FLORIDA PLANNING EMPHASIS AREAS

A RESOURCE GUIDE TO NOTABLE PRACTICES

FDOT

JULY 2022

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[1] Size of the entity is determined as Large (greater than 1 million); Medium (between 200,000-1 million); Small (less than 200,000)

[2] D is Document, I is Initiative, and T is Tool

Organization of the document

This resource guide provides examples for the four Florida planning emphasis areas. Each emphasis area overview is summarized in context of federal law and FHWA and FTA guidance, FDOT policies and procedures, relationship to the FTP, and connection to the metropolitan transportation planning process. Following each emphasis area overview, implementable examples are documented with noteworthy aspects, application for Florida MPOs, and topics for addressing the emphasis areas in the metropolitan planning processes.

Each example is classified by its location, size, and outcome of the effort by the lead organization. Location identifies whether the example was inside or outside of Florida and the size provides an indication of the population served for the lead organization. The outcome of the effort is described as a document, an initiative, or a tool that other transportation planning agencies have developed. There are a variety of ways to address planning in each area, so the examples are meant to provide a flavor of activities rather than being an exhaustive list. As this guide was being produced, many examples were reviewed for their notable practices. However, for size and length purposes, this guide summarizes a few examples for each area acknowledging there are many great examples of work that could be highlighted.

INTRODUCTION

The Florida Department of Transportation (FDOT) Office of Policy Planning (OPP) develops Florida-specific planning emphasis areas on a two-year cycle in coordination with the development of each Metropolitan Planning Organization's (MPO[3]) respective Unified Planning Work Program (UPWP). These Florida emphasis areas set state planning priorities and support the Florida Transportation Plan (FTP), Florida's long-range transportation plan. They also support planning emphasis areas identified at the federal level. The purpose of this document is to provide context for legislative, statutory, and policy guidance as well as identify a variety of notable practices, both in Florida and in other states, as examples of how to address the Florida emphasis areas in the metropolitan transportation planning process.

Florida Transportation Plan

The FTP is the single overarching plan guiding Florida's transportation future. It is updated every five years and is a collaborative effort of state, regional, and local transportation partners in the public and private sectors. The entirety of the FTP incorporates four elements for the vision, policy, performance, and implementation of the plan.

The Vision Element embraces a vision of how our transportation system meets the changing needs of our state. This vision is focused on seven interrelated goals for Florida's transportation future including safety, infrastructure, mobility, choices, economy, community, and environment.

While all elements are integral to Florida's transportation future, the Policy Element is the core of the FTP. It defines goals, objectives, and strategies to guide FDOT and our partners to develop and implement policies, plans, and programs. Specifically, the FTP Policy Element calls for Florida's transportation partners to reaffirm our primary commitment to safety and security and pursue comprehensive approaches to achieving this goal. It broadens our definition of transportation infrastructure to include supporting technologies and expands our focus beyond maintaining infrastructure to providing agile and resilient infrastructure. It expands our emphasis from improving efficiency of the system to enhancing mobility for people and freight and accessibility for all Floridians.

[3] For this document, MPO refers to all forms of a MPO including Metropolitan Planning Organization (MPO), Transportation Planning Organization (TPO), Transportation Planning Agency (TPA), and Metropolitan Transportation Planning Organization (MTPO).

Finally, it calls on all of us to embrace forward-looking planning for how transportation supports a more competitive, resilient, and sustainable state.

The FTP is a framework to guide FDOT's investment decisions. For other partners, the FTP provides guidance that can be incorporated into policies, plans, and programs. Specifically, Florida's 27 metropolitan planning organizations along with other regional entities play the lead role in implementing the FTP at the regional scale. Regional collaboration is critical to maintaining and updating long-range regional visions; aligning transportation, economic development, workforce development, and environmental stewardship decisions; and identifying needed improvements to regionally significant transportation facilities that connect population and economic centers within common regions.

OVERVIEW OF PLANNING EMPHASIS AREAS

Florida Planning Emphasis Areas

In 2021, FDOT OPP identified four emphasis areas that cover important and timely topics to be considered in the metropolitan transportation planning process. These emphasis areas recognize key topics which MPOs are encouraged to address as they develop their planning programs. Implementation of the seven FTP goals requires embracing innovation; extensive collaboration across jurisdictions, modes and disciplines; an emphasis on customer service; data and performance feedback; and strategic investments for the efficient and effective allocation of resources. These four planning emphasis areas are:

 **SAFETY**	Advancing Florida's highest priority- the target of zero fatalities and serious injuries on the transportation system.
 **EQUITY**	Advancing access to opportunity for affordable transportation services and information access options for all ages and abilities and throughout underserved communities.
 **RESILIENCY**	Adapting to changing conditions and preparing for, withstanding, and recovering from disruption.
 **EMERGING MOBILITY**	Transforming the transportation system through automated, connected, electric, and shared (ACES) vehicles as well as other non-traditional vehicles such as on-demand bike and rideshare services, micromobility, and courier services.

Federal Planning Emphasis Areas

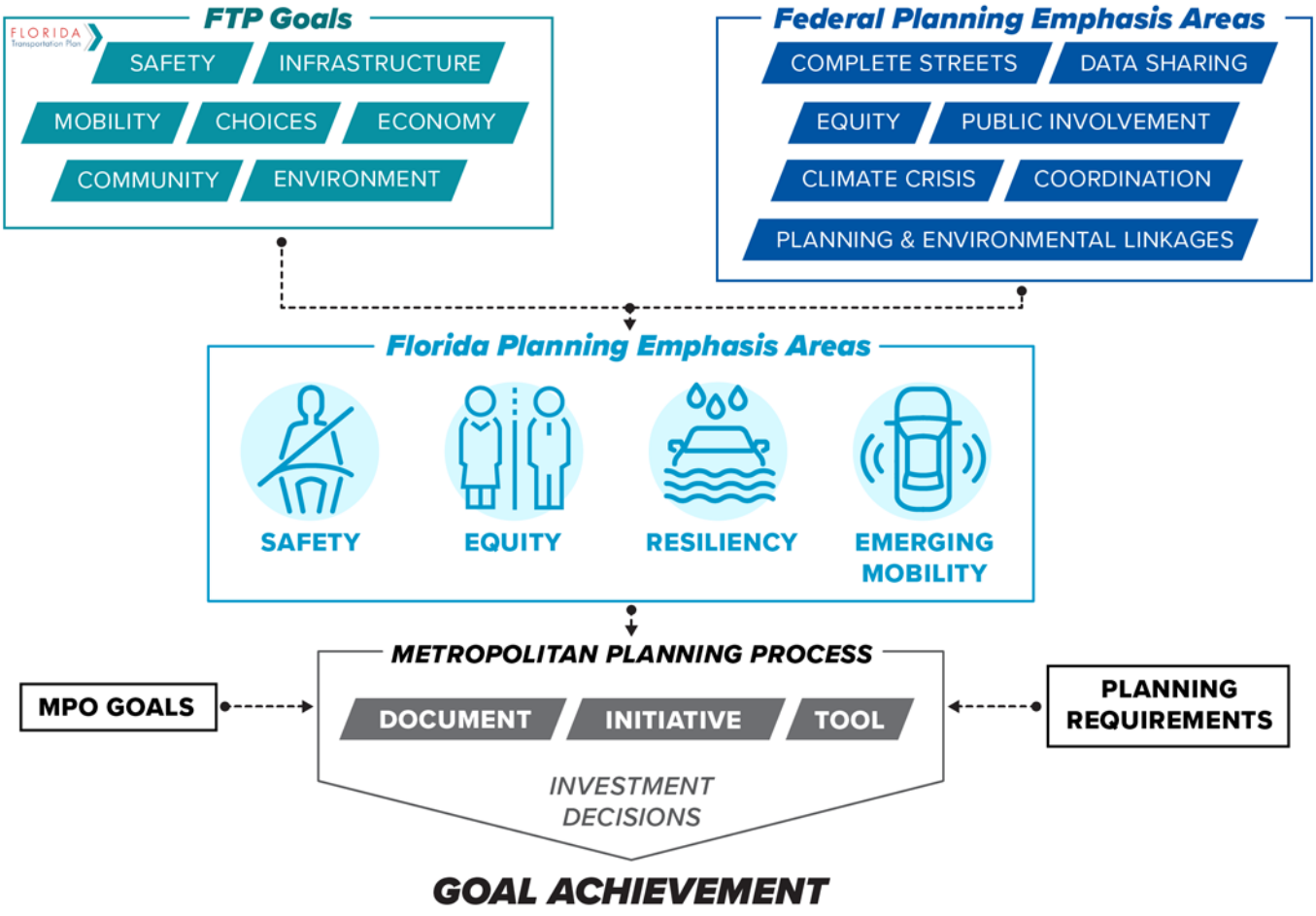
At the federal level, the law identifies ten planning factors that all MPOs are required to address in the metropolitan transportation planning process. Separate from but in addition to the ten planning factors, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) recognize federal planning emphasis areas to identify and develop tasks associated with the UPWP. While the federal *planning factors* are recognized in law, the federal *planning emphasis areas* are adjusted periodically to acknowledge current issues

and topics of interest and concern to FHWA, FTA, state departments of transportation, MPOs, and public transit agencies.

In December 2021, FHWA and FTA jointly issued eight updated federal planning emphasis areas to encourage transportation planning agencies to give priority to these particular issues in their UPWPs. Their joint letter identified the following

- Tackling the Climate Crises – Transition to a Clean Energy, Resilient Future
- Equity and Justice40 in Transportation Planning
- Complete Streets
- Public Involvement
- Strategic Highway Network (STRAHNET)/US Department of Defense (DOD) Coordination
- Federal Land Management Agency (FLMA) Coordination
- Planning and Environment Linkages (PEL)
- Data in Transportation Planning

Planning emphasis areas from both FDOT and FHWA/FTA provide direction for planning priorities during the update of the UPWP and the entire planning process. Robust planning processes allow the MPOs to provide the best possible products to serve those within their MPO boundaries in a variety of ways that impact the transportation system. Guidance from FDOT, FHWA, and FTA strengthen the opportunity to create and enhance documents, initiatives, and tools to address the needs and concerns of today. This graphic shows the relationship of the Florida emphasis areas to the FTP and other related planning guidance and processes.



Addressing the Florida Emphasis Areas in the Metropolitan Planning Process

FTP implementation requires partnerships among many entities, including MPOs, regional planning councils, and local governments. FDOT, MPOs, and other transportation partners must continue to refine their planning and investment decision-making processes to address all seven FTP goals, embrace innovation and operational solutions, and provide greater agility and resilience to address known and unexpected opportunities and risks.

The FTP Implementation Element defines actions for the key strategies in five areas: collaboration; customers; data and performance; policy, planning, and decision-making; and regional and local flexibility. The first four areas along with complimentary topics identified at the federal level: complete streets, planning and environmental linkages, and public involvement are summarized in the graphic below and are used to identify how the case examples summarized later in this guide relate to the metropolitan planning process. The area of regional and local flexibility is consider an overarching topic for this guide because of the regional nature of MPOs.

COLLABORATION  Working with partners across sectors, modes, and disciplines.
CUSTOMERS  Understanding and responding to customer values and preferences, enhance public input and engagement, and improve customer service.
PERFORMANCE AND DATA  Improving the use of performance measures and data to monitor conditions, guide investment decisions, and demonstrate progress toward the FTP goals.
POLICY, PLANNING, AND DECISION-MAKING  Evolving policies and planning and investment decision-making processes to address the FTP goals, embrace innovation, and provide greater agility and resilience to address known and unexpected opportunities and risks.
COMPLETE STREETS  Ensuring the safety of all road users via policies, rules, and procedures to protect all users, particularly those outside the automobile.
PUBLIC INVOLVEMENT  Bringing diverse viewpoints into the decision-making process and increasing meaningful public participation with an emphasis on traditionally underserved populations.
PLANNING AND ENVIRONMENTAL LINKAGES  Collaborating on transportation decision-making that considers environmental, community, and economic goals early in the transportation planning process.

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SAFETY

The number of traffic fatalities in Florida are the highest in over a decade and that is unacceptable. In fact, no death on Florida's transportation system is acceptable. In Florida, more than 3,100 people die from crashes each year, representing 3,100 family members, friends, coworkers, and loved ones that did not make it home to those that care about them.

Florida's transportation stakeholders are committed to the vision of zero transportation fatalities and serious injuries as our top priorities. To accomplish this, Florida has embraced Target Zero and is prioritizing activities that eliminate fatalities and serious injuries on the transportation system. Florida's commitment to Target Zero is reflected in the Strategic Highway Safety Plan (SHSP), Florida Transportation Plan (FTP), and by 19 of Florida's MPO long-range transportation plans (LRTP). Eight MPOs have set interim safety targets with a long-term focus on achieving the state's vision of zero fatalities and serious injuries. Florida's state, regional, and local partners understand that one agency alone cannot solve Florida's safety challenges alone and collaboration is vital to eliminate fatalities and serious injuries on both state and locally maintained transportation facilities.

Federal Guidance

Following guidance from the Federal Highway Administration (FHWA), Florida supports the Safe System approach by prioritizing Safe Road Users, Safe Vehicles, Safe Speeds, Safe Roads, and Post-Crash Care in all of their plans and activities including the SHSP and FTP. The Safe System approach recognizes that humans make mistakes, and the transportation system should be designed to make every effort that roadway crashes do not lead to fatal or serious injuries. This fresh perspective on safety is well aligned with the recently adopted U.S.DOT National Roadway Safety Strategy that outlines major actions the U.S.DOT will prioritize over the next few years to deliver a safer transportation system.

The passage of the 2021 Bipartisan Infrastructure Law (BIL) will help to further enhance transportation safety on Florida's roadways, encourage safer behavior, and provide opportunities to invest in safety across different modes of transportation. Along with increased funding flexibility, this new law brings additional funding for a variety of new and existing safety initiatives. Furthermore, BIL repurposes grant funding for states to be better allocated in intended purposes and strongly emphasizes the implementation of the Safe System approach.

FDOT Guidance

FDOT updated the Florida SHSP in 2021. The SHSP is the statewide-coordinated safety plan providing a comprehensive framework for reducing fatalities and serious injuries on all public roads. It introduces key strategies beyond the traditional 4Es of traffic safety - Engineering, Education, Enforcement, and Emergency Response - to include the 4Is - Information Intelligence, Innovation, Insight into Communities, and Investments and Policies – which is better aligned with the Safe System approach. An internal FDOT Safety working group drew inspiration from the SHSP and worked diligently to foster change from within FDOT introducing tools and resources that help staff understand their role and relationship to traffic safety and revising existing design guidelines and standards to better accommodate safety in all FDOT projects. This shift in perspective and business practices have led to changes in the Highway Safety Improvement Program (HSIP) and Strategic Intermodal

System (SIS). Florida's HSIP is transferring more responsibility to FDOT Districts to better implement HSIP funding at a regional and local level. The 2022 SIS Policy Plan prioritizes safety on the SIS to address fatal and serious injury crashes related to lane departures and crashes involving speeding and aggressive driving.

Connection to the Florida Transportation Plan Goals

The FTP's highest priority goal is *Safety and Security for Residents, Visitors, and Businesses*. The FTP specifically emphasizes expanding the safety focus from the 4Es of traffic safety to reduce fatalities and injuries to using emerging technologies and addressing land use and socioeconomic factors to improve safety and security for all modes. The FTP also identifies two measurable objectives related to eliminating transportation-related fatalities and serious injuries and reducing the number of crashes and other safety incidents on the transportation system, culminating in the key strategy of *Commit to Vision Zero* as Florida's top priority.

Connection to the Metropolitan Transportation Planning Process

FHWA's Safety Performance Management Rule requires States and MPOs to adopt and implement safety performance targets and integrate performance management into the MPOs LRTP. Each MPO must show how their LRTP and priority projects in their Transportation Improvement Program (TIP) support progress toward their targets.

MPOs have demonstrated their effort toward zero with a number of safety, complete streets, and multimodal transportation priority projects; bicycle and pedestrian safety with the use of pedestrian hybrid beacons, raised medians, bike-lane connections, and closing sidewalk gaps; and designing and engineering improvements on signalized intersections.

Notable Practices

Seven case examples were identified to demonstrate how other planning agencies are addressing safety within their communities. Some regions are focused on motorist behavior whereas others are prioritizing non-motorist approaches by enhancing community connections to attain statewide safety targets. These examples are intended to demonstrate that safety projects, large or small, contribute to a safer transportation network.

