Transportation for America is the alliance of elected, business and civic leaders from communities across the country that want smart, locally-driven transportation solutions — because these are the investments that hold the key to our future economic prosperity.
2017 Transportation Leadership Academy

@t4america
@transportationforamerica
T4America
www.t4america.org
Upcoming Workshops

Next in-person workshops are planned for...

November 14, 2017: 10:30AM - 5PM

December 12, 2017: 10:30AM - 5PM

February 13, 2018: 10:30AM - 5PM

March 13, 2018: 10:30AM - 5PM
Workshop Learning Objectives:

T4America will work with Massachusetts’s leaders to develop a shared understanding on how:

- the transportation program uses performance measures
- performance management can influence project selection, the planning process, and defining successful outcomes at RPA level
- the requirements in MAP-21, through the US DOT rule-making process, will impact RPAs
Today’s Experts

Beth Osborne
Transportation for America (T4America)

Harlan Miller
The Federal Highway Administration (FHWA)
Discussion Questions

What makes a good performance measure?

How should the performance measures apply to your program?

What is missing from the federal requirements? What should the transportation system do for your community?
Design Standards
MAP-21 Performance Measures

- FHWA: safety, state of repair, system performance, freight, and air quality
- FTA: safety and state of repair
- NHTSA measures, include:
  - Unrestrained fatalities
  - Child safety restraints
  - Driving under the influence fatalities
  - Unhelmeted motorcyclists fatalities
  - Speeding-related fatalities
  - Fatalities involving drivers under 20
Discussion Questions

What makes a good performance measure?

How should the performance measures apply to your program?

What is missing from the federal requirements? What should the transportation system do for your community?
Design Standards
# Washington State DOT Performance Goals

<table>
<thead>
<tr>
<th>Statewide policy goal/ WSDOT performance measure</th>
<th>Previous period</th>
<th>Current period</th>
<th>Goal</th>
<th>Goal met</th>
<th>Five-year trend (unless noted)</th>
<th>Desired trend</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of traffic fatalities per 100 million vehicle miles traveled statewide (Annual measure: calendar years 2014 &amp; 2015)</td>
<td>0.80</td>
<td>0.95&lt;sup&gt;1&lt;/sup&gt;</td>
<td>&lt;1.00</td>
<td>✓</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td>Rate of recordable incidents for every 100 full-time WSDOT workers (Annual measure: calendar years 2014 &amp; 2015)</td>
<td>5.4</td>
<td>4.3</td>
<td>≤5.0</td>
<td>✓</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td><strong>Preservation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of state highway pavement in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2013 &amp; 2014)</td>
<td>92.6%</td>
<td>93.3%</td>
<td>≥90.0%</td>
<td>✓</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td>Percentage of state bridges in fair or better condition by bridge deck area (Annual measure: as reported for 2015 &amp; 2016)</td>
<td>92.1%</td>
<td>91.2%</td>
<td>≥90.0%</td>
<td>✓</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td><strong>Mobility (Congestion Relief)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highways: Annual (weekday) vehicle hours of delay statewide relative to maximum throughput speeds&lt;sup&gt;2&lt;/sup&gt; (Annual measure: calendar years 2014 &amp; 2015)</td>
<td>32.3 million</td>
<td>N/A</td>
<td>N/A</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Highways: Average incident clearance times for all Incident Response program responses (Calendar quarterly measure: Q2 2016 &amp; Q3 2016)</td>
<td>11.3 minutes</td>
<td>12.0 minutes</td>
<td>N/A</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Ferries: Percentage of trips departing on time&lt;sup&gt;3&lt;/sup&gt; (Fiscal quarterly measure: year to year Q1 FY2016 &amp; Q1 FY2017)</td>
<td>91.1%</td>
<td>90.9%</td>
<td>≥95%</td>
<td>–</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td>Rail: Amtrak Cascades on-time performance&lt;sup&gt;4&lt;/sup&gt; (Annual measure: fiscal years 2015 &amp; 2016)</td>
<td>72.1%</td>
<td>74.8%</td>
<td>≥80%</td>
<td>–</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of WSDOT stormwater management facilities constructed (Annual measure: fiscal years 2015 &amp; 2016)</td>
<td>130</td>
<td>151</td>
<td>N/A</td>
<td>N/A</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td>Cumulative number of WSDOT fish passage improvement projects constructed (Annual measure: calendar years 2014 &amp; 2015)</td>
<td>291</td>
<td>301</td>
<td>N/A</td>
<td>N/A</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
</tbody>
</table>
Competitive Grant Programs

TIGER Notice of Funding Opportunity

- $500 million allocated to projects with a significant impact on the Nation, a metropolitan area, or region
- Special consideration to projects emphasizing better access to reliable, safe, and affordable transportation,
# Minnesota’s Corridors of Commerce

