SHSP Action Plan Development

Intersection EA Team

December 19, 2017

Agenda

- Welcome and Introductions
- SHSP Status
- FY 18 Goals and Objectives
- Action Planning
  - Proposed Approach
  - Meeting Schedule
- SHSP Milestones

SHSP Status

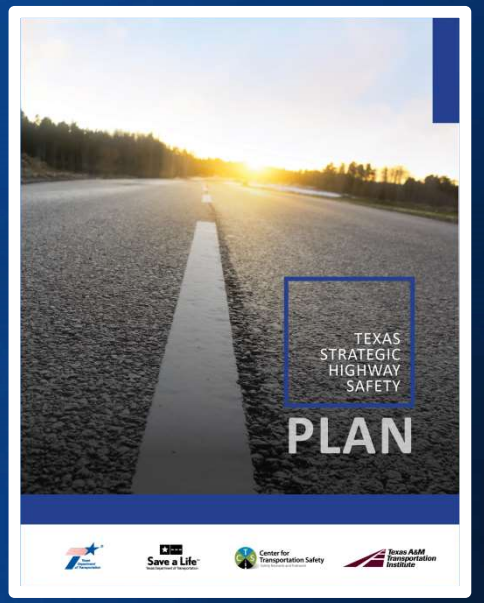
Thanks to you and your teams!

Plan approved by FHWA!! (Woo Hoo!)

Posted at www.texasshsp.com

Next Steps:

- Action Plans
- Evaluation Plan
- Communication Plan
- Regional Workshops



FY 18 Goals and Objectives

- Establish a SHSP Brand
- Extend participation in SHSP
- Document Existing Safety Programs and Projects
- Develop & disseminate a branded “consumer version” of SHSP
- Develop Action Plans for each Emphasis Area

Document Existing Programs and Projects

- Qualtrics Survey
- Classify
  - By EA
  - By other efforts (e.g., motorcycles, bicycles)
- Starting Point
- Identify gaps
- Set priorities

Action Planning Approach

- EA Teams
  - Review, revise, and confirm countermeasure rankings
  - Review, revise, and confirm preliminary Action Plans
  - Develop and confirm additional Action Plans
    - Ensure all strategies covered
    - All EA team priorities covered
- Three Rounds of Meetings

EA Team Meetings

Round 1

- Review, revise, and confirm countermeasure rankings*
- If time allows, begin reviewing, revising, and confirming preliminary Action Plans*
- Identify additional Action Plans needed to:
  - Ensure all strategies covered
  - Cover all EA team priorities

* Developed during 2017 Texas Traffic Safety Conference

STRATEGIES: INTERSECTION SAFETY EMPHASIS AREA

Strategy #1	Improve data systems for identifying specific intersections and intersection types at high probability for serious injury crashes.
Strategy #2	Consider alternative design strategies for improving intersection safety.
Strategy #3	Improve pedestrian safety at intersections with high probability of crashes.
Strategy #4	Increase driver awareness of intersections.
Strategy #5	Develop educational campaigns incorporating data analysis to improve intersection safety.
Strategy #6	Reduce red light running.

