BE SAFE
BE SEEN
WHEN WALKING IN AUSTIN
TxDOT

BE SAFE BE SEEN
Pedestrian Safety Initiative Implementation: Austin, Texas

October 2018

Texas Department of Transportation

Texas Department of Transportation

Table of Contents

List of Figures

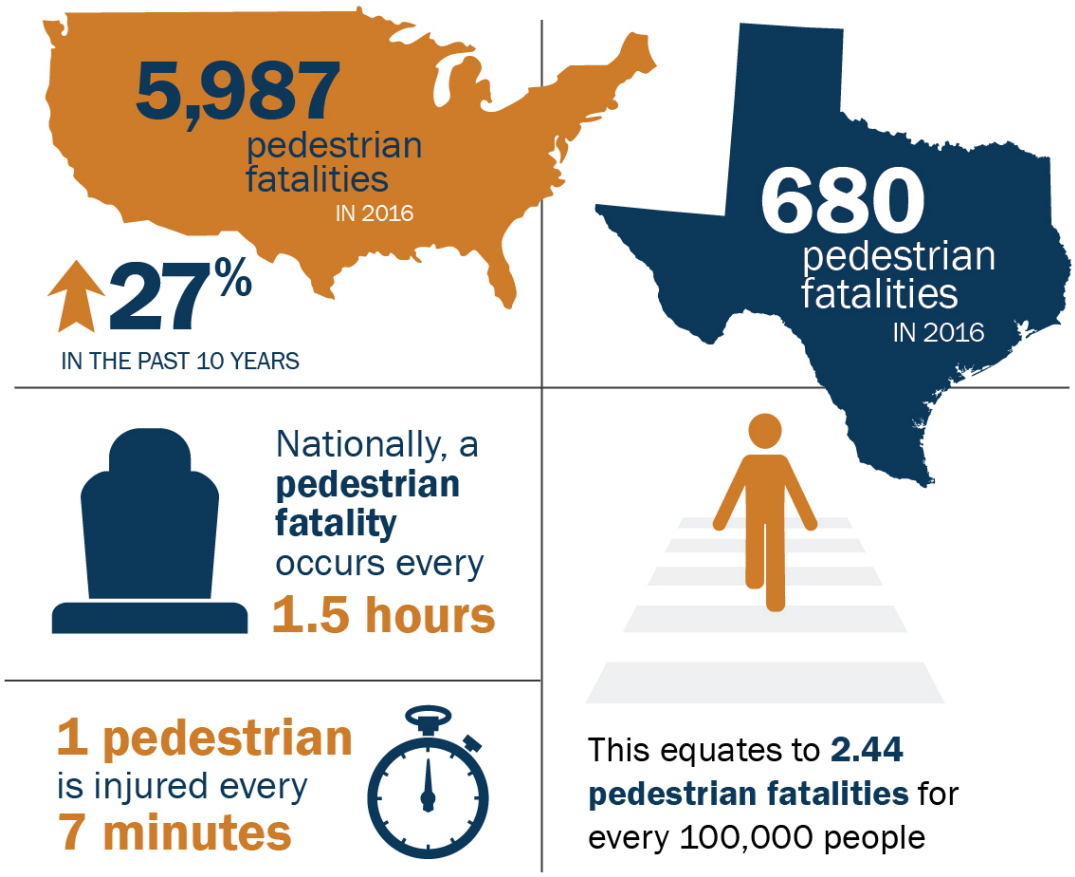
Page

List of Tables

Page

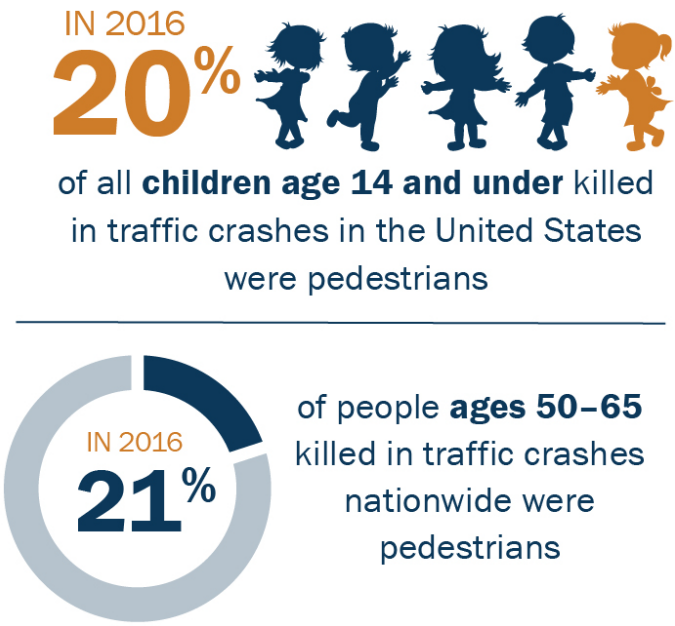
1. Introduction

Pedestrian fatalities are a growing problem nationally and on Texas roadways. Figure 1 illustrates the 2016 numbers for the nation and the state, and the severity of the situation on a daily basis. Data support the statement that children and older adults are the age groups most often killed in pedestrian-related traffic crashes (Figure 2).



Data sources: (*1*, *2*)

Figure 1. National and Texas Pedestrian Fatality Statistics and Numbers.



Data source: (*1*)

Figure 2. Age Groups Most Often Involved in Fatal Pedestrian Traffic Crashes.

Pedestrian Crashes and Fatalities in Austin, Texas

Considerable Texas Department of Transportation (TxDOT) research has gathered the data that document and define the nature of the severity of the pedestrian fatality problem in the Austin area. In Austin, an average of 23 pedestrians are killed annually (*3*). Pedestrian fatalities are estimated to cost the Austin region almost $55 million annually* between user delay, emergency services, lost wages and other socioeconomic factors (*4*). Nearly half (46 percent) of fatal pedestrian crashes occurred between 6 p.m. and midnight. Eighty-nine percent of fatal pedestrian crashes involved crossing when or where prohibited or failing to yield to a vehicle. More than half (54 percent) of fatal pedestrian crashes involved impairment. One out of every five pedestrian fatalities in Austin occurred on the I-35 corridor. Males are at a higher risk of being involved in a pedestrian crash than females (*5*).

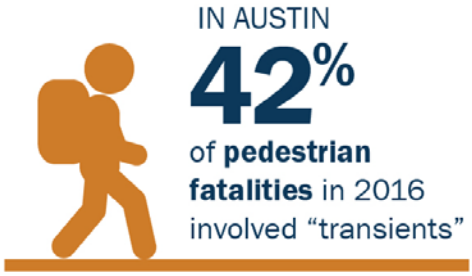
Unique Populations Affected

These data represent a growing problem, and the problem is more prevalent for some groups. Three groups are especially impacted, nationally and locally:

- children under age 14;
- mature adults, especially people ages 50 to 65; and
- people experiencing homelessness (*1*, *4*).

* This number is based on the latest data from the TxDOT Crash Records Information System database using calculation factors from the National Safety Council.

In Austin, people over age 45 experienced a greater average proportion of pedestrian fatalities than the overall population (4). Additionally, in Austin, a disproportionate percentage of pedestrians killed each year were individuals experiencing chronic homelessness (Figure 3).



Data source: (6)

Figure 3. Pedestrian Fatalities.

Considerable study has examined the factors that put these populations at higher risk. Likewise, research has been conducted to determine how to direct messages to these groups and how to measure the effectiveness of information and awareness campaigns targeted to these cohorts. This information is included in Appendix A.

A Solution: BE SAFE BE SEEN Initiative

BE SAFE BE SEEN is a worldwide pedestrian safety campaign of education and awareness aimed primarily at children, but its messages are imperative for any pedestrian. The BE SAFE BE SEEN Initiative allows for flexibility to fit the program any way that best meets the needs of a particular community.

In November 2017, the TxDOT Austin District began the BE SAFE BE SEEN Pedestrian Safety Initiative to share information and resources about how to prevent and reduce pedestrian fatalities. The initiative is geared toward informing pedestrians and drivers of their shared responsibility to keep themselves and others safe on Austin, Texas, area roads.

Who Is Involved?

Collaboratively, the BE SAFE BE SEEN Pedestrian Safety Initiative Pilot was developed to provide a scalable, multidisciplinary program that will impact pedestrian safety within Austin using limited funding. The BE SAFE BE SEEN Initiative is notable in that it involves several departments in the TxDOT Austin District, including Administration, Operations, and Advanced Planning, as well as the TxDOT Communication and Traffic Safety Divisions — all impacted by pedestrian safety.

The Austin BE SAFE BE SEEN Initiative also works in conjunction with other ongoing TxDOT initiatives and programs, such as the Mobility35 and the Highway Emergency Response Operator (HERO) programs. Three of the eight Mobility35 goals and objectives are particularly relevant to the BE SAFE BE SEEN Initiative: enhance safety, improve east/west connectivity, and enhance bicycle, pedestrian and transit-user options.

The BE SAFE BE SEEN Initiative also benefits from the support and involvement of numerous other stakeholders including various departments at the City of Austin, law enforcement, non-profits and advocacy groups. Chapter 3 describes the roles of the stakeholders in more detail.

Austin Mission and Goals

Establishing a mission, goals and objectives is appropriate to document, articulate, and measure the desired outcomes of any implementation and outreach effort. The callout on the next page provides the initiative's mission, goals, and ways it supports TxDOT's vision, mission and safety goal.

Initial Launch in Austin

The initial launch focuses on I-35. As TxDOT continues to improve mobility along the I-35 corridor, construction affects a number of stakeholders. This initiative seeks to communicate with particular stakeholders and address their needs and concerns.

Projects along the I-35 corridor advance the Mobility35 goals by incorporating safer bicycle and pedestrian facilities, such as shared-use paths and designated pedestrian signals. Because construction is a necessary part of the improvement process and areas near a construction zone are potentially hazardous, the BE SAFE BE SEEN Initiative aims to inform pedestrians, especially those groups most at risk, about safely walking near or around construction zones.

TxDOT collaborates with local businesses and schools along I-35 in high-traffic pedestrian areas and construction areas to increase awareness of pedestrian safety. TxDOT also targets the homeless population and groups that advocate for people experiencing homelessness because many of these individuals congregate under the bridges on I-35. The interdisciplinary nature of the project and its congruence with other programs add to its overall value.

Purpose of This Guide

This guide illustrates to the reader how the program was deployed in Austin. It presents facts that are specific to Austin but also provides examples of the kinds of information that might be useful in developing a program in another location. The guide presents examples of best practices and lessons learned in Austin.

Mission

The BE SAFE BE SEEN Initiative in Austin, Texas, identified the following mission:

Reduce the number of pedestrian fatalities along I-35 through Austin, thus enhancing the safety and quality of life of those traveling and living along that corridor.

Goals

The program has five primary goals in support of its mission:

- Implement an informative and proactive communications and outreach program to build trust with at-risk groups to reduce the number of pedestrian fatalities and injuries along I-35 in construction zones in Austin within five years.
- Offer opportunities for public/private organizations to facilitate services (medical/psychiatric assessment, shelter/housing, etc.) in conjunction with and/or apart from TxDOT maintenance and construction activities on state highways.
- Develop a consistent, continuous and cohesive model for information sharing.
- Make information accessible, and use tools that are helpful and relevant to a diverse set of stakeholders, including at-risk populations and Austin tourists.
- Enhance bicycle and pedestrian operations as part of all Mobility35 projects, specifically including the following concepts:
  - a continuous shared-use path along all 78 miles of I-35 in Williamson, Travis and Hays Counties;
  - east/west connections to improve bicycle and pedestrian mobility;
  - dedicated pedestrian signals at all traffic signal locations; and
  - compliance with the Americans with Disabilities Act.

The Campaign

The campaign supports TxDOT's vision, mission and safety goal, which state:

- **Vision**: "Be a forward-thinking leader delivering mobility, enabling economic opportunity, and enhancing quality of life for all Texans."

- **Mission**: "Through collaboration and leadership, we deliver a safe, reliable and integrated transportation system that enables the movement of people and goods."

- **Goal**: Enhance and champion safety.

Structure of This Guide

This guide is structured around the major steps needed to implement the BE SAFE BE SEEN Initiative in the TxDOT Austin District. The chapter titles and headings reflect the major activities that any area would need to engage in, and then the ensuing text explains how Austin did it, along with details about what Austin is doing and planning to do. Chapter titles are as follows:

- Chapter 2: Conduct Pedestrian Incident and Data Analysis,
- Chapter 3: Launch the Initiative,
- Chapter 4: Develop Audiences and Messages,
- Chapter 5: Identify Tactics and Create Communication Tools,
- Chapter 6: Budgeting,
- Chapter 7: Scheduling, and
- Chapter 8: Evaluation.

2. Conduct Pedestrian Incident and Data Analysis

Establishing the need for any outreach initiative is an important step in the planning stages and in justifying the budget needed to launch a program like BE SAFE BE SEEN. Analyzing the frequency, type, locations and severity of pedestrian incidents in the area will provide the details necessary for formulating messages and determining target audiences and stakeholders to involve in the effort.

The following sections summarize the key findings of the research conducted in preparation for the Austin BE SAFE BE SEEN launch.

Types of Pedestrian Incidents

Figure 4 shows 5-year numbers (2013–2017) for all crashes in the Austin area that involved pedestrians (*7*). The TxDOT Crash Records Information System (CRIS) database categorizes the crashes by type:

- **(K) Killed:** Died due to injuries sustained from the crash, within 30 days of the crash.
- **(A) Incapacitating Injury:** Severe injury that prevents continuation of normal activities; includes broken or distorted limbs, internal injuries, crushed chest, etc.
- **(B) Non-incapacitating Injury:** Evident injury such as bruises, abrasions or minor lacerations that do not incapacitate.
- **(C) Possible Injury:** Injury that is claimed, reported, or indicated by behavior but without visible wounds; includes limping or complaint of pain.
- **Not Injured:** The person involved in the crash did not sustain an A, B or C injury.
- **(U) Unknown:** Unable to determine whether injuries exist.