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LOCAL ROAD SAFETY PLANS

Capital District Transportation Committee, El Paso County, Palm Beach County, Collier MPO

OVERVIEW

Local Road Safety Plans (LRSPs) provide a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. These roads experience a fatality rate three times higher than the interstate system. FHWA provides resources on the LRSP development process for local road agencies to tailor their content to local issues and needs. LRSPs have been successful in comprehensively addressing safety for a variety of local agencies throughout the nation. They can also be used to identify locations where highly fatal and serious injury crashes are likely and proactively address these crashes before they happen. This success has motivated many agencies to adopt LRSPs as a tool for reducing fatal and serious injury crashes. Below are some national and Florida LRSP case examples.

Source: FHWA

NATIONAL LOCAL ROAD SAFETY PLAN NOTABLE PRACTICE EXAMPLES

The Capital District Transportation Committee (CDTC), the MPO for the Albany-Schenectady-Troy and Saratoga Springs metropolitan areas in New York, prepared a LSRP in 2019 to develop strategies for reducing fatal and serious injury crashes on local roads in the CDTC planning area. This plan supports the New York State SHSP and follows the LRSP development process outlined by FHWA. The plan used a data-driven approach by analyzing six years of crash data, identifying crash contributing factors, identifying sites with potential for safety improvement using a crash tree, developing strategies, and recommending countermeasures. The plan lists potential short-term strategies for CDTC to consider and highlights future areas of exploration including the Safe System approach, Vision Zero, and Connected and Autonomous vehicles with a goal to continually reduce the potential for fatal and serious injury crashes.

El Paso County, Colorado is developing a LSRP utilizing a data-driven approach with a goal to reduce deaths and serious injuries and make the county a safer place for all road users. As a part of this effort, the County will be conducting crash data analysis, identifying priority locations for further analysis based on the results of the crash data analysis and stakeholder input, identifying countermeasure solutions for those priority locations, and conducting road safety audits at 10 priority locations. The project will also involve developing a best practice toolkit to address the key factors, creating a prioritized list of projects, documenting the County's support for Towards Zero Deaths, and completing a final report and implementation plan. The County has published a Safety Performance Dashboard that provides charts, tables, and mapping for fatalities and serious injuries trend by emphasis areas and other contributing factors.

FLORIDA LOCAL ROAD SAFETY PLAN NOTABLE PRACTICE EXAMPLES

Palm Beach County developed an LRSP in 2019 in partnership with the FHWA and FDOT. The LRSP draws on best practices in safety planning and supports statewide goals and priorities established in the Florida SHSP. The LRSP was developed using a data-driven, multi-disciplinary, and collaborative process and summarizes efforts to

identify appropriate strategies and determine priority locations for safety investment. Analysis of four years of fatality and serious injury crashes led to the identification of six emphasis areas for the County. Mitigation strategies include a combination of infrastructure and behavioral strategies and countermeasures targeted at addressing fatal and serious injury crashes within each emphasis area. The County revisits the LRSP annually with progress updates by emphasis area.

The 2021 **Collier MPO** LRSP is a collaborative and comprehensive plan that was developed through analyzing four years of crash data analysis, public outreach, collaboration and safety coalition building, and development and adoption of recommendations. The LRSP implementation plan lists best practices and shows potential processes for addressing infrastructure and non-infrastructure strategies identified in the recommendations section of the final report. The LRSP will be updated every five years prior to the update of the Collier MPO LRTP.

WHY THIS PRACTICE IS NOTEWORTHY

LRSPs are a proven safety countermeasure recommended by FHWA. Developing an LRSP is an effective strategy to improve local road safety for all road users and support the goals of a State's overall SHSP. LRSPs are flexible and utilize the 4 E's of traffic safety to establish and gain support for an agency's local safety goals, objectives, and key emphasis areas. LRSPs offer a proactive approach for addressing safety issues, improving relationships with stakeholders and public, helping fund requests by documenting specific needs, and serving as a proactive risk management technique to demonstrate responsiveness to addressing safety needs.

APPLICATION FOR FLORIDA MPOS

FHWA has developed several resources including an LRSP Do-It-Yourself website explaining the process and providing resources that local agencies and their partners can use to create and implement an LRSP. Available to Florida MPOs, these resources are a starting point to developing an LRSP and customizing the plan based on the local need and concerns. Although the development process and resulting plan can vary depending on the local agency's needs, available resources, and targeted crash types, success of an LRSP depends on five critical components according to FHWA's LRSP guide:

- Having a champion
- Developing a clear vision and mission
- Assembling collaborating partners
- Allocating appropriate resources
- Establishing open communication

If one of these components is not initially available, the plan should still move forward, as other components may be added or expanded over the course of the process.

FOR MORE INFORMATION

FHWA LRSP Do-It-Yourself

Palm Beach County LRSP Report

El Paso County Road Safety Plan

CDTC Local Road Safety Action Plan

Collier MPO LRSP

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

LSRPs address the following highlighted topics

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REGIONAL SAFETY ACTION PLAN

Atlanta Regional Commission

OVERVIEW

To address safety challenges for pedestrians and bicyclists, Atlanta Regional Commission (ARC) developed *Safe Streets for Walking and Bicycling: A regional action plan for reducing traffic fatalities in metropolitan Atlanta*. ARC serves as the regional convener of diverse stakeholders in Atlanta and surrounding counties. ARC is responsible for updating the Regional Transportation Plan and prioritizes spending on transportation projects in the 20-county Atlanta region over the next two decades.

> ***"The Atlanta region will be one of the most connected and safest regions in the United States for walking and bicycling and use active transportation to improve the mobility, safety, and economic competitiveness for residents and communities."***

The *Safe Streets* plan establishes a data-driven, proactive, and aggressive regional approach to eliminating fatal and serious injury crashes. Its strategies include focusing funding on projects that eliminate roadway designs that are dangerous to pedestrians and bicyclists, aligning with the Safe System approach, and championing a Complete Streets approach to project selection, prioritization, and delivery.

Safe Streets is built around these critical steps:

Target and Approach

1. Set a Target: Zero Fatalities by 2030
2. Embrace a Safe System Approach

Data-driven Solutions

3. Identify Risks, Demand, and Policy Priorities
4. Use Evidence-based Countermeasures to Eliminate Risks

Strategies For Action

5. Short-term: Focus Regional Funding on Safety
6. Medium-term: Support Better Projects
7. Long-term: Champion Complete Streets Implementation

Evaluation and Research

8. Support Improved Data Collection, Crash Analysis, and Evaluation

WHY THIS PRACTICE IS NOTEWORTHY

The *Safe Streets* plan is a notable Safe System approach implementation example because it demands a complete culture change from state, regional, and local transportation partners as well as from the public as a whole and while ambitious, is founded on strategies and principles that can be implemented incrementally over the next decade and beyond. It is a comprehensive data-driven safety plan focused on the needs of pedestrians and bicyclists, the region's most vulnerable transportation users.

The eight critical steps outlined in *Safe Streets* are well thought out with tangible performance measures but push the region to go beyond traditional traffic safety planning. The plan includes several evidence-based countermeasures and best practice examples for applying the countermeasures in real-world instances.

APPLICATION FOR FLORIDA MPOS

ARC created a model plan that provides a valuable road map for any state, region, or locality ready to formalize their commitment to making measurable strides in improving traffic safety, especially for pedestrians and bicyclists. A program such as *Safe Streets,* which is founded on the Safe System approach and has support from a region's safety partners is a valuable tool for any MPO. It provides clear and direct actions for achieving a region's vision of zero fatalities and serious injuries and identifies performance measures to keep an MPO and its partners accountable. This commitment is the first step in changing the way transportation agencies, partners, and the public approach traffic safety and is necessary to achieve such an ambitious safety vision. Early steps for formalizing such a commitment might include establishing a regional safety vision, outlining measurable steps to achieve that vision, and identifying evidence-based countermeasures that support the regional vision and context.

FOR MORE INFORMATION

Safe Streets for Walking and Bicycling: A regional action plan for reducing traffic fatalities in metropolitan Atlanta

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The ARC *Safe Streets for Walking and Bicycling: A regional action plan for reducing traffic fatalities in metropolitan Atlanta* addresses the following highlighted topics

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PLANNING FOR SAFETY

Baltimore Regional Transportation Board

OVERVIEW

The Baltimore Regional Transportation Board (BRTB) is in the process of updating their LRTP, *Resilience 2050*. To support the update process, a series of white papers were developed on key topics such as air quality, transit, freight movement, and traffic safety. The white papers were shared with the public for input.

> ***All candidate projects submitted for Resilience 2050 will be scored based on their inclusion of countermeasures addressing non-motorist safety, speeding, and impaired or distracted driving.***

According to their Traffic Safety White Paper, safety experts historically believed that more cars on the roadway was a contributor to the number of fatal and serious injury crashes. However, during the COVID-19 pandemic, when fewer cars were on the road, many of those travelling were exhibiting significantly higher speeds, higher rates of impairment, decreased use of seatbelt, and other unsafe behaviors. Sadly, these changes in behavior resulted in a 19 percent increase in fatalities from 2019 to 2020.

Understanding the need for a change in perspective, the BRTB aligned planning efforts with the Safe System approach and is considering safety more holistically. The BRTB and its jurisdictions have sharpened their focus on non-motorist safety and a more walkable and bikeable region. In addition, many jurisdictions have implemented Complete Streets policies and included equity as a critical component to transportation safety. The implementation of local SHSP is another planning tool that fosters collaboration and builds partnerships and trust among transportation safety agencies and partners. This collaboration brings systemwide benefits by combining use of countermeasures that can improve safety more effectively than any single countermeasure. These planning tools and strategies strengthen BRTB's commitment to eliminating fatalities and serious injuries and demonstrates the high priority on safety through the *Resilience 2050* goal to "Improve System Safety" and its related strategies and the project scoring methodology.

WHY THIS PRACTICE IS NOTEWORTHY

The BRTB took a critical look at historical practices for improving safety and made bold changes to address safety differently. With fatalities and serious injuries approaching all-time highs around the nation, the BRTB agreed that changes must be made. They are considering safety more holistically, incorporating concepts like equity and resilience into their safety planning, and ensuring safety is included in all projects and plans, not just those funded using safety dollars. They marketed their Traffic Safety White Paper extensively to partners and the public and provided updates based on the input received through the process. This outreach proved to be a collaborative effort that has educated the public and partners about the region's safety challenges while building the foundation of a safety culture that holds everyone accountable for traffic safety.

APPLICATION FOR FLORIDAS MPOS

When inspiring change, taking the lead is a crucial first step. As demonstrated by the BRTB, reevaluating the approach to safety with a reinvigorated commitment to reducing fatalities and serious injuries has positioned them for the traction needed to sustain such an effort. An MPO can be the catalyst to a new and innovative approach that considers more than traditional safety solutions like engineering and enforcement and broadens the responsibility to all partners and the public. Considerations for igniting a cultural change include aligning the MPO plans and activities with the Safe System approach, understanding that engineering countermeasures alone are not enough, and becoming a champion for the region's safety principles.

Many MPOs have taken on the challenging role of leading the safety culture change for their region. Approaches include identifying measurable changes that will impact the way projects are identified, selected, and prioritized; identifying the region's most critical safety challenges and prioritizing solutions and education campaigns impacting those challenges will help gain traction; and supporting the development of local SHSPs to strengthen the commitment to safety at the local level while gaining a better understanding of local safety challenges.

FOR MORE INFORMATION

Resilience 2050 Overview

Resilience 2050 – Traffic Safety White Paper

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The BRTB Traffic Safety White Paper addresses the following highlighted topics

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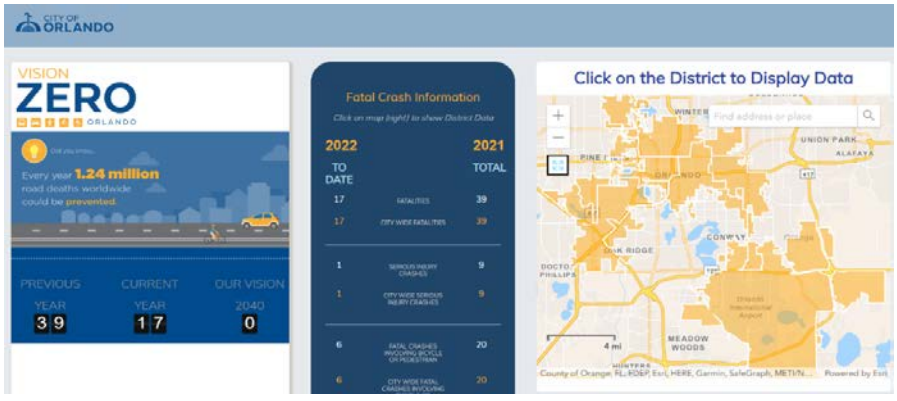
VISION ZERO ACTION PLAN

City of Orlando

OVERVIEW

In December 2017, the City of Orlando joined other cities across the nation by adopting a resolution to set a goal of zero fatalities and serious injuries. In response, the City developed the *Vision Zero Orlando Action Plan*, emphasizing a Safe System approach, to eliminate all traffic-related fatalities and serious injuries by the year 2040. MetroPlan Orlando was part of the multidisciplinary task force along with experts in transportation, public health, law enforcement, public policy, elected officials, and community members who collaborated in the development of this Action Plan. The Vision Zero task force met to discuss progress and challenges related to the adopted action strategies and offered guidance on refinement of these strategies. Together, the city and the task force committed to accountability and community engagement.

To help communities set priorities and an implementation framework, the *Vision Zero Orlando Action Plan* was designed to follow the Vision Zero Network[4] core elements, which include leadership and commitment; safe roadways and safe speeds; and a data-driven approach for transparency and accountability. Community engagement, through workshops and online platforms, played a key role in identifying factors contributing to crashes, other challenges, and goals leading to the creation of the *Action Plan*. A public outreach toolkit was developed to facilitate community events throughout the city and engage new stakeholders. As a part of the adoption of the *Vision Zero Orlando Action Plan*, a dashboard was developed to provide updates on crash data by city commission districts and other measures contributing to high risk behaviors. This helps to monitor traffic safety within the city. The dashboard also provides a record of data relevant to the six E's of Vision Zero Orlando: Engineering, Equity, Education, Evaluation, Economics, and Enforcement with visibility for all users.



The *Vision Zero Orlando Action Plan* identifies goals, specific objectives, action strategies, and performance metrics to track plan implementation. Progress toward the completion of existing action strategies are evaluated every two years along with identifying new strategies as needed.

Five other areas in Florida have joined the Vision Zero Network and adopted Vision Zero Action Plans including Fort Lauderdale, West Palm Beach, Tampa, and Hillsborough County. In total, over 45 communities across the nation have joined the Vision Zero Network.

[4] The Vision Zero Network is a collaborative campaign helping communities reach their goals of Vision Zero -- eliminating all traffic fatalities and severe injuries -- while increasing safe, healthy, equitable mobility for all.

WHY THIS PRACTICE IS NOTEWORTHY

The *Vision Zero Orlando Action Plan* was created through an array of agency collaborations, focusing on equity and community engagement throughout the plan process. With the adoption of the *Action Plan*, the City of Orlando created a fundamental framework and established a data-driven process to identify the most dangerous corridors and intersections. It also identified factors contributing to fatalities and serious injuries in the high crash locations to strategically target these areas for implementation of specific engineering countermeasures, educational campaigns, and/or enforcement concentrations. The interactive dashboard provides transparency leading towards the implementation of transportation safety measures.

APPLICATION FOR FLORIDAS MPOS

As the Vision Zero Network continues to grow in Florida, the *Vision Zero Orlando Action Plan* serves as a great example of cross-sector collaboration, providing a foundation to continually improve the safety of the city's transportation system, and ensuring transparency and accountability.

Many communities have already committed to Vision Zero. In addition to setting the goal of zero traffic deaths or serious injuries, communities need to make a fundamental shift in how they approach traffic safety. Action plans are a tool to assist agencies in meeting those goals. Key components of a successful vision zero action plan include a diverse and committed task force; prioritizing equity and community engagement; developing a framework for plan implementation, monitoring, and re-evaluation of actions; and tracking progress on plan strategies via a comprehensive public website to ensure project transparency.

