



EXECUTIVE SUMMARY

1.0 INTRODUCTION

The Memphis Urban Area Long Range Transportation Plan (LRTP), “Direction 2040” is a planning document that will guide the expenditure of transportation funds for all modes of transportation over the next 28 years. The LRTP represents the culmination of a multi-level partnership between local, state, and federal policy-makers and the citizens, business owners, and stakeholders who are most impacted by transportation decisions. This document will be used as a tool in the planning process to assist in addressing the region’s needs as the area continues to grow and develop.

The LRTP fulfills the requirements of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which is the current transportation bill, and complies with prior requirements of the Clean Air Act Amendments (CAAA) of 1977 and 1990. The plan identifies key regional transportation decisions that have been made based on community needs and complies with Title VI of the Civil Rights Act of 1964, Executive Order 12898 (Environmental Justice), and Executive Order 13166 (improved access for Limited English Proficiency). The financially constrained plan provides critical information to be considered in the development of the Transportation Improvement Program (TIP) by prioritizing projects. Finally, it fosters multimodal transportation decisions, and as a result, ensures consistency among competing modes.

Plan Vision and Goals

The LRTP is a multimodal transportation plan that considers roads, transit, railroads, waterways, air travel, and bicycle and pedestrian facilities. The specific goals of the LRTP, as defined in Chapter 1 - Introduction were developed based on nine planning themes. The nine planning themes and their associated goals are listed below:

- Safety – Increase the safety and security of the transportation system for all users.
- Congestion – Develop a multi-modal transportation network using strategies to address congestion and air quality improvements.
- Mobility/Accessibility – Improve mobility and accessibility using a broad range of transportation solutions.
- Environment – Minimize adverse impacts of transportation on social, economic, and environmental features of the community.
- Land Use – Provide a transportation system that supports sustainable land use policies of local jurisdictions and fits within the context of the community.
- Economic Vitality – Provide transportation improvements that support the region's economic vitality and unique position as a leader in global logistics.
- Funding – Develop a fiscally constrained plan through a collaborative effort that supports an equitable distribution of funds throughout the region.
- Maintenance – Develop solutions that preserve and enhance existing facilities and corridors while improving system efficiency and operations.
- Collaboration – Encourage and support relationships between regional and local entities through a collaborative planning effort.

There are specific objectives listed for each of these goals in the plan, with their relationship to the eight transportation planning factors identified in SAFETEA-LU.

2.0 PUBLIC INVOLVEMENT PROCESS

Federal regulations identified in SAFETEA-LU require adequate opportunities for citizens and public officials to be involved in the development of a long-range transportation plan. To achieve this, an extensive public involvement effort was undertaken that consisted of activities designed to develop partnerships and enhance the

participation in the transportation planning process. Multiple opportunities were provided to obtain feedback regarding acceptable and effective ways to improve the transportation system that reflect the needs and values of the community. These public participation efforts allowed the public to be directly involved in the regional transportation planning process during the development of the LRTP.

It was also important that the public involvement process reached out to population groups that historically have not been involved or well-represented in the transportation planning process. This includes minorities, transit dependent citizens, low income individuals, persons with disabilities, and persons with Limited English Proficiency (LEP). As part of the development of the LRTP, efforts ensured that the planning process was inclusive and accessible to all members of the community and followed specific strategies that relate to Title VI and Executive Orders 12898 and 13166.

Elements of the 2040 LRTP Public Involvement Process as described in Chapter 2 – Public Involvement Process include:

- The public participation efforts that were undertaken during the development of the Imagine 2040 Midsouth Transportation & Land Use Plan
- The Transportation Plan Advisory Committee (TPAC) that was created to provide input and to foster communication between communities during the development of the LRTP
- Two rounds of public workshops, held at eight different locations across the region
- A Leadership Symposium with elected officials, public agency representatives, advocacy groups, and business leaders
- Stakeholders meetings that included local, regional, and state officials, regional business leaders, community activists, minorities, persons with disabilities, bicycle and pedestrian community groups, industry representatives, freight operators, airport representatives, and transit operators
- Media outreach, social media, website, and public questionnaire