NUMBER	All COUNTERMEASUREs	RANK
1a	Create a statewide intersection safety and roadway elements database. (Incorporate Model Inventory of Roadway Elements format, create a standardized data structure to support GIS applications, create an app for data collection, develop partnerships between TxDOT, MPOs, and local agencies to populate the database, and develop and implement an intersection identifier system for posting at intersections). Steve Ratke	1
5a	Publicize high crash locations and point out the contributing crash factors (e.g., red light running, speeding impaired driving, texting, phone use). James Keener	2
		3
4b	Implement proven, low cost engineering countermeasures in a systemic manner: modify operations, add or enhance signs, and add or enhance physical conditions. (Install driver speed feedback signs in advance of intersections.) 4c,	4
6e	Improve traffic signal timing and interconnect signals to improve efficient traffic flow and encourage a safe travel speed.	5
3c	Install low to medium cost improvements to increase pedestrian safety: Eliminate free flow turn lanes or convert them 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 is present or during active times of day), provide enhanced measures—rectangular rapid flash beacon, pedestrian hybrid beacon, lighting, etc. at uncontrolled high risk locations, and pedestrian islands. At targeted intersections: Prohibit right on red and permissive left turns at high probability locations, install/improve pedestrian signals, pedestrian crosswalks, lighting, and/or high friction surface treatment on intersection approaches, and ensure pedestrian signals, push buttons, crosswalk markings, etc. meet current requirements or upgrade to current requirements, including signal timing.	6
6a	Use targeted enforcement at high incident locations. Install red light indicator (in most cases, white) lights to inform law enforcement of red signal onset.	7
2c	Encourage use of the Intersection Control Evaluation process for use in project development by TxDOT and local agencies—develop case studies, provide training, and conduct outreach.	8
2a	Construct roundabouts and create an outreach program to educate the public and public officials about roundabout advantages and safety benefits. Brian Moen, Rebecca Wells	
6d	Install automated red light enforcement cameras.	9
6f		10
3a	Develop methods to identify and target high pedestrian crash probability locations: Systemic methods (i.e., based on characteristics) and screening for locations with above average crash experience.	11
		12
5b	Increase and renew emphasis on safe driving behaviors in driver education.	13
5d	Develop and implement a young driver educational campaign relating to signalized intersections.	14
4a	Develop Texas specific resources on the use of specific countermeasures, based on roadway types, system ownerships, rural/urban character, etc. as a guide to practitioners.	15
5c	Create info graphics and other social media friendly information.	16
4c	Implement current Texas Intersection Safety Implementation Plan to prepare for the next iteration of the HSIP.	17

NUMBER	COUNTERMEASURE for ACTION PLANNING	RANK
1a	Create a statewide intersection safety and roadway elements database. (Incorporate Model Inventory of Roadway Elements format, create a standardized data structure to support GIS applications, create an app for data collection, develop partnerships between TxDOT, MPOs, and local agencies to populate the database, and develop and implement an intersection identifier system for posting at intersections).	1
5a	Publicize high crash locations and point out the contributing crash factors (e.g., red light running, speeding impaired driving, texting, phone use).	2
3b	At targeted intersections: Prohibit right on red and permissive left turns at high probability locations, install/improve pedestrian signals, pedestrian crosswalks, lighting, and/or high friction surface treatment on intersection approaches, and ensure pedestrian signals, push buttons, crosswalk markings, etc. meet current requirements or upgrade to current requirements, including signal timing.	3
4b	Implement proven, low cost engineering countermeasures in a systemic manner: modify operations, add or enhance signs, and add or enhance physical conditions. (Install driver speed feedback signs in advance of intersections.)	4
6e	Improve traffic signal timing and interconnect signals to improve efficient traffic flow and encourage a safe travel speed.	5
3c	Install low to medium cost improvements to increase pedestrian safety: Eliminate free flow turn lanes or convert them 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 is present or during active times of day), provide enhanced measures—rectangular rapid flash beacon, pedestrian hybrid beacon, lighting, etc. at uncontrolled high risk locations, and pedestrian islands.	6
6a	Use targeted enforcement at high incident locations.	7
2c	Encourage use of the Intersection Control Evaluation process for use in project development by TxDOT and local agencies—develop case studies, provide training, and conduct outreach.	8

Action Plan Overview

- Steps (requires most effort)
  - Lead organization
  - Action
- Key points
  - Effectiveness
  - Cost to implement
  - Time to implement (based on 5 year plan)
  - Barriers or issues to implementation

Strategy #1	Improve data systems for identifying specific intersections and intersection types at high probability for serious injury crashes
Countermeasures and Programs:	
1a	Create a statewide intersection safety and roadway elements database (Incorporate Model Inventory of Roadway Elements format, create a standardized data structure to support GIS applications, create an app for data collection, develop partnerships between TxDOT, MPOs and local agencies to populate the database, develop and implement an intersection identifier system for posting at intersections)

