COMMERCIAL MOTOR VEHICLE CRASH AND CONGESTION ANALYSIS

Regional Safety Advisory Committee
October 27, 2017

Mike Johnson
North Central Texas Council of Governments
Overview

• Investigate commercial motor vehicle crashes (CMV)
  o Locate hotspots
  o 11+ crash reports deemed unacceptably high

• Investigate TxDOT Top 100 congested roads in NCTCOG’s Metropolitan Planning Area (MPA)
  o Locate congested roadways within top 50

• Compare Congestion Data with Crash Data
  o Provide visual clarification and confirmation of proximity of crash hotspots and congested roadways

• Compare new data with CMV safety presentation made October 2016
Data Notes

TxDOT’s Crash Records Information Systems - CRIS includes TxDOT “Reportable Crashes” only

“any crash involving a motor vehicle in transport that occurs or originates on a traffic way, results in injury or death of any person, or damage to the property of any one person to the apparent extent of $1,000.”

Consists of all locatable crashes that included latitude and longitude information within the 12-county MPA

Collin, Dallas, Denton, Ellis, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties
Data Notes

• Analysis only includes crashes located on Limited Access Facilities
  Interstate, US highway, and State Highway including toll roads

• Time period: 2012-2016

• Congested Roadways in TxDOT’s top 50 within MPA
Annual Hours of Delay

- Spur 366
- IH 635
- IH 35 E / US 77
- US 75
- IH 35E / US 77 / US 67
- IH 35E / US 77
- IH 30 / US 67
- IH 35W / US 287
- US 75
- IH 35W / US 287
- IH 345 / US 75 / IH 45
- SH 183
- Dallas North Tollway

- Annual Hours Delay
- Annual Truck Hours Delay
Key Findings

• Previously identified hotspots still exist
  IH 35W Ft Worth, Downtown Dallas, IH 635 & IH 35E

• Highest concentrations of crashes
  IH 35W Fort Worth, IH 635 North and South of Dallas, IH 35E from Denton to Loop 12, and IH 30 through Rockwall County

• Highest congestion
  Spur 366 (Woodall Rogers), IH 635, IH 35E at US 75, and IH 35E from SH 183 to IH 30 downtown Dallas
Recommendations

- Correlation between CMV crashes and freight oriented development

- More efficient city truck route network reduces congestion- eliminate dead spots and offer viable alternate routes when primary one fails

- Higher bridge heights, improved roadway geometry facilitate Oversize/Overweight freight, reduce congestion, increase safety/visibility for passenger traffic
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Background

Staff currently uses performance measures as part of a performance-based planning process (e.g., Metropolitan Transportation Plan, Congestion Management Process).

Federal legislation has specified certain quantitative performance measures that must be tracked and reported annually.

Generally regional in scale, not intended to inform individual projects.

Coordinated with the State and regional partners.

Upcoming deadlines for Roadway Safety.
Monitoring Transportation System Performance

1. Identify RTC policy emphasis areas.

2. Set metrics and targets focused on RTC policy emphasis areas.

3. Track and report performance compared to targets (through existing documents like the Mobility Plan and State of the Region).

4. Track federal, state and partner agency implementation over time (in the Transportation Improvement Program).

Incorporate performance and partner feedback.
Federally Required Performance Measures

- Highway Safety Improvement Program (PM1)
- Infrastructure Condition (PM2)
- System Performance/Freight/Congestion Mitigation and Air Quality (PM3)
- Transit Asset Management
Roadway Safety Performance Targets

- Target: Number of Fatalities
- Target: Rate of Fatalities
- Target: Number of Serious Injuries
- Target: Rate of Serious Injuries
- Target: Number of Non-motorized Fatalities plus Serious Injuries

MPOs may choose to establish their own targets or adopt the State’s targets.

Targets are based on five-year averages (2014-2018 for 2018 targets).
Types of Target Setting

- Evidence-Based Target Setting
  - Estimate of Achievements for a Specific Set of Investments, Policies, and Strategies
  - Achievable
  - Relatively Short Timeframe (5 to 10 Years)

- Aspirational or Vision-Based Target Setting
  - Long-term Vision for Future Performance
  - Vision for Zero Fatalities (Vision Zero, TZD, Target Zero)
TxDOT Safety Performance Target Setting

- Evidence based, data-driven targets are required.
- TxDOT Strategic Highway Safety Plan (SHSP) utilized a data-driven, multi-year, collaborative process to establish safety targets.
- Stakeholder Consensus: Two percent reduction by SHSP Target Year of 2022.
- Two percent Reduction achieved by reducing each intermediate year by:

<table>
<thead>
<tr>
<th>Year</th>
<th>Reduction</th>
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<tbody>
<tr>
<td>2017</td>
<td>0.0%</td>
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<tr>
<td>2018</td>
<td>0.4%</td>
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<tr>
<td>2019</td>
<td>0.8%</td>
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<tr>
<td>2020</td>
<td>1.2%</td>
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<tr>
<td>2021</td>
<td>1.6%</td>
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<tr>
<td>2022</td>
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MPO Safety Target Requirements

- MPOs establish targets for each of the five measures within 180 days after the State DOT reports targets.
- MPOs have two options when setting targets for each measure:
  - Establish a numerical target for each performance measure specific to the MPO planning area.
  - Agree to support the State DOT target.
- MPO reporting of targets to DOT to be agreed upon between DOT and MPO.
# NCTCOG Safety Target Recommendations

<table>
<thead>
<tr>
<th>Safety Performance Targets</th>
<th>TxDOT 2018 Targets</th>
<th>NCTCOG 2018 Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Fatalities</td>
<td>3,704</td>
<td>665</td>
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<tr>
<td>Fatality Rate</td>
<td>1.432</td>
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<tr>
<td># of Serious Injuries</td>
<td>17,565</td>
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<td>Serious Injury Rate</td>
<td>6.74</td>
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<td># of Non-motorized Fatalities and Serious Injuries</td>
<td>2,151</td>
<td>560</td>
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</table>

Targets are based on five-year averages (2014-2018 for 2018 targets) and will be revisited annually.
# NCTCOG Safety Projects and SHSP Emphasis Areas

<table>
<thead>
<tr>
<th>NCTCOG Programs and Projects</th>
<th>Distracted Driving</th>
<th>Impaired Driving</th>
<th>Inter. Safety</th>
<th>Older Road Users</th>
<th>Bike/Ped Safety</th>
<th>Rdwy. &amp; Lane Depart.</th>
<th>Speeding</th>
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<td>Look Out Texans</td>
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<td>Reg. Pedestrian Safety Plan</td>
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Next Steps for Roadway Safety PMs

Set baseline for performance with current data.

Track progress towards safety targets.

Report on progress to regional, state, and federal partners.

Bring back metrics and targets for RTC emphasis areas annually.

Seek RTC input on additional performance measures including Infrastructure Condition (PM2) and System Performance/Freight/ Congestion Mitigation and Air Quality (PM3).
### Timeline

<table>
<thead>
<tr>
<th>Action</th>
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<tr>
<td>STTC Information</td>
<td>October 27, 2017</td>
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<td>RTC Information</td>
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<td>Public Meetings</td>
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<td>STTC Action</td>
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<td>RTC Action</td>
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<td>Target-Setting Deadline: Roadway Safety</td>
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