

BEST PLANNING PRACTICES: METROPOLITAN TRANSPORTATION PLANS

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This study and others in the series are posted on the FHWA-FTA Transportation Planning Capacity Building web-site (<http://www.planning.dot.gov/>).

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1. Introduction

This research on Metropolitan Transportation Plans (MTPs) is part of a series of four studies on best practices in statewide and metropolitan area transportation planning, conducted by the U.S. Department of Transportation's Volpe National Transportation Systems Center (Volpe Center) for the Federal Highway Administration (FHWA) Office of Planning. The other topics are: Fiscal Constraint; Performance Based Planning and Performance Measures; and Environmental Mitigation. The MTP study incorporates relevant insights from the other three studies. This study and others in the series are posted on the FHWA-FTA Transportation Planning Capacity Building web-site (<http://www.planning.dot.gov/>).

This report examines the critical role MTPs can play as the cornerstone of metropolitan area transportation planning processes—linking regional visions to financially realistic plans for multimodal transportation systems, and providing strategic direction for the investment decisions in Transportation Improvement Programs (TIPs). The MTP can establish the long-term transportation investment, service, and policy agenda for the region. It can also be a critical document for demonstrating that the Federal planning regulations as well as locally expressed priorities, public involvement, and many other critical inputs to the planning process take explicit form in a single formal document. That document provides an important opportunity for the planning agencies to communicate the priorities, critical choices, and general directions for the region to a broad audience, including planning partners, other stakeholders, elected officials, and the public.

The hypothesis for this research is that MTPs can and must play this pivotal role in effective planning processes. MTPs often fall short, either providing a direction that is not embraced and implemented by partner agencies, elected officials and the public; instead, piecing together modal and jurisdictional plans without providing a coherent regional and system level direction, or missing the opportunity to consider transportation within a broader context that can include economic development, land use, energy, or environmental concerns.

This report describes how “best practice” MTPs meet these planning challenges in different ways for different types of Transportation Management Areas (TMAs). This report is intended to provide a resource for peer MPOs nationally, to assist them to strengthen their MTPs, and ultimately, metropolitan area planning processes and the quality of resulting decisions.

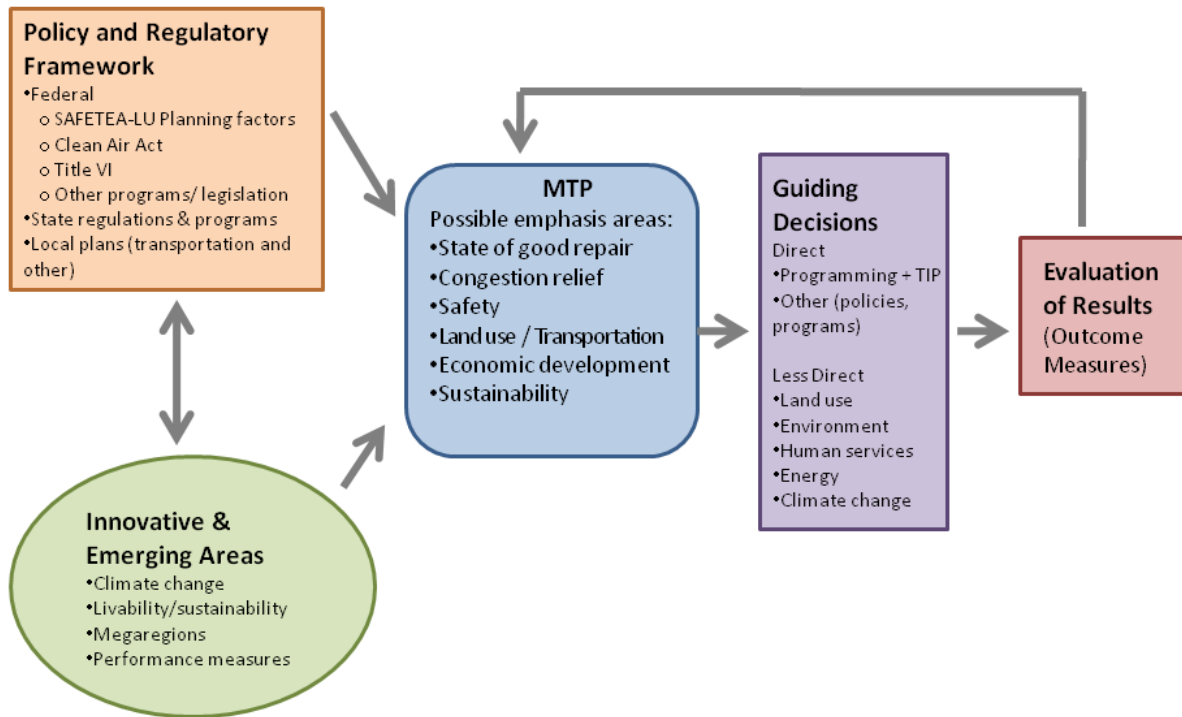
The Volpe Center, working closely with the FHWA Office of Planning, conducted research on MTPs to meet the following objectives:

- Improve understanding of innovative approaches to MTPs and the significant role that MTPs can play in an effective planning process, specifically, supporting regional visions and linking long range strategies to decisionmaking.
- Evaluate how MTPs can direct policies, investments, and strategies toward accomplishment of traditional transportation goals, such as mobility and safety, and emerging goals, such as supporting livable and sustainable communities.
- Provide a resource for peer MPOs and their planning partners for developing effective MTPs.
- Provide observations on effective MTPs that will assist FHWA as it considers options to encourage improved planning practice, whether through oversight, technical assistance, or reauthorization.

Role of the MTP

The pivotal role of MTPs in guiding the MPO planning process, including implementation of investments and other decisions, is the foundation of this report. As illustrated in [Figure 1](#), the MTP is central to the cyclical relationships between key elements of the MPO planning process. Federal, State, and local policies and regulations establish the broad framework for the MTP; innovative and emerging policy areas further shape the goals, programs, and emphasis areas of the plan. Emphasis areas and contents of the MTP reflect regional and national trends; regional and local needs; and the results of previous MTPs. Depending on how successfully it reflects these policies, needs, and priorities, the MTP can become an important guide for transportation investments, strategies, and other decisions throughout the region, including for TIP project selection. The MTP may also influence land use, environmental, and social service plans and programs in the region. However, the MTP not only works to shape regional projects and programs but also takes on new directions and emphases based on the results and outcomes of existing projects and programs, outlined in earlier iterations of the MTP. In this way, the MTP plays a central role within the cyclical MPO planning process, both responding to and advancing development of policies and programs.

Figure 1: Role of the MTP in the MPO Planning Process



1.2 Criteria

The Volpe Center team worked with FHWA to develop a set of criteria with which to identify examples of MTPs that meet the potential to guide the metropolitan area transportation planning process. The criteria fit into three broad topic areas:

- Strategic Direction:** applies a broad lens to focus on the role of the MTP in a metropolitan area-wide transportation planning process, identifying key long range challenges, trade-offs, and critical choices facing the region, and how the MTP reflects these “big picture” considerations in guiding decisionmaking.
- Core Topics:** determines how successfully MTPs incorporate key aspects of the joint Federal planning requirements in SAFETEA-LU¹.
- Emerging Topics:** considers how MTPs address topics being considered in Federal, State, or local policies and legislation, including for reauthorization of the Federal transportation law, that reflect high priority interests of the broad transportation planning community.

Detailed criteria can be found in [Appendix A](#). In developing the criteria, the Volpe Center and FHWA recognize that no single MPO and MTP will demonstrate successful and innovative

¹ <http://www.fhwa.dot.gov/safetealu/>

approaches for every topic. The MTPs highlighted in case studies represent a balanced subset of the comprehensive topics covered by the criteria.

1.3 Methodology

Volpe staff arrived at these best practices for MTPs through a research process that examined MTPs both in terms of depth and breadth. First, the research team developed criteria for screening candidate MTPs for case studies based on review of the most recent Federal Certification reports, consultation with FHWA headquarters and division and Volpe staff, and preliminary research on MTPs and other products of the planning process.

The study team selected MTPs to provide insights into the positive role MTPs can play across a diverse set of MPOs. Volpe and FHWA staff attempted to focus on MPOs that are less frequently studied in best practice research to provide new insights for a broad range of peer MPOs, opening the research to consideration of wider range of planning practices. By including several smaller MPOs and MTPs, the report should provide a resource for national peers.

Volpe staff applied the criteria to 30 MTPs in a flexible manner to allow for the importance of different contexts within which MTPs are developed; in areas with different local problems, priorities, and resources; and by MPOs with different technical expertise. Staff then summarized information from the screening stage into a matrix ([Figures 1 and 2](#)).

Using the findings from the screening stage, Volpe staff and FHWA identified seven MTPs for detailed case studies. Volpe staff then applied a guide developed with FHWA to discuss MTPs with planning directors and staff at each of the seven MPOs. These structured discussions focused on the role of the MTP in the planning process, influences to the MTP, relationship with other products of the planning process, and tracking results of the MTP. The written case studies included in this report are based on the content of the MTPs, review of related planning products, and insights from the discussions with MPO senior planners. The observations and recommendations in this report are based on analysis of the 30 selected MTPs and detailed case studies.

Volpe staff developed this public report as a peer resource for MPOs and their partner agencies as well as for FHWA Division and FTA Regional staff to use to provide technical assistance including during oversight of the Federal planning requirements.

1.4 Organization of Report

This report is organized into five sections, each of which should serve as a tool for MPOs to create MTPs that can best guide their transportation planning processes. The first section contains an introduction and overview of the study. The second section describes observations and trends from the MTP research across all 30 MPOs studied. The third and fourth sections provide detailed findings and recommendations for MPOs and a synthesis of key lessons from the case studies. The fifth section contains the seven case studies, with background, innovative elements, and lessons learned from each MTP.

2. MTP Scan

Volpe staff examined 30 MTPs, using criteria described in [Appendix A](#). The following tables illustrate the strengths among the MTPs using categories based on the criteria. The first table illustrates the MTPs that the team selected for expanded case studies, based on strengths across multiple categories, and the second table illustrates the remaining scanned MTPs. Note that this assessment is based on the professional review of the research team and is subject to the limits of the methodology, with its focus on the MTP as the primary source document. The intent is to identify a range of examples of useful and innovative technical planning, with a focus on the role of MTPs, rather than to provide a critical assessment.

2.1 Case Studies

[Figure 2](#) shows the assessment of the MTPs for the seven MPOs featured in the case studies section of this report. [Figure 2](#) identifies as “exemplary practices” MTPs that provide models to MPOs on how to approach identified topics in their MTPs. [Figure 2](#) uses “demonstrates innovation” to highlight examples of new and original strategies in an MTP. A description of “good practice” indicates that the MTP meets basic expectations.

Figure 2

Categories																	
	Multimodal systems	Local planned growth	Environment / Energy	Role in regional planning process	Developed collaboratively with stakeholders	Public involvement, Title VI, and EJ	Asset Management	Livability / Sustainability	Congestion Management	Vision and scenario planning	Operations and maintenance	Financial planning and fiscal constraint	Safety	Security	Climate change / Energy	Performance measures	Interregional Planning / Megaregions
Case Studies																	
Atlanta Regional Council (Atlanta area, GA)	DI	DI	DI	DI	DI	DI	DI	DI	DI	EP	EP	EP	EP	EP	EP	EP	EP
Portland Area Comprehensive Trans. System (Portland area, ME)	DI	DI	DI	DI	EP	EP	DI	DI	EP	EP	EP	EP	EP	EP	DI	EP	EP
Mid-America Regional Council (Kansas City area, MO, KS)	DI	DI	DI	DI	DI	DI	DI	DI	DI	DI	DI	DI	DI	EP	DI	DI	EP
Mountainland Assoc. of Govts (Provo area, UT)	DI	DI	DI	EP	EP	EP	EP	DI		DI	EP	EP	EP	EP	EP	EP	EP
Rogue Valley MPO (Medford area, OR)	DI	DI	DI	DI	DI	EP	DI	DI	DI	DI	DI	EP	DI	DI	EP	DI	EP
Thomas Jefferson Planning District (Charlottesville area, VA)	DI	EP	DI	DI	DI	DI	DI	DI	EP	DI	EP	DI	DI		DI	EP	DI
Volusia County Transportation Planning Org. (Daytona Beach area, FL)	DI	EP	EP	EP	DI	DI	EP	EP	EP	DI	EP	EP	EP	EP	EP	EP	EP

DI = Demonstrates Innovation
EP = Exemplary Practice

2.2 Scanned MTPs

Figure 3 shows the assessment of the MTPs for an additional 23 MPOs representing a cross-section of strong MTP practices across a range of geographic locations and sizes of metropolitan areas. As in Figure 2, the Figure 3 identifies as “exemplary practices” MTPs that provide models to MPOs on how to approach identified topics in their MTPs. Figure 3 uses “demonstrates innovation” to highlight examples of new and original strategies in an MTP. A description of “good practice” indicates that the MTP meets basic expectations. Colors correspond to the key at the bottom of Figure 3.

Figure 3 (spans 2 pages)

Categories																	
	Multimodal systems	Local planned growth	Environment / Energy	Role in regional planning process	Developed collaboratively with stakeholders	Public involvement, Title VI, and EJ	Asset Management	Livability / Sustainability	Congestion Management	Vision and scenario planning	Operations and maintenance	Financial planning and fiscal constraint	Safety	Security	Climate change / Energy	Performance measures	Interregional Planning / Megaregions
Scanned MTPs																	
Baltimore Regional Transportation Board (Baltimore area, MD)	DI	DI	EP	EP	DI	EP	EP	EP	EP	EP	EP	DI	DI	DI	EP	EP	GP
Cheyenne MPO (Cheyenne area, WY)	DI	EP	GP	DI	EP	EP	EP	EP	EP	EP	DI	GP	EP	DI	GP	GP	EP
Chittenden County MPO (Burlington area, VT)	EP	GP	GP	DI	EP	EP	EP	GP	EP	EP	EP	EP	EP	GP	GP	DI	EP
Community Planning Association of Southwest Idaho (Boise area, ID)	EP	EP	DI	DI	EP	EP	EP	EP	EP	EP	EP	EP	GP	EP	GP	EP	EP
Fargo-Moorhead Metropolitan COG (Fargo area, ND and Moorhead area, MN)	EP	DI	DI	DI	DI	EP	DI	DI	DI	DI	DI	EP	EP	DI	EP	EP	EP
Grand Valley Metropolitan Council (Grand Rapids Valley area, MI)	EP	GP	EP	EP	DI	DI	DI	EP	EP	EP	EP	EP	EP	GP	EP	GP	EP

Categories																	
	Multimodal systems	Local planned growth	Environment / Energy	Role in regional planning process	Developed collaboratively with stakeholders	Public involvement, Title VI, and EJ	Asset Management	Livability / Sustainability	Congestion Management	Vision and scenario planning	Operations and maintenance	Financial planning and fiscal constraint	Safety	Security	Climate change / Energy	Performance measures	Interregional Planning / Megaregions
Scanned MTPs																	
Kentuckiana Regional Planning and Development Agency (Louisville area, KY)	DI	DI	EP	EP	EP	EP	EP	EP	DI	EP	EP	EP	EP	GP	GP	GP	EP
Madison Area Transportation Planning Board (Madison area, WI)	DI	DI	EP	EP	EP	EP	EP	EP	EP	GP	DI	EP	EP	EP	GP	EP	EP
Mecklenburg - Union MPO (Charlotte area, NC)	EP	DI	EP	EP	EP	EP	EP	EP	DI	EP	DI	DI	EP	DI	DI	EP	EP
North Jersey Transportation Planning Authority (Newark area, NJ)	DI	EP	DI	EP	DI	DI	DI	DI	EP	DI	EP	DI	EP	DI	DI	EP	EP
North Central Florida Regional Planning Council (Gainesville area, FL)	DI	EP	EP	DI	EP	DI	EP	EP	DI	EP	DI	EP	DI	EP	EP	EP	GP
Pueblo Area COG, MPO, & TPR (Pueblo area, CO)	EP	EP	DI	EP	EP	EP	EP	DI	DI	EP	EP	EP	EP	EP	GP	EP	EP
San Antonio-Bexar County (San Antonio area, TX)	EP	DI	DI	GP	DI	DI	DI	GP	DI	DI	EP	EP	EP	GP	DI	GP	GP
Stanislaus COG (Modesto area, CA)	DI	DI	DI	DI	DI	DI	EP	EP	EP	EP	DI	EP	EP	EP	EP	DI	EP

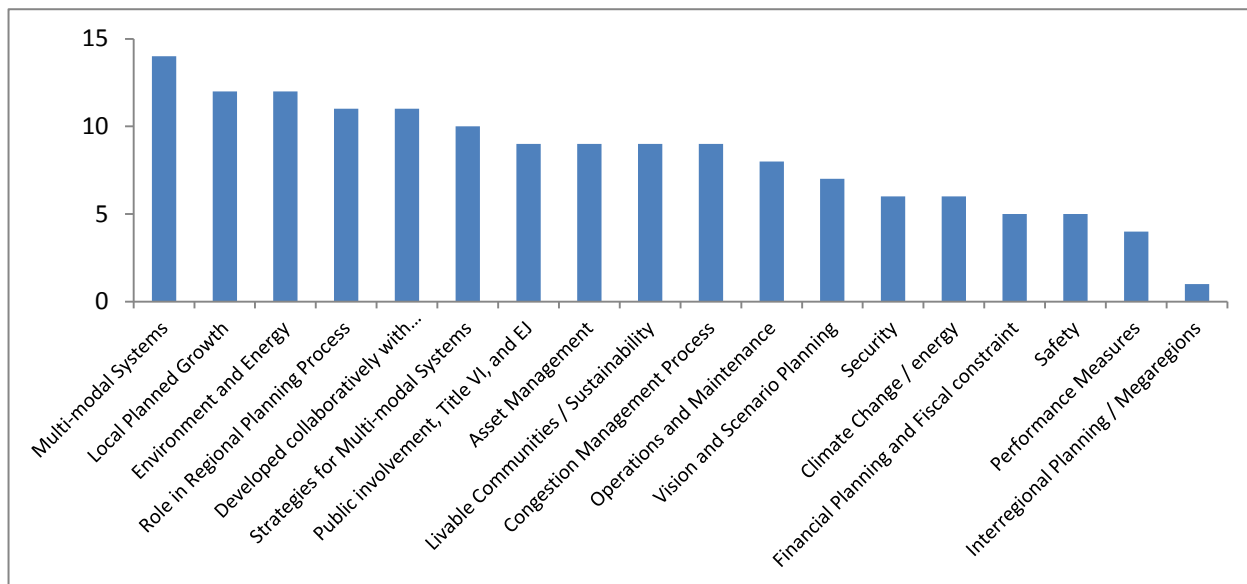
DI = Demonstrates Innovation
EP = Exemplary Practice
GP = Good Practice

2.3 Trends

The scan and assessment of the 30 MTPs identified several important trends where the MTPs play an important role in planning, with some noteworthy differences in approach.

- **Congestion Management Process:** The categories where MTPs most consistently demonstrate innovation and excellence are in their Congestion Management Process; multimodal planning; and operations and maintenance. These are core traditional elements of the transportation planning process that have benefited from many years of testing and refinement. Programs and strategies that fit within these MTP categories were likely to have been developed and improved over the course of several MTP update cycles.
- **Livability and Land Use:** Many MPOs showed innovation in the areas of livability and local growth/land use; almost all MTPs noted or illustrated that these areas are priorities for the region. The MTPs reviewed indicate an overall trend toward linking land use and transportation to combat congestion and reduce vehicle miles traveled (VMT), even in cases where the MPO has no land use authority. Land use is increasingly tied to livability in MTPs published in the past two years, with many MPO staff noting that they expect this trend to continue in the future.
- **Visioning:** MPOs are emphasizing the role of the public in strategic visioning. Most MTPs document a strong public involvement process, with an impressive catalogue of creative means to involve stakeholders in MTP development. Notably, many regions involve the public in visioning sessions to guide overall goals and strategic directions for the MTP.
- **Emerging Topics:** Categories that show the greatest variability among MPOs are security, use of performance measures, and energy and climate change. Each of these areas is relatively new to most MTP planning; some MPOs have not yet had a chance to develop related programs that are reflected in the MTP. MPOs may also be looking to other MPOs demonstrating innovative and successful strategies in these new areas. Some of the MTPs reviewed excel in these categories and provide good examples of emerging practice. See [Figure 4](#) below, which illustrates the number of innovative practices among the categories. As noted, the fewest number of innovative practices identified among the reviewed MTPs were in newer categories, such as interregional planning, security, and performance measures.
- **Multimodal Systems:** Among the MTPs selected for case studies, the most common innovative MTP elements include a focus on area-wide multimodal systems, livability and sustainability, and environment and energy. More detail about these areas can be found in the case studies section of this report.

