Safety Performance Measure Targets

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Tennessee Department of Transportation
Agenda

• Legislative Background
• Definitions and Target Setting Methodology
• TDOT's Safety Targets
• Role of the MPOs
Federal Legislation

- Key feature of MAP-21 (2012) was establishment of performance- and outcome-based program.
- 7 goal areas, 1st for states to take on is Safety.
- National Goal—”To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.”
- Objective is for States to invest resources in projects that collectively will make progress toward the achievement of the States’ goals.
23 CFR 490 Subpart B – Safety Performance Measures

• Establishes Safety Performance Measures
• Requires State DOTs to assess the following on all public roads in the state (includes local roads):
  1. Number of Fatalities
  2. Number of Serious Injuries
  3. Fatality Rate (per 100 Million VMT)
  4. Serious Injury Rate (per 100 Million VMT)
  5. Number of Non-motorized Fatalities and Serious Injuries
• Propose targets (5 year rolling average) on a yearly basis
• Determine if State has met or made significant progress
• Identifies consequences for states (mandatory funding reallocations)
Key Definitions

- **Measure**: An expression based on a metric that is used to establish targets and to assess progress towards meeting the established target
  - Number of widgets produced in a year.

- **Target**: A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the FHWA
  - Company will produce 500 widgets next year.

- **5 Year Rolling Average (5YRA)**: *Arithmetic* average of 5 individual, consecutive points of data.

- **Number targets**: Regs require must calculate arithmetic average and round to the *tenths* place.

- **Rate targets**: must calculate rate and round to the *thousandths* place.
What is the national definition for serious injuries?
The US DOT defines serious injury using the MMUCC 4th Edition “Suspected Serious Injury (A)” attribute found in the “injury status” data element. A suspected serious injury is defined in the MMUC 4th Edition as any injury other than fatal that results in one or more of the following:

- Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations
- Significant burns (second and third degree burns over 10% or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis
### Number and Rate Target EXAMPLE

#### Number Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Fatalities</td>
<td>471</td>
<td>468</td>
<td>493</td>
<td>468</td>
<td>462</td>
<td>471 + 468 + 493 + 468 + 462 = 2,362 / 5 = <strong>472.4</strong> (rounded to 1/10’s place)</td>
</tr>
</tbody>
</table>

#### Rate Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Fatalities</td>
<td>471</td>
<td>468</td>
<td>493</td>
<td>468</td>
<td>462</td>
<td>1.04 + 0.96 + 1.06 + 0.95 + 0.93 = 4.94 / 5 = <strong>0.988</strong> (rounded to 1/100’s place)</td>
</tr>
<tr>
<td>Per 100M VMT</td>
<td>454.21</td>
<td>487.50</td>
<td>466.48</td>
<td>492.27</td>
<td>495.97</td>
<td></td>
</tr>
</tbody>
</table>
# TDOT’s Safety PM Targets (FINAL)

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>5 Year Rolling Averages</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BASELINE</td>
<td>TARGET</td>
</tr>
<tr>
<td></td>
<td>2012-2016</td>
<td>2014-2018</td>
</tr>
<tr>
<td>Number of Fatalities</td>
<td>994.4</td>
<td>1,021.4</td>
</tr>
<tr>
<td>Fatality Rate</td>
<td>1.352</td>
<td>1.337</td>
</tr>
<tr>
<td>Number of Serious Injuries</td>
<td>7,324.4</td>
<td>7,630.8</td>
</tr>
<tr>
<td>Serious Injury Rate</td>
<td>9.951</td>
<td>9.982</td>
</tr>
<tr>
<td>Number of Non-motorized Fatalities and Serious Injuries</td>
<td>432.6</td>
<td>493.2</td>
</tr>
</tbody>
</table>
Key Factor Considerations

- **Behavioral** - Distracted driving top scored item; no current strong countermeasure programs
- **Non-motorized fatalities** - Greater mix of cars, bikes, and pedestrians sharing the roadway; distracted walking
- **Population/Travel Growth** - Increasing VMT; population growth in urban areas
- **Technology** – improvements thru technology take time to implement/see results; electronic devices as source of distraction
- **Funding/Resources** - during target time period anticipate levels to remain same
- **Economy** – positive growth in TN; gas prices down
Establish targets no later than 180 days after the State establishes and reports targets in the State Highway Safety Improvement Program (HSIP) annual report that is due August 31 of each year; this will be **no later than February 27** of each year.

MPOs can.....
- Establish their own targets OR......
- Support State targets
- Can make a different choice for each performance measure

If the MPO establishes a numerical target for Fatality / Serious Injury Rate, it must provide...
- VMT estimate
- Explanation of estimate methodology

MPO targets are reported to the State.
Multi-State MPOs

- Establish one target for the entire MPO area

OR

- Agree to plan and program projects that support the targets established for each State

- Will require coordination between MPO and all States involved
TDOT/MPO Coordination

- State DOTs and MPOs must coordinate to the maximum extent possible when setting targets.

- The MPOs, TDOT, and transit agency(s) will need to cooperatively develop a process and written agreement for developing and sharing performance data and reporting targets and performance.
Coordination With MPO Plans

• The MPOs will be expected to include policies, programs, and projects in the LRTP and TIP that support the selected targets

• Long Range Transportation Plans (LRTPs) updated or amended on or after May 27, 2018 must include safety performance measures and targets

• MPOs must include baseline safety performance, HSIP targets, and progress toward achieving HSIP targets in the System Performance Report in the LRTP.
Transportation Improvement Programs (TIPs) updated or amended on or after **May 27, 2018** must include a description of how the TIP contributes to achieving the performance targets in the LRTP.