3.0 LAND USE AND SCENARIO PLANNING

The LRTP evaluates the relationship between land use, urban design, and transportation using the principles of urban form through scenario planning in Chapter 3 – Land Use and Scenario Planning. Scenario planning is a process that considers multiple futures for an area based on competing development scenarios. Scenarios contemplated for the area are not forecasts or predictions, but represent an effort to tie land use planning into the needs and desires of the community. They represent possible futures that might occur based on what already exists, on trends that are evident, or on regional goals and community values captured throughout the planning process. The essential requirement for any development scenario is that it be plausible, within the realm of what exists and what could be developed.

Imagine 2040 Midsouth Transportation & Land Use Plan, is a regional visioning and scenario planning process. It was initiated in advance of the 2040 LRTP to provide an opportunity for residents, business leaders and elected officials throughout the MPO Study Area to explore and debate regional growth visions, trade-offs and alternate growth strategies for the region.

The scenario planning process helped the public and stakeholders visualize the interaction of new development, economic vitality, and the surrounding transportation system. Considering the tradeoffs and opportunities between competing development scenarios helped inform the stakeholders, creating a regional dialogue about potential development scenarios which can lead to mutually beneficial outcomes for better linking land use, urban design, and transportation decision-making in the region.

Participating planners throughout the region collaborated on the identification of two alternative growth visions: a Base Growth Scenario, based on existing land use plans, programs, and policies; and a Centers and Corridors Scenario in which new growth was projected to occur along existing key transportation corridors and at established destinations. Both scenarios assumed the same roadway and transit network, which included all existing facilities plus any committed transportation projects. A preferred growth scenario was selected based on Measures of Effectiveness (MOE) that were developed to evaluate the difference between the two scenarios. The Base Growth Scenario was approved as the preferred alternative for use in the development of the LRTP by the Transportation Policy Board (TPB).

4.0 EXISTING CONDITIONS AND NEEDS ASSESSMENT

The Memphis MPO region has become one of the nation's top multimodal transportation hubs due, in part, to its interconnected water, roadway, air, and rail infrastructure. To sustain this role, a strong and effective transportation system is a vital component to the economic success and the general well-being of the region's population. In Chapter 4 – Existing Conditions and Needs Assessment, the following infrastructure elements: roadways, bicycle and pedestrian facilities, transit, airports, and freight, were examined to analyze the current condition of the transportation network and its deficiencies.

Roadway Network

The LRTP includes extensive information on the existing roadway network. The discussion of the existing roadway system and conditions is organized into the following sections:

- Existing Plus Committed Network
- Existing Transportation Improvement Program
- Functional Classification
- Existing Corridor Operations

Existing Roadway Network Deficiencies

One deficiency of the roadway network is traffic congestion. Recurring congestion is often the result of too many vehicles trying to use a route that is already at or over-capacity. The primary issue in defining congestion is to find the level at which the transportation system performance is no longer acceptable due to traffic interference.

Growth in travel for the Memphis MPO region has resulted in peak hour traffic congestion on many area roadways. During morning and afternoon peak periods, sections of commuter travel corridors are frequently congested. In some cases, travel speed is significantly reduced. The most notable congestion occurs on sections of I-240, along I-40 east of I-240, on Poplar Avenue between Perkins Road and I-240, on S.R. 385 between I-240 and Riverdale Road and along Germantown Parkway.