Figure 4: MTPs with Demonstrated Innovations among Categories



3. Findings

Based on its assessment of 30 MTPs and the seven case studies, the research team identified the strong role the MTPs can play in metropolitan planning processes, ranging from detailed plans describing a multitude of programs in large urban MPOs to brief and straightforward but well-defined plans and associated programs developed by smaller MPOs. The diversity of plans reflects the range of needs among metropolitan areas and resource, technical and other constraints faced by different MPOs. Nevertheless, the team was able to identify several common themes and identify key observations from multiple MTPs and their related planning processes. This section, which describes overarching findings from review of the selected MTPs and discussions with MPO contacts, is organized into the following thematic areas:

- Relationship of MTP to the Planning Process
- Influences of the MTP
- Communications and Relationships
- Plan Contents

3.1 Relationship of MTP to the Planning Process

According to broadly based expectations in the Federal planning regulations, the MTP can be an important means to document and guide the overall MPO planning process through establishing area-wide priorities and demonstrating that Federal requirements are met while pursuing area-wide goals. Consistent with the Federal regulations, the research revealed links between the MTPs and planning processes to develop transportation systems over the long-term and identify or select related investments.

- **MTPs and MPO programming exist in a cyclical relationship, even as the focus and goals of MTPs change.**

- The basic expectation, based on the Federal requirements, is that MTPs will provide overall direction for programming and project selection, and that projects in the TIP advance the goals and implement strategies first presented in the MTP. Detailed projects in the TIP should be consistent with projects presented in the MTP, whether major regional scale projects, projects identified to meet the needs of major corridors, or projects in categories. The MTP describes regional strategies, for example, resulting from corridor or area studies, which in turn lead to specific programs or projects to be included in the TIP. The MTP's broad strategic influence on the TIP can be combined with later more explicit project level guidance or screening procedures, such as direct links between TIP selection or screening criteria and goals of the MTP. Many of the seven MTPs featured in the case studies apply eligibility formulas, point systems, or goal checklists that connect to MTP goals.

Transparent links between MTP goals and TIP project selection or screening criteria help make the explicit connection between long-range planning goals and the allocation of Federal and other funding. For example, PACTS includes eight guiding principles in their MTP, which are quantified into a TIP project scoring formula and account for 50 percent of the proposed project's selection score.

- Although the basic expectation is for the MTP to guide decisions, the reality is that many other programs of the MPO also influence decisions. For example, MTPs call for area studies, corridor plans, modal plans (like Trail Plans and Regional Freight Plans), which in turn make specific recommendations for projects or programs. These projects and programs can influence and be incorporated into future MTPs. The modal plans and studies also often guide MTP goals and objectives. Technical committees and staff develop modally related goals and objectives based on internally and externally generated plans and studies. The relationship between the MTP and other planning activities can be more one of complex inter-relationships, with different cycles and timing, than a simple model of direction—from MTP strategies to TIP investments.

- **Several MPOs successfully use MTPs to develop a systems-based transportation plan for the metropolitan area.**

- These systems plans incorporate multiple modes and interactions between modes as part of a regional system, reflecting a combined strategic direction for transportation beyond a traditional emphasis on highway-focused investments.
- Systems-based planning plays out both in partnerships with regional and local agencies and organizations, including transit, bicycle and pedestrian planning and implementing agencies, and advocacy groups, and in establishment of regional priorities.
- PACTS, MAG, and TJPD are three examples of MPOs that have adopted systems-based planning goals in their MTPs; details can be found in the case study section of this report.

3.2 Influences of the MTP

This study identified numerous examples of strong MTPs that include both a strategic vision to guide transportation investment in the region, as well as a diverse array of multimodal transportation programs and projects. As confirmed by MPO contacts, factors that influence plan goals, program inclusion, and project selection processes range from forward-thinking regional leaders and MPO staff to State-mandated transportation regulations.

- **MTPs with strong visioning and scenario-planning processes tend to have broad support of elected officials, business, and the general public.**
 - MTP staff report that visioning and interactive public involvement processes help citizens understand the MTP and appreciate the challenges of meeting transportation needs under fiscal constraint, an important planning consideration encouraged by the Federal planning requirements that introduces financial realism into the planning process. Individuals and groups that participate in the visioning process can also provide meaningful input at later stages of MTP development or TIP project selection, in addition to helping shape a big picture vision.
- **MPOs look to State and Federal regulations to instigate action in MTPs.**
 - Several innovative plan elements, such as measuring VMT impacts of MTP projects, were influenced by State legislation. Additionally, some strong environmental analysis sections are based on NEPA or State-specific environmental requirements (in California, for example).
 - Some MPO staff expressed that their policy boards or public constituents would not pursue new programs or outcome monitoring efforts, such as performance measures, without a higher level mandate or direction.
 - In States where regulations are well-established and have been incorporated into MTP strategies and programs, MPO staff members describe innovative programs related to the regulations as standard operating procedures.

3.3 Communications and Relationships

The MTP, in its role of documenting the MPO planning process, also offers the opportunity for the MPO to communicate its priorities, constraints, and strategic direction to partner agencies, elected officials, and the public.

- **Communication and close relationships between local governments, MPO board members, MPO staff, and other transportation agencies strengthen the MTP.**
 - Several MPOs found that close relationships and frequent communications with elected officials and local planners allowed MPO staff to vet controversial projects and programs to gain political support prior to inclusion in the MTP. MPO staff can use local government officials as a sounding board or source of ideas for new projects and solicit input on how to best introduce these projects to the public. Such was the case for the Volusia TPO, as described in their case study.
 - The MPO staff often explains specific transportation needs to local governments and the public in advance of including these aspects in the MTP. In the case of

transportation needs that are most apparent to technical experts, such as infrastructure deficiencies or air quality conformity, MPO staff can translate these needs into understandable or non-technical language to board members and local government staff.

- **MTPs can serve as communications tools to educate the public, local officials, and partner agencies about regional needs, challenges, choices, and priorities.**
 - For many MPOs, the MTP serves as a marketing tool or strategy to “sell” the need for transportation investment in key areas. In some cases, the MTP focuses on communicating local needs and priorities in a way that is clear to the public to enlist broad support for new programs or funding. In other cases, the MTP documents the case for transportation investment so that legislators and other key decision makers have sufficient evidence to create regulations or allocate funding consistent with regional needs. The Mountainland region case study provides a detailed description of how the MTP can serve as a communication tool.
 - MTPs clearly articulate complex technical aspects of transportation, translating needs, trade-offs, and choices for a broad audience. Strong plans can both explain clearly and show links between disparate sections such as technical elements, public comments, financial constraints, congestion measures, and political considerations.
 - MPOs often organize the structure of MTPs to strategically communicate complex concepts to stakeholders. This has been accomplished through accompanying outreach brochures, maps, outcome-based plans, and public participation elements.
- **Small MPOs leverage relationships with other agencies and strategically engage outside help to maximize their limited resources in MTP planning.**
 - When staff capacity is limited, MPOs have successfully hired consultants to create sections of the MTP. This requires MPOs to carefully select a consultant with experience and expertise related to the MPO’s goals and objectives and an understanding of how these goals and objectives can set the direction of the MTP.
 - Another means to stretch the capacity of small MPOs is to use tools developed by State DOTs or neighboring MPOs, including travel models, air quality programs, and congestion management techniques. The case studies for TJPD and VTPO provide detailed examples of how this is being done successfully.

3.4 Contents of MTPs

This section provides observations on how the contents of the MTPs reflect efforts to cover emerging planning considerations, including land use and application of performance measures. These efforts reflect both opportunities to enhance the role of MTPs and the transportation planning process as well as address challenges for MPOs.

- **MPOs are acknowledging the importance of the link between land use and transportation and incorporating this link as a foundation of MTPs.**
 - MPOs are using land-use strategies alongside transportation strategies to meet air quality conformity requirements, thus making an explicit connection between land-use decisions and reduction of transportation-related air pollution.

- When regional land planning agencies are combined within MPOs, or both are part of larger organizations such as councils of government, MPO boards and staff can explicitly link transportation programs with land use. Several MPOs, such as ARC and MARC, integrate elements of their regional land use plans directly into the MTP, and vice versa.
- The general public often does not recognize the fundamental links between transportation and land use. Consequently, many public outreach and education efforts associated with MTP planning focus on clarifying this connection and its implications.
- **Performance based planning, specifically the ability to measure progress in implementing MTPs, is still an evolving art, not a science. While MPOs are testing the use of performance measures, many have yet to achieve a comprehensive measurement program.**
 - The most successful applications of performance measures in MTPs are closely linked with goals and objectives, reflecting the strategic direction of the MTP. The MPO translates these goals and objectives into measures and targets that are meaningful to its planning partners, including transit agencies and local governments, and the general public. For example, PACTS uses a measure of Vehicle Hours Traveled to help the public understand the time cost of congestion, given the rural nature of much of the Portland region where Vehicle Miles Traveled is high.
 - MPOs must overcome barriers to develop successful applications of performance measures. Many MPOs focus on congestion relief, using performance measures in MTPs to set regional, corridor, or other targets with metrics such as reduced delay and improved traffic levels of service to determine if transportation projects help to meet those targets. However, economic conditions and demographics can have a stronger impact on reducing congestion than deliberate transportation interventions, thus diminishing the accuracy and relevance of performance measures.
 - MPO staff often expresses the desire to use performance measures or other methods for tracking and monitoring results but frequently experience challenges with widespread adoption. MPOs cite political, financial, and staff resource barriers related to adoption of performance measures.
- **Several emerging areas of interest for FHWA and MPOs are starting to appear in MTPs, though advancement is proceeding cautiously.**
 - Strategies to reduce greenhouse gas emissions and energy consumption are often combined with strategies to meet other goals such as managing congestion, providing modal alternatives to automobile travel, or preserving open space. While climate change and energy use are politically sensitive topics in some MPO regions, other regions (such as Rogue Valley) receive encouragement from the State level to include transportation programs that address greenhouse gas emissions and energy use directly.

- Planning for megaregions is emerging as an important topic for MPOs in areas with major transportation flows occurring between their region and the planning areas of other MPOs. Many MPOs begin to approach the challenge of interregional planning through developing partnerships and regular communication with neighboring MPOs and State DOTs, although efforts to move from these early initiatives to bring consideration of megaregions into MTPs are still at early stages.
- Many interregional planning efforts begin with the coordination of freight transport or commuter or inter-regional passenger rail. There can be clear financial incentives for private companies to participate with MPOs on megaregion scale freight planning, such as through participation in the MTP process and review of appropriate MTP sections. MARC has demonstrated success in including a prioritized freight checklist in its MTP.
- Partnerships between MPOs can result in strengthened MTPs. In Central Florida, where six MPOs each cover only one or two counties of the greater Orlando metropolitan area, the Central Florida MPO Alliance allows for formalized coordination between MPOs. Coordination between the member MPOs, through Alliance meetings, led to a joint Regional Long-Range Transportation Plan and has the potential to increase consultation among member MPOs on neighboring MTPs.

4. Synthesis and Recommendations

Based on assessment of the 30 MTPs, the study team noted areas of success in MTP planning and implementation as well as of potential for further strengthening the MTP and its role in the planning process. Among the 30 reviewed MTPs and the seven case studies are many examples of noteworthy practices in areas such as:

- Local government partnerships
- Public involvement in visioning to set the plan's strategic direction
- Incorporation of robust regional priorities
- Innovation in communication strategies

The study also revealed that MPOs face common challenges as they confront financial, political, and technical challenges in creating MTPs that truly respond to the region's needs and chart a course for the future.

4.1 Elements of Successful MTPs

- **Critical Continuity:** MTPs can chart the path for a strong regional transportation system – successful MTPs result in measurable progress, continued in subsequent MTP updates, for achieving the vision for that system.
 - MPOs that take this approach to MTPs build on the foundation of previous plans through consistent technical analysis, long-term public involvement campaigns, incorporation of innovative elements, and demonstration of progress through performance measures.

- Some MPOs studied also incorporate distinct policy to set the direction of their MTPs, this policy direction can be carried forward in plan updates, which can also incorporate new elements that meet evolving regional needs. These focuses or emphases, which set the strategic direction of the MTP, can reflect changing regional concerns and priorities -- current events, political leadership and climate (including MPO Board membership), or new Federal or State policies, programs, or regulations.
- Often elements that influence earlier MTPs carry forward into future plans. For example, the former director of the Mountainland MPO emphasized environmental stewardship and began a legacy of intensive environmental impact analysis for MTP projects in the region. While the evolution of transportation culture in a region cannot be directly attributable to MTPs, there are many cases in which MTPs are key public education tools that influence public opinion and support continuity in planning.
- MPOs whose MTP project selection process clearly reflects MTP goals can avoid revisiting decisions and future conflicts in the planning process. This approach can establish the relevance of the MTP for communities and groups.
- Fewer conflicts are likely to occur when modal and other groups form partnerships early in the process, and projects are integrated with each other and clearly support regional strategies. MTPs that incorporate systems-based plans can entail widespread support from stakeholders.
- In some cases, States require local land use and transportation plans to be consistent with the area-wide MTP and specific State standards. Significant communication between the MPO and local governments can ensure that the local plans and MTP follow a consistent and coherent direction. The MTPs, in this case, can both advance a strong regional transportation system and can ultimately be part of a consistent statewide system.
- **Dimensions of Public Support:** The focus of the MTP is closely related to and depends on public support. MPOs can strategically use public opinion to craft an MTP that highlights and meets regional needs.
 - Using the visioning process to generate ideas and feedback, MPO planners can build on strong expressions of public opinion to shape the direction of the MTP. When a very strong public constituency exists for a specific goal (such as multimodal transportation, non-motorized transportation, smart growth, or land use coordination) that can become a central element of the plan.
 - In other cases where the public is not fully engaged in transportation planning, the MPO can use the MTP to build public support. When MPO staff recognizes the need to accomplish an important regional transportation goal, they can employ the MTP as a focus to build a case for and rally the public around that goal. In these cases, the MTP plays a marketing and support-building role.

4.2 Overcoming Challenges

- **Relationships with elected officials can ease the planning process and lead to stronger MTPs.**
 - Most MPO policy boards consist of local elected officials, who work toward establishing a consensus on regional transportation priorities. Elected officials communicate the fiscal and political constraints of their jurisdictions, while MPO staff is more likely to focus on regional transportation needs and opportunities from a broad long term and technical perspective. Relationships between the elected officials and staff can ease the process for determining regional needs and projects to include in the MTP.
 - Established and positive relationships between local elected officials and MPO staff can smooth the inclusion of controversial projects and programs in the MTP. By partnering with local governments, MPOs can anticipate and respond to challenges from stakeholders, and focus outreach effectively.
 - Transparent communication of technical MTP concepts leads to an MTP that is understandable and useful to local governments and transportation agencies.
- **Small MPOs can take advantage of partnerships to overcome capacity constraints.**
 - Smaller MPOs may lack the funding or staff resources to pursue some of the complex planning initiatives or vibrant promotional elements more typical in larger regions. However, small MPOs that leverage their relationships with partners can expand their capacity to engage in innovative planning, programming, and marketing. MPOs also use their close contact with partners to ensure all work towards common goals, ensure efficiency and productivity in creating and implementing MTPs, and generate long term support for the decisions in the MTP.
 - Small MPOs can work closely with local governments both to incorporate projects into the MTP and to jointly implement MTP programs and projects. Unlike large MPOs, which may not be able to foster direct relationships with numerous constituent governments and agencies, small MPOs can offer a model of successful direct collaboration.
- **MPOs lack land-use jurisdiction and must be sensitive to related responsibilities of local governments when considering long-term transportation investment in their MTPs.**
 - MPO planners recognize the relationship between land use planning and transportation, as long-term transportation investments both are shaped by and influence growth patterns and locations. Often land-use and transportation strategies rely upon close partnerships with local governments that control land-use regulations and planning. In cases where local governments are protective of their jurisdiction over land use, MPOs have greater success in integrating land-use strategies into their MTPs when they communicate regularly with local planners and elected officials about mutual interests.

- **Emerging topic areas, particularly related to energy and climate change, may be construed as politically-sensitive and difficult to incorporate into MTPs.**
 - Several MPOs have successfully integrated emerging topics such as energy conservation and reduction of greenhouse gas emissions by establishing clear linkages to other more established MTP goal areas, such as reduction of criteria air pollutants and congestion relief, often without explicitly referencing politically-sensitive topics. This allows the MPOs to achieve the same outcomes in a less controversial way.

4.3 Recommendations

- **MTPs can serve as a communications tool to educate stakeholders about regional needs, challenges, and priorities.** MPOs can take advantage of this substantial outreach opportunity to focus attention on critical choices as presented in a formal and required long range plan. This can be done by including public education elements, such as maps, handouts, posters, or other summary documents that are easily accessible to the public and other stakeholders, for example, through web-based posting and links.
- **MPOs can use the MTP to showcase innovative policies or programs that can be beneficial to the entire State as well as regionally and locally.** While many innovative elements in the MTPs come from State standards, these standards can also originate in metropolitan planning processes, as reflected in the MTPs, which can themselves influence future State policy.
- **MPOs can benefit from State regulations and requirements that support strong links between land use and transportation planning or address emerging policy topics such as energy, climate change, or growth and land use.** Incorporating forecasts of local land use plans and population growth into an MTP can be challenging. State requirements to coordinate local plans with the MTP can help support and improve the process of integration of regional land use and transportation planning for the MPO and local governments.
- **MTPs can adapt a systems approach to planning to anticipate and mitigate any conflicts with larger land use systems, environmental issues, or economic development plans.** The MPO will need to work closely with local governments and other agencies to encourage all stakeholders to consider transportation as part of a multimodal regional (and statewide) network. To accomplish this, the MPO can ensure that all regional elements and plans are presented in a cohesive fashion in the MTP. The MTP can communicate a strong vision in contrast to being a limited compilation of plans and projects of local governments or modal authorities.
- **MTPs can provide a clear basis for screening or selecting projects in the fiscally-constrained TIP.** MTPs can play a major role in the ongoing planning process by providing a clear and transparent case for project inclusion in the TIP. MTPs that include clearly rated and prioritized projects, for example, as part of a regional system developed over the plan's time horizon, can help MPOs streamline project selection in the TIP.
- **With the increased interest in the transportation issues of megaregions, MPOs and State agencies can take advantage of the opportunity provided by MTPs and State long range plans to jointly support inter-regional planning and initiatives.**

- **MPOs can use MTPs to anticipate new trends and requirements.** While new elements may be challenging to incorporate, starting early can ease the transition process and allow MPOs to strengthen these elements over time. MTPs can identify emerging issues to ensure the region's transportation system is developing with early consideration of new planning issues. MPOs can work closely with stakeholders and local governments to ease the political process of integrating new issues and requirements. New topics can first be approached as emerging issues within a broad regional context, or as appropriate, as new policies for long term consideration, possibly at a greater level of specificity in future updates.
- **MPOs can include performance measures as a key element of MTPs.** Performance measures can provide a clear link between goals, long range performance targets, and the means for screening or selecting projects. Performance measures can also be built in to the MTP to assist the MPO and its partners to monitor the extent to which the investments in the plan accomplish intended results. Through an emphasis on performance and outcomes, MTPs can play a major role in improving ongoing planning. MPOs do not always need to undertake new data collection for performance measures; data may be currently available to measure performance, or may be available from local governments or transportation providers.