## Table 2. Benefit-Cost Factors (PRISM)

<table>
<thead>
<tr>
<th>Social</th>
<th>Economic</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Travel Time</td>
<td>Emission (CO₂ + Criteria Pollutants)</td>
</tr>
<tr>
<td>Bicycle/Pedestrian Health Effects</td>
<td>Travel Time Reliability</td>
<td>Wetland Effects</td>
</tr>
<tr>
<td>Noise</td>
<td>Vehicle Operating Costs</td>
<td>Runoff</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>System Preservation</td>
<td>Projects should contribute to a state of good repair on the transportation system.</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>Projects should provide modal options efficiently and effectively.</td>
<td></td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>Projects should result in benefits commensurate with costs and should be aimed at maximizing the return on the public’s investment.</td>
<td></td>
</tr>
<tr>
<td>Economic Impact</td>
<td>Projects should support strategic economic growth in the Commonwealth.</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>Projects should contribute to the safety and security of people and goods in transit.</td>
<td></td>
</tr>
<tr>
<td>Social Equity &amp; Fairness</td>
<td>Projects should equitably distribute both benefits and burdens of investments among all communities.</td>
<td></td>
</tr>
<tr>
<td>Environmental &amp; Health Effects</td>
<td>Projects should maximize the potential positive health and environmental aspects of the transportation system.</td>
<td></td>
</tr>
<tr>
<td>Policy Support</td>
<td>Projects should get credit if they support local or regional policies or plans; or state policies not addressed through the other criteria.</td>
<td></td>
</tr>
</tbody>
</table>
### Performance

**VTrans Need:** Cave Spring Urban Development Area

**Project Benefit Score:** 1.4

**Final Score:** 1.1

**Statewide Rank:** 177/287

**District Rank:** 23/37

### HB2 Cost

<table>
<thead>
<tr>
<th>HB2 COST</th>
<th>TOTAL COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

### Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>V</th>
<th>Virginia</th>
<th>Commonwealth</th>
<th>Transportation Board</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increase in Daily Person Throughput</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Decrease in Person Hours Delay</strong></td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Reduction in Fatal and Severe Injury</strong></td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Reduction in Fatal and Severe Injury Rate</strong></td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Increase in Access to Jobs</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Increase in Access to Jobs for Disadvantaged Populations</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Improved Access to Multimodal Choices (Users Benefit Value)</strong></td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Air Quality (Total Benefit Value)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Acres of Natural/Cultural Resources Potentially Impacted</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Economic Development Support (Sq. ft.)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Intermodal Access Improvements (Tons Benefit Value)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Travel Time Reliability Improvement</strong></td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Transportation Efficient Land Use</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Virginia takes the politics out of transportation spending

By Canaan Merchant (Contributor) March 20, 2015 📋 8

Photo by Virginia Guard Public Affairs on Flickr.

A newly-passed General Assembly bill will make transportation spending in Virginia more practical and less political, by replacing ad-hoc funding decisions with more transparent performance measures.

HB1887, the “omnibus transportation bill” which the General Assembly passed this session, makes dozens of changes to the complicated web of formulas and regulations that govern Virginia’s transportation budget.

The biggest change completely replaces the state’s system for deciding which local road projects to build. Other changes set aside more money to maintain existing roads and bridges, and add more money to transit.

The new legislation will “revolutionize the way Virginia invests taxpayer dollars to restore aging roads, build new capacity and increase transit,” says Virginia secretary of transportation Aubrey Layne in an op-ed for the Richmond Times-Dispatch.

Funding decisions should become less political
TPM Technical Implementation Workshop

Performance Based Planning and Programming (PBPP)

Harlan Miller, Office of Planning

Transportation for America Leadership Academy

October 10, 2017
**Learning Objectives**

- National goal areas & PM Rules
- Roles & responsibilities
- Implementation timeline
- Federally required performance measures
- PBPP requirements
- PBPP guidance
- PBPP resources
- Hear from regional leaders
- Questions
National Goal Areas

- Safety
- Infrastructure condition
-Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduced project delivery delays
### Rulemakings

<table>
<thead>
<tr>
<th>TPM-Related Rules</th>
<th>Rule Effective Date</th>
<th>Regulatory Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Performance Measures (PM1)</td>
<td>April 14, 2016</td>
<td>23 CFR 490 (Subpart A &amp; B)</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP)</td>
<td>April 14, 2016</td>
<td>23 CFR 924</td>
</tr>
<tr>
<td>Statewide and Non-Metropolitan Planning; Metropolitan Planning</td>
<td>June 27, 2016</td>
<td>23 CFR 450</td>
</tr>
<tr>
<td>Pavement and Bridge Condition Measures (PM2)</td>
<td>May 20, 2017</td>
<td>23 CFR 490 (Subpart A, C &amp; D)</td>
</tr>
</tbody>
</table>