The Federal Highway Administration provides more information about the categories at https://safety.fhwa.dot.gov/hsip/spm/conversion_tbl/pdfs/kabco_ctable_by_state.pdf.

An average of 23 pedestrian fatalities occur every year in Austin, with an additional average 60 suspected serious injuries. Just over half (51.8 percent) of all crashes involving pedestrians resulted in an injury (*3*).

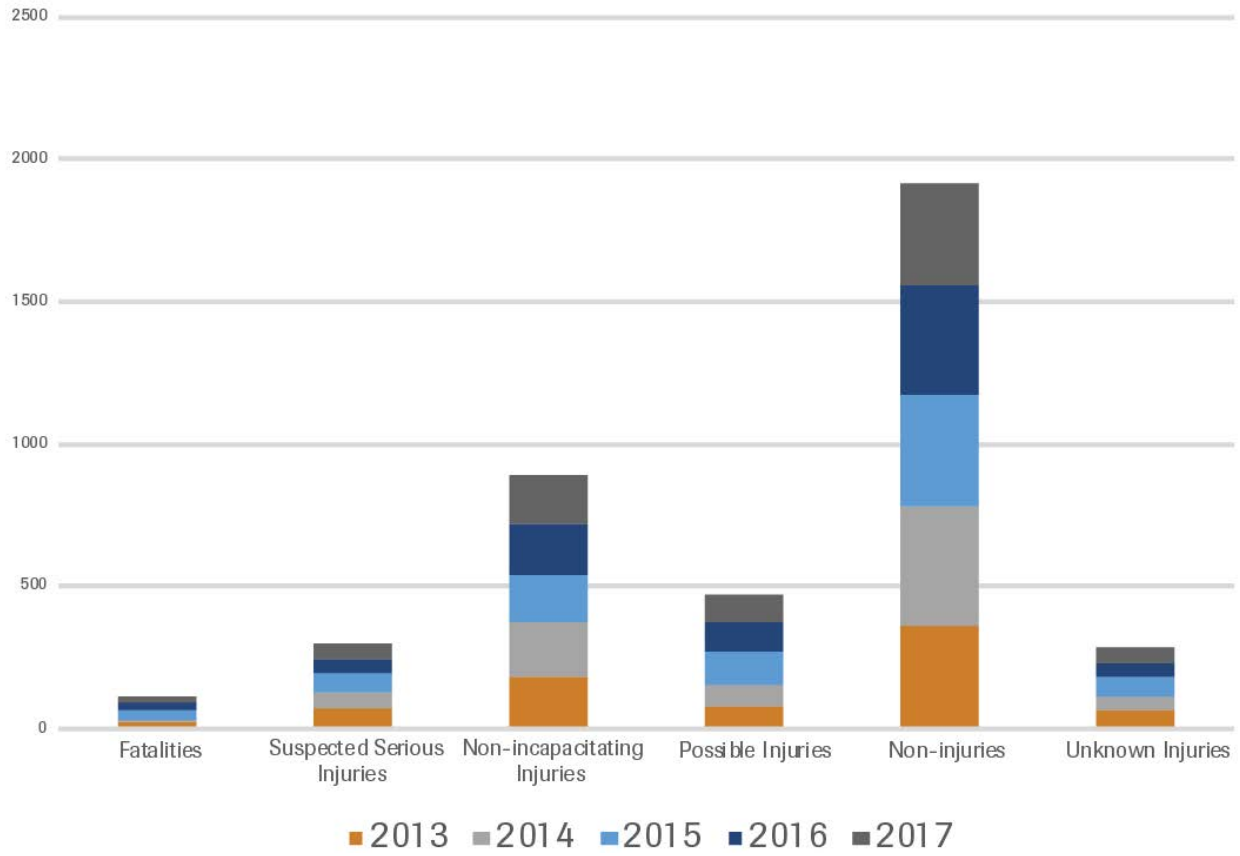


Figure 4. Crashes That Involved Pedestrians from 2013 to 2017.

The following figures illustrate the extent of the problem in Austin, Texas. Figure 5 is a heat map showing where pedestrian-auto crashes occurred in 2017. The majority of crashes happened along major high-speed corridors in the Austin area.

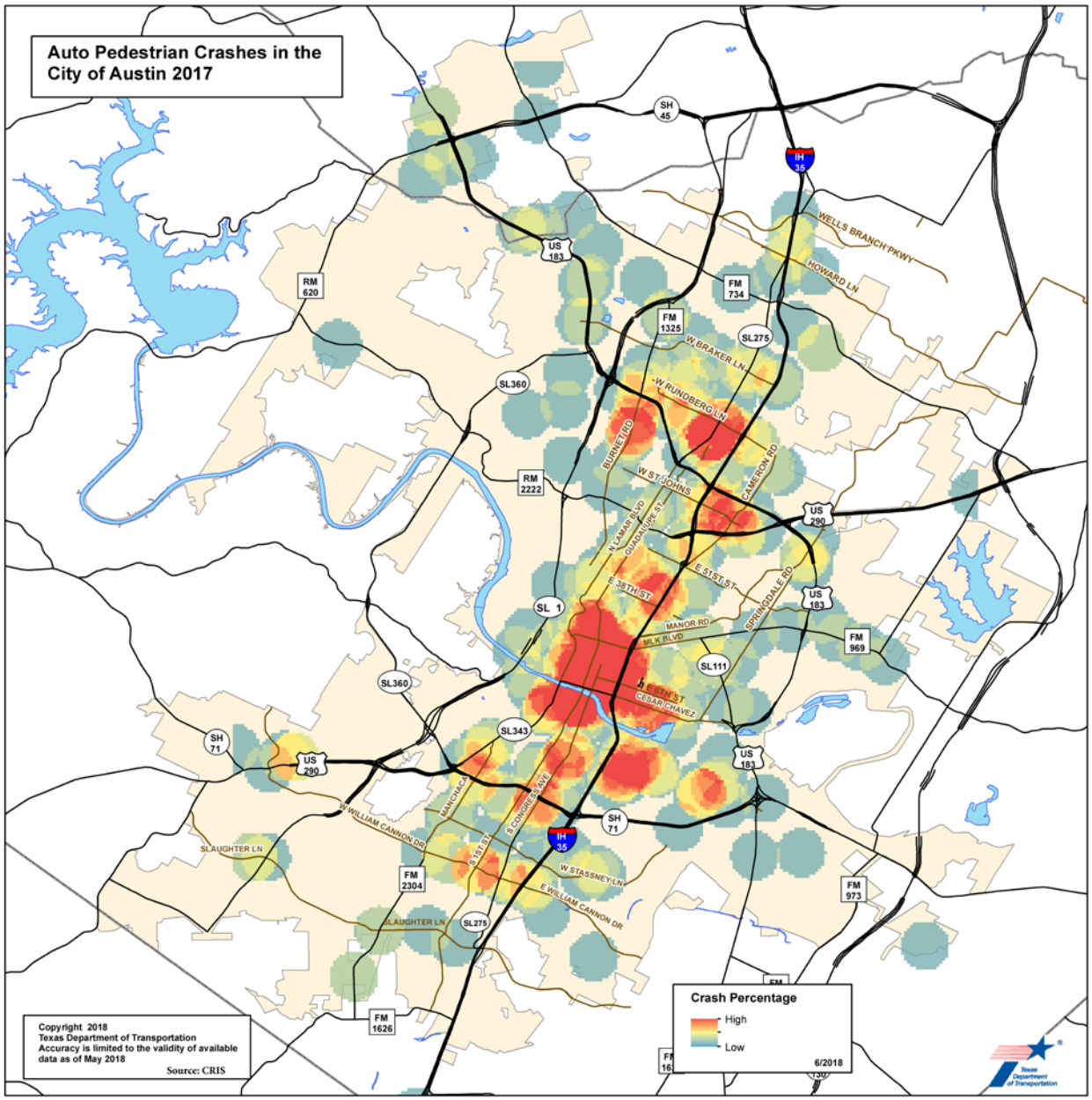


Figure 5. Heat Map Showing Where Pedestrian-Auto Crashes Occurred in 2017 in Austin.

People Experiencing Homelessness

Additionally, the previously identified groups are especially at risk. For example, the Austin Police Department says about 40 percent of all pedestrian fatalities involve a person experiencing homelessness (6). Based on the 2017–2018 Point in Time Count the City of Austin conducted in January 2018 (8), estimates are that as much as 40 percent of the homeless population in Austin lives along the segment of I-35 that is being targeted for BE SAFE BE SEEN activities. Furthermore, the City of Austin estimates that approximately 14 percent of deaths among homeless individuals are a result of vehicles striking homeless pedestrians (9). The linkage between these facts and the dangerous results are apparent in Figure 6, which maps pedestrian serious injuries and fatalities and construction projects along I-35. Many pedestrian crashes happen in a construction zone. Many individuals experiencing homelessness call the I-35 corridor their home, especially under bridges where many construction activities occur.

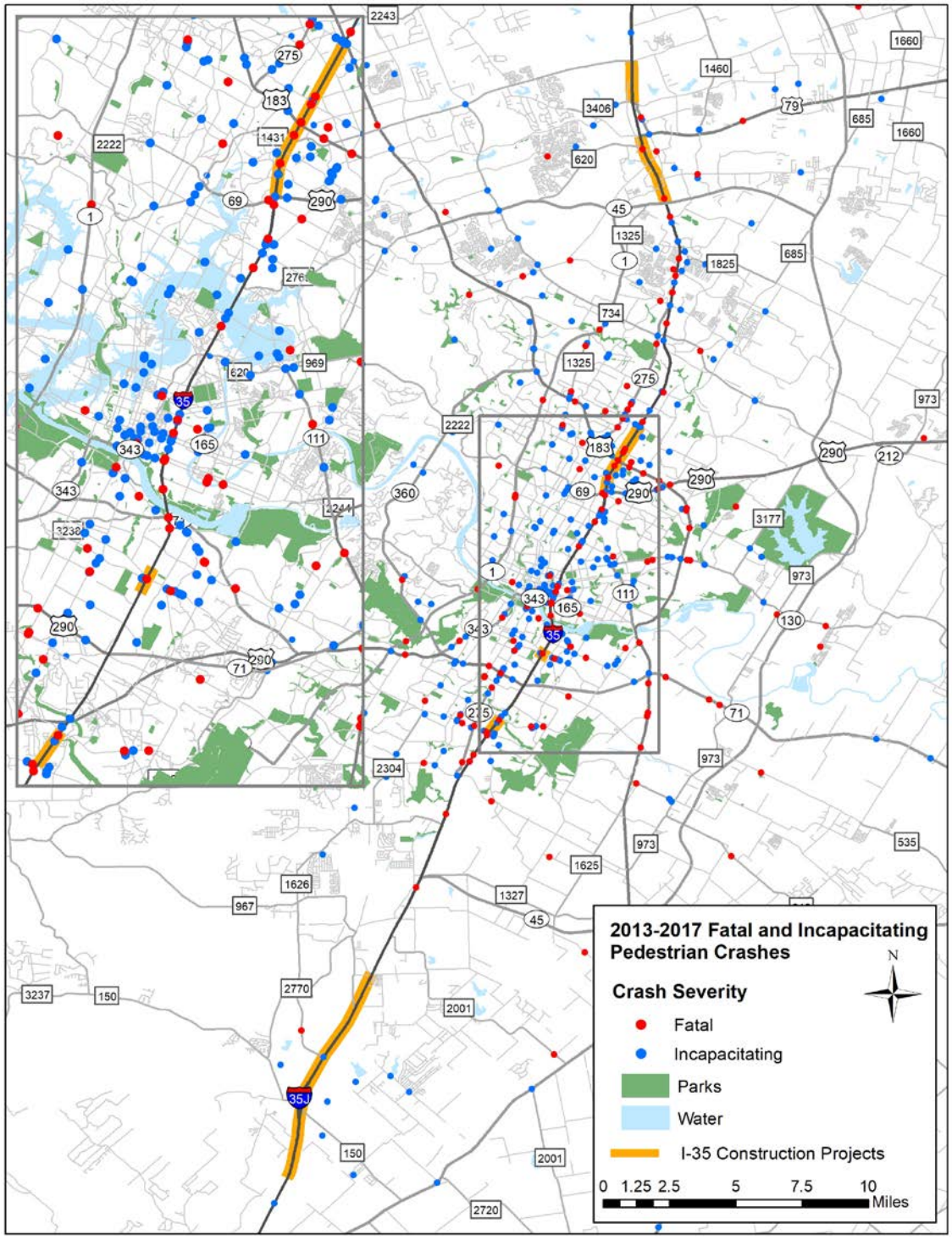


Figure 6. Map Showing Pedestrian Serious Injuries and Fatalities and Construction Projects along I-35 in Austin.

Children

Children are also an at-risk group. As noted previously, about 20 percent of all children age 14 and younger killed in traffic crashes are pedestrians (*1*). Figure 7 illustrates the schools along or adjacent to I-35, making this especially dangerous for these children.