5. Case Studies

The following seven case studies were chosen to illustrate exemplary MTPs with innovative practices. They represent information gathered from the MTP reports and discussions with MPO planners. The discussion guide is attached as [Appendix B](#).

- **Atlanta Regional Commission (ARC) Envision6**
- **Mid-America Regional Council (MARC) Transportation Outlook 2040**
- **Mountainland Association of Governments (MAG) Regional Transportation Plan 2007**
- **Portland Area Comprehensive Transportation System (PACTS) Destination Tomorrow 2006**
- **Rogue Valley Metropolitan Planning Organization (RVMPO) 2009-2014 Regional Transportation Plan**
- **Thomas Jefferson Planning District Commission (TJPDC) UnJAM 2035**
- **Volusia Transportation Planning Organization (Volusia TPO) 2025 Long Range Transportation Plan**

5.1 ARC Envision6 Case Study²

Atlanta, GA Metropolitan Area



MPO Background and Characteristics

The [Atlanta Regional Commission](#) (ARC) serves as the designated MPO for the 18-county metropolitan region around Atlanta, Georgia. ARC has programs on aging, land use, water, workforce development, and regional development, in addition to their transportation planning programs. The ARC Board consists of local government officials and private citizens representing unincorporated areas of the region. The ARC uses a committee-based structure for project review and programming; committees include Transportation and Air Quality, Regional Transit, Transportation Coordinating, Land Use Coordinating, Environment and Land Use, and Communications/Public Involvement. All ARC Board members must serve on at least one committee.

ARC published the [Envision6 Regional Transportation Plan](#) (Envision6 or RTP) on September 26, 2007; the RTP was accompanied by the FY 2008-2013 TIP, a Conformity Determination Report, and a Public Involvement Report. The full Envision6 includes elements of the [Regional Development Plan](#) (RDP) in addition to its transportation components, with the underlying goal of integrating regional land use and transportation planning initiatives. Envision6 is the first new RTP since Mobility 2030, adopted in 2004, which followed the [2025 Regional Transportation Plan](#), adopted in March 2000. The 2025 RTP started to address land use and transportation but was primarily driven by the Atlanta region's nonconforming status with air quality regulations.

While the RTP is directly linked to the RDP, sharing several goals and programs, the RTP also influences and is influenced by other ARC programs. For example, ARC's

work as the Area Aging Agency has allowed the RTP to identify transportation needs and program opportunities for the region's aging population. The cross-cutting nature of ARC's program areas

ARC Regional Characteristics

- Population of 5.1 million and 3 million jobs in 2005 (anticipated 4.5 million jobs by 2040).
- Major industries: healthcare, professional and technical services, and real estate.
- Aging demographics.
- Racially and ethnically diverse; no majority race or ethnicity by 2015.
- Rapid urbanization, which is slowing due to economic recession.
- Limited water supply presents a constraint to growth.

² This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

allows the MPO to address livability issues such as equity and public health through their transportation planning.

Influences and Progress: Congestion Relief

Envision6 is fundamentally a link between transportation and land use goals and initiatives; this close relationship arose out of a need to address severe congestion and air quality nonconformity in the ARC region. Envision6 contains several unique elements and sections of strong analysis, each of which was influenced by political and cultural factors in the region over the past decade.

Congestion was the most significant criterion in developing the Envision6, based on political pressures from the Congestion Mitigation Task Force (CMTF) and local and State elected officials. The Task Force included representatives from the ARC Board, Georgia Department of Transportation (GDOT), and the Georgia Regional Transit Authority. When the Task Force was established in 2005, major regional development was aggravating the existing severe congestion problems. The Task Force established guidelines, which were included in the RTP, that set specific congestion-related performance measures for included projects. The performance measures include percent of lane miles operating in congestion conditions, a regional travel time index, average regional travel cost, and mode split in five core activity centers. The Task Force guidelines mandated that congestion relief receives a 70 percent weighting in project selection criteria (in the previous RTP, 11 variables all held equal weight).

The guidelines, a major influence on the goals of the RTP and the project selection process, presented a tricky situation for ARC transportation planners. Some stakeholders did not like the strong emphasis on congestion relief and wanted to include other regional priorities. Planners understood the importance of addressing all of the SAFETEA-LU planning factors, not only congestion, in order to create a RTP that would meet Federal approval. They had to craft the plan to include other important components but in such a way as to meet the identified needs and receive approval of the ARC Board and other State and local elected officials. For example, although the project selection criteria for the RTP gave congestion a 70 percent weighting, as required by the Task Force guidelines, ARC also emphasized other planning areas through the goals and an "Aspirations Plan" that details unfunded transportation needs.

The targets for congestion relief in 2005 (expressed as performance measures) have been met, although ARC staff note that much of the congestion relief in the region is due to the economic recession. The performance measures cannot easily show the amount of congestion relief directly attributable to RTP programs; therefore ARC cannot determine if the RTP programs meet their goals of reducing congestion. Regardless, the requirement for 70 percent congestion weighting will not be included in future RTPs, instead they are based on a new Statewide Strategic Transportation Plan that provides a different emphasis for transportation planning and represents an evolution of the CMTF recommendations. The Statewide Plan emphasizes the business case for an improved transportation system in addition to the goal of congestion relief. Planning by Georgia MPOs, including ARC, will have to be consistent with the Statewide plan in future RTPs.

Technical Analysis

Envision6 contains a strong technical and environmental impact analysis section, which includes detailed GIS and data analysis of environmental impacts of system expansion projects. Other elements, such as the Congestion Management Plan, are technically rigorous with rankings and quantitative analysis, beyond that of many other MTPs. ARC staff notes that this technical component dates back to the 2025 RTP, when the region needed strong analysis to regain air quality conformity. The 2025 RTP introduced performance measures and other technical components, which have been maintained in the RTP updates published since 2000. In Envision6, the technical process was adapted to test the ability of projects to support regional plans and growth objectives, related to the land use and transportation coordination goals. Land use criteria were primarily used to boost project scores; for example, projects that included access management received a higher score in project selection. Technical components also include safety evaluations and measurement of congestion relief and fuel savings, according to SAFETEA-LU requirements.

Land Use and Transportation Coordination

Land use and transportation coordination is an underlying theme throughout Envision6 but is most notably illustrated through several ARC initiatives, including the [Livable Centers Initiative](#) (LCI). The LCI started in 1999 as a mechanism to address conformity by considering land use as a component of transportation. LCI awards planning grants to local governments and non-profits for enhancements of existing town and activity centers and corridors, linking transportation improvements with land use development strategies consistent with policies in Envision6. The goals of the program included both the creation of diverse, mixed-use developments and the provision of a range of travel modes to enable access to all uses within a center or corridor. Most LCI grants have funded planning studies to develop (or re-develop) mixed-use centers or corridors with integrated multimodal access components and civic features. LCI is also starting to fund specific transportation improvements that are outcomes of the LCI-funded plans.

LCI is a critical component of the RTP in that it implements the conceptual relationship between land use and transportation. The LCI program originated with the need to achieve conformity for the region in 1999, which was the underlying goal of the 2000 RTP. Since that time, each update of the RTP has included new programs and priority steps for LCI, which is highly dependent upon the RTP and the TIP for funding. LCI implements demand management in Envision6, as a long-term strategy that can reduce congestion at a lower cost than system expansions. Since most LCI projects are small-scale, they are listed in the RTP under lump sum funds.

In addition to providing technical assistance funds for center and corridor studies, ARC staff also provides assistance to counties within the region, which are required to complete a Comprehensive Transportation Planning Study. The TIP provides funding for these studies, and the MPO provides guidelines for these plans based on the goals and plans of Envision6. These provide another means of implementing the Envision6 policies and programs.

Multimodal Focus

The RTP benefits from a multimodal focus, developed over the past 10 years in conjunction with conformity goals and implementing Envision6's goal of coordinated land use and transportation. The RTP includes a [Regional Transit Institutional Analysis](#) and Regional Transit Action Plan. The Institutional Analysis took place in 2005 and proposed strategies to streamline and organize transit service in the region, including recommendations for fare policy and structure. The Regional Transit Action Plan is separate from the RTP but closely linked in terms of goals and implementation strategies. Most recently in 2008, ARC completed a major step in the implementation of the Regional Transit Action Plan (as called for in the RTP) by developing the "[Concept 3 Vision Plan](#)." Concept 3 is an "aspirational" transit plan that considers all of the region's desired transit projects, with the objective of seeking funding for these projects through the RTP or other means. Projects include heavy rail network additions, arterial bus rapid transit, high-capacity rail, commuter rail, bus rapid transit, inner core streetcar, and regional suburban bus to compose a long-term vision for transit in the region, as funding becomes available.

In addition to transit, Envision6 incorporates other modal-based studies. These studies originated out of goals and projects of earlier RTPs, were funded through past TIPs, and contained recommendations or identified projects to include in Envision6 or future RTPs. The [Regional Freight Mobility Plan](#) contributed goals and programs to the RTP. For example, the Freight Plan recommended better management of truck flow. Based on this recommendation, ARC designated funding in the TIP to complete a regional truck route master plan, which will result in implementation projects to be included in future RTPs and TIPs. Another example is the ARC's Bike and Pedestrian Plan, whose programs and goals directly influenced development of the RTP. The RTP also designates funding for these and other modal studies, including the use of STP funding since the region did not have enough planning money to cover all planning needs. The goals in Envision6 are also used when determining priorities for inclusion in the unified planning work program (UPWP).

Innovative Elements

Smart Corridors.

Envision6 contains a Smart Corridors framework that combines Intelligent Transportation Systems (ITS) and asset management into one programmatic element for system preservation. Smart Corridors was developed in Mobility 2030, the previous RTP, and strengthened through Envision6. The RTP designates a lump sum of funding to reserve for future operations and maintenance projects while identifying specific needs and projects to include in the TIP.

- Smart Corridors program has brought about region-wide signal improvement as a management strategy for congestion relief and air quality improvement. The Congestion Management Process (CMP) was used to identify priorities for signal improvement, and through the TIP and bonds, the MPO has retimed 20-40 signals per year.
- ARC is pursuing a Regional Thoroughfare Plan, which defines a major arterial network and high-level planning guidelines to manage investment for the region. The Plan also supports

CMP data collection. The Thoroughfare Plan implements goals outlined in Envision6 but it was funded through the American Recovery and Reinvestment Act of 2009 (ARRA).

- A Management Operations Committee, consisting of elected officials, technical professionals, and community members, oversees the Smart Corridors program and its implementation projects.

Aspirations Plan.

ARC staff created an Aspirations Plan with projects that would be completed if money were available, with more comprehensive analysis than an illustrative list. The Aspirations Plan, included in the RTP, provides the same analysis about funding, sources, and project details as the fiscally-constrained projects of Envision6. The intention is to present a clearer vision of the region's transportation needs and to be better prepared to implement projects in the Aspirations Plan should money become available.

Environmental Justice.

The Envision6 development, and the ARC transportation planning process in general, included strong environmental justice (EJ) involvement. ARC capitalized upon existing community partnerships, built through the MPO planning process, to assess and meet the needs of low-income and minority populations. The EJ strategy was documented in the ARC's Transportation Public Participation Plan, which guided the RTP public process. ARC also designated a full-time staff member devoted to EJ communities and an RTP Environmental Justice Planning Team (consisting of EJ community members) to offer guidance to Envision6. In addition to the diverse methods for soliciting input from EJ populations, the ARC also devised innovative methods for determining EJ communities based on regional data.

Inter-agency Coordination.

The adoption of Envision6 required coordination between many transportation agencies and local jurisdictions, creating some challenges for ARC staff. In response to the need for ongoing coordination, ARC now convenes regular meetings between regional and State transportation agency management (MARTA, GDOT, Georgia Roadway Authority, and Georgia Regional Transportation Authority). As an outcome of the Regional Transit Institutional Analysis, contained in the RTP, the ARC has implemented the recommendation to establish the Transit Planning Board consisting of MARTA, the Georgia Regional Transportation Authority, and the ARC, which serves several regional needs for short-term and long-term transit planning. (In 2009, the Board transitioned into the [Regional Transit Committee](#), a policy committee of ARC).

Public Involvement.

ARC has a [Public Participation Plan](#) that governs all ARC outreach, which provided the guidance and policy direction for Envision6. Envision6 public participation specifically incorporated a Citizen Involvement Day and two online public meetings. The ARC adopted its *Regional Transportation Public Participation Plan* in 2006 in advance of the RTP in order to structure input opportunities for the public in a manner that meets all SAFETEA-LU planning requirements. ARC staff is also trying to use the Internet as a way to engage more individuals that have not traditionally participated in the RTP process.

Performance Measures.

ARC uses performance measures to reinforce the key RTP goals of land use and transportation coordination and congestion relief. Performance measures are also employed to track progress in meeting these goals, especially in the case of congestion management. This allows ARC staff to show local and State elected officials how transportation programs quantifiably contribute to congestion relief. ARC has actively used performance measures, including benefit-cost assessments, since 2000.

- Current measures are “output-based,” such as VMT or percent of roads that are congested. ARC staff has a goal of “outcome-based” measures that respond specifically to goals of the RTP, such as measures that demonstrate how much of the region is walkable.
- In future RTPs, ARC staff intend to create new performance measures that relate to the plan’s goals. In the next RTP (Plan 2040), performance measures will include a focus on sustainability, such as a “walkability” index that measures the propensity of a person to walk to a destination.
- Other means of evaluating the RTP includes programs with defined milestones that can be tracked during the implementation of the RTP.

Lessons for Other MPOs

- **ARC uses creative means for addressing imposed constraints.** When external forces or challenges present pressing regional transportation issues (as in the case of air quality nonconformity or major congestion), ARC staff address these issues in a way that also aligns with other regional goals. While certain issues (such as congestion relief) drove the inclusion of certain programs or project selection criteria, ARC used this as an opportunity to tie in regional land use goals, emphasize multimodal plans, and bolster technical analysis.
- **Land use and transportation are pursued in several ways, illustrating that the most heavily emphasized RTP goals should be integrated throughout the plan’s implementation.** Elements and programs that implement the emphasized goals in Envision6 (land use and transportation integration) include county plans with technical assistance and formal guidance from the MPO, the Livable Communities Initiative, performance measures, and a strong multimodal approach.
- **ARC uses the RTP to establish link between air quality and land use.** With the impetus of congestion relief, the MPO uses Envision6 to draw a relationship between land use and air quality. This relationship, implemented through programs like the Livable Communities Initiative, is used to guide planning decisions for the region.
- **Performance measures are designed to demonstrate progress in meeting goals.** Envision6 focused strongly on congestion relief, and performance measures were designed to show elected officials how the RTP succeeds in reducing congestion according

to key metrics. ARC plans to use this strategy for future RTP goals, such as transportation sustainability.

- **Interagency and intergovernmental coordination eased RTP planning process.** In order to combat initial challenges in working with many agencies with diverging needs, ARC convened regular meetings and boards to think holistically about regional transportation needs. These include the new Regional Transit Committee, which is an outgrowth of Envision6.
- **ARC uses modal plans to implement RTP.** Envision6 incorporates several transit plans and studies as well as a Regional Freight Mobility Plan, each of which calls for specific implementation strategies. The inclusion of these plans in Envision6 streamlines implementation and creates a dynamic and evolving RTP, as plans contribute to future RTPs. For example, the Regional Transit Action Plan in Envision6 led to the Concept 3 visioning plan for transit, which identified many long-term transit projects.
- **Use of Aspirations Plan broadens regional planning process.** Recognizing the common challenge of transportation needs beyond the constrained elements of the RTP, ARC used their Aspirations Plan to prioritize unconstrained projects with a deeper level of analysis. In doing so, the MPO clarified what was practical, and encouraged trade-offs to arrive at more informed decision-making for their constrained plan.
- **Many of the strongest programs and strategies were developed over a multi-year period, building upon several RTP updates and progress in transportation programs.** This is seen with continual refinement of goals for the LCI and adapting performance measures and technical evaluation processes to reflect new regional goals. The value comes from using strong elements of previous RTPs while making updates to those processes and programs to meet new needs and challenges of the region.

5.2 Mid-America Regional Council (MARC) Transportation Outlook 2040 Case Study³

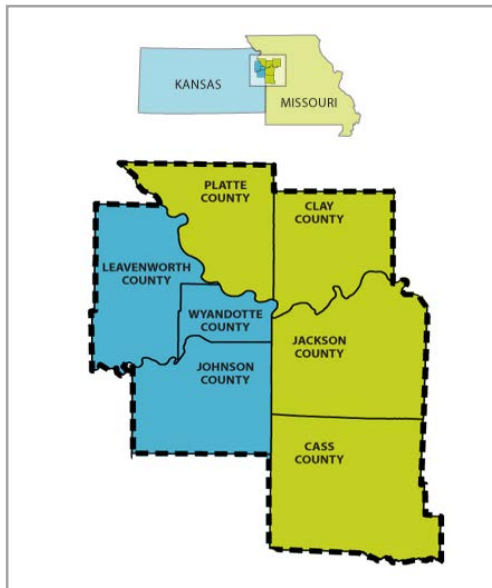
Kansas City, MO Metropolitan Area

Transportation Vision:

A safe, balanced, regional, multimodal transportation system that is coordinated with land

-use planning,

supports equitable access to opportunities, and protects the environment.



MPO Background and Characteristics

The [Mid-America Regional Council](#) (MARC), the designated Metropolitan Planning Organization (MPO) for the Kansas City, Missouri metropolitan area, is a nonprofit association of city and county governments. Led by a board of local officials, the association serves 120 cities within nine counties in the area. There are several committees that contribute to the development of the metropolitan transportation plan (MTP), including the Total Transportation Policy Committee, which is responsible for decisionmaking and policy development, and coordinates the dialogue between State, Federal, and local agencies and members of the public. Other committees, such as the Bicycle and Pedestrian Committee, the Air Quality Forum, the Goods Movement Committee, the Highway Committee, and the Transit Committee, manage specialized areas of transportation planning.

In addition to the MTP, MARC, along with partnering agencies, is responsible for developing a regional transit plan ([Smart Moves](#)), a greenway plan ([MetroGreen](#)), a public participation plan, the [TIP](#), the [UPWP](#) and a number of other plans and programs involved with transportation planning.

The current long range transportation plan, [Transportation Outlook 2040](#), was adopted on June 29, 2010. The previous plan, *Transportation 2030*, was approved in 2005.

MARC Regional Characteristics

- Population of 1.9 million, projected to grow to 2.5 million by 2040.
- Aging population: 25% of population projected to be 60 years or older by 2030.
- Large, low density geographic area (4,358 square miles).
- Region includes counties in both Kansas and Missouri.
- Diverse economy, with strong freight and goods movement sector.

^{3 3} This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

Influences and Outcomes

Public Involvement

From 2008-2009, during the development of *Transportation Outlook*, MARC transportation staff coordinated workshops, presentations, and over 50 meetings targeted towards local governments, community organizations, and the general public. As part of a robust public involvement effort, MARC facilitated regional workshops, hosted an all-day open house, and developed a website with content easily understandable to the public. MPO staff presented several additional opportunities for engagement, such as “Postcards to the Future,” a drawing activity for children to record their ideas for transportation in the future, a photography competition, and a constrained funding allocation game, where participants used poker chips to allocate spending for different modal projects.

Additionally, MARC used findings from [Imagine KC](#), an award-winning public outreach and visioning effort, to help develop the goals of the MTP. The Imagine KC process, organized by [One KC Voice](#), a citizen engagement group co-led by MARC, collected opinions from Kansas City citizens regarding community issues such as the environment, transportation, public health, education and community enhancement. Approximately 73,000 people participated in the Imagine KC program through public forums broadcast on live television, web media tools, and targeted discussions and surveys. The public strongly voiced the need for increased modal options and a transportation system closely integrated with community and environmental resources, both of which the public associated with the development of a sustainable future for Kansas City. Based on this feedback, MARC placed additional emphasis on environmental protection and support for non-motorized modes in the MTP.

