records. The first 3-year PUMS file—for the period 2005 to 2007—contains records for about 3 percent of housing units or about three times as many as the 1-year file.
Source	http://www.census.gov/main/www/pums.html http://www.census.gov/acs/www/Products/PUMS/index.htm
Geography	The ACS publishes single-year data for all areas with populations of 65,000 or more. Areas with populations less than 65,000 will require the use of multi-year estimates to reach an appropriate sample size for data publication. In 2008, the U.S. Census began releasing 3-year estimates for areas with populations greater than 20,000. The first 5-year estimates for all census tracts and block groups began in 2010. The multi-year estimates will be updated annually, with data published for the largest areas in 1-, 3-, and 5-year formats, and for those meeting the 3-year threshold in both 3- and 5-year formats. Even the lesser populated communities will be included in ACS data based on 5-year estimates annually.
Indicates	Low income, minority, language spoken at home, country/place of birth, zero-car, elderly, and disabled populations, among other variables available from the ACS.
Timeliness	The 1-Year estimates of the ACS are updated annually. As the time series of the estimates gets longer—for example, a 3-year or a 5-year timeframe, the less current some of the information will be in the file. Although over time it provides a robust, large microdata sample to enable detailed cross tabulations.

Pros	Microdata users often want to look at relationships among variables not shown in the standard products provided by the U.S. Census Bureau. PUMS enables data users to tabulate data according to the specific research questions they want to investigate. For example, how does the journey to work differ for foreign-born and native-born residents?
Cons	Use of the PUMs microdata requires a willingness to wade into detailed technical documentation and a general familiarity with weighting procedures, databases, and statistical programs.
Value	This rich data resource is particularly valuable for **demographic profile** analyses, particularly policy research and planning studies focused on the relationships between detailed socioeconomic characteristics—for example, income, age, sex, race, foreign-born status, language spoken—and the journey to work (e.g., mode, time of day, distance, etc.).

RadioBlack.Com

About	RadioBlack.Com provides a collective guide to radio stations around the world with radio formats catering to the Black, Urban, and African American markets. Such radio stations often include music formats such as gospel, hip hop, rap, R&B, jazz, blues, soul, reggae, Caribbean, soca, reggae dancehall, go-go, African, and talk.
Source	http://www.radioblack.com
Geography	National data searchable on the city and state levels.
Indicates	Identifies potential media resources to publicize events and support public involvement activities.
Timeliness	It is unknown how often data is updated.
Pros	Provides station locations by state and city with a phone listing for each.
Cons	Email contacts are not provided for all stations.
Value	This website is a **communications resource**. Identifying local media outlets catering to minority populations can be a powerful tool when attempting to reach and engage traditionally underserved populations.

Refugee Council USA

About	Refugee Council USA (RCUSA) is a coalition of U.S. nongovernmental organizations focused on refugee protection. RCUSA provides advocacy on issues affecting the rights of refugees, asylum seekers, displaced persons, victims of trafficking, and victims of torture in the United States and around the world. The coalition serves as a consultative forum for national refugee resettlement and processing agencies as they formulate common positions, conduct their relations with the U.S. government and other partners, and support and enhance refugee service standards. Historically, the U.S. has maintained a policy of admitting refugees of special humanitarian concern into the country. Following the admission of over 250,000 displaced Europeans, the first refugee legislation was enacted by the U.S. Congress. This legislation, the Displaced Persons Act of 1948, provided for the entry of an additional 400,000 displaced Europeans. Persons fleeing Communist regimes from Hungary, Poland, Yugoslavia, Korea and China, and Cuba were admitted under later laws. As waves of refugees arrived in the United States, they have been assisted in their resettlement by private ethnic and religious organizations. In 1975, the U.S. resettled hundreds of thousands of Indochinese refugees through an ad hoc Refugee Task Force with temporary funding. Later, Congress passed the Refugee Act of 1980, which incorporated the United Nations definition of "refugee" and standardized the resettlement services for all refugees admitted to the United States The Refugee Act provides the legal basis for today's Refugee Admissions Program and is administered by the Bureau of Population, Refugees, and Migration (BPRM) of the Department of State in conjunction with the Office of Refugee Resettlement in the U.S. Department of Health and Human Services (HHS) and offices in the U.S. Department of Homeland Security (DHS). There are at least 10 U.S. Refugee Resettlement Agencies that help newly arrived refugees settle into local communities, including Church World Service, Ethiopian Community Development Council, Episcopal Migration Ministries, Hebrew Immigrant Aid Society, International Rescue Committee, Kurdish Human Rights Watch, Lutheran Immigration and Refugee Service, U.S. Committee for Refugees and Immigrants, United States Conference of Catholic Bishops/Migration and Refugee Services, and World Relief.

	Each year, the President of the United States, after consulting with Congress and appropriate agencies, determines the designated nationalities and processing priorities for refugee resettlement for the upcoming year. The President also sets annual ceilings on the total number of refugees who may enter the U.S. from each region of the world. Since 1975, the U.S. has resettled over 3 million refugees, with annual admissions figures ranging from a high of 207,000 in 1980 to a low of 27,110 in 2002. Since 1980, the average number admitted annually is 98,000.
Source	http://www.rcusa.org/
Geography	National information on refugee resettlement organizations.
Indicates	Contains invaluable links to resettlement resources, research tools/information sources, centers and research institutes, and member and partner organizations that are regularly engaged in refugee issues and resettlement.
Timeliness	It is unknown how often data is updated.
Pros	Contains numerous links to organizations throughout the United States that could be contacted to support efforts in understanding the needs of unique refugee communities.
Cons	Does not include a searchable database of organizations by state or zip code.
Value	Information provided by this agency is generally used for **policy research** and as an **advocacy resource**. The information can be a **communications resource** for practitioners seeking to connect to research institutions, advocacy groups, and resettlement organizations that regularly work with client populations and that could serve as a trusted intermediary when seeking to establish events or better understand the needs of refugees.

Salvation Army

About	The Salvation Army, an international movement, is an evangelical part of the universal Christian church.
Source	http://www.uss.salvationarmy.org/uss/www_uss.nsf/
Geography	National data on nearest facility locations is searchable by zip code.
Indicates	Low-income, elderly, and disabled populations are often helped by the organization.
Timeliness	It is unknown how often data is updated.
Pros	Provides a list of centers, services offered at each center, and contact information.
Cons	List is not inclusive.
Value	The Salvation Army website is a **communications resource** for practitioners. Salvation Army staff is likely to be well informed about the populations it serves and other local social service resources that are accessed by its clientele.

Small Area Income and Poverty Estimates

About	The Small Area Income and Poverty Estimates (SAIPE) were created by the U.S. Census Bureau, with support from other federal agencies, to provide more current estimates of selected income and poverty statistics. The website offers interactive maps as well as downloadable data sets for specific indicators related to poverty.
Source	http://www.census.gov//did/www/saipe/
Geography	National data set available on the school district, county, and state levels.
Indicates	The presence of low-income populations for small geographic areas.
Timeliness	Estimates for 2009 were released in December 2010. Estimates combine data from administrative records, intercensal population estimates, and the decennial census with direct estimates from the American Community Survey that provide consistent and reliable single-year estimates. Data is available for various years beginning in 1995. All data sets are available annually beginning in 1999.
Pros	Provides aggregated, time series data for specified geographies. This is a good source to be used between decennial censuses and for areas where American Community Survey 1-, 3-, and 5-year estimates are not currently available. Interactive maps are available showing data on the school district, county, or state level. Available poverty statistics include all ages in poverty, under age 18 in poverty, ages 5 to 17 in families in poverty, under age 5 in poverty (states only), and median household income.
Cons	The smallest geographic area for which data is available is the county or school district.
Value	Data provided on this site can be used by practitioners to better understand the spatial distribution of low-income populations. This is a helpful source for areas where the American Community Survey is not providing current poverty estimates. Available data is useful for practitioners conducting **policy research, advocacy** for low-income populations, and the preparation of **demographic profiles** for transportation planning.

Southern Poverty Law Center

About	The Southern Poverty Law Center (SPLC) is a nonprofit civil rights organization dedicated to fighting hate and bigotry in addition to seeking justice for the most vulnerable members of society. Founded by civil rights lawyers in 1971, the SPLC tracks and exposes the activities of hate groups. Their Teaching Tolerance program produces and distributes—free of charge—documentary films, books, lesson plans, and other materials that promote tolerance and respect targeted to the nation's schools.
Source	http://www.splcenter.org/get-informed/hate-map/
Geography	National data aggregated on the city and state levels.
Indicates	SPLC identifies "hate groups"—both organizations and individuals—that direct activities to discriminate against minority and foreign-born populations.
Timeliness	Information is updated periodically.
Pros	Provides information of the name, number, and type of hate groups by city and state.
Cons	Information is not alphabetical by city name.
Value	The organization and the website are an **advocacy resource** for those dedicated to fighting discrimination against minorities and foreign-born. The website is also applicable for those engaged in **policy research.**

State Handbook and Guide Resources

About	State Handbook and Guide (SHG) Resources is a portal for information pertaining to newspapers, radio stations, and television stations.
Source	Newspapers—http://www.shgresources.com/resources/newspapers/ Radio—http://www.shgresources.com/resources/radio Television—http://www.shgresources.com/resources/television/
Geography	National data aggregated on the state level. Users would need to manually identify resources by city.
Indicates	Media resource to connect to traditionally underserved populations.
Timeliness	It is unknown how often data is updated.
Pros	Provides access to online newspapers, radios, and televisions.
Cons	Provides a list of newspapers alphabetically by name but not by city. Provides a list of stations by radio call letter not by city.
Value	This is a **communications resource** for practitioners to help identify media outlets when planning for public involvement activities. The website provides a list of media outlets catering to various demographics.

U.S. Department of Housing and Urban Development—Low Rent

About	The U.S. Department of Housing and Urban Development (HUD) provides a low-rent apartment search by city and county for each state.
Source	http://www.hud.gov/apps/section8/index.cfm/
Geography	National data aggregated by city, county, zip code, and name of entity.
Indicates	Low-income, elderly, and disabled populations.
Timeliness	It is not known how often data is updated.
Pros	Provides a list of affordable apartments by types (i.e., disabled, elderly, family, and health care), number of bedrooms (1 to 5 or more), contact information of each management company, and property address.
Cons	List is not inclusive.
Value	The website provides data useful for preparation of a **demographic profile**. In combination with other census and non-census sources, the data can supply information on rental housing available for low-income, elderly, disabled, and other traditionally underserved populations within a community. This information could also be used when conducting **policy research** or as a **communications resource** or reference tool for identifying partnering institutions and facilities for focused outreach activities.

U.S. Department of Labor & Bureau of Labor Statistics

About	The U.S. Department of Labor (DOL) and the U.S. Bureau of Labor Statistics (BLS) provide essential background information on laws, regulations, policies, as well as data sets on labor markets, unemployment and employment, wages and earnings, inflation and prices, consumer expenditures, occupational openings, and disabilities, among other issues.
Source	U.S. Department of Labor - http://www.dol.gov/ U.S. Bureau of Labor Statistics - http://www.bls.gov/
Geography	National data with searchable datasets at county, metropolitan, micropolitan, and state level.
Indicates	Low-income, minority, and disability in addition to other data relevant in assessing social and economic characteristics of workforce (e.g., studies on the working poor).
Timeliness	Monthly and annual updates of key data sets.
Pros	BLS is an essential source of current employment and other statistics. Data sets are easily accessible.
Cons	Use of the consumer expenditure data, a public use microdata sample, requires a willingness to wade into detailed technical documentation and a general familiarity with weighting procedures as well as database and statistical programs.
Value	Information found on these websites can be used in the preparation of a **demographic profile**. The information is relatively current, but data is not generally reported at the submunicipal level due to confidentiality restrictions—a gap that is partially remedied through the "OnTheMap" data series. Available data is highly useful for regional planning and **policy research**.

U.S. Hispanic Chamber of Commerce (USHCC)

About	In 1979, Hispanic leaders established a national organization to realize the potential of the Hispanic business community in the United States and to represent its interests before the public and private sectors. Since its inception, the U.S. Hispanic Chamber of Commerce (USHCC) has worked toward bringing the issues and concerns of the nation's nearly 3 million Hispanic-owned businesses to the national economic agenda. The USHCC maintains a network of 200 local Hispanic chambers of commerce and Hispanic business organizations to advance several goals: 1) implement and strengthen national programs that assist the economic development of Hispanic firms, 2) increase business relationships and partnerships between the corporate sector and Hispanic-owned businesses, 3) promote international trade between Hispanic businesses in the United States and Latin America, 4) monitor legislation, policies and programs that affect the Hispanic business community, and 5) provide technical assistance to Hispanic business associations and entrepreneurs.
Source	http://www.ushcc.com/
Geography	National data of affiliated organizations and the local Hispanic chambers of commerce is searchable on the state level.
Indicates	Local Hispanic chambers of commerce and Hispanic business organizations.
Timeliness	It is not known how often data is updated.
Pros	Provides a list of chapters and associations by state with contact information and links to affiliated organizations.
Cons	Only limited search features are available through the website.
Value	This resource could be valuable in getting local businesses owned by minority populations to play a more participatory role in the decision-making process. Local affiliates could inform practitioners of the challenges encountered by local businesses and shed light on how a proposed project could affect—positively or negatively— these businesses. They could help identify some potential obstacles when seeking to engage these businesses and therefore serve as a valuable **communication resource**. The website is also a technical and **advocacy resource** on issues directly concerning Hispanic businesses and can be useful for reaching local affiliates.

Wal-Mart Store Locator

About	Wal-Mart is an international discount store located in the United States and 14 other countries. Most stores have a "community coordinator" that oversees community events such as conducting surveys or placing kiosks inside or outside a store.
Source	http://www.priceviewer.com/walmart_locations/
Geography	National data aggregated by city, county, and zip code.
Indicates	Low-income populations.
Timeliness	It is unknown how often data is updated.
Pros	Provides a list by state and city of all Wal-Mart locations in the United States with contact information. The store is frequented by many different users but can help identify the presence of low-income populations.
Cons	Name of community coordinator is not available from website.
Value	Stores such as Wal-Mart are often used as a means by which to inform the public about programs, projects, and events in the community. The listing of stores is a **communications resource** for practitioners seeking to advertise about upcoming public involvement activities or survey residents.