Bicycle and Pedestrian Facilities

The pedestrian and bicycle network in the area has continued to grow as the region begins to improve and add more facilities for the population. The Memphis MPO updated and adopted its Regional Bicycle and Pedestrian Plan in December 2011. The LRTP does not replace the Bicycle and Pedestrian Plan, but is intended to take the plan's recommendations and provide guidance for its implementation through the LRTP process. Since the adoption of the previous Regional Bicycle and Pedestrian Plan in 2005, the region has seen a significant interest and growth in improving existing facilities and providing new pedestrian and bicycle facilities. The following list illustrates the approximate increase in bicycle and pedestrian facilities over the past five years:

- 42 miles of Bike Lanes
- 15 miles of Paved Shoulders marked as bike facilities

- 38 miles of Signed Shared Roadways
- 50 miles of Shared Use Paths

Bicycle and Pedestrian Facility Deficiencies

Deficiencies affecting the quality of the pedestrian and bicycle network are generally related to factors that can influence one's decision to walk or bike when making a transportation choice. These factors include roadway geometry, user safety, traffic volumes, and the presence and condition of pedestrian and bicycle facilities. During the extensive public involvement process the following factors were identified as the greatest perceived deficiencies in the existing bicycle and pedestrian facility:

- Concerns about personal safety (injuries, crashes, etc.)
- Not enough off-street multi-use paths
- Not enough on-street bicycle routes / lanes
- No good bicycle routes to destinations
- Distance / time to walk to destinations
- Poor maintenance of sidewalks or routes

Transit

The bulk of public transportation services in the Memphis MPO region are provided by the Memphis Area Transit Authority (MATA). Services provided by MATA include fixed route bus service, rail trolley, MATA^{plus} paratransit, and event shuttles. These services are supplemented by several private initiatives including taxicab service, Greyhound, Amtrak, a private circulator system near the downtown medical campuses, and human services transportation providers.

MATA provides service in four cities in Shelby County as well as West Memphis, Arkansas. Each weekday, MATA transports nearly 40,000 riders throughout the Memphis MPO region using approximately 250 transit vehicles including buses, paratransit (demand-responsive) vans, and vintage rail trolleys.

Transit Needs and Deficiencies

To address the needs and deficiencies of the existing transit system, it is important to understand existing and potential transit users. Transit riders typically fall into one of two categories — captive or choice. Choice transit riders have other means of travel but can choose to use transit. Captive transit riders use transit because they have no other choice. Captive transit riders make up the majority of MATA ridership. Factors that can indicate the likelihood of captive ridership include lack of access to a personal vehicle, income, disability status, or age. MATA is completing a Short Range Transit Plan (SRTP) that examines the current transit system and helps identify gaps in the service where improvements could be implemented. In the SRTP, MATA examined the following categories in analyzing the gaps in the existing transit system:

- Population Densities
- Employment Densities
- Population Change
- Employment Change
- Age (youth and elderly populations)
- Persons with Disabilities
- Zero-Vehicle Households
- Income
- Minorities
- Limited English Proficiency

In general, the MATA existing service structure is concentrated in communities with the lowest incomes, which tend to be located in downtown Memphis, northern Memphis, Frayser, southwestern Memphis, and the Memphis International Airport area.

Freight and Aviation

The freight and aviation element of the LRTP examines the interaction between existing and future infrastructure needs of air, rail, port, truck, and intermodal facilities and recommends policy and infrastructure needs based on stakeholder coordination. Five different types of freight transportation facilities in the Memphis MPO region were reviewed for the Direction 2040 LRTP. These freight facilities include highways, freight rail facilities, air freight facilities, ports, and intermodal facilities.

Based on an evaluation conducted for the Memphis Regional Freight Infrastructure Plan by the Center for Intermodal Freight Studies at the University of Memphis, the Memphis MPO region currently has 840 miles of interstate and U.S. designated highways, nine regional airports capable of supporting air cargo, five Class I railroads, 99 distinct port terminals, 19 intermodal terminals, 490 truck terminals, 956 warehouses, and 136 industrial parks.

The Memphis MPO region is home to nineteen airports that serve commercial passenger service, freight, military operations, and general aviation needs. In terms of scale and type of operations, there are four airports in the region that are considered significant to the regional transportation network: Memphis International Airport, Millington Regional Jetport, Olive Branch Airport, and West Memphis Municipal Airport, which is outside of the study area boundary. Of these, the Memphis International Airport is the largest in terms of facilities, commercial passenger service, military operations, and freight.

