2040 Regional Transportation plan

TPB Meeting April 30, 2015
Meeting Objectives

- Status update on plan development process
- Key findings from assessment of existing conditions
- Financial outlook for the plan
- Preferred scenario analysis and approval
Schedule Update

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<td>Task 1 - Coordination</td>
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<td>Task 2 – Baseline Data and Policy Synthesis</td>
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<td>Public Meetings</td>
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<td>Task 3 – Goals, Objectives, Performance Measures</td>
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<td>Task 4 – Existing and Future Conditions</td>
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<td>Task 5 – SWOT Analysis</td>
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<td>Task 6 – Scenario Analysis</td>
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<td>Task 7 – Revenue Projections</td>
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<td>Task 8 – Project Evaluation and Prioritization</td>
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<td>Task 9 – Financially Feasible Plan</td>
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<td>Task 10 - Final RTP Documentation</td>
<td>Draft 1</td>
<td>Draft 2</td>
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Q3 2014 - Q1 2016

RTPAC/ETC/TPB Meetings
Public Meetings
Evaluation Methodology

Projects from Local Plans, Stakeholders, Public Input

Projects from Needs Assessment

Assessment of Available Funding

Capital Investment Scenario
- Guides project selection
- Future vision

Project Evaluation
- Evaluate against goals, objectives
- Distinguish by area type

Tradeoff Assessment
- Financially constrained priority project list
- Pavement and bridge funding allocation

Pavement and Bridge Conditions
- Assess future performance at different funding levels

ETC
TPB
Roadway Performance – Pavement Conditions

- 2,048 lane-miles on National Highway System (NHS)
- 3,400 lane-miles non-NHS, Federal-aid

Current Pavement Conditions, NHS

- Good 55%
- Fair 29%
- Poor 16%

84% Fair or Better Condition on NHS System Today
Roadway Performance - Bridge Conditions

- 1,026 bridge structures
- All bridges in region greater than 20-foot length
- 8% Structurally Deficient
  - Does not imply bridge is unsafe
  - Bridge requires additional repair to remain in service
- 23% Functionally Obsolete
  - Does not imply bridge is unsafe
  - Bridge does not meet current design standards
Roadway Performance - Congestion

- Congestion hot spots (auto & truck)
  - I-240 at SR 385
  - I-40 at I-240
  - Lamar Ave south of I-240

DRAFT completed as part of Livability 2040 Needs Assessment; presented for discussion purposes only.
Roadway Performance - Freight

• Memphis remains one of the major freight hubs for the nation across all modes
• Freight traffic is forecast to grow by 50%
• Port of Memphis, including Pigeon Industrial Park, and related intermodal connectivity represent important freight-related economic development opportunity
• Most critical freight corridor is Lamar Avenue south of I-240

Map prepared for Direction 2040
Roadway Performance - Safety

- 113 deaths and 8,767 injuries annually
- High crash corridors (non-interstate)
  - US 72 / Poplar Avenue
  - MS 302 (Goodman Road)
  - Winchester Road
  - US 78 / Lamar Avenue
  - TN 177 / Germantown Pkwy
  - Airways Blvd
  - Hacks Cross Road
- Safety Emphasis areas
  - Intersection crashes
  - Vulnerable road users
  - Younger, older drivers
  - Seatbelt use, impaired driving

DRAFT completed as part of Livability 2040 Needs Assessment; presented for discussion purposes only.
Multimodal Mobility - Bicycle

- Bicycle facilities and usage concentrated in downtown, midtown, and Shelby Farms area
- 93% bike infrastructure with B-LOS A or B
- Level of comfort varies greatly based on design and context

DRAFT completed as part of Livability 2040 Needs Assessment; presented for discussion purposes only.
Multimodal Mobility - Pedestrian

- Pedestrian facilities and usage concentrated in downtown, midtown, with general radial pattern towards outlying communities
- Approximately 80% of roadways could support pedestrian travel
- Of these facilities, almost 99% were on local roads with slower speeds
- Vast majority of trips taken for recreational purposes

*DRAFT completed as part of Livability 2040 Needs Assessment; presented for discussion purposes only.*
Multimodal Mobility - Transit

• Bus, demand response, and streetcar* service
• Fixed route service in Shelby County
• Over 104 million unlinked trips in 2013
• Ridership decline due to population loss in service area and service cuts

*service currently suspended for required maintenance
Multimodal Access and Connectivity

• Good multimodal coverage in central portion of region
• Several less dense areas on periphery of region with limited multimodal access in disadvantaged areas
• Targeted opportunities for infrastructure improvements

DRAFT completed as part of Livability 2040 Needs Assessment; presented for discussion purposes only.
## Economic SWOT Analysis