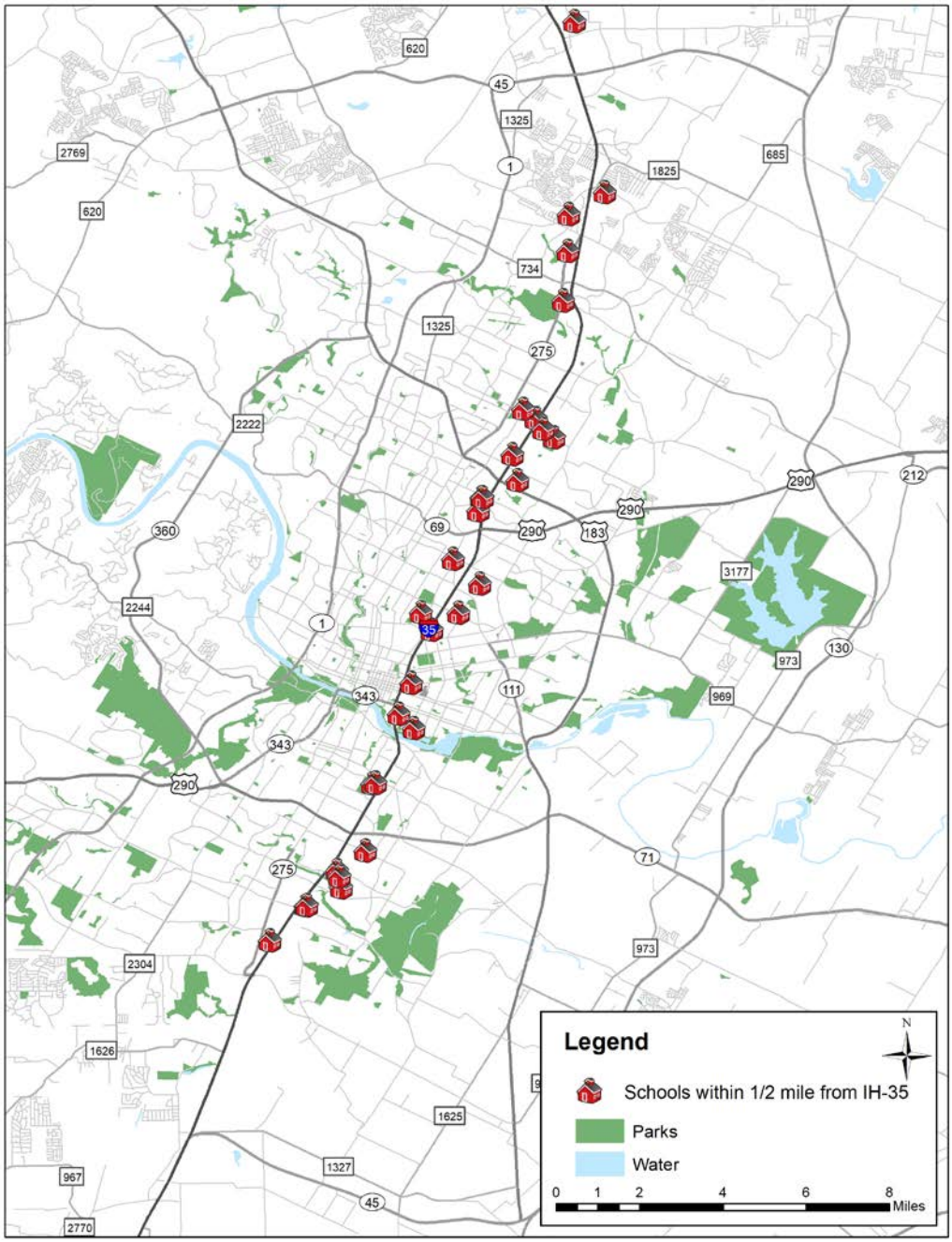


Figure 7. Map Showing Schools along or adjacent to I-35 in Austin.

Mature Adults

Another at-risk group includes adults over age 45. People ages 45 to 54 have an especially high rate of pedestrian fatalities compared to their share of the overall population (*4*). Moreover, according to the National Highway Traffic Safety Administration (NHTSA), about 21 percent of all people ages 50–65 killed in traffic crashes are pedestrians (*1*).

Other Groups

Other important data points include the following:

- Males are obviously members of each of the other at-risk groups, and NHTSA notes that about 70 percent of pedestrian fatalities are male (*1*).
- Alcohol/drug use is common in pedestrian crashes, and the homeless population struggles with alcohol and drug abuse.
- Most crashes happen during the day, but daytime crashes are milder, whereas nighttime crashes are more severe. Eighty-one percent of pedestrian fatalities occur between 7 p.m. and 7 a.m. (*4*). Summer has fewer but more severe crashes (*4*).

3. Launch the Initiative

Informative, timely and concise communication is essential for building trust and relationships among the community's numerous and varied stakeholders. This is imperative for the success of the BE SAFE BE SEEN Initiative, and ongoing efforts to fulfill the goals of the initiative will work toward encouraging the active involvement and input of all stakeholder groups.

Assemble a Team

Undertaking a program the size and scale of BE SAFE BE SEEN requires the support of local leadership and the skills and talents of those experienced in outreach to particular special populations.

One of the first steps for the Austin BE SAFE BE SEEN Initiative was to assemble local leaders and stakeholders from advocacy groups in the community to discuss the most appropriate approaches and methods to launch the initiative. The Austin District led a news conference (Figure 8), which included State Representative Celia Israel, Austin City Council Member Ora Houston, Austin Police Department Interim Chief Brian Manley, and Austin Chamber of Commerce Senior Vice President Drew Scheberle. The initiative is supported by many resource agencies, non-profits and advocacy groups including Ending Community Homeless Coalition (ECHO), House the Homeless, Mobile Loaves and Fishes, and many others. In fact, one particular outgrowth of the BE SAFE BE SEEN Initiative is the complementary Initiative to Address Homelessness (IAH).

Initiative to Address Homelessness

The Initiative to Address Homelessness stemmed from data that show people experiencing homelessness are more likely than average citizens to be a victim of a pedestrian fatality in Austin. The Initiative to Address Homelessness has sponsored several workshops on specific topics that bring together advocates, resource groups, law enforcement and city leadership to work cooperatively to address homelessness in Austin, Texas.

Figure 8. BE SAFE BE SEEN Press Conference.

Identify Stakeholders, Issues and Actions

Before any outreach effort, it is necessary and prudent to identify to whom your messages are directed. Stakeholders are often defined broadly to include anyone making a decision or being impacted by the decision making. It is important that local elected officials are informed of the program. It is also necessary to get buy-in from many of the people that will be tapped as resources to deliver the program.

In Austin, a stakeholder analysis identified primary and secondary stakeholders and their particular role and involvement in this initiative. The primary stakeholders are those who are affected by construction activities on I-35 as pedestrians, such as school-age children, residents walking to and from work or using public transportation, and individuals experiencing homelessness. Males in all primary stakeholder groups are especially impacted by pedestrian crashes. Secondary stakeholders include groups, agencies, organizations and other individuals who are directly or indirectly affected by pedestrian crashes along I-35 and might be able to offer help in communicating with primary stakeholder groups.

The stakeholder list developed for the Austin BE SAFE BE SEEN Initiative contains a broad cross section of audiences with a variety of interests. Table 1 and Table 2 list the identified primary and secondary stakeholders, respectively, and their potential issues/concerns, along with actions that may address the issue.

Table 1. Primary Stakeholders, Issues and Actions.

Primary Stakeholders	Potential Issues and/or Concerns	Action
At-risk groups	▪ Children age 14 and younger, and older adults, especially those ages 50–65, incur high rates of injury or fatality in a pedestrian crash. ▪ Individuals experiencing homelessness are also more likely to be injured or killed in a pedestrian crash. ▪ Males across all groups are especially impacted.	▪ Provide information and outreach to all at-risk groups. ▪ Use resource groups to engage people experiencing homelessness and those encamping in the I-35 corridor. ▪ Notify children, parents, school personnel, school administration and adults about construction that will affect those walking or biking to school. ▪ Ensure children and adults know how to safely walk or bike to school, work or businesses, especially near a construction zone. ▪ Engage employers and other activity centers (e.g. bridge centers and senior centers) to facilitate information delivery to staff and visitors.
Corridor users	Those who walk or bike to work or businesses along the I-35 corridor do so in high-traffic areas where crashes are more likely to occur.	Ensure individuals who bike, walk or use public transportation along I-35 understand the BE SAFE BE SEEN Initiative and know how to safely walk or bike to work or businesses, especially near a construction zone.

Table 2. Secondary Stakeholders, Issues and Actions.

Secondary Stakeholders	Potential Issues and/or Concerns	Action
I-35 drivers	Construction and congestion impact drivers along the I-35 corridor.	Communicate the construction impacts that will occur and the ability to choose and use an alternate route to prevent heavy traffic in high pedestrian areas.
Corridor business owners	Customers and clients who walk and bike to businesses along the I-35 corridor are more likely to be involved in a pedestrian crash than those who walk or bike in lower-traffic areas.	▪ Use business owners as a resource to communicate information about the BE SAFE BE SEEN Initiative and to increase awareness of pedestrian injuries and fatalities. ▪ Perform outreach and information sharing with tourists who stay in hotels and frequent businesses along I-35.
Local, regional, state and federal government agencies	▪ There are construction-related impacts to emergency services, school districts and regulatory agencies. ▪ Effective communication about future improvements and construction projects is important for their respective constituencies. ▪ They need to be informed and engaged in project elements that may become their responsibility in the future.	Communicate and collaborate with the following entities to assist in communicating with the appropriate primary stakeholder groups: ▪ NHTSA, ▪ Federal Highway Administration, ▪ Governors Highway Safety Association, ▪ City of Austin, ▪ Capital Metropolitan Transportation Authority, and ▪ Austin Independent School District.

Secondary Stakeholders	Potential Issues and/or Concerns	Action
Non-profit organizations	Opportunities (perceived or real) and/or concerns related to specific issues can interest individuals that could be affected by construction.	Communicate and collaborate with the following entities to assist with outreach to the appropriate primary stakeholder groups: ▪ ECHO, ▪ Integral Care, ▪ House the Homeless, ▪ Mobile Loaves and Fishes, ▪ Community Care Collaborative, ▪ Goodwill, ▪ Trinity Center, ▪ Foundation for the Homeless, ▪ Salvation Army, ▪ Austin Resource Center for the Homeless, ▪ Foundation Communities, and ▪ Numerous religious organizations.
Pedestrian advocates	▪ Opportunities (perceived or real) and/or concerns related to specific bike/pedestrian issues can interest individuals that could be affected by construction. ▪ Outreach and information sharing can occur with tourists.	Provide information and updates about the BE SAFE BE SEEN Initiative, and communicate with organizations and associations.
Elected officials	Clear understanding of the need and timing of the projects within the Mobility35 program will help in providing information to and receiving feedback from officials' respective constituencies related to this project (e.g., proposed improvements and construction impacts).	Use elected officials as a resource to educate and gather feedback from residents and business owners who are most impacted by the Mobility35 program construction projects.
Media	Listeners and viewers in and around Austin should be aware of construction impacts and the associated increased risk of pedestrian crashes along I-35.	▪ Use the media as a resource to communicate with stakeholder groups and the general public about the BE SAFE BE SEEN Initiative. ▪ Challenger Newspaper is the key stakeholder in this group that communicates with individuals experiencing homelessness.

Secondary Stakeholders	Potential Issues and/or Concerns	Action
Internal TxDOT employees	Construction projects along the I-35 corridor can increase the risk for pedestrian crashes.	Work internally to evaluate and improve agency practices, procedures and processes that include changes related to guidelines for addressing homeless encampments within state right of way.
Experts/industry analysts and publications	Expert groups will be interested in and can contribute to the unique program design and approach, innovative program management approaches, and program implementation evaluation.	Share the implementation plan and evaluation results with these groups, and invite others to implement successful aspects of the initiative in other cities.

4. Develop Audiences and Messages

Audience Identification and Segmentation for Message Development

Any successful outreach initiative includes development of specific key messages to support communications for individual projects and to particular audiences. Key messages developed in Austin are included in program materials and other communications to help explain the importance of the BE SAFE BE SEEN Initiative and the problem it is intended to solve, as well as reach the specific populations for which the materials are intended. This chapter provides information about the three target audiences that can be useful when developing a message campaign. Appendix A provides more detailed information about messaging for specific audiences, and Appendix B catalogs the specific messages developed in Austin.

Youth

Because of their propensity to be more visual learners, young children often benefit from campaigns that are implemented using film, television or video. One example of such a campaign is the Willy Whistle campaign, which used an animated character that was developed specifically for the campaign. The campaign was successful and can be viewed via YouTube, where it is archived on the Transportation Alternatives channel (*10*). Campaigns aimed at older children are likely to use other implementation methods, such as PowerPoint presentations and posters to supplement film, television or video (*11*). The following are some tips:

- When delivering the message in person, keep the presentation size to no more than 100 children, regardless of age. Younger target audiences (age 9 and younger) benefit from smaller crowd sizes (*11*).
- The use of photos of local infrastructure (buildings, roads, etc.) will help young children relate to the message, more so than using more generalized photos. If individual children are included in the materials, make sure to either gain authorization from individuals before image placement within the program materials or blur the faces of individuals to preserve anonymity (*11*).
- Requesting the assistance of parents to help reinforce core lessons learned in the classroom can be beneficial, particularly for programs focused on younger crowds (*12*).
- Providing visual aids at crossing sites may also help reinforce safe practices introduced in the classroom (*10*).

Mature Adults

Individuals in this demographic group are more likely to be involved in pedestrian-auto accidents at intersections than younger adults (*13*). Because of this, older-pedestrian safety campaigns should consider placement of signage at crossings that emphasizes safe crossing techniques. Furthermore, retirement communities or other areas that house a large number of older pedestrians should consider either limiting the number of street crossings

or making crossings shorter by reducing the number of lanes around crossings. The addition of a protected center island should also be considered (*13*). The literature identified multiple media campaigns as a way to reach this population, including:

- radio and television ads,
- outdoor advertising,
- websites, and
- earned media (public relations).