Yearbook of Immigration Statistics

About	The *Yearbook of Immigration Statistics* is a compendium of tables—supplied by the Department of Homeland Security—that provides data on foreign nationals who, during a specified fiscal year, were granted lawful permanent residence (i.e., admitted as immigrants or became legal permanent residents), were admitted into the United States on a temporary basis (e.g., tourists, students, or workers), applied for asylum or refugee status, or were naturalized. The *Yearbook* also presents data on immigration law enforcement actions, including alien apprehensions, removals, and prosecutions. In addition to the *Yearbook*, the Office of Immigration Statistics Annual Flow Reports and Annual Reports provide text, tables, and charts on legal permanent residents, refugees and asylees, nonimmigrant admissions, naturalizations, and enforcement actions. The Annual Flow Reports and Annual Reports have replaced the text chapters in the earlier editions of the *Yearbook*.
Source	http://www.dhs.gov/files/statistics/publications/yearbook.shtm
Geography	National, state, and core-based statistical areas (CBSA) data in tabular formats and U.S. national maps for select indicators.
Indicates	The *Yearbook* statistics report recent flows, including legal permanent residents (LPRs), naturalizations, refugees and asylees, nonimmigrant admissions, and enforcements, often by region and country of origin. National-level data is frequently supplemented by state and CBSA-level reporting.
Timeliness	The *Yearbook* tables are released as they become available. A final PDF is released in August of the following fiscal year.
Pros	LPRs are foreign nationals who have been granted the right to reside permanently in the United States. LPRs are often referred to simply as "immigrants" but they are also known as "permanent resident aliens" and "green card holders." A user-friendly interface permits retrieval of detailed profiles of legal permanent residents by CBSA, including new arrivals and adjustments of status, age, marital status, occupation, broad class of admission (e.g., refugee and asylee, family sponsored, employee sponsored, diversity, etc.).
Cons	In recent years, sub-state data have been made available at the CBSA level. "CBSA" refers to metropolitan statistical areas and newly-created micropolitan areas that are sometimes combined into one larger geography area. The CBSA region is not entirely consistent with metropolitan statistical area (MSA) reporting making it difficult to track some trends at CBSA level over a longer time horizon. Data are generally not available at sub-CBSA levels such as counties, municipalities, or census tracts.
Value	Data compiled through the use of this resource are helpful when attempting to understand the spatial distribution of foreign born populations, but, given the geographic reporting units, any information for a **demographic profile** may be more suitable for **regional planning** and **policy research** than for project development or project planning studies. Information on the site may also serve as an **advocacy resource** for select institutions and organizations.

Bibliography

Community and Cultural Perspectives

BART Police Shooting of Oscar Grant. (2011). *Wikipedia.* Retrieved November 26, 2011, from: http://en.wikipedia. org/wiki/BART_Police_shooting_of_Oscar_Grant.

Blumenberg, E., and Agrawal, A. W. (2011). Getting Around When You're Just Getting By: Transportation Survival Strategies of the Poor. Presented at 90th Annual Meeting of the Transportation Research Board, Washington, D.C.

Coastal Carolina University. (n.d.). *Journey to the American Dream.* [video]. http://www.youtube.com/ watch?v=jz1Seagj4Rc.

Community Transportation Association of America. (1998). *Access to Jobs: A Guide to Innovative Practices in Welfare-to-Work Transportation.* Washington, D.C.

Chatman, D. G., and Klein, N. J. (2011). Immigration, Sustainability, and Alternative Mode Use: Ten Hypotheses from a Qualitative Study in New Jersey, USA. Presented at 90th Annual Meeting of the Transportation Research Board, Washington, D.C.

Diversity Dynamics, LLC. (2008). *The New Jersey Immigrant Policy Portal.* Retrieved October 10, 2009, from http://usdiversitydynamics.com/nj/index.html.

Douma, F. (2004). *Using ITS to Better Serve Diverse Populations.* Retrieved November 23, 2011, from: http:// www.lrrb.org/pdf/200442.pdf.

Douma, F., and Wilson, S. (2006). Transportation Needs of Foreign-Born Ethnic Subpopulations in Rural and Urban Communities: Environmental Justice Perspective. Presented at 85th Annual Meeting of the Transportation Research Board, Washington, D.C.

Easter Seals Project Action. (2011). *Travel Training.* Retrieved December 20, 2011, from Easter Seals Project Action website: http://projectaction.easterseals.com/site/PageServer?pagename=ESPA_travel_training&s_ esLocation=tc_.

Governor's Highway Safety Administration. (2009). *Closing the Circle: A Multicultural Primer for State Highway Safety Offices.* Washington, D.C.

Hass, K. (2008). *Careers in Motion: Science, Engineering, and Transportation, Hamlin Garland Elementary School Milwaukee, Wisconsin.* Presented at the Fall 2008 ASEE Conference, Mid Atlantic Section. Stevens Institute of Technology, Hoboken, NJ. Retrieved May 10, 2011, from: http://www.stevens.edu/asee/fileadmin/ asee/pdf/Haas_-final.pdf.

Hawtin, M., Hughes, G., Percy-Smith, J., and Foreman, A. (1999). *Community Profiling: Auditing Social Needs.* Buckingham, England: Open University Press.

Lui, M., Robles, B., and Leondar-Wright, B. (2006). *The Color of Wealth: The Story Behind the U.S. Racial Wealth Divide.* New Press.

Liu, R. (2004). *Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey.* Retrieved December 20, 2011, from: http://transportation.njit.edu/nctip/final_report/LEP.htm#_Toc94524845.

Massey, D. S. (2007). *Categorically Unequal: The American Stratification System.* New York: Russell Sage Foundation.

National Highway Traffic Safety Administration. (2011). *Walk and Bicycle Safely Curriculum, Beginning and Intermediate Levels for Adult English Language Learners.* Retrieved December 20, 2011, from: http://www.nhtsa. gov/Driving+Safety/Pedestrians/For+English+as+Second+Language+%28ESL%29+Teachers+and+Learners.

National Highway Traffic Safety Administration. (2011). *Pedestrian and Bicycle Safety Among Hispanics.* Retrieved December 20, 2011, from: http://www.nhtsa.gov/Driving+Safety/Bicycles/Pedestrian+and+Bicycle+Safety +among+Hispanics.

N4A and Partners for a Livable Community. (2007). *A Blueprint for Action: Developing a Livable Community for All Ages.* Washington D.C.

O'Connor, A., Tilly, C., Bobo, L., (eds.). (2001). *Urban Inequality: Evidence from Four Cities.* New York: Russell Sage Foundation.

Overman, J. H., and Cherrington, L. K. (2007). Notable Practices for Incorporating Rapidly Urbanizing Rural Areas in the Metropolitan Planning Process. Presented at 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Payne, R. K. (2005). *A Framework for Understanding Poverty.* Process Inc.

Payne, R. K., DeVol, P. E., and Dreussi Smith, T. (2006). *Bridges Out of Poverty.* Process Inc.

Payne, R. K., and Krabill, D. L. (2002). *Hidden Rules of Class at Work.* Process Inc.

PBS&J. (2006). *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking.* Washington, D.C.: Federal Highway Administration.

Phillips, R. (2003). *Community Indicators.* American Planning Association.

Putnam, R. D. (2006). E Pluribus Unum: Diversity and Community in the Twenty-First Century: The 2006 Johan Skytte Prize Lecture. *Scandinavian Political Studies,* 30(2), 137+.

Shipler, D. K. (2004). *The Working Poor: Invisible in America.* New York: Knopf.

Sound Transit Link Light Rail, Cleveland High School Students, The 2009 Stay Safe and Sound Student Film Competition (2009). *You Can't Beat the Train* [video]. Retrieved November 28, 2011, from: http://www.youtube.com/watch?v=jgIKUQ5VD40.

Sound Transit Link Light Rail, Rainier High School Students, The 2009 Stay Safe and Sound Student Film Competition (2009). *Look Both Ways* [video]. Retrieved November 28, 2011, from: http://www.youtube.com/watch?v=6NqipBP-ap8.

Sound Transit Link Light Rail, Seattle Urban Academy Students, The 2009 Stay Safe and Sound Student Film Competition (2009). *Take Your Headphones Off* [video]. Retrieved November 28, 2011, from: http://www.youtube.com/watch?v=rcch3vuOg2A.

Sound Transit Link Light Rail, Southlake High School Students, The 2009 Stay Safe and Sound Student Film Competition (2009). *Put Your Cellphones Away* [video]. Retrieved November 28, 2011, from: http://www.youtube.com/watch?v=TPxFrmnCQWo.

Sound Transit Link Light Rail, Foster High School Students, The 2009 Stay Safe and Sound Student Film Competition (2009). *Use the Crosswalks to Go* [video]. Retrieved November 28, 2011, from: http://www.youtube.com/watch?v=G6flapnVDwk.

St. John, W. (2009). *Outcasts United: A Refugee Team, an American Town.* New York: Random House.

United States Environmental Protection Agency, Office of Water. (2002). *Community Culture and the Environment: A Guide to Understanding a Sense of Place* (Rep. No. EPA 842-B-01-003). Washington, D.C.

Wilson, W. J. (1996). *When Work Disappears: The World of the New Urban Poor.* New York: Knopf.

Wilson, W. J. (2009). *More than Just Race: Being Black and Poor in the Inner City.* New York: W. W. Norton.

Zavala, A. E., ed. (2008). *African American Yearbook.* TIYM Publishing.

———. ed. (2008). *Anuario Hispano—Hispanic Yearbook.* TIYM Publishing.

———. ed. (2008). *Asian American Yearbook.* TIYM Publishing.

Cultural Competency

Andrulis, D., Delbanco, T., Avakian, L., and Shaw-Taylor, Y. (2009). *Conducting a Cultural Competence Self-Assessment.* Brooklyn, NY: SUNY/Downstate Medical Center. Retrieved September 26, 2009, http://erc.msh.org/provider/andrulis.pdf.

Axtell, R. E. (1997). *Gestures: the Do's and Taboos of Body Language Around the World.* Wiley.

California Department of Public Health. (2007). *Linguistic and Cultural Competency Self-Assessment Survey.* Retrieved January 15, 2010: http://www.familypact.org/Files/Cultural%20Competency%20Toolkit/Survey_CulturalCompetencyTool-20090514.pdf.

Callewaert, J. (2002). The Importance of Local History for Understanding and Addressing Environmental Injustice. *Local Environment,* 7(3), 257–267.

Community Toolbox, The. (2011). *Enhancing Cultural Competence.* Retrieved December 20, 2011, from: http://ctb.ku.edu/en/dothework/tools_tk_content_page_237.aspx.

Cross, T., Bazron, B., Dennis, K., and Isaacs, M. (1989). *Towards a Culturally Competent System of Care Volume I.* Washington, D.C.: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Cross, T. L. (1988). Cultural Competence Continuum. *Focal Point,* Fall 1988. Portland State University: Research and Training Center on Family Support and Children's Mental Health. Retrieved December 20, 2011, from: http://www.unc.edu/courses/2008fall/sowo/804/957/Readings/cultcompetencecont.htm.

Dupraw, M. E., and Axner, M. (1997). *Working on Common Cross-Cultural Communication Challenges.* Retrieved January 15, 2010, http://www.pbs.org/ampu/crosscult.html#PATTERNS.

Lederach, J. P. (2006). *The Little Book of Conflict Transformation.* Intercourse, Pennsylvania: Good Books.

———. (1995). *Preparing for Peace: Conflict Transformation Across Cultures.* Syracuse, New York: Syracuse University.

Morrison, T., and Conaway, W. A. (1995). *Kiss, Bow, or Shake Hands: How to Do Business in Sixty Countries.* Adams.

National Network of Libraries of Medicine, Mid-Continental Region. (August 24, 2009). *Minority Health Concerns: Cultural Competency Resources.* Retrieved October 10, 2009 from http://nnlm.gov/mcr/resources/community/competency.html.

National Prevention Information Network (NPIN). (2009). *Cultural Competence.* Retrieved October 10, 2009 from: http://www.cdcnpin.org/scripts/population/culture.asp.

New Jersey Statewide Network for Cultural Competence (NJSNCC). (2007). *History of NJSNCC.* Retrieved October 10, 2009 from: http://www.state.nj.us/njsncc/index.shtml.

Okun, B., Fried, J., and Okun, M. (1999). *Understanding Diversity: A Learning-as-Practice Primer.* Pacific Grove, CA: Brooks/Cole.

Olsen, L., Bhattacharya, J., and Scharf, A. (2006). *Cultural Competency: What It Is and Why It Matters.* California: California Tomorrow. Retrieved December 20, 2011, from http://www.lpfch.org/programs/cultural competency.pdf.

Rothman, J. (2008). *Cultural Competence in Process and Practice: Building Bridges.* Retrieved June 30, 2010 from: http://www.pearsonhighered.com/assets/hip/us/hip_us_pearsonhighered/samplechapter/0205500692.pdf.

Rural Assistance Center (RAC). (2009). Cultural Competence and Limited English Proficiency. Retrieved October 10, 2009 from http://www.raconline.org/info_guides/culture/.

Saldana, D. (2001). *Cultural Competency: A Practical Guide for Mental Health Service Providers.* Austin, Texas: Hogg Foundation for Mental Health.

University of Kansas. (2007). *The Community Toolbox.* Kansas.

University of Washington. (2009). *EthnoMed: Integrating Cultural Information into Clinical Practice.* Retrieved October 10, 2009 from http://ethnomed.org/.

Wells, M. I. (2000.). Beyond Cultural Competence: A Model for Individual and Institutional Cultural Development. *Journal of Community Health Nursing* 17(4):189–199.

Demographic and Cultural Trends and Patterns

Akresh, I. R. (2006). Occupational Mobility Among Legal Immigrants to the United States. *International Migration Review,* 40, Issue 4: 854–884.

Alba, R. D., Logan, J. R., Stults, B. J., Marzan, G. and Zhang, W. (1999). Immigrant Groups in the Suburbs: A Reexamination of Suburbanization and Spatial Assimilation. *American Sociological Review,* 64: 446–460.

Altman B., and Bernstein, A. (2008). *Disability and Health in the United States, 2001–2005.* Hyattsville, MD: National Center for Health Statistics.

American Public Transportation Association (APTA). (2008). *2008 Public Transportation Fact Book.* Washington D.C.

Beckman, J. D., and Goulias, K. G. (2008). Immigration, Residential Location, Car Ownership, and Commuting Behavior: a Multivariate Latent Class Analysis from California. *Transportation,* 35.

Bernstein, J., McNichol, E., and Nicholas, A. (2008). *Pulling Apart: A State-by-State Analysis of Income Trends.* Washington, D.C.: Center on Budget and Policy Priorities, and the Economic Policy Institute.

Bernstein, S. (2009). Testimony of Scott Bernstein, President, Center for Neighborhood Technology, To the House of Representatives, Committee on Financial Services, Subcommittee on Housing and Community Opportunity. Retrieved January 10, 2011 from: http://www.cnt.org/repository/bernstein061109.pdf.

Berube, A., Singer, A., Wilson, J., and Frey, W. H. (2006). *Finding Exurbia: America's Fast-Growing Communities at the Metropolitan Fringe.* Washington, D.C.: Brookings Institution.

Bloom, D. E., Canning, D., and Sevilla, J. (2003). *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change.* Santa Monica, CA: Rand.