The public involvement outreach was more extensive for this plan than past MTPs, in part due to a decrease in anticipated funding for projects. With less money to spend on a transportation system, MARC wanted to ensure that the investments included in the MTP would advance the regional goals that were most important to the citizens of the metropolitan area.

Activity Centers and Corridors

MARC reviewed and analyzed local policies and plans to ensure that the MTP aligned with the needs and priorities of local governments. Among the local plans, MARC staff found a common desire for compact, mixed use communities with support for a variety of transportation modes and protection for natural resources and open space.

Based on input from the public and local officials, MARC developed a regional land use and transportation scenario focused on “activity centers and corridors.” This scenario draws on identified activity centers within local municipalities, technical forecast data developed by the Technical Forecast Committee, and established MTP goals. A balance of influence occurs between local land use plans and MARC’s regional plan. MARC developed the regional vision for the MTP based in part on connections between activity centers and corridors identified in local plans, which in turn helps guide local governments as their local plans evolve to align with the regional strategy.

Because the plan was adopted in June 2010, MARC staff cannot yet measure the full impacts of the plan on local land use policies. However, in February of 2010, Kansas City rejected a developer's proposal for a new housing development and annexation of a rural area north of Kansas City based on the data and priorities of the draft *Transportation Outlook 2040*, which strongly encourages contiguous and efficient development. MARC staff expects to see more examples of how MTP priorities affect land use decisions as the plan is implemented.

Innovative Elements

MARC is positioning *Transportation Outlook 2040* to play a more effective role in influencing policies and projects in the region. While many of the initiatives listed below are still in early phases, they represent an innovative direction for the MPO in terms of the development and implementation of the MTP and future updates.

Performance Measures

MARC developed a method to measure how effectively MTP goals are accomplished to create a stronger degree of accountability for the MPO and its planning process, and greater credibility with the public and local officials. Performance measures will help the MPO track the progress of the plan and allow the MPO both to build on successes and work on areas of inactivity. MARC's push for performance measures was also a response to encouragement from FHWA in past planning certification reviews. The MPO anticipates performance measures to be a key element of transportation planning in future years.

For each plan goal, MARC identified at least one factor to measure progress, a baseline figure based on historical data, and a desired trend. MARC focused attention on identifying accessible historic data sets to use as baseline data, acknowledging that MPO staff will not have resources to collect the amount of data necessary to measure the progress of all the goals of the MTP.

Examples of Performance Measures

Goal	Measure	Baseline	Desired Trend
Climate Change/Energy Use	Daily vehicle miles traveled per capita (DVMTPC)	2009 Baseline: 29 DVMTPC	Flat
Environment	MetroGreen® Network Complete	2009 Baseline: 222 miles	Up
Economic Vitality	Transportation Costs	2004 Baseline: 51.1% of average annual household expenditures	Down

Looking ahead, MARC hopes to gain a more robust set of data, including data related to walking and biking trips, to use for performance measurement. MARC co-hosted a workshop in 2009 educating local municipalities on the [National Bicycle and Pedestrian Documentation Project](#), in an effort to launch a regional program to help communities conduct accurate bicycle and pedestrian counts.

Livability and Sustainability in Project Selection

Responding to public input, Federal livability principles, and MPO leadership, MARC instituted several measures in the plan to enhance livability and sustainability in the Kansas City region.

There is a clear connection between the plan's livability goals and the financially constrained project list in the plan. The plan also includes a list of recommended implementation strategies for both the MPO and local governments to support livability. All submitted projects are given points for each of the following criteria, which strongly reflect sustainability and livability goals: *Accessibility; Economic Vitality; Climate Change /Energy Use; Environment; Place-making; Public Health; Safety and Security; System Condition; and System Performance*. The first six goals are worth 10 points each and the last two goals are worth 15 points each. Projects are first scored against the plan goals, and then analyzed for their impact on the greater regional land use alternative scenario and analyzed for project fiscal feasibility. As part of the selection process, project impacts were assessed by using a conservation index, which combines and weights project impacts on natural resources. The overall score was combined with a score rating the project's ability to mitigate or preserve environmental, agricultural or cultural resources. These scores were used to determine the list of projects in the fiscally constrained project list in the MTP.

MTP Relationship with the TIP

There is a very close relationship between the evolution of the MTP and the TIP regarding project selection and priorities. The current [2010-2014 TIP](#) (approved in 2009) draws projects from the list of fiscally constrained projects in the [2030 LRTP](#). However, funding priorities for the current TIP are aligned with the goals of *Transportation Outlook 2040*. The 2010-2014 TIP dedicates a higher percentage of funds to transit operations, transit capital, bicycle and pedestrian projects, and environmental projects, which reflects the goals of the 2040 MTP.

Climate Change and Greenhouse Gas Reduction

The MTP emphasizes the role of regional transportation planning in combating climate change. Strategies in the MTP that support alternative modes of transit, preserve natural resources and reduce congestion also serve to reduce greenhouse gas (GHG) emissions. Additionally, the MTP calls for the creation of a specific climate change plan and assessments of GHG emissions. MARC is working on the development of a GHG analysis and assessment tool to help further analyze transportation and land use impacts and opportunities; this data may be used to develop performance measures in the future.

Active Transportation

The MTP contains a list of recommended actions for local communities to increase opportunities for active transportation in their areas. Acknowledging the current piecemeal approach to bicycle and pedestrian planning (non-motorized facilities are planned by individual localities), MARC recommends developing a regional bikeway plan to coordinate efforts of individual communities. Based on recommendations from *Transportation Outlook 2030*, MARC conducted an inventory of

all regional bikeways; however, more work is needed to create a regional bikeway plan consistent with the priority connection and natural areas established in the current MTP.

Inter-City Transportation between Major Regions

Kansas City is within a 550 mile radius (eight hour driving distance) of five major metropolitan areas (Chicago, Dallas-Fort Worth, Minneapolis-St. Paul, St. Louis, and Memphis). *Transportation Outlook 2040* calls for advancements in passenger rail service and further study of future inter-city transportation routes and freight corridors. The MTP identifies a list of proposed studies for inter-city travel that would be beneficial to determine how to invest sustainably in inter-city travel in the region. The MTP also identifies strategies for inter-city travel aligned with the goals of the plan, such as development of high capacity express bus service along I-70, support of the proposed high speed rail between Kansas City and St. Louis, and expanded intelligent transportation systems.

Regional Managed HOV Lanes Study

Continuing the theme of emphasizing regional processes, MARC, in partnership with the University of Kansas, conducted a study to determine the feasibility and impacts of a regional approach to managed HOV lanes. Previously, HOV lane studies in the region have focused on the corridor level. The study made recommendations for a regional managed lane plan, including expansion of intelligent transportation systems, consideration of pricing strategies, and transit options. Based on these findings, the MTP includes the use of HOV / HOT lanes as a strategy for transportation demand management.

Freight Checklist

Freight is a major industry for Kansas City, which has one of the largest freight networks in the nation. To ensure the continued success of freight in the region, MARC developed an annual checklist to identify and award project selection points to projects that provide benefits to freight-related transportation. The programming process awards additional points to these projects. Additionally, MARC plans to identify studies or other projects not included in the MTP or TIP that support the region's freight industry for consideration in future plans. Assessing investment in freight will help the MPO plan for goods movement, ensuring continued development of this critical part of the region's economy.

Lessons for Other MPOs

- **Establish explicit criteria for choosing projects.** *Transportation Outlook 2040* sets clear criteria for project selection. The process for selection can be easily understood and allows for a predictable, transparent method for projects to be added to the fiscally constrained list. MARC first gives projects a score to determine the project's alignment with the MTP goals, then assesses ability to support or fill in gaps in the established alternative scenario, and finally analyzes financial feasibility and probability of implementation.
- **Translate public comments to policy boards.** The high degree of public interest in compact livable communities, public transit and climate change mitigation was not anticipated by MARC's Total Transportation Policy Committee, which is responsible for

approving the MTP. With support from MARC staff, MARC's policy board members were able to integrate public feedback into their own deliberations which included a wide range of opinions regarding appropriate transportation, land use and development policies. *Transportation Outlook 2040* directly responds to public input, although at first glance it may appear to contain goals and strategies that are more progressive than some local officials expected their constituents to support.

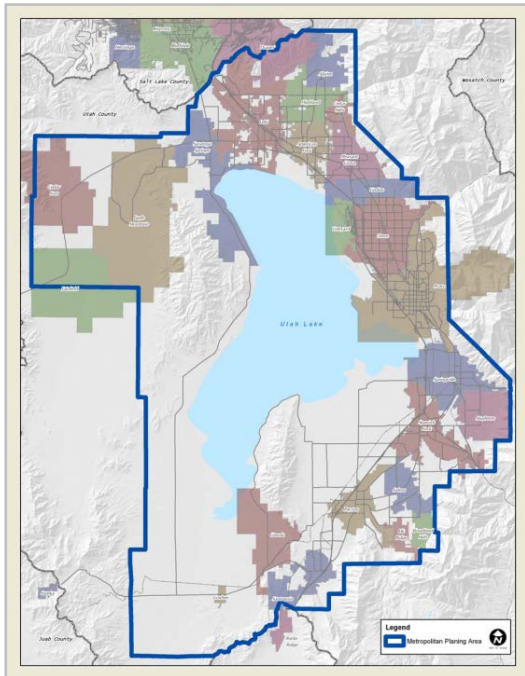
- **Develop a mechanism to coordinate current and future local land plans.** MARC staff works closely with local governments to understand local priorities and match regional goals in the MTP with existing or priority activity centers and established transportation corridors. This level of partnership allows MARC to establish goals for the long range plan that best reflect regional priorities and develop a preferred scenario that respects local goals.
- **Performance Measures.** Data collection to measure progress can be difficult for any MPO. MARC identified a series of existing data sets, which can be used to measure MTP goals without requiring extensive data collection resources from the MPO. MARC is also encouraging local agencies to collect more data, especially data that can be used to track progress of plan goals.
- **Livability and Sustainability.** *Transportation 2040* includes an increased emphasis on goals to support livable communities and sustainable growth. These goals are explicitly used in project selection, attributing 33 percent of total points for livability and sustainability project characteristics.
- **Climate Change and Greenhouse Gas Reduction.** MARC's MTP highlights the role transportation plays in climate change and contains strategies to reduce greenhouse gas emissions through alternative transit investment, congestion mitigation, and the call for development of greenhouse gas assessments to track emissions over time.
- **Active Transportation.** MARC is taking a regional approach to improving non-motorized infrastructure to provide opportunities for the community to walk or bike to their destinations. The MTP identifies several strategies to improve infrastructure for non-motorized transportation and refers to active transportation as an additional public benefit related to several of the plan's objectives.
- **Inter-City Transportation.** With federal priorities on passenger rail, MARC is in a good position to work on expanding transportation connections between Kansas City and nearby major metropolitan areas. The MTP identifies strategies for inter-city travel development, including express inter-city buses and supports investment in passenger rail service.
- **Regional Managed HOV Lanes Study.** The MTP recommends implementing HOV lanes on a regional level as a strategy for transportation demand management. Rather than looking at HOV lanes at a corridor level, the MPO took a regional approach to analyzing a

system of HOV lanes, which will be able to accommodate single occupancy vehicles and public transportation.

- **Freight Checklist.** Freight is a major sector of Kansas City's economy. MARC acknowledges this by using a separate, detailed checklist of project characteristics beneficial to freight transport to analyze projects for selection in the MTP's priority project list.

5.3 MAG Regional Transportation Plan 2007 Case Study⁴

Provo/Orem, UT Metropolitan area



MAG Regional Characteristics

- Population of 475,000 in 2006, anticipated to grow to over 800,000 by 2030.
- Major industries: high-tech sector, education and post-secondary education (including Brigham Young University), trade, transportation, and utilities
- MPO is located in a rapidly-growing metropolitan area along the Wasatch Front mountains, south of the Salt Lake City metropolitan area.
- Most growth occurring in north Utah County and in Orem and Provo.

MPO Background and Characteristics

The [Mountainland Association of Governments](#) (MAG) is the MPO for the metropolitan area of Provo/Orem, Utah, located approximately 45 minutes south of the Salt Lake City metropolitan area. The Association of Governments oversees community development, economic development, aging and family services for a three-county area and MPO planning functions for Utah County. The MPO designates a Regional Planning Committee (RPC) to oversee transportation planning and programming and direct a regional planning staff composed of planners, GIS technicians, and engineers. The RPC is composed of elected officials and representatives from local and State governmental and transportation agencies. Several representatives of other regional agencies serve as non-voting members. A Technical and Planning Advisory Committee (TPAC) advises the RPC on technical transportation issues and is composed of local, State, and Federal government staff as well as service and private sector representatives. Finally, a Joint Policy Advisory Committee (JPAC) was formed to improve coordination on transportation issues between the four urbanized areas of Utah (includes MAG, Wasatch Front Regional Council, Dixie MPO, Cache MPO, Utah Department of Transportation UDOT, and Utah Transit Authority (UTA)).

The RPC adopted the [Regional Transportation Plan 2007-2030](#) (RTP) in June 2007. The RTP is developed in accordance with a regional needs analysis. Several key inputs informed and influenced the RTP, including the MAG [Public Participation Plan](#) and several special area

⁴ This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

plans and studies. The MPO also creates a Socio-economic Data Development Process that informs the MPO Travel Model, which determines many of the future forecasts for transportation planning and infrastructure needs.

Selling the Need for Investment

As the MPO staff began the planning process for the RTP, they immediately recognized a significant gap between funding needs and availability. Whereas previous RTPs called for a transportation system that fit the available budget, the 2007 RTP would have to include two major infrastructure investments for the region: reconstruction of Interstate 15 and development of a 60 mile length of commuter rail (connecting the region with the Salt Lake City region to the north). MPO staff adopted an early strategy to use the RTP to communicate to the public the importance of investing in the region's transportation infrastructure. With the support of the public and business leaders, the region would better be able to acquire additional State funds to complete the needed projects. The RTP Brochure was created to be accessible and easily understandable to the general public; it would serve as the physical documentation of a wider campaign to draw support. A public campaign, called "Landscape of Congestion," described the serious congestion that would ensue absent transportation investment.

One of the more innovative and successful marketing elements of the RTP was a two-sided, fold-out brochure that summarized the key points of the RTP in a format that was easy to understand and distribute. One side contained a map of the region with major RTP projects and the other had summaries of other plan elements, including background and role of the MPO, regional growth projections, travel demand, and need for new capacity. The map was particularly attractive to local elected officials, who wanted to see projects in their jurisdictions. These officials became more educated about the transportation planning process as they saw the location and content of projects of regional significance. The map also raised awareness of how projects get funded. The brochure, created with the assistance of a public relations firm, translated the technical content of the RTP into a readable format that has been popular with planners and local government staff. MAG distributes the brochure at legislative session and public events, and they received very positive feedback from all sectors, including recognition from AMPO, AASHTO, and FHWA.

The campaign to enlist public and legislative support was successful in attracting investment dollars from the State legislature. In many ways, the RTP served to formalize and streamline transportation investment that was "due" in the region. MAG staff notes that Utah began to increase the amount of attention to transportation issues around 2000 in preparation for the 2002 Winter Olympics in Salt Lake City. By the later part of the decade, most transportation investment had occurred near Salt Lake City; the Mountainland region had relatively little of this investment. In order to redirect much needed transportation funding, the MPO used the RTP Process to convince the legislature and the public of the importance of investment in the Mountainland region. MPO staff used forecasting and travel demand models to estimate the financial need and communicate that need to lawmakers.

The MPO was able to successfully obtain funding due, in part, to a level of trust established between the MPO and State lawmakers. MPO members, State transportation agencies, and Utah

legislators communicate regularly as part of the JPAC and other inter-regional transportation planning efforts, which has helped establish the close working relationships. Consequently, given strong public support, legislators would find ways to fund MAG's priority projects, trusting the accuracy of the investment needs detailed in the plan.

Influences and Outcomes

While the overall goals and themes of the RTP were largely driven by the need to gain support for transportation investment, the content of the RTP was shaped by several other factors. First, MAG staff worked closely with their FHWA Division office for guidance on addressing SAFETEA-LU regulations, which were new at the time of the plan development. The RTP covers all required SAFETEA-LU regulations, and additionally describes how elements of the plan – and their projected outcomes (such as implementation of selected transportation projects or studies) – will meet the eight planning factors in the Federal requirements. For example, the RTP identifies Spanish Fork US-6 as a corridor with many traffic accidents and connects focused fundraising and planning activities in this corridor to the SAFETEA-LU planning factor of increased transportation system safety. The plan identifies areas with high safety risks to concentrate investment and improvements, and has a particularly strong emphasis on school-based transportation safety. The MPO describes a plan to work with neighboring MPOs and the State on homeland security modeling. They also use modeling to help predict and plan for regional growth to support economic competitiveness and to track progress in air quality conformity, a long-term regional priority. The RTP also supports SAFETEA-LU planning regulations with strong multimodal elements and technical environmental analysis, which are described later in this case study.

Another contributor to the content and direction of the RTP was "[Envision Utah](#)," a regional visioning process documented in the "Visioning" section of the RTP. The visioning process, which included the [Wasatch Front](#) region to the north, was directed by a Steering Committee with representatives from both regions, including members of MAG's RPC and TPAC. While Envision Utah was not directly part of the RTP process, the outcomes fed into the goals of the RTP. Over one thousand residents participated in one of 13 public workshops, in which they produced maps that assigned population, housing, and employment growth to different parts of the region and indicated locations of new transportation projects. Staff also used an online survey to develop a preferred long-term growth scenario. Themes emerging from the scenario, which influenced the goals for the RTP, included growth centers adjacent to existing transportation facilities; diverse housing types; and non-motorized routes. As outcomes of the Visioning Process, the RPC also encouraged the implementation of the [Quality Growth Principles](#), which provide opportunities for communities to plan growth in ways that could reduce vehicle miles traveled. The Quality Growth Principles provide tools for communities to use in planning and implementing transportation projects.

Just as the RTP had contributing factors that directly and indirectly shaped its content, the content and goals of the RTP also directly and indirectly shape the overall MPO planning process. A result of the plan is the [TIP](#), which MAG staff considers to be an accounting document to show when projects included in the RTP will be funded. All projects in the RTP have gone through a selection process, with separate criteria evaluated for highway, transit, and non-motorized projects. Selected

projects are then eligible to be programmed into the TIP. The TIP has separate selection criteria, which are related to the RTP's goals; for example, the TIP contains air quality criteria, which relates to the RTP goal to minimize air pollution. Also, like several other MPOs participating in this research, the Mountainland MPO has many secondary transportation plans and studies that are outcomes of, or contributors to, the RTP. These plans include modal plans, corridor studies, safety programs, and a Congestion Management Process GIS database. Plans and studies completed before the RTP was developed identified programs and goals for inclusion in the 2007 RTP. The RTP also calls for plans and studies to be completed in the next 20 years, which in turn, will affect goals and projects to be included in future RTPs.

Innovative Elements

Regional and State Coordination.

As demonstrated through the joint visioning process of "Envision Utah," as described above, the Mountainland MPO works closely with the [Wasatch Front MPO](#) for regional transportation planning. MAG also coordinates regularly with the other two Utah MPOs and State transportation agencies, embodying characteristics of megaregions planning by working beyond MPO boundaries. One of MAG's important coordination mechanisms is the JPAC, a political committee that meets monthly to coordinate transportation planning and financing issues for the State of Utah. Through the JPAC, the MAG Executive Director talks regularly to other MPO directors and the UTA and UDOT directors. The JPAC allows the directors to resolve conflict regarding programming in the RTP before issues go to the MPO's Board of Directors or into the public realm. Mountainland was able to assume that the amount of new capacity proposed in their RTP would be politically feasible, based on conversations within the JPAC. A similar political feasibility test takes place at a regional level within MAG's program committees. The committees contain elected officials, who vet all projects for potential success at the study level and at the political level before they are added to the RTP.