* Except for portions of the rule related to the percent change in CO2 emissions from 2017 (GHG measure). Those portions are delayed and FHWA will be publishing an NPRM in the Federal Register pertaining to this measure.
What Does This Mean For You?
TPM Roles and Responsibilities

• USDOT
  - Performance Measure Rules include:
    ▪ Establish measures; identify data sources; define metrics
    ▪ Report to Congress
    ▪ Stewardship and oversight

• States and MPOs
  - Establish targets
  - Support national goals in the planning process and consider measures and targets in long range plans and programs
  - Report progress to USDOT (States)
FHWA Roles

• FHWA is committed to your success!
  o Headquarters provides guidance and develops policies and tools
  o Divisions are responsible for program delivery
  o The Resource Center provides technical assistance and training
State DOT and MPO Roles

- Identify available and needed data
- Coordinate with other agencies
- Establish coordinated targets
- Collect and submit required data
- Report progress
## Implementation Timeline

<table>
<thead>
<tr>
<th>Final Rule</th>
<th>Effective Date</th>
<th>States Set Targets By</th>
<th>MPOs Set Targets By</th>
<th>LRSTP, MTP, STIP and TIP Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Performance Measures (PM1)</td>
<td>April 14, 2016</td>
<td>Aug. 31, 2017</td>
<td>Up to 180 days after the State sets targets, but not later than Feb. 27, 2018</td>
<td>Updates or amendments on or after May 27, 2018</td>
</tr>
<tr>
<td>Pavement/Bridge Performance Measures (PM2)</td>
<td>May 20, 2017</td>
<td>May 20, 2018</td>
<td>No later than 180 days after the State(s) sets targets</td>
<td>Updates or amendments on or after May 20, 2019</td>
</tr>
<tr>
<td>System Performance Measures (PM3)</td>
<td>May 20, 2017</td>
<td>May 20, 2018</td>
<td>No later than 180 days after the State(s) sets targets</td>
<td>Updates or amendments on or after May 20, 2019</td>
</tr>
</tbody>
</table>
§ 490.105 & 490.107 Timeline for Performance Periods and State DOT Biennial Reporting

1st Performance Period for Emissions Reduction Measure

Baseline Performance Period Report (due Oct 1, 2018)

Mid Performance Period Progress Report (due Oct 1, 2020)

2nd Performance Period for Emissions Reduction Measure

Baseline Performance Period Report (due Oct 1, 2022)

Mid Performance Period Progress Report (due Oct 1, 2024)

Full Performance Period Progress Report (due Oct 1, 2022)

2nd Performance Period for All Other Measures

Full Performance Period Progress Report (due Oct 1, 2026)

Baseline Performance Period Report (due Oct 1, 2018)

Mid Performance Period Progress Report (due Oct 1, 2020)

Mid Performance Period Progress Report (due Oct 1, 2024)

Full Performance Period Progress Report (due Oct 1, 2026)
Safety Performance Measures

Five annual safety targets are required for State DOTs and MPOs:

• Number of fatalities
• Number of serious injuries
• Rate of fatalities per 100 million VMT
• Rate of serious injuries per 100 million VMT
• Number of nonmotorized fatalities and nonmotorized serious injuries
Pavement Condition Performance Measures

Four pavement measures:
• % of Interstate pavements in Good condition
• % of Interstate pavements in Poor condition
• % of non-Interstate NHS pavements in Good condition
• % of non-Interstate NHS pavements in Poor condition
Bridge Condition Performance Measures

Two bridge measures:
• % of NHS bridges by deck area classified in Good condition
• % of NHS bridges by deck area classified in Poor condition
System Performance Measures

Two system performance measures:
• % of reliable person-miles traveled on the Interstate
• % of reliable person-miles traveled on the non-interstate NHS
Freight Movement on the Interstate Measure

One freight performance measure:
• Truck travel time reliability on the Interstate system (average truck reliability index)
CMAQ Measures

Two measures:

• Traffic congestion
  ○ Peak Hour Excessive Delay (PHED) measure: annual hours of PHED per capita
  ○ Non-Single Occupancy Vehicle Travel (SOV) measure: % of non-SOV travel

• On-road mobile source emissions
  ○ Total emission reductions
Discussion Questions

What makes a good performance measure?

How should the performance measures apply to your program?