Facilitated Discussion Group Results: (Lead organization: TxDOT)

- Step 1: Need executive director policy mandate to require start of data collection
- Step 2: Soliciting input from stakeholders to determine what data is wanted; set up data platform (how to cities provide data); establish method for exchange
- Step 3: Establish data platform and modify existing app (Road Runner) based on MIRE
- Step 4: Collect/integrate data
- Step 5: Maintain the database

Strategy #1	Improve data systems for identifying specific intersections and intersection types at high probability for serious injury crashes
Countermeasures and Programs:	
1a	Create a statewide intersection safety and roadway elements database (Incorporate Model Inventory of Roadway Elements format, create a standardized data structure to support GIS applications, create an app for data collection, develop partnerships between TxDOT, MPOs and local agencies to populate the database, develop and implement an intersection identifier system for posting at intersections)

Effectiveness: ***

Cost of implementation: $$$

Time to implementation: medium

Barriers:

- Getting policy approved
- Cooperation from stakeholders
- Budget
- Realistic vs. administration time frame
- Data integration
- Maintaining the data “propertly”
- Training data users

Strategy #2	Consider alternative design strategies for improving intersection safety
Countermeasures and Programs:	
2e	Encourage use of the Intersection Control Evaluation process (ICE) for use in project development by TxDOT and local agencies
2g	Promote the use of ICE procedures and other alternative intersection evaluation tools for use by locals in project development (outreach to TexITE, MPOS, etc.)

Facilitated Discussion Group Results:

Step 1: Identify stakeholders (Lead organization: TxDOT)

Step 2: Draft policy based on best practices;
Current ICE appendix to design guide doesn't contain policy; Standard intersection design doesn't apply in certain cases
(Lead organization: research agency)

Step 3: Revise based on stakeholder input
(Lead organization: research agency)

Step 4: Train & promote; Identify expert contact
(Lead organization: TxDOT; research agency)

Strategy #2	Consider alternative design strategies for improving intersection safety
Countermeasures and Programs:	
2e	Encourage use of the Intersection Control Evaluation process (ICE) for use in project development by TxDOT and local agencies
2g	Promote the use of ICE procedures and other alternative intersection evaluation tools for use by locals in project development (outreach to TexITE, MPOS, etc.)

Effectiveness: ***

- Context sensitive – not just roundabouts
- Already used by several states
- TxDOT sticking to tried and true

Cost of implementation: $$ (staff and outreach)

Time to implementation: medium

- Some of the work already done
- EDC 2 has already done and years of leg work

Barriers:

- Institutionalized inertia

Strategy #3	Improve pedestrian safety at intersections with high probability of crashes
Countermeasures and Programs:	
3b	At targeted intersections: Prohibit right on red and permissive left turns at high incident locations, install/improve pedestrian signals, pedestrian crosswalks, lighting, and/or high friction surface treatment on intersection approaches, and ensure pedestrian signals, push buttons, crosswalk markings, etc. meet current requirements or upgrade to current requirements, including signal timing

Facilitated Discussion Group Results:

Step 1: Identify targeted intersections through crash analysis and public input. Identify high-risk intersection characteristic. Prioritize projects.
(Lead organization: TxDOT, cities, etc.)

Step 2: Create a toolbox of engineering solutions. Pilot test.
(Lead organization: implementing agencies/MPOs/research institutions)

Step 3: Identify specific countermeasures for each intersection.
(Lead organization: implementing agencies)

Step 4: Identify funding sources and costs to implement.
(Lead organization: implementing agencies)

Step 5: Implement. Educate. Evaluate outcomes.
(Lead organization: implementing agencies)

Strategy #3	Improve pedestrian safety at intersections with high probability of crashes
Countermeasures and Programs:	
3b	At targeted intersections: Prohibit right on red and permissive left turns at high incident locations, install/improve pedestrian signals, pedestrian crosswalks, lighting, and/or high friction surface treatment on intersection approaches, and ensure pedestrian signals, push buttons, crosswalk markings, etc. meet current requirements or upgrade to current requirements, including signal timing

