UPDATE ON MAXIMIZING SYSTEM SAFETY

Fall Bridge Webinar
September 13, 2018
Background

- Michael Lee - Director of Engineering and Safety Operations
  - Introductory presentation a few months ago
  - Introduced the topic at TP&D meetings
  - Emphasis on changing the mindset from “pennies to the pavement” to investing in enhancements to make each project safer – resulting in a overall safer system

- Topic of Interest at the Commission Level

- Short Term Efforts
- Medium Term Efforts
- Longer Term Efforts
Short Term Examples

- By month, reporting to the commission the number of projects in the letting that include safety enhancements
- Initiating the discussion of changing the mindset
- Ongoing Highway Safety Improvement Program (HSIP)
- Raising awareness at meetings such as this
- Work Group Implementation for Maximizing System Safety
Maximizing System Safety - Work Group Members

- Cheryl Flood (LFK)
- Rebecca Wells (ATL)
- Dwayne Halbardier (AUS)
- Mark Woolridge (HOU)
- Doug Marino (BRY)
- Ciro Baeza (ODA)
- Brad Tiemann (TYL)
- Robert Ramirez (TPP)
- Ken Mora (DES)
- Khalid Jamil (DES)
- Jerral Wyer (ADM)
- Bob Ratcliff (ADM)
- Camille Thomason (DES)
- Gina Gallegos (CST)
- Gregg Freeby (BRG)
- Graham Bettis (BRG)
- Michael Chacon (TRF)
- George Villareal (TRF)
- Dan Stacks (MNT)
- James Stevenson (MNT)
Medium Term Examples

- Initiative to develop a methodology and tool to assign a project safety score
  - Conceptually, identify the basis for an ideal score on a type of project
    - Apply the methodology to score the existing state of the design
    - Apply the methodology to evaluate options for decision making
    - Compare the future score to the existing to assess improvement
  - Will use TTI through an IAC (negotiation pending)

- In transition to implement MASH Compliant Safety Hardware

- Addition of a new section to the Design Division
  - Traffic Simulation and Safety Analysis Section
  - To help improve simulation and analysis for IAJRs and Design Exceptions
  - Advance safety analysis in project development to help decision makers
Longer Term Examples

- Adding Chapter on Alternative Intersection and Interchange Design to the Roadway Design Manual to help with decision making on intersection improvements, including:
  - Roundabouts
  - Diverging Diamond Interchange (DDI)
  - Median U-Turn Intersection (MUT)
  - Restricted Crossing U-Turn Intersection (RCUT)
  - Displaced Left Turn Intersection (DLT)

- Data Driven Safety Analysis (DDSA)
  - FHWA effort in current round of Every Day Counts (EDC)
  - Recent multi-state peer exchanges to showcase states’ progress in institutionalizing DDSA
  - Multi-discipline team participated from TxDOT
Considerations

- Over 35% of all fatal and serious injury crashes are attributed to run-of-the-road and head-on crashes.

- Investing in methods to avoid leaving the travel lane is one approach.

- A supporting effort must be to address, to the extent practical, the situation encountered upon leaving the travel lane.

<table>
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<th>YEAR</th>
<th>FATAL CRASHES</th>
<th>FATALITIES</th>
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<tr>
<td>2018</td>
<td>2,139</td>
<td>2,362</td>
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<tr>
<td>2017</td>
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<td>2015</td>
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<td>2014</td>
<td>3,192</td>
<td>3,538</td>
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</table>

All fatal crashes received and processed as of 9/12/2018 6:00:18 AM
Minimum Requirements vs Exercising Judgment

- Bridge rails
- Bridge ends
- Side slopes
- Clear zone
- Safety treatment of culvert ends – how far?
- Length of need determination for guard rail
- Properly grooved bridge decks
- Traffic Control Plans based on what’s safe rather than what’s fast
- Question if there’s a better way than what has become routine or the local standard
- Other elements?

...judgement should be exercised...
Questions?
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