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1.0 EXECUTIVE SUMMARY

On September 6, 2019, the Federal Highway Administration (FHWA) Tennessee Division and the Federal Transit Administration (FTA) Region IV issued the certification review report of the transportation planning process for the Memphis Urban Area Metropolitan Planning Organization (MPO) which serves the Tennessee and Mississippi portions of the Memphis, TN-MS-AR urbanized area (TMA). The West Memphis MPO serves the Arkansas portion of the Memphis, TN-MS-AR TMA. Individual TMA certification reports were completed for the two MPOs. Both reviews occurred on similar timelines with a focus on collaboration and coordination in the tri-state TMA. Staff of both MPOs were present at the two individual site visits.

In the Memphis MPO portion of the urbanized area, the Tennessee Department of Transportation (TDOT) and Mississippi Department of Transportation (MDOT) are the responsible State agencies and Memphis Area Transit Authority (MATA) is the responsible public transportation operator. Current membership of the Memphis Urban Area MPO consists of elected officials, officials of public agencies, public transportation representation, and state officials from the political jurisdictions in the Tennessee and Mississippi portions of the Memphis urbanized area.

1.1 Previous Findings and Disposition

The previous certification review for the Memphis Urban Area MPO was conducted in October 2015. This certification identified 18 commendations and 19 recommendations. The 2015 Certification Review findings and their disposition are provided in Appendix C.

1.2 Recent Activities

The MPO undertook several significant activities and meaningful accomplishments since the last Federal Certification Review in October 2015. Since that time, the MPO has received the following awards and accolades:
<table>
<thead>
<tr>
<th>Year</th>
<th>Award/Recognition</th>
<th>Awarding/Recognizing Entity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>National Award for Excellence in MPO Coordination and Partnership</td>
<td>Association of Metropolitan Planning Organizations (AMPO)</td>
<td>AMPO awarded the Memphis MPO the National Award for Excellence in MPO Coordination and Partnership for strong collaborative projects and practices, such as the Coordinated Public Transit-Human Services Transportation Plan, Regional Freight Plan and Congestion Mitigation and Air Quality Improvement Program (CMAQ) tri-state Performance Targets.</td>
</tr>
<tr>
<td>2017</td>
<td>Transportation Planning Excellence Awards (TPEA)</td>
<td>FHWA</td>
<td>The Coordinated Public Transit-Human Services Transportation Plan established a process to address the transportation needs of disadvantaged populations covering the tri-state area. This extensive and cooperative effort was named as one of the ten winners of the 2017 TPEA.</td>
</tr>
<tr>
<td>2017</td>
<td>Transportation Planning Capacity Building (TPCB) Case Study</td>
<td>FHWA and FTA</td>
<td>The MPO's public involvement efforts for the Livability 2040: RTP were recognized as a Case Study by FHWA's &amp; FTA's TPCB Program. Strategies highlighted include the Livability YouTube Video Series and Public Transit Advertisements, as unique ways of reaching a larger and broader range of residents.</td>
</tr>
</tbody>
</table>
Partners from across the Nation have requested the Memphis MPO to share their experiences in delivering the metropolitan transportation process. Below is a selection of events and reports where the MPO has contributed to the state of the planning practice:

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Topic(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>FHWA Peer Exchange</td>
<td>Safety</td>
</tr>
<tr>
<td>2018</td>
<td>Tennessee Chapter of the American Planning Association Conference</td>
<td>Automated Vehicles</td>
</tr>
<tr>
<td>2017</td>
<td>Arkansas Transportation Planning Conference</td>
<td>Bus Stop Design &amp; Accessibility Guidelines</td>
</tr>
<tr>
<td>2017</td>
<td>American Traffic Safety Services Association</td>
<td>Bicycle Safety</td>
</tr>
<tr>
<td>2017</td>
<td>AMPO National Conference</td>
<td>Active Transportation, Regional Freight Plan, Public Involvement</td>
</tr>
<tr>
<td>2016</td>
<td>FHWA Mid-South Megaregions Conference</td>
<td>Regional Freight Plan</td>
</tr>
<tr>
<td>2015</td>
<td>EDC3 Regional Models of Cooperation Webinar</td>
<td>Air Quality Planning</td>
</tr>
</tbody>
</table>

In addition to these awards and events, the MPO achieved a variety of accomplishments since October 2015, including, but not limited to:

- Adopted the following Plans:
  - 2040 Livability Regional Transportation Plan
  - FY2017-2020 Transportation Improvement Program
  - Tri-State Greater Memphis Regional Freight Plan
  - Tri-State Coordinated Public Transit Human Services Plan
  - Title VI Report & Limited English Proficiency Plan
  - CMAQ Performance Plan with Tri-State CMAQ targets
- Established a robust online presence with narrated videos, active social media accounts, interactive maps, etc.
- Developed State of the MPO Reports to document regional trends, outreach activities, significant milestones, and future projects in the next calendar year.
1.3 Summary of Current Findings

The current review found that the metropolitan transportation planning process conducted in the Tennessee and Mississippi portion of the Memphis urbanized area meets Federal planning requirements.

As a result of this review, FHWA and FTA are certifying the transportation planning process conducted by Tennessee Department of Transportation (TDOT), Mississippi Department of Transportation (MDOT), Memphis Urban Area Metropolitan Planning Organization (MPO) and Memphis Area Transit Authority (MATA). There are several commendations throughout this report to acknowledge successful practices, as well as, recommendations that should be strongly considered and that support continued enhancement of the planning process in this region.

Summary of Commendations

- **Agreements, Consultation, and Coordination**: The MPO consistently executes a high level of coordination in carrying out the metropolitan transportation planning process. As a bi-state MPO serving a tri-state TMA, the Memphis MPO proactively coordinates with multiple State Departments of Transportation (DOTs), additional State agencies, the West Memphis MPO, the Memphis Area Transit Authority, regional and local agencies, and the public. Through this coordination, the MPO has led regional tri-state planning efforts that exceed the minimum requirement of planning for the bi-state metropolitan planning area.

- **Transportation Improvement Program**: The MPO actively supports project delivery and timely obligation of sub-allocated STBG funds by maintaining and sharing project status information handouts, strategically programming funds based on project status/obligations data, and participating in Tennessee and Mississippi project tracking meetings. The Memphis MPO area has seen a reduction in the amount of unobligated sub-allocated STBG funds from the use of these monitoring and reprogramming tools and open communication with members about project status.

- **Public Participation**: The MPO utilizes a data-driven approach to public engagement by documenting engagement metrics (i.e., web analytics, social media presence, and media appearances) in the annual State of the MPO Report which informs future public involvement strategies. The MPO is commended for leveraging in-house expertise to translate Plan summaries into Spanish and utilizing innovative outreach methods such as bus advertisements, visualization-focused fact sheets, and videos.
• **Safety:** In 2015, FHWA identified Memphis as a Pedestrian-Bicycle Focus City due to high nonmotorized fatalities. The MPO is commended for developing a Regional Bicycle and Pedestrian Plan and subsequent Bicycle and Pedestrian Reports which informed their prioritization of bike and pedestrian investments in the TIP and RTP. This report documents and supports an increase the number of bicycle and pedestrian projects funded in their area.

• **Performance Based Planning and Programming:** The MPO is commended for their technology-driven approach and coordination strategy in establishing tri-State CMAQ performance measures and development of the CMAQ Performance Plan.

Summary of Recommendations

• **Metropolitan Transportation Plan:** The MPO should consider advancing and integrating PEL linkages principles in future RTP updates and corridor/feasibility studies. Specifically, study documenting and analyzing the proposed project’s purpose and need, range of reasonable alternatives, effects analysis, and applicable mitigation strategies.

• **Metropolitan Transportation Plan:** The MPO should consider participating in the micro-simulation transportation demand model pilot to allow for the regional model to be used at the corridor scale. This approach would maximize utility of the regional model for project analyses and reduce the risk for inconsistencies in model projections at the project level. This effort also would support PEL initiatives.

• **Congestion Management Process:** In the next CMP update, the MPO should closely follow FHWA’s Congestion Management Process Guidebook and engage FHWA, TDOT and MDOT staff to identify opportunity areas which support enhanced application of the CMP.

• **Performance Based Planning and Programming:** The MPO should continue coordinating with MATA, TDOT, and MDOT to verify that the TIP and MTP includes the anticipated effects towards achieving the PM1, PM2, PM3, and Transit Asset Management targets set by the MPO. Additionally, the MTP must continue to include the system performance report which evaluates the performance and condition of the transportation system with respect to the performance measures and targets.

Details of the certification findings for each of the above items are contained in this report.
2.0 INTRODUCTION

2.1 Background/Preface

Pursuant to 23 U.S.C. 134(k) and 49 U.S.C. 5303(k), the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) must jointly certify the metropolitan transportation planning process in Transportation Management Areas (TMAs) at least every four years. A TMA is an urbanized area, as defined by the U.S. Census Bureau, with a population of over 200,000.

The review consists of three primary activities: a site visit, a review of planning products (in advance of and during the site visit), and preparation of a Certification Review Report that summarizes the review and offers findings. The reviews focus on compliance with Federal law and regulations, challenges, successes, and experiences of the cooperative relationship between the MPO(s), the State DOT(s), and public transportation operator(s) in the conduct of the metropolitan transportation planning process.

The Certification Review process is only one of several methods used to assess the quality of a regional metropolitan transportation planning process, compliance with applicable statutes and regulations, and the level and type of technical assistance needed to enhance the effectiveness of the planning process. Other stewardship and oversight activities provide FHWA and FTA to participate in the planning process, including Unified Planning Work Program (UPWP) approval, reviews of the Metropolitan Transportation Plan (MTP), metropolitan and statewide Transportation Improvement Program (TIP) findings, air-quality (AQ) conformity determinations (in nonattainment and maintenance areas), and a range of other formal and less formal interactions. The results of these other processes are considered in the Certification Review process.

While the Certification Review report itself may not fully document those many intermediate and ongoing checkpoints, the findings of the Certification Review are, in fact, based upon the cumulative findings of the entire review effort.

The review process is individually tailored to focus on topics of significance in each metropolitan planning area. Federal reviewers prepare Certification Reports to document the results of the review process. The reports and final actions are the joint responsibility of the appropriate FHWA and FTA field offices, and their content will vary to reflect the planning process reviewed, whether or not they relate explicitly to formal “findings” of the review.
2.2 Purpose and Objective

Since the enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the FHWA and FTA are required to jointly review and evaluate the transportation planning process in all urbanized areas over 200,000 in population to determine if the process meets the Federal planning requirements in 23 U.S.C. 134, 49 U.S.C. 5303, and 23 CFR 450. In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), extended the minimum allowable frequency of certification reviews to at least every four years.

Certification of the planning process is a prerequisite to the approval of Federal funding for transportation projects in such areas. The certification review is also an opportunity to provide assistance on new programs and to enhance the ability of the metropolitan transportation planning process to provide decision makers with the knowledge they need to make well-informed capital and operating investment decisions.

3.0 SCOPE AND METHODOLOGY

3.1 Review Process

The TMA Federal Certification Review was led by a Federal Review Team made up of members from FHWA Office of Planning, FHWA Tennessee Division, FHWA Mississippi Division, FHWA Arkansas Division, FTA Region IV, and EPA Region IV. The team included the following members:

- FHWA Office of Planning
  - Tameka Macon, Transportation Planner, Oversight & Stewardship Team
- FHWA Tennessee Division
  - Theresa Claxton, Program Development Team Leader
  - Melissa Furlong, Operations Program Specialist
  - Joi Hamilton Jones, Civil Rights Program Specialist
  - Pamela Heimsness, Safety & Traffic Operations Team Leader
  - Jessica Rich, Safety Engineer
  - Sean Santalla, Transportation Planning Specialist
  - Elizabeth Watkins, Transportation Planning Specialist
- FHWA Mississippi Division
  - Shundreka Givan, Project Development Team Leader
  - Carr Brown, Civil Rights Specialist
- FHWA Arkansas Division
  - Amy Heflin, Program Delivery Team Leader
The TMA Certification Review is performed as a three-step process over a series of months and includes a desk review, site visit, and the certification report.

**Desk Review:** In the desk review, the Federal Review Team examines the planning process to assess compliance with 23 CFR 450, using information gleaned from the Metropolitan Planning Organization’s (MPO’s) processes and major planning products; an assessment of recent activities relevant to the TMA planning process; consideration of the findings of prior certification reviews and other oversight activities; and other observations of the TMA planning process. The desk review is invaluable to informing aspects of the review such as review focus areas, subjects to discuss at the site visit, and the findings of the review.

**Site Visit:** The site visit portion of the Federal Certification Review allows the Federal Review Team the opportunity to visit with agencies engaged in the TMA planning process, including the MPO, the State DOTs, and public transportation provider. A full list of participants is included in Appendix A. During this site visit, the Federal Review Team engages with these planning entities to discuss the planning process, with a focus on priority review topics coming out of the desk review. In addition, the site visit also includes a public engagement component, to solicit feedback from the public on the planning process. The discussion and input received at the site visit and public meeting is a primary source of information to support the Certification Review observations and findings.

The site visit for the Memphis TMA Federal Certification Review was held on March 26-27, 2019, and included representatives from the Federal Review Team, Memphis Urban Area MPO, West Memphis MPO, TDOT, MDOT, and the Memphis Area Transit Authority (MATA). A list of site visit participants can be found in Appendix A and an agenda for the site visit a can be found in Appendix B.

On March 25, 2019, the Federal Review Team held a public meeting in coordination with the MPO to invite public comment feedback on the TMA planning process. In addition, the Federal Review Team solicited feedback from the MPO’s Technical Coordinating Committee via email on March 13, 2019 and the Transportation Policy Board meeting on February 21, 2019. A summary of comments received through this engagement and the response to those comments appears in Appendix D.
Certification Report: The Certification Report documents and summarizes the review performed by the Federal Review Team as well as the observations and findings related to the TMA planning process stemming from the Federal Certification Review. Review findings are categorized as corrective actions, recommendations, and commendations:

- **Commendations** highlight noteworthy practices that demonstrate innovative, highly effective, or well-thought-out procedures for implementing the planning requirements.

- **Recommendations** concern the state of practice or technical improvements that would enhance existing processes and procedures. FHWA and FTA expect planning agencies to give due consideration to the implementation of recommended actions.

- **Corrective Actions** denote items that do not meet the requirements of the applicable Federal rules and regulations. FHWA and FTA expect planning agencies to address corrective actions in accordance with prescribed timelines to achieve specific outcomes.

The Federal Review Team identified 5 commendations and 4 recommendations related to the planning process for the Memphis MPO. These findings are detailed in the Summary of Findings section of this report.

