

Intersection Emphasis Area Team Report
Wednesday, March 22, 2017, 9:30 a.m.

Follow Up Commitments

Commitment	Responsible Person	Due Date
Ask someone from the Dallas Injury Prevention Center to join team		
Get HGAC report for red-light cameras to post on website	McDaniel/Wunderlich	

Participants

Name	Agency/Organization
Brian Moen, Team Leader	City of Frisco
Dave Carter	City of Richardson
Kevin Cunningham	Cedar Hill Fire/EMS Department
John Denholm	Lee Engineering
Kevin Kroll	North Central TX Council of Governments
Terry Pence	TxDOT-TRF
Stephen Ratke	FHWA-TX
David Shilson	Frisco Police Department
Rebecca Wells	TxDOT - ATL
Toni Whitfield	FHWA - TX
Robert Wunderlich	Texas A&M Transportation Institute
Darren McDaniel	TxDOT
Eva Shipp	Texas A&M Transportation Institute
Stacey Schrank	Texas A&M Transportation Institute

Intersection Safety Strategies and Countermeasures

Strategy #1: Improve data systems for identifying specific intersections and intersection types at high probability for serious injury crashes

Countermeasures and Programs

- Improve safety data on intersections by developing an intersection database, e.g., roadway characteristics, traffic volumes, # of driveways, type of controls
- Create sample GIS data structure that can be distributed to cities across the state to collect information in uniform fashion
- Create and post intersection identifier at on system intersections. Can be similar to the TRM system and placed on a sign post
- Consider a standardized app for data collection (similar to how CRASH was developed for PDs to do reports) – IOS or Android app to allow locals to collect info and upload
- Publish statewide intersection crash rates by volume, lanes, and district/county to allow locals means of comparison
- Develop statewide intersection database using the Model Inventory Roadway Elements format
- Populate the intersection database through partnerships between TxDOT, MPOs and locals to acquire and maintain inventory data for intersections and interchanges

Strategy #2: Consider alternative design strategies for improving intersection safety

Countermeasures and Programs

- Educate decision makers and the public on the safety factors associated with roundabouts
- Create a campaign or education push on roundabouts and the safety benefits
- Construct a roundabout
- Convert a signalized intersection to a diverging left intersection
- TxDOT – complete an intersection control evaluation process (ICE) for use in project development (underway with TxDOT Design Division)
- TxDOT – train and provide case studies for the selection of alternative intersections using the ICE tool and other resources (FHWA everyday counts, ITE, etc.)
- Promote the use of ICE procedures and other alternative intersection evaluation tools for use by locals in project development (outreach to TexITE, MPOS, etc.)

Strategy #3: Improve pedestrian safety at high risk intersections

Countermeasures and Programs

- Prohibit right on red and permissive left turns at high incident locations
- Install/improve pedestrian signals, pedestrian crosswalks, and/or high friction surface treatment on intersection approaches
- Ensure pedestrian signals, push buttons, crosswalk markings, etc. meet current requirements or upgrade to current requirements, including signal timing.
- Provide low to medium cost intersection improvements that improve safety for pedestrians –
 - convert free flow turn lanes to angled turn lanes that require stopping/ yielding, add turn islands and median islands and curb bulb outs
 - convert permissive only or protected permissive phasing to protected only when pedestrian call is present or during active times of day
 - provide enhanced measures – RRFB, PHB, lighting, etc. at uncontrolled high risk locations
- Pedestrian islands

Strategy #4: Increase driver awareness of intersections, e.g., pavement markings, flashing beacons, risk factors, etc.

Countermeasures and Programs

- Implement proven, low cost engineering countermeasures in a systemic manner
 - Advance signal ahead warning sign
 - Flashers on signal ahead warning sign
 - Arrow pavement markings
 - Stop lines
 - Lane lines
 - Lane control signs
 - Advance cross street name signs
 - No Turn on Red signs
 - Protected Left Turn Phase
 - One signal head per lane
 - Supplemental signal head
 - Traffic signal back plates

- Red light indicator lights
- Pedestrian signal
- Pedestrian signal push button
- Yield to pedestrians sign
- Sidewalks
- Curb ramps
- Pedestrian crosswalk
- Intersection lighting
- High-friction surface treatment
- Remove On-street parking
- Larger signs with green background (6'x6' green sign with 48" warning sign on top)
- Use of BE PREPARED TO STOP WHEN FLASHING warning signs where sight restriction or speed is an issue
- Blank out sign for left turn yield condition
- In-lane pavement markings – SIGNAL AHEAD, STOP AHEAD, 55 MPH, etc.
- Use of mast arms for multiple lane warning signs
- Driver feedback signs
- Create offset left turn lanes for divided roadbeds
- Install intersection flashing beacon or traffic signal, advance intersection warning signals or signs, or flashing yellow
- Safety lighting at intersections
- Add left or right turn lanes
- Install transverse rumble strips
- Develop Texas specific resources on the use of specific countermeasures above, based on roadway types, system ownerships, rural/urban character, etc. as a guide to practitioners
- Implement the current Texas Intersection Safety Implementation Plan to prepare for the next iteration of the ISIP
- Do not enter one way, freeway guide signs, and other devices that could prevent or reduce instances of wrong way driving initiated from intersections

Strategy #5: Develop educational campaigns incorporating data analysis to improve intersection safety

Countermeasures and Programs

- Publicize high crash locations and point out the contributing crash factors, e.g., impaired driving, texting, phone use, etc.
- Increase and renew emphasis on safe driving behaviors in driver education
- Create info graphics and other social media friendly graphics of information
- Younger driver educational campaign relating to signalized intersections

Strategy #6: Reduce red light running

Countermeasures and Programs

- Use targeted enforcement at high incident locations
- Research and address the factors contributing to reduced law enforcement citations
- Educate decision makers and the public on the effectiveness and appropriate use of automated enforcement
- Improve traffic signals
- Interconnect signals
- Install red light indicator lights
- Install automated red light enforcement cameras

Next Steps

Additional Resources

- MIRE Fundamental Data Elements
<https://safety.fhwa.dot.gov/rsdp/fde/illustrations.cfm>
- FHWA Capacity Analysis for Planning of Junctions (Cap-X) Tool
<https://www.fhwa.dot.gov/software/research/operations/cap-x>
- State of Texas Instructions To Police For Reporting Crashes
http://ftp.dot.state.tx.us/pub/txdot-info/trf/crash_notifications/2017/crash-report-100.pdf

Upcoming Meeting Date

The next meeting will be scheduled for May 2017.

This meeting will accomplish at least four purposes:

1. Review, revise, and finalize the SHSP intersection safety strategies and countermeasures;
2. Review and discuss the SHSP goals established by the Executive Committee;
3. Set goals/targets for the intersection safety emphasis area; and
4. Identify an additional meeting date in June to discuss suggestions and recommendations from the 2017 Texas Traffic Safety Conference.