Blumenburg, E. (2008). Moving In and Moving Around: Immigrants, Travel Behavior, and Implications for Transport Policy. *Transportation Letters,* 1(2).

Blumenburg, E., and Smart, M. (2009). *Travel In the 'Hood: Ethnic Neighborhoods and Mode Choice.* Presented at 88th Annual Meeting of the Transportation Research Board, Washington, D.C.

Brookings Metropolitan Policy Program. (2008). Mountain Megas: America's Newest Metropolitan Places and a Federal Partnership to Help Them Prosper. Washington, D.C.: Brookings Institution.

Bureau of Transportation Statistics. (2007). *Transportation Statistics Annual Report 2007.* Washington, D.C.: U.S. Department of Transportation, Research and Innovative Technology Administration.

Calvert, S. L., et al. (2005). Age, Ethnicity, and Socioeconomic Patterns in Early Computer Use: A National Survey. *American Behavioral Scientist,* 48(5).

Campbell, P. R. (2000). *Population Projections in the United States.* Retrieved September 17, 2009, from: http://www.census.gov/population/www/pop-profile/stproj.html.

Cassidy, J., and Cassidy, D. (2004). Literacy Trends and Issues Today: An On-Going Study. *Reading & Writing Quarterly,* 20(11), 28. Taylor & Francis Group.

Celik, A. P., Zyman, R., and Mahdi, R. (2009). *Sustainable Urbanization in the Information Age.* United Nations. New York, NY: United Nations, Department of Economic and Social Affairs.

Centers for Disease Control and Prevention. (2003). Public Health Trends in Aging: Trends in Aging—United States and Worldwide. *CDC MMWR Weekly,* 52(06), 101–106.

Center for Housing Policy. (2006). *A Heavy Load: The Combined Housing and Transportation Burdens of Working Families.* Retrieved January 10, 2011 from: http://www.cnt.org/repository/heavy_load_10_06.pdf.

Center for Neighborhood Technology (2010). *Penny Wise Pound Foolish: New Measures of Housing + Transportation Affordability.* Retrieved January 10, 2011, from: http://www.cnt.org/repository/pwpf.pdf.

Chang, B. L., et al. (2004). Bridging the Digital Divide: Reaching Vulnerable Populations. *Journal of the American Medical Informatics Association,* 11(6).

Charness, N., and Holley, P. (2004). The New Media and Older Adults: Usable or Useful? *American Behavioral Scientist,* 48(4).

Chatman, D. G., and Klein, N. (2009). Immigrants and Travel Demand in the United States: Implications for Transportation Policy and Future Research. *Public Works Management and Policy* 13; 312.

Colello, K. J. (2007). *Where Do Older Americans Live? Geographic Distribution of the Older Population* (Prepared for Members and Committees of Congress by the Congressional Research Service). Washington, D.C.: The Library of Congress.

Community Indicators Consortium. (2011). *Community Indicators Project.* Retrieved December 20, 2011, from: http://www.communityindicators.net/projects.

Consortium for Latino Immigration Studies, The (2007). *The Economic and Social Implications of the Growing Latino Population in South Carolina.* Columbia, SC: South Carolina Commission for Minority Affairs and the University of South Carolina.

Coughlin, J. F., and Tompkins, C. J. (2009). Demographics, Destiny, and Anticipating the Future of the Transportation System. *Public Works Management & Policy,* 13(4).

Council of Economic Advisers. (2007). *Immigration's Economic Impact.* Washington D.C.: Executive Office of the President of the United States. Retrieved January 10, 2011 from: http://georgewbush-whitehouse.archives.gov/cea/cea_immigration_062007.html.

De-Navas-Walt, C., Proctor, B. D., and Smith, J. C. (2010). *Income, Poverty and Health Insurance Coverage in the U.S. 2009.* Washington, D.C.: U.S. Census Bureau. Retrieved December 5, 2010 from: http://www.census.gov/prod/2010pubs/p60-238.pdf.

Edmondson, B. (2006). Demographic Change and Low-Literacy Americans. In J. Comings, B. Garner, and C. Smith (eds.), *Review of Adult Learning and Literacy: Connecting Research, Policy, and Practice* (Vol. 6, 19–42). Mahwah, NJ: Lawrence Erlbaum Associates.

Education, E., Meara, R., Richards, S., and Cutler, D. M. (2008). The Gap Gets Bigger: Changes In Mortality And Life Expectancy. *Health Affairs ABI/INFORM Global,* 27(2), 350.

Estrada, E. P., Tsai, Y., and Chandler, C. R. (2008). Assimilation and Discriminatory Perceptions and Experiences: The Case of Hispanics in the United States. *The Social Science Journal.*

Fox, S. (2004). *Older Americans and the Internet.* Washington, D.C.: Pew Hispanic Center.

Fox, S. (2011). *Americans Living with Disability and their Technology Profile.* Washington D.C.: Pew Internet. Retrieved January 21, 2011 from http://www.pewinternet.org/~/media//Files/Reports/2011/PIP_Disability.pdf.

Freedman, V. A., Martin, L. G., and Schoeni, R. F. (2002) Recent Trends in Disability and Functioning Among Older Adults in the United States: A Systematic Review. *Journal of the American Medical Association,* 288(24).

Frey, W. H. (2008). *The Census Projects Minority Surge.* Washington, D.C.: Brookings Institution. Retrieved September 17, 2009 from: http://www.brookings.edu/opinions/2008/0818_census_frey.aspx.

———. (2007). *Housing Bust Shatters State Migration Patterns.* Retrieved September 17, 2009 from http://www.brookings.edu/opinions/2007/1228_migration_frey.aspx.

———. (2006). *Diversity Spreads Out: Metropolitan Shifts in Hispanic, Asian and Black Populations Since 2000.* Washington, D.C.: Brookings Institution, Metropolitan Policy Program.

———. (2004). *The New Great Migration: Black Americans' Return to the South, 1965–2000.* Washington, D.C.: Brookings Institution. Retrieved September 17, 2009 from http://www.brookings.edu/urban/pubs/20040524_Frey.pdf.

———. (2001). *Melting Pot Suburbs: A Census 2000 Study of Suburban Diversity.* Washington, D.C.: Brookings Institution.

Frey, W. H., Berube, A., Singer, A., and Wilson, J. (2009). *Getting Current: Recent Demographic Trends in North America.* Washington, D.C.: Brookings Institution, Metropolitan Policy Program.

Frumkin, H. (2002). Urban Sprawl and Public Health. *Public Health Reports.* May-June 2002, Volume 117, 201–217. Retrieved January 10, 2011 from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1497432/pdf/12432132.pdf.

Ganesh, S., and Barber, K. F. (2009). The Silent Community: Organizing Zones in the Digital Divide. *Human Relations,* 62(851).

Garnett, N. S. (2007). Suburbs as Exit, Suburbs as Entrances. *Michigan Law Review,* 106: 277–304. Retrieved January 10, 2011 from: http://www.michiganlawreview.org/assets/pdfs/106/2/garnett.pdf.

Gibson, C., and Jung, K. (2002). *Historical Census Statistics on Population Totals by Race, 1790 to 1990, and by Hispanic Origin, 1970 to 1990, for the United States, Regions, Divisions, and States.* Washington, D.C.: U.S. Census Bureau.

Gibson, C., and Lennon, E., (2006). *Historical Census Statistics on the Foreign-Born Populations of the United States: 1850 to 2000.* Washington, D.C.: U.S. Census Bureau.

Graham, S. (2002). Bridging Urban Digital Divides? Urban Polarization and Information and Communications Technologies (ICTs). *Urban Studies,* 39(1): 33–56.

Hargittai, E. 2003. The Digital Divide and What to Do About It. In Derek C. Jones (ed.), *New Economy Handbook,* California: Academic Press.

Heaslip, K. (2007). *Are Travel Patterns of Older Drivers Changing?* 29th International Association For Time Use Research Conference, Washington, D.C.

Hirschman, C. (2005). Immigration and the American Century. *Demography,* 42(4).

Hobbs, F., and Stoops, N. (2002). *Demographic Trends in the 20th Century.* Series CENSR-4, Demographic Trends in the 20th Century. Washington, D.C.: U.S. Census Bureau.

Horrigan, J. (2008). *Data Memo RE: Mobile Access to Data and Information.* Pew Internet & American Life Project.

Interagency Committee on Disability Research (ICDR). *Current Research: Latest Disability Statistics.* Retrieved September 17, 2009 from http://www.icdr.us/statistics.html.

International Telecommunication Union. (2009). *Information Society Statistical Profiles 2009—Americas.* Geneva, Switzerland.

Jans, L., Stoddard, S., and Kraus, L. (2004). *Chartbook on Mental Health and Disability in the United States.* Washington, D.C.: U.S. Department of Education and National Institute on Disability and Rehabilitation Research.

Jansen, J. (2010). *Use of the Internet in Higher Income Households.* Washington D.C.: Pew Internet & American Life Project. Retrieved January 21, 2011 from: http://pewinternet.org/~/media//Files/Reports/2010/PIP-Better-off-households-final.pdf.

Jargowsky, P. (1997). *Poverty and Place: Ghettos, Barrios, and the American City.* New York: Russell Sage Foundation.

Kelly, K. M. (2009). How Can We Reach Them? Information Seeking and Preferences for a Cancer Family History Campaign in Underserved Communities. *Journal of Health Communication,* 14(573).

Kinsella, K., and Velkoff, V. A. (2001). *An Aging World 2001,* International Population Report. Washington, D.C.: U.S. Department of Commerce.

Kneebone, E., and Garr, E. (2010). The Suburbanization of Poverty: Trends in Metropolitan America, 2000 to 2008. *Metropolitan Opportunity Series.* Washington, D.C.: Metropolitan Policy Program at Brookings.

Krueger, B. S. (2002). Assessing the Potential of Internet Political Participation in the United States: A Resource Approach. *American Politics Research,* 30(5).

Kutner, M., et al. (2007). *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy* (NCES 2007–480). Washington, D.C.: National Center for Education Statistics, U.S. Department of Education.

Lazarus, W., and Mora, F. (2000). *Online Content for Low-Income and Underserved Americans: The Digital Divide's New Frontier.* Santa Monica, CA: The Children's Partnership.

Martin, P., and Midgley, E. (2003). Immigration: Shaping and Reshaping America. *Population Bulletin,* 58(2). Washington, D.C.: Population Reference Bureau.

Mehra, B., Merkel, C., and Bishop, A. P. (2004). The Internet for Empowerment of Minority and Marginalized Users. *New Media Society* 6(6). Thousand Oaks, CA: SAGE Publications.

Memmott, J. (2007). *Trends in Personal Income and Passenger Vehicle Miles.* Bureau of Transportation Statistics Special Report. Washington, D.C.: U.S. Department of Transportation, Research and Innovative Technology Administration.

Minnesota Population Center, U.S. Census Bureau. *Social Explorer.* Retrieved September 10, 2009, from http://www.socialexplorer.com

Mohadjer, L., et al. (2009). *National Assessment of Adult Literacy: Indirect County and State Estimates of the Percentage of Adults at the Lowest Level of Literacy for 1992 and 2003* (NCES 2009-482). Washington, D.C.: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Morrison, P. A. (2001). *A Demographic Perspective on Our Nation's Future.* Santa Monica, CA: Rand Corporation.

Myers, D. (2007). *Immigrants and Boomers: Forging a New Social Contract for the Future of America.* New York: Russell Sage Foundation.

Nielsen Online and ITU (2011). *Internet Usage and Population Growth,* Internet WorldStats, 2011. Retrieved January 10, 2011 from http://www.internetworldstats.com/am/us.htm.

Newburger, E., and Gryn, T. (2009). *American Community Survey Reports: The Foreign-Born Labor Force in the United States: 2007* (ACS-10). Washington, D.C.: U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau.

Ostwald, M. (2000). Virtual Urban Futures. In D. Bell and B. M. Kennedy (eds.), *The Cybercultures Reader* (pp. 658–675). New York: Routledge. (Original work published 1997).

Passel, J. S. (2005). *Unauthorized Migrants: Numbers and Characteristics.* Washington, D.C.: Pew Hispanic Center.

Passel, J. S., and Cohn, D. V. (2010). *U.S. Unauthorized Immigration Flows Are Down Sharply Since Mid-Decade* Washington, D.C.: Pew Hispanic Center.

Pew Hispanic Center and the Kaiser Family Foundation. (2004). *Assimilation and Language,* Survey Brief. Washington, D.C.: Pew Hispanic Center.

Piton Foundation, The. (2011). *Community Facts.* Retrieved December 20, 2011, from: http://www.piton.org/CommunityFacts.

Pollard, K., and Mather, M. (2008). *10% of U.S. Countries Now 'Majority-Minority.'* Population Reference Bureau. Retrieved September 17, 2009 from http://www.prb.org/Articles/2008/majority-minority.aspx?p=1.

Porter, C., and Donthu, N. (2006). Using the Technology Acceptance Model to Explain How Attitudes Determine Internet Usage: The Role of Perceived Access Barriers and Demographics. *Journal of Business Research,* 59, 9.

Puentes, Robert. (2008). Demographic Trends Affecting Transportation in the U.S. Brookings Institution Metropolitan Policy Program. Presentation at September 11, 2008 Women's Transportation Policy Seminar in Washington, D.C.

Rainie, L. (2010). *Internet, Broadband, and Cell Phone Statistics.* Washington, D.C.: Pew Internet & American Life Project. Retrieved January 11, 2011 from: http://pewinternet.org/~/media//Files/Reports/2010/PIP_December09_update.pdf.

Real Estate Center at Texas A&M University. (2010). Annual Population Estimates for MSAs. Retrieved December 20, 2010 from: http://recenter.tamu.edu/data/pop/.

Reese, L., Thompson, S. L., and Goldenberg, C. (2008). Variability in Community Characteristics and Spanish-Speaking Children's Home Language and Literacy Opportunities. *Journal of Multilingual and Multicultural Development,* 29(4). Taylor & Francis Group.

Servon, L. (2002). *Bridging the Digital Divide: Technology, Community, and Public Policy,* Massachusetts: Blackwell Publishing.

Shrestha, L. B. (2006). *Life Expectancy in the United States,* Congressional Research Service Report for Congress. Washington, D.C.: The Library of Congress.

———. (2005). *The Changing Demographic Profile of the United States.* Congressional Research Service Report for Congress. Washington, D.C.: The Library of Congress.

Singer, A. (2009). *The New Geography of United States Immigration.* Washington, D.C.: Brookings Institution.

Smith, A., et al. (2009). *The Internet and Civic Engagement.* Washington, D.C.: Pew Internet & American Life Project.

Suro, R. (2007). *The Hispanic Family in Flux.* Washington, D.C.: Brookings Institution, Center on Children and Families.

Transportation Research Board. (2009). Demographic Changes Driving Change: Ensuring Mobility for All—Safely, Efficiently, Equitably. *TR News,* No. 264, September–October.