5.0 TRANSPORTATION STRATEGIES

The LRTP identifies transportation improvement strategies in Chapter 5 for a diverse set of travel modes based on public input, key stakeholder involvement, and thorough deficiencies analysis.

Bicycle and Pedestrian

The Memphis MPO has committed itself to creating a comprehensive multi-modal strategy that includes bicycling and walking as integral parts of the transportation infrastructure. The MPO's vision seeks to take advantage of the benefits that bicycling and walking can offer to the region. Based on the updated Regional Bicycle and Pedestrian Plan, recommendations and strategies for each of the local municipalities within the MPO study area were based on the "5-Es," as described below:

1. **Engineering** – This refers to the appropriate design and planning of the network of pathways and bicycle facilities. A well-planned bicycle and pedestrian system can enhance user safety and enjoyment and may increase the attraction of each mode.
2. **Education** - Once the pathways are in place, new and experienced cyclists and pedestrians must be made aware of their locations and the destinations that can be reached by using them. Bicyclists, pedestrians, and motorists must be educated on the "rules of the road" to ensure everyone's safety while operating on and adjacent to the bicycle and pedestrian facilities. Additionally, designers must be educated on how to properly design and implement facilities.
3. **Encouragement** - People need to be encouraged to bicycle and walk. This encouragement should become easier as the network of pathways makes the region more bicycle- and pedestrian-friendly. Encouragement becomes more critical as these facilities are constructed to justify their investment.

4. Enforcement - To ensure the safety of all users and the long-term sustainability of the bicycle and pedestrian system, the formal and informal “rules of the road” must be heeded by all. Tennessee and Mississippi afford bicycles the same legal status as motor vehicles. As such, bicyclists have all the rights on the roadway as a motorist while being subject to the same rules, regulations, and responsibilities.
5. Evaluation/Planning - Periodic monitoring and evaluation of usefulness and actual conditions is warranted. Questions for users of the pedestrian and bicycle facilities are typically focused on measuring the amount of walking and cycling taking place in the community, the crash rate and fatality rate when pedestrians and cyclists are involved in traffic incidents, and the ways that the community works to improve these numbers.

The Regional Bicycle and Pedestrian Plan provides recommendations and guidelines for jurisdictions in the Memphis MPO Region to enhance and increase non-motorized travel. The implementation of the plan’s recommendations is the responsibility of the sponsoring agencies, and should be coordinated in conjunction with other maintenance and operational improvements, as part of new roadway improvement projects, or as new standalone projects as determined by the local municipalities.”

Transit

The LRTP identifies potential high capacity transit corridors and provides a description of potential transit modes that could be implemented along the various corridors. Both radial and non-radial transit corridors were evaluated as described below:

Radial Corridors

- Southeast Corridors
 - Poplar Corridor
 - Lamar (Downtown-Airport) Corridor
- South Corridors
 - Western Alignment
 - Eastern Alignment
- North Corridor
- Northeast Corridor

Non-Radial Corridors

- I-240 Circumferential Corridor
- I-40 Circumferential Corridor
- DeSoto – Goodman Road Corridor

For the radial and non-radial corridors, various transit travel modes were evaluated. Potential high capacity transit solutions were identified based on information from previous studies, data analysis conducted as part of the plan development, and the following transit concepts:

- Corridor endpoints
- Likely range of modes
- Supporting facilities
- Park and Ride lots
- Likely order of magnitude capital and operating costs
- Potential markets and ridership
- Compatibility with other LRTP improvements or goals

Roadway Network

The identification of projects for the LRTP was a multiple step process. Roadway improvement projects were identified through the Memphis MPO's Congestion Management Process (CMP), the involvement of key stakeholders, input from the public involvement process, and the results of the Existing Conditions and Needs Assessment. Projects were then evaluated and ranked using a set of criteria based on the Vision, Goals and Objectives of the Plan.