Effectiveness: **

Cost of implementation: $$

Time to implementation: short

Barriers:

- Public perception
- Funding
- Effect on LOS
- Data limitations

Strategy #4	Increase driver awareness of intersections
Countermeasures and Programs:	
4b	Implement proven, low cost engineering countermeasures in a systemic manner: modify operations, add or enhance signs, and add or enhance physical conditions

Facilitated Discussion Group Results:

Step 1: Evaluation/ Study

Step 2: Design/Cost

Step 3: Implement

Step 4: After study

Effectiveness: ***

Cost to implement: $$

Time to implement: short

Barriers:

- Funding
- Local opposition
- Construction for pavement modifications

Additional Notes (modify):

- Visibility
- Add/update features (turn lane channelization medians)
- Signs (add, update, size, relocate, LED, advance warning)
- PM to guide
- Illumination
- Pavement – HFST
- Rural – RS
- Flashing beacons

Strategy #5	Develop educational campaigns incorporating data analysis to improve intersection safety
Countermeasures and Programs:	
5a	Publicize high crash locations and point out the contributing crash factors, e.g., red light running, speeding impaired driving, texting, phone use, etc.

Facilitated Discussion Group Results:

Step 1: Data gathering/ analysis; location identification
(Lead organization: state or city/ road owner)

Step 2: Obtain interagency approvals; obtain necessary public outreach approvals (council, MPO, Division approval, coalition); use existing program guidelines
(Lead organization: road owner)

Step 3: Implementation: pamphlets; news/radio spots; internet/social media; physical signs (aluminum/DMS)
(Lead organization: road owner)

Step 4: Efficacy evaluation – analyze data post implementation
(Lead organization: road user)

Strategy #5	Develop educational campaigns incorporating data analysis to improve intersection safety
Countermeasures and Programs:	
5a	Publicize high crash locations and point out the contributing crash factors, e.g., red light running, speeding impaired driving, texting, phone use, etc.

Effectiveness: **

- Based on prior publicity of top crash intersections in news articles
- Prior use of large drunk driving signs on high risk corridors. It may translate to risky intersections
- Local DMS signs may improve driver behavior

Cost of implementation: $

- Lower cost than rebuilding each intersection
- Publicity through multiple medium
  - Internet
  - Radio/TV
  - Signs – static/DMS
  - Use the existing program guidelines

Time to implementation: short

- Data analysis
- Sign fabrication and installation on state or city right of way

Barriers:

- Consensus between organizations
- This may push the outreach from short term to medium term
- Smaller agencies may have difficulty obtaining data analysis
- Incorrect data (few outliers; lat/long)
- Lack of stakeholder buy-in

Strategy #6	Reduce red light running
Countermeasures and Programs:	
6e	Improve traffic signal timing to improve efficient traffic flow

Facilitated Discussion Group Results:

Step 1: Traffic study (pilot)
Step 2: Equipment
Step 3: Program
Step 4: Implement
Step 5: Evaluation

Effectiveness: **
- Progression
- Dilemma zone
- Controller update

Cost to implement: $
Time to implement: short
Barriers :
- Public
- Funding
- City/county issues

Wrap Up

- Review plans for next meeting
- Questions
- Comments

Thanks very much!

EA Team Meetings

Round 2

- Complete reviewing, revising, and confirming preliminary Action Plans

- Develop additional Action Plans
  - Ensure all strategies covered
  - All EA team priorities covered

EA Team Meeting Schedule

Round 2

- January
- February

Round 3

- February
- March

EA Team Meetings

Round 3

- Complete Action Plans
- Announce regional workshop dates and locations
- Discuss EA Team role in workshops
- Encourage participation and marketing assistance

SHSP Milestones

Regional Workshops (May)

- Houston
- DFW
- San Antonio
- Midland/Odessa

SHSP Action and Evaluation Plans

- August 1st to FHWA

Traffic Safety Conference

- Focus on success and overcoming barriers
- Interactive workshops

2018 Traffic Safety Conference