UCLA Center for Communication Policy. (2003). *The UCLA Internet Report: Surveying the Digital Future.* Los Angeles, CA.

U.S. Department of Education, Institute of Education Sciences. (2006). *A First Look at the Literacy of America's Adults in the 21st Century* (NCES 2006-470). Jessup, Maryland: National Center for Education Statistics.

U.S. Department of Commerce, Economic and Statistics Administration and National Tele-communications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion—A Report on Americans' Access to Technology Tools.* Washington, D.C.

U.S. Census Bureau. (2004). *Interim Projections by Age, Sex, Race, and Hispanic Origin.* Washington, D.C.

U.S. Census Bureau. (2008). *Americans with Disabilities: 2005,* Washington, D.C.: Author. Retrieved December 5, 2010 from: http://www.census.gov/prod/2008pubs/p70-117.pdf.

U.S. Census Bureau. (2009). *2006–2008 American Community Survey 3-Year Estimates.* Retrieved December 5, 2010 from: http://factfinder.census.gov/servlet/.

U.S. Census Bureau. (2009). *United States Population Projections: 2000 to 2050.* Washington, D.C.

U.S. Census Bureau. (2010). *2009 American Community Survey, 1-Year Estimate,* American Fact Finder, Washington D.C.: Author. Retrieved December 5, 2010 from: http://factfinder.census.gov/servlet/DatasetMain PageServlet?_program=ACS&_submenuId=&_lang=en&_ds_name=ACS_2009_5YR_G00_&ts=.

U.S. Department of Homeland Security. (2010). *2009 Yearbook of Immigration Statistics.* Retrieved December 5, 2010, from: http://www.dhs.gov/xlibrary/assets/statistics/yearbook/2009/ois_yb_2009.pdf.

Wilson, J. H. (2009). *Trends in U.S. Immigration.* Presented at the Public Administration in the Midst of Diversity: Social Equity and Immigration. American Society of Public Administrators National Conference, Miami. Brookings Institution, Metropolitan Policy Program.

Yancey, A. K., Ory, M. G., and Davis, S. M. (2006). Dissemination of Physical Activity Promotion Interventions in Underserved Populations, *American Journal of Preventive Medicine,* 31(4S): S82–S91.

Environmental Justice/Title VI, Community Impact Assessment, Health Impact Assessment, and Mitigation

Agyeman, J. (2005). Where Justice and Sustainability Meet. *Environment,* 47(6), 10–23.

Alameda Corridor Transportation Authority. (2011). Fact Sheet, Alameda Corridor Project. Retrieved December 20, 2011, from ACTA website: http://www.acta.org/projects/projects_completed_alameda_factsheet.asp.

Alexander, S. (1998). *Balanced Regional Growth Strategies to Revitalize Chicago's Inner-City and Inner-Suburban Communities.* Chicago: Chicago Urban League.

American Public Health Association. (2011). *Transportation Issues from Public Health Perspective.* Retrieved December 20, 2011, from: http://www.apha.org/advocacy/priorities/issues/transportation/.

Apelberg, B. J., Buckley, T. J., and White, R. (2005). *Socioeconomic and Racial Disparities in Cancer Risk from Air Toxics in Maryland.* Baltimore, MD: Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology, Department of Environmental Health Sciences, and Risk Sciences and Public Policy Institute, Retrieved November 30, 2010, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257593/pdf/ehp0113-000693.pdf.

Been, V. (1995). Analyzing Evidence of Environmental Justice. *Journal of Land Use & Environmental Law,* 11(1), 1–36.

Bhatia, R. (2011). *Health Impact Assessment: A Guide for Practice.* Oakland, CA: Human Impact Partners. Retrieved December 20, 2011, from: http://www.sfphes.org/publications/HIA_Guide_for_Practice.pdf.

Blumenberg, E. (2002). On the Way to Work: Welfare Recipients and Barriers to Employment. *Economic Development Quarterly,* 16(4), 314–325.

———. (2003). *Transportation Costs and the American Dilemma: Race, Ethnicity and the Costs of Travel.* Paper presented for the Civil Rights Project at Harvard Roundtable Racial Equity in Transportation: Establishing Priorities for Research and Policy. Washington, D.C.: Brookings Institution.

Boston, T. D., and Boston, L. R. (2007). *Beyond Race and Poverty: A Multi-Dimensional Approach to Measuring Environmental Justice.* Atlanta, GA: Boston Research Group, Inc.

Brugge, D., Durant, J. L., and Rioux, C. (2007). Near-Highway Pollutants in Motor Vehicle Exhaust: A Review of Epidemiologic Evidence of Cardiac and Pulmonary Health Risks. *Environmental Health,* 2007, 6:23. http://www.tufts.edu/med/phfm/CAFEH/pdfs/Near-highway%20pollutanta%20in%20motor%20vehicle%20exhaust.pdf.

Burdge, R. J. (1995). *A Community Guide to Social Impact Assessment.* Middleton, WI: Social Ecology Press.

CAFEH @Tufts. (2011). *Community Assessment of Freeway Exposure and Health Study.* Retrieved December 20, 2011, from: http://www.tufts.edu/med/phfm/CAFEH/Project_Description.html.

Cairns, S., Greig, J., and Wachs, M. (2003). *Environmental Justice & Transportation: A Citizen's Handbook.* Berkley: Institute of Transportation Studies.

California Department of Transportation (1996). Community Impact Assessment, *Caltrans Environmental Handbook Volume 4.* Retrieved December 20, 2011, from: http://www.dot.ca.gov/ser/vol4/envhb4.pdf.

California Department of Transportation (2010). *Transportation Planning Grant Program.* Retrieved June 25, 2010, from: http://www.dot.ca.gov/hq/tpp/grants.html.

California Department of Transportation (2010). *Community Based and Environmental Justice Transportation Planning Grants Handbook.* Retrieved June 25, 2010, from: http://www.dot.ca.gov/hq/tpp/offices/ocp/ej_cbtp_toolbox_files/PDFs_of_files/EJ_CBTP_Handbook_v8revisions.pdf.

Cambridge Systematics, Inc. (2002). *Technical Methods to Support Analysis of Environmental Justice Issues* (NCHRP Project 8-36 (11)). Final Report. Washington, D.C.: Transportation Research Board of the National Academies.

Capitol Region Council of Governments (2002). *Environmental Justice & CRCOG's Transportation Planning Program.* Hartford, CT.

Centers for Disease Control and Prevention. (2007). *Public Health Workbook to Define, Locate and Reach Special, Vulnerable, and At-Risk Populations in an Emergency.* Washington, D.C.

Centers for Disease Control and Prevention. (2011). *Health Impact Assessment.* Retrieved December 20, 2011, from: http://www.cdc.gov/healthyplaces/hia.htm.

City of Rockford (2010). *West State Street Corridor Study.* Retrieved May 1, 2011, from: http://www.ci.rockford.il.us/1977.

City of Seattle and King County (2008). *Health Impact Assessment for SR520 Bridge Reconstruction.* Retrieved December 20, 2011, from: http://www.kingcounty.gov/healthservices/health/ehs/hia.aspx.

Colorado Department of Transportation. (2002). *Environmental Justice Research Study.* (CDOT-DTD-R-2002-7). Colorado Springs, CO.

Deka, D. (2004). *Social and Environmental Justice Issues in Urban Transportation.* In S. Hanson and G. Giuliano, eds., *Geography of Urban Transportation* (3rd Ed.).

Delaware Valley Regional Planning Commission (2010). *Planner's Methodology.* Philadelphia, PA. Retrieved June 25, 2010, from: http://www.dvrpc.org/GetInvolved/TitleVI/pdf/Planners_Methodology.pdf.

Delaware Valley Regional Planning Commission (2010). *Transportation and Community Development Initiative (TCDI).* Retrieved June 25, 2010, from http://www.dvrpc.org/TCDI/.

Environmental Justice in Transportation Toolkit. (2011). Retrieved November 26, 2011, from: http://www.ejkit.com/.

Environmental Justice in Transportation Toolkit. (2011.). *Just Us Dying on Bartlett.* [video]. Retrieved November 26, 2011, from: http://ejkit.com/2010/01/05/just-us-dying-on-bartlett/.

Faber, D., and McCarthy, D. (2001). The Evolving Structure of the Environmental Justice Movement in the United States: New Models for Democratic Decision-Making. *Social Justice Research,* 14(4), 405–421.

Federal Highway Administration. (1996). *Community Impact Assessment: A Quick Reference for Transportation.* U.S. Department of Transportation. (Publication No. FHWA-PD-96-036). Retrieved December 20, 2011, from: http://www.fhwa.dot.gov/environment/cia.htm.

Federal Highway Administration. (1998). *Community Impact Mitigation: Case Studies.* U.S. Department of Transportation.

Federal Highway Administration, Resource Center (2011). *Civil Rights Team, Customized Civil Rights Course.* Retrieved December 20, 2011, from: http://www.fhwa.dot.gov/resourcecenter/teams/civilrights/courses.cfm.

Federal Highway Administration/Federal Transit Administration. (2002). *Transportation & Environmental Justice: Effective Practices.* USDOT, FHWA-EP-02-016. Washington, D.C. Retrieved June 25, 2010 from http://ntl.bts.gov/lib/12000/12100/12173/booklet.pdf.

———. (2001). *Assistance for Reviewing the Application of Title VI and Environmental Justice in the Transportation Planning Process.*

———. (2000). *Transportation & Environmental Justice: Case Studies.* USDOT, FHWA-EP-01-010. Washington D.C.: Author. Retrieved June 25, 2010 from: http://www.fhwa.dot.gov/environment/environmental_justice/case_studies/.

———. (2000). *An Overview of Transportation and Environmental Justice.* USDOT. FHWA-EP-00-013. Washington D.C.: Author. Retrieved June 25, 2010 from: http://www.fhwa.dot.gov/environment/environmental_justice/overview/.

Federal Transit Administration. *FTA Circular, C 4702.1A, 05-13-07, Title VI and Title VI-Dependent Guidelines for FTA Recipients,* Retrieved June 25, 2010 from http://www.fta.dot.gov/laws/circulars/leg_reg_5956.html.

Florida Department of Transportation. (2005). *Sociocultural Effects Handbook.* Retrieved December 20, 2012, from: http://www.dot.state.fl.us/emo/pubs/sce/sce1.shtm.

Forkenbrock, D. J., and Weisbrod, G. E. (2001). *NCHRP Report 456: Guidebook for Assessing the Social and Economic Effects of Transportation Projects.* TRB, National Research Council, Washington, D.C.

Forkenbrock, D. J., and Sheeley, J. (2004). *NCHRP Report 532: Effective Methods for Environmental Justice Assessment.* Transportation Research Board of the National Academies, Washington, D.C.

Fox, R., and Rice, S. (2009). *An Engine of Opportunity: A User's Guide to Advocate for Transportation Equity in the 2009 Recovery Act.* PolicyLink and Transportation Equity Network.

Garrard, M. B., and Sheila, R. F. (2008). *The Law of Environmental Justice: Theories and Procedures to Address Disproportionate Risk.* Second Edition. Chicago: American Bar Association.

Georgia Institute of Technology, Center for Quality Growth and Regional Development. (2011). *Atlanta Regional Plan 2040 Health Impact Assessment.* Retrieved December 20, 2011, from: http://www.cqgrd.gatech.edu/projects/plan_2040_hia/index.php.

Georgia Institute of Technology, Center for Quality Growth and Regional Development (CQGRD). (2007). *Atlanta Beltline Health Impact Assessment.* Retrieved December 20, 2011, from: http://www.cqgrd.gatech.edu/projects/beltline_hia/index.php.

Georgia Institute of Technology, Center for Quality Growth and Regional Development (CQGRD). (2007). *City of Decatur Community Transportation Plan.* Retrieved December 20, 2011, from: http://www.cqgrd.gatech.edu/projects/decatur_transportation_plan/index.php.

Gross, J. et al. (2005). *Community Benefits Agreements: Making Development Projects Accountable.* California: Good Jobs First and the California Partnership for Working Families. Retrieved December 20, 2011, from: http://www.goodjobsfirst.org/pdf/cba2005final.pdf.

Gross, J. (2007). Community Benefits Agreements: Definitions, Values, and Legal Enforceability. *Journal of Affordable Housing.* Vol 17:1–2 (Fall 2007/Winter 2008). Retrieved December 20, 2011, from: http://www.communitybenefits.org/downloads/CBAs%20Definitions%20Values%20and%20Legal%20Enforceability.pdf.

Health Effects Institute. (2010). *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects Report: Special Report 17,* 2010-01-12. Retrieved December 20, 2011, from: http://pubs.healtheffects.org/view.php?id=334.

Health Impact Project. (2011). *Transportation Sector.* Retrieved December 20, 2011, from Health Impact Project web site: http://www.healthimpactproject.org/resources#reports.

Human Impact Partners. (2011) *Current Projects.* Retrieved December 20, 2011, from Human Impact Partners website: http://www.humanimpact.org/projects.

HIA Gateway, The. (2011). U.S. Transport Project Reports Search. Retrieved December 20, 2011, from the HIA Gateway website's reports selection archive: http://www.apho.org.uk/default.aspx?RID=44538.

Lopez, R. (2002). Segregation and Black/White Differences in Exposure to Air Toxins in 1990. *Environmental Health Perspectives,* 110 (Supplement 2), 289–296.

Maantay, J., Chakraborty, J., and Brender, J. (2010). *Proximity to Environmental Hazards: Environmental Justice and Adverse Health Outcomes.* Paper presented at U.S. Environmental Protection Agency, "Strengthening Environmental Justice Research and Decisionmaking: A Symposium on the Science of Disproportionate Environmental Health Impacts," Washington D.C., Retrieved November 30, 2010, from http://www.epa.gov/ncer/events/calendar/2010/mar17/presentations/maantay.pdf.

Makler, J. (2005). *Racial Equity in Transportation: Establishing Priorities in Research and Policy.* (Summary of Roundtable Discussion) Washington, D.C.: The Brookings Institution.

McKnight, J. L., and Kretzmann, J. P. (1996). *Mapping Community Capacity.* Evanston, IL: The Asset-Based Community Development Institute, Institute for Policy Research, Northwestern University. Retrieved December 20, 2011, from: http://www.abcdinstitute.org/docs/MappingCapacity.pdf.

Mendoza, J., Levinger, D., and Johnston, B. (2010). Pilot Evaluation of a Walking School Bus Program in a Low-Income, Urban Community. *BMC Public Health* 2009, 9:122. Retrieved October 26, 2010, from: http://www.biomedcentral.com/1471-2458/9/122.

Miami-Dade County Metropolitan Planning Organization. (2009). *Miami Dade Transportation and Community Mapping.* Retrieved September 16, 2009, from http://mpoportal.fiu.edu/index.cfm.

