

SHSP Action Plan Development

Pedestrian Safety EA Team



February 8, 2018

Agenda

- Welcome and Introductions
- Review Action Plans Developed by Working Groups
- Discuss Remaining Countermeasures Identified for Action Planning
- Next Steps



STRATEGIES: PEDESTRIAN SAFETY EMPHASIS AREA

Strategy #1	Improve driver and pedestrian safety awareness and behavior
Strategy #2	Reduce pedestrian crashes on urban arterials and local roadways
Strategy #3	Improve pedestrians' visibility at crossing locations
Strategy #4	Improve pedestrian networks
Strategy #5	Improve pedestrian involved crash reporting
Strategy #6	Establish vehicle operating speeds to decrease crash severity
Strategy #7	Develop strategic pedestrian safety plans tailored to local conditions

NUMBER	COUNTERMEASURE for ACTION PLANNING
1a	<p>Educate motorists on appropriate actions if they become stranded on a freeway or high speed roadway to reduce crashes with unintended pedestrians on high speed roadways (stay in the vehicle, call for help, Steer It and Clear It).</p> <p>Consider policies for, and enforcement of, moving over and/or encouragement for motorists to move over away from stranded cars and roadside pedestrians (Safe Passing Law). Examples: expansion of the Move Over/Slow Down Law, safe passing laws such as the San Antonio ordinance and proposed statewide legislation. (San Antonio examples – all vulnerable).</p>
1c	<p>Improve driver awareness of pedestrians. Examples: Look Right and Yield to Pedestrian Campaign, Square Your Turns, Rock and Roll in the seat to see pedestrians and bicyclists; educational videos about laws on yielding to pedestrians in crosswalks, targeted education by location, demographics, and other factors.</p> <p>Incorporate pedestrian issues into driver testing and defensive driving courses.</p>
1e	<p>Implement a campaign about drugged, drunk walking. Identify alternatives to impaired walking such as transit, taxis, and transportation network companies (e.g., Uber/Lyft). Work with Teens in the Driver’s Seat (high school age program) and U in the Driver’s Seat (college-age program) to create awareness around walking and biking issues for young drivers and pedestrians.</p>
2a	<p>Research the distance needed between safe pedestrian crossings:</p> <p>Develop criteria for the maximum desirable distances between safe crossing opportunities for different roadway classifications. Use FHWA materials on Safe Transportation for Every Pedestrian; level of service calculations for all users at signalized intersection and retrofit locations to increase safety (narrowing, speed management treatments).</p>
2c	<p>Implement raised crosswalks at high pedestrian activity locations (Include: right turn channelization roadways, midblock crossings, and on the approach/departure lanes of roundabouts).</p>
2e	<p>Develop and implement a program to assist cities and other agencies to develop policies and implement projects that address common pedestrian crash types (shorten crossing distances, provide complete sidewalk networks, provide enhanced crossing devices, median islands, etc.).</p>

NUMBER	COUNTERMEASURE for ACTION PLANNING
3b	<p>Deploy bulb-outs, neckdowns, median islands, parking restrictions, advance yield bars, Z crossings, and associated improvements that allow pedestrians to find refuge from, and visibility to, vehicular traffic. Minimize the screening of pedestrians by parked or stopped vehicles, vegetation, and other objects (remove on-street parking, encourage Don't Block the Box campaigns) or add bulb-outs.</p>
4a	<p>Incorporate pedestrian considerations in transportation plans. Prioritize pedestrian safety and considerations for mobility and accessibility in the context of land use and roadway environment. Prioritize improvements to fill gaps in networks and crossings within ¼ mile of bus stops and ½ mile of other mass transportation. Provide appropriate features along the pedestrian network (wide shoulders, sidewalks, pedestrian crossing treatments, pedestrian refuge islands).</p>
5b	<p>Add fields to the standard crash report form to better define pedestrian crashes and provide additional detail on the specifics of each crash. This includes those needed to use the PBCAT tool and develop law enforcement roll call videos on the need for and uses of pedestrian crash data.</p>
6a	<p>Encourage use of target speeds that consider pedestrians, land use, and the roadway context (e.g., a target speed of 35 mph or less on arterials). Other examples: provide design flexibility guidance for techniques to reduce operating speeds on surface streets; encourage use of tree lined medians, bicycle lanes, safe and attractive pedestrian crossings and walkways; support use of traffic calming for local streets.</p>
7a	<p>Develop Pedestrian Safety Action Plans (PSAPs) in urbanized areas. Identify/create funding sources (i.e., match funding, funding barriers). Other examples: identify barriers which limit use to existing funds; allow for systemic approach (based on site characteristics and not crashes) when implementing countermeasures recommended in PSAPs.</p>