The CMP Plan outlines several strategies to address the 2040 future year congested network projected by the Memphis MPO's Regional Travel Demand Model. The short and long term strategies identified in the CMP Plan were consolidated as many of the strategies overlap. The following is a list of consolidated CMP strategies evaluated as part of the LRTP:

1. Ridesharing - Carpooling, vanpooling, alternative work hours, guaranteed ride home, telecommuting, paratransit services, park and ride facilities
2. Intersection and Signalization Improvements - Intersection improvements, channelization, traffic surveillance and control systems, traffic control centers, computerized signal systems
3. Dedicated Laneage - HOV Lanes, HOV and bus bypass lanes, bus bypass ramps
4. Bicycle and Pedestrian Facilities – Facilities to accommodate bicyclists and pedestrians
5. Transit Improvements - Transit service enhancement or expansion, transit traffic signal preemption, transit information services, exclusive transit right of way, and mode change facilities
6. Intelligent Transportation Systems - Intelligent transportation systems (ITS) and advanced public transportation system technology, incident management, and motorist information systems
7. Growth Management - Growth management and activity center strategies, access management techniques
8. General Purpose Lanes – Adding capacity by providing additional unrestricted laneage on existing roadways or by providing routes on new location

Each of the corridors on the congested network was reviewed to determine the strategies most appropriate to resolve congestion. Some of the strategies are more regional, while others are corridor specific. The selection of these strategies also considered the future congestion network to insure that the strategies selected will address both the existing and future congestion networks.

A qualitative screening process was used to assess the need and potential impacts of projects included in the LRTP. A project evaluation matrix was developed to assess the projects. This matrix was used to compare the major critical project elements. The matrix evaluation criteria are grouped into six categories:

- Congestion Relief, Access, and Mobility
- Economic Opportunities/Goods Movement
- Safety and Security
- Public/Community Support
- Environmental Impacts
- Funding Considerations

This screening process was used in conjunction with projects and issues identified through stakeholder interviews, the public participation process, and the Congestion Management process. Based on subsequent comments from the local municipalities and state agencies, a complete list of transportation improvements were developed, as detailed in Chapter 8 - Implementation Plan.

Complete Streets

Complete streets is a term used nationally to describe the transformation of vehicle-dominated thoroughfares in urban and suburban areas into community-oriented streets that safely and conveniently accommodate all modes of travel, not just motorists. Complete street concepts include considerations for better accommodation of all roadway users, including the following elements:

- Safer and more convenient walkways, sidewalks, and crosswalks
- Safer and more convenient bikeways
- Access management to improve public safety and reduce congestion
- Transit implementation and incorporation

Recommended typical cross-sections were developed for different functional classifications of roadways. The focus of the recommended typical cross-sections discussed here are on Principal and Minor Arterials for both urban and rural settings. The Tennessee Department of Transportation (TDOT) and the Mississippi Department of Transportation (MDOT) provide standard cross-sections for interstate facilities. For collectors and local roads, local jurisdictional ordinances, such as the Memphis & Shelby County Unified Development Code, should be referenced for details regarding local and collector streets.

The implementation of complete streets requires a tremendous effort by stakeholders and community members. Several factors that contribute to the successful implementation of a complete street transformation include:

- An interconnected network of major and minor streets with some redundancy in traffic capacity on parallel major streets
- A demonstrated and well-defined problem that can be addressed with a complete street transformation
- A non-profit group to create an agenda for change
- An understanding of the relationship between land use and transportation

Freight and Aviation

Transportation strategies and recommendations for freight and aviation included highway, railroad, port, airport, and intermodal facilities. High priority corridors that were identified include:

- Lamar Corridor Improvements
- Holmes Road (East-West connection that provides access to the freight facilities at the Port and Airport) Corridor Improvements
- Interstate 40/Interstate 55 Interchange Modifications
- Southern Gateway (Mississippi River Bridge Project)
- Construction/Completion of I 69/I 269