Morello-Frosch R., and Jesdale, B. (2006). Separate and Unequal: Residential Segregation and Air Quality in the Metropolitan U.S. *Environmental Health Perspectives,* 113: 386–393. Retrieved June 28, 2010, from: http://ehp03.niehs.nih.gov/article/fetchArticle.action?articleURI=info:doi/10.1289/ehp.8500.

National Academy of Public Administration. (2002). *Models for Change: Efforts by Four States to Address Environmental Justice.* Washington, D.C.: United States Environmental Protection Agency.

National Environmental Justice Advisory Council, Cumulative Risks/Impacts Work Group. (2004). *Ensuring Risk Reduction in Communities with Multiple Stressors: Environmental Justice and Cumulative Risks/Impacts.* Washington, D.C.: Environmental Protection Agency.

Nelson, A. C., Sanchez, T. W., Wolf, J. F., and Farquhar, M. B. (2004). Metropolitan Planning Organization Voting Structure and Transit Investment Bias: Preliminary Analysis with Social Equity Implications, *Transportation Research Record: Journal of the Transportation Research Board, No. 1895.* Transportation Research Board of the National Academies, Washington, D.C.

Northridge, M. E., and Shepard, P. M. (1997). Comment: Environmental Racism and Public Health [Editorial]. *American Journal of Public Health,* 87(5), 730–732.

Ohio Department of Transportation, Office of Urban and Corridor Planning. (2002). *Guidance and Best Practices for Incorporating Environmental Justice into Ohio Transportation Planning and Environmental Processes* (Report). Ohio.

Oregon Department of Transportation (2011). *I-5 Delta Park Community Enhancement Fund.* Retrieved December 20, 2011, from Oregon DOT website: http://www.oregon.gov/odot/hwy/region1/I-5DeltaPark/communityenhancement.shtml

Peterson, E., and Brinckerhoff, P. (2009). *The Spread of Environmental Justice into Transportation Planning: A Chicago Case Study.* Presented at the Annual Meeting of the American Sociological Association, Marriott Hotel, Loews Philadelphia Hotel, Philadelphia, PA.

Port of Long Beach. (2011). *Environmental Program.* Retrieved December 20, 2011, from: http://www.polb.com/environment/default.asp.

Potier-Brown, L. (2004). *Urban Campers: Unexpected Issues in Community Impact Assessment, A Case Study of Route 301 through Sarasota.* Retrieved December 20, 2011, from: http://www.ciatrans.net/4th_National_CA_Workshop/Potier-Brown_PowerPoint.pdf.

Puget Sound Regional Council. (2003). *Central Puget Sound Region: Environmental Justice Demographic Profile.* Retrieved December 20, 2011, from: http://psrc.org/assets/1680/ejdem1.pdf.

Robinson, G., et al. (2008). *Environmental Justice and Transportation Toolkit, Volume I.* Baltimore, MD: U.S. Environmental Protection Agency and U.S. Department of Transportation, Federal Highway Administration. Retrieved November 26, 2011 from: http://ejkit.com/the-toolkit/ej-toolkit/ej-toolkit-volume-1/.

Robinson, G., et al. (2009). *Baltimore Region Environmental Justice in Transportation Project, Volume II.* Federal Transit Administration. Retrieved November 26, 2011 from: http://ejkit.com/the-toolkit/ej-toolkit/ej-toolkit-volume-2/.

San Antonio-Bexar County Metropolitan Planning Organization. (2009). *Title VI and Environmental Justice Planning Project.* Retrieved September 11, 2009, from http://www.sametroplan.org/pages/Studies_Projects/Completed/Environmental_Justice/default1.asp.htm.

Sanchez, T., and Brenman, M. with Ma, J., and Stolz, R. (2007). *The Right to Transportation: Moving to Equity.* Chicago: American Planning Association.

Sanchez, T. W., Stolz, R., and Ma, J. S. (2003). *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities.* Cambridge, MA: The Civil Rights Project at Harvard University.

Sanchez, T. W., and Wolf, J. F. (2005). Environmental Justice and Transportation Equity: A Review of Metropolitan Planning Organizations. *Racial Equity in Transportation: Establishing Priorities for Research and Policy Roundtable.* Washington, D.C.: Brookings Institution.

Sanchez, T. W. (2008). An Equity Analysis of Transportation Funding. *Race, Poverty & the Environment.* Urban Habitat. Retrieved on January 27, 2011: http://www.urbanhabitat.org/files/Thomas%20Sanchez-%20An%20Equity%20Analysis%20of%20Transportation%20Funding.pdf.

San Francisco Department of Public Health, Environmental Health Section, Program on Health Equity and Sustainability Health (n.d.). *Traffic and Environmental Justice: A Health Impact Assessment of the Still/Lyell Freeway Channel in the Excelsior District:* http://www.sfphes.org/HIA_PODER.htm.

Southern California Association of Governments. (1998). *Community-Link 21, Regional Transportation Plan: Equity and Accessibility Performance Indicators.* California.

Sriraj, P., Fruin, G., and McNeil, S. (2003, August). *Analysis of the Environmental Justice Compliance of The Chicago Transit Authority (CTA).* Paper presented at the 2003 Mid-Continent Transportation Research Symposium, Ames, Iowa.

Transportation Research Board. (2007). Environmental Justice, Social and Economic Factors, Women's Travel, and Accessibility and Mobility. *Transportation Research Record: Journal of the Transportation Research Board, No. 2013.* Transportation Research Board of the National Academies, Washington, D.C.

Tri-State Transportation Campaign (2010). *Reworking Newark.* Retrieved December 20, 2011, from: http://blog.tstc.org/2010/07/30/reworking-newark/.

United States Department of Transportation. (2005). *Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons.* Washington, D.C.

Ward, B. G. (2009). Disaggregating Race and Ethnicity: Toward a Better Understanding of the Social Impacts of Transport Decisions. *Public Works Management & Policy,* 13(4), 354–360.

Ward, B. G., Williams, K., Kramer, J., Smith, C., Gabourel, K., Baptiste, P., et al. (2005). *Measuring the Effectiveness of Community Impact Assessment: Recommended Core Measures.* Tampa, Florida: University of South Florida and the Florida Department of Transportation.

Ward, B. G., Volinski, J., Gabourel, K., and Smith, C. (2005). *Case Studies in Environmental Justice and Public Transit Title VI Reporting.* Tampa, Florida: University of South Florida and the Florida Department of Transportation.

Washington State Department of Transportation. (2011). *Environmental Justice.* Retrieved December 20, 2011, from Washington State DOT website: http://www.wsdot.wa.gov/environment/ej/envirojustice.htm.

Washington State Department of Transportation. (2011). *Environmental Justice Frequently Asked Questions.* Retrieved December 20, 2011, from Washington State DOT website: http://www.wsdot.wa.gov/NR/rdonlyres/A836C01F-C6A8-4298-9843-545B248346D8/0/EJ_FAQ.pdf.

Washington State Department of Transportation. (2011). *Project Mitigation Cost Case Studies.* Retrieved December 20, 2011, from: http://www.wsdot.wa.gov/projects/mitigation.

Wier, M., Sciamanns, C., Seto, E., Bhatia, R., and Rivard., T. (2009). Health, Traffic and Environmental Justice: Collaborative Research and Community Action in San Francisco, California. *American Journal of Public Health,* Vol. 99, No. S3.

Job Training, Mentoring, and Disadvantaged Business Procurement

Conference of Minority Transportation Officials (COMTO). (2011). Retrieved December 20, 2011, from COMTO website: http://www.comto.org.

Conference of Minority Transportation Officials (COMTO). (2011). *Community Partner Agreement Process and "The Missouri Model"* [video]. Retrieved December 20, 2011, from: http://www.youtube.com/watch?v=E8sWrHuUAFY.

Cypress Mandela Inc., Training Center. (2011). *Cypress Mandela.* Retrieved December 20, 2011, from: http://www.cypressmandela.org/.

Federal Highway Administration. (2011). *Office of Civil Rights. On-the-Job Training (OJT) and On-the-Job Training and Supportive Services Programs (OJT/SS).* Retrieved December 20, 2011, from: http://www.fhwa.dot.gov/civilrights/programs/ojt.htm.

Federal Highway Administration. (2011). *Universities and Grant Programs.* Retrieved December 20, 2011, from: http://www.fhwa.dot.gov/ugp/eis_ftl_ann.htm.

Federal Highway Administration. (2011). *Summer Transportation Internship Program for Diverse Groups (STIPDG).* Retrieved December 20, 2011, from: http://www.fhwa.dot.gov/education/stipdg.htm.

Fine, J. (2005). Worker Centers: Organizing Communities at the Edge of the Dream. Economic Policy Institute Briefing Paper #159.

Gramling, J. (2004). A Whole Lot of Business Going On. *Madison Times,* Vol. 13, No. 9. Retrieved November 30, 2010, from: http://www.madtimes.com/archives/oct2004_1/madtimes_101.htm.

Greater Newark Conservancy. (2011). *Youth Leadership Project.* Retrieved December 20, 2011, from: http://www.citybloom.org/job-training.htm.

Insight Center for Community Economic Development. (2007). *State Policies and Programs for Minority- and Women-Business Development, Best Practices, Imperfections, and Challenges in State Inclusive Business Programs.* Retrieved November 28, 2011, from: http://www.insightcced.org/uploads///publications/assets/50%20state%20inclusive%20business%20policy%20scan.pdf.

Kansas Department of Transportation, Division of Administration, Office of Civil Rights. (2005). *Disadvantaged Business Enterprise Manual.* Retrieved December 20, 2011, from: http://www.ksdot.org/divadmin/civilrights/pdf/DBE_Manual.pdf.

Mississippi Department of Transportation. (2011). *Mississippi Department of Transportation, Alternate On-the-Job-Training Program.* Retrieved December 20, 2011, from: http://www.gomdot.com/Divisions/CivilRights/Resources/Forms/pdf/OJT_AlternateProgram.pdf.

Missouri Department of Transportation. (2006). *The New I-64 Work Force Utilization Plan Partnering Agreement.* Retrieved November 28, 201, from: http://www.thenewi64.org/download/2006-05-12%20Workforce%20Utilization%20Plan%20Partnering%20Agreement%20Signatures.pdf.

Missouri Department of Transportation (2011). *Connecting the DOTs: On the Job Training Program, I-64* [video]. Retrieved December 20, 2011, from: http://www.youtube.com/watch?v=uVy8TlvaKT0&feature=related.

Morgan State University. (2011). *Maryland DOT-Morgan State University Graduate School Internships.* Retrieved November 27, 2011 from: http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/Education_Initiatives/Internships/MDOT-Morgan_State_University_Graduate_School_Internship.html.

Morgan State University. (2011). *Maryland State Highway Administration Summer Internship.* Retrieved November 27, 2011 from: http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/Education_Initiatives/Internships/SHA_Summer_Internship.html.

Ohio Department of Transportation. (2011). *Ohio Department of Transportation, Mentor-Protégé Program.* Retrieved December 20, 2011, from: http://www.dot.state.oh.us/Divisions/. ./DBE/DBE_MP_ProgramInfo.doc.

Oregon Department of Transportation. (2009). *Oregon Statewide Mentoring Plan.* Retrieved December 20, 2011, from: http://www.oregon.gov/ODOT/CS/CivilRights/docs/AgencyStatewideMentoringPlan.pdf.

Oregon Department of Transportation. (2011). *Oregon Workforce Development Program.* Retrieved December 20, 2011, from: http://www.oregon.gov/ODOT/CS/CIVILRIGHTS/wdp.shtml.

Oregon Department of Transportation. (2011). *Start Building Your Future Today: Welcome to the Construction Industry Apprentice Programs.* [video]. Retrieved December 20, 2011, from: http://www.oregon.gov/ODOT/CS/CIVILRIGHTS/appren_programs_vid.shtml.

Rubin, K., and Slater, J. (2005). *Winning Construction Jobs for Local Residents: A User's Guide for Community Organizing Campaigns.* Brennan Center for Justice at NYU School of Law. Retrieved November 26, 2011, from http://nelp.3cdn.net/319dbb5959ea88bd77_7sm6iy4lf.pdf.

Shea, G. (1994). *Mentoring: Helping Employees Reach their Potential.* New York: American Management Association.

Smith, G. (2005). *NCHRP Synthesis 343: Management of Disadvantaged Business Enterprise Issues in Construction Contracting.* Transportation Research Board of the National Academies, Washington, D.C. Retrieved December 20, 2011, from: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_343.pdf.

Swanstrom, T. (2009). Going Regional: Community-Based Regionalism, Transportation, and Local Hiring Agreements. *Journal of Planning Education and Research.* Vol. 28, No. 3, 355–367.

———. (2009). *The High Road to Greater Inclusion in the Construction Industry: Problems and Prospects.* A Discussion Paper for the Anne E. Casey Foundation. http://www.aecf.org/news/fes/mar2009/pdf/Discussion_Paper_Construction_2-09.pdf.

———. (2008). *The Road to Good Jobs: Patterns of Employment in the Construction Industry* (second annual report). St. Louis, Missouri: Transportation Equity Network.

Swanstrom, T., and Banks, B. (2007). Going Regional: Community-Based Regionalism, Transportation, and Local Hiring Agreements. *Berkeley Institute of Regional and Urban Development. Working Paper 2007-17.* Retrieved December 20, 2011, from: http://www.iurd.berkeley.edu/publications/wp/2007-17.pdf.

United States Department of Transportation, Office of Small and Disadvantaged Businesses (2011). Retrieved December 20, 2011, from: http://www.osdbu.dot.gov/index.cfm.

Wisconsin Department of Transportation (2011). *Doing Business: Disadvantaged Business Enterprise Program.* Retrieved December 20, 2011, from: http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm.

Legislation, U.S. Code, Regulations, and Guidance Policies

23 CFR 450, Planning Assistance and Standards.

23 CFR 710.509, Functional Replacement of Real Property in Public Ownership.

23 CFR 711, Environmental Impact and Related Procedures.

23 CFR 771.111, Early Coordination, Public Involvement, and Project Development.

28 CFR 42, Subpart F, Coordination of Enforcement of Nondiscrimination in Federally-Assisted Programs.

40 CFR 1500-1508, Council on Environmental Quality.

42 CFR 61, Public Health and Welfare.

49 CFR 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964.

49 CFR 613, Planning Assistance and Standards.

Americans with Disabilities Act of 1990, (Pub. L. 101-336, 42 U.S.C. 12101-12213).

Civil Rights Act of 1964, (Pub. L. 88-352, 42 U.S.C. 2000d-2000d-4).

Civil Rights Cases, 109 U.S. 3 (1883).

Civil Rights Restoration Act of 1987 (Pub. L. 100-259).

The Constitution of the United States, Article 14, Equal Protection and Due Process.

DOT Order No. 5610.2, Fed. Reg. V62, No. 72 (15 April 1997), Order on Environmental Justice.