The JPAC has also been an important force in developing the State's [Unified Transportation Plan](#) (UTP), which establishes a common horizon schedule and methodology for projecting costs, population, and employment for all four MPOs and UDOT. The UTP was developed in 2007, based on the projects and goals in the four MPOs' RTPs. The MPO staff note that UTP allows legislators to easily compare different plans in Utah and serves as an important communication tool for funding.

Multimodal Focus.

As revealed in the Envision Utah process, the Mountainland region has an active support network for multimodal transportation, including constituencies for bicycle and pedestrian modes as well as for Transit Oriented Development. MPO staff note that the public involvement for non-highway modes ensures that MAG keeps a multimodal focus. The MPO maintains staff that specialize in different modes and maintain close correspondence with FHWA and FTA counterparts to incorporate current technology, programs, and ideas into the modal plans that inform the RTP.

While the MPO recognizes the central role of the automobile for most regional transportation, the RTP reflects the active regional support for non-motorized and transit modes. The RTP identifies elements of existing trail systems throughout the region and public demand for future trails, along

with design and safety elements for non-motorized infrastructure. The RTP contains a selection process for Regionally Significant Trails, and all highway projects were analyzed for opportunities to include non-motorized paths. Mountainland staff also use the [Bicycle Compatibility Index](#), developed by FHWA, to analyze all roadway projects within the RTP and include bike lanes as determined by the index.

The construction of commuter rail from Salt Lake City to Provo was a priority driving the campaign for transportation investment in the RTP. Additionally, the MPO recognized the region's other transit needs, including operations and maintenance, as well as new capital investments for bus rapid transit (BRT) and light rail. Transit selection criteria included ridership, quality, productivity, efficiency, and access. Transit projects were modeled using the regional travel demand model to predict effectiveness based on these criteria. The RTP also contains emphasis and analysis on freight, recognizing the economic significance of interstate commerce through the region. The RTP calls for capacity improvements to regional freight corridors, including I-15, and application of geometric design factors to highway projects.

Technical Analysis and Models.

The 2007 RTP contains an extensive analysis on impacts and benefits of all road and transit projects in the Regional Plan. The Impacts and Benefits section maps data using GIS layers for environmental justice populations, noise, land use, visual impacts, school safety, agricultural resources, geologic hazards, water bodies, wetlands, floodplains, parks, wildlife, and historic and cultural resources. For example, the RTP lists projects that may have adverse noise impacts due to proximity to residential areas, schools, and hospitals, and projects that may be candidates for noise barriers. Also, using environmental justice populations, the RTP includes examples of projects that may increase mobility for underserved communities. MPO staff has spent many years developing impact analyses, and the work in previous RTPs has been recognized by FHWA as a best practices model for others. The documented impacts reflect the regional priorities and goals, which have expanded through the years.

The MPO staff connects the technical analysis in the RTP with the FHWA objective of linking planning and NEPA. A lot of planning work for transportation projects in the RTP can be carried into the work of a NEPA practitioner. The MPO has worked with resource agencies to determine their management objectives and tie these into the objectives of the RTP. The underlying goal is to minimize or mitigate impacts on sensitive environments and illustrate the positive and negative impacts that transportation projects have upon all regional environmental, economic, and social systems.

The MPO also addresses land use extensively as an integral piece of transportation planning. MPO staff directly addresses land use with studies funded through the [UPWP](#) that look at zoning and land use densities in cities. Staff also meets with public works directors, planners, and mayors of local jurisdictions to understand where growth is and how that will affect transportation. Using a travel demand model shared with the Wasatch Front Range MPO, staff is able to use local relationships to verify models and use them as planning tools on a local and regional level to inform goals and projects of the RTP.

Lessons for Other MPOs

- **Outcome oriented focus of the Plan.** The main impetus for a strong RTP was to market and sell the need to improve I-15 and add a new commuter rail service. The MPO staff accomplished their goal by clearly defining the existing revenue and investment need in the RTP and portraying information in a way that would be accessible to the public. This eventually succeeded in convincing the legislature to support funding for I-15.
- **Recognition of opportunity.** With a growing statewide interest in transportation investment and a need for major new infrastructure projects, the MPO staff recognized that the RTP provided an opportunity to capture public and business support to fund the needed improvements. By evaluating the opportunities and goals at the beginning of the RTP planning process, the MPO was better able to craft a plan that best capitalized on resources and momentum in the region.
- **Use of “legacy” elements from former, traditionally strong plans.** Mountainland MPO was able to build a strong plan using the foundation of intensive technical analysis established in previous RTPs. The continuity between RTPs allows for incremental progress in which each new RTP update builds upon the strength of earlier plans. Additionally, updating an existing process is less resource-intensive than building a process from scratch, allowing MAG, to focus its efforts on a few key new areas.
- **Coordinate with corollary processes to direct RTP goals.** The RTP benefits from Envision Utah, the unique regional scenario-based visioning process whose outcomes led into goals and scenarios for the RTP. The RTP also had public engagement from constituents involved in the Regional Trail Plan and transit planning.
- **Strong interregional planning and coordination allows for success in RTP goals.** The MPO was able to include innovative projects and programs in the RTP due to its close coordination with the State’s DOT and others MPOs. MPO staff and board members could vet the political feasibility of transportation projects with State and regional leaders before inclusion in the RTP.

5.4 Portland Area Comprehensive Transportation System (PACTS) Destination Tomorrow 2006 Case Study⁵

Portland, ME Metropolitan Area

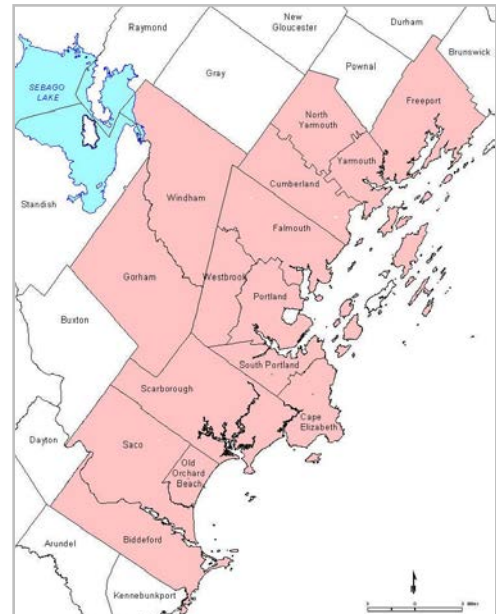
Transportation Vision:

A safe, balanced, regional, multimodal transportation system that is coordinated with land-use planning, supports equitable access to opportunities, and protects the environment.

MPO Background and Characteristics:

The [Portland Area Comprehensive Transportation System \(PACTS\)](#), as part of the [Greater Portland Council of Governments \(GPCOG\)](#), is the designated MPO for the Portland, Maine metropolitan area, which includes the city of Portland and portions or all of 15 surrounding communities.

The MPO includes representatives from its member communities; Federal, State and local officials; representatives from transit agencies and other public and private transportation organizations; and the general public (private citizens serve as voting members of all committees except the Policy Committee). There are four committees responsible for developing the metropolitan transportation plan: the Policy Committee (the governing branch), the Planning Committee, the Technical Committee, and the Transit Committee. The Policy Committee consists of the chief planner at [Maine DOT](#), the executive director of GPCOG, local government officials, transit agency representatives, and representatives from the Maine Turnpike Authority. The other committees have a similar membership structure. Additionally, [Federal Transit Administration](#) and [Federal Highway Administration](#) representatives serve as non-voting members on PACTS committees. PACTS Committees have benefitted from the inclusion of private citizens in the development of the MTP. These members, who have experience in architecture, public transit, academia, and the League of Young Voters, have primarily been engaged with the smart growth and transit elements of the plan.



PACTS Regional Characteristics

- Population of 250,000.
- Decentralized growth occurring on the western outer boundaries of the region.
- Major industries include wholesale and retail; lobster fishing; banking; and shipping. Portland has a high percentage of small business owners.
- Low unemployment level and high median income.
- Second largest cruise and passenger ferry port in the country.
- Low average commute time.

^{5 5} This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

The PACTS Policy Committee approved its metropolitan transportation plan, [Destination Tomorrow 2006](#), in 2006, and updated the plan in October of 2010. A major initiative in developing the 2010 plan was to consolidate and update the recommended strategies section. Both *Destination Tomorrow 2006* and the previous plan, *Destination Tomorrow 2003*, represent major advances in regional transportation planning for the Portland region through the use of tiered strategies, a strong regional scenario development process, and increased influence on [TIP](#) project selection. *Destination Tomorrow 2003* was selected as “Plan of the Year” by the Maine Association of Planners and the Northern New England Chapter of the American Planning Association.

Influences

The Maine Sensible Transportation Policy Act

In 1991, the Maine legislature adopted the [Maine Sensible Transportation Policy Act](#). The Act requires [MaineDOT](#) to work in collaboration with the [State Planning Office](#) to ensure that transportation and land use planning are developed in a mutually beneficial way. The Act also requires Maine MPOs, including PACTS, to ensure that their MTPs respond to Maine DOT’s planning rules, coordinate plans and programs with regional corridor planning efforts, and provide opportunities for local officials and the public to provide input.

PACTS incorporates local plans and programs into its alternatives analyses, works with the Maine DOT’s planning rules to analyze roadway projects, and coordinates public outreach and involvement efforts. PACTS began engaging in local plan coordination, and public involvement and outreach prior to the passing of the Maine Sensible Transportation Policy Act; however, this Act provides incentive to continue these efforts.

Alternatives Analyses

In 2003, PACTS took a thematic approach to developing alternative scenarios for transportation investments. Based on existing conditions and forecast data, PACTS developed individual model scenarios, which included Interstate Highway Strategies, Arterial Roadway Strategies, and Transit Strategies. Within each themed scenario, MPO staff, the Planning Committee, and the consultant team individually assessed the strategies using a set of quantitative criteria to compare projected outcomes from projects or policies, such as total trips, modal split, vehicle miles traveled (VMT), and vehicle hours traveled (VHT). They found the VHT measure to be particularly helpful in determining the level of congestion in the region. VHT also proved to be a helpful measure for members of the public to relate congestion to their own travel patterns. The MPO scored scenarios and strategies based on quantitative projected outcomes related to congestion, accessibility, environmental and community impacts, and energy conservation, and incorporated elements from each modal themed scenario into a comprehensive preferred theme scenario, called the “Best of” theme.

The “Best of” theme was combined with a land use strategies theme, identifying the connection between land use strategies and transportation investments to create a final recommended scenario for transportation investment. Within this scenario, MPO staff identified strategies for projects and investment, although a specific comprehensive project list was not included. The final

preferred scenario became the basis for identifying needs and recommended strategies for transportation investment and land use development.

Selection of Planning Consultants

For *Destination Tomorrow 2003*, PACTS worked with one consultant team to draft the MTP development process, and with another consultant team to develop *Destination Tomorrow 2003* and *2006*. The Policy Committee sought out consulting teams with a progressive philosophy toward regional transportation planning, and carefully selected the teams that best understood the MPO's goals and were able to translate them into a comprehensive plan.

The first consultant team conducted interviews with all members of the PACTS committees to uncover opportunities to improve the MTP. Committee members unanimously expressed a desire that the MTP should have a stronger influence on TIP project selection, which they thought would be possible through a stronger plan with a clearer picture of regional needs. The second consultant team worked with PACTS to develop the plan, by coordinating efforts with the Planning Committee to develop the alternative scenarios, facilitating stakeholder meetings, and designing the strategies.

Outcomes

Land Use and Transportation Linkages

Work by PACTS over the last decade, and longer, to improve the connection between land use planning and transportation investment is reflected in the current MTP. In *Destination Tomorrow 2003*, the MPO adopted a policy recommending that major transportation projects in the Portland metropolitan area include a land use plan. Implementing this policy is an ongoing effort, and PACTS is working to advance outreach efforts to local agencies and governments to encourage land use plan development in conjunction with transportation project development. The Transportation Land Use Policy is as follows:

"Any arterial corridor roadway project, that by itself or as part of a program of improvements will reduce commuter travel times between an urbanized and a non-urbanized area, must be accompanied by a land use plan that preserves the arterial's capacity, protects its mobility function and the public investment, and that minimizes sprawl."

The [Gorham East West Corridor Feasibility Study](#) is the first major transportation study in the PACTS region to include a detailed land use component. The project focuses on one of the fastest growing residential areas in Maine, and incorporates the PACTS land use policies, which the MPO sees as a step toward regional recognition of the importance of linking land use and transportation planning.

The study assessed different land use patterns in the study area which include the municipalities of Gorham, Westbrook, South Portland, and Scarborough, resulting in a preferred land use pattern for the region known as the "Urban and Rural Form". The Urban and Rural form is a hybrid of the preferred regional scenario (or "theme") in *Destination Tomorrow 2006* and concentrates new development into urban centers near existing transportation corridors. The study team finalized a set of recommended transportation and land use strategies for the study area in early of

2011. Under the State’s Sensible Transportation Policy Act (STPA), funding for any highway improvements in the study area will only be available if local municipalities show significant progress on implementation and development of Urban and Rural land use recommendations and associated policies. These recommended strategies may be executed by PACTS, the [Maine Turnpike Authority](#), Maine DOT, and local governments.

**PACTS 2012-2013
Biennial Set Aside**

Pavement	
Preservation	57%
Intersections	20%
Rebuild Roads	10%
Transit	9%
Bike/Ped	4%

Transportation Improvement Program (TIP)

In the past decade, PACTS has increased the influence of the MTP on TIP project selection. Beginning in 2010, the eight guiding principles of *Destination Tomorrow 2006* are used in a “Destination Tomorrow” formula that accounts for 50 percent of a proposed project’s score to be selected for the TIP. The other 50 percent of a proposed project’s score comes from a PACTS “Roadway Formula” which is a technical evaluation used to determine capacity, congestion, and six other factors. Between 2004 (when this formula originated) and 2010, 20 percent of the weighting for TIP selection was attributed to the MTP formula and 80 percent was attributed to the technical formula. PACTS is working towards a process to place a higher emphasis on the connection between PACTS land use planning and projects selected for the TIP through ranking criteria.

The Maine DOT allocates a portion of the TIP funding to a “Set Asides” budget, controlled by PACTS. This funding is allocated for projects in five categories chosen solely by PACTS, based on the MTP priorities. Each category is allotted a percentage of money, which is also based on MTP priorities. The five categories and percentages of funding for the 2012-2013 are shown in the box above.

All funded bike and pedestrian projects in the Set Aside budget must be standalone endeavors rather than elements of other roadway projects, which is a testament to PACTS’ commitment to improving bicycling and pedestrian infrastructure in the Portland region.

Innovative Elements

Tiered Strategies

PACTS developed a list of 87 tiered strategies to meet the goals of *Destination Tomorrow*. MTP goals include economic development, improved mobility, energy efficiency, land use, environmental protection, and regional collaboration. The strategies are divided into three groups, reflecting levels of importance, with Tier 1 as the highest priority level. For each strategy, the MTP identifies an agency with responsibility for implementation. Specific strategies seek to increase the connection between the MTP and the TIP; focus on intersections for congestion and safety management; increase regional data collection; create bike and pedestrian linkages to natural areas; invest in the plan’s arterial program; provide technical assistance to municipalities; and other strategies to improve the transportation and quality of life in the greater Portland metropolitan region.

The Top Priority Strategies of Destination Tomorrow 2006

#	Goal	Title/Description
6	Economic	Implement Plan's Arterial Investment Program
13	Economic	Incident Management and Homeland Security
14	Mobility	Focus on Intersections for Congestion and Safety Management
21	Mobility	Operational & capacity improvements to I-295 & the Maine Turnpike
22	Mobility	Develop Responsive Strategies for High Crash Locations
36	Mobility	Continue Transit Coordination Efforts
47	Energy	Increase Transit to Park-n-Ride Lots
48	Energy	Optimize and Maintain Signal Coordination
49	Land	Conduct Municipal and Sub-regional Studies
60	Land	Provide Technical Assistance to Municipalities
70	Environment	Studies of Secondary Impacts
75	Environment	Bike and Pedestrian Linkages to Natural Areas
76	Regional	<i>Destination Tomorrow 2006</i> Implementation Plan
77	Regional	Strengthen the Plan – TIP Connection
78	Regional	Biennial Review of TIP Policies & Procedures
81	Regional	Communicate with State/Federal Officials on Funding Issues
82	Regional	Work with MaineDOT on Exploring Funding Opportunities
83	Regional	TIP Priority Setting Process
84	Regional	Increase Transportation Data Collection

The top tiered strategies represent actions PACTS considers to be most important to realizing the goals of the MTP. However, the MPO maintains flexibility by recognizing that lower tiered strategies may be implemented before higher tiered projects based on funding availability, local need, or strategic potential. For example, PACTS prioritizes the Construction of the Gorham Village Bypass as a Tier 2 level strategy, but with the current investment in the Gorham Corridor, this strategy likely has a greater chance of implementation than other higher ranked strategies.

For each update to the MTP, the Planning Committee reviews the status of all strategies to determine if they should be considered for inclusion in the next edition of the MTP. For *Destination Tomorrow 2010*, the number of strategies has been reduced to 35, recognizing that many strategies have been implemented and the unrealized strategies may be combined with other strategies to be more effective.

Clear ranking of strategies, even when priorities are still subject to adjustment, adds an important element of transparency and accountability to the planning process, and in particular, to the MTP.

Lessons for other MPOs

- Plan for a regional system.** PACTS has made advances in coordinating transportation planning priorities on a regional level, placing emphasis on a regional transportation system, rather than a collection of local transportation projects. In the Introduction of the MTP, PACTS indicates that the plan will serve to identify a transportation system, not a list of

individual projects. PACTS fulfills this system-wide planning through its alternative scenario planning and incorporation of other regional corridor plans and studies, which provide the foundation for identifying transportation investment needs and recommended strategies.

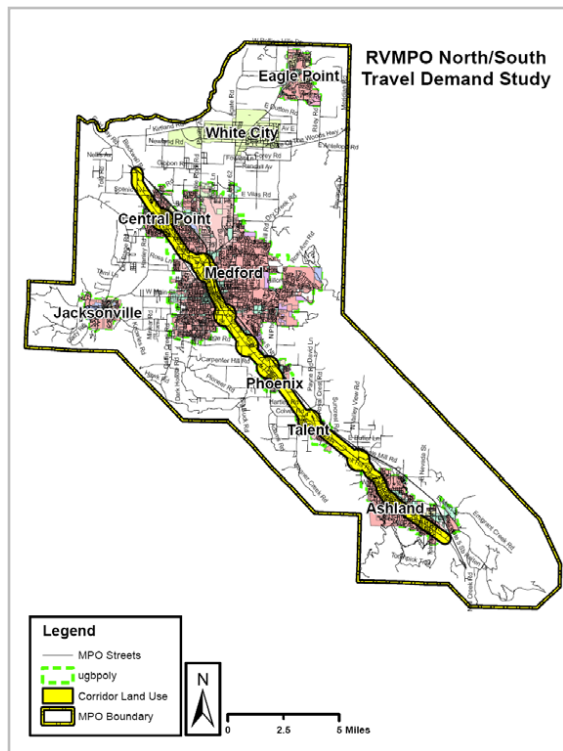
- **Leverage State and regional land use planning to support the MTP.** The MTP includes a policy which recommends that all major transportation projects include a land use plan. This recommendation builds on the State of Maine’s Sensible Transportation Policy Act, which requires Maine MPOs to coordinate transportation plans with regional corridor planning. The MPO is using both the State Act and the MTP policy as part of an outreach to local governments to improve coordinated land use and transportation planning. As a result of the Sensible Transportation Policy Act and MTP policy, Greater Portland’s first major corridor study was conducted.
- **Prioritize strategies.** PACTS comprehensively analyzed its list of strategies and prioritized them according to their ability to advance achievement of regional transportation goals and increase the influence of the MTP on the transportation direction of the region. PACTS maintains flexibility in implementing the strategies, as needs change over time; however, the ranking system provides transparency of the planning process and accountability of the MPO. In addition to its rank, each strategy lists implementation steps and responsibilities, which can aid the process of strategy execution.
- **Measure outcomes of transportation investments and policies.** PACTS is beginning the process of developing performance measures by projecting quantitative outcomes in the regional alternative scenarios. The strategies in the alternative scenarios are assessed through the use of quantifiable measures such as total trips, modal split, VMT and VHT. Assessing strategies based on quantitative projections is helping the MPO make objective decisions about needs for transportation investment, project prioritization, and to present the pros and cons of alternative decisions in a transparent manner.
- **Use commonly relatable measurements.** PACTS chose to analyze VHT, in addition to VMT, because this is a measure to which the MPO’s stakeholders and the public can more easily relate. It can be challenging to understand congestion models and capacity numbers, but most people can understand an increased amount of time spent driving.
- **Provide a clear link between MTP recommended projects and the TIP.** PACTS’ MTP outlines a clear guide to determine TIP project selection. Proposed projects for the TIP are given a score based on adherence to the MTP’s eight guiding principles and PACTS’ “Roadway Formula,” which determines project ability to ease congestion and increase capacity. By using these formulas, the project selection process demonstrates a clear and logical process to determine project funding.
- **Include private citizen representatives on MPO committees.** PACTS developed the MTP with significant input from the public, including comments and input from the private citizens who serve on the MPO committees. Committees are made up of representatives from “freight transport, marine and air constituencies, and citizens

interested in alternative transportation modes, energy, air and water pollution, and other environmental protection and community quality of life issues.” The inclusion of interested community members creates a more open and democratic process for transportation planning.