<table>
<thead>
<tr>
<th>Helpful</th>
<th>Harmful</th>
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<tbody>
<tr>
<td>➢ Global logistics and multi-modal assets</td>
<td>➢ Educational attainment below the national average</td>
</tr>
<tr>
<td>➢ One of the top research hospitals in the nation</td>
<td>➢ Persistently high poverty levels and prevalence of low wage and temporary jobs</td>
</tr>
<tr>
<td>➢ Industries serving healthcare have significant presence</td>
<td>➢ Three-state region – out-migration from city to suburbs can shift population to surrounding states which shifts state and local tax revenues</td>
</tr>
<tr>
<td>➢ High level of specialization in transportation and healthcare within the region’s workforce</td>
<td>➢ Employment is decentralized - increases commuting times and the need for transportation access, while limiting the effectiveness of public transportation</td>
</tr>
<tr>
<td>➢ Renewed manufacturing base</td>
<td>➢ Decentralized growth can increase cost of providing public services</td>
</tr>
<tr>
<td>➢ Hospitality, arts, entertainment and recreation are among the fastest growing industry sectors</td>
<td>➢ Economy is highly dependent on Transportation and Logistics sector</td>
</tr>
<tr>
<td>➢ World-class research assets which can be built upon to diversify the economy</td>
<td>➢ Fewer cities with direct service to the Memphis region resulting in higher airfares and longer travel time; potential impact on tourism, a large sector of the regional economy</td>
</tr>
<tr>
<td>➢ Existing global logistics assets can be leveraged to increase foreign exports from commodities to high-value medical devices</td>
<td>➢ Large proportion university students and youth that can be matched with jobs in the region to bolster workforce</td>
</tr>
</tbody>
</table>
Overarching Themes from Existing Conditions Assessment

• Preservation is important to the community: system performs well now, but will deteriorate below acceptable levels without additional funding

• Match multimodal access to changing distribution of population (including EJ population) and employment

• Target opportunities for multimodal expansion: focus less on how much the system is expanded and more on how the system is connected and enhanced

• Logistics still key: focus on removing barriers to freight movement and related development
Financial Outlook

• Revenue projections over plan horizon
• Level of investment needed to:
  • Maintain existing infrastructure
  • Strategically expand and operate
• Define needs in context of projected revenue
• Define gap/unmet needs
• Scenario discussion to support best use of available funds
Draft Revenue and Needs Forecast

$10 B
Projected Revenue

$15 B
Needs Estimate

- Maintenance of existing bridges
  - $0.9 B
- Maintenance of existing pavement (NHS)
  - $1.9 B
- Local O&M
  - $1.5 B
- New capital investments
  - $11B
- Maintenance for new capital investments
  - $TBD

Federal
$4.6 B

State and local match
$2.3 B

State and local O&M
$2.9 B

DRAFT completed as part of Livability 2040 Financial Analysis; presented for discussion purposes only.
Pavement/Bridge Maintenance Funding and Performance

• Define funding needed to adequately maintain system
• Remaining revenue for capital investment
• Region is maintaining at suitable condition levels today
• Current annual spending levels are not adequate over the life of the plan horizon
  • Approximately $87 M/year spent today, yields approximately $2.3B over plan horizon
  • $4.3B in needs over life of the plan requires approximately $153M/year
  • Current spending levels are at approximately 50% of what is needed
Understanding the Tradeoffs

$4B (MAINTAIN EXISTING)

$11B (NEW CAPITAL IMPROVEMENTS)
Understanding the Tradeoffs

$10B
(AVAILABLE)
Understanding the Tradeoffs

$10B (AVAILABLE)

FUNDED

UNFUNDED

$4B

$6B

$5B
Understanding the Tradeoffs

$10B (AVAILABLE)

$4B $1B $10B

UNFUNDED FUNDED
Understanding the Tradeoffs

$10B (AVAILABLE)

$2.5B

$1.5B

$8.5B

$2.5B
Understanding the Tradeoffs

$8.5B (AVAILABLE)

Multimodal Capacity

Roadway Capacity

$2.5B  $1.5B  $8.5B  $2.5B
Capital Funding Scenarios

Linking Performance to Projects

- Two distinct scenarios to illustrate benefits and impacts of various investment packages
  - Include road and transit capacity investments
  - Reflect projects from Direction 2040, jurisdictional outreach, and Livability 2040 needs assessment
- Performance impacts to support selection of preferred scenario
- Use preferences to guide project list for RTP performance evaluation
- Guide the long term vision of the RTP
Regional Roadway Connections Scenario

- Upgrading a strategic set of radial corridors with focus on improving roadway level of service for autos and freight
- Maximizing delay reduction for autos and freight along key radial corridors
- Targeting multimodal investment within employment and activity centers
Expanded Travel Options Scenario