What is missing from the federal requirements? What should the transportation system do for your community?
# PBPP and TPM: Bringing It All Together

<table>
<thead>
<tr>
<th>PBPP Framework</th>
<th>PBPP Element</th>
<th>TPM Framework</th>
<th>TPM Elements</th>
</tr>
</thead>
</table>
| **Strategic Direction** *(Where do we want to go?)* | Goals and Objectives  
Performance Measures | National Goals  
Measures | Goals and Objectives  
Performance Measures |
| **Performance Based-Planning (Analysis)** *(How are we going to get there?)* | Identify Targets and Trends  
Identify Strategies  
Develop Strategy/Investment Priorities  
*Results in long-range plans* | Targets  
Plans | Targets:  
Technical Approach  
and Business Process  
Strategy Identification  
Investment Prioritization |
| **Performance Based-Programming** *(What will it take?)* | Investment Plan  
Resource Allocation  
Program of Projects | Plans | Programming Within Program Areas  
Programming Across Program Areas |
| **Implementation and Evaluation** *(How did we do?)* | Reporting  
Monitoring  
Evaluation | Reports  
Accountability  
Transparency | Monitoring & Adjustment  
(System, Program, Project)  
Reporting & Communication  
(Internal & External) |
| **Cross-Cutting Elements** *(Apply to Entire Framework)* | Public Involvement  
Data Management  
Data Analysis | | Organizational Culture  
External Collaboration & Coordination  
Data Management  
Data Usability & Analysis |
PBPP: Target-Setting Coordination

States and MPOs shall coordinate when setting targets to ensure consistency to the maximum extent practicable.
PBPP: Target-Setting Coordination

MPO Target Setting
• An MPO may establish its own quantifiable performance targets or
• An MPO may adopt a State’s performance targets and support the State’s efforts at achieving those targets

Either way, the MPO is establishing targets
Group Exercise

Discuss how the State and MPO(s) are coordinating in your State on:

- Target setting
- Data collection
- Data analysis
- Progress reporting
- Data for the NHS asset management plan
PBPP: Planning Agreements

MPO(s), State DOTs, and Public Transit Agencies shall establish written agreements for a metropolitan area describing roles and responsibilities for PBPP including:

- Coordination on target setting
- Data collection
- Data analysis
- Reporting on progress toward target achievement
- Data collection for the NHS asset management plan
The goals, objectives, performance measures, and targets from other performance based plans and programs shall be integrated into the transportation planning process.

Examples:

- Highway and transit asset management plans
- Strategic Highway Safety Plan
- Freight plans
- Congestion management process (CMP) and plan
PBPP: MTP and LRSTP

The MTP and LRSTP shall include:

• Performance measures and targets
• A description of progress made toward target achievement since the plan’s last update
PBPP: STIP and TIP

- The TIP shall be designed to promote achievement of the performance targets in the plan.
- The STIP and TIP shall, to the maximum extent practicable, describe how the investments in the STIP and the TIP make progress toward achievement of the targets in the plan.
PBPP: Guidance

- LRSTP/MTP guidance
  - Measures and targets
  - Progress on target achievement
- STIP/TIP guidance
  - Description of how the STIP/TIP helps achieve targets in the LRSTP/MTP
PBPP/TPM Resources

- Planning Capacity Building Website: [http://www.planning.dot.gov](http://www.planning.dot.gov)
- FHWA MAP-21 Website: [http://www.fhwa.dot.gov/map21](http://www.fhwa.dot.gov/map21)
**PBPP/TPM Resources**

- **Currently Available**
  - NHI-138007: Performance-based Planning and Programming
  - NHI-151053: Transportation Planning Process
  - NHI-138004: TPM Overview for the MAP-21 and FAST Acts
  - NHI-138011: The Role of Data in TPM
  - NHI-138006: TPM for Safety
  - NHI-138012: Steps to Effective Target Setting for TPM

- **In Development**
  - NHI-136106 and 136106B: TPM – Transportation Asset Management and Asset Management Plans (being revised)
  - NHI 136002: Financial Planning for Transportation Asset Management
  - NHI-138005: TPM Overview (web-based)
  - NHI-138008: TPM for Bridges
  - NHI-138009: TPM for Pavement
  - NHI-138010: TPM for Congestion (Including Freight)
PBPP/TPM Resources

- TPM Capability/Maturity Model Workshop
TPM Resources

• Safety Performance Measures: Met or Made Significant Progress Determination Fact Sheet: https://safety.fhwa.dot.gov/hsip/spm/pm_progress_fs.cfm


• Operations Performance Management: https://ops.fhwa.dot.gov/perf_measurement/
Region Leaders: Local Examples
Contacts

For questions or more information, please contact:

Office of Planning:

Harlan Miller, Harlan.Miller@dot.gov, 202-366-0847
Corbin Davis, Corbin.Davis@dot.gov, 202-366-6072
Questions?
Thank You