6.0 ENVIRONMENTAL AND SOCIAL SCREENING

As the recipient of federal transportation funds, the Memphis MPO is required to ensure non-discrimination in all aspects of the transportation planning process. Title VI of the Civil Rights Act of 1964 states that “no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal

assistance” (42 U.S.C. 2000d-1). Additionally, in 1994, President Clinton issued Executive Order 12898 which states that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

Executive Order 13166 requires “improved access to services for persons with Limited English Proficiency (LEP).” Once the percentage of an LEP population (such as the Hispanic/Latino population) becomes 5%, federal departments and agencies are required to extend financial assistance to develop programs and provide oral and written services in languages other than English. It was determined that the projects included in the LRTP do not have a disproportionate negative impact on minority, low-income, or LEP populations. A summary of the methodology, analysis, and findings is included in Chapter 6 – Environmental and Social Screening, with details provided in Appendix D.

Projects identified in the LRTP were screened to determine the impacts to the natural, environmental and cultural resources of the region. Locations of these natural resources were determined using the National Heritage Program, the National Register of Historic Places, information available from the Federal Emergency Management Agency (FEMA), and the Environmental Protection Agency (EPA). Guiding principles for minimizing impacts to these natural resources in considering new roadway alignments and extensions are provided by a set of best practices in the LRTP.

The environmental effects of transportation projects on environmental and cultural resources were examined at the regional level for the LRTP. As each project advances through the process, a more thorough investigation of possible adverse impacts will be conducted by the local jurisdictions, state, and federal agencies.

SAFETEA-LU requires that types of mitigation be discussed within a long range transportation plan along with potential sites to carry out the activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. Environmental mitigation activities are strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long range statewide or regional transportation plan.

As part of this requirement, TDOT and MDOT established a consultation process with state and federal agencies responsible for environmental protection, land use management, and natural resource and historic preservation. Through this consultation process, the Memphis MPO was able to coordinate and compare available plans and maps with planned transportation improvements.

7.0 SAFETY AND SECURITY

The safety element of the LRTP identifies the requirements of SAFETEA-LU to address safety; evaluates existing safety programs for roadway, transit, freight, and non-motorized users through cost-effective applications and identifies best management practices, and local access and land use policies. Existing local, state, and federal programs, such as the Tennessee Strategic Highway Safety Plan, the Mississippi Strategic Highway Safety Plan, Federal Highway Administration (FHWA) Highway Safety Improvement Program, and MATA’s System Safety Program Plan (SSPP), are described in Chapter 7 – Safety and Security.

The security element of the LRTP reviews the region’s transportation system and its use in emergency situations that may involve the threat of intentional damage or destruction caused by vandalism, criminal activity, terrorist events, or natural disasters. Therefore, security goes beyond safety and includes the planning to prevent, manage, or respond to threats toward the region and its transportation system and users. There are many programs to help manage security concerns and emergency issues. A number of initiatives at the federal, state, and local level are

planned and have been implemented. The plan describes current transportation system security programs such as:

- National Highway System (NHS)
- Intelligent Transportation Systems (ITS)
- Emergency Management Agencies (EMA)
- MATA's System Security and Emergency Preparedness Plan (SSEP)
- Amtrak Passenger Rail Service
- Airport, Freight, and Intermodal Security
- Programs of the National Security and the Defense Department
 - Strategic Highway Network (STRAHNET)
 - Railroads for National Defense (RND) Program
 - Ports for National Defense (PND) Program

8.0 IMPLEMENTATION PLAN

The purpose of the financial and implementation plan, as described in Chapter 8, is to provide a framework of action upon which the programs, projects, and desires presented throughout this document can become reality. SAFETEA-LU requires the LRTP to be fiscally constrained. The financial plan shows how the proposed improvements can be implemented using funding sources that can reasonably be expected to be available over the life of the plan. Implementation is based on the goals and objectives of the plan and the actions required to implement multimodal solutions designed to improve the safety and mobility of the Memphis MPO region.

The 2040 LRTP is financially constrained. The mix of transportation recommendations to meet the needs of the metropolitan area until 2040 is consistent with the revenue forecasts for the same time period. The financial plan details both the proposed investments for these recommendations and the revenue forecasts over the life of the plan.