People Experiencing Homelessness

Safety campaigns focused on reducing pedestrian-auto collisions generally do not focus on people experiencing homelessness as the target audience. Yet pedestrian crashes account for 14 percent of deaths among individuals experiencing homelessness in Travis County, compared to only 0.1 percent of deaths for all of Travis County residents (*4*). The National Health Care for the Homeless Council notes that this population is both "high in need and hard to engage" (*14*). One reason for this may be that people experiencing homelessness tend to face many issues at once, and transportation issues may not seem like a priority. In the Health Care for the Homeless model of health services delivery, research has shown that "only after basic needs — shelter, food, and clothing — are provided are [homeless] clients willing and able to accept health care services assistance" (*15*).

An outreach campaign should be implemented through a systematic, well-documented approach. While this is generally applicable to any outreach program, it is important in outreach with people experiencing homelessness because of a lack of existing data on hard-to-reach populations. Regular and consistent documentation of outreach efforts in coordination with other service providers decreases the likelihood of overlooking individuals experiencing homelessness who are most in need, as well as the duplication of services (*16*).

Messages in Austin, Texas

The Austin BE SAFE BE SEEN Pedestrian Safety Initiative aims to address pedestrian safety and provide resources to individuals who use the I-35 corridor. The initiative proactively engages at-risk groups and provides information to increase awareness and encourage behaviors that will reduce the risk of pedestrian injuries and fatalities.

Facts That Drive the Message

Figure 9 shows how the initiative uses researched facts to drive the messages to encourage safe behaviors.

Figure 9. Researched Facts That Drive the Messages to Encourage Safe Behaviors.

First Outreach Effort in Austin: Reflective Bags

A key objective of the BE SAFE BE SEEN Initiative is making sure motorists see pedestrians. Articles of clothing or other accessories that are bright and reflective help meet this objective. Another objective is to provide educational materials to increase awareness about safe practices for motorists and pedestrians.

To address both objectives, TxDOT leaders in multiple disciplines worked together to develop a design for reflective bags (Figure 10). TxDOT, together with non-profit, resource and advocacy groups, distributed 6,000 bags to some of the homeless population along I-35 as part of a first outreach effort.

Figure 10. BE SAFE BE SEEN Bags.

Homeless people can use the bags for their personal belongings and include their personal information on the bag. When TxDOT maintenance workers perform under-bridge cleanups, they will save the bag and attempt to contact its owner rather than throw the bag away. More importantly, the bags are green and yellow neon with reflective stripes. This increases the owner's visibility, making the person safer particularly at night.

The first outreach effort was well received, and feedback from community partners has been overwhelmingly positive.

5. Identify Tactics and Create Communication Tools

Communication tactics and tools should be selected based on the communication needs and preferences of the stakeholder groups and target audiences. In Austin, the BE SAFE BE SEEN Initiative uses the following specific tactics and tools to achieve its stated objectives.

Tactics

Coordinate Meetings

The team will ***coordinate meetings*** with at least the following key stakeholders:

- representatives of and advocates for the homeless community;
- businesses:
  - businesses along I-35 in high pedestrian crash occurrence areas,
  - the Greater Austin Chamber of Commerce, and
  - other Chambers of Commerce that represent specific groups, such as the Asian Chamber, Hispanic Chamber, Black Chamber, etc.; and
- public and private school officials and school leaders:
  - schools along or near I-35 in construction zones,
  - schools along or near I-35 in high pedestrian crash occurrence areas, and
  - schools in Austin.

Organize Workshops

The team will ***organize workshops*** with community partners (organizations and individuals in the community that also work with the identified stakeholder groups):

- IAH plans to meet regularly to provide information and collaborate with community leaders and organizations to assist with finding alternative, safer shelter and housing opportunities for homeless populations in the I-35 corridor.
- IAH partners include local and state officials, advocates for the homeless, and social service organizations.

Hold Briefings

The team will ***hold briefings*** for elected officials and community leaders. The team will contact and coordinate meetings with elected officials and/or schedule appearances at various council, commission or board meetings to:

- provide information about the BE SAFE BE SEEN program;
- answer questions about the BE SAFE BE SEEN program;
- establish regular, two-way communications to exchange information about planned events and activities; and
- assist in building the stakeholder database and identifying preferences for receiving updates and information.

Conduct Media Outreach

The team will conduct a well-planned and well-executed ***media outreach*** effort that will provide an avenue to disseminate information to the public and to promote and encourage awareness about the BE SAFE BE SEEN Initiative.

The Mobility35 Communications Team will be responsible for day-to-day media management, including the release of program- and project-level media kits, press releases, media alerts, and social media management.

The BE SAFE BE SEEN Initiative will use the Austin District Twitter feed, @TxDOTAustin, with the hashtag #BESAFEBESEEN. Facebook posts will be coordinated through the TxDOT Communications Division and will be posted on www.facebook.com/TxDOT/.

Lead Special Events

The team will plan and ***lead special events*** to deliver messages and share information about the BE SAFE BE SEEN Initiative, especially in areas near construction zones:

- **Construction zone demonstrations:** The team will conduct demonstrations at schools along I-35 adjacent to construction sites to make sure students understand how to properly navigate a construction zone. The team will distribute information targeted specifically to students.
- **Mock construction zones at schools:** The team will conduct demonstrations in a mock construction zone to teach students what different signage means and what to do when they encounter various scenarios. Virtual reality goggles will be provided to further simulate scenarios encountered in a construction zone and how to safely navigate through the zone.
- **Participation in sister agency events:** The team will participate in third-party events, such as the City of Austin Safe Routes to School Walk to School Day, to distribute BE SAFE BE SEEN bags and pedestrian safety information.

Distribute BE SAFE BE SEEN Bags

A key part of the initiative is providing the community with reflective bags, safety maps and community safety materials (Figure 10). The bags are especially useful to those experiencing homelessness because the bags provide a place to keep their belongings.

The team ***distributes*** BE SAFE BE SEEN bags with information about pedestrian safety to primary stakeholders:

- **Distribution to schools:** The team will distribute BE SAFE BE SEEN bags at local schools, beginning with those near active construction zones along the I-35 corridor.
- **Distribution to homeless individuals via Mobile Loaves and Fishes:** Mobile Loaves and Fishes delivers food and additional life-sustaining items such as clothing and hygiene products year-round to homeless individuals in and near Austin. The team will work with

representatives from Mobile Loaves and Fishes to distribute bags in conjunction with their regular meal delivery.

- **Distribution via TxDOT maintenance crews:** TxDOT maintenance crews frequently interact with homeless individuals during under-bridge cleanups. The team will develop a script to assist crews in passing out BE SAFE BE SEEN bags during scheduled maintenance work. The team will also create instructional videos to assist in training maintenance crews.
- **Distribution to community and senior centers:** The team will distribute bags at community and senior centers in the neighborhoods adjacent to I-35.
- **Information distribution via third-party groups and organizations:** The team may use third-party groups and organizations to help distribute information via websites and email networks. These could include newsletters and email blasts distributed by the City of Austin, the Capital Metropolitan Transportation Authority, chambers of commerce, neighborhood groups, religious institutions, etc. Specific opportunities can be identified when stakeholder meetings, briefings and other outreach activities take place.

Receive Mental Health First Aid Training

Homeless individuals often cope with mental health or substance abuse problems. The team and TxDOT maintenance and construction crews will attend mental health first aid training provided by Integral Care to assist crew members in identifying, understanding, and responding to individuals displaying signs of mental illness and substance use disorders.

Tools

TxDOT uses a variety of informational tools and materials to assist with outreach efforts. In recognition of the Spanish-speaking population and the presence of environmental justice populations in the community, many of the tools are provided in both Spanish and English. TxDOT will offer interpreters at public meetings to interact with Spanish-speaking individuals. TxDOT will also provide materials and translators for other languages or for persons with disabilities upon request.

BE SAFE BE SEEN Pedestrian Safety Initiative Bags

The bags contain information about pedestrian safety while also providing awareness about the initiative.

BE SAFE BE SEEN Walk to School Safety Videos

Age-appropriate videos are distributed to schools adjacent to work zones. The videos, in both English and Spanish, share safety information with students walking or biking through work zones to get to and from school.

Script for TxDOT Crews

The script assists TxDOT maintenance and construction workers doing under-bridge cleanups or working on construction projects. The script will include guidance on how to

interact with homeless individuals, as well as information about the purpose of the BE SAFE BE SEEN bags, which will be handed out in conjunction with maintenance efforts.

Training Videos

Video clips depict real-life interactions between maintenance/construction crews and individuals who may be coping with mental health or substance abuse problems. The videos will be incorporated into regular morning meetings so that TxDOT crew members can learn from others' experiences. The aim is for crew members to become better equipped to interact safely with individuals with mental health problems as crew members perform regular cleanups and construction and maintenance operations.

Maps

Easy-to-understand maps and schematics for public distribution and online posting will show planned construction and the safest ways to navigate to frequently visited destinations such as schools or local businesses.

Handouts with Enhanced Citizen Engagement Messaging

The handouts contain key messages and general information, including maps and other visuals, information on personal and societal cost/benefits, and safety information.

Community Presentations

A PowerPoint template and master slide deck will be developed and used as the basis for all presentations that TxDOT may give over the course of the BE SAFE BE SEEN Initiative.

Under-Bridge Signage

Signage will be placed under bridges that are scheduled for cleanup. The signage will serve as points of information for individuals experiencing homelessness and will notify them of the upcoming maintenance work before it occurs. Figure 11 is an example of this signage.

Figure 11. Example of Under-Bridge Signage.

Third-Party Information Materials

The team will provide window clings, table tents and other informational materials, such as rack cards, with pedestrian safety information to hotels and businesses in high pedestrian crash occurrence areas.

HERO Truck Decals

The team will partner with the HERO program to provide magnets for the side of HERO trucks to enhance visibility of the BE SAFE BE SEEN Initiative.

6. Budgeting

The BE SAFE BE SEEN Pedestrian Safety Initiative Pilot is funded through multiple departments and grants within TxDOT, including but not limited to the following:

- TxDOT Austin District:
  - Operations and Maintenance,
  - Advanced Planning, and
  - Construction;
- TxDOT Communications Division;
- TxDOT Traffic Safety Division; and
- Mobility35 Program.

It is reasonable to assume certain hard costs for program supplies. For this pilot program, these hard costs included the following:

- BE SAFE BE SEEN Pedestrian Safety Initiative bags
  - First run: 6,000 bags
    - Total: $8,175.00
  - Second run: 10,000 bags
    - Total: $20,500.00
- Banners
  - 2 banners
    - Total: $650.00
- Rack cards
  - Construction: 1,600 cards
    - Total: $4,105.50
  - Wayfinding: 1,600 cards
    - Total: $4,105.50
- BE SAFE BE SEEN magnets
  - 50 magnets
    - Total: $212.50
- Fitted tablecloths
  - 2 tablecloths
    - Total: $900.00
- Handouts ($0.05 each)
  - Pedestrian safety tips: 1,000 handouts
    - Total: $50.00
  - Construction project overview: 1,500 handouts
    - Total: $75.00
  - Instructions for those experiencing homelessness: 1,400 handouts

        - Total: $70.00
- HERO magnets
    - 150 magnets
        - Total: $637.50
- In-kind donations
    - 500 Vision Zero slap bracelets
    - 900 Vision Zero reflective arms bands
    - 2,500 Vision Zero brochures

7. Scheduling

All outreach efforts can benefit from a coordinated effort. This is particularly important for the BE SAFE BE SEEN Initiative since much of the outreach involves multiple stakeholders. These partners can help leverage the messages and the resources. Therefore, it is important to coordinate efforts and schedule outreach and activities when they will be most impactful.

Efforts in Austin to date include the following.

School Outreach

Currently, six schools located adjacent to I-35 from Rundberg Lane to US 290 are targeted. The following activities are being conducted at each campus:

- **Faculty outreach:** Set meetings with faculty, and provide a short presentation that includes the project overview and tips to keep students safe.
- **Safety videos:** Provide schools with age-appropriate videos to be shown in the classroom that include information about how to safely travel to and from school, and navigate active construction zones.
- **Back-to-school events/parent presentations**: Work with schools to participate in back-to-school events and/or set up presentations geared toward parents. Include a project overview and tips to keep students safe.
- **First-day-of-school work zone awareness:** Place project team members throughout active construction zones on the first day of school to ensure students can navigate the site safely, and distribute reflective BE SAFE BE SEEN bags and safety information. Bags include the following items:
  - project overview information in English and Spanish,
  - pedestrian safety tips for students,
  - a healthy fruit snack, and
  - a Mobility35 magnet.
- **Walk to School Day:** Place project team members throughout active construction zones on Walk to School Day in May to ensure students can navigate the site safely.

Table 3 is a sample of outreach activities for the schools.

Table 3. School Outreach Activities.

School	School's Address	Date of Outreach	Outreach Activities
Brown Elementary School	505 W Anderson Ln., Austin 78752	August 13, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
Cedars International Academy	8416 N I-35 Frontage Rd., Austin 78753	August 14, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
		August 16, 2018	Provided 200 copies of the project overview information and safety tips for students for their Back to School Night
		August 20, 2018	Placed team members throughout a construction zone on the first day of school to distribute reflective backpacks and help students navigate construction zones. Handed out 50 reflective backpacks.
		September 13, 2018	Distributed bags and presented back-to-school safety information to parents and students
Highland Montessori	211 W St. Johns Ave., Austin 78752	August 14, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
Pecan Springs Elementary School	3100 Rogge Ln., Austin 78723	October 10, 2018	Distributed 100 bags and showed safety videos to 250 students in conjunction with the Safe Routes to School Walk to School Day
Pickle Elementary School	1101 Wheatley Ave., Austin 78752	August 14, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
William B. Travis High School	1211 E Oltorf St., Austin 78704	May 2017	Placed team members throughout a construction zone to distribute reflective backpacks and help students navigate construction zones. Handed out 75 reflective backpacks.
		August 15, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
		August 20, 2018	Placed team members throughout a construction zone to distribute reflective backpacks and help students navigate construction zones. Handed out 50 reflective backpacks.