### 3.2 Subject Areas and Documents Reviewed

The certification review covers the transportation planning process conducted cooperatively by the MPO, States, and public transportation operator. Background information, status, key findings, and recommendations are summarized in the body of the report for the following subject areas and associated documents were selected by FHWA and FTA staff for the review:

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Document(s) Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPO Structure and Agreements</td>
<td>• 10 agreements that the MPO is an executor (see Agreements, Consultation, and Coordination section for full list)</td>
</tr>
<tr>
<td></td>
<td>• MPO Bylaws</td>
</tr>
<tr>
<td></td>
<td>• MPO 101 Presentation</td>
</tr>
<tr>
<td>Unified Planning Work Program</td>
<td>• FY2016-2017 UPWP</td>
</tr>
<tr>
<td></td>
<td>• FY2018-2019 UPWP</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Metropolitan Transportation Plan</td>
<td>• Livability 2040 RTP and Appendices</td>
</tr>
<tr>
<td></td>
<td>• Draft Livability 2050 RTP and Appendices</td>
</tr>
<tr>
<td>Transit Planning</td>
<td>Coordinated Public Transit – Human Services Transportation Plan</td>
</tr>
<tr>
<td>Transportation Improvement Program</td>
<td>FY2017-2020 TIP and Self-Certification</td>
</tr>
<tr>
<td>Public Participation</td>
<td>• 2014 Public Participation Plan</td>
</tr>
<tr>
<td></td>
<td>• 2015 Annual Outreach Report</td>
</tr>
<tr>
<td></td>
<td>• 2016 Annual Outreach Report</td>
</tr>
<tr>
<td></td>
<td>• 2017 State of the MPO</td>
</tr>
<tr>
<td></td>
<td>• 2018 State of the MPO</td>
</tr>
<tr>
<td>Civil Rights (Title VI, EJ, LEP, ADA)</td>
<td>2018 Title VI Compliance Assessment</td>
</tr>
<tr>
<td>List of Obligated Projects</td>
<td>• FY2015 List of Obligated Projects</td>
</tr>
<tr>
<td></td>
<td>• FY2016 List of Obligated Projects</td>
</tr>
<tr>
<td></td>
<td>• FY2017 List of Obligated Projects</td>
</tr>
<tr>
<td></td>
<td>• FY2018 List of Obligated Projects</td>
</tr>
<tr>
<td>Freight Planning</td>
<td>2018 Greater Memphis Regional Freight Plan</td>
</tr>
<tr>
<td>Nonmotorized Planning/Livability</td>
<td>• 2014 Bicycle and Pedestrian Plan</td>
</tr>
<tr>
<td></td>
<td>• 2017 Bicycle and Pedestrian Report</td>
</tr>
<tr>
<td>Air Quality</td>
<td>2018 and 2019 Conformity Determination Reports</td>
</tr>
<tr>
<td>Congestion Management Process / Management</td>
<td>• 2015 Congestion Management Process</td>
</tr>
<tr>
<td>and Operations</td>
<td>• 2016 CMP Biennial Report</td>
</tr>
<tr>
<td></td>
<td>• 2018 CMP Biennial Report</td>
</tr>
</tbody>
</table>
| Performance Based Planning and Programming (PBPP) | • Agreements on Transportation Performance Management  
| | • TIP Performance Management Addendum  
| | • RTP Performance Management Addendum  
| | • CMAQ Performance Plan |
4.0 PROGRAM REVIEW

4.1 Metropolitan Planning Area Boundaries

4.1.1 Regulatory Basis

23 CFR 450.312 Metropolitan Planning Area boundaries

4.1.2 Current Status

Memphis Urban Area MPO evaluates the metropolitan planning area boundary after each decennial Census and upon requests from local municipalities. The current metropolitan planning area covers Shelby County, TN, Desoto County, MS, the western portion of Fayette County, TN, and the northwest corner of Marshall County, MS which was approved by the Governors of Tennessee and Mississippi in January 2014. MPO staff expect to evaluate adjustments to the metropolitan planning area following the 2020 Census. Local jurisdictions, TDOT, and MDOT will continue to be key partners in the urban boundaries smoothing process. In preparation for the 2020 Census, MPO staff are participating in webinars and the Participant Statistical Areas Program to stay abreast of new guidance.

The MPO considers metropolitan planning area boundary adjustments in accordance with the criteria in 23 CFR 450.312, projected population densities over a 25-year horizon, and the interconnectedness of proposed expansion areas with the existing urbanized area in terms of transportation and commuting patterns. The MPO Staff also considers development patterns, economic development initiatives, and input from local partners. This evaluation and analysis is summarized in a boundary expansion options report, which is presented for consideration to jurisdictions potentially impacted by expansion and at the public meetings for the Engineering and Technical Committee (ETC) and Transportation Policy Board (TPB).

The Memphis Urban Area MPO and the West Memphis MPO both facilitate the metropolitan transportation planning process in the Memphis, TN-MS-AR urbanized area (UZA). The Memphis Urban Area MPO serves the Tennessee and Mississippi portions of the UZA, and West Memphis MPO serves the Arkansas portion.

4.1.3 Findings

None.
4.2 MPO Organizational Structure

4.2.1 Regulatory Basis

23 CFR 450.306 Scope of the metropolitan transportation planning process

23 CFR 450.310 Metropolitan planning organization designation and re-designation

4.2.2 Current Status

The Memphis Urban Area MPO consists of a Transportation Policy Board (TPB), Engineering and Technical Committee (ETC), various other committees, and staff. Originally designated in 1977, the MPO coordinates a continuing, cooperative, and comprehensive transportation planning process with the Memphis Area Transit Authority, State DOT partners, and the West Memphis MPO. MPO staff are housed administratively in the Shelby County and the City of Memphis’ joint Division of Planning and Development.

MPO developed MPO 101 training to onboard new TPB and ETC members. The training covers the purpose and function of the MPO as well as important regional transportation topics. When a jurisdiction has a new elected official, MPO staff will partner with the jurisdiction’s ETC representative to train the new member(s) by explaining MPO background and purpose, roles and responsibilities, federal funding, planning products, etc. The presentation is interactive with quizzes and FAQs, as well as provides an appropriate level of detail to empower a new member to actively participate.

Transportation Policy Board (TPB)

The TPB sets policy and has decision-making responsibilities for the MPO’s major transportation planning and programming matters, in accordance with Federal requirements. The TPB consists of principal elected officials from each local government within the approved metropolitan planning area, along with the chairpersons of the major providers of local and regional transportation services. Each voting member has one vote per seat and the board meets on a quarterly basis. These members represent:

- Governor - State of Tennessee
- Governor - State of Mississippi
- Commissioner - Tennessee Department of Transportation
- Executive Director - Mississippi Department of Transportation
- President – DeSoto County, MS Board of Supervisors
- Mayor – Fayette County, TN
- President – Marshall County, MS Board of Supervisors
- Mayor - Shelby County, TN
- Mayor – City of Hernando, MS
- Mayor – City of Horn Lake, MS
- Mayor - City of Memphis, TN
- Mayor – City of Germantown, TN
- Mayor – City of Lakeland, TN
- Mayor – City of Bartlett, TN
- Mayor – City of Millington, TN
- Mayor – City of Gallaway, TN
- Mayor – City of Piperton, TN
- Mayor – City of Olive Branch, MS
- Mayor – City of Southaven, MS
- Mayor – Town of Arlington, TN
- Mayor – Town of Braden, TN
- Mayor – Town of Byhalia, MS
- Mayor – Town of Collierville, TN
- Mayor – Town of Oakland, TN
- Mayor – Town of Rossville, TN
- Mayor – Town of Walls, MS
- Chairperson – Memphis Area Transit Authority
- Chairperson – Memphis and Shelby County Port Commission
- Chairperson - Memphis and Shelby County Airport Authority

Ex-Officio (non-voting) members of the TPB include:

- Division Administrator - Federal Highway Administration Tennessee Division
- Division Administrator - Federal Highway Administration Mississippi Division
- Regional Administrator - Federal Transit Administration Region IV Office
- Regional Administrator - Environmental Protection Agency Region IV Office
- County Executive Tipton County, TN
- President Tate County, MS Board of Supervisors
- President Tunica County, MS Board of Supervisors
- Judge Crittenden County, AR
- Executive Director West Memphis MPO

The duties, structure, responsibilities, committees, and rules of order are described in the 2014 Bylaws of the Memphis Urban Area MPO. The Bylaws are expected to be updated in calendar
year 2023 after potential metropolitan planning area boundary changes following the 2020 Census. The TPB elects a Chairperson and Vice Chairperson on the first meeting of the calendar year, and that term of office shall be for one year or until new officers are elected.

Engineering and Technical Committee (ETC)

The ETC is responsible for advising the TPB on transportation planning and engineering matters which meets on quarterly basis. The Memphis Urban Area MPO’s Administrator is the Chairperson for the ETC and the membership includes professional planners and engineers from local municipalities, regional governments, and other transportation related agencies. Membership includes one representative from the following (unless otherwise noted):

- Tennessee Department of Transportation
- Mississippi Department of Transportation
- Shelby County, TN (2 representatives)
- City of Memphis, TN (2 representatives)
- City of Germantown, TN
- City of Lakeland, TN
- City of Bartlett, TN
- City of Millington, TN
- Town of Arlington, TN
- Town of Collierville, TN
- Fayette County, TN
- City of Gallaway, TN
- City of Piperton, TN
- Town of Braden, TN
- Town of Oakland, TN
- Town of Rossville, TN
- Desoto County, MS
- City of Hernando, MS
- City of Horn Lake, MS
- City of Olive Branch, MS
- City of Southaven, MS
- Town of Walls, MS
- Marshall County, MS
- Town of Byhalia, MS
- Memphis Area Transit Authority
- Memphis and Shelby County Port Commission
- Memphis and Shelby County Airport Authority
Other Committees

The MPO Bylaws establish five additional committees that advise and make recommendations to the TPB. Below is a summary of MPO Committees including meeting frequency and responsibilities:

<table>
<thead>
<tr>
<th>Committee Name</th>
<th>Meeting Frequency</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Technical Committee</td>
<td>Quarterly</td>
<td>Advises and assists the TPB by providing technical oversight on matters related to planning and engineering, and by reviewing and making reports on all actions brought before the Board. Its membership includes local jurisdiction engineers, planners, or other designated persons who are responsible for planning or implementation of transportation projects within each jurisdiction.</td>
</tr>
<tr>
<td>Active Transportation Advisory Committee</td>
<td>Bi-annually</td>
<td>Advises and recommends strategies on the planning and implementation of projects as related to bicycle and pedestrian travel, transit and public transportation, accessibility issues, transportation safety and community outreach efforts.</td>
</tr>
<tr>
<td>Interagency Consultation Committee</td>
<td>Quarterly</td>
<td>Advises on changes in air quality standards and the impacts on transportation planning matters, recommends measures designed for the reduction of mobile source emissions. The IAC also advises the MPO on the conformity of plans and projects with national and statewide air quality standards.</td>
</tr>
<tr>
<td>Freight Advisory Committee</td>
<td>As Needed</td>
<td>Advises, educates, and recommends to the TPB transportation strategies that will aid in the movement of freight, membership comprised of major providers of transportation resources and modes that provide freight movement and the users of those modes of transportation.</td>
</tr>
</tbody>
</table>
Plan
ning and Land Use
Advisory Committee

As Needed

Advises the TPB on the role of land use planning in the transportation planning process and coordinates municipal and regional transportation planning efforts. Its membership includes planning director, principal planner, or other housing and economic development official for each government entity or major provider of transportation services in the Memphis MPO region.

Agendas and meeting minutes for the five committees are posted to the MPO’s website. These records indicate that the committees meet in accordance with the Bylaws and intended meeting frequency.

In addition to the five standing committees and during Regional Transportation Plan (RTP) update cycle, an RTP Advisory Committee meets to provide focused feedback on plan development (e.g., goals, funding scenarios). This committee is made up of representatives from government agencies, transportation providers, private businesses, and the public.

Staff

The MPO takes a collaborative approach in delivering the various programs. For example, teams are formed to develop key planning products like the Unified Planning Work Program (UPWP) and Transportation Improvement Program (TIP). This method promotes collaborative work environment, information sharing, and continuity in executing the MPOs programs. A summary of staff positions and responsibilities include the following:

- MPO Administrator - program administration, long range planning, regional coordination, policy initiatives
- Transportation Planner – UPWP, freight planning, land use, corridor planning, and Intelligent Transportation Systems (ITS) Architecture;
- Transportation Planner – TIP, public participation, and social media;
- Transportation Planner – UPWP, bicycle and pedestrian planning, congestion management;
- Transportation Planner – Transit, incident management, and land use;
- Transportation Planner – Title VI Coordinator, public participation, TIP, and land use;
- Transportation Planner – Freight planning, ITS architecture, and incident management;
- Transportation Planner – GIS/Data Management, public participation, ITS Architecture, and land use
- Transportation Planner – Public participation, UPWP, and freight planning
• Administrative Technician – Human resources, meeting coordination, and administrative support;
• Grants Coordinator – Grants management, contracts, and invoicing; and
• Administrative Assistant – Office support

4.2.3 Findings

None
4.3 Agreements, Consultation, and Coordination

4.3.1 Regulatory Basis

23 CFR 450.314 Metropolitan planning agreements

4.3.2 Current Status

As a bi-state MPO serving a tri-state TMA with transportation conformity demonstration requirements, the Memphis Urban Area MPO is regulatorily required to have multiple agreements in place per 23 CFR 450.314. These unique jurisdictional and geographic boundaries make it essential for the MPO to continually coordinate with stakeholders.

The Memphis Urban Area MPO and the West Memphis MPO have a partnership in planning for the TMA. Each MPO is an ex-officio member of the other MPO’s Board and Technical Committee, and regularly attend meetings. The two MPOs develop their plans, programs, and projects separately but in consultation with each other. Recently, Both MPOs successfully cooperated on several recent plans and issues, such as tri-state unified CMAQ performance measure targets, the ITS Regional Architecture update that includes ARDOT and ITS assets on both sides of the I-40 Hernando Desoto Bridge, and the Greater Memphis Regional Freight Plan.

In 2019, both MPOs adopted an agreement for consistency and conformity of plans, programs, and projects. In addition to that agreement and to fully meet the requirements of 23 CFR 450.314(e), the Memphis Urban Area MPO led the effort to develop an MOU between the two MPOs and respective State DOTs (TDOT, MDOT, ArDOT), State air quality agencies (TDEC, MDEQ, ArDEQ), transit provider (MATA) and local air quality agency (Shelby County Health Department). With the existing MPOs’ agreements following MPA-boundaries but no agreement that involved all partners within the TMA. Partners developed an umbrella agreement to summarize and reinforce the commitment to the individual agreements that detail planning, coordination, and funding procedures.

The following are the current Memorandums of Understanding/Agreements (MOUs/MOAs) in place:

<table>
<thead>
<tr>
<th>Year Signed</th>
<th>Executors</th>
<th>Subject of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>MPO, WMMPO</td>
<td>Consistency and conformity of plans, programs, and projects</td>
</tr>
<tr>
<td>2019</td>
<td>MPO, TDOT, MDOT, MATA</td>
<td>Metropolitan transportation planning process</td>
</tr>
<tr>
<td>Year</td>
<td>MPOs and Agencies</td>
<td>Description</td>
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<tr>
<td>------</td>
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</tr>
<tr>
<td>2019</td>
<td>MPO, TDOT, MDOT, ARDOT, TDEC, MDEQ, ADEQ, WMPO, MATA, and SCHD</td>
<td>Planning, Coordination, and Funding Procedures</td>
</tr>
<tr>
<td>2018</td>
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<td>Cooperatively developing, sharing, and reporting information related to performance measures and performance targets</td>
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<tr>
<td>2018</td>
<td>MPO, MDOT</td>
<td>Cooperatively developing, sharing, and reporting information related to performance measures and performance targets</td>
</tr>
<tr>
<td>2015</td>
<td>MPO, MDOT</td>
<td>Use of metropolitan transportation planning funds</td>
</tr>
<tr>
<td>2014</td>
<td>MPO, MDOT</td>
<td>Definition and need for amendments/administrative adjustments to the Mississippi STIP</td>
</tr>
<tr>
<td>2014</td>
<td>MPO, MATA</td>
<td>Transportation planning coordination and cooperation</td>
</tr>
<tr>
<td>2013</td>
<td>MPO, FHWA, FTA, EPA, MDOT, MDEQ</td>
<td>Mississippi transportation conformity consultation and general provisions</td>
</tr>
<tr>
<td>2013*</td>
<td>MPO, TDOT</td>
<td>Definition and need for amendments/administrative adjustments to the Tennessee STIP</td>
</tr>
</tbody>
</table>

*Update anticipated in Fall 2019

The Memphis Urban Area MPO utilized technology to increase stakeholder participation. With a subscription to GoToMeeting web-hosted service, the MPO conducts online meetings with screen and file sharing capabilities. This remote meeting method enables participants with increased location flexibility to traditional in-person, paper-based meetings. An increase in participation has been a positive outcome from utilizing the service.

These coordination efforts have been recognized nationally as well. In 2018, the Association of Metropolitan Planning Organizations awarded the Memphis Urban Area MPO the National Award for Excellence in MPO Coordination and Partnership. The Memphis Urban Area MPO earned the award by demonstrating robust collaborative process in delivering plans and
programs, such as the Coordinated Public Transit-Human Services Transportation Plan, Greater Memphis Regional Freight Plan, and CMAQ tri-state performance Targets.

4.3.3 Findings

**Commendation:**

The MPO consistently executes a high level of coordination in carrying out the metropolitan transportation planning process. As a bi-state MPO serving a tri-state TMA, the Memphis MPO proactively coordinates with multiple State Departments of Transportation (DOTs), additional State agencies, the West Memphis MPO, the Memphis Area Transit Authority, regional and local agencies, and the public. Through this coordination, the MPO has led regional tri-state planning efforts that exceed the minimum requirement of planning for the bi-state metropolitan planning area.
4.4 Unified Planning Work Program

4.4.1 Regulatory Basis

23 CFR 420 Administration of FHWA Planning and Research Funds

23 CFR 450.308 Funding for Transportation Planning and Unified Planning Work Programs

4.4.2 Current Status

The Memphis MPO’s current Unified Planning Work Program (UPWP) is the Fiscal Year (FY) 2018-2019 UPWP. This UPWP was adopted by the MPO Transportation Policy Board on August 17, 2017 and received FHWA approval on September 28, 2017.

The FY2018-2019 UPWP details the metropolitan transportation planning priorities and activities to be undertaken for Federal Fiscal Years 2018 and 2019, including the activities that will be performed by the MPO and its various planning partners, timelines, and associated funding.