“Include a description in the TIP of the anticipated effect of the TIP toward achieving HSIP targets in the MTP, linking investment priorities in the TIP to those safety targets.”
Evaluating MPO Target Achievement

- MPO compliance evaluated through the Statewide and Metropolitan Planning process:
  - Metropolitan Transportation Plan
  - Transportation Improvement Plan
  - Statewide Transportation Improvement Plan
  - Certification Process & Planning Status Reviews (PSRs)
Timeline

– October 31—Safety Performance Measures Presentations to MPO Boards completed by TDOT Office of Community Transportation Staff.
– December 31— MPOs let TDOT know if they will be using their own performance measures or supporting TDOT’s
– February 1, 2018—MPOs that choose to assemble their own performance measures provide performance data, draft targets to TDOT.
– February 27, 2018—Safety Performance Measures due to FHWA (180 days following adoption of Highway Safety Manual)
Questions/Comments

????
Regional Freight Plan

Key Elements of the Plan

- Continuity with 2040 RTP
- Land Use
  - Industrial and commercial sites
  - Repurposed sites & facilities
- Urban and rural alignment
- Management strategies for through traffic
- Specific project legacies
- Outreach and engagement
- Performance metrics & tracking
The rail, river, air, road, inland waterway and pipeline facilities in the Tristate Region covering Tennessee, Mississippi and Arkansas, are an integral part of the North American freight transportation networks and the global supply chains that travel across and between the modes.

- **Rail:**
  - Enhance intermodal connections, often affected by external factors
  - The Greater Memphis Region hosts a unique combination of modal connections

- **River:**
  - Large organizations shipping over a long distance on the landside can leverage the rail and roadway networks to increase efficiency.
  - Navigational Structure Conditions

- **Air:**
  - The Memphis international Airport is an anchor, with surrounding Airports playing a supporting role
  - Some improvements to the roadways are needed

- **Road:**
  - Targeted investments on major corridors carrying freight
Regional Freight Plan

Freight Zones

- Industrial Zones across the Region → 30+

- Based on Traffic Analysis Zones

- Identify factors to establish a unifying theme for the zone
  - Land use
  - Traffic
  - Employment
Regional Freight Plan

Freight Zones
- Information included for each freight zone such as:

- Retail Space
- Employment

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Industries</td>
<td>283</td>
<td>153</td>
<td>7.3%</td>
<td>-11.6%</td>
<td>-130</td>
</tr>
<tr>
<td>Trade &amp; Transportation</td>
<td>896</td>
<td>1,102</td>
<td>52.6%</td>
<td>-4.2%</td>
<td>206</td>
</tr>
<tr>
<td>Professional Services</td>
<td>238</td>
<td>246</td>
<td>11.7%</td>
<td>0.7%</td>
<td>8</td>
</tr>
<tr>
<td>Retail &amp; Transactions</td>
<td>397</td>
<td>524</td>
<td>25.0%</td>
<td>5.7%</td>
<td>127</td>
</tr>
<tr>
<td>Other Services</td>
<td>41</td>
<td>71</td>
<td>3.4%</td>
<td>11.6%</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,855</strong></td>
<td><strong>2,096</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>2.5%</strong></td>
<td><strong>241</strong></td>
</tr>
</tbody>
</table>
Regional Freight Plan

Roadway Congestion

Total Truck Volumes

Regional Bottlenecks
Stakeholder Engagement

- MPO Committee Members, Public & Private Sector Meetings and Jurisdiction Meetings:
  - Transportation and infrastructure projects with a freight component
  - Land use and development projects and plans that have a significant freight component
  - Issues and challenges related to freight

Freight Survey – Jan 2017
- Truckers Survey - “Man on the Street” – 294 responses
- Public Online Survey – 400 responses
Regional Freight Plan

Public Survey Responses

How often you shop online?

How often you shop online?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Daily
Weekly
Few times a month
Seasonally (around...)
Do not do online shopping

In future, do you foresee continuing to do:

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

More online shopping
About the same for both online and offline
Less online shopping

91.5% responded that freight is important for the local/regional economy.

Truckers Survey Responses

Challenges

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Truck parking
First mile\last mile
Turning radius
Road congestion
Safety - accidents

Potential solutions

Reducing incidents
Rerouting options
Getting information
Automated systems

Better quality pavement
More truck rest areas
Others
Regional Freight Plan

Technological Innovations
• Advanced technology will change the freight industry such as autonomous vehicles and truck platooning
• Policy guideline developed by USDOT
• Coordinated efforts between Federal, State, Local, and Private Sector would be needed
Regional Freight Plan

Freight Performance Measures
- Increasing role for direct private sector participation
- States (Mississippi and Tennessee) programs and performance metrics reflect local, state and national priorities

Plan Alignment
- Regional Transportation Plan is the Region’s framework
- Industrial land use, and intermodal terminals, frame the regional freight movement origins and destinations
- Efforts to enhance the alignment of the Region’s workforce and workplaces
- Balance within & across project categories, e.g., Non-Interstate Road Projects
Regional Freight Plan

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