School	School's Address	Date of Outreach	Outreach Activities
Webb Middle School	601 E St. Johns Ave., Austin 78752	May 26, 2018	Ran an informational booth and gave a brief presentation to parents and students before the end of the school year
		August 13, 2018	Met with staff to discuss the BE SAFE BE SEEN Initiative and the safety videos
		August 20, 2018	Placed team members throughout a construction zone on the first day of school to distribute reflective backpacks and help students navigate construction zones. Handed out 50 reflective backpacks.

Business Outreach

Forty-eight businesses have been identified around the I-35 and 51st Street area that experience high foot traffic. These include convenience stores, hotels/motels, and fast food restaurants. Outreach materials such as window clings and table tents were distributed to them in September 2018.

Community Outreach

Communication and collaboration with Foundation Communities to assist with pedestrian safety outreach are expected to begin in fall 2018.

The following activities occurred from project initiation through the development of this document:

- November and December 2017 — Distributed bags and information via TxDOT employees.
- November 15, 2017 — Attended IAH Meeting 1.
- November 29, 2017 — Held a news conference.
- December 2017 — Distributed bags and information via the Austin Police Department.
- December 2017 — Distributed bags and information via Integral Care.
- December 2017 — Distributed bags and information via construction contractor teams.
- December 2017 — Joined the House the Homeless partnership to distribute bags containing information and winter weather gear.
- January 2018 — Distributed bags and information via ECHO (point-in-time count).
- January 18, 2018 — Attended IAH Meeting 2.
- February 2018 — Distributed construction and wayfinding rack cards to construction sites.
- February 2018 — Distributed bags and information via TxDOT maintenance staff.
- February 20, 2018 — Attended IAH Meeting 3.

- April 2018 — Held mental health first aid training for TxDOT employees and consultant teams.
- May 2018 — Distributed bags and information at a bike conference.
- May 14, 2018 — Attended IAH Meeting 4.
- June 2018 — Distributed bags, information and materials via Mobile Loaves and Fishes.
- June 2018 — Distributed bags and information via Integral Care.
- August 2018 — Held small-group and one-on-one meetings with representatives from public and private schools.
- August 23, 2018 — Attended IAH Meeting 5.

8. Evaluation

Evaluation is a critical component of any program, and the BE SAFE BE SEEN Initiative is no exception. Regular and rigorous evaluation will help to manage expectations, measure success, identify weaknesses, designate resources, track results over time, and, most importantly, assess the program's impacts on reducing pedestrian fatalities and increasing awareness.

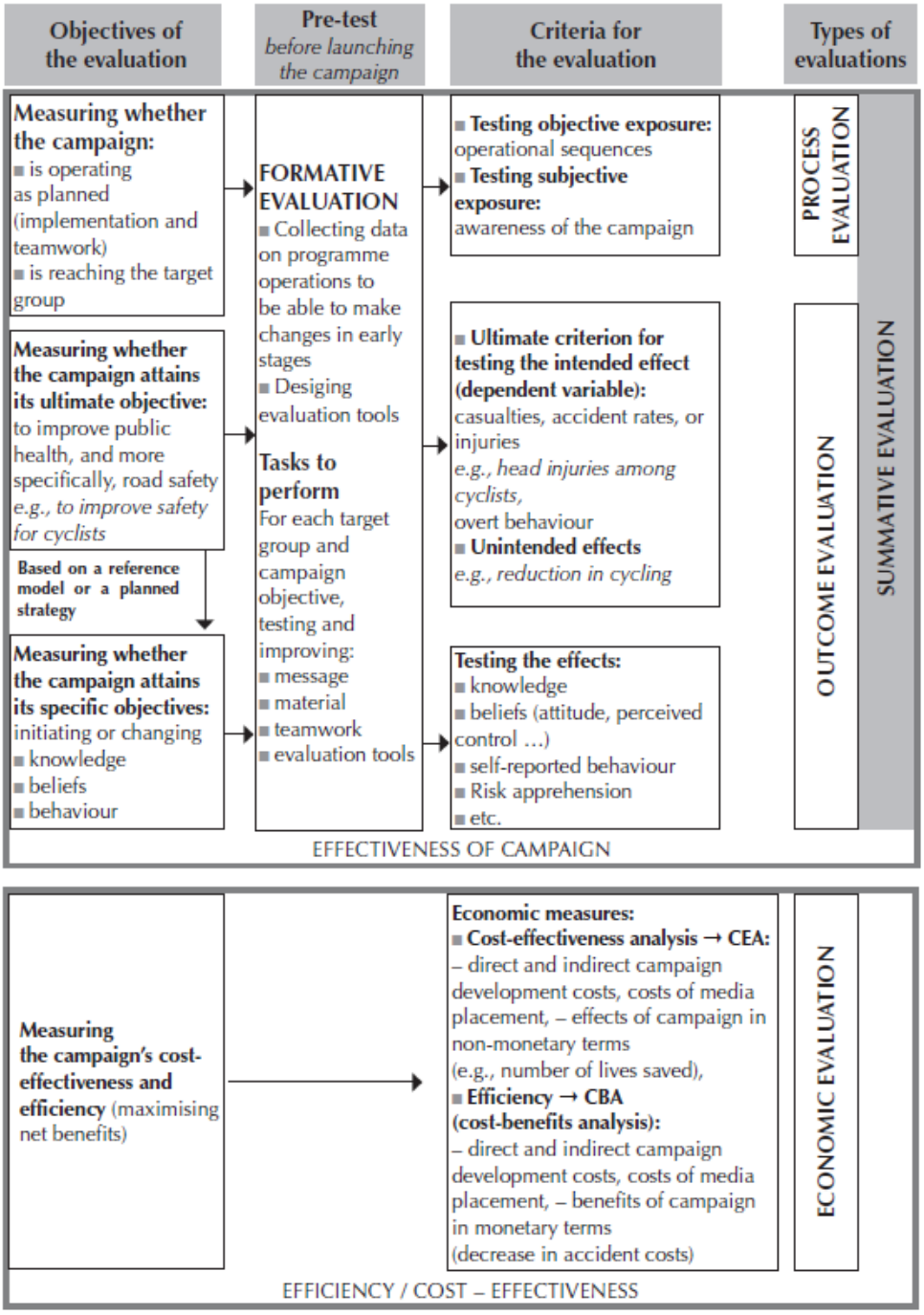
Most campaigns that are evaluated can be considered successful if behavioral changes of 2 to 6 percent are achieved (*11*). The literature offers some suggestions and tips that, if implemented, may help achieve successful behavior change. This chapter presents these suggestions.

Evaluation Plan

An effective evaluation plan is a vital piece of any messaging campaign. Delhomme et al. (*17*) identify four types of evaluations that cumulatively form an effective overall evaluation process for road safety campaigns in general:

- Formative evaluation is synonymous with pre-implementation testing. It is implemented prior to launching the full campaign and serves to refine individual components for their efficacy at addressing the target audience. The focus is on addressing message development and message delivery before full implementation.
- Process evaluation takes place during campaign implementation and strives to determine whether the campaign is following the predetermined campaign plan. The process evaluation should also take into account any external factors that affect, directly or indirectly, the overall success of the plan. Examples of such external factors include irrelevant but similar media coverage and/or political change.
- Outcome evaluation takes place post-implementation and provides quantifiable evidence that the campaign meets the objectives. More often than not, when the literature speaks of *evaluation*, outcome evaluation is the focus of that discussion. Outcome evaluation often focuses on quantifying changes in incidents (crashes, fatalities, etc.), behavior (use of vehicle restraints, social media engagement while driving, etc.), or attitudes (opinions about seat belt use, the importance of not engaging in driving under the influence, etc.).
- Economic evaluation takes place post-implementation and strives to capture the total cost of program development and implementation, including any media purchases. Methods of economic analysis include cost-effectiveness and cost-benefit (*17*).

Figure 12 presents a visual model of how the various evaluative components might fit together to form the overall evaluation process.



Source: (*17*)

Figure 12. Evaluation Process Model.

Designs

Delhomme et al. (*17*) provide four different evaluative designs (listed in order from least to most methodologically rigorous):

- **Non-experimental (before/after):** A single metric is identified and measured for the target group, pre-implementation and post-implementation. These measurements are then compared for change. This design excludes a control group.
- **Quasi-experimental:** This design involves either multiple metrics or multiple groups (target and control). However, unlike a true experimental design, the target and control groups are not randomly selected. This design is nearly impossible to implement effectively because it must take place in near-laboratory conditions to adequately control for external factors.
- **Experimental:** This is considered the strongest of all evaluative designs. This design can involve either single or multiple metrics and employs a randomly selected target and control group. Therefore, the findings are generalizable to the entire population under study.
- **Single case experimental:** This design strives to examine the effects of a stimulus on a single individual, group or organization. This design does not involve a control group. This method allows a researcher to identify the influence of one factor on another. This design typically involves three phases:
  - Phase 1 is the baseline performance.
  - Phase 2 is where external stimulus is involved.
  - Phase 3 is where the stimulus is removed. If baseline performance is seen in Phase 3, the external stimulus had no effect (*17*).

In Austin, the BE SAFE BE SEEN Initiative focused on specific segments of the population. It stands to reason that the evaluation metrics and methodology should follow the same pattern. To facilitate this, a review of the literature about evaluation of safety programs for these groups informs development of an evaluation plan.

Youth

When delivering the message in person, keep the presentation size to no more than 100 children, regardless of age. Younger target audiences (age 9 and younger) benefit from smaller crowd sizes (*11*).

The use of photos of local infrastructure (buildings, roads, etc.) will help young children relate to the message, more so than using more generalized photos. If individual children are included in the materials, either gain authorization from individuals before image placement within program materials or blur the faces of individuals to preserve anonymity (*11*).

Requesting the assistance of parents to help reinforce core lessons learned in the classroom can be beneficial, particularly for programs focused on younger crowds (*18*).

Providing visual aids at crossing sites may also help reinforce safe practices introduced in the classroom (*10*).

The literature identified two commonly used evaluative elements. The first is comprehension, which is an assessment of knowledge gained as a direct result of the campaign. This assessment might take the form of a standardized test administered before and after a message has been delivered, where the percentage of correct answers is compared across the two periods. Assessment might also be some type of test where the instructor shows pictures of correct and incorrect crossing behavior to children across the two periods, and then asks the children to point out correct behavior. The second evaluative element is observational, which is a field assessment of behavior change brought about as a direct result of the campaign. Examples of this might include observing actual street crossing behavior at various locations. When making field observations, the use of video may enhance the overall effort because it allows the recording to be viewed in a controlled setting numerous times, where observations may be evaluated more rigorously among multiple individual reviewers.

Some other evaluative metrics identified in the literature include the following:

- the number of media exposures,
- the number of classroom exposures,
- message recall (yes/no), and
- statistical analysis of crash data.

Mature Adults

Various platforms have been used to transmit safety messaging to older pedestrians. For example, the *Watch for Me* pilot program in the Research Triangle region of North Carolina implemented a multi-pronged approach involving purchased media including radio ads (printed materials and both outdoor and indoor advertising space), a project website to serve as an information repository, and law enforcement training and support. But, as with other cohorts, evaluation is often an afterthought.

A unique aspect of the Watch for Me campaign was the implementation of a pre- and post-workshop questionnaire used to evaluate changes in officer knowledge of key campaign attributes. Analysis of these questionnaires suggests that officers made significant improvements in knowledge, self-reported behaviors and capacity to perform enforcement operations to support the campaign, pre- to post-workshop. The campaign evaluation also observed “modest yet significant changes from the pre-enforcement period to the post-enforcement period at sites receiving enhanced law enforcement” (*19*). Watch for Me program practitioners collected an array of measures to assess program implementation. Table 4 presents these measures.

Table 4. Watch for Me Program Implementation Measures.

Domain	Variable(s) Available
Purchased Media	• Number of print materials produced and disseminated by NCDOT and duration of exposure time • Total cost of all printed materials and print and radio ad space purchased and cost/capita reached • Number of times PSAs were aired, radio station sources, and estimated number of impressions
Earned Media	• Press release dates • Media coverage source and publication date • Media coverage type, length, and slant • Number of impressions (e.g., media circulation) per media coverage • Ad equivalency (value of earned media) per media coverage
Website Usage	• Website visits • Unique website visitors • Page views • % new vs. returning visitors • Visit frequency and duration
Law Enforcement Activities	• Count of safety operations run by agency • Count and type of warnings and citations administered per operation • Count of enforcement officer hours spent per operation, by agency • Count of safety materials disseminated, by agency
Community Engagement Activities	• List of partner agencies • Brief description of community engagement strategies used by partner agencies, including type of event, population reached, frequency, staff involvement, etc.

Source: (*19*)

People Experiencing Homelessness

As with other messaging campaigns, effective evaluation is key to determining whether the effort is a success. Evaluation of outreach with the homeless is particularly reliant on understanding the target population and long-term strategies. As noted, some homeless populations are transient and may be difficult to count through traditional data collection. For example, to measure exposure to campaign materials or messages, it is important to have a sense of the composition of the target audience. Developing a baseline understanding of the target population will help ensure that monitoring the outreach campaign is feasible.

Building trust over time with people experiencing homelessness may be necessary to initiate outreach contact. Therefore, evaluation plans may consider this by developing a multi-stage plan that builds in multiple phases for relationship development with other homeless service providers and individuals in the target audience.

Finally, evaluation efforts may be challenging due to the transient and hard-to-reach nature of populations experiencing homelessness. For example, an evaluation that involves a comprehension assessment before and after an intervention requires that the team find the same participants on two occasions. This is more difficult if individual participants do not

reside in the same location over time. Among some homeless individuals, cell phone use is significant and is one possible method to track participants to enable evaluation.