Executive Order No. 12898, Fed. Reg. 7629 (11 February 1994), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Executive Order No. 13166, 65 Fed. Reg. 50121 (16 August 2000), Improving Access to Services for Persons with Limited English Proficiency.

Executive Order No. 13330, 69 Fed. Reg. 9185 (26 February 2004), Human Service Transportation Coordination.

Federal Highway Administration/Federal Transit Administration. (1994). *A Guide to Metropolitan Transportation Planning Under ISTEA—How the Pieces Fit Together.* Washington, D.C.: Author. Retrieved October 20, 2011 from: http://ntl.bts.gov/DOCS/424MTP.html.

Federal Highway Administration. (1998). *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* Administrative Order 6640.23.

Federal Highway Administration and Federal Transit Administration. (2000). *An Overview of Transportation and Environmental Justice.* Accessed October 18, 2011, from: http://www.fhwa.dot.gov/environment/environmental_justice/overview/.

Federal Transit Administration. (2007). Title VI Program Guidelines for Federal Transit Administration Recipients, *FTA Circular,* V. 4702.1.

Federal Transit Administration. (2006). Master Agreement 13, Section 12, Civil Rights.

Federal-Aid Highway Act of 1970, 23 U.S.C. 109(h) added by Sec. 136(b) of Pub. L. 91-605, 84 Stat. 1734 (31 December 1970).

Intermodal Surface Transportation Efficiency Act of 1991, (Pub. L. No. 102–240).

National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (10 August 2005).

Transportation Equity Act for the 21st Century (TEA-21) of 1998 (Pub. L. 105–108).

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, 42 U.S.C. 4601 et seq.

U.S. Department of Health and Human Services. (2011). Annual Update of the HHS Poverty Guidelines. Accessed on October 29, 2011, from: http://aspe.hhs.gov/poverty/11fedreg.shtml.

U.S. Department of Transportation. (1997). *Order to Address Environmental Justice in Minority and Low-Income Populations.* 62 FR 18377.

U.S. Department of Transportation. (1999). *Implementing Title VI Requirements in Metropolitan and Statewide Planning.*

U.S. Department of Transportation. (2005). *Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons.* Accessed on October 18, 2011, from: http://www.dotcr.ost.dot.gov/asp/lep.asp.

U.S. Department of Transportation, Federal Highway Administration, Office of Real Estate Services, (2005). *Uniform Act Eligibility in Areas Impacted by Hurricane Katrina.* Retrieved November 27, 2011, from: http://www.fhwa.dot.gov/realestate/katrinaguid.htm.

Planning and Project Development: Context Sensitive Solutions, Bicycle and Pedestrian, and Safe Routes to Schools and Transit

Active Living Resource Center. (2011). Safe Routes To School: City-SRTS Pilot Program. Retrieved December 20, 2011, from ALRC website: http://www.activelivingresources.org/saferoutestoschool8.php.

American Association of State Highway and Transportation Officials (AASHTO). (2006). *Best Practices in Context Sensitive Solutions.* Washington, D.C.

American Public Transit Association (APTA). (2010). *Crime Prevention Through Environmental Design (CPTED) for Transit Facilities.* APTA Standards Development Program, Recommended Practice. Retrieved December 20, 2011, from: http://www.aptastandards.com/Portals/0/Security_pdfs/APTA-SS-SIS-RP-007-10_CPTED.pdf.

Bay Area Rapid Transit, Transit Planning Department. (2002). *Oakland Coliseum/Oakland Airport BART Station Access Plan.* Retrieved December 20, 2011, from: http://www.bart.gov/docs/planning/Coliseum_Access_Plan.pdf.

Chicago Metropolitan Agency for Planning. (2011). *GO TO 2040: Public Engagement.* Retrieved December 20, 2011, from CMAP website: http://www.cmap.illinois.gov/public-engagement.

City of Chicago, Illinois (2011). *Community Alternative Policing Strategies.* Retrieved December 20, 2011, from: https://portal.chicagopolice.org/portal/page/portal/ClearPath/Get%20Involved/How%20CAPS%20works.

City of San Antonio. (2003). *Arena District/Eastside Community Plan.* Bexar County, City of San Antonio. Retrieved November 26, 2011 from: http://www.sanantonio.gov/planning/pdf/neighborhoods/eastside.pdf.

Context Sensitive Solutions.org. *Case Studies* [online database]. Retrieved September 21, 2009 from: http://www.contextsensitivesolutions.org/content/case_studies/.

Federal Highway Administration. (1997). *Flexibility in Highway Design.* Washington, D.C.

Federal Highway Administration, Office of Planning. (2007). *Integration of Context Sensitive Solutions in the Transportation Planning Process.* Washington, D.C.

Federal Highway Administration, Office of Planning. (2011). *Livability Initiative.* Retrieved December 20, 2011, from http://www.fhwa.dot.gov/livability/

Georgia Department of Transportation. (2011). *Southwest Georgia Interstate Study.* Retrieved November 26, 2011, from: http://www.dot.state.ga.us/informationcenter/programs/studies/SWGAInterstate/Pages/default.aspx

Lane, L. B. (2007). *NCHRP Synthesis 373: Multi-Disciplinary Teams in Context-Sensitive Solutions.* Transportation Research Board of the National Academies. Washington, D.C.

Lurcott, R. (2005). *Regional Visioning Public Participation—Best Practices.* Report Prepared for Sustainable Pittsburgh. Retrieved December 20, 2011, from: http://www.sustainablepittsburgh.org/pdf/Regional_Visioning_Jan_05.pdf.

Maryland Department of Transportation. (2011) *Maryland Bicycle and Pedestrian Advisory Committee.* Retrieved December 20, 2011, from Maryland DOT website: http://www.mdot.maryland.gov/Planning/Bicycle/MBPAC.html

Maryland State Highway Administration (1998). *Thinking Beyond the Pavement: A National Workshop on Integrating Highway Development with Communities and the Environment while Maintaining Safety and Performance.* Retrieved October 20, 2011, from: http://contextsensitivesolutions.org/content/reading/tbtp-conference/resources/tbtp-conference/.

Mississippi Department of Transportation. (2006). *Central Harrison County Connector Highway: Project History.* Retrieved November 27, 2011, from: http://www.gomdot.com/home/Projects/Archives/Studies/Southern/I310/pdf/CentralHarrisonConnector.pdf.

National Center for Safe Routes to School (2011). Walking School Bus Guide. Retrieved December 20, 2011, from: http://www.saferoutesinfo.org/guide/walking_school_bus/index.cfm.

Neuman, T. R., Schwartz, M., Clark, L., and Bednar, J. (2002). *NCHRP Report 480: A Guide to Best Practices for Achieving Context Sensitive Solutions.* Transportation Research Board of the National Academies, Washington, D.C.

Pedestrian and Bicycle Information Center. (2011). *Roadway and Pedestrian Facility Design & School Zone Improvements.* Retrieved December 20, 2011, from: http://www.walkinginfo.org/engineering/roadway.cfm.

Rivera, R. J., and Wooten, R. (2003). *Public Involvement Plan for the Kelly Parkway Corridor Study Context Sensitive Design.* Paper presented at the 2nd Urban Street Symposium, Anaheim, CA.

Roerty, S. (2006). *City-Safe Routes to Schools, Pilot Programs—2006.* Retrieved December 20, 2011, from: Active Living Resource Center website: http://www.activelivingresources.org/assets/City-SRTS_report_fnl.pdf.

Rutgers Center for Advanced Infrastructure and Transportation, Transportation Safety Research Center. (2011). *Plan4Safety.* Retrieved December 20, 2011, from: http://cait.rutgers.edu/tsrc/plan4safety.

Sacramento Area Council of Governments. (2004). *Blueprint Transportation and Land Use Study, 2050 Transportation Plan.* Retrieved December 20, 2011, from: http://www.sacregionblueprint.org.

Safe Routes to Schools National Partnership. (2010). *Implementing Safe Routes to School in Low-Income Schools and Communities: A Resource Guide for Volunteers and Professionals,* Retrieved October 24, 2010, from: http://www.saferoutespartnership.org/lowincomeguide.

Safe Routes to Schools National Partnership. (2010). *SRTS in Your State.* Retrieved October 24, 2010, from: http://www.saferoutespartnership.org/state/5043.

Sandt, L., et al. (2008). *A Resident's Guide for Creating Safe and Walkable Communities* (Report No. FHWA-SA-07-016). Washington, D.C.: Federal Highway Administration.

San Antonio-Bexar County Metropolitan Planning Organization. (2003). *East Corridor Multi-Modal Alternatives Plan:* http://www.sametroplan.org/Studies/EastCorridor/FinaleastcorridorExecSummary%202.pdf.

Tennessee Department of Transportation (n.d.). *SR-126 (Memorial Boulevard).* Retrieved November 25, 2011, from: http://www.tennessee.gov/tdot/sr126.

Toth, G. (2006). *A Citizen's Guide to Better Streets.* New York, NY: Project for Public Space.

Transportation Research Board. (2004). *Transportation Research Circular E-C067: Context-Sensitive Design Around the Country: Some Examples.* Transportation Research Board of the National Academies, Washington, D.C.

Von Hagen, L. (2008). *Safe Routes to New Jersey's Disadvantaged Urban Schools.* Retrieved December 20, 2011, from the Alan M. Voorhees Transportation Center, New Jersey Safe Routes to School Resource Center website: http://policy.rutgers.edu/vtc/bikeped/reports/Walk21.pdf.

Washington State Department of Transportation. (2010). *Alaskan Way Viaduct Replacement Project, Appendix H: Social Discipline Report.* Retrieved December 20, 2011, from: http://www.wsdot.wa.gov/NR/rdonlyres/21BB772B-BD94-43E2-8052-71D73D4A8FD3/0/2010SDEISAppendixH.pdf.

Public Involvement in Decisionmaking

Alameda-Contra Costa Transit District. (2005). Accessible Advisory Committee. Adopted by Resolution No. 05-001—January 20, 2005. Retrieved December 20, 2011, from: http://www.actransit.org/wp-content/uploads/board_policies/board_policy_39.pdf.

Alter, R., Lewiecki, M., Renz-Whitmore, M., and Albright, D. P. (2008). Accountable Public Involvement: Partnership Approach to Proposed Transportation Project. *Transportation Research Record: Journal of the Transportation Research Board, No. 2077.* Transportation Research of the National Academies, Washington, D.C.

American Association of State Highway and Transportation Officials (AASHTO). Center for Environmental Excellence. (2006). *Utilizing Community Advisory Committees for NEPA Studies.* Retrieved December 20, 2011, from: http://environment.transportation.org/pdf/programs/PG05.pdf.

Annie E. Casey Foundation, The. (2007). *Trusted Advocates: A Multicultural Approach to Building and Sustaining Resident Involvement.* Retrieved November 26, 2011, from: http://www.aecf.org/upload/PublicationFiles/trustedadvocate.pdf.

Aparicio, A. (2007). Assessing Public Involvement Effectiveness in Long-Term Planning. Presented at 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Barnes, G., and Langworthy, P. (2004). *Increasing the Value of Public Involvement in Transportation Project Planning.* University of Minnesota, Minneapolis, and Minnesota Department of Transportation.

Black, R. N. (2006). *Public Participation in Diverse Communities: Tools for Consensus Building.* Presented at 85th Annual Meeting of the Transportation Research Board, Washington, D.C.

Brown, J., et al. (2002). *The World Café: A Resource Guide for Hosting Conversations That Matter.* California, Mill Valley: Whole Systems Associates.

Bryson, J. M., and Carroll, A. R. (2007). *Public Participation Fieldbook.* Regents of the University of Minnesota.

Burbidge, S. K., Knowlton, T., and Matheson Jr., A. (2007). Wasatch Choices 2040: A New Paradigm for Public Involvement and Scenario Development in Transportation Planning. *Transportation Research Record:*

Journal of the Transportation Research Board, No. 1994, Transportation Research Board of the National Academies, Washington, D.C.

Byrd, L., and David, S. (2002). Public Involvement in Long-Range Transportation Planning: Benchmarking Study Identifies Best Practices. *TR News,* No. 220, May–June.

California Department of Transportation. (2011). *Language Assistance for Limited-English Proficient (LEP) Persons: Your Responsibilities under the Dymally-Alatorre Bilingual Services Act.* Retrieved November 25, 2011, from: http://www.dot.ca.gov/hq/bep/title_vi/training_video_2_choice.htm.

City of Aspen, Colorado. (2011). *Meeting in a Box.* Retrieved December 20, 2011 from Community Vision for the City of Aspen website: http://www.aspencommunityvision.com/page_39.

City of Austin, Texas. (2009). *Imagine Austin: Meeting-in-a-Box: Asian American Cultural Center* [video]. Retrieved December 20, 2011, from: http://www.youtube.com/watch?v=X5-pIEuqxA8.

City of Austin, Texas, City View. (2010). *Imagine Austin: Meeting-in-a-Box* [video]. Retrieved December 20, 2011, from: http://www.youtube.com/watch?v=X5-pIEuqxA8.

City of Seattle. (2009). *Neighborhood Plan Update, Planning Outreach Liaison: Community Workshops.* Retrieved November 26, 2011, from: http://www.seattle.gov/dpd/cms/groups/pan/@pan/@plan/@neighborplanning/documents/web_informational/dpdp017744.pdf.

City of Seattle, Department of Planning and Development. (2010). *Neighborhood Planning: Public Involvement.* Retrieved November 26, 2011, from: http://www.seattle.gov/dpd/Planning/Neighborhood_Planning/Public Involvement/default.asp.

Clark, R. L., et al. (2004). *From Community Involvement to the Final Product: Marketing Mega Projects and Public Trust.* College Park, MD: University of Maryland.

Chong, S. (1998). *Designing Accessible Websites: A Checklist of Web Accessibility Guidelines.*

Community Planning Association of Southwest Idaho. (2010). *News Release: COMPASS Looking for Hosts for "Meeting in a Bag" Discussion Groups.* Retrieved November 25, 2011, from: http://www.compassidaho.org/documents/comm/newsreleases/2010/COMPASS_Communities_in_Motion_Meeting_in_a_Bag_Hosts.pdf.

Cooper, T. L., Bryer, T. A., and Meek, J. W. (2006). *Citizen-Centered Collaborative Public Management. Public Administration Review, Special Issue on Collaborative Public Management.* Supplement to volume 66.

Creighton, J. L. (2005). *The Public Participation Handbook: Making Better Decisions Through Citizen Involvement.* Jossey-Bass.

Cunningham, T. (2011). Social Media, Transit Agencies and Public Involvement 2.0 Presentation. Retrieved December 20, 2011, from: http://www.slideshare.net/TheCunninghamGroup/tasha-cunningham-social-media-transit-agencies-and-public-involvement-20.

Dalton, D., and Harter, P. J. (nd). *Better Decisions through Consultation and Collaboration.* Washington, D.C.: Environmental Protection Agency.

