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 3 – Goals, Objectives,</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</td>
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<td>Task 9 – Financially Feasible</td>
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<td>Task 10-Final RTP</td>
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- **Public Meetings**
- **RTPAC/ETC/TPB Meetings**
Evaluation Methodology

Projects from Local Plans, Stakeholders, Public Input

Projects from Needs Assessment

Assessment of Available Funding

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

Capital Investment Scenario
- Guides project selection
- Future vision

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

Current Bridge Conditions

- 69% Not Deficient
- 8% Structurally Deficient
- 23% Functionally Obsolete
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

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

*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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</thead>
<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>
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</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

$10B

$4B $1B

LIVABILITY 2040
Understanding the Tradeoffs

- FUNDED: $10B (AVAILABLE)
- UNFUNDED:
  - $2.5B
  - $1.5B
  - $8.5B
  - $2.5B
Understanding the Tradeoffs

Multimodal Capacity

Roadway Capacity

$8.5B
(AVAILABLE)

$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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<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>Economic Vitality/Freight Movement; Environmental Sustainability</td>
<td>Provides new facility coverage (by mode) – transit</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) – 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>
<td>○</td>
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<tr>
<td>Environmental Sustainability</td>
<td>Reduces VMT</td>
<td>○</td>
<td>○</td>
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<td>Environmental Sustainability; Economic Vitality/Freight Movement</td>
<td>Provides additional complete streets</td>
<td>○</td>
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<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 2014</th>
<th>Federal Amount Obligated FY 2015</th>
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<tbody>
<tr>
<td>Collierville</td>
<td>SR-57 Widening</td>
<td>PE-N $250,000</td>
<td>PE-D $500,000</td>
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<td>$250,000</td>
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<td>Collierville</td>
<td>Collierville Center Connect - Phase I</td>
<td>CONST $756,846</td>
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<td>Germantown</td>
<td>Germantown Rd Realignment</td>
<td>PE-N $40,000</td>
<td>PE-D $64,000</td>
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<td>$40,000</td>
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<td>Germantown</td>
<td>Germantown Rd/Wolf River Blvd Intersection Improvements</td>
<td>ROW $1,920,000</td>
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<td>Germantown</td>
<td>Gateway Median Germantown Rd</td>
<td>CONST $72,022</td>
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<td>Lakeland</td>
<td>New Canada Road</td>
<td>UTILITIES $800,000</td>
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<td>Memphis</td>
<td>Poplar/Sweetbriar Interchange</td>
<td>CONST $2,896,000</td>
<td>PE-D $2,951,785</td>
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<td>Memphis</td>
<td>North Second Street</td>
<td>101968</td>
<td>ROW $3,438,838</td>
<td>CONST $8,415,520</td>
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<td>Memphis</td>
<td>Walnut Grove Rd Middle</td>
<td>PE-N $160,000</td>
<td>PE-D $636,800</td>
<td>CONST $4,000,000</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>Forest Hill Irene</td>
<td>103376</td>
<td>ROW $1,873,000</td>
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<td>Holmes Rd - West</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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<td>TN</td>
<td>$182,818,378</td>
<td>$38,339,239</td>
<td>20.97%</td>
<td>96</td>
<td>57</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>
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<td>TN</td>
<td>$103,762,728</td>
<td>$17,484,076</td>
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<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>MS</td>
<td>$1,803,330</td>
<td>$1,292,180</td>
<td>71.66%</td>
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<td><strong>FY 2014 &amp; FY 2015 TAP Grouping</strong></td>
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<td>$2,312,609</td>
<td>$327,705</td>
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<td>8</td>
<td>80.00%</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>
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<td>4</td>
<td>0</td>
<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>
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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>
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<td>60.00%</td>
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<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>
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<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>
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<td>100.00%</td>
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### Obligation Comparison FY 2014 & FY 2015

<table>
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<tr>
<th>Obligation</th>
<th>Total FY 2014</th>
<th>Total FY 2015 (to date)</th>
</tr>
</thead>
<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