Evaluation of BE SAFE BE SEEN in Austin, Texas

The BE SAFE BE SEEN Initiative deployed in Austin, Texas, will benefit from a comprehensive evaluation program. As this plan is developed, a companion evaluation plan is also being developed. The evaluation plan identifies metrics that are specific to the Austin region and the particular challenges that are the focus of this program, such as construction on I-35.

References

1. National Highway Traffic Safety Administration. *Traffic Safety Facts 2016 Data.* March 2018 (Revised). https://crashstats.nhtsa.dot.gov/Api/Public/Publication/812493, accessed August 13, 2018.
2. Retting, R. *Pedestrian Traffic Fatalities by State 2017 Preliminary Data*. Governors Highway Safety Association, February 28, 2018. https://www.ghsa.org/sites/default/files/2018-03/pedestrians_18.pdf, accessed August 13, 2018.
3. Texas Department of Transportation. CRIS Query Tool. https://cris.dot.state.tx.us/public/Query/app/public/welcome, accessed June 1, 2018.
4. City of Austin Transportation Department. *City of Austin Pedestrian Safety Action Plan.* 2018. https://www.austintexas.gov/sites/default/files/files/Transportation/Pedestrian_Safety_Action_Plan_1-11-18.pdf, accessed September 26, 2018.
5. Austin Police Department, Research and Planning Unit. *An Analysis of Traffic Fatalities 2015.* April 2016. http://www.austintexas.gov/sites/default/files/files/Police/2015_Fatality_Report.pdf, accessed August 10, 2018.
6. Austin Police Department, Research and Planning Unit. *An Analysis of Traffic Fatalities 2016.* June 2017. http://www.austintexas.gov/sites/default/files/files/Police/2016_Fatality_Report_FINAL.pdf, accessed August 8, 2018.
7. National Safety Council. *Injury Facts, 2017 Edition.* 2017.
8. Texas Homeless Network. Point in Time (PIT) Count Reports. https://www.thn.org/data/point-time-pit-count-reports/, accessed September 26, 2018.
9. Meyrs, Joel. *Overview of Austin's Pedestrian Safety Action Plan.* City of Austin Transportation Department, September 2018.
10. Bloomberg, Richard D., David F. Preusser, Allen Hale, and William A. Leaf. *Experimental Field Test of Proposed Pedestrian Safety Messages*. National Highway Traffic Safety Administration, November 1983.
11. Gates, T. J., T. K. Datta, P. T. Savolainen, and N. Buck. Evaluation of Pedestrian Safety Educational Program for Elementary and Middle School Children. *Transportation Research Record*, No. 2140, 2009, pp. 120–127.
12. Sarkar, S., C. Kaschade, and F. De Faria. How Well Can Child Pedestrians Estimate Potential Traffic Hazards? *Transportation Research Record*, Vol. 1828, 2003, pp. 38–46.
13. Kim, S., and G. F. Ulfarsson. Traffic Safety in an Aging Society: Analysis of Older Pedestrian Crashes. *Journal of Transportation Safety and Security*, Vol. 9962, 2018.
14. National Health Care for the Homeless Council. *Outreach and Enrollment Quick Guide: Promising Strategies for Engaging the Homeless Population.* January 2014.

15. Zlotnick, C., S. Zerger, and P. B. Wolfe. Health Care for the Homeless: What We Have Learned in the Past 30 Years and What's Next. *American Journal of Public Health*, Vol. 103, No. S2, 2013, pp. 199–205.
16. U.S. Interagency Council on Homelessness. *The Role of Outreach and Engagement in Ending Homelessness: Lessons Learned from SAMHSA's Expert Panel.* August 2016. https://www.usich.gov/resources/uploads/asset_library/Outreach_and_Engagement_Fact_Sheet_SAMHSA_USICH.pdf, accessed August 8, 2018.
17. Delhomme, P., W. De Dobbeleer, S. Forward, A. Simoes, G. Adamos, A. Areal, J. Chappe, C. Eyssartier, P. Loukopoules, T. Nathanail, S. Nordbakke, H. Peters, R. Philips, M. Pinto, M. Frederique Ranucci, G. Marco Sardi, J. Trigoso, T. Vaa, K. Veisten, and E. Walter. *Manual for Designing, Implementing and Evaluating Road Safety Communication Campaigns*. 2009.
18. National Highway Traffic Safety Administration. *Traffic Safety Facts 2015*. 2017.
19. Sandt, Laura, James Gallagher, Nancy Pullen-Seufert, and Bryan Poole. *Bicycle and Pedestrian Safety, Education, and Enforcement Campaign: Project Summary and Evaluation*. April 2014. https://www.watchformenc.org/wp-content/themes/WatchForMeNC_Custom/documents/WFM_Final%20Report.pdf, accessed August 8, 2018.

Appendix A: Literature Review

Introduction and Background

In 2016, there were 680 pedestrian fatalities on Texas roadways resulting from vehicle crashes. To address this issue, the Texas Department of Transportation launched the Be Safe Be Seen Initiative in November 2017. This program is geared toward informing pedestrians and drivers of their shared responsibility to keep themselves and others safe on Texas roads. The program is being piloted in Austin, Texas. As the program is refined, it will be launched in other Texas urban areas with the goal of eliminating pedestrian-auto accidents.

The pilot effort currently focuses on working with local organizations along I-35 in high-traffic pedestrian areas and construction zones to increase awareness of pedestrian safety. Outreach materials (Be Safe Be Seen–branded reflective bags, safety maps and community safety information) have been developed and are being disseminated, with a key focus on three priority populations:

- children/youth (ages 0–14),
- mature adults (ages 50–65) and
- the homeless.

The Austin District requested that the Texas A&M Transportation Institute review existing literature to identify best practices in development, implementation and evaluation of programs aimed at reducing pedestrian-auto collisions, focusing on the three priority populations.

This appendix presents the literature review, which contains a section for each population, including research on development, implementation and evaluation.

Literature Review

Youth

Development

In the review of safety campaigns focused on reducing pedestrian-auto collisions, perhaps no other subgroup of pedestrians has been studied as extensively as youth. This may be due to research suggesting that the cognitive abilities of young children are not fully developed, and/or the cognitive abilities of young children are not developed to the point parents or caregivers believe they are (*1*). Research suggests that *traffic maturity* is not reached until around age 12. Children less than 12 years old may experience several traffic-related issues, which can prove detrimental to their ability to act safely as a pedestrian (*2*). This age group cannot accurately estimate the speed at which a vehicle is traveling down the road, nor can it accurately estimate the distance separating oncoming vehicles from themselves.

Additionally, this age group may have difficulty accurately perceiving traffic direction. Research also suggests this age group may become easily overwhelmed by complex traffic situations, which often result at both signalized and unsignalized intersections (*1*).

When developing public outreach campaigns focused on reducing child pedestrian–auto collisions, it is important to remember that over half of accidents occur in daylight hours, with most accidents occurring in the late afternoon to early evening hours. Most accidents also occur on weekdays, likely due to children walking home from school and/or walking to/from after-school activities. Males are also more likely to be killed in pedestrian accidents than females (*3*). While there is no conclusive evidence identifying exactly why males are over-represented, research conducted by Zhu et al. suggests that "the elevated pedestrian deaths among males mainly results from their high case fatality rate when involved in vehicle-pedestrian collisions, compared with females," where the case fatality rate is described as "the number of deaths per vehicle-pedestrian collisions" (*4*).

Most campaigns aim to reduce child pedestrian–auto collisions by changing child pedestrian behavior. The most common behaviors that practitioners attempt to modify include the following:

- **Searching techniques:** A searching technique is the protocol used to identify approaching vehicles as a pedestrian prepares to cross the road. Practitioners attempt to introduce proper search techniques and/or improve any technique the child uses. An example of a three-part technique proposed in the federally funded Willy Whistle campaign developed for safe crossing is:
  1. Find the edge.
  2. Look left-right-left.
  3. Find an acceptable gap.
- **Path selection:** In this method, practitioners attempt to focus on teaching children the importance of selecting a safe pedestrian path. An example of a safe pedestrian path would be one that is characterized by a sidewalk, as opposed to a route where pedestrians are forced to walk on the road or right of way.
- **Improved crossing maneuver:** In this method, practitioners may exemplify the importance of crossing at signalized intersections, as opposed to unsignalized intersections (*1*).

Because they have not yet reached traffic maturity, younger children (5–9 years old) often respond better to campaigns that focus heavily on the visual element than to campaigns that focus on text. Research suggests this age group is more apt to change behavior by being s*hown* what to do, as opposed to being *told* what to do (*5*). Campaign developers should also be aware that, quite often, this age group does not fully realize the importance of changing behavior. Young children simply mimic the desirable behaviors they are shown. Conversely, older children (12 years old and older) are more likely to have reached *traffic maturity*, enabling this age group to more accurately assess the risk associated with unsafe

pedestrian behavior. Some research suggests this age group may benefit from safety campaigns that include or are supplemented with traffic law enforcement or the fear of enforcement (*6*).

However, at least one team of researchers found developing campaigns focused on attempting to reduce child pedestrian–auto collisions by changing child pedestrian behavior to be potentially ineffective. Coggan and Pergamon suggest that trying to teach young children safe crossing behavior is directly counter to the idea of traffic maturity suggested by some of the existing research (*7*). The authors also state that many of the campaigns developed to this effect lack a rigorous evaluation that shows behavioral change as a direct result of the campaign. Those campaigns that do have such an evaluation often demonstrate small positive changes at best. However, despite the lack of evidence, "strenuous efforts are made to justify their use" (*7*).

Implementation

Various media platforms have been used with success in the implementation of campaigns that aim to reduce child pedestrian–auto collisions. Because of their propensity to be more visual learners, young children often benefit from campaigns that are implemented using film, television or video. One example of such a campaign is the Willy Whistle campaign, which used an animated character developed specifically for the campaign. The campaign was successful and can be viewed via YouTube, where it is archived on the Transportation Alternatives channel (*5*). Because very young children are increasingly familiar with mobile technology and mobile technology applications, some campaigns have come to rely heavily on technology for campaign implementation. One such example is the Elmo Stays Safe iPad and e-book applications developed by Sesame Workshop and Kidsafe Australia (*8*). Campaigns aimed at older children are likely to use other implementation methods, such as PowerPoint presentations and posters, to supplement film, television or video (*1*).

Collaborating with local schools can be advantageous. Not only do these partnerships provide access to the target audience, but also children at school are prone to be attentive because of the presence of teachers and administrators. Additionally, schools often offer the infrastructure necessary to disseminate messages to large groups, such as meeting rooms large enough for assemblies and audio/video equipment.

While the next section of this document focuses more specifically on the evaluative component of child pedestrian–auto campaigns, most campaigns that are evaluated can be considered successful if behavioral changes of 2 to 6 percent are achieved (*1*). The literature offers suggestions and tips that, if implemented, may help achieve successful behavior change. These suggestions are as follows:

- When delivering the message in person, keep the presentation size to no more than 100 children, regardless of age. Younger target audiences (9 years old and younger) benefit from smaller crowd sizes (*1*).

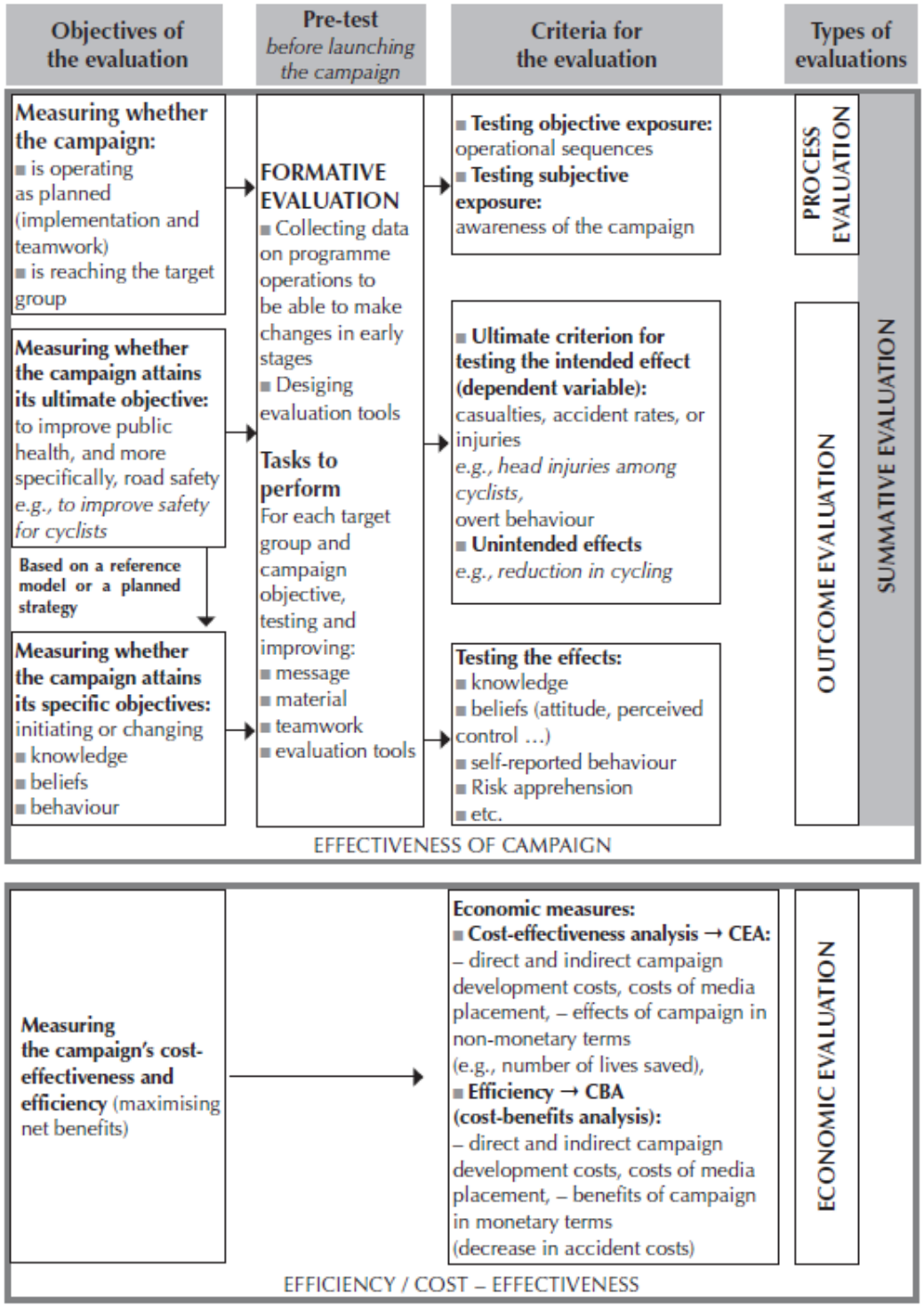
- The use of photos of local infrastructure (buildings, roads, etc.) will help young children relate to the message, more so than using more generalized photos. If individual children are included in the materials, either gain authorization from individuals prior to image placement within program materials or blur the faces of individuals to preserve anonymity (*1*).
- Requesting the assistance of parents to help reinforce core lessons learned in the classroom can be beneficial, particularly for programs focused on younger crowds (*9*).
- Providing visual aids at crossing sites may also help reinforce safe practices introduced in the classroom (*5*).