FOR MORE INFORMATION

Vision Zero Network- Core Elements	Vision Zero Fort Lauderdale Five-Year Action Plan
Vision Zero Orlando Action Plan & Dashboard	Tampa Vision Zero Action Plan
Palm Beach TPA Vision Zero Action Plan	Hillsborough Vision Zero Action Plan

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The City of Orlando Vision Zero Action Plan addresses the following highlighted topics

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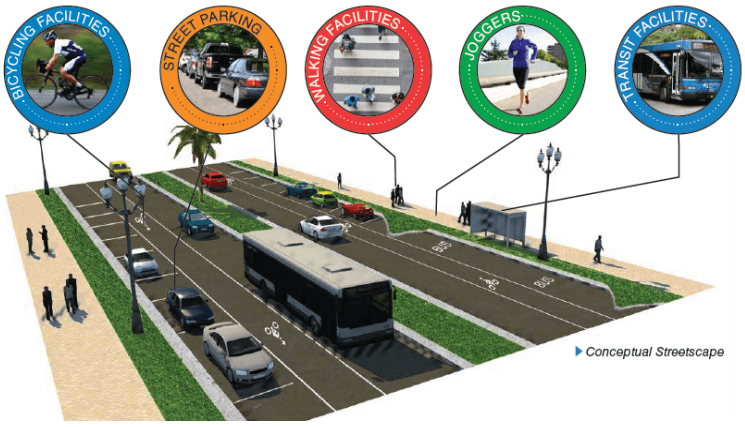
COMPLETE STREETS PROGRAM

Forward Pinellas, Lee County MPO

OVERVIEW

Complete Streets is a context sensitive approach that considers land development patterns and community needs in the transportation system design process to ensure the needs of all users are met including pedestrians, bicyclists, transit riders, motorists, children, older individuals, individuals with disabilities, and freight handlers. While elements will vary depending on a community's context, typical Complete Streets elements include sidewalks, bicycle lanes, shared-use paths, designated bus lanes, safe and accessible transit stops, safe crossings for pedestrians, median islands, accessible pedestrian signals, curb extensions to name a few. A Complete Streets approach builds on flexibility and innovation in roadway planning and design to put the right street in the right place. Complete Streets policies are set at the state, regional, and local levels and are frequently supported by roadway design guidelines.

FLORIDA MPO COMPLETE STREETS NOTABLE PRACTICE EXAMPLES



Conceptual Streetscape

Forward Pinellas developed an incentive program to assist local governments in planning, designing, and constructing Complete Streets projects. As the unified MPO/Pinellas Planning Council, Forward Pinellas is tasked to coordinate transportation and land use planning in Pinellas County. To support coordination, the Complete Streets Incentive Program was established in 2016 to encourage transportation investments in transformative redevelopment, particularly through the implementation of Complete Streets projects. Annually, Forward Pinellas provides up to $100,000 of funding for Complete Streets concept plans and up to $1 million for construction projects countywide. Forward Pinellas recognizes that local governments are best suited to adopt their own Complete Streets policies but Forward Pinellas can support by funding projects that benefit the county as a whole. The project applications submitted for the funding document safety concerns along the corridor (e.g. high crash rate, high volume of crashes involving vulnerable users) and demonstrate how the project will improve safety for all users. A subcommittee, comprised of local representatives, evaluates the project applications and approves funding for projects that demonstrate a strong link to redevelopment, economic opportunity, and better accessibility for all roadway users. The Concept Planning projects are funded through the Forward Pinellas budget for planning activities and the awarded Construction projects are added to the agency's multimodal priority list and funded through the FDOT five-year transportation Work Program. Since 2016, Forward Pinellas has completed six application cycles for this Complete Streets incentive program.

Lee County MPO received a TIGER grant of $10.4 million in 2013 for undertaking a Complete Streets initiative project in an area identified as a demonstration project in the Lee County MPO *Bicycle and Pedestrian Master Plan 2011* to address network quality issues, close facility gaps, and improve safety. The project included completing three sections of the regional trail network: the Tour de Parks Route (notably interconnects several Lee County parks), the University Loop (interconnects Florida Gulf Coast University, student housing areas, and commercial and entertainment centers), and the Bi-County Connector connects two Complete Streets in an urban environment. Lee County MPO was the direct recipient of the grant allowing for the design and construction of approximately 11.5 miles of pathways, sidewalks, and bike lanes; 11 bus shelters;

and fabrication and installation of 234 way-finding signs. This project included innovative approaches like the use of video detection for bicycle and pedestrian counts, collaboration with the Economic Development office on holding a hackathon to collect facility usage data, assembly of prefabricated pedestrian bridges off-site to install at night to minimize traffic disruption, public involvement outreach such as walk to school events on a completed segment to increase safety, and door hanger tags to notify homeowners of the project construction in their area.

WHY THIS PRACTICE IS NOTEWORTHY

Complete Streets are not a specific type of project, but rather an approach to ensuring projects are based on the context of the roadway and its surrounding area. Complete Streets policies seek to provide meaningful transportation choices for all users of the transportation system, while maintaining safety and mobility. Safe roads and safe speeds, elements of the Safe System approach, can be achieved through the application of Complete Streets principles. The Complete Streets approach elevates all users of the street onto an equitable playing field and changes the way transportation projects are conceived and delivered. A transportation system based on Complete Streets principles helps to improves safety, accessibility, connectivity, equity, quality of life, and economic development.

APPLICATION FOR FLORIDA MPOS

FDOT has been a leader in Complete Streets for decades and is committed to enhancing the safety and mobility of the State's residents and visitors with Complete Streets principles. In 2014, FDOT adopted the statewide Complete Streets Policy, which was integrated into FDOT's manuals to govern the planning, design, construction, and operation of Florida's transportation facilities. In 2021, FDOT officially rolled out the Complete Streets 360° approach emphasizing consideration of all roadway users and the context of the road in every FDOT project.

The Complete Streets Policy and Handbook by FDOT are great resources for MPOs to provide guidance and advance the implementation of Complete Streets throughout the State. MPOs can also provide support in the development of Complete Streets policy for regional/local jurisdiction based on the local context and build support from stakeholders for the policy adoption. To better understand community context and implement Complete Streets, MPOs should work closely with local partners and stakeholders to measure bicyclist and pedestrian activity levels on perspective facilities, develop a Complete Streets network plan, document the performance of implemented projects, integrate Complete Streets into existing and future design guidelines, and prioritize and promote innovative Complete Streets projects.

FOR MORE INFORMATION

Forward Pinellas Complete Streets Program

Lee County MPO Bicycle and Pedestrian Master Plan

FDOT Complete Streets

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

Complete Streets programs addresses the following highlighted topics

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SAFETY EDUCATION TOOLKIT

New York State Association of MPOs

OVERVIEW

New York State Association of Metropolitan Planning Organizations (NYSAMPO) created a Safety Education Toolkit to house a wealth of traffic safety resources on a single, easy to access website. NYSAMPO is a coalition of the fourteen MPOs in New York State, committed to working together toward common goals. MPOs are encouraged to check this site frequently and identify materials and best practices they can repurpose in their own regions and communities with the goal of improving safety.

The toolkit offers links to safety education resources including outreach materials and design and policy guidance for NYS MPOs to use or adapt to their use. It addresses many outreach topics and guidance formats such as

- Bicycle Safety
- Design Guidance & Training
- Navigating New Infrastructure
- Safety Partners
- Complete Streets/share the Road
- Driver & Passenger Safety
- Pedestrian Safety
- Traffic Safety Campaigns
- Data
- Motorcycle Safety
- Plans & Reports
- Walk/Bike to School

One of the many examples of proven programs and campaigns available in the Traffic Safety Campaigns section is *Drive2BBetter*.

Drive2BBetter is one of the many resources available in the NYSAMPO Safety Education Resource Toolkit. This resource is the result of a collaboration between traffic safety partners Common Ground Health, Rochester Cycling Alliance, and Rochester Bicycling Club and is built around a safe driving quiz to help road users determine how much they really know about safe driving best practices. This quiz is an interactive tool used to help educate participants on specific Rochester safety statistics and traffic laws and general safety tips and best practices in an easy to use and slightly competitive format that entices users to boast about their scores with friends, family, and coworkers on social media.

Another example of available safety education information from partner agencies is in the Driver and Passenger Safety section.

The New York State Department of Health provides information on injury prevention including driver and passenger safety. This resource provides a wealth of information on various prevention techniques for child passenger safety, younger driver safety, older driver safety, drowsy driving, motorcycle safety, and seat belt safety.

WHY THIS PRACTICE IS NOTEWORTHY

NYSAMPO created an easy to use and maintain tool that compiles a range of resources beneficial to MPOs and traffic safety partners. The Safety Education Toolkit includes a comprehensive list of materials and best practices that have been proven effective by partners throughout the state and nation. This toolkit allows MPOs and traffic safety partners to be most efficient with their resources, relying on the successes and lessons learned of other MPOs and partners to build the foundation of their own traffic safety messaging.

The Traffic Safety Education Toolkit helps to reduce duplication of efforts and strengthens the collaborative relationship between the state's MPOs and traffic safety partners while keeping safety messaging consistent and aligned to the state's overall traffic safety vision.

APPLICATION FOR FLORIDA MPOS

The NYSAMPO Traffic Safety Education Toolkit illustrates a best practice example for sharing effective educational and marketing resources designed to reduce fatalities and serious injuries. It is an effort of coordination and collaboration rather than one of content generation. Many valuable resources are already available and the toolkit is designed to showcase those resources for other MPOs and traffic safety partners to use.

As in New York, collaboration is paramount for an effort like this and requires partnership among regional MPOs or the Florida MPOAC. Elements to consider when organizing a similar tool include education of the Safe System approach and the U.S.DOT National Road Safety Strategy; an extensive list of proven best practice examples that are easily adapted to best suit the needs of an MPO or traffic safety partner to help deliver consistent messaging when and where it is needed most; and access to the data sets used in the toolkit. Interactive tools such as a website and/or a safe driving quiz are good ways to engage the community. The quiz, for example, can be adapted to any MPO or local government and expanded to include a different array of safety topics based on the challenges most prevalent in a given community or region. Knowing the extent of existing traffic safety messaging and educational resources available and building partnerships to share and disseminate creates a powerful, valuable, and widely beneficial tool.

FOR MORE INFORMATION

NYSAMPO Traffic Safety Education Toolkit

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The New York State Association of Metropolitan Planning Organizations (NYSAMPO) Safety Education Toolkit addresses the following highlighted topics

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TACTICAL URBANISM

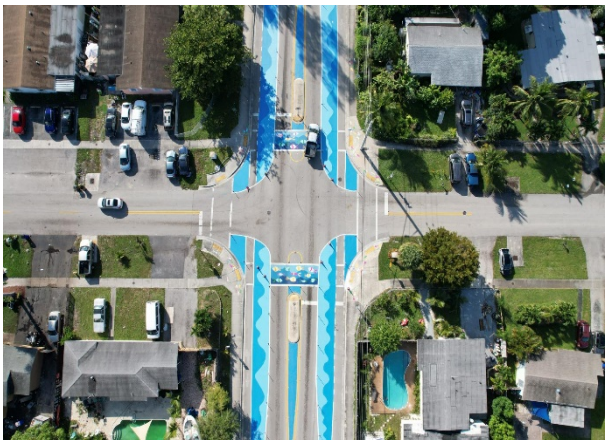
Palm Beach TPA, Broward MPO, Miami-Dade County

OVERVIEW

Tactical urbanism, also known as DIY Urbanism, Planning-by-Doing, Urban Acupuncture, or Guerrilla Urbanism, refers to a method of short-term, low-cost project implementation with the intent of bringing about long-term positive outcomes for the community. The overarching goal of tactical urbanism is to test designs, ideas, and changes to the built environment that aim to improve community connection, safety, health, equity, and accessibility. Tactical urbanism can include projects like temporary bicycle lanes, bus lanes, public spaces, colorful crosswalks or intersections, traffic calming features for a few hours to days or even weeks. They can sometimes transition into permanent projects as well.

In an effort to advance complete streets and safety, the **Palm Beach TPA** worked with the City of West Palm Beach as one of six cities that partnered with the Street Plans Collaborative as part of the *Tactical Urbanist's Guide to Materials and Design* project to select and implement a tactical urbanism project. The effort resulted in a large mural at the intersection of South Tamarind Avenue and Fern Street, designed by students from the Dreyfoos School of the Arts, to beautify the street, slow down cars and make the intersection safer for bicyclists and pedestrians. The project involved a combined effort of the City and TPA, FDOT, County Engineering, a local high school, and an engaged community to help design and implement the project. The City organized and promoted a public event to implement the project, inviting stakeholders to volunteer and participate in the painting of the intersection mural. The success of this project served as motivation and a friendly competition among other cities.

City of West Palm Beach Tactical Urbanism Project



City of Deerfield Beach Tactical Urbanism Project

The **Broward MPO** provides support to implement quick build projects through the Tactical Urbanism Program called BTactical, to increase multimodal safety, accessibility and connectivity. The first pilot project by the MPO was conducted in the City of Deerfield Beach at NE 3rd Avenue. The improvements included an enhanced crosswalk, curb extensions, and pedestrian refuges at the intersection; sidewalk extensions; two new crosswalks; and shortened pedestrian crossing distances to increase visibility of people and slow down traffic. Another pilot project was recently conducted in Fort Lauderdale at NE 15th Avenue. This project included a quick build design such as shared lane markings (sharrows), a bike box, additional signage at crossings, curb extensions, pedestrian refuges with art at the intersection, enhanced crosswalks, narrowed lane width to slow down traffic, and protected and buffered bike lanes.

The Miami-Dade Transportation Quick-Build Program is an ongoing collaboration between Street Plans, the Green Mobility Network, and **the Miami-Dade County Department of Transportation and Public Works** dedicated to making meaningful improvements to their neighborhoods. The program transformed a portion of a street into a temporary plaza (Plaza 98) to be used for periodic community events. The Program also transformed on-street parking lanes at NE 3rd Avenue in Downtown Miami into painted curb extensions for four days, demonstrating how much more pedestrian space could be provided on the street if the curbside space were not solely for cars. A parklet was installed in two parking spaces along the street by a local makerspace and partner. The activation was meant to be the first as part of a long-term community-led initiative to pedestrianize the street called Avenue 3 Miami.

WHY THIS PRACTICE IS NOTEWORTHY

Tactical urbanism is a noteworthy practice because it redefines public space, reallocates road space, revitalizes the economy and promotes active transportation. It is a valuable tool that enables the light, quick, and low-cost implementation of projects that address safety issues, equity concerns, and infrastructure gaps while engaging with the community. It allows the scope to demonstrate a space's potential and determine the effectiveness of a temporary low cost solutions before making larger investments. By demonstrating a possible solution to an issue, such a project can build community, stakeholder, and political support for a permanent project with lasting results.

APPLICATION FOR FLORIDA MPOS

Tactical urbanism projects illustrate a relatively low-cost countermeasure that relies on community engagement and delivers a visually stimulating outcome with tangible impacts that improve the community. There are a lot of tactical urbanism project examples in Florida with a few listed here. These case examples provided examples of how other agencies can use resources such as the Tactical Urbanism Guide and Toolkit to implement flexible and innovative interventions to local communities' distinct safety and mobility challenges. There is potential for using such tactical and temporary projects within the planning methodology by measuring the impact of an intervention and using pilot projects as a form of community consultation where citizens can experience a project instead of being shown a rendering. Agencies should plan to implement such projects on right-of-way that is owned/controlled by the agency for easier access and to potentially avoid a long approval process if there is a time constraint. Finally, hosting community events provides a better understanding of the community needs and leads toward acceptance of long term implementation of demonstrated efforts.

FOR MORE INFORMATION

West Palm Beach (Street Plans Collaborative)
Broward MPO BTactical Program
Miami-Dade Transportation Quick Build Program
Tactical Urbanist's Guide to Materials and Design
Tactical Urbanism Toolkit

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

Tactical Urbanism addresses the following highlighted topics

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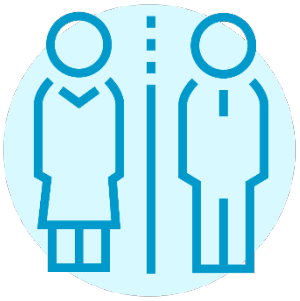
EQUITY



Equity is defined as the consistent and systematic fair, just, and impartial treatment of all individuals. This includes people who belong to underserved communities that have been denied such treatment as well as persons with disabilities, persons who live in rural areas, and persons otherwise adversely affected by persistent poverty or inequity. Transportation equity supports and enhances access to jobs, health care, education, and other important resources. Providing equal access to opportunity addresses the systemic barriers that may exist because of a person's race, ethnicity, creed, gender, age, physical ability, income, or other factors

Efforts to advance transportation equity should include increasing direct contract dollars to small disadvantaged businesses, increasing the number of meaningful and representative public participation engagements held by FDOT in the State Transportation Improvement Program and the MPOs in the development of the TIPs in rural and urban communities, increasing the number of discretionary grant applications from disadvantaged communities in rural and urban areas who have never applied for funding before, reducing transportation travel costs as a percent of income, reducing transportation travel time, increasing access to key destinations, and increasing mobility measured by number of trips at the individual level.