The UPWP is primarily funded through FHWA Metropolitan Planning (PL) funds, Statewide Planning and Research (SPR) funds, and FTA Section 5303 funds, all of which are passed through TDOT. In January 2018, TDOT implemented, with concurrence from FHWA and FTA, a Consolidated Planning Grant (CPG) program, in which FTA Section 5303 funds are flexed to FHWA and treated as PL funds, allowing for the two program funds to be administered jointly.

Both FHWA and FTA program funds for metropolitan transportation planning require a 20\% non-Federal match. Through their administration of the program, TDOT and MDOT requires the local sub-recipient (the MPO) to provide the entire 20\% non-Federal share of the FHWA (PL and SPR) funds, while TDOT provides half of the non-Federal match of the Section 5303 funds for an 80\% Federal/10\% State/10\% local share. The local share of the Federal planning funds programmed and used by the MPO are provided by Shelby County (for the Tennessee portion of funding) and Desoto County (for the Mississippi portion of funding). In both cases, the MPO goes through the annual budgeting process for the county to ensure local match is provided.

Development of the UPWP is guided by the Federal planning factors as well as the regulatory compliance of the MPO program. To ensure that the MPO is continuing to carry out a compliant program and meeting regulatory deadlines, MPO staff maintain a rolling five-year calendar of MPO activities. This calendar follows a calendar-year format and details the deadlines and expected time for development of both regulatorily-required and additional MPO planning documents, processes, and projects. For example, the calendar will reflect the deadline of the
MPO’s 2055 MTP (not the most-upcoming MTP, but the next one) in September 2023, with a development window spanning from early 2021 to the deadline. As deadlines approach and activities become further scoped out, additional detail is provided in the calendar to guide the development of the UPWP and the MPO staff carrying out the project.

MPO staff develop the UPWP based on the financial resources available and the planning activity deadlines within the UPWP period. Once a draft list of planning activities has been prepared, staff share the proposed list of planning activities and funding with the ETC and TPB for consideration. February 9, 2017 ETC and February 23, 2017 TPB meeting minutes reflect the presentation of the FY2018-2019 UPWP major planning activities list during the MPO Administrator’s report. It is unclear if there was a UPWP Call-for-Projects or any other prior discussion of planning activities to be programmed in the UPWP. This information is essential in documenting cooperative UPWP development.

Per the MPO’s Public Participation Plan (PPP), the public is provided a 10-day period to review and comment on the draft UPWP prior to adoption by the TPB. For the FY2018-2019 UPWP was noticed in accordance with the PPP but it was unclear if any comments were received and therefore, considered in the final adopted UPWP.

The following major activities were identified in the FY 2018-2019 UPWP for completion in the UPWP period:

- Air quality planning
- Development and adoption of the 2050 Regional Transportation Plan
- Development of the FY 2020-2023 Transportation Improvement Program
- FY 19 update to the UPWP
- Development and adoption of the FY 2020-2021 UPWP
- Studies on livability corridors
- Update to the Memphis MPO Regional Intelligent Transportation Systems Architecture
- Update to the Travel Demand Model
- Biennial report for the Bicycle and Pedestrian Plan

Oversight of the activities of the MPO and progress in carrying out the planning activities of the UPWP is largely managed through quarterly progress reporting which the MPO provides to TDOT, which then provides these reports to FHWA. In addition, MPO staff provide regular updates on planning activities through extensive reports to the MPO’s ETC and TPB.

A sample review of invoices of expenditures incurred by the MPO for reimbursement with Federal planning funds throughout the Certification Review period reflected few areas of concern regarding cost eligibility, although there were some activities identified which did not
easily align to the activities detailed in the respective UPWP. While not a significant issue, this is not uncommon across Tennessee. FHWA is working with TDOT to ensure that the UPWPs reflect an appropriate level of detail to align with activities being carried out by the MPOs.

The draft FY 2020-2021 UPWP was under review at the time of this report. It included narrative of the cooperative UPWP development process with local agencies, State DOTs, and MATA. Public comment period was held from July 10, 2019 to July 24, 2019. The draft document was posted to the MPOs website, newspaper, and copies of the draft UPWP were available at the library.

4.4.3 Findings

None.
4.5 Metropolitan Transportation Plan

4.5.1 Regulatory Basis

23 CFR 450.324 Development and content of the metropolitan transportation plan

4.5.2 Current Status

The Memphis MPO TPB adopted the current MTP, the Livability 2040: Regional Transportation Plan (RTP), on January 28, 2016. On March 15, 2016, FHWA and FTA issued a determination of conformity for the EPA’s 2008 8-hour ozone and 1971 carbon monoxide National Ambient Air Quality Standards. The RTP covers Shelby County, Tennessee and DeSoto County, Mississippi and portions of Fayette County, Tennessee and Marshall County, Mississippi.

Public Involvement

The Memphis MPO developed the RTP and its vision, goals, and objectives through intensive public and interagency involvement. This effort was well-coordinated among the transportation planning partners in the tri-state area, including the West Memphis MPO. The Memphis MPO established a RTP Advisory Committee formed of representatives from government agencies, transportation providers, private businesses, and the public. This Advisory Committee met routinely to provide focused feedback on development of the RTP. The Memphis MPO also reached out directly to community groups, such as Latino Memphis and the Memphis Center for Independent Living, to ensure that diverse community transportation users’ needs and priorities were heard. In total, there were 27 meetings with public input opportunities during plan development.

Innovation in public outreach was a theme for the 2040 RTP update. In addition to maintaining a dedicated website for the RTP development, the Memphis MPO created a series of YouTube videos to promote livability and regionalism in the planning process. They also employed an online interactive mapping tool and a series of public surveys which allowed the public to pinpoint specific infrastructure needs and regional goals. Advertisements were placed on the exterior and interior of MATA buses which had an estimated 8,501 daily views. Because of the agency and public feedback, the Memphis MPO identified their first livability corridors for routes of significance to the region. These corridor designations helped the Memphis MPO to prioritize investments.

System Conditions and Performance Measurement
The RTP included a performance-based framework used to identify and evaluate investments. The MPO used the following system-level and project-level performance measures which aligned with the RTP goals and objectives:

### System-Level
- VMT per capita
- Air Pollutant Emissions
- Land Preserved
- Number of projects identified through integrated planning effort
- Annual Truck Hours Delay (Interstate System)
- Bicycle and Pedestrian Mileage
- Population and Employment Served by Transit
- Mode Split
- Annual Congestion Costs (Trucks/Auto)
- Annual Vehicle Hours Delay National Highway System (NHS)

### Project-Level
- VMT reduction
- Project requires minimal right of way or land acquisition
- Project is in keeping with community priorities
- Project supports community or corridor redevelopment
- Truck Hours Delay Reduced
- Project fills gap in, or expands, multimodal system
- Vehicles Hours Delay Reduced

The MPO used many transportation data sources to conduct an analysis of the existing transportation system needs by system area such as roadway preservation, roadway congestion, economic growth/freight movement, and land use. These analyses were data-driven and documented in the RTP. Once the existing conditions were defined, potential investment solutions were identified through a variety of analyses (e.g., congestion, transit gap) and stakeholder engagement. One aspect of the project prioritization process was assessing each proposed investment using the project-level performance measures listed above. After projects were ranked and selected, the MPO analyzed the total proposed investments by using the system-level performance measures. This exercise compared system performance between the base year, implementation of only the existing and committed projects, and implementation of all projects listed in the RTP.
In August 2018, the MPO adopted the RTP performance measures addendum. This addendum details the MPO’s efforts to implement a performance-based planning process in accordance with 23 CFR 450. The addendum was updated in November 2018 to include baseline performance and targets set by the MPO for the federally-required safety, infrastructure condition, system performance, and transit asset management performance measures. As the MPO elected to support the State targets, these numbers match those of TDOT and MDOT. The addendum also details the process by which the RTP development, including project prioritization and selection, addresses these measures and targets. Incorporation of this addendum to the RTP satisfies the performance-based planning requirements of 23 CFR 450.324(f)(3) and (4) for the safety performance measures.

Project Selection Process

The Memphis MPO employed a context-related evaluation as part of their project selection process to create natural groupings of different scales (from interregional to open space) so that all projects could be scored and ranked on a scale that met a specific project type. This approach equalized the evaluation process to allow smaller scale projects to rise in priority, when appropriate. Next, projects were evaluated using the project-level performance measures described above and points were assigned for the given impact of the project. Lastly, projects were assigned a rank tier based on a quartile distribution of project scores. The ranking provided an assessment of performance impacts of the proposed investments in the context of regional goals.

A key theme throughout the project selection process was land use. The Memphis MPO used the agency and public feedback to establish an agreed upon emphasis in the project selection process for in-fill oriented projects as well as a focus on maintaining existing infrastructure. The enhanced project selection process has helped the Memphis MPO to implement a data-driven project selection and prioritization. The member local governments are applying for projects that support the priorities and weighting criteria established in the plan.

Financial Planning

The Memphis Urban Area MPO developed the financial plan for the RTP by forecasting revenues, calculating project costs, and analyzing operations and maintenance needs with TDOT, MDOT, MATA, and local jurisdictions. In estimating revenues, the MPO used varying growth rates dependent on the year of application. For example, a 0.5% annual growth rate was applied to FY2016 and FY2017 federal funding revenues and a 2.3% rate was used for FY2026 to FY2040 federal funding revenues. These growth rates were derived from historical obligations data in Tennessee and Mississippi to assess the amount of reasonably expected funding over the life of the plan. This methodology was developed cooperatively with TDOT, MDOT, MATA, and local jurisdictions.
The MPO worked with Federal, State, and local partners to program projects over three fiscally constrained programming tiers 2018-2020, 2021-2030, and 2031-2040. Project cost estimates were developed with standard MDOT and TDOT methodologies. Due to increasing construction costs, an annual inflation rate of 3.6 percent was used to forecast year of expenditure costs. Projects that did not receive funding were recorded in an illustrative list called the Vision Plan.

**Planning and Environmental Linkages (PEL)**

PEL is a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during system level transportation planning to inform the project-level environmental review process. As part of the PEL approach, agencies use the information, analysis, and products developed during the planning process to inform the NEPA analysis. FHWA encourages a PEL approach to planning and project development to streamline the project development timeline and to reduce redundancies in the information and analyses State DOTs, MPOs and public transportation operators use to inform transportation planning-level choices and analyses so they may be adopted or incorporated into the process required by NEPA.

The process FHWA advocates for is one in which environmental issues are considered early in the transportation planning process; environmental, regulatory, and resource agencies are involved early and continuously in the planning process; and planning decisions are documented in a format that can be appended to the NEPA document or incorporated by reference.

The Memphis MPO has laid the basic groundwork for a PEL approach in development of their RTP. Consistent with the federal requirements, the Memphis MPO consulted with federal, state and local agencies responsible for environmental protection, air quality improvement, land use management, natural resource conservation, and historic preservation. The MPO reviewed data sources for these resource types to identify baseline environmental concerns for the region that could inform or result from the transportation decision-making process. Greater potential remains to enhance a PEL approach for the Memphis region. Efforts that the Memphis MPO could consider to further PEL include improvements to documentation of preliminary project purpose and need during the project selection and prioritization process, creation of analysis for and documentation of measures taken to avoid or minimize harm to environmental resources during early project scoping, including scenario planning exercises to assess how different transportation system decisions could change impacts to human and natural resources, and PEL studies of specific corridors to refine scoping decisions earlier in the project development process.

**Transportation Demand Model (TDM)**
The Memphis MPO developed their current TDM in 2014 and updated it in 2018, both versions using a base year of 2010. The model is based upon the results of a household travel survey, a transit on-board survey, and freight and truck survey data. The Memphis TDM boundary includes Shelby, Fayette, and Tipton Counties in Tennessee; DeSoto, Marshall, Tate, and Tunica Counties in Mississippi; and Crittenden County, Arkansas. An update to the 2018 TDM is scheduled for completion in 2019. This update will include a base year of 2016.

The 2014 TDM was developed, calibrated, and validated in accordance with modeling standards set in the latest available Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee. Prior to full implementation of the model by TDOT and the Memphis MPO, TDOT was provided an opportunity to approve the model in accordance with TDOT’s 2008 procedure, TDOT MPO Model Approval. Documentation of this approval does not appear to be available.

In 2017, through subarea application of the model to support traffic analysis for National Environmental Policy Act (NEPA) requirements, TDOT identified inconsistencies between future year travel forecasts, existing year measured traffic volumes, and traffic volume forecasts developed at the project level. These inconsistencies resulted in substantial delays to several significant projects as the MPO and TDOT resolved the issues with the TDM.

This issue triggered the need for an update to the TDM, finalized in 2018. Ultimately, trip generation rates for DeSoto County, average travel time by trip purpose, and base highway network and centroid connector locations were updated to fix the incongruent forecasts. The Memphis MPO adhered to the procedures and performance measures established in the Minimum Travel Demand Model Calibration and Validation Guidelines for the State of Tennessee (2016) and FHWA’s Travel Model Validation and Reasonableness Checking Manual (2010) in developing the 2018 and 2019 TDM updates. In a similar process to the previously-used, TDOT was provided the model for validation and concurrence prior to finalization.

The Federal Review Team, the Memphis MPO, TDOT, and the MDOT discussed the roles and responsibilities of the TMA transportation planning partners in model development and validation. The group also discussed model capabilities and appropriate uses to enhance the planning process in general and PEL. The Memphis MPO is responsible for the development and initial quality verifications for the region’s TDM. As TDOT is the lead DOT for the Memphis MPO, staff in TDOT’s Long Range Planning Division are responsible for validating the data and outputs of the model, with MDOT providing a subsequent review. Upon completing validation, the model can be used in RTP development.

The Memphis MPO primarily uses the model for RTP development in its analysis of regional-level transportation demand throughout the system. Outputs from the TDM also inform
project-level traffic analyses. In furtherance of PEL, greater emphasis could be placed upon documenting the factors and assumptions behind TDM development and recognition of the TDM’s utility in project-level analyses.

Amendment Process

The MPO processes RTP amendments as needed. The MPO analyzes amendment proposals for consistency with the RTP’s goals, objectives, and fiscal constraint parameters, and then the MPO consults the IAC Committee to discuss air quality conformity requirements. The IAC has a 30-day review period for RTP amendments. A 30-day public review and publishing of a public notice is also part of the amendment process, which is consistent with the MPO’s Public Participation Plan. Once the review process has ended the amendment is taken to the ETC and TPB. The amendment is then forwarded to federal partners for Federal determination of conformity. The RTP amendment is considered approved once the final concurrence letter is received from FHWA.

Livability 2050

An RTP update which is called Livability 2050, is underway. At the February 22, 2018 meeting the TPB adopted the goals and objectives which are closely related to the Livability 2040 RTP goals. The goals and objectives were developed based on public and stakeholder outreach. Notably, the Livability 2050 RTP includes an additional goal to enhance travel and tourism aligning with the Federal Planning Factors.

Public outreach has included conducting a public survey both in English and in Spanish, through both online and paper platforms. Two rounds of public meetings were also held around the region for the public to give input on transportation priorities, existing conditions analysis, and proposed investments. Both meetings were recorded and can be viewed on the MPO’s website. The MPO also established a YouTube video series where the Region’s elected officials, regional agencies, and residents discuss livable communities.

On August 23, 2018, the TPB reaffirmed the Expanded Travel Options concept which originated from the 2040 Livability RTP, as the planning funding scenario to guide investment decisions. This concept moves toward a regional “livability” grid system to improve connections between decentralized employment centers and the regional core, and to each other, focusing on:

- Aligning investment approach to incorporate a regional grid system that improves upon the current radial pattern of the transportation network;
- Modifying facility design along key north-south connections to maximize multimodal level of service;
• Providing more connections within the system to disperse traffic along an expanded grid that channels commute/freight traffic to corridors that maximize delay reduction and non-commute travel to corridors that maximize safe, multimodal access to community resources.

The alternative concept was the Regional Roadway Connections concept which focus on improving roadway LOS for automobiles and freight, maximizing delay reduction for automobiles and freight along key corridors and targeting multimodal investment within employment and activity centers.

A September 6, 2018 memo was sent to planning partners, including TDOT, MDOT, MATA, and FHWA, to review the proposed draft revenue projections and revenue forecast methodology. The anticipated adoption of Livability 2050 is September 12, 2019.

4.5.3 Findings

Recommendations:

The MPO should consider advancing and integrating PEL linkages principles in future RTP updates and corridor/feasibility studies. Specifically, study documenting and analyzing the proposed project’s purpose and need, range of reasonable alternatives, effects analysis, and applicable mitigation strategies.