The proposed recommendations were developed in collaboration with all MPO member agencies. These projects include, transit, bicycle, pedestrian, and roadway facilities and services for the life of this plan and reflect existing and committed projects, the Transportation Improvement Program (TIP), and the future plans of the Memphis MPO, TDOT, MDOT, local jurisdictions, and MATA. These recommendations also reflect travel demand benefits and socioeconomic impacts studied using the congestion management and project evaluation processes. Finally, these projects result from an extensive public participation process that incorporated public workshops, small focus group meetings, and the efforts of a Transportation Plan Advisory Committee.

Fierce competition for limited funds forces local decision-makers to work with citizens, business owners, and other stakeholders to identify alternate funding resources and innovative implementation techniques. To implement the long range plan, the Memphis MPO must continue to work proactively with diverse stakeholders, including:

- Citizens and business owners
- Shelby and Fayette Counties, TN; and DeSoto County, MS
- Local municipalities, including Memphis, Germantown, Collierville, Arlington, Lakeland, Bartlett, Millington, Hernando, Horn Lake, Olive Branch, Southaven, Walls, Braden, Gallaway, and Piperton
- Memphis Area Transit Authority

- Memphis and Shelby County Airport Authority
- Private real estate developers
- Tennessee and Mississippi Departments of Transportation
- Federal transportation agencies
- Various freight providers, including Memphis Port Commission, trucking companies, FedEx, and the railroads.

9.0 TRAVEL DEMAND MODEL

The Travel Demand Model (TDM) is an important tool used in the development of the LRTP. The Memphis Model was completed in 2007 and was updated for the development of the 2040 LRTP. The TDM was developed with TransCAD as the base platform software, which is a Geographic Information Systems (GIS) based software that allows efficient storing, managing and displaying of regional transportation data. The completed model has also been reviewed and approved by the appropriate State Departments of Transportation, Federal Highway Administration (FHWA) and Federal Transit Authority (FTA). The Memphis Model has a base year of 2004 and a horizon year of 2040 with various interim years. To assist the development of the 2040 LRTP using the current travel demand model, the land use projections and future year forecast capabilities were updated to evaluate the future travel demand and transportation network deficiencies for year 2020, 2030, and 2040.

10.0 AIR QUALITY CONFORMITY

The 1990 Clean Air Act Amendments (CAAAAs) and the Tennessee Transportation Conformity Rules require demonstration that transportation plans, programs, and projects conform to the Tennessee State Implementation Plan (SIP). Conformity to a SIP means that planned transportation activities will not produce new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS).

The air quality conformity process helps maintain consistency between project design and emission analyses. The approach used for this conformity follows the same process as the most recent air quality conformity determination conducted in June 2011, and has been developed in concert with 40 CFR Part 93 (i.e., Transportation Conformity Rule) and subsequent amendments. Consideration was also given to issued and proposed federal guidance in response to negotiated settlements between federal agencies and interested environmental groups.

To reflect the most recent emissions budgets and planning years, a few assumptions were modified for this conformity process. First, the conformity analysis years were modified to include 2010, 2017, 2021, 2030, and 2040. 2021 is the new budget year for VOC and NO_x, and 2040 is the horizon year for the Memphis Urban Area 2040 Long Range Transportation Plan. New information about the implementation years of the inspection and maintenance programs for the City of Memphis were also incorporated. All of the planning assumptions used in this analysis were agreed upon through the interagency consultation process (see Appendix F).

As described in Chapter 10 – Air Quality Conformity, the analysis indicates that projected emissions levels based on the projects contained in the Memphis Urban Area 2040 Long-Range Transportation Plan (LRTP) and FY 2011-2014 Transportation Improvement Program meet the conformity tests. It is the determination of this analysis that the FY 2011-2014 Transportation Improvement Program (TIP) and the LRTP conform under 8-hour ozone National Ambient Air Quality Standards and the CO National Ambient Air Quality Standards.