Federal Guidance

Federal guidance on equity in transportation decision-making continues to evolve. Historically, Federal equity interventions were established to ensure transportation investments avoid and mitigate harm to historically underserved communities such as the Civil Rights Act of 1964, the National Environmental Policy Act of 1970, and the American's with Disabilities Act of 1990. Recent executive orders strive to go further to advance equity, moving beyond mitigating harm to repairing historic discrimination or eliminating future discriminatory decisions.

Executive Order 13985 "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" acknowledges that disparities in laws and public policies have often denied equal opportunity to individuals and communities. In response, The U.S.DOT developed an *Equity Action Plan* that establishes a path towards building a transportation system that works for all people. The plan identifies actions and strategies that fall under four focus areas: wealth creation, power of community, interventions, and expanding access to facilitate transportation equity. This "living document" will be updated regularly to document the evolving landscape in addressing equity in transportation. Additionally, the plan will address environmental justice efforts as part of the Justice40 initiative, which aims to deliver 40 percent of the overall benefits of relevant federal investments to disadvantaged communities.

FDOT Guidance

FDOT prioritizes equity through all phases of transportation decision-making from planning and corridor studies to project development, and operation and maintenance. Providing better and more affordable access to jobs, health care, education, and other services starts with recognizing the value of access for all residents and acknowledging that better access for one group often offers systemwide benefits. The FDOT Public Involvement Handbook provides a framework for ensuring equitable outcomes through meaningful and strategic community engagement. FDOT aims to facilitate community conversations about mobility challenges and opportunities,

prioritize investments, and be a partner to deliver accessibility to opportunities and essential services. FDOT uses a number of tools and practices to promote equity including public engagement practices, the Efficient Transportation Decision Making (ETDM) process which considers affected communities in transportation decisions, and as part of a project's environmental review, Title VI and Environmental Justice requirements are met through the use of FDOT's Sociocultural Effects (SCE) Evaluation process. FDOT also commits to remedy past and current discrimination against disadvantaged business enterprises through partnerships and contractual processes.

Connection to the Florida Transportation Plan Goals

The FTP established the goal of *transportation choices that improve equity and accessibility*. This goal is intended to set policy direction and give higher priority to strategies and investments that improve residents' equitable access to opportunity. Over the years, we have learned that the range of choices is more than just cars, bicycles, and buses. As innovation empowers new options like e-scooters and air taxis, we've learned it is not enough to simply provide more choices. Instead, we need to provide universal accessibility to all Floridians; safe, affordable, and convenient ways for everyone to access jobs, education, and health care, regardless of age or ability.

Connection to the Metropolitan Transportation Planning Process

FDOT and many of Florida's MPOs are seeking opportunities to partner and advance equitable access to safe, efficient, and affordable transportation systems across their communities through their policies, practices, programs, and budgets. With strategies focused on a variety of things from understanding data bias to engaging in more community conversations, MPOs across the country are finding ways to better align investment strategies to reduce barriers to opportunities, enhance the quality of life, and improve access for all.

Notable Practices

Six case examples were identified to demonstrate how equity is being embraced in a variety of ways. Some planning agencies have taken an educational and awareness approach whereas other agencies have incorporated or expanded upon equity within existing plans. The examples show that every community has its own past inequities to overcome and the manner in how to address equity depends on the uniqueness of the community.

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GEOGRAPHIC EQUITY

Denver Regional Council of Governments

OVERVIEW

Serving as the MPO, the Denver Regional Council of Governments (DRCOG) outlined seven regional planning priorities and five specific considerations for projects in their *2050 Metro Vision Regional Transportation Plan* (RTP). One of the regional planning priorities, *implementing mobility hubs at strategic locations across the region to connect various travel modes*, and one of the specific considerations, *geographic balance of projects across the region*, are commitments to further equity throughout the Denver area.

As a means for ensuring geographic equity, the *2050 Metro Vision RTP* investment priorities framework was divided into subregional and interagency priorities. Subregional priorities represent the greatest transportation needs from each area (i.e., non-interstate projects). Interagency priorities represent the greatest transportation needs for the region as determined by the DRCOG, Colorado Department of Transportation (CDOT) and the Regional Transportation District (RTD) (i.e., interstate, U.S./State Highway, and rapid transit projects).

Using the fiscally constrained projects in the *2050 Metro Vision RTP*, staff evaluated how travel times may change for low-income and minority populations in relation to specific destinations, such as educational institutions, entertainment areas, and the business district. Additionally, staff conducted an evaluation of the work travel characteristics of the region's minority and low-income populations as shown below. Findings in both studies were used to determine if programmed projects include investments that will improve transportation for people living in environmental justice communities. Just as important, and in line with the planning priorities and specific considerations of the *2050 Metro Vision RTP*, DRCOG could determine whether projects selected in the plan are reasonably distributed across the region and whether certain areas are disproportionately impacted.

WHY THIS PRACTICE IS NOTEWORTHY

The *2050 Metro Vision RTP* includes plans for geographic equity by supporting both subregional and interagency priorities to ensure that transportation partners and all users of the system share in the impacts from transportation investments. Conducting studies that demonstrate how investments can positively or negatively impact low-income or minority communities, with regard to travel time and travel modes used, allows for informed decision-making and supports equity in community planning and investments.

APPLICATION FOR FLORIDA MPOS

To improve mobility for all users of the Denver region multimodal transportation system, the DRCOG developed the *2050 Metro Vision RTP* with specific regional planning priorities. The *RTP* reflects a collaborative and innovative approach to addressing the geographic balance of projects across the region while considering the positive and negative impacts to environmental justice communities.

The approach to geographic equity incorporates an "everybody gets a share" concept ensuring that no one group or community should take the brunt of negative impacts that may come from transportation projects and all should reap some benefits. Including travel time and travel mode data impacted by transportation projects, specifically in environmental justice areas, is an important tool that contributes to equity in transportation planning. Other considerations for geographic equity include developing a regional framework and priority plan to distribute projects where all stakeholders receive a share of the positive and negative impacts of transportation projects; considering how travel time to/from work and other significant destinations will impact environmental justice communities during the project planning phase; and developing a tool to measure regional equity investments in an MPO's LRTP.

FOR MORE INFORMATION

DRCOG 2050 Metro Vision Regional Transportation Plan

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

Geographic Equity addresses the following highlighted topics

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PUBLIC OUTREACH TOOLBOX

North Central Texas Council of Governments

OVERVIEW

The North Central Texas Council of Government's (NCTCOG) LRTP, Mobility 2045, has a central goal to "encourage livable communities which support sustainability and economic vitality". Achieving this vitality may not always produce desirable outcomes for some neighborhoods often leading to gentrification, where low-income housing is displaced by middle- to high-income housing changing the character of the neighborhood. To ensure all residents are impacted fairly by transportation projects and to avoid gentrification, NCTCOG, which is the MPO for the 16 county region that includes the urban centers of Dallas and Fort Worth, produced *Transportation and Gentrification: A Toolbox for Positive Neighborhood Change* (*Toolbox*) that outlines methods for leveraging and managing growth.

The *Toolbox* acknowledges that large public infrastructure investments have historically profound effects on the communities where they occurred; are not consistently positive or negative; and vary greatly with the scale and socioeconomic forces within the project location. While new roads, airports, bridges, transit, and other transportation infrastructure typically have a positive impact on the regional economy, there may be different impacts at the neighborhood level. By exploring options that reduce negative outcomes associated with gentrification, the NCTCOG developed the toolbox to mitigate local impacts and move toward a more equitable form of neighborhood revitalization.

There is no single demographic indicator that can determine whether gentrification is occurring or may occur in response to growth and development. The NCTCOG's toolbox incorporates detailed local assessments from stakeholder engagement through community outreach with other traditional demographic assessments to drive neighborhood revitalization projects in a positive and inclusive manner.

Empowering disadvantaged communities is considered the most significant method to revitalizing a community and is a necessary means to avoid displacement of residents. This requires recognizing where disinvestment historically occurred and working with community members to identify and implement equitable strategies for reinvesting in those areas.

Through community empowerment, select areas of planning and land development can translate to a more stable neighborhood. The *Toolbox* includes the following strategies to support community empowerment:

- Use planning to establish community visions
- Give community members a voice in future development
- Set up a community-led investment process

One example the toolbox outlines for empowering communities is the "Neighborhood Plan." The Neighborhood Plan entails a cooperative effort among developers, the city, and residents to establish a desired community vision. Cooperative planning creates an opportunity for residents to play a role in the reinvestment and development of their communities while encouraging economic development.

Multi-level collaboration is critical to solving the challenges of gentrification

Source: NCTCOG

Cities can identify their vulnerable neighborhoods and proactively engage those communities to promote and manage growth before the growth manages them – with a focus on equitable outcomes. In some instances, Neighborhood Plans may be formally adopted by local governments and structure government relations and programs within the neighborhood.

WHY THIS PRACTICE IS NOTEWORTHY

The NCTCOG acknowledges that although transportation projects can bring overall improvement, neighborhood level impacts of those projects can lead to displacement of residents. Neighborhood planning uses community mapping to provide community-scale support for social and economic change. It can be a vital tool in monitoring neighborhood change, identifying development opportunities, expanding community support systems, organizing and advocating for policy change, tracking program success, and sharing outcomes.

APPLICATION FOR FLORIDA MPOS

As the North Central Texas region's population and workforce continue to grow, demand for development in new and existing communities is expanding. The NCTCOG recognizes that investment in transportation infrastructure to support this growth may not always produce equitable outcomes for all its residents. The NCTCOG's *Transportation and Gentrification: A Toolbox for Positive Neighborhood Change* aims to alleviate the negative outcomes of gentrification. It is a toolbox of options that requires the collaboration of multiple levels of public and private entities to address problems associated with gentrification and deliver equitable neighborhood revitalization.

MPOs can facilitate discussion, coordination, education, and training on best practices to support equitable revitalization of neighborhoods and prevention of negative impacts of gentrification. Supporting other levels of government in implementing relevant strategies and facilitating pilot programs associated with large transportation investments in candidate gentrification locations will also create opportunities for equitable planning initiatives.

FOR MORE INFORMATION

NCTCOG Transportation and Gentrification: A Toolbox for Positive Neighborhood Change

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Public Outreach Toolbox address the following highlighted topics

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POLICY GUIDANCE

City of Richmond

OVERVIEW

In 2021, Richmond, Virginia adopted a road map to a more inclusive and thriving city called the *Richmond Equity Agenda*. This roadmap includes ten guiding principles to improve equity over the next ten years.

To implement the guiding principle of *ensuring equitable transit and mobility for residents*, the city created the Office of Equitable Transit and Mobility (OETM). The focus of this office is to address multimodal issues and improve connectivity in the city and is responsible for the development of the *Path to Equity: A Policy Guide for Richmond Connects* (Guide). Richmond Connects is the forthcoming comprehensive study of the city's transportation needs.

Understanding how transportation and land use policies disproportionately impacted low-income and minority communities is a necessary step to move towards equitable policy-making for now and the future. The Guide defines equity as *the empowerment of communities that have experienced past injustices by removing barriers to access and opportunity*. It also includes a history of transportation and land use injustices; outlines existing plans and practices; and contains information on best practices for public outreach, developing equitable mobility, and equity planning research. Highlights from the plan include:

- The *Existing Plans And Practices* section explains current policies at the local, regional, state, and federal level that contribute to transportation and land use decisions within the Richmond area. This section also includes information on how current funding programs contribute to inequity (i.e., incentivizing inequity by preferring highway spending to alternative transportation modes).
- The *Best Practices in Equitable Outreach* subsection includes a list of outreach activities that go well above and beyond those that meet legally required participation minimums. A network of community partners will support these activities. As community participation grows, outreach will become more balanced and equitable.
- The *Best Practices in Equity Surveying* subsection provides results of an evaluation that was conducted by the OETM. In summary, cities should implement equity surveys to identify the broad needs of communities of concern, such as minority-Black or low-income neighborhoods. Equity surveys should be used to identify priority areas and may help provide weight to scoring criteria. Common elements in equity surveys include questions on race, age, income, disability status, sexual orientation, and gender. Surveys may include questions on how the participant uses the transportation network, what improvements a participant values, and how funding should be allocated.
- The *Transportation Investment Needs Categories* subsection points to more agile equity planning by assigning weights per category to different communities of concern based on their needs. The investment needs categories are intended to align with existing regional, state, and federal funding programs.
- The *Equity Planning Research* section of the guide provides information on the studies that were reviewed. The OETM team examined several transportation outreach programs to improve its own outreach process and plan for future processes to support *Richmond Connects.* This section also includes best practices in equity data collection.

WHY THIS PRACTICE IS NOTEWORTHY

The City of Richmond developed a guide that will be used to inform future planning initiatives. By laying out how past and present transportation and land use policies negatively impacted low-income and minority-Black communities over the years, community and transportation planners can work towards more equitable projects for all residents. Incorporating tools on equity outreach and equity surveying techniques will ensure projects are more inclusive in the early planning stages.

APPLICATION FOR FLORIDA MPOS

The Path to Equity: A Policy Guide for Richmond Connects has a dual purpose as an educational and awareness tool that will lead to a collective defining of the problems within the transportation network, while also articulating how the identified inequities in transportation lead to social inequities in multiple areas of daily life, including health and wellbeing. Reviewing and documenting past policies that contributed to disenfranchised communities within a region is the first step to developing a guide to aid in equitable planning processes. To mitigate injustices in future plans, including best practices in outreach and surveying techniques, low-income and minority communities should also be included to ensure equity in transportation projects.

FOR MORE INFORMATION

The Richmond Equity Agenda

Path to Equity: A Policy Guide for Richmond Connects

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Policy Guide: *Path to Equity* address the following highlighted topics

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NONDISCRIMINATION AND EQUITY PLAN

Hillsborough TPO

OVERVIEW

In 2021, Plan Hillsborough (a partnership between the Hillsborough TPO and the Hillsborough City-County Planning Commission developed the *Nondiscrimination and Equity Plan* (the Plan). Early on, Plan Hillsborough saw an opportunity to expand the Plan to align with renewed nationwide interest in racial justice and equity. The current plan has seven major sections including:

1. Title VI and Nondiscrimination Components
2. Equity Work in TPO Program Areas
3. Equity Work in Planning Commission Program Areas
4. Equity Definition and Framework
5. History of Discriminatory Planning in Hillsborough County
6. Public Engagement for the Nondiscrimination and Equity Plan
7. Recommendations for Advancing Nondiscrimination and Equity

Section 4 *Equity Definition and Framework* outlines the following five components to approach equity and integrates them into Plan Hillsborough's plans and processes to contribute to the improvement of the quality of life for all residents, particularly those in underserved communities.

- ***Distributive Justice.*** The distribution of benefits and burdens of comprehensive planning and transportation programs and investments in a manner that seeks to equalize existing differences between groups.
- ***Recognition.*** The recognition of historic and contemporary legacies of discrimination and the active work against institutionalized systems that perpetuate these legacies or disproportionately burden marginalized communities.
- ***Procedural Justice.*** Understanding how planning decisions in Hillsborough County are made, to what extent planning is a genuine part of the democratic public process, and how such processes are constrained by existing societal structures or other powerholders.
- ***Interactional Justice.*** Affording respect and regard for the feelings, experiences, perspectives, and wishes of all persons, especially those who were historically marginalized and continue to experience discrimination. This component focuses on the quality of interpersonal interactions in a specific situation and place.
- ***Care and Repair.*** Care refers to active actions Plan Hillsborough takes in public spaces that are pro-social and life-enhancing and include the advancement of support systems, which enable everyone's access to public space and services. Repair refers to the active maintenance and upkeep of public spaces and provision of essential services ranging from trash collection, upkeeping of parks and recreational areas, maintaining roadways and sidewalks, and a host of other activities.

To advance the procedural justice component of the equity framework, Plan Hillsborough designed a community engagement program as a central component of the Plan. Data collected through this outreach process was used to guide Section 7 Recommendations for Advancing Nondiscrimination and Equity.

Improving upon internal administration and procedures utilized by Plan Hillsborough, a list of recommendations was established that outline measures for *Internal and Agencywide Procedures and Outreach Efforts.* These measures address improving hiring practices, staff representation and training, and consultant opportunities that reflect the constituency and diversity of Hillsborough County and the Tampa Bay region.