- Shifting investment approach from a trend/radial pattern to regional grid system
- 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:
  - Commute/freight traffic on corridors that maximize delay reduction
  - Non-commute travel on corridors that maximize safe, multimodal access to community resources
<table>
<thead>
<tr>
<th>MAP-21 Goals</th>
<th>Criteria</th>
<th>Scenario One: “Regional Roadway Connections”</th>
<th>Scenario Two: “Expanded Travel Options”</th>
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<tbody>
<tr>
<td>Infrastructure Condition</td>
<td>Limits long-term maintenance burden</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Safety</td>
<td>Improves multimodal safety</td>
<td>☼</td>
<td>☼</td>
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<tr>
<td>Economic Vitality/Freight Movement; Environmental Sustainability</td>
<td>Provides new facility coverage (by mode) – roadway</td>
<td>☼</td>
<td>☼</td>
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<tr>
<td></td>
<td>Provides new facility coverage (by mode) – transit</td>
<td>○</td>
<td>○</td>
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<tr>
<td></td>
<td>Provides new facility coverage (by mode) – bicycle/pedestrian</td>
<td>☼</td>
<td>☼</td>
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<tr>
<td>Environmental Sustainability</td>
<td>Limits environmental and social impacts</td>
<td>☼</td>
<td>☼</td>
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<tr>
<td>Environmental Sustainability</td>
<td>Improves access for disadvantaged populations</td>
<td>☼</td>
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<tr>
<td>Environmental Sustainability</td>
<td>Reduces VMT</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Environmental Sustainability; Economic Vitality/Freight Movement</td>
<td>Provides additional complete streets</td>
<td>☼</td>
<td>☼</td>
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<tr>
<td>Congestion Reduction/System Reliability; Economic Vitality/Freight Movement</td>
<td>Reduces congestion and delay for autos and trucks</td>
<td>☼</td>
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Next Steps

• Complete needs analysis
• Evaluate performance of different projects
FY 2014-17 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROJECT TRACKING