Countermeasures and Programs:

- 2a Research the distance needed between safe pedestrian crossings:
Develop criteria for the maximum desirable distances between safe crossing opportunities for different roadway classifications. Consider FHWA materials on Safe Transportation for Every Pedestrian, level of service calculations for all users at signalized intersection, and typical distance a pedestrian will walk before crossing the street at an unsignalized location. The recommendations may vary by functional classification (e.g., arterial versus local street) and by context (e.g., rural versus urban core). The recommendations may also vary by treatment type (e.g., traffic control signal or pedestrian hybrid beacon versus markings and sign only with no supplemental beacons).

Steps for Implementation:

Step 1: Develop a research problem statement regarding the maximum desirable distance between safe pedestrian crossings. (TTI)

Step 2: Submit problem statements to potential funding sources (TRB, AASHTO, Foundations – AAA, RWJ, Bloomberg and TxDOT) (TxDOT & cities, TTI)

Step 3: Conduct research project to investigate distance between pedestrian crossings

Step 4: Disseminate information from research project (FHWA, TxDOT, Foundations)
(Lead organization: TxDOT)

Countermeasures and Programs:

2a	Research the distance needed between safe pedestrian crossings: Develop criteria for the maximum desirable distances between safe crossing opportunities for different roadway classifications. Consider FHWA materials on Safe Transportation for Every Pedestrian, level of service calculations for all users at signalized intersection, and typical distance a pedestrian will walk before crossing the street at an unsignalized location. The recommendations may vary by functional classification (e.g., arterial versus local street) and by context (e.g., rural versus urban core). The recommendations may also vary by treatment type (e.g., traffic control signal or pedestrian hybrid beacon versus markings and sign only with no supplemental beacons).
----	---

Effectiveness: **

Cost to implement: \$

Time to implement: short (less than 1 year)

Barriers:

- Funding availability
- Engineering acceptance of findings

Strategy #2	Reduce pedestrian crashes on urban arterials and local roadways
-------------	---

Countermeasures and Programs:

2c (1)	Implement pedestrian-oriented design treatments at high pedestrian activity locations (e.g. raised crosswalks, leading pedestrian intervals, pedestrian refuge island, high visibility crosswalk markings, z-crossing, pedestrian hybrid beacon, bulb outs, etc.)
--------	---

Steps for Implementaion:

- Step 1. Compile and disseminate methods to identify characteristics of, or locations with, higher pedestrian risk. (TxDOT)
- Step 2: Identify locations with higher probability for pedestrian crashes based on characteristics and risk (Lead organization: Local governments and TxDOT)
- Step 3: Identify appropriate lead organization(s) (Lead organization: TxDOT)
- Step 4: Identify suitable treatment(s) (Lead organization: Local government and TxDOT)
- Step 5: Identify and secure funding (Lead organization: Local government)
- Step 6: Implement the treatment (Lead organization: Local government and TxDOT)
- Step 7: Educate the public about the treatment (Lead organization: Local government and TxDOT)
- Step 8: Evaluation of the efficacy of the treatment (Lead organization: TxDOT, local partners)

Countermeasures and Programs:

2c

Implement pedestrian-oriented design treatments at high pedestrian activity locations (e.g. raised crosswalks, leading pedestrian intervals, pedestrian refuge island, high visibility crosswalk markings, z-crossing, pedestrian hybrid beacon, bulb outs, etc.)

Effectiveness: ***

Cost to implement: \$\$

Time to implement: medium (1-5 years)

Barriers:

- Funding availability
- Engineering acceptance of treatments
- Political will
- Public support & education



Strategy #2	Reduce pedestrian crashes on urban arterials and local roadways
Countermeasures and Programs:	
2c (2)	Implement pedestrian-oriented design treatments at high pedestrian activity locations (e.g. raised crosswalks, leading pedestrian intervals, pedestrian refuge island, high visibility crosswalk markings, z-crossing, pedestrian hybrid beacon, bulb outs, etc.)