The *Nondiscrimination and Equity Plan* also includes Comprehensive Planning Recommendations that promote conducting equity assessments to inform the comprehensive planning process. This includes evaluating the impacts of comprehensive plans on communities that are typically underserved as well as tailoring goals and policies in comprehensive plans to address community disparities and legacies of discrimination.

WHY THIS PRACTICE IS NOTEWORTHY

The *Nondiscrimination and Equity Plan* goes above and beyond meeting federal and state mandates with regard to Civil Rights legislation. The Plan recognizes past injustices in planning processes, acts on community engagement initiatives, incorporates new processes into plans, and moves toward more equitable outcomes across multiple agencies and programs in the Hillsborough County and Tampa Bay region.

APPLICATION FOR FLORIDA MPOS

Incorporating the principles of the *Nondiscrimination and Equity Plan* into major planning areas and throughout products that Plan Hillsborough develops not only supports the provisions of the Title VI of the Civil Rights Act, the American's with Disabilities Act, and other mandates that must be met to receive federal and state financial assistance, it acknowledges historical disparities in transportation planning and supports proactive steps to ensure nondiscrimination in the provision and execution of all agency activities. Developing such a plan takes commitment and collaboration among many partners. It also considers going beyond just meeting Title VI requirements to maintain compliance and seeks to acknowledge past policies or processes that contributed to disparities. Other ways to demonstrate the commitment to equity include devising strategies to focus improvements for communities/neighborhoods that are typically underserved and reorganizing internal infrastructure to facilitate equity within the organization, such as representation on boards and committees.

FOR MORE INFORMATION

Plan Hillsborough Nondiscrimination & Equity Plan

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Nondiscrimination and Equity Plan addresses the following highlighted topics

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TECHNICAL ASSISTANCE PROGRAM

National Capital Region Transportation Planning Board

OVERVIEW

The National Capital Region Transportation Planning Board (TPB), the MPO for metropolitan Washington, D.C., developed a *Transit Within Reach* program to fund design and preliminary engineering projects located in designated Transit Access Focus Areas (TAFAs). This program aligns with the aspirational initiative "to improve walk and bike access to transit" in Visualize 2045, the TPB's 2018 LRTP.

Following approval of *Visualize 2045*, staff conducted the *Transit Within Reach* study, which combined regional analysis with member outreach to develop a regional list of 49 TAFAs. These areas are characterized by walking/biking difficulty, significant demand for walking/biking, and a concentration of vulnerable populations including 43 of the 49 TAFAs being in an Equity Emphasis Area (EEA). EEAs are areas with high concentrations of low-income individuals and minority communities of color used to elevate equity and inform future growth and investment decisions. The TAFA locations provide an opportunity to improve access to transit and are all within a half mile of one of the region's activity centers where Metrorail, commuter rail, light rail, streetcar, bus rapid transit, and multimodal stations exist.

In 2020, the TPB passed a resolution, which adopted the TAFAs, and asked each member jurisdiction to prioritize projects, programs, and policies to implement improvements in these areas.

To further advance its work within the TAFAs and promote implementation of the aspirational initiatives in *Visualize 2045*, the TPB created a technical assistance program as part of *Transit Within Reach* for local governments to move small high-impact projects into preliminary design or preliminary engineering. The assistance supports short-term consultant services, not direct financial assistance, to

Applications for *Transit Within Reach* funding are scored according to eligibility criteria and alignment with five priority areas one of which is access for low-income communities and communities of color, particularly those communities within an EEA.

In September 2021, the TPB awarded the first round of projects for a combined $240,000 in technical assistance funding to three local projects.

- A preliminary design project for a new shared-use path connection to a commuter rail passenger station.
- A preliminary engineering project for a new shared-use path that provides opportunities for walking and biking from nearby residential and commercial areas to the local train station.
- A design project that will include safe pedestrian and bicycle facilities as well as traffic calming features to connect neighborhoods to a Metro Station.

WHY THIS PRACTICE IS NOTEWORTHY

The TPB initiated a regional study with its planning partners to identify areas where access can be improved for individuals, who experience difficulty walking or biking and whose primary mode of transportation to and from transit stations is walking and/or biking. Taking the study one step further, the TPB created the *Transit Within Reach* technical assistance program to promote, fund, and help its member jurisdictions address small capital improvements that enhance access to transportation options in Equity Emphasis Areas.

APPLICATION FOR FLORIDA MPOS

Through implementation actions of Visualize 2045, the TPB not only recognized an opportunity to advance equity through small capital improvements, such as sidewalks, trails, and crosswalks, but took it one step further by providing a technical assistance program as well to help with funding. Identifying specific implementation actions such as *Transit Within Reach* allowed the TPB to more quickly realize the aspirational initiative of "improving walk and bike access to transit" and optimize resident's safe and easy access to transit centers. While funding capabilities differ among MPOs, conducting studies to identify areas within close proximately to train stations and transit hubs would be useful in advancing a program such as Transit Within Reach. As funding is available, other actions include developing incentive programs for local jurisdictions to prioritize small capital improvement projects that enhance access to transit centers as well as providing technical assistance to local jurisdictions to assist with project development from conceptual planning through preliminary design.

FOR MORE INFORMATION

Transit Within Reach Program

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Technical Assistance Program addresses the following highlighted topics

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MAPPING TOOL/ PUBLIC OUTREACH

Miami-Dade TPO

OVERVIEW

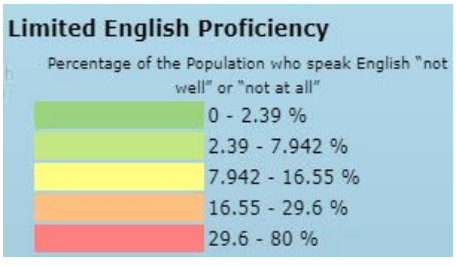
Developed in 2004 by the Miami-Dade TPO, the Transportation Outreach Planner (TOP) consolidates demographic data to support regional planning initiatives. The tool customizes demographic and community background reports that cover history, community dynamics, and transportation characteristics as well as public outreach strategies. The community-specific data provides more detailed information related to transportation access and barriers than national data sources. The ability to gather data supported by the TOP early in the project planning stage allows agencies to design outreach strategies informed by the context.

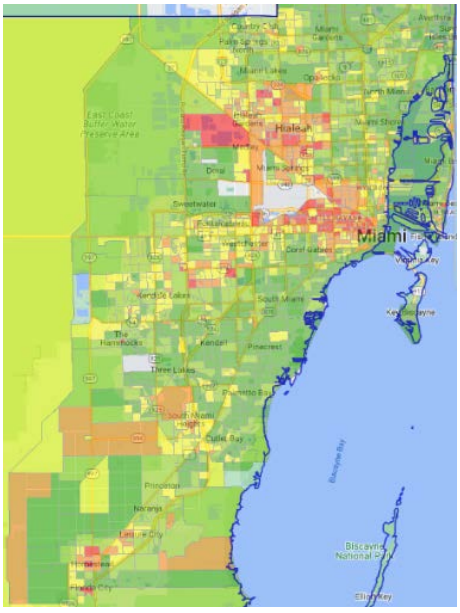
Source: Miami-Dade TPO.

> ***The ability to gather data early in the project planning stage allows agencies to design outreach strategies informed by the context.***

As a web-based program, the TOP is available to transportation and community planners to extract information by selecting either census block groups, municipalities, or neighborhoods to obtain customized demographic and community background reports within a specific area or region of Miami-Dade County. The community background reports include a feature that allows users to select information on bicycle facilities, transit stops, and real-time traffic data. The TOP also provides a public outreach link that includes best practices for engaging residents within certain demographic groups.

The Miami-Dade TPO collaborated with Florida International University (FIU) Metropolitan Center and GIS Department to develop this tool. The TOP is updated every three years with the American Community Survey Data and then updated every ten years when U.S. Census data becomes available. As the data is updated, the historical demographic data reports are expanded, providing information on how communities change over time.





WHY THIS PRACTICE IS NOTEWORTHY

Together, the Miami-Dade TPO and FIU acknowledged a need to develop an interactive platform that is more than just statistics and demographics. To better plan for the future, they incorporated community characteristics, historical context, real-time traffic data, transit and bicycle facilities, and public involvement best practices into the Transportation Outreach Planner. Implementing the mapping tool and making it accessible to transportation and community planners and partners advances equity in planning processes.

APPLICATION FOR FLORIDA MPOS

Regularly updating the TOP to provide the most up-to-date geographic and demographic information, as well as, incorporating a comprehensive list of effective public outreach programs to complement the data, provides a strong foundation for designing equitable outreach strategies in planning for Miami-Dade County. Having this information readily available in one tool allows practitioners to build engagement strategies based on an understanding of the historical context of communities and a toolbox of successful approaches.

Many government entities have data available that support several of the components that make a program such as the TOP useful in transportation planning. By collaborating with the county, other local governments, and/or educational institutions, planning agencies can obtain historical community context and other data to support equity efforts within GIS platforms. MPOs can support local and regional planning efforts that assist in meeting Title VI requirements, apply public outreach activities that include both low-tech and high-tech communication strategies for various populations, and perform equity analysis for moving people and freight.

FOR MORE INFORMATION

Miami-Dade TPO Equity in Action

Transportation Outreach Planner (web tool)

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Mapping Tool/Public Outreach Program addresses the following highlighted topics

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PUBLIC OUTREACH

Greater Portland Council of Governments, Portland Area Comprehensive Transportation System (PACTS)

OVERVIEW

The Portland Area Comprehensive Transportation System (PACTS), the MPO for Portland, ME, in partnership with the Greater Portland Council of Governments (GPCOG), identified eight guiding strategies for use in developing their UPWP. These strategies emerged from public and member engagement processes and revolve around engaging and meeting the needs of individuals that encounter obstacles in using the transportation system. The vision is to integrate mobility management solutions into the public transportation and capital improvements planning. With this in mind, PACTS created the *Mobility for All* program.

> ***The focus of the Mobility for All is… transportation access for people who experience barriers.***

The focus of the *Mobility for All* program is to engage a broad range of community members and organizations to plan for and implement improved transportation access for people who experience barriers. *Mobility for All* initiatives use inclusive practices to involve older adults, people with disabilities, people of color, and other underserved communities in transportation planning and decision-making. The program is made up of seven initiatives:

- **Mobility Liaisons**. Individuals who have personal experience with mobility and transportation challenges and are willing to share their expertise and ideas.
- **Community Transportation Leaders (CTL) Program.** Training for transportation planning and decision-making, regular participation at debriefs, and peer-to-peer networking to advance the inclusion of underrepresented communities including older adults, people with disabilities, and people of color.
- **Mobility Management Programs**. Two programs designed to educate individuals how to plan a trip (Bus Ambassadors Program) and how to navigate the transportation system (Travel Helpers Program).
- **Ride with Me Event**. Paired ride of decision-makers with CTL members from a specific start point to a specific end point to experience the challenges and barriers that people who depend on public transportation face.
- **Southern Maine Mobility Guide.** On-line resource guide to help people who live, work and play in Southern Maine connect to where they need to go – school, jobs, medical care, shopping, places of worship, and social outlets.
- **Transportation and Community Network.** Assists Southern Maine with coordinating, creating, and managing mobility options to share information and work together to improve transportation access and options for people who experience barriers.
- **Moving Maine Network**. Includes the Maine Department of Transportation, Maine Department of Health and Human Services, Maine Housing, and Maine Primary Care Association to facilitate better transportation access by advancing cross-sector coordination, information policy change, and spurring innovation.

WHY THIS PRACTICE IS NOTEWORTHY

By initiating and adopting the *Mobility For All* program in the PACTS' UPWP, elected officials hear directly from underserved communities and populations through its seven initiatives. This approach reinforces the importance of "everyone has a voice" in community planning and development. As a result of the community engagement approach, low-cost equity programs that are sustainable have been developed.

APPLICATION FOR FLORIDA MPOS

Individuals and communities facing transportation barriers should be allowed to participate in identifying solutions to create equitable outcomes. Being mindful of this, PACTS not only designed and adopted an inclusion strategy but also partnered with community experts to act upon it – developing seven initiatives to support *Mobility For All* in the Portland area.

Mobility management projects and travel training programs are not new concepts. However, a program like *Mobility For All* showcases the impact of integrating multifaceted programs into transportation and capital plans to comprehensively address equity in the community.

Laying the groundwork for an all-inclusive mobility program includes identifying existing community action groups or non-profit agencies that are interested in and would benefit from incorporating similar programs to those listed above to align with social and racial equity initiatives. In addition, it should identify opportunities for increased coordination and integration among the public and private transit providers in the region. A complementary action for such a program would be initiating volunteer programs in coordination with the Community Transportation Coordinator to assist in educating the community about all transportation modes available to them.

FOR MORE INFORMATION

Mobility for All

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Mobility for All Program addresses the following highlighted topics

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RESILIENCY

Resiliency is the ability of the transportation system to adapt to changing conditions and prepare for, withstand, and recover from disruptions. Disruptions are events and conditions that are often characterized as shocks (unexpected disruptions) and stresses (sustained trends or pressures). For transportation, shocks and stresses can have significant impacts on safety, system reliability, and infrastructure integrity.

Planning for resiliency is important because natural hazards, cyberattacks, and other events can have significant and unexpected impacts on Florida. Simultaneously, trends such as sea level rise and global economic shifts can lead to progressively more challenging situations. These events and trends can result in unanticipated transportation system disruptions and increasing constraints on infrastructure, impeding access to reliable mobility. The impacts of these events and trends on the lives of residents and visitors and the flow of business and trade can be extensive.

Federal guidance

MAP-21 introduced requirements to address resiliency in statewide and MPO transportation planning activities. The FAST Act expanded the focus on the resiliency of the transportation system, namely through the addition of a planning factor to improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation.

BIL places even more emphasis on resiliency and greenhouse gas emissions, particularly through the creation of formula and discretionary funding programs such as the Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program for states over five years to make surface transportation infrastructure more resilient to the effects of extreme weather and natural disasters. BIL also identified *tackling climate change* and *equity and Justice40* as federal emphasis areas, allows for the use of specified funding programs to include resiliency projects or elements, and creates a new Carbon Reduction Program with formula funding to states for energy-efficient transportation projects.

FDOT guidance

Florida has a tradition of continually enhancing regulations and policy to improve community and infrastructure resiliency. As such, Florida Statutes have been modified over the last decade to address a variety of resiliency topics. FDOT adopted a resiliency policy in 2020 aligning with federal definitions, and broadening the historical perspective to include economic prosperity and the quality of communities and the environment. The policy defines resiliency as the ability of the transportation system to adapt to changing conditions and prepare for, withstand, and recover from disruptions. FDOT will continue to identify risks, particularly related to sea level rise, flooding, and storms; assess potential impacts; and employ strategies to avoid, mitigate, or eliminate impacts." FDOT is preparing a policy implementation plan to incorporate resiliency actions in FDOT programs and project development. In addition, FDOT is required to prepare a Resilience Action Plan for the State Highway System based on current conditions and forecasted future events per Florida Statutes 339.157 F.S.. The plan's goals are to enhance infrastructure and operational resilience, recommend design changes, and enhance partnerships to address multijurisdictional needs. It will also include an assessment of roadway facilities and drainage outfalls, a

systemic review of FDOT manuals, procedures, tools, and guidance documents to identify revisions; and provision of technical assistance to local agencies and modal partners on resiliency issues and solutions.

Connection to the Florida Transportation Plan Goals

The FTP goal of *Agile, Resilient, and Quality Transportation Infrastructure* directly addresses resiliency. The six other FTP goals also relate to resiliency, for example the transportation system cannot be resilient unless it is also safe and secure, and alleviating disruptions in transportation infrastructure and operations serves to strengthen Florida's economy. The specific strategy for resilience is *identify and mitigate risks* and aims to identify risks to the transportation system and the customers who use it. The FTP identifies a number of actions for addressing this strategy including identify vulnerabilities, expand asset management decisions, adapt transportation planning, design, construction, and maintenance techniques, identify and implement approaches to improve overall infrastructure and community resilience, develop a long-term approach to transition infrastructure and development away from vulnerable areas, and update emergency management plans.