Evaluation

An effective evaluation plan is a vital piece of any messaging campaign. Delhomme et al. identify four types of evaluation that cumulatively form an effective overall evaluation process for road safety campaigns in general:

- Formative evaluation is synonymous with pre-implementation testing. It is implemented prior to launching the full campaign and serves to refine individual components regarding efficacy at addressing the target audience. The focus here is on addressing message development and message delivery prior to full implementation.
- Process evaluation takes place during campaign implementation and strives to determine whether the campaign is following the predetermined campaign plan. The process evaluation should also take into account any external factors that affect, directly or indirectly, the overall success of the plan. Examples of such external factors include irrelevant but similar media coverage and/or political change.
- Outcome evaluation takes place post-implementation and provides quantifiable evidence that the campaign meets the objectives. More often than not, when the literature speaks of *evaluation*, outcome evaluation is the focus of that discussion. Outcome evaluation often focuses on quantifying changes in incidents (crashes, fatalities, etc.), behavior (use of vehicle restraints, social media engagement while driving, etc.) or attitudes (opinions about seat belt use, the importance of not engaging in driving under the influence, etc.).
- Economic evaluation takes place post-implementation and strives to capture the total cost of program development and implementation, including any media purchases. Methods of economic analysis include cost-effectiveness and cost-benefit (*10*).

Figure A-1 presents a visual model of how the various evaluative components might fit together to form the overall evaluation process.



Source: (*10*)

Figure A-1. Evaluation Process Model.

Delhomme et al. go on to provide four different evaluative designs (listed in order from least to most methodologically rigorous):

- **Non-experimental (before/after):** A single metric is identified and measured for the target group, pre-implementation and post-implementation. These measurements are then compared for change. This design excludes a control group.
- **Quasi-experimental:** This design involves either multiple metrics or multiple groups (target and control). However, unlike a true experimental design, the target and control groups are not randomly selected. This design is nearly impossible to implement effectively because it must take place in near-laboratory conditions to adequately control for external factors.
- **Experimental:** This is considered the strongest of all evaluative designs. This design can involve either single or multiple metrics and employs a randomly selected target and control group. Therefore, the findings are generalizable to the entire population under study.
- **Single case experimental:** This design strives to examine the effects of a stimulus on a single individual, group or organization. This design does not involve a control group. This method allows a researcher to identify the influence of one factor on another. This design typically involves three phases:
  - Phase 1 is the baseline performance.
  - Phase 2 is where external stimulus is involved.
  - Phase 3 is where the stimulus is removed. If baseline performance is seen in Phase 3, the external stimulus had no effect (*10*).

The literature identified two commonly used evaluative elements:

- **Comprehension:** an assessment of knowledge gained as a direct result of the campaign. This assessment might take the form of a standardized test administered before and after a message has been delivered, where the percentage of correct answers is compared across the two periods. It might also be some type of test where the presenter shows pictures of correct and incorrect crossing behaviors to children across the two periods, and then asks the children to point out the correct behavior.
- **Observational:** a field assessment of behavior change brought about as a direct result of the campaign. Examples of this might include observing actual street-crossing behavior at various locations. For field observation, the use of video may enhance the overall effort because it allows the recording to be viewed in a controlled setting numerous times, where observations may be evaluated more rigorously, among multiple individual reviewers.

Some other evaluative metrics identified in the literature include the following:

- the number of media exposures,
- the number of classroom exposures,

- message recall (yes/no), and
- statistical analysis of crash data.

As previously mentioned, rigorous evaluations that demonstrate behavioral changes of 2–6 percent can be considered successful. The literature suggests that older children tend to show greater improvement than younger children do, with the greatest improvements seen in grades 3 through 6. Grades K through 1 showed the least improvement (*1*).

Despite evaluation being an important step, the literature suggests that few studies actually incorporate an evaluation. In their investigation of studies aimed at increasing the correct use of child restraints, Will et al. noted, "Very few of the studies identified dealt specifically with an evaluation of the messaging content…" (*11*). Similarly, as a limitation of existing public education messages, Gauld et al. identify "a lack of scientifically rigorous evaluations measuring different outcome measures" (*12*). The authors go on to state that, despite the potential for evaluations to make a message more effective, such mechanisms are not yet standard practice. This can result in continued support for messages that are ineffective in accomplishing their intended goal.

Mature Adults

Development

Next to children, perhaps no other sub-population of pedestrians has been studied quite as extensively as mature adults. The research reviewed for this document used the terms "elderly," "older" and "old" to describe the population of pedestrians age 65 and older (*13, 14*).

Kim et al. suggest that the subpopulation of older pedestrians may be at risk for two primary reasons (*13*):

- Older pedestrians may experience age-related perceptual and cognitive declines. These declines can lead to the adoption of insufficient safety margins when making street crossings and other unsafe street crossing decisions.
- Older pedestrians may experience age-related physical declines. These physical declines may manifest in vision loss, hearing loss and/or loss of the ability to cross a street during the allotted time (if signalized) or quickly (if unsignalized).

The research also points out that a higher proportion of pedestrian-auto accidents involving older pedestrians result in death than any other pedestrian age cohort (*13*).

Older pedestrians are more likely to be involved in pedestrian-auto accidents at intersections than younger adults (*13*). Because of this, older-pedestrian safety campaigns should consider placement of signage at crossings that emphasize safe crossing techniques. Furthermore, retirement communities or other areas that house a large number of older pedestrians should consider either limiting the number of street crossings or making

crossings shorter by reducing the number of lanes around crossings. The addition of a protected center island should also be considered (*13*).

In addition to signage and road geometry design, the literature identifies several additional strategies implemented by various safety campaigns focused on improving the safety of older pedestrians. These encouraged behaviors include the following:

- understanding the threats presented by cars making turns (*14–16*);
- making good choices about footwear for better traction and clothing to enhance visibility (*16*);
- staying off freeways (*16*);
- using sidewalks where provided (*16*);
- crossing or enter streets only where it is legal to do so (*16*);
- walking facing traffic where no sidewalks are provided (*16*);
- carrying a flashlight at night (*16*);
- making eye contact with drivers to help ensure they see pedestrians (*16*);
- understanding that prescription drugs can impair cognitive ability (*16*); and
- using extra caution when crossing multiple-lane, higher-speed streets (*16*).

Implementation

Various platforms have been used to transmit safety messaging to older pedestrians. The *Watch for Me* pilot program in the triangle region of North Carolina implemented a multi-pronged approach involving purchased media including radio ads (printed materials and both outdoor and indoor advertising space), a project website to serve as an information repository, and law enforcement training and support. As part of its support, North Carolina law enforcement disseminated light-up bracelets to pedestrians (*17*).

A July 2013 literature review of 11 "education, enforcement and comprehensive safety programs implemented in the United States and abroad during the last 12 months to address pedestrian safety" similarly identified the use of multiple media channels to convey their message(s). These included radio and television ads, outdoor advertising, websites and earned media (public relations). Of all the media channels identified, outdoor advertising (e.g., billboards, bus ads and shelters) was the most commonly used (*18*). In their evaluation of the *Walk Smart* public service campaign, Reed and Sen found that different target groups have different preferred means of receiving information. Urban seniors (particularly African-American seniors) preferred receiving information via billboards, while non-urban Caucasian seniors preferred receiving messages via radio and television ads (*15*).

While older pedestrians can be targeted at a variety of locations, senior centers, retirement communities, medical facilities and libraries may serve as places in the community where this population may be more easily found (*15, 16*). The literature also points out that drawing upon local law enforcement for assistance as early as possible may be beneficial. As part of the Watch for Me campaign, local law enforcement officers received classroom

training, during which they learned how to reinforce pedestrian safety. The training included copies of a rack card to hand out, a template operations plan, and program-themed sandwich boards (*17*). In their review of previous safety education campaigns, researchers working on behalf of the New Jersey Transportation Planning Authority noted several campaigns using the assistance of local law enforcement agencies (*18*). Partnerships with organizations like the American Association of Retired Persons may also be useful due to their strong network with older adults (*16*). While some might consider stricter enforcement an extreme measure, particularly when older pedestrians are the focus of the campaign, qualitative research conducted by Reed and Sen found that some seniors believe that stricter rules and enforcement may be better than public safety campaigns (*15*).

Evaluation

The literature review findings presented in the previous evaluation section (focusing on youth pedestrians) are also extremely relevant to older pedestrians. The review of the literature about safety campaigns for older pedestrians confirms that few campaigns incorporate an evaluative component.

A unique aspect of the Watch for Me campaign was the implementation of a pre- and post-workshop questionnaire used to evaluate changes in officer knowledge of key campaign attributes. Analysis of these questionnaires suggests that officers made significant improvements in knowledge, self-reported behaviors, and capacity to perform enforcement operations to support the campaign, pre- to post-workshop. The campaign evaluation also observed "modest yet significant changes from the pre-enforcement period to the post-enforcement period at sites receiving enhanced law enforcement" (*17*). The Watch for Me program practitioners collected an array of measures to assess program implementation. Table A-1 lists these measures.

Table A-1. Watch for Me Program Implementation Measures

Domain	Variable(s) Available
Purchased Media	• Number of print materials produced and disseminated by NCDOT and duration of exposure time • Total cost of all printed materials and print and radio ad space purchased and cost/capita reached • Number of times PSAs were aired, radio station sources, and estimated number of impressions
Earned Media	• Press release dates • Media coverage source and publication date • Media coverage type, length, and slant • Number of impressions (e.g., media circulation) per media coverage • Ad equivalency (value of earned media) per media coverage
Website Usage	• Website visits • Unique website visitors • Page views • % new vs. returning visitors • Visit frequency and duration
Law Enforcement Activities	• Count of safety operations run by agency • Count and type of warnings and citations administered per operation • Count of enforcement officer hours spent per operation, by agency • Count of safety materials disseminated, by agency
Community Engagement Activities	• List of partner agencies • Brief description of community engagement strategies used by partner agencies, including type of event, population reached, frequency, staff involvement, etc.

Source: (*17*)

People Experiencing Homelessness

Development

Pedestrian fatalities disproportionately affect people experiencing homelessness. Pedestrian crashes account for 14 percent of deaths among individuals experiencing homelessness in Travis County compared to only 0.1 percent of deaths for all Travis County residents (*19*). In Clark County, Nevada, Hickox et al. found that pedestrian crashes rates were much higher for homeless individuals than for visitors and residents (*20*).

Safety campaigns focused on reducing pedestrian-auto collisions generally do not focus on people experiencing homelessness as the target audience. For example, the Federal Highway Administration *Pedestrian Safety Campaign Guide* does not address homelessness (*21*). Health Care for the Homeless (HCH) is a model developed in the 1980s to overcome barriers experienced by people who are homeless to accessing health care. HCH notes that this population is both "high in need and hard to engage" (*22*). One reason for this may be that people experiencing homelessness tend to face many issues at once, and transportation issues may not seem like a priority. In the Health Care for the Homeless model of health services delivery, research has shown that "only after basic needs — shelter, food, and clothing — are provided are [homeless] clients willing and able to accept health care services assistance" (*23*).

However, as noted in a North Carolina pedestrian safety plan, challenging social conditions often overlap with high-crash-risk areas. Issues like homelessness, "while larger than pedestrian and bicycle safety, can often contribute to pedestrian and bicycle crashes and injuries but are not easily addressed" (*17*). Another guide notes that while "sidewalks or bike

lanes may not be at the top of the list of concerns for residents dealing with immediate or life-affecting issues such as homelessness, drugs, vacant properties, or neighborhood violence … bike lanes, sidewalks, and other facilities may in fact be very important for residents needing to safely access jobs, transit, healthcare facilities, and schools" (*24*).