TPB Meeting April 30, 2015
## Project Tracking Sheet Overview

<table>
<thead>
<tr>
<th>Lead Agency</th>
<th>Project Name</th>
<th>PIN #</th>
<th>Allocated Federal Funds</th>
<th>Federal Amount Obligated FY 2015</th>
<th>Federal Amount Obligated FY 2014</th>
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<td>Collierville</td>
<td>SR-57 Widening</td>
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<td>PE-N $250,000</td>
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<td>PE-D $500,000</td>
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<td>Collierville</td>
<td>Collierville Center Connect - Phase I</td>
<td>114986.01</td>
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<td>Germantown</td>
<td>Germantown Rd Realignment</td>
<td>119769.00</td>
<td>PE-N $40,000</td>
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<td>PE-D $64,000</td>
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<td>Germantown</td>
<td>Germantown Rd/Wolf River Blvd Intersection Improvements</td>
<td>119768.00</td>
<td>PE-N $40,000</td>
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<td>PE-D $80,000</td>
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<td></td>
<td></td>
<td></td>
<td>ROW $1,920,000</td>
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<td>Germantown</td>
<td>Gateway Median Germantown Rd</td>
<td>105525.17</td>
<td>CONST $72,022</td>
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<td>Lakeland</td>
<td>New Canada Road</td>
<td>107036</td>
<td>UTILITIES $800,000</td>
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<td>Memphis</td>
<td>Poplar/Sweetbriar Interchange</td>
<td>110296</td>
<td>CONST $2,896,000</td>
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<td>$1,448,000</td>
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<td>Memphis</td>
<td>North Second Street</td>
<td>101968</td>
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<td>$8,415,520</td>
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<td>Walnut Grove Rd Middle</td>
<td>010775</td>
<td>PE-N $160,000</td>
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<td>PE-D $636,800</td>
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<td>Walnut Grove Rd East</td>
<td>010620</td>
<td>ROW $4,284,000</td>
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<td>Memphis</td>
<td>Forest Hill Irene</td>
<td>103376</td>
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<td>Holmes Rd - West</td>
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<td>Winchester/Perkins Interchange</td>
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<td>CONST $9,600,000</td>
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<td>Memphis</td>
<td>Plough Blvd</td>
<td>102619</td>
<td>PE-N/PE-D $3,174,414</td>
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<td>$2,249,751</td>
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Followed by TN Groupings, MS Road Projects, MS Groupings
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<tr>
<td><strong>All FY 2014 &amp; FY 2015 Projects</strong></td>
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<tr>
<td>TN</td>
<td>$ 182,818,378</td>
<td>$ 38,339,239</td>
<td>20.97%</td>
<td>96</td>
<td>57</td>
<td>59.38%</td>
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<td>MS</td>
<td>$ 15,009,941</td>
<td>$ 11,645,817</td>
<td>77.59%</td>
<td>14</td>
<td>5</td>
<td>35.71%</td>
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<td><strong>FY 2014 &amp; FY 2015 Road Projects</strong></td>
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<td>TN</td>
<td>$ 103,762,728</td>
<td>$ 17,484,076</td>
<td>16.85%</td>
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<td>20</td>
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<tr>
<td>MS</td>
<td>$ 11,556,611</td>
<td>$ 10,353,637</td>
<td>89.59%</td>
<td>5</td>
<td>3</td>
<td>60.00%</td>
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<td><strong>FY 2014 &amp; FY 2015 Resurfacing Grouping</strong></td>
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<td>TN</td>
<td>$ 23,349,128</td>
<td>$ 2,239,368</td>
<td>9.59%</td>
<td>10</td>
<td>9</td>
<td>90.00%</td>
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<td>$ 1,803,330</td>
<td>$ 1,292,180</td>
<td>71.66%</td>
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<td>66.67%</td>
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<td><strong>FY 2014 &amp; FY 2015 TAP Grouping</strong></td>
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<td>TN</td>
<td>$ 2,312,609</td>
<td>$ 327,705</td>
<td>14.17%</td>
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<td>8</td>
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<td>MS</td>
<td>$ 325,000</td>
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<td>0.00%</td>
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<td>0</td>
<td>0.00%</td>
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<td><strong>FY 2014 &amp; FY 2015 Signalization Grouping</strong></td>
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<td>$ 11,842,750</td>
<td>$ 190,000</td>
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<td>4</td>
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<td>0.00%</td>
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<td><strong>FY 2014 &amp; FY 2015 Bike and Ped Grouping</strong></td>
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<td>TN</td>
<td>$ 11,148,234</td>
<td>$ 854,740</td>
<td>7.67%</td>
<td>16</td>
<td>6</td>
<td>37.50%</td>
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<td><strong>FY 2014 &amp; FY 2015 Bridge Grouping</strong></td>
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<td>TN</td>
<td>$ 9,151,600</td>
<td>$ 1,281,184</td>
<td>14.00%</td>
<td>10</td>
<td>6</td>
<td>60.00%</td>
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<tr>
<td><strong>FY 2014 &amp; FY 2015 CMAQ</strong></td>
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<td>TN</td>
<td>$ 20,631,327</td>
<td>$ 15,758,000</td>
<td>76.38%</td>
<td>3</td>
<td>2</td>
<td>66.67%</td>
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<tr>
<td><strong>FY 2014 &amp; FY 2015 SRTS Grouping</strong></td>
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<tr>
<td>TN</td>
<td>$ 224,125</td>
<td>$ 204,166</td>
<td>91.09%</td>
<td>2</td>
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<td>100.00%</td>
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### Obligation Comparison FY 2014 & FY 2015

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Total FY 2014</th>
<th>Total FY 2015 (to date)</th>
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<tbody>
<tr>
<td>TN Obligations</td>
<td>$28,599,183 (20.06%)</td>
<td>$9,740,056 (24.18%)</td>
</tr>
<tr>
<td>MS Obligations</td>
<td>$11,620,885 (97.59%)</td>
<td>$24,932 (0.8%)</td>
</tr>
</tbody>
</table>
Obligation Tracking

• Several Examples of Projects that Have Received Obligation in FY 2015
  ➢ Bartlett- Old Brownsville Rd, ROW – (STP) **Full Obligation**
  ➢ Collierville – SR-57 Widening, PE-N - (STP) **Full Obligation**
  ➢ Germantown – Germantown Rd/Wolf River Blvd Inter., PE-D – (STP) **Full Obligation**
  ➢ Memphis – Walker Avenue Streetscape Phase I, Const – (ENH) **Full Obligation**
  ➢ Memphis – Mainstreet to Mainstreet Multimodal Connector, Const – (CMAQ)
  ➢ Shelby County – Houston Levee Rd, PE-N – (STP) **Full Obligation**
  ➢ Shelby County- Countywide Signal Project– (CMAQ)

*STP – Surface Transportation Program Funds*
*CMAQ- Congestion Mitigation and Air Quality Funds*
*ENH– Enhancement Funds*
Next Steps

• Next Quarterly Update will be at August 2015 ETC and TPB Meetings
  ➢ ETC Members will provide updates on project status before the meetings
  ➢ Discussion on projects did not receive obligation in FY2014 or FY2015 (STP-M funds)
  ➢ Total Obligation for FY 2015 projects (near end of FY)

• MS Local TIP Meeting with FHWA & MDOT – May 7th

• Update on Transportation Alternatives Program (TAP) Funds
  ➢ FY 2014 funds expire September 2017
  ➢ FY 2015 TAP Applications