Connection to the Metropolitan Transportation Planning Process

With the passage of the FAST Act, resilience was introduced as a federal planning factor and the planning responsibilities for resilience have only grown since that time. MPOs can address resilience within their planning processes by leveraging work of state-level agencies such as FDOT and the Florida Department of Environmental Protection, regional agencies such as water management districts and regional planning councils, as well as local resilience collaboratives. For the planning process, resilience has a prominent role in the update of the MPOs LRTP and TIP but it should also be evident in all areas of metropolitan planning initiatives. Emphasis should be placed on coordination with agency partners responsible for natural disaster risk reduction or those developing local resilience planning initiatives. Another key aspect is considering the additional costs associated with reducing vulnerability of the existing transportation infrastructure. The end goal of realistic and cost-effective solutions for resiliency is best achieved with proactive planning.

Notable Practices

Six case examples were identified to demonstrate how planning for resilience to extreme weather events are being incorporated into regional plans. Mitigation studies, vulnerability assessments, and resilience frameworks are a few approaches that have been used to inform future transportation projects that will enhance infrastructure resiliency.

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VULNERABILITY ASSESSMENT

Houston-Galveston Area Council
Hillsborough MPO

OVERVIEW

State and regional transportation agencies across the country are facing an increase in extreme weather events that damage roads, bridges and other transportation facilities. Vulnerability assessments are used to ascertain the susceptibility of a natural or human system to sustaining damage (or benefiting) from climate change. Conducting vulnerability assessments on transportation infrastructure is a proven step to developing adaptation strategies to mitigate stressors in the transportation network.

The **Houston-Galveston Area Council (H-GAC)**, the MPO for the eight-county Houston-Galveston area, partnered with the Texas Department of Transportation (TxDOT) to develop transportation-sector specific resiliency best practices under the FHWA's Resilience Pilot Program. Building upon previous plans, H-GAC engaged in the Pilot Program in 2019 and began conducting a vulnerability assessment of transportation assets.

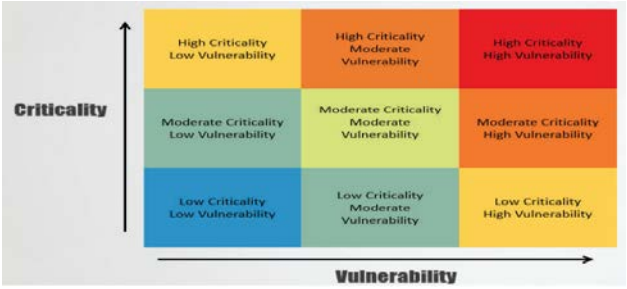
Using FHWA's Vulnerability Assessment Framework, H-GAC developed the following goals for the project.

- Assess the criticality and vulnerability of regional transportation assets to extreme weather events.
- Develop a suite of recommendations for local governments to use for a more resilient transportation network.
- Use analysis from the pilot program to inform future publications and project selection criteria.

The team analyzed two types of transportation infrastructure assets including major roads and bridges and modeled scenarios for flooding, storm surge, and sea level rise events. The scenarios included an assessment of criticality (determining which assets are highly critical to the region's routine functions and economic activities) and vulnerability (determining which assets are highly vulnerable to climate stressors the region is likely to face).

The intersection between the criticality and vulnerability assessments is displayed in the multi-colored matrix shown to the left and was developed to identify those assets that are both critical and vulnerable.

The project introduced 25 adaptation strategies for local governments to consider to protect critical and vulnerable assets.



The **Hillsborough TPO** as part of the Tampa Bay Transportation Management Area (TMA) partnered with Forward Pinellas, Pasco MPO, FDOT District 7, and the Tampa Bay Regional Planning Council on the Resilient Tampa Bay Transportation Project, supported by the FHWA Pilot Program: Resilience and Durability to Extreme Weather. The collaborative pilot created a regional assessment to inform the participating MPOs' LRTPs through adaptation strategies. This pilot evaluated all roads in the regional travel demand model and provided recommended strategies and costs based on vulnerability and criticality. Two scenarios were considered to perform the analysis: a Category 3 Storm with a High National Oceanic and Atmospheric Administration (NOAA) sea level rise projection and nine inches of precipitation over 24 hours. Roads were assigned high, moderate, and low vulnerability scores based on the level of inundation. Nine other scenarios were developed to model hurricanes, sea level rise, and heavy precipitation events and each event's combined regional effects. Based on stakeholder outreach, eleven factors including mobility, connectivity, equity, and emergency response were selected to determine the criticality of

transportation infrastructure. A series of maps displaying the region's vulnerability and criticality were created to display the areas in the region most vulnerable to extreme weather with the most critical transportation infrastructure.

An Adaptation Strategy Toolbox was created to identify various adaptation strategies and explain the benefits and constraints of each. The toolbox describes the strategies most appropriate for specific threats and conditions where each works best. Two representative projects in each county were then collaboratively chosen to apply the adaptation strategies in the toolbox. In addition, the estimated cost of applying these adaption strategies was compared with the potential economic loss of not investing in adaptation.

WHY THIS PRACTICE IS NOTEWORTHY

Both H-GAC and TMA engaged in FHWA's Resilience Pilot Program to address the threat of extreme weather events on its transportation infrastructure. The vulnerability assessments provided valuable information on the region's transportation network including those roads and bridges most susceptible to flooding, storm surge, and sea level rise as well as to assist in the development of strategies to prioritize transportation investment programs.

APPLICATION FOR FLORIDA MPOS

While both H-GAC and TMA vulnerability assessments were part of a pilot program, the results can provide guidance and inspiration to pursue similar planning efforts. MPOs with established travel demand models and scenario planning frameworks can incorporate resiliency into these processes. Considerations for an approach and methodology for a vulnerability assessment include assigning costs to projects for adaptation efforts or as part of pooled funds in the LRTP, comparing the estimated cost of applying adaption strategies with the potential economic loss of not investing in adaptation, prioritizing infrastructure based on criticality for mobility and community well-being, and remaining focused on a regional approach to ensure economies of scale and continuity throughout the region.

The results of vulnerability assessments can provide a path for other MPO's desiring to prioritize resiliency in transportation planning projects. Considerations for the approach and methodology of the criticality and vulnerability assessments include:

- Identify the MPO's assets as *critical* (those that are vital to the region's routine functions and economic activities) and/or *vulnerable* (those that are highly susceptible to climate stressors the region is likely to face).
- Analyze scenarios that the region is likely to face (i.e., flooding, storm surge, sea level rise).
- Identify assets that are both highly critical and highly vulnerable and therefore a priority for adaptation strategies.
- Develop and implement adaptation strategies to protect vulnerable and critical assets.

FOR MORE INFORMATION

Houston-Galveston Area Council Resiliency Planning

Resilient Tampa Bay: Transportation Pilot Program Project

FHWA - Environment – Sustainability – Resilience Pilots

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Vulnerability Assessment addresses the following highlighted topics

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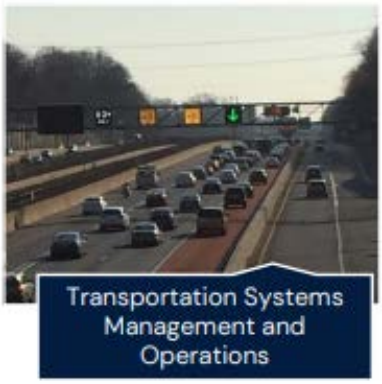
MITIGATION STUDY

National Capital Region Transportation Planning Board

OVERVIEW

The National Capital Region Transportation Planning Board (TPB), the MPO for metropolitan Washington, D.C., conducted a climate change mitigation study to assess ways to reduce greenhouse gas (GHG) emissions and increase resilience to extreme weather events and other disasters resulting from the increasing effects of climate change in the on-road transportation sector. The study assessed various transportation-related actions and their levels of implementation to reduce GHG emissions to reduce GHG emissions by 50 percent below the 2005 level in 2030 and 80 percent below the 2005 level by 2050. These regional goals were set by the Metropolitan Washington Council of Governments (COG) and included in their *2030 Climate and Energy Action Plan* (CEAP).

On-road transportation GHG emissions are a function of vehicle travel, the energy efficiency of vehicles, and the carbon intensity of fuels used. The scenarios explored in the analysis included an array of strategies under three primary pathways to reducing GHGs from on-road transportation sources: vehicle technologies and fuels (VT), mode shift and travel behavior (MSTB), and transportation systems management and operations (TSMO).



The baseline scenario was developed using projections consistent with the TPB's LRTP *Visualize 2045* and Metropolitan Washington COG's 2030 CEAP. The scenario approach included two types of analysis; a top-down approach and a bottom-up approach. The top-down approach explored three key questions:

- What level of vehicle miles traveled (VMT) reduction would be needed to meet the regional 2030 goal if VMT were the sole focus of efforts?
- What level of electric vehicle (EV) adoption would be needed to meet the 2030 goal if vehicle technology were the sole focus of efforts?
- What level of VMT reduction would be needed to meet the 2030 goal using vehicle technology assumptions outlined in Metropolitan Washington COG's 2030 CEAP?

The bottom-up approach involved development and analysis of ten scenarios: six focused on individual pathways (e.g., VT alone, MSTB alone, or TSMO alone), and four involving combinations of the other scenarios.

The findings in the top-down approach concluded that to meet the 50 percent emissions reduction goal by 2030 through VMT reduction alone, VMT must drop by an estimated 57 percent from the 2018 level. Similarly, meeting the 2030 goal with VT improvements alone means that 75 percent of vehicles on the road must be EVs by 2030. The findings also acknowledged that neither scenario are likely to happen.

Technology enhancements with VMT reduction still provide a challenge for meeting the 2030 goal within the transportation-sector. Additionally, the 2050 goal, using the same VMT, MSTB, and TSMO scenarios, had comparable outcomes. However, in the 2050 analysis, when an additional outside factor called "a reference grid case" was introduced the goal could be met. The "reference grid case" considers a completely carbon-free electric grid if about 79% of vehicles on the road are EVs by 2050.

The bottom-up approach indicated that none of the simulated scenarios met the 2030 goal of reducing on-road transportation sector GHG emissions to 50 percent below 2005 levels and only one scenario provides enough emission reductions to meet the study's 2050 goal of 80 percent below 2005 levels under the "reference case" electric grid.

These results suggest that the region cannot meet the transportation-sector goals without other GHG producing emission sectors also yielding reductions. Large-scale shifts to EVs combined with a clean electric power grid will be required. However, the study recognizes that the transportation strategies such as VT, MSTB, and TSMO, provide many benefits to the region including improving air quality, providing more travel options, and improving the reliability and safety of the transportation system.

WHY THIS PRACTICE IS NOTEWORTHY

Acting upon goals set forth in the *CEAP*, the TPB set out to study how the on- road transportation sector could reduce carbon emissions to meet the levels outlined in the plan. Although the results show that the on-road transportation sector alone cannot meet the established goals without including other carbon reducing strategies related to the electric sector, it does provide valuable information as to how collectively, GHG producing sectors can meet regional goals by 2030 and 2050.

APPLICATION FOR FLORIDA MPOS

MPOs must assess current and future climate risks and actively integrate resiliency planning across government plans, operations, and communications. Developing scenario analysis to inform decision makers on what needs to happen to achieve resiliency is imperative to producing strategies that will reduce greenhouse gas emissions and increase resiliency to extreme weather events and climate stressors. All MPO jurisdictions have some form of GHG emissions and setting goals to reduce these emissions is a major step toward resiliency to extreme weather events and mitigation of impacts of climate change. Considerations for advancing the reduction of GHG emissions are varied but could start by including goals to reduce GHG emissions in LRTPs and using scenario analysis to set strategies that can help meet goals.

FOR MORE INFORMATION

TPB Climate Change Mitigation Study

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Mitigation Study addresses the following highlighted topics

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RESILIENCY FRAMEWORK STUDY

Broward MPO

OVERVIEW

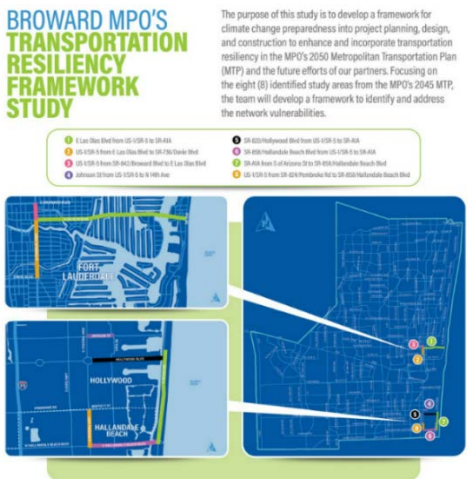
The Broward MPO Transportation Resiliency Framework Study incorporates climate change preparedness into project planning, design, and construction. The study is evaluating eight highly vulnerable corridors for flood impacts and developing a toolbox of strategies for evaluation of future projects and selection of appropriate mitigation strategies. The Resiliency Framework Study consists of eight cost feasible corridor studies identified in *Commitment 2045* Broward MPO's Metropolitan Transportation Plan (MTP). The eight corridors were identified as the top roadway segments impacted by two feet of sea level rise in the projected 2045 planning horizon. The roadway segments were identified through prior work that included a resiliency scenario and the South Florida Climate Change and Vulnerability Adaptation Project.

> ***The framework will create a repeatable process …[and] a toolbox and strategies to inform project planning and development.***

Commitment 2045 incorporates project prioritization criteria that considers whether a transportation improvement would contribute to sea level rise mitigation and extreme weather resiliency as well as how the improvement would impact greenhouse gas emissions. The prioritization process considers these criteria:

- Improvements related to sea level rise mitigation/extreme weather.
- Resiliency impact on greenhouse gas and precursor emissions.
- Potential for impacts to wetlands, floodplains, and natural and historic resources.

The performance measures and targets for the MPO Goal 3: *Strengthen Communities* include air quality based on total carbon monoxide emissions with a reduction target of 10 percent or more by 2045. For pollutant emissions, the performance measure is total nitrogen oxide emissions with a reduction target of 10 percent or more by 2045. Additional measures by which these criteria are evaluated include the number of lane miles of evacuation routes per 100,000 population and the number of miles of roads and rail forecasted to be permanently inundated between one foot and two feet of sea level rise. The target for this performance measure is any decrease by 2045. The Resiliency Framework Study will examine the type and extent of flooding and impacts to the surrounding area and identify appropriate strategies for mitigation. Resulting strategies and information will determine the capital outlay needed to address the impacts identified. The toolbox and typology of strategies developed from this study will promote consistent evaluation of future projects and selection of appropriate mitigation measures. This 18-month study, which began in February 2021, aims to serve as a bridge between the MPO and future FDOT studies.



These corridor studies are programmed in the first five-year time band (2026/30) of the Cost Feasible Plan to identify the appropriate infrastructure project to program in future MTPs based on the outcome of the area-wide study. The Resiliency Framework Study is focusing on the type and extent of inundation a facility is expected to experience and how this will impact the surrounding roadway network. This will help develop a more comprehensive capital outlay of projects to properly address the potential risk.

WHY THIS PRACTICE IS NOTEWORTHY

The Broward MPO's Commitment 2045 promotes resiliency in response to climate change and weather-related events in its *Strengthen Communities* goal. The Broward MPO Transportation Resiliency Framework Study will provide a framework for incorporating climate change into project planning, design, and construction. The framework will create a repeatable process that takes a larger and more holistic approach to resiliency as well as a toolbox and strategies to inform generalized planning and project development.

APPLICATION FOR FLORIDA MPOS

Incorporating resiliency into scenario planning can assist MPOs in preparing for future challenges associated with climate change and extreme weather events. Corridor studies can assist in identifying, selecting, and funding appropriate strategies for vulnerable segments.

Many transportation agencies struggle to move beyond vulnerability assessments. A transportation resiliency framework study in combination with the goals, project prioritization criteria, and performance measure targets contained in the MPO's LRTP can provide a path forward. Considerations for implementing a similar framework include developing project prioritization criteria based on resilience goals and objectives, identifying highly vulnerable road segments in the transportation network, and establishing scenarios and evaluation criteria specific to resilience. Taking it to the project level, an MPO should consider developing scopes and cost estimates for resilience improvement corridor studies.

FOR MORE INFORMATION

Transportation Resiliency Framework Study

Broward MPO 2045 Metropolitan Transportation Plan

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Vulnerability Assessment addresses the following highlighted topics

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RESILIENCE GUIDANCE DOCUMENT

Ocala/Marion TPO

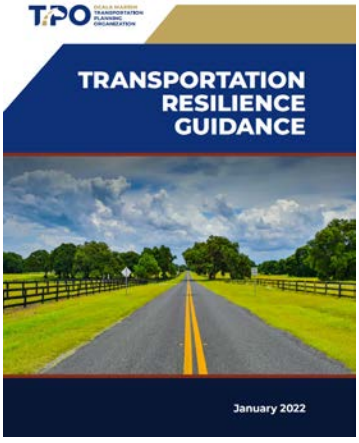
OVERVIEW

The Ocala/Marion TPO developed a Transportation Resilience Guidance document in January 2022 to inform and engage the TPO, its committee members, and other stakeholders on the topic of resilience. The purpose of the guidance is to provide a definition and understanding of transportation resilience for the TPO and residents of Marion County by first reviewing peer area resilience activities and current practices, federal guidance and funding, and state funding opportunities. It also considers some of the technical aspects of resilience by exploring the County's local mitigation strategy (LMS) and the results of a high-level vulnerability analysis performed for Marion County.