Delaware Valley Regional Planning Commission, (2008). *What is the Dots & Dashes Game?* Retrieved November 25, 2011, from: http://www.dotsanddashes.org/game.htm.

Dietz, T., and Stern, P. C. (2008). *Public Participation in Environmental Assessment and Decision Making.* Washington, D.C.: The National Academies Press.

Done, R. S., and Semmens, J. (2008). *Making a Good First Impression: Improving Predesign and Environmental Public Information and Public Involvement.* Presented at 87th Annual Meeting of Transportation Research Board. Washington, D.C.

Eagle, K., and Stich, B. (2005). Planning to Include the Public. *Transportation Policy Implementation with Effective Citizen Involvement Public Works Management & Policy,* 9(4).

Federal Highway Administration. (1999). *Public Roads,* 63 [Electronic Version]. Retrieved December 20, 2012, from http://www.tfhrc.gov/pubrds/novdec99/index.htm.

Federal Highway Administration. (2006). *How to Engage Low-Literacy and Limited-English-Proficiency Populations in Transportation Decisionmaking.* Washington D.C. Retrieved June 25, 2010 from: http://www.fhwa.dot.gov/hep/lowlim/lowlim1.htm.

Federal Highway Administration. (1994). *Innovations in Public Involvement for Transportation Planning.*

———. (1982) Guidance Material on Public Hearings and Other Public Involvement [memorandum].

Federal Highway Administration/Federal Transit Administration. (nd). *A Citizen's Guide to Transportation Decision making.* Publication No. FHWA-EP-01-013 HEPH/3-01(15M)E.

———. (1994). *FHWA/FTA Interim Policy on Public Involvement.* Washington, D.C.

———. (1995). *Questions and Answers on Public Involvement in Transportation Decisionmaking.* FHWA Docket No. 94-27, Washington, D.C.

———. (1996). *Public Involvement Techniques for Transportation Decision-making.*

———. (2001). *Noteworthy Practices of Capital District Transportation Committee (CDTC).* Transportation Planning Capacity Building Program [peer exchange].

———. (2002). *Techniques for Public Involvement.* Transportation Planning Capacity Building Program [Peer exchange].

———. (2004). *Effective Public Involvement Procedures throughout a Multi-Disciplinary Agency.* Transportation Planning Capacity Building Program [peer exchange].

———. (2009). *The Planning Assistant.* Online self-diagnostic tool. Retrieved September 21, 2009 from: http://www.planning.dot.gov/PublicInvolvement/pi_tool/getting-started.asp.

Federal Highway Administration, National Highway Institute. (2011). *Fundamentals of Title VI/Environmental Justice.* Course Number: FHWA-NHI-142042. Retrieved December 20, 2011, from NHI Course Listings: http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-142042&cat=&key=environmental%20justice&num=&loc=&sta=%25&typ=%25&ava=1&str=&end=&tit=&lev=&drl=.

Federal Highway Administration, National Highway Institute. (2011). *Effective Communications in Public Involvement.* Course Number: FHWA-NHI-142059. Retrieved December 20, 2011, from NHI website's course listings: http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-142059&cat=&key=Effective%20Communications&num=&loc=&sta=%25&typ=%25&ava=1&str=&end=&tit=&lev=&drl=.

Federal Highway Administration, National Highway Institute. (2011). *Public Involvement in the Transportation Decisionmaking Process.* Course Number: FHWA-NHI-142036. Retrieved December 20, 2011, from NHI website's course listings: http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-142059&cat=&key=Effective%20Communications&num=&loc=&sta=%25&typ=%25&ava=1&str=&end=&tit=&lev=&drl.

Federal Transit Administration. (2011). *Choosing Visualization for Transportation: Matching Your Participation Need with the Right Technology.* Retrieved December 20, 2011, from: http://www.choosingviz.org/.

Federal Transit Administration. (2011). *Web 2.0, Social Media, Social Networking Tools: Online Tools that Connect People and Encourage Interactive Dialogue.* [video]. Retrieved December 20, 2011, from: http://www.youtube.com/watch?v=nJuARta4Qrk.

Federal Transit Administration, National Transit Institute. (2011). *Public Involvement in Transportation Decision making.* Retrieved December 20, 2011, from NTI website's course listings: http://www.ntionline.com/courses/courseinfo.php?id=86.

Ferber, R. (1977). Research by Convenience. *The Journal of Consumer Research.* 4 (1): 57–2.

Florida Department of Transportation. (2003). *Public Involvement Handbook.* Florida.

Fowler, G., and Allison, K. (2008). Technology and Citizenry: A Model for Public Consultation in Science Policy Formation. *Journal of Evolution and Technology.* 18 (1) 56–69. Retrieved December 20, 2012, from: http://jetpress.org/v18/fowlerallison.htm.

Garrick, N. W., Miniutti, P., Westa, M., Luo, J., and Bishop, M. (2005). *Effective Visualization Techniques for the Public Presentation of Transportation Projects.* University of Connecticut, Storrs; New England Transportation Consortium.

Gifford, G. L. (2002). *Meaningful Participation: An Activist's Guide to Collaborative Policy-Making.* C Effects Publications.

Hartell, A. M. (2008). *Is Inadequate Transportation a Barrier to Community Involvement?: Evidence from the Social Capital Benchmark Survey. Transportation Research Record: Journal of the Transportation Research Board, No. 2067.* Transportation Research Board of the National Academies, Washington, D.C.

Hillsborough County, Florida, Metropolitan Planning Organization (2011). *Public Participation Plan & Effectiveness Reports.* Retrieved November 25, 2011 from: http://www.hillsboroughmpo.org/pubmaps/pubmaps_folders/public-participation-plan-effectiveness-reports.

ICF International. (forthcoming). San Antonio Texas Kelly Parkway: Ensuring Community Involvement and Environmental Justice in a Highway Capacity Project for Urban Socioeconomic Development. *A Framework for Collaborative Decision Making on Additions to Highway Capacity.* (SHRP 2 CO1). Washington, D.C.: Transportation Research Board of the National Academies.

Innes, J. E., and Booher, D. E. (2005). Reframing Public Participation: Strategies for the 21st Century, University of California at Berkeley. *Planning Theory & Practice* 5(4):419–436.

International Association for Public Participation. (2009). *IAP2 Core Values for the Practice of Public Participation.* Thornton, Colorado.

Jacobson, M., and Rugeley, C. (2007). Community-Based Participatory Research: Group Work for Social Justice and Community Change. *Social Work with Groups* 30 (4):21–39.

Khademian, A., Kikuchi, S., Sanchez, T., Offenbacker, B., and Coelus, P. (2009). *Enhancing Public Participation in Regional Public Transportation Planning* (Rep. No. FTA-VA-26-1010-2009.1). Washington, D.C.: Federal Transit Administration.

Klein, W. R. (1994). Citizen Participation: Whose Vision is It? *Planning and Community Equity.* American Planning Association.

Kobza, K. P. (2009). *Public Involvement in Transportation: How Web-Based Systems Can Make Your Next Experience More Constructive.* Retrieved September 21, 2009, from: http://www.publiccomment.com/docs/Transportation2005.pdf.

Kramer, J., Williams, K., and Bond, A. (2009). *Performance Measures to Evaluate the Effectiveness of Public Involvement Activities in Florida.* Presented at 88th Annual Meeting of the Transportation Research Board., Washington, D.C.

LEP.Gov, Website of the Federal Interagency Working Group on Limited English Proficiency. Retrieved December 20, 2011, from: http://www.lep.gov/index.htm.

Lewis, J., and Lane, J. S. (2007). Public Outreach in Pedestrian Plan for Durham, North Carolina: Effectiveness in a Diverse Community. *Transportation Research Record: Journal of the Transportation Research Board, No. 1994.* Transportation Research Board of the National Academies, Washington, D.C.

Litman, T. (2006). Community Cohesion as a Transport Planning Objective. Presented at 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Lorenz, J., DeMent, M., Arthur, R., and Tolleson, S. (2006). Helping Stakeholders Understand Transportation Impacts and Trade-offs in Highway Planning: Lessons Learned from Developing Simulation-Based Public Involvement Tool. Presented at the 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Lowry, M. B., Nyerges, T. L., and Rutherford, G. S. (2008). Internet Portal for Participation of Large Groups in Transportation Programming Decisions. *Transportation Research Record: Journal of the Transportation Research Board, No. 2077.* Transportation Research Board of the National Academies, Washington, D.C.: Transportation Research Board.

Lowry, M. B., Young, R. K., Rutherford, P. E., Scott, G., and Zhong, T. (2007). New Model for Public Involvement in Transportation Improvement Programming. Presented at 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Mazzella, T. (2010). Innovative Public Engagement Tools in Transportation Planning: Application and Outcomes. Presented at 89th Annual Meeting of the Transportation Research Board, Washington, D.C.

McAndrews, C., Florez-Diaz, J. M., and Deakin, E. (2006). Views of the Street: Using Community Surveys and Focus Groups to Inform Context-Sensitive Design. *Transportation Research Record: Journal of the Transportation Research Board, No. 1981.* Transportation Research Board of the National Academies, Washington, D.C.

Meyers, J., Dulic, C., Luz, C., and Warren, S. (2002). Spending Resources to Maximize Participation: Using an Innovative Media Campaign as a Substitute for an Initial Public Meeting. In *Proceedings of the Seventh TRB Conference on the Application of Transportation Planning Methods.* Transportation Research Board of the National Academies, Washington, D.C., pp. 148–154. Accessed on November 25, 2011: http://www.miamidade.gov/MPO/m12-comm-pimt.htm.

Miami-Dade MPO. (2002). Public Involvement Management Team. *Today's Smaller Communities.* Eighth National Conference on Transportation Planning for Small and Medium-Sized Communities. Transportation Research Board of the National Academies.

Minnesota Department of Transportation. (2004). *Increasing the Value of Public Involvement in Transportation Project Planning.* St. Paul, Minnesota.

———. (1999). *Hear Every Voice: A Guide to Public Involvement.* St. Paul, Minnesota.

———. (1997). *Methods and Approaches to Enhance Involvement in Non-Traditional Transportation Stakeholder Communities and Neighborhoods* [handbook]. St. Paul, Minnesota.

Morris, A. C., and Dyson, W. (2007). Buford Highway Public Involvement Plan. Presented at 86th Annual Meeting of the Transportation Research Board, Washington, D.C.

Morris, A., and Fragala, L. (2010). *NCHRP Synthesis 407: Effective Public Involvement Using Limited Resources,* Transportation Research Board of the National Academies, Washington, D.C.

Mullen, J. (2002). Getting the Message Out: Outreach Techniques that Enlighten and Enliven Today's Smaller Communities. Eighth National Conference on Transportation Planning for Small and Medium-Sized Communities, September 18–20, 2002, Cincinnati, Ohio. Transportation Research Board of the National Academies, Washington, D.C.

Municipal Research and Services Center of Washington. (2000). Effective Public Participation and Communication. Washington.

———. (1998). *Governments are from Saturn . . . Citizens are from Jupiter: Strategies for Reconnecting Citizens and Government.* Washington, D.C.

New York City Department of Transportation. (2009). *Language Access Plan.* New York City. Retrieved March 30, 2011, from: http://www.nyc.gov/html/dot/downloads/pdf/lap_dot_09.pdf.

O'Connor, R., Schwartz, M., Schaad, J., and Boyd, D. (2000). *State of the Practice: White Paper on Public Involvement.* Washington, D.C.: Transportation Research Board, Committee on Public Involvement in Transportation.

O'Connor Center for the Rocky Mountain West at The University of Montana, and The Institute for Environment and Natural Resources at The University of Wyoming. (2000). *Reclaiming NEPA's Potential: Can Collaborative Processes Improve Environmental Decision Making?* Missoula, Montana: O'Connor Center for the Rocky Mountain West, The University of Montana.

Ostlund, S., and Brown, K. (2003). *Guidelines for Graphic Representation to Facilitate Public Involvement.* Mississippi State University, Mississippi State; Research and Special Programs Administration.

Prevost, D. L. (2006). The Geography of Public Participation: Using GIS to Evaluate the Public Outreach Program of Transportation Planning Studies. *Transportation Research Record: Journal of the Transportation Research Board, No. 1981.* Transportation Research Board of the National Academies, Washington, D.C.

Puentes, R., and Bailey, L. (2008). Improving Metropolitan Decision Making in Transportation. Washington, D.C.: Brookings Institution.

Radick, S. (2010). *Integrating Social Media into Communications and Public Involvement Strategies.* Presentation at 89th TRB Annual Meeting of the Transportation Research Board, Washington, D.C. Retrieved December 20, 2011, from: http://www.slideshare.net/Sradick/integrating-social-media-into-public-involvement-strategies-transportation-research-board-trb.

Rails-to-Trails Conservancy, *Meeting in a Box: Rails-to-Trails Conservancy's Toolkit for Building Rail-Trails.* Retrieved December 20, 2011, from: http://www.railstotrails.org/resources/documents/resource_docs/Meeting%20in%20a%20Box.pdf.

Reed, J., and Bosley, M. (2002). Public Involvement: Do You Have a 'Policy' or a 'Plan'? Eighth TRB Conference on the Application of Transportation Planning Methods. Transportation Research Board of the National Academies, Washington, D.C.

Sanoff, H. (1999). *Community Participation Methods in Design and Planning.* Wiley.

Schively, C., Beekman, M., Carlson, C., and Reed, J. (2007). *Enhancing Transportation: The Effects of Public Involvement in Planning and Design Processes.* Minnesota: University of Minnesota.

Schreiber, K., Binger, G., and Church, D. (2004). *Higher-Density Plans: Tools for Community Engagement,* (Rep. No. 03-02). San Jose, California: Mineta International Institute for Surface Transportation Policy Studies.

Shlossberg, M., and Larco, N. (2008). *Active Transportation, Neighborhood Planning and Participatory GIS.* OTREC-TT-08-02. Retrieved January 25, 2011, from: www.otrec.us/main/document.php?doc_id=989.

Shlossberg, M., Evers, C., Kato, K., Maher, D., and Brehm, C. (2010). *Active Transportation, Citizen Engagement, and Livability: Coupling Citizens and Smart Phones to Make the Change.* Presented at 90th Annual Meeting of the Transportation Research Board, Washington, D.C.

Schutz, J. B. (2000). *Use of Public Input to Develop Measures of Effectiveness.* Seventh National Conference on Transportation Planning for Small and Medium-Sized Communities, September 28–30, 2000, Little Rock, Arkansas. Transportation Research Board of the National Academies, Washinton, D.C.

Sierra Club. (nd). *The Road to Better Transportation Projects: Public Involvement and the NEPA Process.* California.

Sinha, K. C., and Labi, S. (2007). *Transportation Decision Making: Principles of Project Evaluation and Programming.* Wiley.