- **Work with consultants who champion goals.** Choosing a consultant was a delicate process in developing the MTP. PACTS staff encouraged the selection of a consultant who was able to help the MPO refine their goals and develop a sophisticated plan that met their needs.

5.5 Rogue Valley Metropolitan Planning Organization (RVMPO) 2009-2014 Regional Transportation Plan Case Study⁶

Rogue Valley (Medford/Ashland), OR Metropolitan Area



MPO Background and Characteristics

The Rogue Valley Metropolitan Planning Organization (RVMPO) is the Federally-designated MPO for the Rogue Valley region of southwest Oregon, which includes Jackson County and seven cities.

RVMPO has three committees for transportation review and decisionmaking, supported by three full-time and one part-time staff. RVMPO's Policy Committee meets monthly to make policy decisions on current transportation issues and projects, including adoption of the TIP, the UPWP, and the Rogue Valley Regional Transportation Plan (RV RTP). The Policy Committee includes elected officials from each member jurisdiction and representatives from the Rogue Valley Transit District (RVTD) and the Oregon Department of Transportation (ODOT). The Technical Advisory Committee (TAC) reviews technical and planning reports to brief and advise the Policy Committee about upcoming transportation agenda items, and makes recommendations on Policy Committee decisions. The TAC is comprised of staff from local member governments as well as relevant State and Federal agency representatives. Finally, RVMPO has a Public Advisory Council (PAC) with appointed citizen representatives from different geographic areas of the region and from the special interests of public transportation, low-income and minority communities. PAC makes recommendations from the public's perspective on the RV RTP, funding, and other transportation issues. While PAC has an important role in ensuring that public opinion is consistently considered in the transportation planning process, PAC's input is just one of several means to incorporate the public's perspective before and during the development of the RTP.

RVMPO Regional Characteristics

- Population: 172,600 in 2009, expected to grow to 248,324 in 2034
- Major employment sectors: manufacturing, warehousing /transportation, retail, and professional /scientific / technical services
- Expected job growth from 110,459 in 2009 to 150,666 in 2034.
- Several areas in the MPO region have significant minority populations.

⁶ This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

The RVMPO adopted its 2009-2034 Regional Transportation Plan in April of 2009, which is the second RTP update in Rogue Valley that is compliant with SAFETEA-LU. The RTP has a strong emphasis on reducing reliance on the automobile, use of alternative transportation modes (including transit and non-motorized modes), and land use strategies. The plan is heavily shaped by State laws and streamlined regional goals, as described in this case study. The next update will occur in 2013; however, the MPO amends the RTP regularly to incorporate new funding sources, such as the American Recovery and Reinvestment Act, and new regional constraints.

RV RTP and the Planning Process

As the blueprint for the region's future, the RTP update process helps identify long-term needs. The plan also provides the MPO with regular opportunities to ensure that current projects and programs are consistent with RTP goals and to identify areas for improvement prior to the next update. The MTP planning process allows the MPO policy board, staff, and stakeholders to set goals and strategic direction based on identified needs and external influences, such as State requirements for VMT reduction. The 2009-2034 Regional Transportation Plan closely links goal-setting, decisionmaking, and results to demonstrate the process and impact of regional transportation planning to the public. Specifically, it sets out criteria for the distribution of Federal funds by translating the region's needs and priorities into implementation projects. The goals in the RTP, which are influenced by land use and transportation plans from Oregon and the Rogue Valley region, advisory committee recommendations, and updated regional needs, directly feed into the scoring criteria for TIP project selection. Greater details on the TIP project selection and its relationship to RTP goals and alternative measures are included later in this case study.

The RV RTP is closely linked with the regional land use planning in identifying areas for transit-oriented development (TOD), significant transportation and development corridors, and opportunities to increase non-motorized modes and transit use. Also, as part of its task to carry out the recommendations of the RTP, the MPO staff conducts other transportation studies for the region, including a Transportation Safety study, a [Freight study](#), a [North-South Corridor Study](#), a [Transportation Demand Management \(TDM\) Plan](#), and a [Southern Oregon Commuter Rail Study](#).

A Regional Plan that Reflects Local Policy

The Rogue Valley RTP serves as a regional guidance document by reflecting the policies and planning of local jurisdictions while establishing goals and projects consistent with a long-range vision for the entire region. As dictated by Oregon's [Transportation Planning Rule](#) (TPR), a State law guiding transportation planning for the region, the RTP serves as the regional transportation system plan, follows all TPR requirements, and supports the policies of the [Oregon Transportation Plan](#), a long-range policy document covering the overall State. While the goals of the RTP are regionally-focused, they sometimes also provide emphasis or areas of significance for local jurisdictions to create their own consistent goals. The RTP plans for a 25-year horizon and presents long-range analysis and forecasts that have not yet been anticipated or planned for in local transportation system plans. The RTP is updated as local jurisdictions advance their own plans and designs for projects in their area, though as a regional plan, the RTP does not contain design-level details or small projects to be built with local funds.

The RTP also connects with local plans in the areas of land use and transportation, which are closely linked to the TPR and regional priorities. The RTP estimates future growth trends and resulting transportation needs based on local land-use policies and trends. Oregon requires local jurisdictions to include land use in their transportation system plans, so the RVMPO reviews local transportation system plans for documentation of land use trends. Due to this State requirement, as detailed in the TPR, the MPO has the added responsibility to integrate local transportation and land use plans throughout the region with the goals and strategies of the RTP. Also, all projects in the RTP must first be contained in a local transportation system plan, so local plans are important project sources for the MPO. State law requires that local jurisdictions adopt the RTP of their MPO; therefore all subsequent local transportation system plans must be consistent with the RTP. This mutual reliance on and connection to each others' plans fosters extensive communication and negotiation between local planners and MPO staff and committee members. The inter-reliance between the MPO and its local members fosters an RTP planning process with significant involvement from the public and programs that are carried out and closely monitored by local government partners, as well as the MPO.

Oregon Transportation Planning Rule and Alternative Measures

In addition to meeting the SAFETEA-LU Federal transportation planning requirements, the RV RTP is also shaped by Oregon's comprehensive land use planning law, specifically the TPR. The strong influence of the TPR enables State land use and development policy to join with regional and local priorities to shape transportation investment decisions and strategies. The TPR includes a requirement for all MPOs to reduce per capita VMT by five percent over 30 years or provide "Alternative Measures" in their MTPs that will reduce reliance on automobiles and increase the availability of alternative transportation modes. In accordance with the TPR, the RVMPO developed "Alternative Measures" that specifically address the State goal and that feature prominently in the RV RTP, including playing a major role in project selection.⁷

RVMPO adopted Alternative Measures in 2002 to bring their 2000 RTP into compliance with the TPR. The measures are actions that reduce reliance on automobiles, contributing to the strong emphasis on alternative transportation that runs through the plan. RVMPO started by inventorying possible measures or investments within several categories, including alternative modes, transit, TDM, automobile, and infrastructure. After extensive input from the RV MPO committees, member jurisdictions, and the general public, the Policy Board adopted seven measures to reduce automobile reliance as an alternative to the TPR's outright per capita VMT reduction. The Oregon Land Conservation and Development Commission (LCDC), charged with assuring local compliance with State land-use and TPR goals, approved the RVMPO's use of Alternative Measures to meet the five percent VMT reduction target, although the Commission required additional actions from the MPO and its member jurisdictions to ensure that the Measures are accomplishing the State's VMT reduction goals.

The seven Alternative Measures are:

- Percentage of total daily trips by transit and bicycle/pedestrian mode share.

- Percentage of dwelling units within ¼ mile of transit service.
- Percentage of collector and arterial roadways with bicycle facilities.
- Percentage of collector and arterial roadways in TOD areas with sidewalks.
- Ratio of new dwelling units in TODs and total new dwelling units in the region.
- Ratio of new employment in TODs over total regional employment.
- Funding committed to transit or bicycle/pedestrian/TOD projects (for this measure, RVMPO has committed one-half of all Surface Transportation Program (STP) money to the transit district).

For each of the measures, the MPO has set five-year benchmarks through 2020 and records progress on these benchmarks in the RTP. The LCDC has determined that the MPO will be in compliance with State law if they meet the 2020 target. Projects that implement these measures form the core of the RV RTP; and projects to be included in the TIP get more favorable evaluations when they positively impact the measures. The commitment of 50 percent of STP funding to alternative transportation presents a strong example of the multimodal concentration of the RTP as a whole.

The emphasis on non-motorized modes and the importance of land use, as mandated by the State and carried out at the local level in the RV RTP, has spread to local governments and residents. Although State regulations require the region to include the Alternative Measures and emphasize non-motorized and transit modes, many local governments and citizens have consequently learned about the benefits of reduced reliance on automobiles and planning for land use and transportation jointly. Jurisdictions have begun participating in the development of a 50-year regional land use plan to control growth and preserve open space and farmland. Elected officials and members of the public are calling for less road construction and better transit service, which MPO staff believes is in response to the emphasis in the RTP and its influence over other MPO programs. The RTP and its related plans and projects have helped to educate the public about the costs and challenges of transportation investment.

Goal-Setting Revision

Upon reviewing goals from the 2030 RTP, the RVMPO recognized a need to streamline their numerous goals into a few that represented the region's priorities. The MPO focused on removing goals that emphasized small, local projects and instead created goals with a regional application that reinforced a regional vision. These goals were more organizational in nature, reflecting areas that would be most appropriate for the MPO as a regional planning agency, rather than for member jurisdictions with control over local areas, to emphasize. The MPO developed nine broad goals, such as the use of cost-effective emerging technologies and the efficient use of transportation infrastructure, with relevance across the region; each goal is paired with policies and actions that can be applied at the local level. The goals were also developed to be compatible with local plans and State-required Transportation System Plans.

The goals are each associated with actions that the MPO can take or descriptions of projects that might be used to accomplish each one. The actions are outcome-oriented but not necessarily associated with performance metrics (though they may translate well into performance measures). These actions were not meant to be all-inclusive but rather indicative of actions that the MPO

supports and has the ability to undertake. For example, Goal 2 calls for an emphasis on safety and security. Policies include conducting an inventory of accident-prone areas to determine investment priorities and coordinating with emergency-response agencies to design a transportation system that supports emergency response. A potential action is the development and implementation of recommendations for transportation security deficiencies.

The 2009 RTP demonstrates the MPO planning process to the public, including how regional transportation goals are set and implemented and the impacts of those decisions. This was the first plan in which the MPO linked various modes and operational issues to specific projects so that the public could see programs and outcomes in each modal area. In addition to the general listing of planned projects in Chapter 5 of the RTP, several subsections also provide a summary of programmatic areas (such as safety, or bicycle and pedestrian projects) and list the planned projects within those areas. The revision and streamlining of goals was one way to strengthen the link between goals, decisions, and results in the RTP. RVMPO received positive feedback from the public on the inclusion of potential actions as part of the revised goals. People liked the clear organization and the ability to see how goals would be implemented.

The RVMPO also demonstrates the use of goal setting within their agency. Following the adoption of the 2009-2034 RTP, the MPO worked with their Policy Committee to adopt an organizational Vision, Mission Statement, and goals to guide the organization in future RTPs and other program areas. These goals have been incorporated into the 2011 UPWP and will be incorporated into future project selection.

Performance Measures

The revision of goals in the 2009 RTP included policies and potential actions, which are a first step in establishing outcomes related to the RTP goals. However, although the MPO has these potential actions established, they do not regularly apply them or monitor them. The actions are included to demonstrate how the policies might be applied at a local level, but they are not numerically linked to targets or performance measures. For example, the potential action of developing recommendations for transportation security deficiencies does not suggest who would carry out this action or the time period in which an agency should do so.

RVMPO has two more formal means of tracking progress in its 2009 RTP. First, the Alternative Measures, required by the TPR, include quantitative measurements for meeting each of the seven measures related to mode shift. Each measure has benchmarks, and the MPO regularly tracks progress on these measures in accordance with State law. For example, Measure 3 measures the percent of all collector and arterial roadways that have bicycle facilities, as calculated through GIS mapping. In 2005, 28 percent of roads had such facilities; the benchmark for 2010 was 37 percent of roadways and the target for 2020 is 60 percent of roadways. The RV RTP contains an appendix with detailed explanations of all measures and summary findings on the benchmark status as of 2007.

Second, the RTP also contains a chapter on performance measures for congestion, based on estimates produced by the MPO's travel demand model. The congestion performance measures are forecast projections of future travel conditions rather than objectives for action that can be tracked and measured over time. Future travel conditions are measured in anticipated levels of congestion,

such as congested lane miles, mean travel time, and VHT, at various points through 2034. One important but unanswered question was, “What level of congestion is appropriate for our region?” MPO staff members believe they will need to arrive at a consensus answer to that question before they can establish specific congestion-related performance measures. This question of regional values applies to other areas of performance measurement; the region needs to determine what aspects of transportation are most critical to the people living and working in the Rogue Valley before those values can be concretely captured in performance measures.

The Policy Committee has expressed interest in formally introducing performance measures that evaluate how the MPO is spending its transportation dollars. A priority for RVMPO is to develop guidance to help shape development and application of these performance measures. The MPO included a performance measures development task for their 2012 UPWP.

Innovative Elements

Outreach in Meeting New Regulations.

In the 2030 RTP, the new SAFETEA-LU requirements led to uncertainty among some local jurisdictions that more detailed environmental evaluation might make it more difficult for some projects to be funded. Once local governments understood that this analysis would not disqualify projects, the MPO was then able to include a more extensive environmental analysis as part of their 2034 RTP.

TIP/RTP Connection.

RVMPO uses a point-based evaluation system to prioritize projects for programming the TIP. All projects must first be in the RTP and adopted local TSPs, and they are then evaluated based on funding partnerships, positive impacts on RTP policies, and advancement of RTP Alternative Measures. Funding partnerships measure the financial contribution from other public or private sources that exceed the required match. The RTP clearly delineates the direct relationship between RTP projects, goals, and policies and the inclusion of projects in the TIP. The TIP/RTP connection is both transparent to the public and also aligned with regional and State goals. Some of the criteria outlined in the RTP and used for TIP project selection are:

- Fifty percent of funding must go to alternative transportation projects; projects should address one or more Alternative Measures (listed in the RTP).
- Roadway and bike/pedestrian projects are evaluated for system preservation and modernization.
- Projects should address one or more of the RTP goals.

Natural Resources Department.

The Rogue Valley Council of Governments, within which the MPO is housed, includes a Natural Resources Department. With its extensive GIS data inventory, the Department is able to serve as an in-house resource to the MPO, as well as to the COG as a whole. The Department produces water quality, endangered species, and greenway plans and studies that inform the environmental analysis and selection of transportation projects for the RTP.

Transportation Demand Management.

The RTP includes an emphasis on TDM as a means of reducing reliance on single-occupant vehicles, but the MPO has limited financial resources to implement TDM strategies. The resulting inclusion of TDM strategies is a way for the RVMPO to emphasize one of its goal areas for future programming while considering constraints for implementation. The RTP offers an extensive description of several TDM strategies, such as compressed work week, ridesharing, and the Guaranteed Ride Home program. However, RVMPO cannot require or call for widespread regional adoption of these strategies due to the limited resources of RVTD, which manages the TDM program. Consequently, RVMPO is developing a [TDM Plan](#) to create a more specific listing of TDM projects and refine the RTP TDM element to fully integrate TDM implementation actions. Such integration will require diversification of funding for TDM and increased support from local governments and transportation officials. The TDM Plan is a way for the MPO to advance TDM in the region while strategizing on how to overcome financial barriers to implementation. The TDM Plan's products will become part of future RTP updates and inform transportation priorities in the region.

CMAQ Public/Private Partnership.

The MPO creatively used CMAQ funds to partner with private businesses in retrofitting diesel trucks, for which they received national recognition. RVMPO has also regularly updated its CMAQ selection criteria based on Federal regulations and regional needs. CMAQ criteria include ten questions with point values ranging from 5 to 20. Example questions include "How will the project help to complete a multimodal transportation system?" and "How will the project contribute to the reduction of reliance on the automobile?"

Lessons for Other MPOs

- **The RTP connects State policies to regional and local goals and actions.** The Rogue Valley RTP is a strong example of a region proactively setting goals and implementing policies based on a State-mandated goal of five percent per capita VMT reduction. Rather than simply translating the VMT reduction goal to a local target and action, the MPO developed a set of alternative measures that can work within the Rogue Valley region to achieve the intended results.
- **State law inspires multimodal emphasis.** The RTP served as a format to meet State requirements for reducing VMT through reduced reliance on automobiles and provision of alternative transportation modes, including transit, non-motorized modes, and land use strategies. However, the need to meet the State law's requirements also served to garner momentum around the region for creative means to achieve regional and State goals.
- **The role of performance measures is guided by statewide policy.** The RTP's strongest performance measures relate to their Alternative Measures, which the MPO developed in response to the State TPR requirement for VMT reduction. The mandate to achieve a five percent reduction required the MPO to institute a series of benchmarks and targets in seven areas, which will be tracked over a twenty year period. MPO staff note that

they would like to develop more comprehensive performance measures, but they will likely wait until they are required to do so by State or Federal agencies.

- **Determine regional values first, and use these to establish performance measures.** RVMPO has not yet established a comprehensive list of performance measures to track the RTP's progress, but they have recognized the importance of defining regional values in creating performance measures. The MPO understands the need to translate broad goals, such as reduced congestion, into quantifiable targets that capture regional needs and tolerances. By creating performance measures that reflect and quantify values, MPOs may stand to have greater success in implementing performance measures.
- **Small MPO leverages its resources to assist partners.** The RTP documents several occasions where RVMPO uses its planning resources and expertise to help its partner agencies and member governments implement projects in the RTP. RVMPO communicates closely with local government staff to create consistent transportation system plans, and they also are creating a TDM Plan that will eventually assist RVTD in TDM implementation. RVMPO demonstrates how a small MPO with limited technical resources can still share its expertise with partners to expand the reach of the RTP's projects.