Marion County developed its LMS in 2020 to identify the natural hazards affecting one or more jurisdictions in the region, establish the foundation for assessing risks and vulnerabilities, and identify actions to mitigate the impacts of hazards. The LMS considers the hazard impacts of hurricanes, tornados, storms, floods, wildfires, sinkholes, droughts, and man-made disasters. In Marion County, floods, wildfire, and sinkholes are the three key hazards based on best available data. The LMS also identifies vulnerable critical facilities such as transportation facilities, medical facilities, communication facilities, potable water facilities, wastewater treatments plants, hospitals, and schools. Specifically, it identifies the critical highway facilities in Marion County as those facilities designated as evacuation routes. The LMS is reviewed annually and the vulnerability assessment and mitigation initiatives are updated as needed. The LMS formalizes the mitigation goals to reduce the impacts of identified hazards.

Within the framework of the LMS, the Guidance document includes a high level assessment of transportation facilities vulnerable to a variety of natural hazards and a mitigation strategy toolbox that can be used as a resource for planners and decision makers. The analysis identified segments of the federal-aid highway system exposed to the three key hazards in Marion County. The results identified miles of roadways impacted by each of the three hazards, broken down by functional classification. Evacuation routes were analyzed separately. The analysis of these highway facilities helped to develop resilience strategies and prioritize resilience funding.

The natural hazards identified in the LMS and the resilience strategies discussed in the Guidance document identify potential state and federal funding opportunities for meeting resilience requirements. The resilience strategies are organized into four categories: prevention, adaptation, absorption, and restoration. Across these four categories, the document describes more than thirty strategies that includes relative cost, purpose, benefits, and examples of application.



The Guidance document considers and aligns with Marion County's LMS reflecting planning consistency between the county's and TPO's resilience goals. The TPO anticipates the strategies to be utilized in a comprehensive transportation system analysis that builds upon Marion County's LMS as well as a future resilience master plan that will aid in prioritizing the most critical resilience improvements. The master planning effort would be coordinated closely with the TPO's planning partners including Marion County and municipalities, FDOT, the East Central Florida Regional Planning Council, and other interested parties. The resulting plan would provide an important guide to implement specific improvements and resilience analysis to consider as part of other infrastructure plans and improvement strategies.

WHY THIS PRACTICE IS NOTEWORTHY

This Guidance document provides a broad definition that is useful for coastal and inland communities alike. Building from that definition and the vulnerability assessments, the resilience strategies within the guide provide a suite of tools developed by MPOs and for MPOs. The identification of hazards is specific to Ocala/Marion TPO's resilience context, but provides a tool for taking the first step in the resilience planning process. The resilience strategies provides a pathway towards action once a community has conducted a vulnerability assessment.

APPLICATION FOR FLORIDA MPOS

The Ocala/Marion TPO's Transportation Resilience Guidance document was written to inform the TPO, its members, and stakeholders on the broad topic of resilience. It lays out potential steps for decision makers in the resilience planning process by taking inventory of several resilience planning efforts, providing a five step resilience planning process, identifying an inventory of local hazards and their impacts, and pointing to a resilience strategies matrix that is adaptable to other community contexts. These steps also consider the U.S.DOT resilience guidance and FHWA's resilience definition and Vulnerability Assessment and Adaptation Framework. Ultimately, this guidance document provides a suite of tools that could enhance those efforts in communities large and small, as well as coastal and inland areas.

FOR MORE INFORMATION

Ocala Marion TPO Transportation Resilience Guide

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Resilience Guidance Document addresses the following highlighted topics:

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EMERGING MOBILITY

Emerging mobility is an important topic to transportation agencies at all levels of government. Emerging mobility includes automated, connected, electric, and shared vehicles (ACES) as well as new mobility options such as ridesharing, micro-mobility, flying cars, and space travel. FDOT recognizes the importance of planning for these new options and acknowledges that these changes may be disruptive and transformational, with impacts to safety, vehicle ownership, travel capacity, vehicle miles traveled, land-use, transportation design, future investment demands, the supply chain, and the economy and workforce. Implementation of all seven goals of the FTP can be furthered through both the transformation of major corridors and hubs and the expansion of transportation infostructure to embrace and support the adoption of emerging mobility.

Federal Guidance

Both FHWA and the National Highway Traffic Safety Administration (NHTSA) have provided guidance for components of emerging mobility, consisting of scenarios for connected and autonomous vehicles, and defining levels of automation. FHWA developed six Connected Vehicles (CV) and Automated Vehicles (AV) scenarios to highlight uncertainties and to capture a range of plausible futures. These scenarios represent a range of potential outcomes related to technology capabilities, the regulatory framework, consumer preferences, and economic impacts following the introduction of ACES technologies and serve as a starting point for MPOs to develop their own scenarios. NHTSA's six levels of automation clarify the range of vehicle automation in planning discussions.

The FAST Act established the Advanced Transportation Congestion Management Technologies Deployment (ATCMTD) program to make competitive grants for the development of large-scale installation and operation of advanced transportation technology to improve safety, efficiency, and system performance. The BIL expands upon that program to include Innovative Mobility Deployment. The expansion includes new authority for funding advanced parking technologies, high occupancy vehicle toll lane technology, and shared mobility applications.

FDOT Guidance

FDOT recognizes the importance of planning for Emerging Mobility disruptions. To address this end, FDOT provided the Guidance for Assessing Planning Impacts and Opportunities of Automated, Connected, Electric, and Shared-Use Vehicles which provides an ACES planning process and matrices for MPOs that illustrate which vehicle types are associated with different impacts to help MPOs incorporate ACES into their planning process.

Florida's CAV Business Plan identifies and captures the results of FDOT's coordination through internal and external meetings and workshops which help in developing an institutionalized framework to move from research to statewide deployment of pilot projects. It also outlines preparation efforts for Florida's infrastructure. The CAV Business Plan identifies polices and governance, program funding, education and outreach, industry outreach, technical standards and specifications, CAV implementation deployment and implementation readiness.

Connection to the Florida Transportation Plan Goals

The FTP Policy Element consists of goals, objectives, and strategies that will meet the needs of all Floridians. With a focus on innovation, the FTP broadens the definition of infrastructure to include enabling technologies. A key

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strategy of the FTP is to expand transportation infostructure to support the deployment of ACES vehicles, adapt and accommodate emerging air and space technologies, logistic technologies, and support smart region/city initiatives. Another key strategy of the FTP is to transform Florida's major transportation corridors and hubs. Emerging mobility options have the potential to transform passenger terminals into mobility hubs that provide a wide range of modal options as well as first/last mile connections. To develop next-generation transportation corridors, Florida will continue to position itself to catalyze the potential of emerging mobility technologies. These strategies can help Florida realize all seven goals of the FTP. Partnering with MPOs can ensure that Florida continues to be a hub for innovation.

Connection to the Metropolitan Transportation Planning Process

Florida MPOs are dealing with an unprecedented amount of potential change as they plan for their transportation needs between now and 2050. Within their next planning horizon, MPOs will be faced with how to best address the increasing prevalence of ACES, shared and micro-mobility options. Emerging mobility deployment and widespread adoption are wide-ranging but uncertain. Prior guidance and the notable practices discussed in this document are provided to catalyze the considerations of the range of possibilities of emerging transportation options.

Notable Practices

Nine case examples are identified to demonstrate how emerging mobility is being introduced into varying studies and plans. Emerging mobility trends include automated vehicles, the built environment (shared parking locations), and public data coordination sites.

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FEASIBILITY STUDY

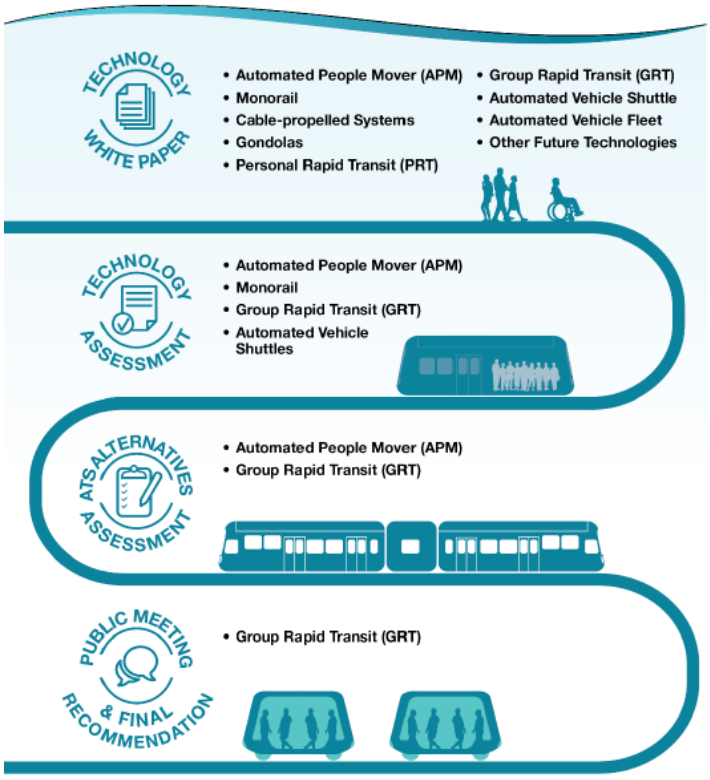
North Central Texas Council of Governments

OVERVIEW

The North Central Texas Council of Governments (NCTCOG) is a voluntary association of governments in the Dallas-Fort Worth metropolitan area that functions as the MPO for the region. Within the NCTGOC region, one planning effort is Dallas Midtown, a planned redevelopment envisioned as a live-work-play district. The vision for this community was developed by NCTCOG and local partners. To incorporate emerging mobility into this vision, NCTCOG initiated a feasibility study.

> ***How can support for an Automated Transportation System be maximized? How can shared parking support an Automated Transportation System?***

The *Autonomous Transportation System and Shared Parking Feasibility Study* aims to assess the utility and feasibility of an autonomous transportation system within the Dallas Midtown master plan redevelopment. The study provides recommendations for shared parking, Automated Transportation System (ATS) alignment, vehicle types, models ATS and shared parking demand, site locations, and pedestrian and placemaking integration. Where many MPOs are focused on pilot demonstration projects, NCTCOG's study focuses on built environment considerations such as parking and integration with transit. The Autonomous Transportation System Vehicle Analysis portion of the feasibility study consists of four iterations before a final recommendation. The iterations consisted of a technology white paper, a technology assessment, and alternatives assessment, and a public meeting and final recommendations. The technology white paper provides a review of current industry usage of public transportation vehicle capabilities across eight autonomous vehicle categories. The technology assessment examined five different characteristics for each vehicle category and ranked the characteristics. From this assessment, four vehicle categories were further analyzed based on operational characteristics, fleet and capacity, and system cost. Feedback from the public meeting recommended the proposed Automated Transit System to be a Group Rapid Transit vehicle. The recommended vehicle type was informed by ridership and parking demand estimates. Together, the ridership and parking demand estimates and the vehicle analysis were critical pieces in the analysis of an ATS system for Dallas Midtown as well as site locations for shared use parking and ATS system stations.



Source: NCTCOG

WHY THIS PRACTICE IS NOTEWORTHY

Automated vehicles have the potential to transform transportation systems. *The Autonomous Transportation System and Shared Parking Feasibility Study* takes a different approach to preparing for an autonomous future. Rather than emphasizing adaptation to these disruptions, NCTCOG's study assesses ways that disruption can support a multimodal and quality-of-life focused vision. Additionally, NCTCOG includes important land use consideration such as future parking needs. Specifically, NCTCOG examines the synergies of automation and a shared parking system.

APPLICATIONS FOR FLORIDA MPOS

Autonomous vehicles have the potential to disrupt communities. Determining how autonomous vehicles can be incorporated into a community vision is a worthwhile goal for MPOs. NCTCOG's feasibility study provides a model for harnessing disruptive technology to serve a community's vision. The consideration of the role of parking in the future is one example of the many issues MPOs can and should discuss within their regions. Similar efforts could be made for other elements of the transportation system. The feasibility study's process to consider and document a variety of technologies can be applied to other emerging technologies. The assessment component can help MPOs evaluate what technologies can be implemented in their unique context. As new technologies proliferate, flexibility with public attitudes and concerns will be useful in evaluating what technologies are deployed. The NCTOG feasibility study provides a process to determine what emerging technologies are applicable in live-work-play districts.

FOR MORE INFORMATION

Dallas Midtown Autonomous Transportation System and Shared Parking Feasibility Study

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Feasibility Study addresses the following highlighted topics:

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INNOVATIVE TECHNOLOGIES STUDY

Tampa Bay Area Regional Transit Authority

OVERVIEW

The Tampa Bay Area Regional Transit Authority (TBARTA) conducted the Innovative Technologies Study (ITT) in 2019 to study and evaluate innovative transit opportunities to support regional transit service and/or infrastructure within the five-county region of Hernando, Hillsborough, Pasco, Pinellas and Manatee Counties and to understand the deployment readiness of these technologies. The first step was to evaluate the emerging technologies of aerial gondolas, air taxis, and hyperloop with a goal of understanding where these technologies are in the development process, the intended operational and service capabilities, and how they could support transit in the Tampa Bay region. The study was informed by four study teams: technology research literature review, industry interviews, governance and regulatory framework, and corridor travel market conditions.

The study took a phased approach that included technology research, interviews, governance and regulatory review, and an analysis of markets and connections. Understanding current research and development efforts, governance and regulatory status, and market viability armed TBARTA with the information they needed to determine the likelihood of advancement for these technologies. During the study, they learned that aerial gondolas are further along in development and could move forward as part of more detailed evaluations and feasibility analyses; however, air taxis and hyperloop are further out and will require more policy and regulatory development, as well as some technology development, to be considered for implementation in the future.

The ITT study identifies the state of each technology, evaluates issues and opportunities, assesses the regulatory status, and identifies key market connections. It also provided recommendations to the TBARTA board for moving forward and the timing related to each technology and followed each set of recommendations with other opportunities to explore for partnering and collaboration, planning and evaluation, and engagement.

WHY THIS PRACTICE IS NOTEWORTHY

The Innovative Transit Technologies study provides a useful process example of applying research to both the local and statewide context. The application of the research into corridor analyses is a key component of the study that others can learn from.

APPLICATION FOR FLORIDA MPOS

The study process and recommendations are relevant for MPOs since they apply to local agencies broadly. Specifically, the corridor analysis process may be useful for MPOs to prepare for regulatory frameworks and potential deployments of these technologies. Additionally, the study process is flexible and can be applied to other emerging technologies. As the transportation landscape changes, well developed and established processes to research the development of new technologies, their regulatory status, and their potential implications for different modes can support MPOs in developing strategies and approaches to these new and emerging ideas.

FOR MORE INFORMATION

TBARTA Innovative Transit Technologies Study

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Feasibility Study addresses the following highlighted topics

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SHARED MOBILITY

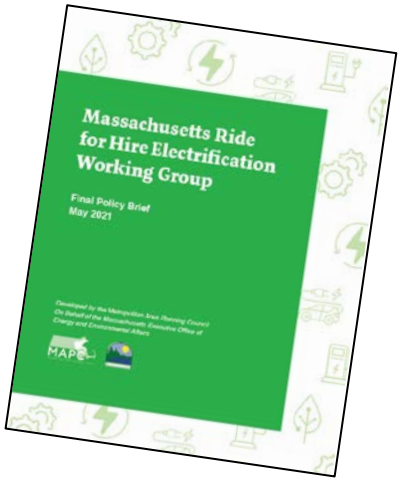
Alamo MPO , Boston MAPC, Missoula MPO, Cheyenne MPO

OVERVIEW

Shared mobility describes transportation systems that join resources for use by a broad group of people to increase transportation and mobility options. Some examples of shared mobility include scooters, bike share systems, transportation network companies (TNCs) such as Uber and Lyft, as well as carpooling and conventional transit service. Shared mobility also includes aerial mobility, robo-taxis and shuttles. The following section highlights practices from communities large and small that provide different approaches addressing new and emerging shared mobility options.