The MPO should consider participating in the micro-simulation transportation demand model pilot to allow for the regional model to be used at the corridor scale. This approach would maximize utility of the regional model for project analyses and reduce the risk for inconsistencies in model projections at the project level. This effort also would support PEL initiatives.
4.6 Transit Planning

4.6.1 Regulatory Basis

49 CFR 613 Metropolitan and Statewide and Nonmetropolitan Planning

4.6.2 Current Status

With more than seven million unlinked passenger trips, the Memphis Area Transit Authority (MATA) is the primary transit operator in the Memphis region in the Memphis urbanized area, which includes Bartlett, Collierville, Germantown, Lakeland, and Memphis, Tennessee. MATA operates 33 fixed routes with a fleet of 153 buses. In addition, MATA operates one rail trolley route, demand-response ADA paratransit services. Most of all transit trips are work trips, although riders utilize MATA’s services for other trips purposes, such as education, shopping, and medical. MATA’s service markets are diverse, ranging from residential and retail in urban environments to major employers in low-density suburban areas. MATA customers include lower-income and minority population, with a large number (nearly 60%) of transit-dependent riders who do not own a vehicle.

Transit Planning Coordination

MATA collaborates with the Memphis Urban Area MPO in identifying and conducting planning and/or feasibility studies for future transit facilities within the MPO planning area by evaluating the costs, benefits, and impacts of major fixed improvements to corridors and conducting planning and related analyses for potential sites of transit centers or park-n-ride locations. MATA is a voting member of the TPB, ETC, ATAC, IAC Committee, and PLAC. MATA is also a member of the Livability 2050 RTP Advisory Committee and actively coordinates with the MPO in the development of the TIP, UPWP, annual listing of obligated projects, and Coordinated Public Transit - Human Services Transportation Plan (CPT-HSTP).

In 2016, the MPO updated the CPT-HSTP. A requirement of the Enhanced Mobility for Individuals and Individuals with Disabilities (Section 5310) funds is that projects funded with that source must be in a locally developed CPT-HSTP. The plan established a process to address the transportation needs of disadvantaged populations. A cooperative and comprehensive partnership between three State agencies, two MPOs, an RPO, and multiple agencies were involved in addressing the needs of the elderly, people with disabilities, and people with low incomes. In 2017 FHWA recognized the CPT-HSTP with a Transportation Planning Excellence Awards for extensive engagement with the community and stakeholders. Through the CPT-HSTP development process, the Memphis MPO successfully conducted far-reaching regional coordination across 20 counties in three States.
The MPO convenes the CPT-HSTP advisory committee, which was formed during the development of the 2016 plan, to track the implementation of the various recommendations included in the plan and to promote the use of strategies developed in the plan. This committee meets annually to discuss updates from the agencies in the Tri-State area that manage Section 5310 funds.

MATA and the MPO contributed to the Memphis 3.0 Transit Vision. The vision was developed as part of the City of Memphis’ comprehensive plan update. The Transit Vision calls for $30 million per year to fund transit investments such as a redesigned bus route system, increasing service frequency, and additional weekend and evening service. These additional local funds could be used for matching requirements to eligible FTA and FHWA grants.

MATA and the MPO work together to ensure that projects allow opportunities for greater use of alternative modes of transportation, including public transit, bicycling, and pedestrian movement. MATA and the MPO have collaborated on the following additional planning efforts:

- Coordinated Public Transportation-Human Services Transportation Plan;
- Midtown Alternatives Analysis - BRT;
- Bus Stop Design and Accessibility Guidelines;
- MATA’s APTS (Advanced Public Transportation Systems) program;
- Transit route profiles; and
- Environmental Justice and Title VI analyses monitoring and reporting.

Performance Measures

The Memphis MPO adopted MATA’s Transit Asset Management (TAM) targets in August 2018. MATA led TAM Plan development and the target setting process. The MPO first incorporated the targets, baselines, and description of system performance into the RTP and TIP in August 2018. This information is also included in the current update of the 2050 RTP and FY2020-2023 TIP.

FHWA and FTA Funding Transfers

The MPO frequently uses STBG and TA funds for transit capital projects by transferring, or “flexing”, the funds to FTA. Partners commented that the communication of the fund transfers could be improved. The first step in the process is for the MPO, in coordination with MATA, to send a flex request letter to TDOT referencing the TIP page to demonstrate that the funds are programmed. Then TDOT will fill out the FHWA-1576 Form and send to FHWA. Next FHWA will
approve the request in the Fiscal Management Information System and the funds will be transferred to FTA’s Transit Award Management System. These steps can occur on inconsistent timeframes and with limited notifications for all interested parties.

4.6.3 Findings

None.
4.7 Transportation Improvement Program

4.7.1 Regulatory Basis

23 CFR 450.326 Development and content of the transportation improvement program

4.7.2 Current Status

The TPB adopted the FY2017-2020 Transportation Improvement Program (TIP) and associated Conformity Determination Report on August 25, 2016. On October 5, 2016, the FHWA Tennessee Division and FTA Region IV Office issued a determination of conformity for the Shelby County, TN nonattainment area for the 2008 8-hour ozone standard and maintenance area for the 1971 carbon monoxide standard. On October 3, 2016, the FHWA Mississippi Division and FTA Region IV Office issued a determination of conformity for the Desoto County, MS nonattainment area for the 2008 8-hour ozone standard. The TIP is a four year long, fiscally constrained, short-range program, which provides a prioritized list of multimodal transportation projects within the MPO’s metropolitan planning area.

The FY2017-2020 TIP is consistent with the goals and objectives outlined in the Livability 2040 RTP and the projects listed in the first horizon year. As seen in previous TIPs, the FY2017-2020 TIP was guided by six programming policies to support the effective administration of Federal grant funds:

1. Minimum eligibility requirements – Projects must be in the RTP, eligible for the Federal funding program, and lead agency must secure required matching funds;
2. Commitment to implement project and project delays – Project sponsors will work with the MPO to ensure that all State and Federal requirements are met and projects follow the programming schedule in the TIP;
3. Carryover projects – Carryover projects must be re-submitted for inclusion in the TIP;
4. Overmatching funds – Project sponsors providing more than the non-Federal match must provide appropriate documentation; and
5. Cost Increases and cost overruns – Project sponsors can shift funding across phases and/or years to cover increased cost estimates.
6. Construction Set-Aside – Construction phase of road projects using STBG funds will not be formally programmed until the project is far enough along in the ROW phase for more accurate construction estimates.

More information on the use of these TIP policies in program and project management is available in Appendix B of the FY2017-2020 TIP.
Project Solicitation, Prioritization, and Selection

As was done with previous TIPs, the MPO solicited a Call-for-Projects for consideration to be programmed in the FY2017-2020 TIP. All projects were required to apply even if the project was previously programmed in the FY2014-2017 TIP in order to prioritize projects.

The MPO used a prioritization process which evaluated candidate projects for their potential contributions to the Region’s goals as described in Livability 2040 RTP. The criteria for evaluating candidate projects looked at the main criteria categories: Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement and Economic Vitality, Environmental Sustainability, and Project Delivery.

Project funding decisions with the MPO’s sub-allocated STBG and TA funds were supported by a quantitative and qualitative analysis. Criteria was specific to project type to efficiently compare similar projects. The selection for each of the six project types included:

1. Roadway Project Criteria
   a. Infrastructure Condition
   b. Safety
   c. Congestion Reduction
   d. Economic Vitality/Freight Movement
   e. System Reliability
   f. Project Delivery
   g. Environmental Sustainability

2. Resurfacing Project Criteria
   a. Pavement Condition Index (PCI)
   b. ADT
   c. Proximity to Land Uses
   d. Bicycle Related Improvements
   e. Pedestrian Related Improvements
   f. Transit Related Improvements
   g. Freight Related Improvements

3. Signalization Project Criteria
   a. Existing Intersection LOS
   b. Reduction in Delay
   c. ADT
   d. Accident Rate
   e. Other (project benefits to other transportation modes, incorporates new technology, etc.)
4. Bicycle and Pedestrian Project Criteria
   a. Proximity to Land Uses
   b. Network Continuity
   c. Bicycle Related Improvements
   d. Pedestrian Related Improvements
   e. Pedestrian Priority in Regional Bicycle and Pedestrian Plan
   f. Incorporates Traffic Calming and Design Improvements
   g. Project Addresses Location with History of Fatal Bike/Ped Crashes

5. Bridge Project Criteria
   a. Bridge Condition
   b. ADT
   c. Freight Related Improvements
   d. Bicycle and Pedestrian Related Improvements
   e. Network Continuity

6. Safety Project Criteria
   a. Accident rate
   b. Number of Severe Crashes: Fatal and Incapacitating over 3-Year Period
   c. Existing Intersection LOS
   d. Proximity to Land Uses

Appendix G of the FY2017-2020 TIP identifies all the proposed projects to be funded with the MPO’s sub allocation of STBG and TA. The list of projects also includes the final rankings by project type.

The Memphis MPO worked with TDOT and MDOT to program State sponsored projects using National Highway Performance Program (NHPP), Surface Transportation Block Grant (STBG), and Highway Safety Improvement Program (HSIP) funds. The MPO staff worked with Memphis Area Transit Authority (MATA) on the selection of projects using FTA Sections 5307, 5309, 5310, 5337, and 5339 funding programs. Projects located in the MPO’s current and former air quality conformity areas are also eligible for Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds to reduce congestion and promote air quality improvements. TDOT and MDOT select projects for CMAQ funds in consultation with the MPO.

**Public Involvement**

The public was involved throughout the TIP development process through regular updates on a project webpage, newspaper notices, and public meetings. Outreach to the public was guided by the activities and timelines listed in MPO’s Public Participation Plan (PPP). The PPP outlines a participation process for all citizens and stakeholders to have reasonable opportunity to comment on the proposed programs, including the TIP. The MPO fulfilled its public involvement
commitments in the PPP by publishing notices 10 days in advance of meetings, offering a 30-calendar day public review period, and holding meetings in each County.

Additionally, the MPO utilized innovative tools to communicate with a broad group of stakeholders with varying levels of familiarity with the transportation investment decision making process. For example, staff developed graphic-focused informational handouts as well as an online video to explain the purpose and content of the TIP. These different communication strategies enable the MPO to reach a larger, diverse audience. An interactive mapping application was used to provide an easy to use information portal for TIP and RTP projects. Users can search the interactive map to locate and gather information on planned transportation investments.

Financial Planning

The MPO worked with TDOT, MDOT, and MATA to estimate funding revenues available over the TIP period. The sub-allocated metropolitan STBG funds were based off the FY2016 allocation and increased by 1% for the remaining years. The MPO used revenue projections provided by TDOT and MDOT for the State-managed federal grant programs.

Local jurisdictions submitted project cost estimates by utilizing TDOT and MDOT cost estimation tools. In addressing inflation, project sponsors applied construction index rate and other regional cost factors to determine a cost estimate that reflects year of expenditure. For all construction projects, the MPO requested an itemized estimate for review by the MPO and respective DOT.

Performance-Based Planning Requirements

On August 23, 2018, the TPB adopted the TIP performance management addendum with the safety (PM1) targets. It was later updated in November 15, 2018 to include infrastructure condition (PM2) and the system performance (PM3) targets. The addendum details the MPO’s efforts to implement a performance-based planning process and how investments programmed in the TIP will contribute to target achievement. The addendum outlines the baseline performance and targets set by the MPO for the federally-required performance measures. As the MPO elected to support the State targets, these numbers match those of TDOT and MDOT.

TIP Project Delivery

The MPO actively participates in quarterly project development meetings and scheduled tracking updates with project sponsors and the respective DOT to assess project progress. All projects included in the TIP are reviewed in these meetings and through this tracking process regardless of funding source. This allows the MPO to assess if projects are advancing on
schedule and makes appropriate TIP adjustments, if needed. Quarterly the MPO prepares an informational sheet with obligation trend rates and an action plan to obligate funds. This information is clearly displayed and outlines a plan for timely obligation of federal funds. Additionally, project TIP pages are updated to display obligation information. Combined with efforts to monitor and report on a quarterly basis the project obligations, these efforts have aided in making progress to reduce unobligated fund balances.

Amendments and Adjustments

The Memphis Urban Area MPO has memorandum of agreements with TDOT and MDOT regarding the definition and need for amendments and administrative adjustments to the TIP. The MPO works with TDOT, MDOT, MATA, and local project sponsors to process amendments on a quarterly cycle and administrative adjustments as needed.

The MPO analyzes TIP amendment proposals for consistency with the RTP and TIP fiscal constraint. Then the MPO consults the IAC Committee to discuss the possibility of exemption from air quality conformity. For non-exempt projects, the MPO prepares conformity determination reports and seeks approval from the ETC and TPB prior to sending the conformity determination reports to FHWA and FTA for findings of conformity. For exempt projects, the MPO routes the amendment through the ETC and TPB for review and approval. All TIP amendments require State review and approval and concurrence from FHWA or FTA.

Administrative adjustments do not require concurrence from FHWA or FTA. For adjustments on State sponsored projects, the MPO reviews the modified project information and updates the TIP accordingly. For adjustments on locally sponsored projects, the MPO reviews the modified project information, updates the TIP, and sends the adjustment documentation to the appropriate State partner for transmittal to FHWA or FTA for informational purposes.

Self-Certification

The MPO TPB chair signed the self-certification in conjunction with the adoption of the FY 2017-2020 TIP on August 25, 2016. Per 23 CFR 450.336, the States must also sign the metropolitan planning certification statement. TDOT, MDOT, and the MPO are developing a self-certification statement that will be signed by all three entities in conjunction with the FY 2020-2023 TIP.

Annual Listing of Obligated Projects

Within 90 calendar days of the end of the federal fiscal year, the Memphis Urban Area MPO publishes the Annual List of Obligated Projects report. The report is developed in collaboration with TDOT, MDOT, and MATA to develop a listing of projects for which federal funds were obligated in the preceding program year. Visualizations of obligation trends by funding type and
pertinent background information are also included with the obligations list. The report is published on the MPO website and reviews the projects with the TPB and ETC.

**FY2020-2023 Transportation Improvement Program**

The FY2020-2023 TIP is under development at the time of this report. The MPO does not anticipate implanting any major programming policy changes but plans to continue forward the implementation of the Construction Set-Aside policy for the Tennessee projects and project tracking meetings as both methods have been effective in timely obligation of funds. When complete, the Memphis FY2020-2023 TIP will be incorporated by reference into the Tennessee and Mississippi STIPs.

4.7.3 Findings

**Commendation:**

The MPO actively supports project delivery and timely obligation of sub-allocated STBG funds by maintaining and sharing project status information handouts, strategically programming funds based on project status/obligations data, and participating in Tennessee and Mississippi project tracking meetings. The Memphis MPO area has seen a reduction in the amount of unobligated sub-allocated STBG funds from the use of these monitoring and reprogramming tools and open communication with members about project status.
4.8 Interested Parties, Participation, and Consultation

4.8.1 Regulatory Basis

23 CFR 450.316 Interested parties, participation, and consultation

4.8.2 Current Status

Public Participation Plan (PPP)

The MPO recognizes that the public participation process is a vital element in the development and implementation of its transportation plans and programs. The Public Participation Plan (PPP) encourages the community to participate by defining the community’s priorities, developing viable alternatives, and engaging in the transportation decision-making process. It outlines opportunities for the public to be engaged in the transportation planning process including an overview of plans and programs, comment period length, and engagement strategies.

The MPO board approved the current PPP on November 20, 2014. The update included a peer review of public participation activities conducted by other MPO’s, consultations with transportation providers and public agencies as well as the public. The MPO utilized email lists, on-line survey’s, meetings, and interviews to create the updated Plan. The PPP continues to support the involvement of the public in developing plans, activities and projects. The MPO decides the type of public outreach efforts used for projects based on the local impact and audience. The MPO strives to include all members of the community by holding meetings at convenient times and accessible locations for targeted input specifically from underserved community groups. ADA Checklist, I Speak cards, translation services, and other resources are leveraged in ensuring the accessibility of meetings.

Bilingual members of the MPO staff translate executive summaries of all the MPO’s major plans and program documents into Spanish. These summaries are available in the meeting packets sent to the library and on the MPO’s website. Additionally, public notices are published in the local Spanish newspaper, La Prensa, to reach Spanish speaking communities.

Since the adoption of the PPP in 2014, the MPO began tracking annual engagement efforts and indicators in a report. The 2014 through 2016 reports were called the Annual Outreach Report, and in 2017 to the present, the information was integrated into the State of the MPO Report. It includes information such as number of visitors to social media accounts, open-rate for emails, MPO event attendance, and number of media appearances. Additionally, staff are utilizing Google Analytics, a website analytics service, to measure traffic and users to its website.
Documenting the performance of these communication tools over time is an effective strategy in assessing the effectiveness of engagement methods are most effective. This information will be useful when the MPO updates the PPP in calendar year 2020.