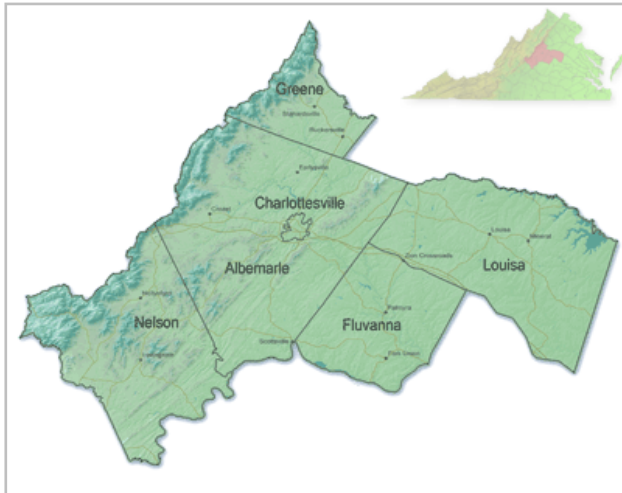
5.6 TJPDC UnJAM 2035 Case Study⁸

Charlottesville, Virginia Metropolitan Area

Regional Vision:

The Thomas Jefferson Planning District's transportation system will provide safe, sustainable, efficient, and attractive multimodal choices, support the movement of people, goods and services, and protect the environment, our communities and quality of life, while addressing regional and statewide transportation needs.

MPO Background and Characteristics



TJPDC Regional Characteristics

- Population of 200,000, with a 21.46% growth in the last decade.
- Major industries: Growth is expected in the trade, services and government sectors of the economy.
- University of Virginia located in Charlottesville is the largest employer and trip generator in the region. It serves as a key partner in TJPDC planning efforts.
- District counties expressed goals to grow more compactly, with focus on rural preservation.

The [Thomas Jefferson Planning District Commission](#) (TJPDC) coordinates transportation planning, regional land use planning, economic development, and environmental resource planning for the Thomas Jefferson Planning District, which consists of the City of Charlottesville and five surrounding counties: Greene, Louisa, Fluvanna, Nelson, and Albemarle. Under the Commission, the Charlottesville-Albemarle Metropolitan Planning Organization is the Federally-designated MPO charged with developing transportation plans for the City of Charlottesville and the urbanized area of Albemarle County immediately surrounding the City.

Three MPO committees contributed heavily to the United Jefferson Area Mobility plan ([UnJAM 2035](#)): the MPO [Technical Committee](#), which includes technical experts from local government, universities, and transportation agencies; the [CHART Citizens Advisory Committee](#), which consists of citizen representatives from the MPO area and advocacy organizations; and the Community Mobility Committee, a smaller group with

technical experts who focus on developing strategies to decrease the dependence on single occupancy vehicles. The Rural Transportation Planning Program, developed in 1993, works with local counties in the TJPDC area on long range transportation planning.

⁸ This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

Influences

Public Input and a Changing Culture

In order to achieve a strong connection with local governments, stakeholders, and the public, the MPO maintains a clear dialogue with grassroots organizations and has made significant efforts to obtain feedback from local communities with regards to transportation planning. The MPO has consistently emphasized community and stakeholder outreach to ensure the goals and projects included in *UnJAM 2035* are in line with the needs of the area, as well as to provide transparency into the organization's transportation planning processes. A standing public participation committee has been an important part of the planning process since the early 2000s. The public participation committee is responsible for conducting public participation programs, soliciting comments and educating the public on transportation planning.

TJPDC conducted outreach for *UnJAM 2035* in a two phase approach. In the first phase, TJPDC held a Regional Summit, where the public was asked to identify issues and goals for the regional plan, on which UnJAM's vision is based. Dr. Reid Ewing of the Maryland Center for [Smart Growth at the University of Maryland](#), the keynote speaker at the Regional Summit, worked with attendees to better understand land use and transportation linkages, and applications to the TJPDC area. In Phase 2, TJPDC held an Open House where citizens and local officials reviewed a draft version of the plan.

One finding from the MPO's public involvement process is that the region has a strong interest in reducing greenhouse gas emissions through compact growth patterns and alternative transportation, especially bike and pedestrian modes. TJPDC has one of the highest percentages of transit riders per capita in the nation. In addition to a large student population, partially from the University of Virginia, that frequently uses transit, the general public shows an interest in a strong public transportation system. The MPO has embraced this feedback in the MTP planning goals and the public momentum has been a leading factor in coordinating land use and transportation linkages, alternative transportation infrastructure and public transit.

Desire for Mixed-use and Compact Development in Urban and Rural Areas

In the past 20 years, there has been a shift away from investing in large-scale transportation infrastructure, and a move toward growing within the existing development footprint. Both the city of Charlottesville and county governments within TJPDC want to continue to grow and develop without building new roads. The MPO has responded to this by outlining methods, such as Complete Streets design guidelines and rotary intersection design tools, to improve efficiency and accessibility, while also prioritizing transportation projects that are located in established urbanized centers and key corridors between urbanized areas, thereby increasing density in strategic areas.

In 2004, the [Jefferson Area Eastern Planning Initiative](#) completed an integrated transportation and land use study to determine options to achieve sustainable growth in the region. Using data from the [1998 Sustainability Accords](#) (a list of measurable objectives for sustainable growth in the Thomas Jefferson Planning District) as a benchmark, local priorities and cost / benefit analysis, the

study recommended compact village-style developments along major corridors for optimal transportation efficiency.

US 29 North Corridor Transportation Study

US 29 is a major corridor running through northern Charlottesville and Albemarle County. [The US 29 North Corridor Transportation Study](#), developed by TJPDC, Albemarle County and VDOT, in conjunction with *Places 29*, a Master Planning Process for the adjacent development areas, has both played a role in shaping and being shaped by *UnJAM 2035*. The study builds on recommendations developed in the 29H250 Intersections Study, prepared in 2004 by the Thomas Jefferson Planning District Commission. *Places 29*, and other outcomes of the North Corridor Transportation Study, were factored into *UnJAM*, as projects were chosen to complement these efforts. Other smaller transportation and land use studies were incorporated into *UnJAM 2035*, which serves a coordination role for independent transportation plans in the area.

Influences and Outcomes

Rural Planning in Virginia

TJPDC made significant advances in coordinating transportation planning in urban and rural areas in the past decade. Rural planning is managed through a cooperative forum, [The Rural Transportation Planning Program](#), which coordinates transportation planning efforts of the Virginia Department of Transportation (VDOT), the Virginia Department of Rail and Public Transportation (VDRPT), transportation service providers, and the counties of Fluvanna, Greene, Louisa, Nelson and Albemarle. The MPO area section of the plan is federally required and includes a list of fiscally constrained priority projects. The Rural area section, although not federally required, also provides a priority list of projects, however, as these projects will not be paid for through the Transportation Improvement Program (TIP), it is not required to be fiscally constrained. Although a comprehensive plan was not required for the rural areas outside of the metropolitan area within the Planning District, TJPDC recognized the importance of planning for the larger region to ensure that the evolving transportation system complements land use, environmental, economic and other regional goals.

The prior United Jefferson Area Mobility plan, ([UnJAM 2025](#)) was the first comprehensive plan for the Thomas Jefferson Planning District to include both transportation planning for the Charlottesville metro area and a comprehensive rural plan for the surrounding counties. Prior to this plan, rural transportation planning outside of the Charlottesville metropolitan area was managed by individual counties in partnership with VDOT. In 2004, in preparing for *UnJAM 2025*, TJPDC combined all rural and urban plans into a single comprehensive plan, in order to better link regional transportation investments with local land use decisions. The rural plan component of *UnJAM 2025*, a first for Virginia, has served as a model for other counties in the State. In 2007, VDOT required all regions in the State to develop combined rural plans with the same level of comprehensive planning as the rural component of *UnJAM 2025*.

The most recent update of the MTP, *UnJAM 2035*, focuses on the Charlottesville metro area. VDOT funds the now required combined transportation plan for rural areas of the Planning District, which

is developed jointly between VDOT and TJPDC, and the plan will be incorporated into both *UnJAM 2035* and the 2035 State Highway Plan upon completion. Both urban and rural components of the plan follow the same vision, and provide recommended strategies to implement the vision, as well as a priority project list, however, only the MTP is required to fiscally constrain the priority project list. The recommended projects and strategies for both plans are derived from the same analysis process and technical models. Although transportation projects in rural areas are determined jointly by VDOT and individual localities, the priority project list in the rural plan is used as a guide to make decisions.

Linking land use and transportation

Linking land use and transportation plans has been an important priority for TJPDC, as evidenced in *UnJAM 2035*. Land use and transportation integration is included as a top level goal in *UnJAM 2035* and implemented through programs such as “Complete Streets” ordinances and standards, provided by the MPO for inclusion in local jurisdictions’ plans. While the MTP does not drive local land use goals directly, it supports land use plans by placing emphasis on alternative transportation modes as well as through regional coordination of local land use plans and transportation projects in *UnJAM 2035*. Coordinating transportation development with established urban areas has also been a major factor in linking land use planning and transportation. *UnJAM 2035* presents a matrix which shows where goals, sample policies, regulations or guidelines from *UnJAM 2025* have been adopted by local land use plans.

TIP

There is a direct connection from the fiscally constrained project list in *UnJAM 2035* to the [FY09-12 TIP](#). All projects in the TIP must first appear on the MTP’s fiscally constrained project list, which includes projects that will help implement the MTP’s regional vision, are consistent with TJPDC’s model traffic and land use projections, and complement recommended policies, programs and strategies. Projects in the TIP also include those from the previous TIP which have not yet been completed. Projects along the US 29 Corridor are prominent in the TIP, as the region focuses on this prominent area to connect development areas in the region.

Innovative Elements

In addition to the innovations in rural planning, and land use and transportation linkages, the MTP illustrates exemplary planning through its use of technical models, attention to sustainability/livability factors, intersection design, and complete streets guidelines.

Technical Analysis and Models.

An important aspect of the planning process is access to good data and analytical tools. The MPO has been working with VDOT and a consulting group to develop a more sophisticated travel demand model, which will be able to more accurately tailor transportation planning scenarios to the region. Previously, the travel models were run by the State, which left the MPO with limited control over assessing models. Now that the MPO has control over this new tool, staff is confident they will be able to use it for many corridor studies in future planning efforts. TJPDC staff anticipates that their future ability to work directly with travel models will aid in measuring progress towards

objectives in *UnJAM 2035*. Staff has been working towards including performance measures in its planning process and hopes that this work, along with the new modeling capabilities, will result in the inclusion of performance measures in future transportation plans.

Green Infrastructure.

TJPDC developed a green infrastructure analysis and plan for the entire planning district, supported by a grant from the Virginia Department of Forestry. The plan included identifying areas to be proactively zoned or purchased to support a larger system of green spaces to be used for recreation, storm water mitigation, flood control and protected rural landscapes.

TJPDC also worked with a grant from FHWA's *Eco-Logical* program to integrate planning for green infrastructure with planning for transportation. With this grant, TJPDC was able to develop environmental mitigation strategies for the region as a whole, which was used in determining priority projects for *UnJAM 2035*'s fiscally constrained project list. In the analysis, few conflicts were found between green infrastructure resources and proposed transportation plans, due to TJPDC's efforts to invest in transportation projects within already developed areas, therefore protecting open space.

Intersection Design.

UnJAM 2035, and its predecessor, *UnJAM 2025* both state that rotary intersections function better for many traffic situations than traffic lights and recommend installation of rotary intersections as a congestion mitigation solution. Because of the MPO's established philosophy of not building new roadways in a growing region, it was important to develop other means to improve congestion and provide additional capacity in the MTP. Intersections especially need to function as efficiently as possible, and thoughtfully designed rotaries have been a solution to congestion and capacity issues. Rotaries are a new concept in the area, and although they were originally met with hesitation by the general public, the MPO reports that there appears to be a general satisfaction and familiarity with the new rotary intersections.

Complete Streets.

The MTP contains a set of Complete Streets standards and ordinances to be used by both Charlottesville municipalities and County municipalities. The plan also includes examples of municipalities that adopted the guidelines into their local plans. *UnJAM 2035* cites Complete Streets implementation as an important strategy to improve transportation options, neighborhood livability, and address greenhouse gas emissions.

Sustainability.

UnJAM's regional vision addresses the changing environment and new pressing issues in transportation planning, such as climate change and greenhouse gas emissions, sprawl development and loss of open space, increased congestion, and lack of accessible travel options. The plan focuses on the development of a transportation system that supports growth in designated growth areas that refocus development in urban areas and offer multimodal transportation options, as well as recommended individual strategies that support sustainable development and activities. Strategies include increased ridesharing programs, complete streets

implementation, sustainable packing initiatives for freight, rural cluster development, and increased transit initiatives.

Lessons for other MPOs

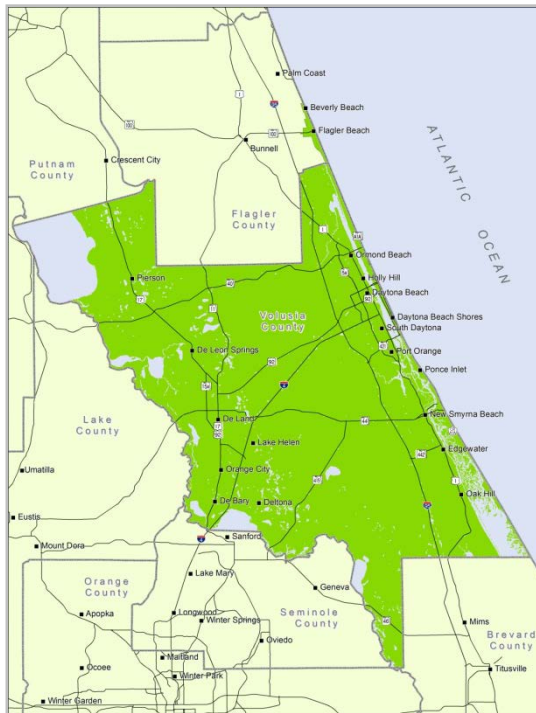
- **Strong transportation modeling tools.** TJPD worked with VDOT and a consultant to develop a very detailed modeling tool that was helpful in understanding impacts of transportation decisions. Good data and sophisticated analytical tools can help tailor more detailed or long term strategies in the MTP.
- **Close coordination with local governments and land use plans.** The MPO and local governments were mutually supportive of one another, which ensured projects selected for the fiscally constrained project list in the MTP were beneficial to regional and local land use goals as well as a robust regional transportation system. Regional strategies and systems, such as the green infrastructure plan, are more likely to be implemented when properly coordinated with local government plans.
- **Ongoing public participation.** Encouraging an open and constant dialogue with the public, rather than only asking for input at critical decision points can foster a sense of trust and transparency in a community. Although the Regional Summit and Open House were key individual elements of the public participation process, the MPO regularly conducts events and organizes vehicles for community feedback.
- **Regional, holistic approach to planning.** Through coordination with rural planning, local land use plans, and green infrastructure, it is possible for an MPO to take a holistic approach to transportation planning, considering projects and resources on a regional scale from transportation and broader perspectives. Taking a systems approach, rather than a projects approach has resulted in fewer conflicts in the planning process. The MTP successfully integrates other large scale planning efforts, such as *Places 29* and rural plans to develop a comprehensive plan for the region. The plan addresses new challenges connected to the transportation system, such as climate change and open space preservation, through thoughtful strategies to mitigate greenhouse gases and protect natural areas, while increasing modal choice and mitigating congestion.
- **Detailed strategies for municipalities.** Recognizing the responsibility of local governments to implement some strategies of the plan, the MTP includes detailed recommendations for municipalities to address, such as Complete Streets standards and ordinances, intersection design recommendations, and mixed use development and infill strategies. Several communities in the area adopted mixed use plans as a result of recommendations in *UnJAM 2025*.

5.7 Volusia TPO 2025 Long Range Transportation Plan Case Study⁹

Daytona Beach, FL Metropolitan Area

Vision Statement:

Our future regional transportation system will be an integrated multimodal network that includes safe and efficient roadways, commuter rail, air service, improved bus service, and is supportive of a bicycle and pedestrian network. These systems will provide for economic development that will allow for an effective movement of people, goods, and services necessary to maintain and enhance our quality of life.



MPO Background and Characteristics

The [Volusia Transportation Planning Organization](#) (Volusia TPO) is the MPO for Volusia County located on the central eastern coast of Florida around the city of Daytona Beach. Volusia TPO is comprised of 18 incorporated cities and towns within its borders, including two municipalities in Flagler County to the north, as well as all unincorporated parts of Volusia County. The TPO Board consists of 19 voting members who are elected officials from member local governments and ten non-voting members (representing the TPO’s technical committees, the Florida Department of Transportation (FDOT) District Office and the Volusia County School Board).

Four technical subcommittees oversee focused areas related to transportation planning. The Technical Coordinating Committee (TCC) advises the TPO on technical transportation issues, the Citizen’s Advisory Committee (CAC) provides a forum for public involvement and advises the TPO; the Transportation Disadvantaged Local Coordinating Board (TDLCB) provides input on transit and transportation issues confronting persons with disadvantages such as income or disability,, and the Bicycle/Pedestrian Advisory Committee (BPAC) advises the TPO on non-motorized transportation matters. Several other committees and boards provide management, membership nomination, coordination, and legislative support to the TPO.

Volusia TPO adopted their 2025 Long Range Transportation Plan (LRTP) in November 2005, with

Volusia TPO Regional Characteristics

- Population of approximately 498,000 in 2008, projected to grow to 666,500 by 2025.
- Service employment accounts for 57% of the regional total, with tourism a very important sector (commercial employment is 25% and industrial employment is 17%).
- Since 1990, there has been 21% increase in population, 19% increase in dwelling units, and 15% growth in employment.
- Several areas in the MPO region have significant minority populations.

Data from the U.S. Census Bureau 2000 and the 2025 LRTP

⁹ This case study is part of a research report for FHWA by the U.S. DOT/Volpe Center on best practices in Metropolitan Transportation Plans. This report is one in a series of Best Practices in Planning studies posted on the FHWA/FTA Transportation Planning website at www.planning.dot.gov

minor amendments made through May 2007. The TPO considers their LRTP to be an official guide for expending Federal and State funds over a 20-year horizon. Projects reflect community values and visions for improving the transportation system. Volusia TPO staff generates additional planning documents and reports, including corridor studies and guidelines for evaluating the transportation impacts of development projects, and collects transportation and demographic data to support the monitoring of the LRTP and the development of future LRTPs.

Influences

Public Participation and Involvement

During development of the 2025 LRTP, the Volusia TPO adopted an innovative public involvement strategy that served as an influential driver of the plan's goals and direction. The TPO conducted a "Strings and Ribbons" exercise in which participants worked together to develop a 20-year, fiscally-constrained transportation plan. Nearly 800 local citizens participated in a series of events, which used strings, ribbons, and stickers to represent new infrastructure projects. The resulting maps were consolidated into one "Citizens' Alternative" long range plan scenario. When compared with the transportation alternative developed by technical representatives for the LRTP, projects were nearly identical. The Strings and Ribbons concept was created for the [Charlotte County-Punta Gorda MPO](#) in southwest Florida. The exercise was designed for use in the MPO's five-year TIP, and Volusia staff adapted it for long range planning with two goals in mind. First, they wanted to find out if the projects developed by the technical committees matched the public's needs, which they found to be the case. Second, they wanted to give the public an idea of the process their elected officials undertake every five years, including the financial constraints, to develop the long range plan. Public feedback was very positive, and the TPO staff is confident that the activity led to the development and adoption of an LRTP that better represented public desires and was more broadly understood and accepted. The Volusia TPO [website](#) contains links to documents with more details on the game.

"Strings and Ribbons" was designed to closely mirror the transportation planning process of TPO staff and committee members, including elected officials. Participants were grouped into teams of six to eight members with a trained facilitator. TPO staff supplied each team with a map of the county, money equal to the projected revenues over the planning period, and a price list for potential projects. Each team member had an equal portion of the total budget to allocate.

During the most recent update of the LRTP, Volusia TPO staff modified the activity and re-named it "Make Your Mark in 2035." The modifications included a switch to materials that were easier for participants to use. Also in the updated activity, the TPO emphasized the connection between land use, population growth, and transportation by asking participants to assign future population. Participants then had to bargain and reach consensus about projects to fund, with the game resulting in a graphic representation of proposed projects. The new version also separated roadway and transit projects, and players could not consider transit projects unless they agreed, by majority vote to implement a sales tax, reflecting the real-world decision facing Volusia County to pursue a Charter County Transportation Surtax primarily to support transit. In this case, the planning activity has helped the public understand the financial constraints of expanding public transit (bus and rail

options) as well as the relationship between land use and transportation. In this setting, Volusia TPO was able to quickly illustrate the connection between population growth, density, land use planning, and transportation investment. Staff believes that “Make Your Mark 2035” helped shift public opinion to be more supportive of the challenges faced by local governments and the TPO in transportation planning.