People who experience homelessness are heterogeneous (*25*). In developing outreach plans, this is a challenge because different segments of the population have different outreach requirements — a factor that should be incorporated into plan development. On a given night in January 2017, more than 553,000 people were experiencing homelessness in the United States, according to the annual Point in Time survey; 65 percent were in shelters or transitional housing programs, and 35 percent were unsheltered (*25*). Two-thirds were adults without children, and one-third experienced homelessness as a family. Homeless children were mostly in shelters or transitional housing programs. Homeless populations include both children and mature adults, and other techniques used for those target populations may be applicable to people experiencing homelessness. The homeless population includes families, individuals with mental or physical illness, victims of domestic violence, migrant farmworkers, runaway youths, and veterans. Given this range, researchers may want to segment this population and consider how campaigns can be adjusted to reach different segments. Also, many people experience homelessness as a transient condition, not a lifelong status. Only 24 percent of individuals experiencing homelessness are considered chronically homeless (*25*). These individuals are more likely to be found in unsheltered locations and therefore are both likely to be on streets at night, when many crashes occur, and are inherently difficult to reach through traditional outreach.

Outreach efforts with homeless populations emphasize gathering foundational data and information about the local population. Guidance for emergency preparedness suggests that the outreach must identify and map locations where people are likely to be found (*26*). Typically, outreach and services for the homeless are provided on the streets or in facilities where people experiencing homelessness are known to spend time. Similarly, improved data collection of crashes involving the target population can improve the understanding of the issues. Efforts to ensure that crash reporting includes identification of a person's home or experience of homelessness, or other useful information about the context of crashes (such as alcohol levels), can be valuable to development of outreach plans. However, a Florida pedestrian planning report noted that this is an "ambitious" undertaking (*27*).

Given the unique context of homelessness, campaign development should take into account other factors that may influence pedestrian collisions among the homeless. For example, some adults experiencing homelessness may also use or abuse alcohol, which is a known contributor to roadway collisions.

Implementation

HCH literature suggests that outreach be conceptualized on two levels:

- community collaboration and
- client outreach (*22, 23*).

Community Collaborations

Most cities have existing organizations and networks that advocate for and interact with individuals experiencing homelessness. Partnerships with providers of all kinds of services must work together. Homeless populations tend to face many issues at once. In the HCH model, research has shown that "only after basic needs — shelter, food, and clothing — are provided are [homeless] clients willing and able to accept health care services assistance" (*23*). Partners include churches, hospitals, jails, mental health providers, free clinics, police departments, meal sites, shelters, libraries and community centers.

Client Outreach

Best practices in homelessness outreach tend to use case management centralization, in which case managers serve as a conduit to a range of services, build relationships over time, and address multiple issues at once (e.g., basic medical needs, hygiene, personal safety and mental health). Outreach and engagement solutions are designed to overcome issues of distrust of institutions and living nomadically or in hard-to-find locations. This includes mobile clinics, collocating temporary clinics in shelters and drop-in locations: "Outreach workers are an integral element in the service and the approach, which means trekking to locations, understanding street culture in order to communicate and engage without alienating, tracking methods, and bringing health care workers along. Flexibility and awareness are key in outreach to a broad and heterogeneous group that changes frequently" (*23*).

Overall, when developing an outreach plan, previous practice suggests the value of several overarching principles for conducting outreach with the homeless. Practitioners should work with existing networks that provide homeless services and outreach; best practices in homelessness outreach tend to use case management and address multiple issues at once. A plan also needs to include time and effort to build trust with individuals — people experiencing homelessness often have legitimate reasons for distrust of institutions and strangers. A plan must recognize the challenges faced in reaching individuals living nomadically or in hard-to-find locations. To address these unique conditions, flexibility and awareness are key in outreach to a broad and heterogeneous group that changes frequently.

Methods of message delivery may include in-person contact, print media and text messaging. Recurring, face-to-face contact is the typical method of outreach with people experiencing homelessness. Print media should use simple language and be easy to remember because some individuals experiencing homelessness may not be able to store documentation materials. One study showed that 88 percent of participants in one study on

homelessness have a mobile phone, and 70 percent use texting (*28*). Text messaging proved effective at increasing participation in health services among homeless participants in the study. Similarly, social media may be a messaging tool for youth homeless populations.

Implementation

Outreach with the homeless should be coordinated with partners from existing outreach/service providers. Existing homeless service providers can provide understanding and access to hard-to-reach populations. Safety campaign efforts can be coordinated with existing homeless support programs and events (e.g., educate/inform at Homeless Connect events, where people experiencing homelessness are given access to a range of services from haircuts to health care). Furthermore, repeat visits are often required to develop trust.

An outreach campaign should be implemented through a systematic, well-documented approach. While this is generally applicable to any outreach program, it is important in outreach with people experiencing homelessness because existing data are lacking and the population is hard to reach. Regular and consistent documentation of outreach efforts in coordination with other service providers decreases the likelihood of overlooking individuals experiencing homelessness who are most in need, as well as the duplication of services (*29*).

Existing practice with people experiencing homelessness suggests that outreach should be implemented where people experiencing homelessness are. According to the U.S. Department of Housing and Urban Development, this includes but is not limited to shelters, encampments, cars and motels. Locations may also include areas where people experiencing homelessness congregate during the day such as libraries, social service programs and other public facilities (*26*). Shelters, street outreach and other crisis services are the frontline of any community's response to homelessness.

Using the right people for outreach is particularly important for populations experiencing homelessness because, as noted previously, individuals may be facing other pressing issues. Best practices in health care outreach suggest using experienced, trusted and trained outreach professionals. Outreach workers are an integral element in the service and the approach, which means trekking to locations, understanding street culture in order to communicate and engage without alienating, and using individual tracking methods. In a study on disaster response for homeless people, research found that homeless persons on the street are more likely to listen to messages from firefighters and emergency medical technicians rather than police officers, who may be met with suspicion (*30*). Other common outreach specialists are peer leaders — individuals who have experienced homelessness in the past. Traditionally, outreach to individuals experiencing homelessness may include teams of individuals with different skills, including health care workers and other service providers.

During implementation, the process needs to be monitored for unique concerns or issues related to the target population. For example, people experiencing homelessness may be concerned that their participation could make them targets for arrest (e.g., if a neon bag becomes the signal to law enforcement that these individuals are homeless and officers link that to potential infractions, trespassing or other negative circumstances) (*26*). As noted, trust is an important consideration.

Evaluation

As with other messaging campaigns, effective evaluation is key to determining whether the effort is a success. Evaluation of outreach with individuals experiencing homelessness is particularly reliant on understanding the target population and long-term strategies. As noted, some homeless populations are transient and may be difficult to count through traditional data collection. For example, to measure exposure to campaign materials or messages, it is important to have a sense of the composition of the target audience. Developing a baseline understanding of the target population will help ensure monitoring of the outreach campaign is feasible.

Building trust over time with people experiencing homelessness may be necessary to initiate outreach contact. Evaluation plans may consider this by developing a multi-stage plan that builds in multiple phases for relationship development with other homeless service providers and individuals in the target audience.

Evaluation efforts may be challenging due to the transient and hard-to-reach nature of populations experiencing homelessness. For example, an evaluation that involves a comprehension assessment before and after an intervention requires that the team find the same participants on two occasions. This is more difficult if individual participants do not reside in the same location over time. Among some homeless individuals, cell phone use is significant and is one possible method to track participants to enable evaluation.

References

1. Gates, T. J., T. K. Datta, P. T. Savolainen, and N. Buck. Evaluation of Pedestrian Safety Educational Program for Elementary and Middle School Children. *Transportation Research Record*, No. 2140, 2009, pp. 120–127.

2. MacGregor, Carolyn, and Allison Smiley. Identifying Gaps in Child Pedestrian Safety Comparing What Children Do with What Parents Teach. *Transportation Research Record*, Vol. 1674, No. 99, 1999, pp. 32–40.

3. National Highway Traffic Safety Administration. *Traffic Safety Facts 2015*. 2017.

4. Zhu, Motao, Songzhu Zhao, Jeffrey H. Coben, and G. S. Smith. Why More Male Pedestrians Die in Vehicle-Pedestrian Collisions than Females: A Decompositional Analysis. *Injury Prevention,* Vol. 19, 2012.

5. Bloomberg, Richard D., David F. Preusser, Allen Hale, and W. A. Leaf. *Experimental Field Test of Proposed Pedestrian Safety Messages*. U.S. Department of Transportation, National Highway Traffic Safety Administration, 1983.

6. Bloomberg, Richard D., and D. F. Preusser. *Identification and Test of Pedestrian Safety Messages for Public Education Programs.* No. DOT-HS-801-457, U.S. Department of Transportation, National Highway Traffic Safety Administration, 1975.
7. Coggan, I. R., and C. Pergamon. Blaming Children for Child Pedestrian Injuries: Why the Accident Happened. *Social Science and Medicine*, Vol. 38, No. 5, 1994, pp. 749–753.
8. Kidsafe Australia. Elmo Stays Safe Road Safety Campaign. http://kidsafe.com.au/elmo-stays-safe/, accessed August 20, 2005.
9. Sarkar, S., C. Kaschade, and F. De Faria. How Well Can Child Pedestrians Estimate Potential Traffic Hazards? *Transportation Research Record*, No. 1828, 2003, pp. 38–46.
10. Delhomme, P., W. De Dobbeleer, S. Forward, A. Simoes, G. Adamos, A. Areal, J. Chappe, C. Eyssartier, P. Loukopoules, T. Nathanail, S. Nordbakke, H. Peters, R. Phillips, M. Pinto, M. Frederique Ranucci, G. Marco Sardi, J. Trigoso, T. Vaa, K. Veisten, and E. Walter. *Manual for Designing, Implementing and Evaluating Road Safety Communication Campaigns*. Belgian Road Safety Institute, 2009.
11. Will, K. E., L. E. Decina, E. L. Maple, and A. M. Perkins. Examining the Relative Effectiveness of Different Message Framing Strategies for Child Passenger Safety: Recommendations for Increased Comprehension and Compliance. *Accident Analysis and Prevention*, Vol. 79, 2015, pp. 170–181.
12. Gauld, C. S., I. Lewis, K. M. White, J. J. Fleiter, and B. Watson. Evaluating Public Education Messages Aimed at Monitoring and Responding to Social Interactive Technology on Smartphones among Young Drivers. *Accident Analysis and Prevention*, Vol. 104, April 2017, pp. 24–35.
13. Kim, S., and G. F. Ulfarsson. Traffic Safety in an Aging Society: Analysis of Older Pedestrian Crashes. *Journal of Transportation Safety and Security*, Vol. 9962, 2018.
14. Levi, S., D. M. De Leonardis, J. Antin, and L. Angel. *Identifying Countermeasure Strategies to Increase Safety of Older Pedestrians*. U.S. Department of Transportation, National Highway Traffic Safety Administration, 2013.
15. Reed, R., and S. Sen. *Evaluation of Pedestrian Safety Campaign*. North Carolina Department of Transportation, 2004.
16. Pedestrian and Bicycle Information Center. Educating Older Pedestrians. http://www.pedbikeinfo.org/programs/education_ped_older.cfm, accessed July 5, 2018.
17. Sandt, Laura, James Gallagher, Nancy Pullen-Seufert, and Bryan Poole. *Bicycle and Pedestrian Safety, Education, and Enforcement Campaign: Project Summary and Evaluation*. 2014.
18. McAndrew Company. *Pedestrian Safety Education Campaign Literature Review*. 2013.
19. City of Austin. *City of Austin Pedestrian Safety Action Plan*. 2018
20. Hickox, K. L., N. Williams, L. F. Beck, T. Coleman, B. Robinson, J. Middaugh, and M. D. Author. Pedestrian Traffic Deaths among Residents, Visitors, and Homeless Persons — Clark County, Nevada, 2008–2011. *Morbidity and Mortality Weekly Report* 63, No. 28, 2014, p. 597.
21. KLS Engineering. *Step by Step Guide: National Pedestrian Safety Campaign.* FHWA-SA-03-006. https://safety.fhwa.dot.gov/local_rural/pedcampaign/guide.cfm, accessed August 20, 2005.

22. National Health Care for the Homeless Council. *Outreach and Enrollment Quick Guide: Promising Strategies for Engaging the Homeless Population.* 2014.
23. Zlotnick, C., S. Zerger, and P. B. Wolfe. Health Care for the Homeless: What We Have Learned in the Past 30 Years and What's Next. *American Journal of Public Health*, Vol. 103, No. S2, 2013, pp. 199–205.
24. Sandt, Laura, Libby Thomas, Kristen Langford, and Dan Nabors. *A Resident's Guide for Creating Safer Communities for Walking and Biking*. U.S. Department of Transportation, Federal Highway Administration, 2015.
25. Henry, Meghan, Rian Watt, Lily Rosenthal, and Azim Shivji. *The 2017 Annual Homeless Assessment Report (AHAR) to Congress*. U.S. Department of Housing and Urban Development, December 2017.
26. U.S. Department of Housing and Urban Development. *Preparedness Checklist: Warnings and Notifications to People Experiencing Homelessness.*
27. Johnson, Leslie, Sean Loughlin, Evan Rosenberg, Andrea Rosser, and Karla Weaver. *An Analysis of Pedestrian Safety Programs with Recommendations for Plan Development*. Florida Department of Transportation, 2005.
28. Mcinnes, K. Uses of Mobile Text Messaging to Engage Homeless Persons in Healthcare. Health Services Research and Development, U.S. Department of Veterans Affairs. https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=909, accessed August 20, 2018.
29. U.S. Interagency Council on Homelessness. *The Role of Outreach and Engagement in Ending Homelessness: Lessons Learned from SAMHSA's Expert Panel.* August 2016. https://www.usich.gov/resources/uploads/asset_library/Outreach_and_Engagement_Fact_Sheet_SAMHSA_USICH.pdf, accessed August 20, 2018.
30. Canavan, D., and Fran Ledger. *Send Red, Not Blue: The Homeless Resident*. U.S. Department of Housing and Urban Development, 2004.

Figure B-1 and Figure B-2 show outreach materials developed as part of the BE SAFE BE SEEN Initiative in Austin, Texas.

Figure B-1. Table Tents.

Figure B-2. Window Clings.