

INCORPORATING TRANSPORTATION DEMAND MANAGEMENT INTO THE LAND DEVELOPMENT PROCESS

PROBLEM STATEMENT

Transportation planning and system development in Florida, including the use of transportation demand management (TDM) strategies, begins with both federal and state law. These laws, combined with escalating right-of-way and construction costs and shrinking revenue sources, have influenced transportation decision makers to place more attention on maximizing the use of the existing transportation system through the use of TDM. However, numerous barriers and obstacles exist for the incorporation of TDM into the land development process. Consistent prioritization of funding for private automobile and truck transportation service reinforces existing travel behavior and public expectations at the local level. Historically, urban transportation planning carried out by both state and municipal governments nationwide has accommodated the demand for travel and safeguarded this accommodation from land development. TDM is concerned with managing (and, in many cases, reducing) the demand for travel by creating conditions that meet travelers' needs and alter their travel behavior, to reduce adverse impacts and to generate greater efficiencies. The land development process is where these two philosophies to transportation system development and management (i.e., managing versus accommodating) come into conflict and can potentially be resolved.

OBJECTIVES

This project was based on the premise that a systemwide integrated approach to achieving transportation goals should be used and that TDM is a critical component in conjunction with land use planning, transportation system construction, and transportation systems management for the development of a cost-effective and functional inter- and multi-modal transportation system. The geographic focus of the study was Florida, but the results are applicable nationwide.

The purpose of this study was to determine how TDM could be more effectively incorporated into the land development process, so as to lay the necessary foundation for later TDM program implementation. Specific objectives included the following:

- review the federal and state legal framework
- explore the means of influencing travel behavior, with examples of TDM strategies, and how they may fit into the land development process and what parties may be potential partners to implementation
- identify challenges preventing the inclusion of TDM in the land development process
- summarize current practice at the local level
- provide case study examples, both from Florida and other states
- provide recommendations for incorporating TDM into the land development process

FINDINGS AND CONCLUSIONS

The mission of the Florida Department of Transportation is to advance transportation for *statewide* purposes, which is in some ways fundamentally different from the transportation interests of local urban areas. The state roadway system primarily serves through movements for regional mobility purposes, while municipal roadways of varying functional classifications attempt to juggle access provision while meeting level of service (LOS) standards. The presence of state roads, built to specifications for moving through traffic, affects the pattern of local land development inasmuch as there is an attraction to build near available capacity. The resulting dispersed land development is difficult to serve with transportation alternatives.

Maintaining a confidence among land developers that they are all treated in an equal and fair manner is vital to the administration of the land development process. Thus, any method used must be able to (1) determine the

magnitude and quality of future impacts of development, (2) attribute the impacts accurately to the responsible party, and (3) identify mitigating measures that will both directly address those impacts as well as serve the development of the contributing party. The rational decision making process and range of answers generated for the development of the transportation system is linked to the (1) type of data collected, (2) degree of detail, (3) scope of the collected data, and (4) analysis technique, which incorporates assumptions about desired outcomes and drives particular analysis outcomes.

A key finding from the literature review that has strong relevance to the application of TDM in the land development process is the analysis conducted by Donald Shoup (UCLA) regarding the use of Institute of Transportation Engineers (ITE) trip generation and parking rates. Shoup found that local governments tend to overly rely upon the accuracy of these rates despite cautions provided by ITE for their appropriate application. In Florida, local governments primarily use ITE rates (1) to determine concurrency, (2) to determine the extent and type of needed transportation improvements as part of land development, and (3) in the application of transportation impact fees. However, ITE trip rates primarily represent land development patterns geared to the use of private automobile, i.e., they demonstrate little use of alternative transportation, which may be misinterpreted as implying a lack of need for transportation alternatives. Likewise, the misapplication of ITE parking generation rates generated from locations that offer no transit service, which result in overestimates of needed parking. The use of ITE traffic and parking generation rates should be supplemented with traffic counts when possible. Additional analysis should be conducted to estimate the nature and magnitude of transportation demand under conditions where (1) transit service reaches a level of quality described in long range planning documents (after a program of parking management), (2) transit oriented development phasing has reached completion, and (3) there is a high quality pedestrian environment and TDM programs in place.