Missoula MPO's Emerging Mobility Playbook highlights emerging mobility trends, evaluates and recommends policies and pilot projects, and provides best practices for emerging mobility implementation and management. As a chapter of Missoula MPO's LRTP, the Playbook plays a part in informing the goals and investment strategies of the region. The Playbook provides a timeline of emerging mobility services, mobility targets set by the Activate Missoula 2045 LRTP, a review of the available emerging mobility services in Missoula, and a SWOT analysis for achieving each of the LRTP's transportation goals through emerging mobility.

As new mobility services and technologies come online, Missoula is focused on steering the conversation around the public interests articulated in its LRTP goals. When cities focus investment on core mobility networks like safe and connected active transportation, fast and reliable transit networks, and well managed parking emerging mobility services complement public mobility services as elements in a broader system.



The **Boston Metropolitan Area Planning Council** (MAPC) took action to identify polices and prioritize near-and long-term actions to increase the adoption of electric vehicles by both ride share drivers and ride-for-hire companies. They partnered with the Executive Office of Energy and Environmental Affairs to establish the Massachusetts Ride-for-Hire Electrification Working Group and produced a policy brief to document the work.

The Working Group included representation of TNC's, taxi and livery industries, utilities, state agencies, environmental groups, and the private sector. The Working Group members identified an overarching need for a strong statewide outreach and education program to all drivers about the benefits of electric vehicles and how to take advantage of existing state programs. In turn, TNC's, taxi, and livery companies were asked to disseminate content and program opportunities to drivers to expand the state's education and outreach efforts. The Working Group focused on opportunities, challenges, and incentive to reduce charging infrastructure-related barriers and increase access to electric vehicles for ride-for-hire drivers. It also focuses on advancing equity objectives and education initiatives.

The **Alamo Area MPO** performed a study to evaluate the role of bike share and other forms of shared mobility in the Greater San Antonio Region. Within the *Alamo Area Bike Share Master Plan*, the study investigates the possible expansion or changes to the existing bike share program in San Antonio, planning for new shared mobility options such as electric-assist bikes and electric-powered scooters, and considers shared mobility options suitable for smaller communities. Lessons learned from the San Antonio context informed three bike share feasibility studies for smaller communities in the counties north of San Antonio.

To expand micro mobility in the Cheyenne, Wyoming, the **Cheyenne MPO** identified several benefits to adding more travel modes including decreased reliance on private vehicles, fewer cars on the road, and more options for those who cannot drive or do not own a vehicle. The MPO worked with the city to modify existing ordinances to accommodate the arrival of dockless scooters in July 2021. The ordinance modifications allowed for the scooters to be operated legally within the defined boundary of the geofenced area of the city.

WHY THIS PRACTICE IS NOTEWORTHY

The Shared Mobility case examples prioritize reaching underserved populations. The Missoula MPO's framework is guided by ambitious mode-shift goals and serves as an example of how emerging mobility can be integrated into the broader transportation system while also working towards a region's goals. San Antonio's bike share experience informs potential expansion of transportation options in smaller communities, as the shared mobility landscape shifts to more electric vehicles. Cheyenne MPO's collaboration with the City of Cheyenne shows how changes to local ordinances can help with readiness for new and emerging technologies. To address the localized effects of pollutions and congestion from ride-hailing the Boston MAPC provides a model to strategically address the cross-cutting topics of ride-hailing, vehicle electrification, and equity.

APPLICATION FOR FLORIDA MPOS

Cities are often the first to adapt to transportation innovations, but it is important for all communities to benefit from such opportunities. Electrification is part of the broader effort to reduce carbon-intensive forms of transportation. Shared and micro-mobility options supplement electrification. Smaller communities may rely on the expertise of MPOs which underscores the importance of MPOs collaborating with and supporting local jurisdictions. These applications provide examples of how an MPO with diverse community contexts can address Emerging Mobility with inclusivity and foster innovation across their region. The shared mobility case examples discussed in this section are united in their focus on expanding transportation options across jurisdictions. The frameworks, programs, forums, and collaborative approaches of these case examples provide a set of tools that can help guide MPOs with similar goals.

FOR MORE INFORMATION

Missoula LRTP Emerging Mobility Playbook

Boston MAPC Electrification Working Group Final Policy Brief

Alamo Area MPO Bike Share Master Plan Executive Summary

Plan Cheyenne Scooters and Micromobility

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

Shared mobility initiatives address the following highlighted topics


COLLABORATION


CUSTOMERS


DATA AND PERFORMANCE


POLICY, PLANNING, AND DECISION-MAKING


COMPLETE STREETS


PUBLIC INVOLVEMENT


PLANNING AND ENVIRONMENTAL LINKAGES

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MOBILITY HUBS PROGRAM

Broward MPO

OVERVIEW

Broward MPO's Mobility Hubs program is a competitive and discretionary grant program to provide funding and technical assistance for planning studies, design, and construction for qualified applicants. Gaining popularity in the 2000s, the mobility hub concept emerged as a cornerstone of Broward MPO's 2035 LRTP's approach to innovation. Mobility hubs are often defined as places of connectivity where various modes of travel such as walking, biking, transit, and shared mobility converge. They aim to integrate these modes of transportation by making the most of first- and last-mile connections. This characterization helped drive the vision for the program.

> ***Mobility hubs are places of connectivity where various modes of travel – walking, biking, transit, & shared mobility – converge.***

Using the mobility hubs definition and other land use criteria, the 2035 LRTP identified a number of mobility hubs throughout the county. That Plan called out the Mobility Hubs program as an example of a flexible and "living LRTP." This approach to innovation and emerging mobility has been essential in assisting local governments with the opportunity to offer seamless transportation among modes.

The vision for the Broward MPO Mobility Hubs concept has evolved over time, providing a useful framework for identifying and prioritizing places within communities that are critical to moving people and goods. The flexible framework has proved useful for integrating emerging technologies with existing modes. Eligible projects via the Mobility Hubs program include Master Plans and Design and Construction.

Broward MPO staff offer valuable information and instruction to interested applicants guiding them through the process to ensure successful deployment of projects. They also work with the applicant to offer alternative funding programs if the proposed mobility hub project does not meet the criteria. Broward MPO evaluates all applications based on the following criteria:

- **Market Readiness** takes into consideration land use information, demographics, proximity to public schools and university based on accessibility, economic vitality, and equity indicators.
- **Network Readiness** examines existing transit service, frequency and ridership, as well as climate change risk, crash data based on mobility, environmental stewardship, and safety indicators.
- **Sponsor Readiness** evaluates applicants' willingness and ability to deliver on proposed projects.

The program is largely funded through a FHWA Flex allocation to Section 5307 FTA funds, with local match through the FDOT Turnpike Enterprise by way of a transportation development credit (funding tool to meet federal matching requirements). Use of the 5307 funds must meet eligibility criteria. Since inception, the program has collaborated in the funding and development of planning studies or design, and construction for seven mobility hubs in the Broward MPO region.

WHY THIS PRACTICE IS NOTEWORTHY

The evolution of Broward MPO's vision for this program reflects changes in the transportation landscape. Specifically, the Integrating Ridesharing Report and Automated Vehicle (AV) Feasibility Study at Sawgrass Mills Mall are two examples of how the planning framework developed by Broward MPO for the Mobility Hubs program progressed to incorporate emerging transportation trends. This flexibility is key for planning for the uncertain futures in emerging modes and technology. As emerging mobility options become more widespread, Mobility Hubs maintain flexibility to, "ensure that the future use of emerging technologies, most likely to serve on-demand last/first-mile needs, not be precluded by short term decisions."

APPLICATION FOR FLORIDA MPOS

The Mobility Hubs concept provides a collaborative multi-modal framework to envision new ways for the transportation system to come together and interact. As the transportation landscape continues to evolve, flexible systems-level conceptual tools such as Mobility Hubs provide an avenue to plan for emerging mobility innovations. Considering this concept may include developing a definition for mobility hubs and identifying potential locations (places where multiple forms of transportation converge at locations with high development potential) at the program onset; considering how these locations will adapt to emerging technologies such as ridesharing and automated vehicles, among others; and considering how existing modes such as transit can be enhanced by emerging technologies and modes.

FOR MORE INFORMATION

Broward MPO Mobility Hubs Program

Mobility Hubs Concepts

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Mobility Hubs Program addresses the following highlighted topics

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SCENARIO PLANNING OUTREACH TOOL

Atlanta Regional Commission

OVERVIEW

> ***PLAY Future Focus ATL online game: an interactive online game exploring the trends experts believe will impact the future and making choices about where the region is headed.***

The Atlanta Regional Commission (ARC) used Future Focus ATL as a virtual public engagement tool as part of a larger public involvement campaign for the update of the Regional Transportation Plan (RTP). The ARC is the regional planning and intergovernmental coordination agency for the 10-county Atlanta region. The overall campaign used several noteworthy engagement approaches including an interactive online game, civic dinners, and pop-up open houses among other events. Supported by a Strategic Highway Research Program grant, ARC conducted an extensive research and stakeholder engagement effort to dig deep into exploratory scenario planning and consideration of the key disrupters that are likely to impact transportation and community infrastructure in metro Atlanta over the next 30 years.

The Future Focus ATL online game was a key product of this extensive effort. The interactive online game explored nine big trends experts believe will impact the future – such as environmental change and "smart" infrastructure – and allows stakeholders to make choices about where the region is headed. Some of the transportation trends addressed include ride hailing, car sharing, autonomous vehicles, and intelligent infrastructure. The game took participants on an exploration of the trends, giving facts and descriptions of potential outcomes for each one. As players explored, they were asked to rate what outcomes seem most and least likely for each trend. Their answers determined a potential future scenario associated with the players responses. The game asked residents to "Imagine the year 2050" through a series of questions including;

- What do you think metro Atlanta will be like three decades from now?
- Will advanced technology (self-driving cars and other gizmos yet to be invented) bring solutions to age-old problems?
- Will today's challenges only grow as the years pass, leaving us in crisis?

Reflecting on these questions will help local leaders, planners, and regional communities to look decades ahead in order make smart decisions and investments today. The response to the online game launched then ARC RTP update into an innovative outreach program that featured several ways for many to get involved in the plan update.

WHY THIS PRACTICE IS NOTEWORTHY

The virtual game is an innovative public engagement tool that allows participants to engage with emerging mobility trends in a fun and interactive way. It allows participants to not only envision the future as a member of the public, but it encourages players to think critically about complex issues without oversimplifying or talking down to the players. Instead of asking what the public *wants* the future to be, the Future Focus ATL game pushes players to envision the *most likely* future for metro Atlanta. Additionally, the game component helps members of the public utilize their creativity to better inform future visions of their communities.

APPLICATION FOR FLORIDA MPOS

Public engagement is an important and necessary component of planning processes. Incorporating interactive scenario-based techniques for public outreach can enhance the public engagement experience and lead to more meaningful outcomes. Considerations for a similar outreach approach include developing a branded public engagement campaign to mark the look and feel of the process and help it to be recognizable; researching and collaborating with experts and stakeholders to establish future scenarios; and considering the feasibility of an online game format or other gamification opportunities as part of a robust scenario planning process.

FOR MORE INFORMATION

Atlanta Regional Commission RTP Outreach Effort
Atlanta Regional Commission Regional Transportation Plan

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Scenario Planning Outreach Tool addresses the following highlighted topics

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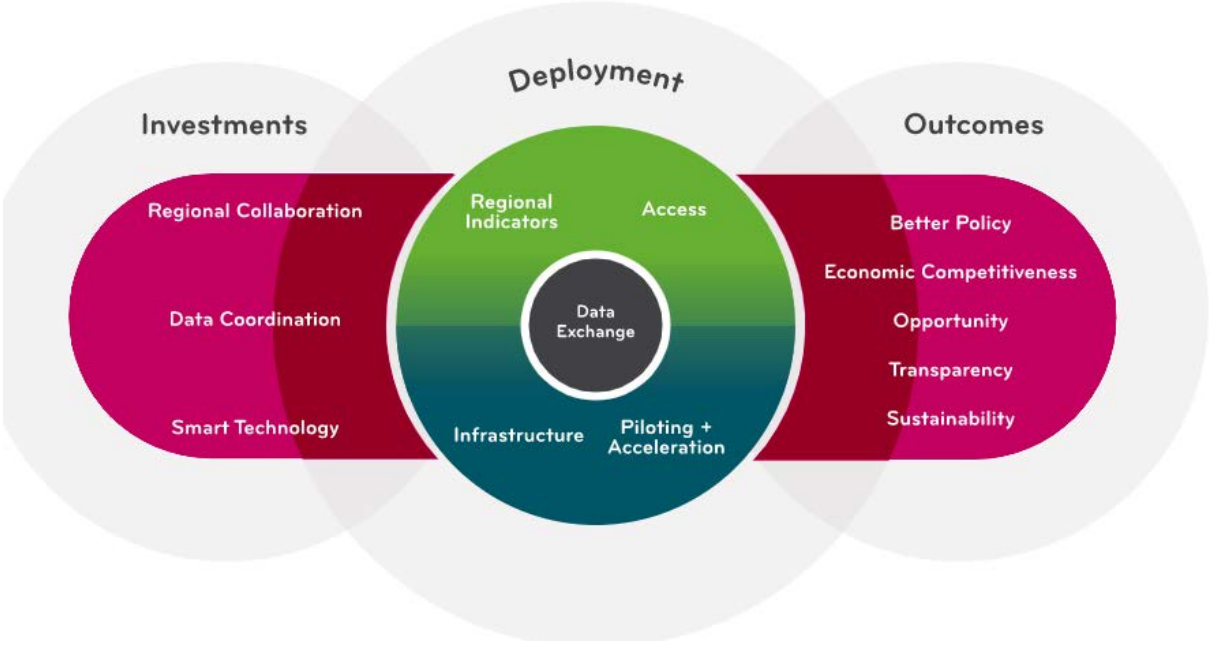
DATA EXCHANGE

North Florida TPO

OVERVIEW

> ***SMART North Florida is focused on improving the quality of life through regional collaboration, data coordination, and smart technologies.***

SMART North Florida started with seed money from the North Florida Transportation Planning Organization (TPO). It was officially founded as a non-profit coalition in the TPO's *Smart Region Master Plan* with a focus on implementing new technologies, integrated mobility, and streamlining data across public assets to define a smart vision for Northeast Florida. Central to this vision and the mission of the coalition is the Data Exchange, a website hosted by SMART North Florida. The data are pulled from existing disparate sources that are not always easily accessible to the public. These data are transmitted from smart technology infrastructure, compiled, and shared by SMART North Florida partners. The data are available in spreadsheet, GIS, and image files as appropriate. A mapping tool provides data visualization with multiple data sets. Users can also create a custom dashboard with selected data sets that will automatically update as the data is updated in the Data Exchange. The data can be used to conduct research, identify needs, prepare grant submittals, track performance measures, develop web and mobile applications, make business decisions, and develop public policies.



The graphic above shows how SMART North Florida focuses resources in three areas: regional collaboration, data coordination, and smart technology. The Data Exchange is central to the mission of the coalition. Through projects like the Data Exchange, investments are strategically deployed to improve outcomes for the North Florida Region.

WHY THIS PRACTICE IS NOTEWORTHY

SMART North Florida demonstrates the pivotal role MPOs can play in identifying gaps and developing solutions at a regional scale. The sustained success of SMART North Florida showcases how MPOs can utilize grant funding in creative and innovative ways. Specifically, the Data Exchange is an example of how collaborative information sharing can break down barriers to better serve the public through more informed decision-making.

APPLICATION FOR FLORIDA MPOS

MPOs are uniquely positioned to encourage and coordinate information sharing through coalition building. Leveraging grant funds to support data sharing leads to consistent and cohesive planning resources. SMART North Florida provides a model for MPOs to address regional data needs and utilize grant opportunities through a collaborative process. The model can help spur innovation in bridging information silos and inspire MPOs to create their own approaches in developing a smart region. By convening stakeholders and coordinating data, MPOs can help facilitate problem identification, mutual understanding, and consensus actions. More informed decision making can help MPOs implement projects whose outcomes realize the MPOs goals. As smart technology integrates into transportation systems, information sharing will increase in importance. Avenues such as the data exchange will be critical in positioning Florida at the forefront of innovation.

FOR MORE INFORMATION

Smart North Florida Data Exchange

ADDRESSING THE EMPHASIS AREAS IN THE METROPOLITAN PROCESS

The Data Exchange addresses the following highlighted topics

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FDOT

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