The TPO supplemented the information collected through the “Make Your Mark in 2035” activity with a series of two online surveys, in which they were able to broadcast planning considerations before a wider audience. In general, the 344 respondents to the first survey supported the findings of the game participants. The second survey was still underway during the writing of this report. However, more than 500 responses were collected, and preliminary results indicate consistent support for changing land use patterns and expanding alternate modes of travel (transit, bicycling, and walking).

The use of a dynamic and engaging public involvement activity has been highly influential in shaping past and future LRTPs and driving the transportation planning process in Volusia County. TPO staff has observed a slow shift in public support for greater transportation investment, land use coordination, and alternative transportation modes. Staff credits their public involvement activities with capturing how public sentiment has changed in recent years. This shift in public opinion, which staff believes is both measured and influenced by public outreach activities, has allowed Volusia TPO to be more innovative in planning efforts and in the development of the 2035 LRTP.

State Regulations

A series of laws in the State of Florida related to growth management and transportation planning has influenced the development and content of the LRTP. Several of the innovative aspects of Volusia TPO’s LRTP came about directly or indirectly as a result of these State regulations. Specifically, these regulations affect project selection and prioritization, congestion management, and land use and transportation planning within the LRTP.

The LRTP has a strong and explicit connection to the TIP, whose prioritization criteria are directly linked to the LRTP or to projects from the LRTP. The methods for transferring projects from the LRTP to the TIP are dictated by State law. Florida MPOs are required to annually develop a list of priority projects to be programmed into the next TIP. The list is developed through a call to member governments, with the stipulation that all listed projects must already be in the currently-adopted LRTP. A Volusia TPO subcommittee prioritizes the projects. Some of the elements of the LRTP criteria that are considered in the ranking criteria include safety, congestion, and cost. However, the TIP project prioritization criteria are revisited each year and may be revised to reflect specific needs or new Federal or State regulations; these issues often relate to Level of Service (LOS) changes, connectivity, and support of master plans.

FDOT utilizes the MPO’s project priority lists to program the projects to be funded as part of the [State Five-Year Work Program](#). Subsequently these projects are included in Volusia TPO’s TIP. The Volusia TPO has adopted by formal policy that once a project nears the top of the priority list, it retains its place on that list until either the local agency removes that project from the list or the

project is fully funded through construction in FDOT's Work program. The type of project determines how many top projects remain on the list (for example, the top five roadway projects and the top eight bicycle/pedestrian projects remain on the list).

Florida law also dictates congestion management through concurrency requirements. Based on growth management legislation from the 1980s, developers must construct and pay for all new infrastructure necessary to support their development at the time of construction. A new piece of legislation, called Senate Bill 360, creates concurrency exception areas in Dense Urban Land Areas with an associated requirement to establish a mobility plan addressing transportation issues. A uniform [traffic impact analysis \(TIA\)](#) has been implemented by planners within the Volusia TPO. This effort is geared to provide a uniform process for local governments to determine the traffic impacts of planned new developments. In January 2009, the Volusia TPO also adopted an Intergovernmental coordination process for projects whose road impacts cross jurisdictions. If a TIA is required and all or a portion of the project trips are projected to cause a new LOS deficiency or contribute to an existing LOS deficiency on a roadway in a neighboring jurisdiction, then an electronic copy of the TIA must be provided to the affected jurisdiction(s) for review and comment.

Volusia TPO staff is working with municipalities to coordinate mobility plans along dense corridors; a subcommittee on traffic impact analysis developed a standard methodology for measuring development impacts across jurisdictions in the region. Not only does this serve a congestion management function for the LRTP, but it also results in corridor studies and plans that both fulfill objectives of the LRTP and inform future updates of the LRTP.

Relationships between the TPO and Public Opinion

Public attitudes in Volusia County towards transportation investment and planning have shifted over the past decade, influenced by a variety of factors. This shift in opinion has provided the leverage for the TPO to include more innovative projects and programming in the LRTP, whereas these projects had previously been politically infeasible. Some of the factors affecting public opinion include the economy, rising gas prices, and increased awareness of climate change. However, although the TPO cannot take credit for the attitude change, the TPO had been engaging in forward-thinking planning activities during this same time period. For example, in 2002, the TPO participated in a smart growth committee, as a public/private partnership that developed a report highlighting the need for denser development and improved transit. While the report received little response from the public at the time, the report's findings have received increased support in recent years. Volusia TPO has also stepped up public involvement activities through the Strings and Ribbons exercise and asked the public what was important to them. One of the overwhelming responses was an increased interest in transit. Other notable Volusia TPO planning activities include the Transit Development Guidelines and the online TIP, both available on the [Volusia TPO website](#).

Other regional events have emerged as major drivers of current transportation policy in the State and region. Volusia County developed a [Smart Growth Initiative](#) with recommendations on long-term County development strategies. Also, the governor signed legislation in late 2009 to authorize the purchase of rail corridor for [SunRail](#) for commuter rail transit in Volusia County, and Volusia TPO worked with Votran (the public transit agency) to come up with Transit Development Design

Guidelines to help integrate transit into developing or redeveloping areas. Several other Counties around Florida, not including Volusia, are proposing a transit surtax in upcoming elections. All of these events and factors led to increased public support for transit and TOD, and resulted in a strong emphasis for transit in the 2025 LRTP and an even greater focus in the [2035 LRTP, which was adopted in September, 2010.](#)

The evolving attitudes on public transit demonstrate that building a constituency is a sensitive and long-term process. Only through the combined efforts of many agencies and levels of government, as well as the outside influences of economic and social forces, could the previously unpopular concept of transit become an accepted and desired investment strategy. The Volusia TPO is applying this lesson as they focus on their 2035 LRTP, in which they recognize public support and input to expand transit and have asked whether this support should come from a transit surtax. As they learned in the past decade, the Volusia TPO needed a long timeline to gain support for the idea of a tax. Volusia TPO staff started informing the TPO Board over the course of 18 months about the need to consider a tax to pay for transit if it is to be an element of the future transportation plan. By the time the Volusia TPO Board met to formally consider their support for a transit tax, they were prepared to acknowledge the importance of transit to the region and consequently developed a 2035 LRTP that presumes the public will have the opportunity to vote on a transit option.

Inter-regional Coordination

The LRTP is also shaped by a unique collaboration across the Central Florida region. The Volusia TPO is a founding member of the [Central Florida MPO Alliance \(the Alliance\)](#), which consists of representatives from six MPOs covering 10 counties in the greater Orlando metropolitan area that meet quarterly to discuss regional transportation issues and strategies. Volusia TPO and [METROPLAN ORLANDO](#), the Orlando-area MPO, established the Alliance in 1997 during improvements to Interstate-4, which runs through both MPO regions. By 2001, they broadened their scope to include other regional transportation needs and invited four other MPOs to join. In Florida, where many MPOs form around County boundaries rather than greater metropolitan areas, many major transportation projects and opportunities span several MPO regions. The Alliance gives these MPOs a platform for coordination on project-specific and general transportation issues.

The Alliance works together on several projects of regional importance, including SunRail, the expansion of Cape Canaveral (home of the Kennedy Space Center), and ongoing I-4 improvements. In 2005, Alliance members completed a consolidated Long Range Plan that included regionally-significant projects from all six MTPs in the region. The level of cooperation necessary to complete the consolidated Long Range Plan is noteworthy as it demonstrates Volusia TPOs' willingness to consider the impacts of transportation projects beyond the TPO boundaries. The next step is a 50-year, unconstrained plan for the Alliance to help shape the larger region's growth; regional visioning for this plan has already been completed. The Alliance is currently working on a Comprehensive Regional Bicycle/Pedestrian Plan to identify gaps in the system. A future goal of the Alliance is for members to comment upon the MTPs of other members, which will better achieve objectives of interregional planning.

Strong Elements

The LRTP demonstrates several additional innovative and noteworthy elements, including TPO-developed data, non-motorized planning, coordination with the transit agency, and environmental justice planning.

Data Development.

In conjunction with local DOTs, the TPO developed or enhanced two large databases that feed into the safety and land-use coordination elements of the LRTP:

- Traffic incident database. Volusia TPO worked with Volusia County to create a method to identify projects within the LRTP that most need traffic improvements. Given the gap between available funding and needs for safety improvements, the methodology allows the TPO to address high-incident areas of larger projects. The database allows the TPO to develop lower-cost projects that will handle the immediate safety needs of that project in the near term.
- Database of development. Volusia TPO staff worked the County and a consultant to develop this data with the goal of making information available to all local jurisdictions. The database uses an agreed-upon set of criteria to assess developmental impact on the transportation system. As local communities receive a development request, they can identify not only what other developments are proposed in close proximity but also the estimated traffic impacts resulting from each development.

Bike and Pedestrian Planning.

The TPO has expedited the development of bike paths and sidewalks, from concept to construction, so that projects are completed within two years. The TPO has a Bicycle/Pedestrian Plan created concurrently with and folded into the LRTP. Volusia TPO designated a Pedestrian and Bicycle Coordinator to address safety and planning issues, with an extensive safety analysis contained in the LRTP. Finally, the TPO has made significant increases in funding dedicated to bicycle and pedestrian facilities (from three percent of the Federal Surface Transportation Program Extra Urban funds in 1997 to 30 percent of those funds in 2005).

Coordination with Transit Agency.

[Votran](#) has a [Transit Development Plan](#) (TDP) that feeds directly into the Transit Alternative in the LRTP, and has evaluated a series of Public Transportation Performance Indicators for ten years prior to the LRTP that not only track performance of transit projects but also can be used to set and measure criteria for transit project selection in the LRTP. The TDP is also influenced by the goals of the LRTP. Additionally, the TPO hired a Transit Planner to coordinate transit planning with Votran, whose office is in the Votran building, which allows her to work directly with Votran staff.

Lessons for Other MPOs

- **Meaningful public engagement leads to more effective development and adoption of the LRTP.** The Strings and Ribbons activity not only served as an interactive means to gather public opinions on transportation priorities, but it also demonstrated to the public the challenges of fiscally-constrained planning. Participants' understanding of these challenges resulted in less controversy during LRTP project selection and adoption.
- **Adopt a strategy to build consensus and support.** Over time the TPO region experienced a shift in sentiment towards increased public transit and mixed-use higher density development. This has been influenced by TPO activities, current events, activities of local area partners in both the public and private sectors, and social and economic factors. Volusia TPO pursued multimodal strategies for years, and they were better prepared to capitalize upon changing public attitudes by facilitating transit tax discussions among the TPO Board and the general public. The TPO also developed support through relationships with the Central Florida MPO Alliance, the Central Florida Rail Task Force, and the [Volusia County Association for Responsible Development](#).
- **Work with local elected officials to identify issues and pursue needed solutions.** Volusia TPO staff found that educating and gaining support from local elected officials (including those on the Volusia TPO Board) could help deter resistance from local government staff. Local governmental staff tended to be more conservative about new ideas because they had to interact with the public regularly. The TPO Director slowly introduced the controversial idea of a transit tax to the Board prior to a larger LRTP prioritization discussion, with the goal of having elected officials share their priorities with staff. Relationships and ongoing communication with local governments also helped Volusia TPO leverage local funds, coordinate project analysis through the TIA Guidelines, accelerate project funding, and develop tasks for alternative transit funding, climate change, and mobility planning.
- **State regulations facilitate MTP's guidance of planning process.** Florida law supports a strong MPO planning effort via statutes covering the prioritization of transportation projects in the TIP, and requirements on local governments to ameliorate the transportation impacts of land use development. These laws reinforce the connection between the LRTP and its implementation.
- **Statutory Connection between MTP and TIP.** TIP project selection criteria are directly linked to the goals and objectives of the LRTP (e.g., safety, community impact, and connectivity). On an annual basis, the TPO reviews the selection criteria to ensure that the needs of the communities and the goals of the TPO are being met. Due to the State-required prioritization of MPO projects for the Work Plan, the TIP becomes a stronger implementation tool for the MTP because high priority projects must be implemented first.

- **Inter-regional planning efforts enhance strength of MTP.** The Central Florida MPO Alliance provides an opportunity for member MPOs to join forces on major goals and projects in their MTPs. The six MPOs in the Alliance recognize that the projects in their individual MTPs are stronger when coordinated between MPO regions. The Alliance's consolidated Long Range Plan and the planned 50-year unconstrained plans both will strengthen the MTPs of member MPOs. Additionally, MPOs in the FDOT District work together in the development of LRTPs to provide data for a region-wide traffic modeling analysis and to coordinate planning schedules. This joint planning effort allows neighboring areas to identify projects or plans that might impact or overlap jurisdictions.

Appendix A: Criteria for Evaluation

A. Strategic Direction

1. Plays an integrating role in guiding the metropolitan area planning process (i.e., MTP is not a compilation of jurisdictional or modal plans). Guidance is related to specified regional priorities, needs, and problem/solutions.
2. Developed collaboratively with member jurisdictions, modal agencies, stakeholders, and the public; resulting decisions are supported by these entities.
3. Includes strategies and actions that lead to the development of a region-wide integrated, multimodal transportation system to facilitate the safe and efficient movement of people and goods.

B. Core topics: SAFETEA-LU Requirements

1. *Vision and Scenario Planning*

- i. Employs visualization techniques and broadly-based participation to develop long-range regional visions within the MTP.
- ii. Develops and analyzes multiple scenarios (large-scale differentiated regional alternatives that combine transportation, land use, and other considerations), and selection of a preferred alternative.
- iii. Demonstrates strong connections between vision and scenario planning and the MTP.

2. *Multimodal Systems*

- i. Comprehensively addresses multimodal systems, including transit, rail, automobile, and non-motorized modes (and possibly airport and port access); systems planning for passenger and goods movement.
- ii. Includes an inventory of existing and proposed transportation facilities (single-mode, multimodal and intermodal facilities).
- iii. Includes goals, objectives and investments that increase mobility of people and freight through multimodal systems, including integration of freight and passenger needs.

3. *Financial Planning and Fiscal Constraint*

- i. Presents a clear and realistic picture of funding expectations in the region, including funding sources, costs, and proposed expenditures.
- ii. Rigorous analysis of anticipated funding, revenues, and anticipated transportation needs, and identifies potential options and strategies to close any gaps.
- iii. Includes a transparent explanation of assumptions, risks, and priorities involved in financial decisions, developed collaboratively with partners at regional scale.

- iv. Note: analysis will build on related insights from the best practices study on financial planning.

4. *Congestion Management Process*

- i. Reflects substantial consideration of the results of a Congestion Management Process (CMP) that is comprehensive, multimodal, and relates to goals outlined in MTP.
- ii. Includes innovative mechanisms to improve air quality, including strategies identified through the CMP.

5. *Operations and Maintenance*

- i. Includes a strong emphasis on the maintenance of existing transportation infrastructure.
- ii. Includes transportation projects and programs focused on operations and maintenance.

6. *Public Involvement and Title VII/Environmental Justice*

- i. Reflects successful participation and support of transportation agencies, the business community, the general public, environmental justice communities, and other stakeholders.
- ii. Employs a diversity of means to solicit and consider public input at multiple points in the planning process.
- iii. Measures the distribution of impacts to different socioeconomic and ethnic minorities and addresses inequalities.
- iv. Incorporates steps to ensure access of Plan and planning process to Limited English Proficiency populations.
- v. Demonstrates how public input is incorporated within the goals, objectives, and implementation of the MTP.

7. *Environment and Energy*

- i. Considers requirements and commitments related to air quality conformity.
- ii. Protects and enhances the environment.
- iii. Promotes energy conservation.

8. *Local Planned Growth*

- i. MTPs, including goals, priorities, investments, and other strategies, are consistent with State or local land use and economic development plans.
- ii. Demonstrates collaboration between transportation, land use, and economic development agencies and their planning processes.
- iii. Supports the economic vitality of the metropolitan area through goals and investments.

9. *Safety*

- i. Utilizes comprehensive data to identify regional safety trends and problem areas.
- ii. Addresses safety from a multimodal perspective (including highway safety, transit safety, freight safety, and bicycle and pedestrian safety).
- iii. Includes consideration of programmatic and infrastructural mechanisms to address safety concerns.
- iv. Contains explicit goals and policies that safeguard the safety of motorized and non-motorized users.
- v. Incorporates performance measures for safety.

10. Security

- i. Incorporates the priorities and goals of State and local emergency relief and disaster preparedness plans and policies that support homeland security (where appropriate)
- ii. Addresses security from a multimodal and regional perspective (including highway safety, transit safety, freight safety, and bicycle and pedestrian safety).
- iii. Incorporates performance measures for security.

11. Asset Management

- i. Incorporates key goals, objectives, and performance measures from asset management plans.
- ii. Key strategies and direction in the MTP are aligned with goals and strategies in asset management plans.

C. Emerging Concepts

1. Livable Communities/Sustainability

- i. Incorporates policies to support livable or sustainable communities (e.g., reflecting State or local policies that are similar to or supportive of the DOT-HUD-EPA Partnership and its principles).
- ii. Meaningfully balances livability and sustainability concepts and goals with traditional transportation goals.
- iii. Considers the economic, housing, environmental, health, and social equity interactions, impacts, and trade-offs of transportation projects at a regional scale; goal of achieving broadly based local concepts of livable communities.

2. Climate Change and Energy

- i. Meaningfully balances climate change (adaptation and mitigation of emissions), and energy concepts with traditional transportation goals.
- ii. Considers the potential of policies, investments, and strategies to reduce greenhouse gas emissions or energy usage.
- iii. Addresses resilient transportation systems to adapt to and respond to the impacts of climate change.

3. *Interregional Planning and Mega-regions*

- i. MTP considers the role of the metropolitan area as part of closely inter-related significant mega-region of major population centers and transportation networks beyond planning boundaries MPO or State (e.g., I-95/Northeast Corridor, New England-Eastern Canadian Provinces, Seattle-Portland-Vancouver, Minneapolis-Milwaukee-Chicago-Detroit, and Los Angeles-San Francisco), as relevant.
- ii. Reflects recognition of importance of planning for future passenger and freight flows (and associated impacts) outside the TMA boundaries.
- iii. Explores opportunities to collaborate with other regional agencies (including MPOs) on interregional planning issues.

4. *Performance Measures*

- i. Considers how MTPs might use performance measures to connect strategic goals, including those in a vision plan, to project screening or selection criteria in programming for the TIP, and in transparent monitoring of results.
- ii. MTP demonstrates aspects of a “performance based” planning process, including consideration of “outcome based” measures.

Appendix B: Discussion Guide

The following questions focus on the research objectives of the “Best Practices in Planning – Metropolitan Transportation Plans” study. A key goal of the discussions is to uncover how innovative MPOs create MTPs with noteworthy elements and strong linkages to the MPO planning process.

1. What role does the MTP play in your transportation planning process? What do you expect it to do?
2. What do you consider to be the strongest or most innovative elements of your plan?
3. What major factors, including regulations, events, and people, shaped your plan?
4. How does the MTP influence the TIP? Please give examples, if possible.
5. How has your plan influenced other parts of the transportation planning process (i.e., public involvement, partnerships, UPWP, etc.)? Please give specific examples, if possible.
6. What impact has the plan had on citizens, government agencies, and other stakeholders?
7. How does the MTP drive other plans and programs, such as a public involvement plan, financial plan, corridor plan, or sectoral plan (i.e. economic development, land use, health, etc.)?
8. Did you face challenges in adding innovative or non-traditional elements or strategies to the MTP? What kind of feedback did you receive for these elements? How did you overcome challenges?
9. Does the MTP use performance measures? If so, are these outcome-based or process-based?
10. How do you measure or track results of the plan? How do you assess its success?