Steps for Implementation:

- Step 1: Develop a process to screen for pedestrian crash locations (segment and/or spot) (TxDOT and TTI)
- Step 2: Screen locations throughout the state to identify the top 15% of crash locations (Lead organization: TxDOTLocal and)
- Step 3: Identify appropriate lead organization(s) (Lead organization: TxDOT)
- Step 4: Identify suitable treatment(s) (Lead organization: Local government and TxDOT)
- Step 5: Identify and secure funding (Lead organization: Local government)
- Step 6: Implement the treatment (Lead organization: Local government and TxDOT)
- Step 7: Educate the public about the treatment (Lead organization: Local government and TxDOT)
- Step 8: Evaluation of the efficacy of the treatment (Lead organization: TxDOT, local partners)

Strategy #2	Reduce pedestrian crashes on urban arterials and local roadways
-------------	---

Countermeasures and Programs:

2e	Develop and implement a program to assist cities and other agencies to develop policies and implement projects that address common pedestrian crash types (shorten crossing distances, provide complete sidewalk networks, provide enhanced crossing devices, median islands, etc.).
----	--

Steps for Implementation:

- Step 1: Develop the program (Lead organization: TxDOT)
- Step 2: Identify partners (local government) (Lead organization: TxDOT)
- Step 3: Implement the program (Lead organization: local government)
- Step 4: Evaluation of the efficacy of the program (Lead organization: TxDOT, local government)

Effectiveness: **

Cost to implement: \$

Time to implement: medium (1-5 years)

Barriers:

- Funding availability
- Political will
- Public support & education

Countermeasures and Programs:

3a

Improve nighttime visibility of pedestrians.
Examples: use of visible/reflective clothing by pedestrians, pedestrian-illuminating lighting on urban corridors, midblock crosswalk lighting in accordance with FHWA guidance, smart lighting to illuminate when pedestrians are detected, identify target audiences for information dissemination.

Steps for Implementaion:

- Step 1: Identify the locations where nighttime visibility of pedestrians is a concern (Lead organization: Local government)
- Step 2: Identify suitable treatment(s) (Lead organization: Local government)
- Step 3: Identify and secure funding (Lead organization: Local government)
- Step 4: Implement the treatment(s) (Lead organization: Local government)
- Step 5: Educate the public on looking for pedestrians at night (Lead organization: TxDOT)
- Step 6: Evaluation of the efficacy of the treatment (Lead organization: TxDOT, Local government)



Strategy #3

Improve pedestrians' visibility at crossing locations

Countermeasures and Programs:

3a

Improve nighttime visibility of pedestrians.
Examples: use of visible/reflective clothing by pedestrians, pedestrian-illuminating lighting on urban corridors, midblock crosswalk lighting in accordance with FHWA guidance, smart lighting to illuminate when pedestrians are detected, identify target audiences for information dissemination.

Effectiveness: **

Cost to implement: \$\$

Time to implement: medium (1-5 years)

Barriers:

- Funding availability
- Public support & education

Countermeasures and Programs:

3b

Deploy treatments to enhance pedestrian visibility such as bulb-outs, neckdowns, median islands, parking restrictions, advance yield bars, Z crossings, maintenance of vegetation, encourage Don't Block the Box campaigns, and associated improvements that allow pedestrians to find refuge from, and visibility to, vehicular traffic.

Steps for Implementation:

- Step 1: Identify the locations needing enhanced pedestrian visibility (Lead organization: Local government)
- Step 2: Identify suitable treatment(s) (Lead organization: Local government)
- Step 3: Identify and secure funding (Lead organization: Local government)
- Step 4: Implement the treatment (Lead organization: Local government)
- Step 5: Educate the public about the treatment (Lead organization: Local government)
- Step 6: Evaluation of the efficacy of the treatment (Lead organization: TxDOT, Local government)

Strategy #3

Improve pedestrians' visibility at crossing locations

Countermeasures and Programs:

3b

Deploy treatments to enhance pedestrian visibility such as bulb-outs, neckdowns, median islands, parking restrictions, advance yield bars, Z crossings, maintenance of vegetation, encourage Don't Block the Box campaigns, and associated improvements that allow pedestrians to find refuge from, and visibility to, vehicular traffic.