The TDM professional should get involved in the land development process as early as the rezoning application stage (and request a copy of the application). TDM professionals should consider, in an evaluation of a project, whether a rezoning request preserves the intent of the Comprehensive Plan, especially with respect to urban infill, revitalization, and urban redevelopment within a Transportation Concurrency Exception Area (TCEA). TDM professionals should check to see if a request location lies within a TCEA or some other district requiring special considerations. TDM professionals have an opportunity to use the TCEAs or other special district designations as a means to promote TDM strategies for consideration as congestion mitigation and mobility enhancement.

As a committee member and regular participant in MPO activities, the TDM professional has the opportunity to influence MPO guiding policies that directly impact the *Long Range Transportation Plan*, the Transportation Improvement Program (TIP), and subsequent project funding. The commuter assistance program (CAP) executive director should educate the MPO Board and committee members regarding the benefits of TDM strategies and offer specific ways for including them in the various MPO products. The CAP representative also should assist in developing alternative revenue sources and seek earmarks for TDM strategies.

The focus of TDM program budgeting often has been based upon short-term time frames. For example, commuter assistance programs (CAP) may be evaluated based upon annual work plans supported by annual budgets; therefore, some of the most important work with far reaching and lasting impact (TDM strategies corresponding to land development) takes a back seat if performance results must be demonstrated within the year. The CAP representative should work with MPO staff to consider more realistic time frames not only for implementation of TDM strategies but also for tracking and measuring program results. Match these with work programs and budgets that coordinate with those time frames.

Of all features in the site and building plans, the availability and amount of parking is the cornerstone of shifting a balance toward the use of other modes. Limiting the availability of parking has a strong impact on the use of a transportation system but can produce undesirable results if satisfactory alternative transportation is not concurrently in place. TDM professionals should advocate a more complete multimodal system. As the level and quality of multimodal transportation service increases, parking limitations can gradually be established. TDM professionals should stimulate discussion by arranging forums for bankers, developers, and local governments to explore the marketability of development with reduced parking. They also should suggest a plan for staging the gradual reduction of parking availability in coordination with redevelopment, which includes triggers or thresholds that precipitate the institution of parking reductions. Finally, they should encourage planners and engineers to weigh the limitations of using various TDM performance measures against the particular goals to be achieved.

Available transportation planning methods fall short of enabling an evaluation of trade-offs among modes. Research should continue to focus on this problem, starting with the SIS geodatabase. TDM professionals should become more active in the discussion about the application of multimodal LOS standards as part of the transportation approval process. Ideally, TDM professionals should generate support for the future development and application of a method to make tradeoffs across modes. Preserving roadway LOS standards for private motor vehicles as specified in the local Comprehensive Plan appears to drive the process thereafter. In the long range transportation planning process, TDM professionals should suggest exploring the use of alternative standards for combined people-moving capacity across modes along corridors carrying heavy directional traffic

BENEFITS

The final report includes a number of useful policies for long range transportation planning, and appendices provide excerpts from development agreements, analysis of site impact methodology, examples of long range transportation plan TDM policies, and traffic impact fee reduction incentives. The report provides information for municipal planners, traffic engineers, land development proposal reviewers, and TDM professionals working for commuter assistance programs and transportation management associations, and in other capacities.

Researchers developed 38 recommendations, which fall under the following six general categories:

- immediate actions for specific proposals
- involvement in the MPO planning process
- involvement in State government processes
- refinement of methodologies
- development of professional relationships

The recommendations include immediate actions and longer range activities in several arenas. They also identify a broader range of stakeholders. Implementation of these recommendations will accelerate a transition toward a more integrated transportation system that provides better, more cost-effective service and mobility choices.

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