Website and Social Media

The MPO has a well maintained, easy to navigate website. As recommended in the previous federal certification review, the website also hosts an archive of meeting notices, agendas, and draft documents. It has been tested for accessibility compliance with the Section 508 of the Rehabilitation Act of 1973. In addition, the website includes a translation tool that allows users to choose from multiple languages.

The MPO is also active on Facebook, Twitter, YouTube, and LinkedIn to advertise and promote meetings as well as document review. Their social media accounts are updated regularly as appropriate with relevant MPO projects/plans and transportation related news. Creating YouTube content such as informational videos and narrated presentations has been successful for the MPO. In the 2050 RTP development, MPO staff did a series of videos asking elected officials, regional agencies, and residents to describe livable communities. The videos were posted to the website for public view and the public input informed the development of the RTP. Posting videos to the website or YouTube channel has enabled the public to stay informed at their convenience.

Innovative Outreach Strategies

MPO staff demonstrated a commitment to implementing innovative outreach strategies. Realizing that people may not be able to attend a separate meeting about an RTP update, the MPO went to common destinations such as schools, farmers market, and libraries. These casual interactions allowed staff to get feedback on the public’s view of the transportation system, as well as used it as an opportunity to share information with the public on the transportation planning process.

In addition to newspaper and website postings about the RTP meetings, the MPO sent out postcards to inform residents. This was successful in reaching audiences who may not have access to the internet or newspaper subscriptions. The MPO also advertised RTP meetings on the exterior and interior of MATA buses. This innovative technique resulted in 8,501 daily views and was recognized in FHWA’s 2017 Transportation Planning Capacity Building case studies.
4.8.3 Findings

Commendation:

The MPO utilizes a data-driven approach to public engagement by documenting engagement metrics (i.e., web analytics, social media presence, and media appearances) in the annual State of the MPO Report which informs future public involvement strategies. The MPO is commended for leveraging in-house expertise to translate Plan summaries into Spanish and utilizing innovative outreach methods such as bus advertisements, visualization-focused fact sheets, and videos.
4.9 Title VI/Environmental Justice/ADA

4.9.1 Regulatory Basis

23 CFR 450.336 Self-certifications and Federal certifications

4.9.2 Current Status

The Memphis Urban Area MPO ensures compliance with Title VI of the Civil Rights Act of 1964, 49 CFR Part 26, and related statutes and regulations to the end that no person shall be excluded from participation in or be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance from the U.S. Department of Transportation on the grounds of race, color, sex, or national origin. The MPO works to ensure that the public has every opportunity to participate in the transportation decision-making process. Furthermore, The MPO uses demographic data from the census bureau and MATA transit ridership data to identify and analyze potential impacts of transportation projects to low income and disadvantaged communities.

In 2018 the MPO updated the Title VI Compliance Report and Limited English Proficiency Plan. All MPO meeting materials, websites, and documents display contact information and instructions for persons who are interested in filing a Title VI complaint. Title VI complaint procedures and form are available on the MPO’s website. The MPO materials and announcements include contact information of the MPO Title VI Coordinator for further assistance. There are no current Title VI or ADA complaints.

MPO staff maintains information on member jurisdictions’ ADA grievance policies, ADA coordinators, and transition plans. In February 2016, the MPO conducted an ADA compliance Survey, which was sent out to all MPO members to determine the status of their ADA Transition Plans and designation of ADA Coordinator. This survey was also used as a tool to see what assistance was needed to achieve ADA compliance. Training and other resources shared by TDOT and MDOT was also forwarded to MPO membership. Additionally, the MPO shared GIS sidewalk data with the members who were developing Transition Plans. A portion of the MPO’s sub-allocation of Transportation Alternative funded development of Transition Plans.

4.9.3 Findings

None
4.10 Freight Planning

4.10.1 Regulatory Basis

23 CFR 450.306 Scope of the metropolitan transportation planning process.

4.10.2 Current Status

The movement of goods has long been a critical component of the economy of the Memphis region due in part to the region’s strategic location in the central United States and on the Mississippi River, one of the country’s largest and most historic commercial waterways. Today, the region is home to many significant logistics, distribution, manufacturing, and warehousing operations, both headquarters and secondary facilities alike. According to the Greater Memphis Chamber, FedEx, International Paper, AutoZone and many other freight-oriented firms are headquartered in Memphis. Target, Nike, Williams-Sonoma, DHL, Amazon, Ford and countless other firms have major logistics and distribution centers in the region.

Memphis’ growth as a “hub city”, as it is referred to by the Memphis MPO, has both been a cause and effect of a multimodal, expansive transportation infrastructure system. As detailed in the Greater Memphis Regional Freight Plan, the region is home to:

- The International Port of Memphis, which sits on both the Tennessee and Arkansas sides of the Mississippi River and is the fifth largest inland port in the country;
- More than 840 miles of Interstate and US Highways, including I-55 (connecting New Orleans and St. Louis), I-40 (sprawling east-west across the country from coastal North Carolina to southern California), I-240 and future portions of I-69 (a USDOT-designated “Corridor of the Future”) and I-269;
- Five Class I railroads, multiple short-line railroads, and four intermodal terminals;
- Multiple pipelines distributing natural gas and petroleum; and
- The Memphis International Airport, the second-largest cargo airport in the world and home to FedEx.

As a result of the region’s strategic position and economic dependence on freight and logistics, the Memphis MPO has a long history in freight planning, which continues today and was reflected in the activities and priorities of the MPO through the Certification Review period.

The Memphis MPO has a long-standing Freight Advisory Committee (FAC) which is intended to advise, educate, and make recommendations to the MPO Transportation Policy Board regarding transportation strategies and solutions to support freight movement in and around
the Memphis region. The FAC is made up of public and private sector stakeholders that come from a freight perspective or have a freight interest; per the MPO’s 2014 Bylaws, the Chairperson of the FAC is elected from the TPB while the Vice Chairperson is a private sector stakeholder. Due in part to the long-range nature of the MPO’s work and the other demands of the FAC stakeholders, the FAC meets on an as-needed basis rather than on a regular schedule. The committee last met twice in 2017 to discuss the MPO’s designation of critical urban freight corridors and the MPO’s Regional Freight Plan. MPO staff have expressed a desire to convene the FAC following the update to the RTP.

In 2017, the MPO adopted the Greater Memphis Regional Freight Plan. The freight plan provides freight characteristics, limitations, needs, opportunities, and priorities across a nine-county region in the tri-State area, expanding well beyond the MPO’s planning area.

This plan was informed by input from the FAC, which held 5 meetings throughout the development of the plan. In addition, MPO staff routinely engaged the MPO’s Planning & Land Use Advisory Committee for feedback, data, and input on the characteristics of the freight zones identified in the plan. In addition to the MPO’s committees, the MPO also engaged with the public and truck drivers for a perspective on freight needs from system users. As detailed in the Freight Plan, the most commonly-identified challenges facing drivers in the Memphis region are truck parking, road congestion, and safety. In addition, drivers indicated that better quality pavement and more truck rest areas are some of most-desired solutions to improve freight movement.

The Greater Memphis Regional Freight Plan provides an in-depth “snapshot” of freight conditions and needs in the greater Memphis region, including information on existing road, rail, water, and air infrastructure supporting freight movement; freight workforce; freight flows by mode and commodity; bottlenecks by mode; environmental impacts of freight; freight and truck performance measures; and future freight needs, among other information.

As part of the Regional Freight Plan development, the MPO identified 8 “freight areas” along shared transportation corridors; 35 “freight zones” with shared freight characteristics; 1 “functional freight area” on the Mississippi River; and 19 “freight points of interest” with potential for future freight development. In each of these areas, the MPO has collected and profiled freight infrastructure and accessibility; traffic and travel times; safety indicators; workforce characteristics; and land use and real estate characteristics. Based on each of these factors, each zone is given an “industrial health” assessment, which projects the outlook for industry in the area.

The MPO also collected and analyzed existing and proposed freight highway projects from a variety of sources, including the Livability 2040 RTP, the State Freight Plan, the TN Improving
Manufacturing, Public Roads, and Opportunities for a Vibrant Economy (IMPROVE) Act, and the MPO’s TIP. Analysis of these projects was done in alignment with the goals of the Livability 2040 RTP: safety, congestion, state of good repair, economic competitiveness, sustainability/quality of life, and resiliency. In each goal, the MPO identified freight project(s) which supported the desired outcome.

Finally, the Regional Freight Plan identified a series of recommended strategies for the MPO and stakeholders to consider in planning for, identifying, and prioritizing freight improvements. Examples of recommended strategies include focusing on Lamar Avenue (US-78) as the regions “freight nexus”; increasing capacity on key east-west routes; developing a funding strategy for “big ticket” road infrastructure projects; addressing the need for additional truck parking; and more. Per information from MPO staff, these strategies are being considered for incorporation in the update to the RTP, planned for adoption after completion of this review.

In addition to efforts in regional freight planning, the Memphis MPO is a regular partner with TDOT in carrying out statewide freight planning in Tennessee. MPO staff were active participants in the development and review of the Tennessee Statewide Multimodal Freight Plan and Mississippi Statewide Freight Plan, including the FAST Act updates to these plans. MPO staff routinely participate in the West Tennessee Freight Advisory Committee and the Mississippi Freight Advisory Committee. The MPO was a critical partner in the designation of Critical Urban and Critical Rural Freight Corridors (CUFCs/CRFCs) for incorporation into the National Highway Freight Network (NHFN).

4.10.3 Findings

Proposed FHWA/FTA Technical Assistance:

The MPO requested information on identification and analysis of freight data sources training opportunities and possible peer exchanges with other MPOs with a significant freight planning program.
4.11 Transportation Safety and Security

4.11.1 Regulatory Basis

23 CFR 450.306 Scope of the metropolitan transportation planning process.

4.11.2 Current Status

The metropolitan transportation planning process in Memphis is designed to enhance the safety, security, and mobility of all users of the region’s transportation system. The MPO’s Regional Transportation Plan, Congestion Management Plan, and Regional Intelligent Transportation Systems Architecture all include safety goals and promote safety outcomes. Additionally, the State Highway Safety Plans (SHSP) for Tennessee and Mississippi are considered when projects are considered for addition to the RTP.

The MPO analyzes safety data such as high-crash corridors, crash density, crash severity by location, and bicycle and pedestrian crash data to identify safety problems and trends in the region. This information is used to evaluate projects in the RTP and TIP project ranking process. Additionally, projects that integrate safety countermeasures and/or multimodal accommodations are awarded additional points in project ranking. The current FY2017-2020 TIP has a Bike & Pedestrian and Transportation Alternatives grouping which is used to program active transportation projects funded with the MPOs sub-allocated funds. The MPO is considering adding a new safety grouping to the FY2020-2023 TIP.

The MPO is an active participant in both Tennessee’s and Mississippi’s SHSP groups. In addition to regularly participating in SHSP meetings, the MPO also aligns RTP goals with both SHSPs. The MPOs goals align with using education, enforcement, engineering, and emergency response initiatives, to assist jurisdictions in reducing the number and severity of crashes in the MPO Planning area.

Multimodal safety improvements are a focus for the MPO. In 2014, the TPB adopted the Regional Bicycle and Pedestrian Plan which serves as a tool to identify opportunities for enhancing bicycle and pedestrian travel. In 2017, the Bicycle and Pedestrian Report was published to document the progress of implementing the Bicycle and Pedestrian Plan. The report includes bicycle and pedestrian awareness and education campaigns, encouragement efforts, planning, and the construction of facilities and amenities. An update to the Bicycle and Pedestrian Plan is expected in calendar year 2020.
MPO staff stays current on new safety resources and best practices by participating in various training workshops including Pedestrian Safety design, FHWA webinars, and workshops by Smart Growth America.

The MPO monitors guidance and best practices in integrating and strengthening cyber security of the transportation system. With more technology solutions proposed to solve transportation challenges, security and data protection are an important consideration in project deployment. The MPO participates in the discussions about securing the Region’s Intelligent Transportation Systems. For example, in promoting a connected system there has been coordination with municipal services such as Emergency Management Systems and law enforcement.

4.11.3 Findings

**Commendation:**

In 2015, FHWA identified Memphis as a Pedestrian-Bicycle Focus City due to high nonmotorized fatalities. The MPO is commended for developing a Regional Bicycle and Pedestrian Plan and subsequent Bicycle and Pedestrian Reports which informed their prioritization of bike and pedestrian investments in the TIP and RTP. This report documents and supports an increase the number of bicycle and pedestrian projects funded in their area.
4.12 Air Quality

4.12.1 Regulatory Basis

23 CFR 450.326 Development and content of the transportation improvement program

23 CFR 450.324 Development and content of the metropolitan transportation plan

4.12.2 Current Status

The Environmental Protection Agency (EPA), under the authority of the Clean Air Act (CAA), designated the Memphis region as a maintenance area of the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS). The Memphis Urban Area MPO coordinates the development of all transportation conformity products through an Interagency Consultation (IAC) process with EPA, FHWA, FTA, TDOT, MDOT, TDEC, MDEQ, local air agencies, and local governments to address requirements in the State Implementation Plans (SIPs) and Federal regulations. Conformity procedures for the Tennessee portion of the planning area follow the provisions outlined in Chapter 1200-03-34 of the Rules of Tennessee Department of Environment and Conservation Bureau of Environment Division of Air Pollution Control. The Mississippi conformity procedures are outlines in the 2013 Transportation Conformity Consultation and General Provisions MOA. Additionally, the Memphis Urban Area MPO and the West Memphis MPO coordinate their planning processes for conformity since the ozone maintenance areas include both MPOs.

1971 Carbon Monoxide (CO) Standard

On March 3, 1978, the EPA designated Shelby County, TN as a nonattainment area for the 1971 carbon monoxide standard. The EPA re-designated Shelby County from nonattainment to attainment on August 31, 1994 as Shelby County developed a maintenance plan for two 10-year maintenance periods. The EPA approved a revised maintenance plan for the second 10-year maintenance period on December 26, 2006, and the revised maintenance plan requires Shelby County to demonstrate conformity until 2017. On December 26, 2017 transportation conformity requirements for CO maintenance area ended.

2008 8-Hour Ozone Standard

On May 21, 2012, the EPA designated Shelby County, TN, Crittenden County, AR, and the northern portion of Desoto County, MS as a marginal nonattainment area for the 2008 8-hour ozone standard. On June 23, 2016, EPA published a notice in the Federal Register designating Shelby County, TN, Crittenden County, AR, and the northern portion of Desoto County, MS as a
marginal maintenance area. The Memphis Urban Area MPO demonstrates conformity for the Shelby County and DeSoto portions of the maintenance area using the motor vehicle emissions budgets in the Tennessee SIP and Mississippi SIP. The West Memphis MPO handles the conformity determinations for Crittenden County.

**Motor Vehicle Emissions Simulator (MOVES) Requirements**

The EPA’s Motor Vehicle Emissions Simulator (MOVES) is a state-of-the-art modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. MOVES2014b is the latest version, and the Memphis Urban Area MPO used MOVES2014b in the development of the June 2019 Conformity Determination Report.

**Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) supports surface transportation projects and other related efforts that contribute air quality improvements, provide for congestion relief, and help nonattainment and maintenance areas meet the requirements of the CAA. Projects located in Shelby County, TN are eligible to receive CMAQ program funds, and member jurisdictions submit project proposals to TDOT for consideration as part of the state’s competitive solicitation process. The CMAQ program funds projects for idle reduction, transit services, ridesharing, education/outreach, greenways, and traffic signals.

**4.12.3 Findings**

None.

**4.13 Congestion Management Process**

**4.13.1 Regulatory Basis**

23 CFR 450.322 Congestion management process in transportation management areas

**4.13.2 Current Status**

The Memphis MPO adopted its current Congestion Management Process (CMP) in August 2015. This CMP was adopted as a component of and precursor to the MPO’s 2040 Livability RTP. The
CMP was developed in accordance with FHWA’s *Congestion Management Process Guidebook* and meets the minimum regulatory requirements in 23 CFR 450.322.

Observations of the CMP are grouped according to the CMP process steps described in FHWA’s *Congestion Management Process Guidebook*, which provides detail on the development and implementation of a congestion management process. This guidebook provides an 8-step process model.

**Step 1 - Develop Regional Objectives for Congestion Management**

The existing CMP was developed as a component of the 2040 RTP. Accordingly, the CMP objectives in the Memphis region are drawn from the goals and objectives of the 2040 RTP, which had already been identified at the time of development and adoption of the CMP.

