



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 IAJs 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.

Calendar Year 2014 to 2018 Fatal Crash and Fatality Count to Date

YEAR	FATAL CRASHES	FATALITIES
2018	2,139	2,362
2017	3,345	3,725
2016	3,424	3,794
2015	3,190	3,582
2014	3,192	3,538

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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