Stave, K. A. (Summer 2008). Using System Dynamics to Improve Public Participation in Environmental Decisions. *Systems Dynamics Review,* 18(2), 139–167.

Tahoe Metropolitan Planning Organization. (1997). Social Service Transportation Advisory Council. Retrieved December 20, 2011, from: http://www.tahoempo.org/sstac.aspx?SelectedIndex=3.

Tilleman, W. A. (1995). Public Participation in the Environmental Impact Assessment Process: A Comparative Study of Impact Assessment in Canada, the United States and the European Community. *Columbia Journal of Transnational Law.* New York: The Columbia Journal of Transnational Law Association, Inc.

Together We Can. (2005). *The True Cost of Public Participation.* United Kingdom.

Transportation/Land Use Connections Program. *Foster Public Involvement in Transportation Choices and Great Places.* Washington, D.C.

Transportation Research Board. (2007). Visualization in Transportation: Empowering Innovation. *TR News,* No. 252, September–October.

———. (2002). Going Public—Involving Communities in Transportation Decisions. *TR News,* No. 220, May–June.

———. (2002). Public Involvement in Transportation: Best Practices, New Approaches. *TR News,* No. 220, May–June.

United States Department of Transportation, Office of Civil Rights. (2000). *Assessment of Environmental Justice and Public Involvement in the Atlanta Metropolitan Area.* Phase I Report.

United States Department of Transportation. (2011). *Public Involvement Techniques: Index of Techniques.* Retrieved December 20, 2011, from Transportation Planning Capacity Building Website: http://www.planning.dot.gov/publicinvolvement/pi_documents/techniques.asp.

United States Department of Transportation, John A. Volpe National Transportation Systems (2010). *Current Uses Of Web 2.0 Applications In Transportation: Case Studies of Select State Departments of Transportation.* Retrieved December 20, 2011, from: http://www.gis.fhwa.dot.gov/documents/web20report/web20report.htm.

United States Environmental Protection Agency. (2008). *Better Decisions Through Consultation and Collaboration.* Washington, D.C.: U.S. Environmental Protection Agency.

———. (2001). *Economics and Innovation: Shareholder Involvement & Public Participation at the U.S. EPA.* Washington, D.C.: U.S. Environmental Protection Agency.

———. (2003). *Public Involvement Policy of the U.S. Environmental Protection Agency* (Rep. No. EPA 233-B-03-002). Washington, D.C.: U.S. Environmental Protection Agency.

———. (2011). *Tools for Public Involvement.* Retrieved December 20, 2011, from: U.S. EPA website: http://www.epa.gov/stakeholders/involvework.htm.

———. (2011). *Public Involvement: Feedback, Evaluation and Customer Satisfaction.* Retrieved December 20, 2011, from: U.S. EPA website: http://www.epa.gov/stakeholders/feedback/index.html.

United States Government Accountability Office. (2005). *Better Dissemination and Oversight of DOT's Guidance Could Lead to Improved Access for Limited English-Proficient Populations.* (GAO-06-52) Washington, D.C.

United We Ride Program. (2011). *A Framework For Action, Building the Fully Coordinated Transportation System: A Self Assessment Tool for Communities.* Retrieved November 25, 2011, from: http://www.unitedweride.gov/FFA-Communities.pdf.

United States Census Bureau. (2004). I Speak Cards. Retrieved November 25, 2011, from: http://www.lep.gov/resources/ISpeakCards2004.pdf.

Urban Habitat. (2011). *Boards and Commissions Leadership Institute.* Retrieved November 28, 2011, from: http://urbanhabitat.org/uh/bcli.

Welzenbach, K. (2006). *Volusia County MPO's Public Involvement Efforts.* Presented at the Annual AMPO Conference. Retrieved November 25, 2011, from: www.ampo.org/assets/322_stringsribbonspresentatio.ppt.

Wisconsin Department of Transportation. *Transportation Synthesis Report: Best Practices for Public Involvement in Transportation Projects.* Wisconsin.

World Café (The). (2011). Retrieved November 26, 2011, from: http://www.theworldcafe.com/.

Zetlin, A., and Ojar, S. (2003). The Public: Key to Successful Projects. *Public Roads,* 67. Retrieved from: http://www.tfhrc.gov/pubrds/03nov/08.htm.

Zhong, T., Young, R. K., and Rutherford, G. S. (2007). *A Model for Public Involvement in Transportation Improvement Programming Using Participatory Geographic Information Systems.* Elsevier.

Transportation History

Brown, J. (2002). *A Tale of Two Visions: Harland Bartholomew, Robert Moses and the Development of the American Freeway,* Presented at 82nd Annual Meeting of the Transportation Research Board, Washington, D.C.

Caro, R. (1974). *The Power Broker: Robert Moses and the Fall of New York.* New York: Vintage.

Lewis, T. (1997). *Divided Highways.* New York: Penguin Press.

Peck, R. (2004). Daniel Patrick Moyhnihan: The Fall and Rise of Public Works in *Daniel Patrick Moynihan: The Intellectual in Public Life.* Washington D.C.: Woodrow Wilson Center Press.

Mohl, R. (2002). *The Interstates and the Cities: Highways, Housing, and the Freeway Revolt.* Research Report, Poverty and Race Research Action Council.

Moynihan, D. (1960). New Roads and Urban Chaos, *The Reporter.*

Sevilla, C. M. (1971). Asphalt Through the Model Cities: A Study of Highways and the Urban Poor. *Journal of Urban Law* (49). Detroit, Michigan: University of Detroit.

Weingroff, R. (2006). *The Greatest Decade 1956–1966: Celebrating the 50th Anniversary of the Eisenhower Interstate System: Part 1 Essential to the National Interest.* Retrieved June 2, 2010, from: http://www.fhwa.dot.gov/infrastructure/50interstate.cfm.

Tribal Transportation and Tribal Consultation

Advisory Council on Historic Preservation. (2008). *Consultation with Indian Tribes in the Section 106 Review Process: A Handbook.*

Arizona Department of Transportation. (2008). *Dine' Tah "Among the People" Scenic Road, Corridor Management Plan.* Retrieved November 25, 2011, from: http://www.azdot.gov/Highways/SWProjMgmt/enhancement_scenic/scenicroads/PDF/cmp_dine_tah.pdf.

ATR Institute, G. C. Migliaccio, G. Knoebel, R. Martinez, D. Albert, and J. Hurd. (2010). *NCHRP Report 690: A Guidebook for Successful Communication, Cooperation, and Coordination Strategies Between Transportation Agencies and Tribal Communities.* Transportation Research Board of the National Academies, Washington, D.C.

Center for Transportation Research and Education, Iowa State University. (2002). *Iowa Tribal Consultation Process: Initiatives and Recommendations.*

Downer, A. (2000). The Navajo Nation Model: Tribal Consultation Under the Nation's Historic Preservation Act. *CRM, 23 (9).*

Federal Highway Administration. (2004). *Proceedings of the Federal Highway Administration, Pennsylvania Division, Inter-Tribal Summit.* September 10–12, 2003.

Lummi Nation, Bureau of Indian Affairs, Department of Interior, and U.S. Department of Transportation. (2009). *The Reservation Road Planner Game.* Retrieved November 25, 2011, from: http://www.roadplanner.org/.

Mapes, L. V. (2009). *Breaking Ground: The Lower Elwha Klallam Tribe and the Unearthing of Tse-whit-zen Village.* Seattle, Washington: University of Washington Press.

Mecks, S., Retzlaff, R., and Schwab, J. (2007). *NCHRP Synthesis 366: Tribal Transportation Programs: A Synthesis of Highway Practices.* Transportation Research Board of the National Academies, Washington, D.C.

Minnesota Department of Transportation. (2011). *Advocacy Council for Tribal Transportation.* Retrieved December 20, 2011, from: Minnesota DOT website: http://www.dot.state.mn.us/mntribes/actt/.

National Association of Tribal Historic Preservation Officers. (2005). *Tribal Consultation: Best Practices in Historic Preservation.* Washington, D.C.

National Environmental Justice Advisory Council, Indigenous Peoples Subcommittee. (2000). *Guide on Consultation and Collaboration with Tribal Governments and on Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making.*

National Park Service. (1999). *Common Ground: Speaking Nation to Nation.* 2(3/4).

*National Tribal Roads Conference Peer Workshop for Tribal Transit Service Development. (*2004). Albuquerque, New Mexico.

National Congress of American Indians. (2004). *An Introduction to Indian Nations in the United States.* Washington, D.C. Retrieved June 16, 2010, from http://www.ncai.org/fileadmin/initiatives/NCAI_Indian_Nations_In_The_US.pdf.

National Scenic Byways Program, "Dine' Tah 'Among the People' Scenic Road Overview." Retrieved November 25, 2011 from: http://www.byways.org/explore/byways/50185/index.html.

Office of the Secretary of Transportation. (1999). Department of Transportation Programs, Policies, and Procedures Affecting American Indians, Alaska Natives, and Tribes.

Spivey, J. E. (2000). *Consultation with American Indian Tribal Governments and the Transportation Process.* Preservation Notes.

Stoffle, R., Halmo, D., and Zedeno, M. (2001). *American Indians and the Nevada Test Site: A Model of Research and Consultation.* U.S. Government Printing Office. Washington, D.C.

Transportation Research Board. (2007). *NCHRP Synthesis 366: Tribal Transportation Programs.* Transportation Research Board of the National Academies, Washington, D.C.

Transportation Research Board, (2002). *Transportation Research Circular E-C039: Conference on Transportation Improvements: Experiences Among Tribal, Local, State, and Federal Governments.* TRB, National Research Council, Washington, D.C.

Washington State Department of Transportation. (2008). *WSDOT Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act.* Olympia, Washington. Retrieved November 26, 2011, from: http://www.wsdot.wa.gov/NR/rdonlyres/BF49CED8-B7C7-46A4-BA89-93153AB70FF3/0/TribalManual.pdf.

Washington State Department of Transportation. (2009). *Tribal Transportation Planning Guide for Washington State.* Olympia, Washington. Retrieved November 26, 2011, from: http://www.wsdot.gov/NR/rdonlyres/D9668173-F25F-448B-B571-57EB32122036/0/TribalTransportationPlanningGuideforWashingtonState.pdf.

Image Credits

Chapter 3

Figure 3-1: Missouri Department of Transportation; Figure 3-2: Federal Highway Administration; Figure 3-3: Aimen Consulting; Figure 3-4: Morgan State University; Figures 3-5, 3-12, 3-15, 3-17, 3-27: Neighborhood Solutions; Figures 3-6, 3-20: Miami Dade Metropolitan Planning Organization; Figures 3-7, 3-8: New York City Department of Transportation; Figure 3-9: Center for Neighborhood Technology; Figures 3-13, 3-19, 3-34, 3-40, 3-41: Hoopa Valley Tribe; Figures 3-14, 3-22, 3-23, 3-35: Tennessee Department of Transportation; Figure 3-11: City of Columbia, SC; Figures 3-18, 3-21, 3-26: Atkins; Figure 3-16: Atlanta Regional Commission; Figure 3-24: The Atlanta Development Authority; Figure 3-25: Alaska Department of Transportation; Figures 3-28, 3-33, 3-36: City of Seattle; Kentucky Transportation Cabinet; Figure 3-29: Figures 3-30, 3-47: Wisconsin Department of Transportation; Figure 3-31: Michigan Department of Transportation; Figure 3-32: City of Austin; Figure 3-34: Northwest Tribal Technical Assistance Program, Richard Rolland; Figures 3-37, 3-38: Carter & Carter Associates; Figure 3-39: Federal Highway Administration; Figure 3-42: Safe Routes to Schools National Partnership; Figure 3-43: New Jersey Department of Transportation; Figure 3-44: La Casa de Don Pedro; Figure 3-45: Georgia Institute of Technology, Center for Quality Growth and Regional Development; Figure 3-46: San Francisco Public Health Department; Figure 3-47: Missouri Department of Transportation; Figure 3-48: Wisconsin Department of Transportation.

Chapter 4

Figure 4-1: Coastal Carolina University; Figures 4-2, 4-3: Miami Dade MPO; Figure 4-4: Delaware Valley Regional Planning Commission; Figures 4-5, 4-6: Atlanta Regional Commission; Figures 4-7, 4-8, 4-9: Tennessee Department of Transportation; Figure 4-10: Kentucky Transportation Council; Figure 4-11, 4-12, 4-13: Community Planning Association of Southwest Idaho; Figure 4-14: Lummi Nation; Figure 4-15: NW Tribal Technical Assistance Program, Richard Rolland; Figures 4-16, 4-17: Federal Highway Administration; Figures 4-18, 4-19: Georgia Department of Transportation; Figure 4-20: Southwest Region Planning Commission; Figure 4-21: San Antonio-Bexar County Metropolitan Planning Organization; Figures 4-22, 4-23, 4-24: City of Seattle; Figures 4-25, 4-26, 4-27: Morgan State University; Figure 4-28: Baltimore Metropolitan Council; Figure 4-29: Pittsburgh Interfaith Impact Network; Figures 4-30, 4-31, 4-32: Colorado Department of Transportation; Figures 4-33, 4-34: North Carolina Department of Transportation; Figure 4-35: Washington State Department of Transportation; Figures 4-36, 4-37, 4-38: Mississippi Department of Transportation; Figures 4-39, 4-40: Central Puget Sound's Regional Transit Authority, Sound Transit; Figure 4-41: Urban Habitat; Figure 4-42:

Missouri Department of Transportation; Figure 4-43: Shriver Center; Figures 4-44, 4-45: Arizona Department of Transportation; Figure 4-46: Wisconsin Department of Transportation.

Chapter 5

Figures 5-1, 5-2, 5-3: Morgan State University; Figure 5-4: Neighborhood Solutions; Figure 5-5: Hillsborough County Metropolitan Planning Organization; Figure 5-6: Colorado Department of Transportation; Figure 5-7: Central Puget Sound's Regional Transit Authority, Sound Transit; Figure 5-8: Massachusetts Department of Transportation; Figure 5-9: La Casa de Don Pedro; Figure 5-10: Somerset County, Ridewise Authority; Figure 5-11: Alamo Regional Mobility; Figure 5-12: Tennessee Department of Transportation; Figure 5-13: City of Seattle Department of Transportation; Figure 5-14: City of Alexandria, Virginia; Figure 5-15: Carter & Carter Associates; Figure 5-16: Atkins; Figure 5-17: Google Maps; Figure 5-18: Georgia Department of Transportation; Figure 5-19: Community Planning Association of Southwest Idaho; Figures 5-20, 5-21: Chicago Metro Area Planning; Figure 5-22: Northwest Tribal Technical Assistance Program, Richard Rolland; Figure 5-23: Hoopa Valley Tribe; Figure 5-24: New Jersey Department of Transportation; Figure 5-25: La Casa De Don Pedro; Figure 5-26: National Highway Traffic Safety Administration; Figure 5-27: Oregon Department of Transportation.