The MPO’s CMP is founded in the following goals and objectives from the 2040 RTP, as identified by the MPO in the August 2015 CMP:

- **Goal: Reduce travel delay for people and goods.**
  - Objective: Address critical highway bottlenecks as a priority.
  - Objective: Improve system operations through technology applications.
- **Goal: Improve multimodal access to community and employment resources.**
  - Objective: Improve bicycle and pedestrian access to education, health, and recreational opportunities.
- **Goal: Ensure the region is well positioned to remain a leader in global logistics and freight movement.**
  - Objective: Reduce truck delay on critical freight corridors and within key freight hubs.
- **Goal: Minimize adverse impacts of transportation investment on the (social, natural, historic) environment and improve public health.**
  - Objective: Provide multimodal, active transportation options that reduce vehicle miles travelled and air pollution and improve public health.

As stated, these goals and objectives stem from the MPO’s long-range planning process, rather than a specific outreach effort related to congestion management. This approach, which is a common one across the State and country, encourages alignment of the decisions being made and the processes being carried out between the long-range planning, the congestion management process, and the short-range programming.
Although not a regulatory requirement, FHWA’s *Congestion Management Process Guidebook* promotes the use of “SMART” (Specific, Measurable, Agreed, Realistic, and Time-Bound) objectives to guide the implementation of the CMP. The MPO has expressed an interest in utilizing more “SMART” objectives in the next update to the CMP.

**Step 2 - Define CMP Network**

The Memphis MPO applies the principles of the CMP across the entire Federal-aid network in the metropolitan planning area, including all roadways functionally classed as urban minor collector and higher. This coincides with the MPO’s travel demand model network.

Federal regulations provide MPOs with significant flexibility in determining the appropriate CMP network; the *CMP Guidebook* discusses many of the considerations that should be made in doing so, as well as best practices. Primary considerations discussed in the guidebook include data availability, as various facilities will have different data available for congestion analysis and monitoring; level of congestion; and multimodal corridors, such as analyzing transit routes, and bicycle and pedestrian facilities. Based on these considerations, the *CMP Guidebook* provides that MPOs may limit the roadways and intersections on which the CMP is applied, provided these facilities include those areas considered congested. A corridor-based approach is a common approach to focus and prioritize the most congested networks for the region.

As discussed at the Federal Certification Review Site Visit, there is a limited set of roadways in the Memphis MPO’s planning area which are known to be congestion priorities based on data, model analysis, and public feedback. These corridors were largely identified through the RTP process and have been identified in the RTP as “Livability and Mobility Corridors.” In the next CMP update, the MPO will consider a revised approach to the establishment of the CMP network to prioritize these known facilities, such as a corridor-based approach.

**Step 3 - Develop Multimodal Performance Measures**

As detailed in the 2015 CMP, the MPO identified six performance measures:

1. Volume to Capacity Ratio
2. Travel Time Index, Planning Index, and Buffer Index
3. Number of Crashes
4. Transit Passenger Trips and Bus On-Time Performance
5. Miles of Bike Lanes or Shoulders
6. Truck Hours of Delay
These performance measures are incorporated into the development of the region’s Congestion Management report to evaluate system performance. This report, referred to as the "Biennial Congestion Management Report", is issued every two years and details the region’s performance in a variety of congested-related measures.

These reports were issued in 2017 and 2019, and cover performance of the system in 2016 and 2018, respectively. Both reports contain extensive information on congestion performance in the region, including:

- Congestion level compared to peer cities (as defined by TomTom)
- Transit ridership
- Vehicle Miles Traveled (VMT)
- Trip elimination and fuel savings associated with the Memphis Area Rideshare
- Travel time index
- Level of travel time reliability (2018 only) – *aligns with FAST Act performance measure*
- Truck travel time reliability (2018 only) – *aligns with FAST Act performance measure*
- Annual hours of Peak Hour Excessive Delay (PHED) per capita (2018 only) – *aligns with FAST Act performance measure*
- Non-single occupancy vehicle travel (2018 only) – *aligns with FAST Act performance measure*

Of these congestion performance criteria, only the travel time reliability metric aligns with an established performance measure. Suggested enhancements for the performance measure section are to:

- Identify which regional SMART objectives are associated with each performance objective. This will help track progress towards achieving the objectives; and
- Describe how the performance measures assist in identifying and prioritizing congestion as well as track performance on specifically identified corridors currently identified congested networks and in identifying current and existing congested networks that have been or should be identified.

**Step 4 - Collect Data & Monitor Performance**

Federal regulations call for the “establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute in determining the causes of congestion, and to evaluate the efficiency and effectiveness of implemented actions.” (23 CFR 450.320(c)(3))
The MPO collects a variety of data to inform its monitoring of congestion in the Memphis region. The congestion monitoring component of the CMP is largely dependent on the Biennial Congestion Management Report, which drives the data needs.

Although not directly reported in the Congestion Management Report, the MPO regularly collects Average Annual Daily Traffic (AADT) in the region based on traffic counts performed by TDOT and MDOT, and regularly collects crash data from both Tennessee and Mississippi.

Through the development of the CMP, the MPO also collected and reported many data items which informed the CMP. These include 2012 regional freight movement (from FHWA’s Freight Analysis Framework (FAF)); 2007, 2010, and 2040 truck flows in the region (from FAF); MATA transit routes as of 2015; 2012 revenue miles, revenue hours, and trips of rural transit providers in the region; and bicycle facilities in the region.

As observed, the CMP is clearly and transparently data-driven. Although not explicit in nature, the Memphis MPO does have a program for data collection and system monitoring to support the CMP development and implementation. The MPO is encouraged to consider strengthening this component to directly support regional SMART objectives, established performance measures and tracking improvements on identified congested facilities in the next update to the CMP.

Step 5 - Analyze Congestion Problems and Needs

Congested corridors on the Federal-aid network, as defined in the CMP document, are identified based on the following criteria:

- 2010 roadway Level of Service (LOS) E or F for the AM Peak period, as modeled by the MPO's travel demand model;
- Travel time reliability, calculated by a buffer index for the AM Peak period from November 2013;
- Crash density; and
- Public outreach (inferred through comments received throughout development of the 2040 RTP).

Based on these criteria, the MPO produced a series of maps of facilities on the Federal-aid network which are likely congested.

In addition to the congested corridors identified through the CMP, the MPO also examined congestion through the 2040 RTP. Section 4.2 of the 2040 RTP examines existing and future
congestion through two mechanisms. First, the RTP examined PM peak period travel speeds as sourced through the National Performance Management Research Data Set (NPMRDS) to identify two existing congestion hotspots: I-240 at SR-385 and I-40 at I-240. In both cases, the RTP notes that construction in this area may be contributing to lower-than-expected travel speeds. Second, the RTP identifies existing congestion through roadway volume to capacity ratio at the AM peak period as calculated through the MPO's travel demand model. Through this process, the RTP identifies a series of currently-congested corridors, including the two previously-identified "hot spots".

Calculation of future congestion follows a similar process, incorporating existing/committed projects and projections for population and employment growth. Future congestion hot spots largely mirror the existing hot spots, with a few additional corridors.

In addition to these processes, the MPO also identified a series of “Livability Corridors” and “Mobility Corridors” in the 2040 RTP. These corridors, identified in Section 4.7 of the 2040 RTP, are those on which there is either an emphasis on efficient movement of people and goods to advance regional economic development goals (Mobility Corridors) or an emphasis on multimodal enhancements to improve access to community resources and advance regional quality of life goals (Livability Corridors).

In addition to the analysis to identify where congestion is occurring, the MPO has also taken steps to identify the causes of this congestion, although there is a limited level of this analysis at a corridor-specific level.

First, the CMP document generalizes causes of recurring and non-recurring congestion found through research, highlighting bottlenecks and poor signal timing as primary causes of recurring congestion and traffic incidents, bad weather, work zones, and special events as primary causes of non-recurring congestion at a general, national level.

To add additional context to the national research, the MPO focused on a few of these congestion-inducing factors. Specifically, the MPO analyzed Average Annual Daily Traffic (AADT) and crashes across the region. This informed the previously-discussed map series of likely congested corridors.

Through the development of the CMP, the MPO also performed a series of “safety and operational audits” on select facilities in the region. As discussed in the CMP documents, these audits were used as an example of what to look for when trying to enhance the safety or operations of a facility. Audit locations were identified through stakeholder input. Most of these locations align with previously-identified congested corridors.
Through these audits, the MPO identified deficiencies specific to each corridor that have an impact on operations and congestion. Examples include right turn transitions which are too short, causing traffic to back up on the through lane; un-signalized access driveways; poor signal timing; non-compliant signage and signals; and other examples. Although not explicitly stated, many such deficiencies are likely causes of congestion.

In addition to deficiencies, these audits also identify potential mitigation strategies for each individual deficiency. For more information on this process, see Identify and Assess Strategies below.

Through these efforts, the MPO is aware of where congestion is occurring in the region and, to a lesser extent, the causes of such congestion. As previously discussed, at the Federal Certification Review Site Visit the Federal Review Team spoke with the MPO staff about the opportunity of applying the CMP to the entire Federal-aid network and the benefits in targeting the CMP to specific, prioritized, congested corridors. Doing so could enable more targeted analysis of the causes of congestion, to inform appropriate strategies for implementation on congested corridors.

**Step 6 - Identify and Assess Strategies**

The MPO’s CMP includes a “CMP toolbox” or 45 strategies which address congestion. These strategies are grouped in ten categories, which are then further grouped in four distinct approaches. These grouped strategies include:

- **Demand Management - strategies designed to reduce the total number of vehicles on the road**
  - Land use strategies:
    - Complete streets
    - Smart growth
    - Corridor management agreements
  - Commuter programs:
    - Alternative work hours
    - Carpooling/vanpooling/ridesharing
    - Carsharing
    - Telecommuting

- **Operational Improvements – strategies to improve the operations of the existing transportation system**
- **Operational improvements & ITS strategies:**
  - Assess management
  - Bottleneck removal
  - Congestion pricing
  - Multimodal facilities
  - One-way streets
  - Parking management
  - Ramp management
  - Restricting left turns
  - Roadway condition information systems
  - Sign and pavement marking upgrades
  - Traffic calming
  - Traffic signal improvements
  - Transit signal priority
  - Traveler information systems
  - Variable speed limits

- **Incident management strategies:**
  - Freeway service patrols
  - Incident management planning
  - Special event planning
  - Develop train-the-trainer programs

- **Intersection improvement strategies:**
  - Interchange construction
  - Intersection improvements

- **Freight improvement strategies:**
  - Freight capacity improvements
  - Freight operations improvements/mobility program

- **Multimodal Strategies** – *strategies to improve the attractiveness of non-SOV travel modes*
  - **Transit improvement:**
    - Adding capacity to transit systems
    - Electronic fare payment systems
    - Realigning transit service schedules and stop locations
    - Real-time transit information
o Bicycle & pedestrian facilities:
  ▪ Bicycle improvements
  ▪ Multimodal LOS analysis
  ▪ Bikesharing
  ▪ Pedestrian facility improvements
  ▪ Road diets

- Strategic Capacity Enhancements – strategies to increase the capacity of the roadway network
  o General purpose lanes:
    ▪ New roadways and travel lanes
  o Dedicated lanes:
    ▪ High-Occupancy Vehicle (HOV) and High-Occupancy Toll (HOT) lanes
    ▪ Grade crossing separations
    ▪ Hard shoulder running
    ▪ Reversible lanes
    ▪ Dedicated transit travel lanes/right-of-way

In selecting each strategy, the MPO assessed each for effectiveness in addressing congestion through various metrics targeted to the specific strategy. For example, implementation of best practices in land use (growth management, increasing density, and mixed-use development) have been shown to result in up to a 10% decrease in single-occupant vehicle use and 5% increase in transit use in the long term. This information is largely based on national research, and is not provided in a context specific to the Memphis region.

The CMP also provides examples of how various CMP strategies have been applied in the region. Examples include a variety of ITS improvements; the TDOT HELP program; transit ITS; a variety of programs, committees, and planning studies; and the Memphis Area Rideshare program. However, the CMP provides little data or information related to the performance or potential effectiveness of each strategy in the context of addressing congestion in the Memphis region. This type of before-and-after analysis, either systematically or project-specific and especially targeted to established performance measures, is an opportunity area for the CMP.

Step 7 - Program and Implement CMP Strategies

As described in the CMP, the programming and implementation of CMP strategies happens primarily through the project identification and prioritization as part of the development of the RTP. The 2015 CMP was designed to inform this process for the 2040 RTP.
As discussed in the RTP, the MPO applied each of the CMP strategies (with the exception of new general purpose lanes) to the future year congested network and performed an off-model analysis to determine future performance of each facility when a full range of congestion management strategies have been applied. The details of this off-model approach are unclear in the RTP.

Based on this off-model analysis, the MPO generated projected 2040 level of service (LOS) for comparison against the modeled 2040 LOS without the application of CMP strategies. In all cases, the LOS stayed the same or improved with the application of non-capacity adding CMP strategies. The RTP also identifies in which of these cases the MPO has programmed or planned for a capacity-adding project. However, there is no identification of where or how other CMP strategies are being applied.

Outside of this analysis, it is somewhat unclear how the CMP strategies informed the identification of appropriate project priorities and needs. Most projects included in the fiscally-constrained project list in the RTP are for capacity improvements. However, there is also a commitment in the RTP to fund projects that align with non-capacity adding CMP strategies. There are a variety of transit projects, one access management project, and multiple “groupings” of projects which align with non-capacity adding CMP strategies such as the Bike/Ped/Complete Streets/Transit Operations grouping, the Transit O&M grouping, and the Livability Corridors grouping.

Project scoring for the purposes of prioritization in the TIP reflect a focus on congestion management and the implementation of CMP strategies. Of the total 100 points available to STBG road projects, 14 points each come from the incorporation of bicycle and pedestrian facilities and for projects that incorporate two or more CMP strategies (excluding the addition of new general purpose lanes).

**Step 8 - Evaluate Strategy Effectiveness**

As previously discussed, through the development of the CMP the MPO identified general effectiveness of CMP strategies based on national research, such as increases in non-SOV travel or decreases in traffic volumes. This analysis is not specific to the application of these strategies in the Memphis region.

The Biennial Congestion Management Report only reports on the performance of two specific CMP strategies: transit (ridership) and rideshare (trip elimination, fuel savings, and emissions reduction). All other measures being reported are system-level, such as travel time reliability.
and peak hour excessive delay. No information is provided regarding the application and effectiveness of CMP strategies in the time since the previous congestion management report.

Federal regulations call for “a process for periodic assessment of the effectiveness of implemented strategies, *in terms of the area's established performance measures*” (emphasis added). As previously stated, only the travel time reliability metric aligns with an established performance measure as defined in CMP. As also previously discussed, this type of strategy effectiveness measuring has been discussed as an opportunity area for the CMP.

**Congestion Management Process Update**

The MPO is currently planning for a major update to the CMP with adoption projected in calendar year 2020. To support this effort, MPO staff have already engaged FHWA on sharing of best practices and communicating expectations.

**4.13.3 Findings**

**Recommendation:**

In the next CMP update, the MPO should closely follow FHWA’s *Congestion Management Process Guidebook* and engage FHWA, TDOT and MDOT staff to identify opportunity areas which support enhanced application of the CMP.

**Proposed FHWA/FTA Technical Assistance:**

FHWA will provide best practices and guidance on application of the *Congestion Management Process Guidebook* in CMP development.

**4.14 Performance Based Planning and Programming**

**4.14 Regulatory Basis**

23 CFR 450.306 Scope of the metropolitan transportation planning process

23 CFR 450.314 Metropolitan planning agreements

23 CFR 450.324 Development and content of the metropolitan transportation plan

23 CFR 450.326 Development and content of the transportation improvement program
23 CFR 490 National Performance Management Measures

4.14 Current Status

On May 27, 2016, FHWA and FTA jointly published the Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning Final Rule in the Federal Register. This rule updates the regulations governing the statewide/nonmetropolitan and metropolitan transportation planning process to reflect the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America’s Surface Transportation (FAST) Act.

MAP-21 established, and the FAST Act continued, a new mandate for State DOTs and MPOs to implement a performance-based approach to planning and programming. Regulations regarding this approach are found throughout 23 CFR 450.

Per 23 CFR 450.314(h) requires that MPOs, States, and public transit providers jointly agree upon the methodologies for cooperatively developing, selecting, and reporting performance targets as well as tracking progress towards target achievement in the MPO region. On June 1, 2018, TDOT, the Memphis Urban Area MPO, and the Memphis Area Transit Authority fully executed a written Memorandum of Understanding (MOU) to comply with this requirement. This MOU details the roles of each of the signatories in carrying out the performance-based planning and programming process, a commitment to data sharing, requirements related to development and reporting of performance targets, and incorporation of targets and performance into the various statewide and metropolitan plans and programs.