Effectiveness: **

Cost to implement: \$\$

Time to implement: medium (1-5 years)

Barriers:

- Funding availability
- Engineering acceptance of treatments
- Political will
- Public support & education

Countermeasures and Programs:

- 6a Encourage use of target speeds that consider pedestrians, land use, and the roadway context (e.g., a target speed of 35 MPH or less on arterials)
Other examples: provide design flexibility guidance for techniques to reduce operating speeds on surface streets; encourage use of tree lined medians, bicycle lanes, safe and attractive pedestrian crossings and walkways; support use of traffic calming for local streets

Steps for Implementation:

- Step 1: Work with a diverse set of jurisdictions, including TXDOT districts as well as diverse stakeholders including those representing people with disabilities, pedestrians, business districts, low income communities, and transit providers, to explore benefits and barriers to implementation of slower target speed concepts, drawing from NACTO and AASHTO Guidance for designing urban streets with appropriate speeds for urban streets, recent Florida DOT design manual overhaul, and the Netherlands Sustainable Safety Approach – including the concept of management of kinetic energy.
(Lead organization: TXDOT)
- Step 2: Provide guidance to cities, counties and Districts regarding the ability to set speed limits based on the target speed concept (e.g., USLimits2)
(Lead organization: FHWA, TXDOT,)

Countermeasures and Programs:

6a

Encourage use of target speeds that consider pedestrians, land use, and the roadway context (e.g., a target speed of 35 MPH or less on arterials)

Other examples: provide design flexibility guidance for techniques to reduce operating speeds on surface streets; encourage use of tree lined medians, bicycle lanes, safe and attractive pedestrian crossings and walkways; support use of traffic calming for local streets

- Step 3: Implement pilot programs to develop pilot arterial and collector “slow zones” and other safe design speed pilots across the state in various jurisdictions and various overlapping bureaucracies.
(Lead organization: Cities and Counties, Texas Legislature and Governor,)
- Step 4: Evaluate effectiveness and how to spread effective treatments of pilot “slow zones” and other safe design speed treatments.
(Lead organization: Cities, TXDOT)
- Step 5: Write guidance on road design to achieve target speed based upon lessons learned, best practices, and proven countermeasures.
(Lead organization: Cities, TXDOT)
- Step 6: Build and retrofit streets with target speeds that consider pedestrians, land use, and the roadway context.
(Lead organization: TXDOT, cities, counties, developers)

Countermeasures and Programs:

6a

Encourage use of target speeds that consider pedestrians, land use, and the roadway context (e.g., a target speed of 35 MPH or less on arterials)

Other examples: provide design flexibility guidance for techniques to reduce operating speeds on surface streets; encourage use of tree lined medians, bicycle lanes, safe and attractive pedestrian crossings and walkways; support use of traffic calming for local streets

Effectiveness: ***

Cost to implement: \$

Time to implement: medium (1-5 years)

Barriers:

Resistance from:

- Lawmakers
- Engineers
- Planners
- Cities
- Counties
- TXDOT
- Public perception of “need for speed” and misunderstanding of congestion, safety, access, and travel time costs of high speed design.

Strategy #6	Establish vehicle operating speeds to decrease crash severity
Countermeasures and Programs:	
6b	Design new, or retrofit existing, roadways for a target speed appropriate for the adjacent environment and safety of all users rather than for a design speed intended to maximize motor vehicle speeds. Encourage use of pedestrian compatible target speeds for the design of arterial, collector, and local roadways

Steps for Implementation:

- Step 1: Design pilot urban arterials with target speeds of 35mph or less, pilot local streets with target speeds of 30mph or less, and pilot neighborhood streets with 20mph target speeds, according to AASHTO and NACTO guidance.
(Lead organization: local jurisdictions)
- Step 2: Implement design changes on local and neighborhood streets using rapid, cost-effective tactical urbanism strategies, to achieve safe vehicle speeds.
(Lead organization: local jurisdictions)
- Step 3: Monitor vehicle speeds before and after implementation of design changes.
(Lead organization: local jurisdictions)