Leading up to implementation of the performance based planning and programming requirements, MPO staff spent time becoming familiar with the regulations, developing schedules, and seeking guidance from FHWA, FTA, TDOT, and MDOT. The MPO participated in various trainings and webinars to seek clarification on application. This information was shared with the TPB, ETC, and other partners. Additionally, the MPO conducted workshops, webinars, and presentations to ensure that partners understood the requirements and agreed on implementation in the Memphis Region. TDOT and MDOT assisted the MPO in delivering presentations at TPB and ETC meetings. The MPO was an active participant in TDOT’s Safety Performance Target working group.

Safety Performance Targets (PM1)

On November 15, 2018, the TPB approved a resolution to support the second round of TDOT’s and MDOT’s safety performance targets.
<table>
<thead>
<tr>
<th></th>
<th>TDOT</th>
<th>MDOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fatalities on all</td>
<td>1000.6</td>
<td>1022.0</td>
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<tr>
<td>public roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of fatalities per 100</td>
<td>1.329</td>
<td>1.291</td>
</tr>
<tr>
<td>million VMT on all public</td>
<td></td>
<td></td>
</tr>
<tr>
<td>roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of serious injuries</td>
<td>7227.6</td>
<td>7374.6</td>
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<tr>
<td>on all public roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of serious injuries per</td>
<td>9.594</td>
<td>9.324</td>
</tr>
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<td>100 million VMT on all public</td>
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<td></td>
</tr>
<tr>
<td>roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of non-motorized</td>
<td>467.7</td>
<td>546.8</td>
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<tr>
<td>fatalities and non-motorized</td>
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<tr>
<td>serious injuries on all public</td>
<td></td>
<td></td>
</tr>
<tr>
<td>roads</td>
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</tr>
</tbody>
</table>

**Infrastructure Condition Performance Targets (PM2)**

On November 15, 2018, the TPB approved a resolution to support TDOT’s and MDOT’s pavement condition and bridge condition performance targets.

|                                | TDOT                  | MDOT                  |
|                                | Baseline (2017)       | 4-Year Target (2021)  |
|                                |                       |                       |
| % of pavements of the          | 75.6%                 | 60.0%                 |
| Interstate system in good      |                       |                       |
| condition                       |                       |                       |
| % of pavements of the          | 0.14%                 | 1.0%                  |
| Interstate system in poor      |                       |                       |
| condition                       |                       |                       |
| % of pavements of the non-     | 72.7%                 | 42.0%                 |
| Interstate NHS in good         |                       |                       |
| condition                       |                       |                       |
| % of pavements of the non-     | 6.70%                 | 4.0%                  |
| Interstate NHS in poor         |                       |                       |
| condition                       |                       |                       |
| % of NHS bridges classified as | 39.5%                 | 36.0%                 |
| in good condition               |                       |                       |
| % of NHS bridges classified as | 4.9%                  | 6.0%                  |
| in poor condition               |                       |                       |
System Performance Targets (PM3)

On November 15, 2018, the TPB approved a resolution to support TDOT’s and MDOT’s pavement travel time reliability and freight reliability performance targets.

<table>
<thead>
<tr>
<th></th>
<th>TDOT</th>
<th></th>
<th>MDOT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline (2017)</td>
<td>4-Year Target (2021)</td>
<td>Baseline (2017)</td>
<td>4-Year Target (2021)</td>
</tr>
<tr>
<td>% of the person-miles traveled on the Interstate that are reliable</td>
<td>87.7%</td>
<td>83.0%</td>
<td>99.3%</td>
<td>90.0%</td>
</tr>
<tr>
<td>% of the person-miles traveled on the non-Interstate NHS that are reliable</td>
<td>Not Applicable</td>
<td>87.5%</td>
<td>Not Applicable</td>
<td>85.0%</td>
</tr>
<tr>
<td>Truck travel time reliability (TTTR) index on the Interstate System</td>
<td>1.35</td>
<td>1.33</td>
<td>1.13</td>
<td>1.50</td>
</tr>
</tbody>
</table>

Since the urbanized area includes an air quality maintenance areas for ozone and has an urbanized population over 1 million, the MPO was required to adopt regional traffic congestion and on-road mobile source emissions performance measures. The Memphis MPO coordinated and led the process of setting unified traffic congestion reduction targets for the tri-state Memphis urbanized area. The Memphis MPO provided statistical analysis, facilitated meetings, held webinars, and developed consensus between all the stakeholders. The coordination, methodologies, and targets are all listed in the approved 2018 Memphis CMAQ Performance Plan.

On April 19, 2018, the TPB adopted the Memphis, TN-MS-AR urbanized area’s performance targets related to traffic congestion reduction.

<table>
<thead>
<tr>
<th></th>
<th>Memphis, TN-MS-AR Urbanized Area</th>
<th></th>
<th>4-Year Target (2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline (2017)</td>
<td>2-Year Target (2019)</td>
<td></td>
</tr>
<tr>
<td>% of Non-Single Occupancy Vehicle Travel</td>
<td>16.6%</td>
<td>16.5%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Annual Hours of Peak-Hour Excessive Delay per Capita</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>18.8</td>
</tr>
</tbody>
</table>
On November 15, 2018, the TPB approved a resolution to support TDOT’s and MDOT’s emissions reduction performance targets performance targets.

<table>
<thead>
<tr>
<th></th>
<th>TDOT</th>
<th>MDOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (FY 2014-2017)</td>
<td>2-Year Target (FY2018-2019)</td>
<td>4-Year Target (FY2018-2021)</td>
</tr>
<tr>
<td>Total Emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reductions (VOC) kg/day</td>
<td>230.025</td>
<td>30.698</td>
</tr>
<tr>
<td>Total Emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reductions (CO) kg/day</td>
<td>530.282</td>
<td>75.000</td>
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<tr>
<td>Total Emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reductions (NOx) kg/day</td>
<td>363.399</td>
<td>62.840</td>
</tr>
</tbody>
</table>

Transit Asset Management (TAM) Targets

The MPO was involved in MATA’s Transit Asset Management Plan development and target setting. MATA shared the final targets which were reviewed by staff and adopted by the TPB on August 23, 2018.
4.14 Findings

**Commendation:**

The MPO is commended for their technology-driven approach and coordination strategy in establishing tri-State CMAQ performance measures and development of the CMAQ Performance Plan.

**Recommendation:**

The MPO should continue coordinating with MATA, TDOT, and MDOT to verify that the TIP and MTP includes the anticipated effects towards achieving the PM1, PM2, PM3, and Transit Asset Management targets set by the MPO. Additionally, the MTP must continue to include the system performance report which evaluates the performance and condition of the transportation system with respect to the performance measures and targets.
5.0 CONCLUSION AND RECOMMENDATIONS

The FHWA and FTA review found that the metropolitan transportation planning process conducted in the Tennessee and Mississippi portions of the Memphis urbanized area meets Federal planning requirements as follows.

5.1 Commendations

The following are noteworthy practices that the Memphis Urban Area MPO is doing well in the transportation planning process:

- **Agreements, Consultation, and Coordination**: The MPO consistently executes a high level of coordination in carrying out the metropolitan transportation planning process. As a bi-state MPO serving a tri-state TMA, the Memphis MPO proactively coordinates with multiple State Departments of Transportation (DOTs), additional State agencies, the West Memphis MPO, the Memphis Area Transit Authority, regional and local agencies, and the public. Through this coordination, the MPO has led regional tri-state planning efforts that exceed the minimum requirement of planning for the bi-state metropolitan planning area.

- **Transportation Improvement Program**: The MPO actively supports project delivery and timely obligation of sub-allocated STBG funds by maintaining and sharing project status information handouts, strategically programming funds based on project status/obligations data, and participating in Tennessee and Mississippi project tracking meetings. The Memphis MPO area has seen a reduction in the amount of unobligated sub-allocated STBG funds from the use of these monitoring and reprogramming tools and open communication with members about project status.

- **Public Participation**: The MPO utilizes a data-driven approach to public engagement by documenting engagement metrics (i.e., web analytics, social media presence, and media appearances) in the annual State of the MPO Report which informs future public involvement strategies. The MPO is commended for leveraging in-house expertise to translate Plan summaries into Spanish and utilizing innovative outreach methods such as bus advertisements, visualization-focused fact sheets, and videos.

- **Safety**: In 2015, FHWA identified Memphis as a Pedestrian-Bicycle Focus City due to high nonmotorized fatalities. The MPO is commended for developing a Regional Bicycle and Pedestrian Plan and subsequent Bicycle and Pedestrian Reports which informed their prioritization of bike and pedestrian investments in the TIP and RTP. This report
documents and supports an increase the number of bicycle and pedestrian projects funded in their area.

- **Performance Based Planning and Programming**: The MPO is commended for their technology-driven approach and coordination strategy in establishing tri-State CMAQ performance measures and development of the CMAQ Performance Plan.

### 5.2 Recommendations

The following are recommendations that would improve the transportation planning process:

- **Metropolitan Transportation Plan**: The MPO should consider advancing and integrating PEL linkages principles in future RTP updates and corridor/feasibility studies. Specifically, study documenting and analyzing the proposed project’s purpose and need, range of reasonable alternatives, effects analysis, and applicable mitigation strategies.

- **Metropolitan Transportation Plan**: The MPO should consider participating in the micro-simulation transportation demand model pilot to allow for the regional model to be used at the corridor scale. This approach would maximize utility of the regional model for project analyses and reduce the risk for inconsistencies in model projections at the project level. This effort also would support PEL initiatives.

- **Congestion Management Process**: In the next CMP update, the MPO should closely follow FHWA’s Congestion Management Process Guidebook and engage FHWA, TDOT and MDOT staff to identify opportunity areas which support enhanced application of the CMP.

- **Performance Based Planning and Programming**: The MPO should continue coordinating with MATA, TDOT, and MDOT to verify that the TIP and MTP includes the anticipated effects towards achieving the PM1, PM2, PM3, and Transit Asset Management targets set by the MPO. Additionally, the MTP must continue to include the system performance report which evaluates the performance and condition of the transportation system with respect to the performance measures and targets.
5.3 Training/Technical Assistance

The following training and technical assistance is recommended to assist the MPO with improvements to the transportation planning process:

- **Freight:** The MPO requested information on identification and analysis of freight data sources training opportunities and possible peer exchanges with other MPOs with a significant freight planning program.

- **Congestion Management Process:** FHWA will provide best practices and guidance on application of the *Congestion Management Process Guidebook* in CMP development.
APPENDIX A – CERTIFICATION REVIEW PARTICIPANTS

The following individuals participated in the Memphis TMA Certification Review public meeting held on March 25, 2019 and site visit held on and March 26-27, 2019 in Germantown, TN:

**Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)**

- Theresa Claxton, FHWA Tennessee Division, Planning & Program Management Team Leader
- Elizabeth Watkins, FHWA Tennessee Division, Transportation Planning Specialist
- Sean Santalla, FHWA Tennessee Division, Transportation Planning Specialist
- Joi Hamilton-Jones, FHWA Tennessee Division, Civil Rights Program Specialist
- Jessica Rich, FHWA Tennessee Division, Safety Engineer
- Melissa Furlong, FHWA Tennessee Division, Operations Program Manager
- Shundreka Givan, FHWA Mississippi Division, Project Development Team Leader
- Carr Brown, FHWA Mississippi Division, Civil Rights Specialist
- Amy Heflin, FHWA Arkansas Division, Program Delivery Team Leader
- Valera McDaniel, FHWA Arkansas Division, Transportation Program Coordinator/Planner
- Andres Ramirez, FTA Region IV, General Engineer

**Environmental Protection Agency (EPA)**

- Dianna Myers, EPA Region IV, Physical Scientist

**Memphis Urban Area Metropolitan Planning Organization (MPO)**

- Pragati Srivastava, MPO Staff, Administrator
- Connie Jordan, MPO Staff, Administrative Technician
- Sajid Hossain, MPO Staff, Transportation Planner
- Kate Horton, MPO Staff, Transportation Planner
- Nick Warren, MPO Staff, Transportation Planner
- Alvan-Bidal Sanchez, MPO Staff, Transportation Planner
- Jordan Smith, MPO Staff, Transportation Planner
- Mavrick Fitzgerald, MPO Staff, Transportation Planner
- Zylavian Watley, MPO Staff, Transportation Planner
- John Zeanah, Memphis-Shelby County Planning and Development, Director
- Jim Strickland, City of Memphis, TN, Mayor & Chairman of Transportation Policy Board
- Jim Crook, Shelby County, TN, Engineering Department
- Rick McClanahan, City of Bartlett, TN, City Engineer
• Tim Gwaltney, City of Germantown, TN, City Engineer
• Stephen Edwards, City of Memphis, TN, Transportation Planning and Design Engineer
• Kenneth Monroe, Consultant, Kimley-Horn and Associates
• Zhiyong Guo, Consultant, Kimley-Horn and Associates

Tennessee Department of Transportation (TDOT)
• Kwabena Aboagye, Division of Long Range Planning, Planning Manager
• Calvin Abram, Division of Long Range Planning, Community Transportation Planning Supervisor
• Antoine Hawkins, Division of Long Range Planning, Senior Community Transportation Planning
• Jennifer Marshall, Division of Long Range Planning, Community Transportation Planning
• James White, Division of Civil Rights, Title VI Specialist

Mississippi Department of Transportation (MDOT)
• Perry Brown, Planning Division, Transportation Planner

Memphis Area Transit Authority (MATA)
• John Lancaster, Manager of Planning
• Scarlet Ponder, Transit Planner

West Memphis Metropolitan Planning Organization (MPO)
• Eddie Brawley, MPO Staff, Director

Interested Individuals
• Suzanne Carlson
## APPENDIX B – CERTIFICATION REVIEW AGENDA

### AGENDA

#### Monday, March 25th

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30pm – 7:00pm</td>
<td>Public Meeting - The Great Hall &amp; Conference Center</td>
<td>Federal Team</td>
</tr>
<tr>
<td></td>
<td>1900 S Germantown Rd, Germantown, TN 38138</td>
<td>Lead: Elizabeth Watkins</td>
</tr>
<tr>
<td>5:30 – 5:50pm</td>
<td>Welcome, introductions, and overview</td>
<td>Federal Team</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lead: Elizabeth Watkins</td>
</tr>
<tr>
<td>5:50 – 7:00pm</td>
<td>Public comment and feedback</td>
<td>Public</td>
</tr>
<tr>
<td>7:00pm</td>
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#### Tuesday, March 26th

<table>
<thead>
<tr>
<th>Time</th>
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<td>8:30am – 3:45pm</td>
<td>On-Site Review Session - The Great Hall &amp; Conference Center</td>
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<td>1900 S Germantown Rd, Germantown, TN 38138</td>
<td>Lead: Elizabeth Watkins</td>
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<td>Call in: 877-336-1839, CODE: 7741242</td>
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<td>Welcome &amp; Introductions</td>
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<td>Discussion of Previous Review Findings</td>
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<td>MPO Organizational Structure</td>
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<td>Staffing &amp; Resources</td>
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<td>Unified Planning Work Program Development &amp; Management</td>
<td>Sean Santalla, Elizabeth Watkins</td>
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<td>Metropolitan Transportation Plan Model</td>
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<td>Theresa Claxton; Randy Jansen; Elizabeth Watkins</td>
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<td>TIP Development &amp; Management</td>
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<td>Self-Certification</td>
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<td>Transportation Performance Management &amp; Planning &amp; Programming</td>
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<td>2:30 – 2:45pm</td>
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<td>Air Quality &amp; Transportation Conformity</td>
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<td>Questions, Comments, Next Steps</td>
<td>Federal Team &amp; MPO Staff</td>
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<td>Lead: Elizabeth Watkins</td>
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**Wednesday, March 27th**

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<td>Prior Day Recap</td>
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<td>Congestion Management Process</td>
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<td>Transit Planning &amp; Coordination</td>
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<td>Transportation Safety &amp; Security</td>
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<td>Lunch</td>
<td>Federal Review Team Closed-Session Discussion of Preliminary Findings</td>
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<td>FHWA/FTA/TDOT/MDOT/MPO Initiatives</td>
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<td>Lead: Elizabeth Watkins</td>
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<td>2:00 – 3:00pm</td>
<td>Listening Session for TPB and ETC Members</td>
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<td>Close Out</td>
<td>Federal Team</td>
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<td>Review of Preliminary Findings</td>
<td>Lead: Elizabeth Watkins</td>
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<td>Questions, comments, and next steps</td>
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APPENDIX C - STATUS OF FINDINGS FROM LAST REVIEW

One of the priorities of each certification review is assessing how well the planning partners in the area have addressed corrective actions and recommendations from the previous certification review. This section identifies the corrective actions and recommendations from the previous certification and summarizes discussions of how they have been addressed.