Strategy #6	Establish vehicle operating speeds to decrease crash severity
Countermeasures and Programs:	
6b	Design new roadways for a target speed appropriate for the adjacent environment and safety of all users rather than for a design speed intended to maximize motor vehicle speeds. Encourage use of pedestrian compatible target speeds for the design of arterial, collector, and local roadways

- Step 4: Integrate safe target speeds into street hierarchy and design manuals, such that all new street construction and retrofits incorporate the benefits of safe target speed design.
(Lead organization: local jurisdictions)
- Step 5: Study costs and benefits of safe target speed implementations across the state.
(Lead organization: TXDOT, various research institutions)

Strategy #6	Establish vehicle operating speeds to decrease crash severity
Countermeasures and Programs:	
6b	Design new roadways for a target speed appropriate for the adjacent environment and safety of all users rather than for a design speed intended to maximize motor vehicle speeds. Encourage use of pedestrian compatible target speeds for the design of arterial, collector, and local roadways

Effectiveness: ***

Cost to implement: \$

Time to implement: medium (1-5 years)

Barriers:

Resistance from:

- Lawmakers
- Engineers
- Planners
- Cities
- Counties
- TXDOT
- Public perception of “need for speed” and misunderstanding of congestion, safety, access, and travel time costs of high speed design.

Countermeasures and Programs:

- | | |
|----|--|
| 7a | <p>Develop Pedestrian Safety Action Plans (PSAPs) in urbanized areas. Identify/create funding sources (i.e., match funding, funding barriers).</p> <p>Other examples: identify barriers which limit use to existing funds; allow for systemic approach (based on site characteristics and not crashes) when implementing countermeasures recommended in PSAPs.</p> |
|----|--|

Steps for Implementation:

- Step 1: Encourage Texas Metropolitan Planning Organizations, cities and counties to study pedestrian safety and develop pedestrian safety plans, but allows local a broader set of options that include Vision Zero Action Plans, regional Top Crash Location Intersection Priorities Improvements Lists, or regional Active Transportation Plans.
(Lead organization: FHWA, MPOs, Cities, Counties)
- Step 2: Encourage the allocation of safety funding through a process intended to encourage local innovation as well as collaborative sharing of best practices.
(Lead organization: MPOs, Texas Transportation Commission)
- Step 3: Develop regional and local pedestrian safety plans
(Lead organization: Texas Metropolitan Planning Organizations)

Countermeasures and Programs:

- 7a Develop Pedestrian Safety Action Plans (PSAPs) in urbanized areas. Identify/create funding sources (i.e., match funding, funding barriers).
- Other examples: identify barriers which limit use to existing funds; allow for systemic approach (based on site characteristics and not crashes) when implementing countermeasures recommended in PSAPs.

- Step 4: Establish funding for regional safety implementation grants
(Lead organization: Texas Legislature and Governor)
- Step 5: Allocate regional safety plan implementation funding through a process intended to spread benefits across the state, while rewarding effectiveness, innovation, and potential for system wide improvements.
(Lead organization: Texas Transportation Commission)
- Step 6: Implement regional safety grants
(Lead organization: Texas Metropolitan Planning Organizations and local governments)
- Step 7: Evaluate effectiveness and report to the Governor and Texas Legislature
(Lead organization: TXDOT)

Countermeasures and Programs:

- 7a Develop Pedestrian Safety Action Plans (PSAPs) in urbanized areas. Identify/create funding sources (i.e., match funding, funding barriers).
- Other examples: identify barriers which limit use to existing funds; allow for systemic approach (based on site characteristics and not crashes) when implementing countermeasures recommended in PSAPs.