Recommendation 1: Explore available resources for scenario planning to help foster a collaborative approach for evaluating demographics, employment, land use, funding, and transportation system performance.

Disposition: In 2015, the Memphis MPO developed a land use allocation model which was collaboratively developed by engaging all MPO members through the PLAC and the ETC. The model includes demographics (population & employment) as well as land use information, to simulate current and future land use allocation. The output of the land use model directly feeds into the regional TDM. This integrates both models, allowing the MPO to analyze the transportation system performance as well as scenario development. Additionally, for the 2040 RTP and the 2050 RTP, the MPO Board adopted alternative planning funding scenarios, which were used in the plan development and funding allocation.

Recommendation 2: Explore resources to help MPO members maintain transition plans consistent with the Americans with Disabilities Act (ADA).

Disposition: In February 2016, the MPO conducted an ADA compliance Survey, which was sent out to all MPO members to determine the status of their ADA transition plans and designation of ADA Coordinator. Based on the survey responses, the MPO staff assisted the members to meet the requirements. Training and plan resources shared by TDOT and MDOT was also forwarded to the MPO members. Additionally, the MPO also shared the GIS sidewalk data with the MPO members who were undertaking the ADA transition plan development. Finally, funds were awarded through Transportation Alternative (TA) to the members agencies for the development of their ADA transition plan.

Recommendation 3: Continue to update agreements with provisions from recent Federal legislation, regulations, and rulemakings, including responsibilities for air quality conformity and MAP-21’s performance measures and performance targets.

Disposition: In April 2018, the Memphis and the West Memphis MPO started coordinating on the update to the planning agreement between the two MPOs. After consultation with State and Federal Agencies, the agreement text was finalized in November 2018.
In September 2018, the Memphis MPO initiated a coordination process between agencies covering the tri-state region to develop an umbrella Memorandum of Understanding (MOU). Over a span of 5 months, multiple conference calls were conducted to assist in the development of the MOU. The MOU text was finalized in January 2019 and has been signed by all parties. Both the planning agreement and the umbrella MOU were formally adopted by the respective Boards of the Memphis and West Memphis MPOs in February 2019. In summer of 2018, agreements related to Performance Measures were signed between MPO, MATA, TDOT and MDOT (in 2 separate agreements). Currently, the MPO is working with TDOT in the update of the planning agreements between TDOT, MDOT, MATA and MPO. This agreement was finalized in 2019.

**Recommendation 4: Work with State and local partners on developing a process for documenting planning analysis results that project sponsors can carry forward into the environmental review process under the National Environmental Policy Act (NEPA).**

*Disposition:* As part of the development of the RTP, analysis is conducted and documented to show the impact of the RTP projects on the environmentally sensitive areas as well as EJ areas. The listing of the projects and their potential impacts are included in the RTP appendices and are available for the project sponsor use. The Memphis MPO Board is very much interested in looking at ways to expedite project approval via NEPA, but recognizes that each State DOTs has their own environmental review process that specifies what information is acceptable for NEPA documentation.

**Recommendation 5: Continue formalizing relationships with TDOT and MDOT to ensure the Livability 2040 RTP aligns with each State’s Strategic Highway Safety Plan and to facilitate the continuous sharing of safety information related to goals, strategies, countermeasures, and projects.**

*Disposition:* MPO staff participates in meetings on Safety Performance Measures and SHSP updates for both TDOT and MDOT. Safety continues to be a priority for the region and is reflected in the goals of the RTP. Additionally, safety considerations are also used in the ranking of projects for RTP and TIP. Safety data is available from both the States and is used in MPO Plans such as RTP, TIP and Bike Ped Plan. Additionally, the data was also used in determining the MPOs support of each State Safety performance targets. The 2040 RTP discusses the role of the SHSP and incorporates the emphasis areas that are relevant to the MPO region. Finally, with the development of the 2050 RTP, the both States SHSPs were reviewed and the priority areas identified in these plans will continued to be integrated in the RTP.

**Recommendation 6: Continue to involve TDOT in the development of the Livability 2040 RTP to integrate the results of the Tennessee Extreme Weather Project.**
Disposition: Both TDOT and MDOT were directly involved in the development of the 2040 RTP and continue to be active members in the development of the 2050 RTP. The 2040 RTP refers to the TDOT study and lists the tasks the TDOT will have to perform. Our understanding is that TDOT is currently looking at the recommendations of the extreme weather report and are exploring options to integrate the information in their processes. Locally, the MPO has been working closely with Shelby County’s Office of Resilience who were awarded $60 million resilience grant from HUD. Apart from implementing mitigation projects, it will also include the development of a regional resilience plan that matches the MPO Planning area. The MPO will stay in contact with the resilience team through the resilience plan development and incorporate information in the 2050 RTP that help enhance the regional transportation system.

Recommendation 7: Consider developing a web-based TIP to support the MPO’s efforts to map projects and track obligations, amendments, and administrative adjustments.

Disposition: Currently, the MPO staff is coordinating with TDOT on the development of an E-TIP. The MPO staff is part of the committee and have reviewed the draft E-TIP layout and provided feedback to TDOT and their consulting team.

Recommendation 8: Coordinate with State and local partners on developing standard inflation rates for the next TIP.

Disposition: Local jurisdictions from both Tennessee and Mississippi, applying for Projects in the FY 2020-23 TIP are expected to provide YOE estimates using a standard 3.46% inflation rate to their cost estimates. This is consistent with the financial assumptions in the Livability 2050 RTP, and has been through the RTPAC and ETC review and approval process.

Recommendation 9: Continue to collaborate with State and local project sponsors during the development of the next TIP to evaluate each project’s timeline, cost estimates, and constructability.

Disposition: For the past couple of TIP cycles, the MPO has established a project tracking tool, which is updated on a quarterly basis. The updates are verified by both State DOTs and the summary report is shared at the MPO ETC and TPB Meetings. Beginning with 2017-2020 TIP, the MPO established a construction set aside funding, which allows programming of funds based on project readiness and bid estimates. This has prevented projects from holding funds for construction, causing funding backlog.

Recommendation 10: Continue to work with TDOT and MDOT to enable the continuous sharing of obligations and expenditures so the MPO has the best available information for programming decisions.
Disposition: The TIP project obligation tracking tool will be used for the development and programming of projects in the 2020-23 TIP. The MPO will continue to work with TDOT and MDOT to get the latest obligation reports and project status.

Recommendation 11: Continue to engage TDOT, MDOT, and MATA on MAP-21 requirements, especially the transportation performance management elements on performance measures and performance targets.

Disposition: The MPO staff actively coordinated with FHWA, FTA, TDOT, MDOT, and MATA on applicable performance measures and targets. Also, ETC and TPB were informed and educated to assist them in establishing appropriate targets and to fulfill reporting requirements in a timely fashion.

Recommendation 12: Continue to publish public meeting notices, agendas, meeting minutes, and draft documents in accordance to the MPO’s PPP so the general public and other interested parties can prepare for participation.

Disposition: Public meetings notices, agenda, minutes, library packets, draft and final documents and presentations are uploaded to the MPO website as per MPOs PPP.

Recommendation 13: Continue to educate the MPO’s members, partner agencies, and public stakeholders on the organization’s policies, procedures, and programs, especially key decision points and opportunities for public involvement.

Disposition: The TPB and the ETC are updated regularly on ongoing plans and projects and information is shared with them in easy to understand format to help them with their decision-making process. The MPO will continue to look for opportunities to educate the public and MPO members.

Recommendation 14: Maintain a historic archive (beyond 2014 and 2015) of meeting minutes, agendas, and presentations on the MPO’s website to ensure that stakeholders have reasonable access to information about transportation issues and processes.

Disposition: The MPO has maintained records of previous TIPs, Plans, Studies beyond 2014. Minutes, Agendas, and Presentations continue to be uploaded regularly and an archive is available on the website for all MPO meetings from 2014 onwards.

Recommendation 15: Integrate the biannual congestion management report, before-and-after analyses, and safety and operational audits into the UPWP and continuously use the congestion performance measures to monitor the geographic extent, duration, recurrence,
and socio-economic impacts of congestion and identify the most effective congestion management strategies for implementation.

Disposition: As per the adopted CMP, the MPO publishes biennial CMP report that captures congestion related measures such as congestion ranking of the city, travel time index, transit ridership, rideshare ridership, etc. This report is published in both English and Spanish and is shared with the ETC and TPB at the first meeting of the year. With the establishment of the Federal Performance Measures, future CMP reports will also integrate those specific metrics for the region. With the upcoming updated of the CMP plan, the MPO will consider conducting before and after analysis, safety and operational audits, etc., that will be beneficial for the CMP update and as needed, will include them in the UPWP.

Recommendation 16: Ensure that the Livability 2040 RTP discusses the role of the CMP in evaluating corridors, congestion management strategies, and individual projects and documents the MPO’s analyses of travel demand reduction and operational management strategies for the projects that will result in a significant increase in capacity for single occupant vehicles (i.e. new general purpose highways at new locations or adding general purpose lanes).

Disposition: The 2040 RTP has a standalone chapter that discusses the role of the CMP and its use in the RTP development process. Additional information related to CMP analysis is also included in the appendices of the 2040 RTP. Strategies identified in the adopted CMP were used to evaluate the congested network and document their impact on reducing congestion.

Recommendation 17: Establish a regular meeting schedule for the Interagency Consultation Committee so members can share timely information and better understand the MPO’s needs for MTPs, TIPs, and associated amendments.

Disposition: Starting 2016, the MPO established a quarterly meeting schedule for the IAC. These meetings fall after the TIP amendment deadline, to allow staff to present the upcoming amendments to the RTP and TIP for IAC review. In addition, the MPO staff regularly participates on the Statewide IAC calls.

Recommendation 18: Continue to explore the regional connections with the State of Arkansas and the West Memphis MPO and consider developing a unified Regional ITS Architecture for both MPOs to enhance interoperability, leverage investments, and maximize resources.

Disposition: During the 2019 ITS Architecture update process, ARDOT and the West Memphis MPO were identified as stakeholders and were consulted with regularly. The Memphis MPO’s
ITS architecture includes TDOT SmartWay ITS assets on I-40 an I-55 in Arkansas established under an MOU between TDOT and ARDOT. The ITS architecture plan includes relevant state and local agencies in Arkansas and a list of routes in Crittenden County, AR identified for future ITS deployment. A unified regional ITS plan was discussed with the West Memphis MPO as part of the 2019 update. However, it was decided to keep the ITS architectures separate, especially due to different timeline for RTP updates.

Recommendation 19: Ensure that the Livability 2040 RTP discusses the role of the Regional ITS Architecture in matching ITS solutions with regional needs, generating new ITS projects, screening proposed ITS projects for consistency, and prioritizing planned ITS projects for implementation.

Disposition: The 2040 RTP discusses the role of the Regional ITS architecture and discusses some of the most used ITS solutions. The RTP anticipates certain amount of investment in ITS type of projects, but due to the scale of the solution implemented the projects are shown as set asides for better implementation in the TIP. During the development of the TIP, ITS projects are fully vetted and prioritized based on established and agreed upon criteria. Additionally, these projects are also evaluated for compliance with the adopted Regional ITS architecture.
APPENDIX D – PUBLIC COMMENTS

The Federal Review Team collected XX verbal and written comments regarding the Memphis Urban Area MPO’s metropolitan transportation planning process.

- Comment 1: One comment was received by a member of the public who requested that they and their comment remain anonymous. This comment was considered in the review and the preparation of this report.

- Comment 2: The newly appointed Transportation Policy Board Chair commented that the MPO oversees numerous projects and programs with many rules and regulations. However, he understands the procedural complexities take time and he has trust in the MPO staff.
  - Response 2: Comment noted.

- Comment 3: A long-standing representative from the City of Bartlett offered positive feedback on the metropolitan planning organization (MPO) staff, particularly on their open engagement and communication with local communities. The MPO staff helps to maintain a culture where members feel free to ask questions. The City of Bartlett representative did offer concern with the federal process for the development of the Long-Range Transportation Plan, also known as the Metropolitan Transportation Plan (MTP), the National Environmental Policy Act (NEPA), and the right-of-way (ROW) process.

  The Federal process requires that the MPO update the MTP every four years, but the average time for a project to progress from concept to design is eight to ten years. The City of Bartlett representative recommended sifting the MTP update timeframe from four years to six or ten years. This would reduce the cost and staff time needed to develop the MTP and better align the MTP cycle with the average project development timelines.

  For the NEPA process, the City of Bartlett representative stated that the NEPA process should be simplified for projects that are less likely to cause adverse environmental
impacts, such as projects within existing ROW or operations projects. Local agencies also must pay for technical studies for resources that have no potential to be affected by a project, such as conducting seasonal bat studies when there are no caves in West Tennessee. Local agencies also must pay environmental maintenance fees to resource agencies, such as the Tennessee Department of Environment and Conservation, even if the project cannot be started for another five years. The locals would like to defer the payment of fees until the start of construction.

Local governments are often small agencies with many collateral duties. The ROW process takes a long time and requires technical experiences that not all local governments hold. Local governments would benefit from TDOT resuming full responsibility of the ROW process from the local governments given the significance of the requirements and the sensitivities to local governments of working with citizens whose property is directly impacted. Additionally, local governments are burdened by the need to data enter information into eGrants and would like to pursue with TDOT paying a consultant to do data entry.

- Response: Regarding the cycle for updating the MTP, the metropolitan transportation planning regulations in 23 CFR Part 450 and 49 CFR Part 613 require MPOs in air quality nonattainment and maintenance areas to review and update their transportation plan at least every four years after the date of the conformity determination issued by FHWA and FTA. The TN Division Office is unaware of any plans for the USDOT to conduct a federal rulemaking to change this requirement.

Regarding the NEPA comments, federal regulations at 23 CFR 771.17 establish scopes of projects that may be developed as Categorical Exclusions (CEs) so long as those types of projects would not result in significant impacts to environmental resources or would not have substantial controversy on environmental grounds. CEs are the most efficient and expedited form of NEPA documentation to prepare. Projects within existing ROW, operational improvements, and other similar small-scale activities fall within this category. The Federal Review team noted the comments on the technical studies, environmental maintenance fees, and the ROW responsibilities between TDOT and the local governments. These comments have been forwarded to the
Tennessee Department of Transportation’s Long Range Planning, Environment, ROW, and Local Project Development Office Divisions, Mississippi Department of Transportation’s Planning Division, Memphis Area Transit Authority, and the Memphis Urban Area MPO.

- Comment 4: A representative from the City of Germantown commented that a mill and overlay project took two years and three months to get to construction which was frustrating. Would like to find ways to shorten the process. Regarding the MPO, the ETC and TPB feel empowered to make decisions.
  - Response: Comment noted and forwarded to the Tennessee Department of Transportation’s Long Range Planning Division, Mississippi Department of Transportation’s Planning Division, Memphis Area Transit Authority, and the Memphis Urban Area MPO.
APPENDIX E - LIST OF ACRONYMS

ADA: Americans with Disabilities Act
AMPO: Association of Metropolitan Planning Organizations
CAA: Clean Air Act
CFR: Code of Federal Regulations
CMP: Congestion Management Process
CO: Carbon Monoxide
DOT: Department of Transportation
EJ: Environmental Justice
FAST: Fixing America’s Surface Transportation Act
FHWA: Federal Highway Administration
FTA: Federal Transit Administration
FY: Fiscal Year
HSIP: Highway Safety Improvement Program
ITS: Intelligent Transportation Systems
LEP: Limited-English-Proficiency
M&O: Management and Operations
MAP-21: Moving Ahead for Progress in the 21st Century
MPA: Metropolitan Planning Area
MPO: Metropolitan Planning Organization
MTP: Metropolitan Transportation Plan
NAAQS: National Ambient Air Quality Standards
NO₂: Nitrogen Dioxide
O₃: Ozone
PBPP: Performance Based Planning and Programming
PM₁₀ and PM₂.₅: Particulate Matter
SHSP: Strategic Highway Safety Plan
STIP: State Transportation Improvement Program
TDM: Travel Demand Management
TIP: Transportation Improvement Program
TMA: Transportation Management Area
TPM: Transportation Performance Management
UPWP: Unified Planning Work Program
USDOT: United States Department of Transportation
Report prepared by:

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**Region IV**  
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