Effectiveness: **

Cost to implement: \$

Time to implement: medium (1-5 years)

Barriers:

- Need for funding (but minimal compared to potential impact)
- Lack of state leadership for prioritizing ending traffic deaths
- Rhetoric hindering adoption of safety programs and fears of “taking away the right to drive”
- Lack of understanding of pedestrian danger
- Requires collaboration and cooperation by broad groups of jurisdictions and levels of government
- Disagreements on effective safety strategies (which is also an opportunity for this program)

Countermeasures and Programs:

- 1a** Educate motorists on appropriate actions if they become stranded on a freeway or high speed roadway to reduce crashes with unintended pedestrians on high speed roadways (stay in the vehicle, call for help, Steer It and Clear It). Consider policies for, and enforcement of, moving over and/or encouragement for motorists to move over away from stranded cars and roadside pedestrians (Safe Passing Law). Examples: expansion of the Move Over/Slow Down Law, safe passing laws such as the San Antonio ordinance and proposed statewide legislation. (San Antonio examples – all vulnerable).

Facilitated Discussion Group Notes:

Step 1: Fund and develop PSA campaign
(Lead organization: TxDOT)

Step 2: Develop curriculum and make recommendation that it be added to the existing driver education curriculum
(Lead organization: TX Dept. of Licensing & Regulation)

Step 3: Implement into drivers handbook
(Lead organization: TxDPS)

Step 4: Use universities and high schools educate students; include insurance companies, and tow truck companies to educate public

Countermeasures and Programs:

- 1a Educate motorists on appropriate actions if they become stranded on a freeway or high speed roadway to reduce crashes with unintended pedestrians on high speed roadways (stay in the vehicle, call for help, Steer It and Clear It). Consider policies for, and enforcement of, moving over and/or encouragement for motorists to move over away from stranded cars and roadside pedestrians (Safe Passing Law). Examples: expansion of the Move Over/Slow Down Law, safe passing laws such as the San Antonio ordinance and proposed statewide legislation. (San Antonio examples – all vulnerable).

Effectiveness: ***

Cost to implement: \$

Time to implement: 1-3 years

Barriers:

- Inter-agency log jams

Countermeasures and Programs:

4a

Incorporate pedestrian considerations in transportation plans. Prioritize pedestrian safety and considerations for mobility and accessibility in the context of land use and roadway environment. Prioritize improvements to fill gaps in networks and crossings within ¼ mile of bus stops and ½ mile of other mass transportation. Provide appropriate features along the pedestrian network (wide shoulders, sidewalks, pedestrian crossing treatments, pedestrian refuge islands).

Note: These strategies and countermeasures were combined during the facilitated discussion.

Facilitated Discussion Group Notes:

- Step 1: Identify locations
(Lead organization: government organization)
- Step 2: Select solution based on location; community outreach
(Lead organization: government organization with public input)
- Step 3: Design
(Lead organization: government organization/consultant)
- Step 4: Install
(Lead organization: government organization/contractor)
- Step 5: Public education
(Lead organization: government organization)



Countermeasures and Programs:

4a

Incorporate pedestrian considerations in transportation plans. Prioritize pedestrian safety and considerations for mobility and accessibility in the context of land use and roadway environment. Prioritize improvements to fill gaps in networks and crossings within ¼ mile of bus stops and ½ mile of other mass transportation. Provide appropriate features along the pedestrian network (wide shoulders, sidewalks, pedestrian crossing treatments, pedestrian refuge islands).

Note: These strategies and countermeasures were combined during the facilitated discussion.

Effectiveness: **

Cost to implementation: \$\$

Time to implement: short to medium

Barriers:

- Public
- Politics
- Amount of space to work in



Countermeasures and Programs:

5b

Add fields to the standard crash report form to better define pedestrian crashes and provide additional detail on the specifics of each crash. This includes those needed to use the PBCAT tool and develop law enforcement roll call videos on the need for and uses of pedestrian crash data.

Facilitated Discussion Group Notes:

Step 1: Gather requirements

Step 2: Cost estimate and prioritize

Step 3: Test

Step 4: Update forms and communication

Step 5: Produce

(Lead organization: TxDOT, Law Enforcement)

Countermeasures and Programs:

5b

Add fields to the standard crash report form to better define pedestrian crashes and provide additional detail on the specifics of each crash. This includes those needed to use the PBCAT tool and develop law enforcement roll call videos on the need for and uses of pedestrian crash data.

Effectiveness: **

Cost to implement: \$

Time to implement: medium

Barriers:

- Contract
- Funding
- Standardization of data

Wrap Up

- Review plans for next meeting
- Questions
- Comments

Thanks very much!