Permian Basin Regional Planning Commission

# COMPREHENSIVE SAFETY ACTION PLAN

DRAFT MARCH 2025

PERMIAN BASIN

Safety Action Plan

DRAFT

# TABLE OF CONTENTS

**Chapter 1: The Case for a Safety Action Plan ..... 8**
Introduction ..... 9
Project Overview ..... 10
Mission Statement ..... 10
Project Timeline ..... 12
Guiding Principles ..... 12

**Chapter 2: Engaging the Region ..... 16**
Introduction ..... 17
Regional Safety Steering Committee ..... 18
Public Engagement ..... 19
Pop-Up Events ..... 26
Stakeholder Interviews ..... 27
County Commission ..... 27

**Chapter 3: Safety Needs in the Permian Basin Region ..... 28**
Introduction ..... 29
Crash Analysis ..... 30
Crash Heat Map & Severities ..... 31
Societal Cost of Crashes ..... 33
Top Contributing Factors ..... 33
Top Contributing Factor by County ..... 34
Top Manners of Collision ..... 36
High Crash Intersections ..... 38
Top Manner of Collision by County ..... 38
Freight Related Crashes ..... 40
Vulnerable Road Users ..... 42
Top Safety Emphasis Area by County ..... 44
Equity Considerations ..... 46

**Chapter 4: High Injury Network & High Risk Network ..... 48**
Introduction ..... 49
High Injury Network ..... 50
High Risk Network ..... 55

**Chapter 5: Creating a Safer System ..... 62**
Introduction ..... 63
Systemic Countermeasure Toolbox ..... 64
Targeted Recommendations ..... 85

**Chapter 6: Promoting a Culture of Safety ..... 90**
Introduction ..... 91
Action Plan Structure ..... 92
Recommended Actions by Emphasis Area ..... 93
Annual Reporting & Transparency ..... 113

DRAFT

# LIST OF EXHIBITS

Exhibit 1 Counties within the Study Area....11
Exhibit 2 Interactive Map Survey....25
Exhibit 3 Crash Heat Map....32
Exhibit 4 Top Contributing Factor by County Map....35
Exhibit 5 Top Manner of Collision by County Map....37
Exhibit 6 High Crash Intersections....39
Exhibit 7 Freight Crash Map....41
Exhibit 8 Pedestrian and Bicyclist Crash Map....43
Exhibit 9 Top Emphasis Area by County Map....45
Exhibit 10 Overall vs. Transportation Disadvantaged Census Tracts....47
Exhibit 11 Critical Crash Rate Ratio Map....52
Exhibit 12 High Injury Network Map....54
Exhibit 13 High Risk Network Map....60
Exhibit 14 High Injury Network vs. High Risk Network....61
Exhibit 15 Study Locations....87

DRAFT

# LIST OF TABLES

Table 1 PBRPC CSAP Timeline of Meetings and Engagement Efforts ..... 12
Table 2. Pop-Up Events Attended for the Safety Action Plan ..... 26
Table 3 PBRPC Study Area Crash Trends (2019-2023) ..... 30
Table 4 Total Crash Count by County ..... 31
Table 5 Total Societal Cost of Crashes in the Study Area (2019 - 2023) ..... 33
Table 6 Top Contributing Factor by County ..... 34
Table 7 Top Manner of Collision by County ..... 38
Table 8 Intersection Crashes in Texas vs. the Study Area ..... 38
Table 9 High Crash Intersection (2019 - 2023) ..... 40
Table 10 Pedestrian and Bicyclists Crash Data (2019 - 2023) ..... 42
Table 11 Top Emphasis Area by County ..... 44
Table 12 Region vs. Disadvantaged Census Tracts Crash Severity Breakdown ..... 46
Table 13 Differences between High Injury and High Risk Networks ..... 50
Table 14 HIN Statistics by County ..... 53
Table 15 Top Emphasis Area for Each County ..... 55
Table 16 Focus Facilities for Each County ..... 56
Table 17 Speeding Risk Factors and Point Allocation ..... 58
Table 18 Intersection Risk Factors and Point Allocation ..... 58
Table 19 Roadway & Lane Departure Risk Factors and Point Allocation ..... 59
Table 20 Systemic Countermeasure Toolbox ..... 64
Table 21 Study Corridors ..... 86
Table 22 Recommendations for Each Study Location ..... 88
Table 23 Safety Emphasis Areas and Six E's of Safety ..... 92
Table 24 Recommendations Covering All Safety Emphasis Area ..... 94
Table 25 Roadway and Lane Departure Policy Recommendations ..... 98
Table 26 Intersection Safety Policy Recommendations ..... 100
Table 27 Occupant Protection Policy Recommendations ..... 101
Table 28 Speed-Related Policy Recommendations ..... 103
Table 29 Distracted Driving Policy Recommendations ..... 105
Table 30 Impaired Driving Policy Recommendations ..... 106
Table 31 Post-Crash Care Policy Recommendations ..... 109
Table 32 Post-Crash Care Policy Recommendations ..... 113

DRAFT

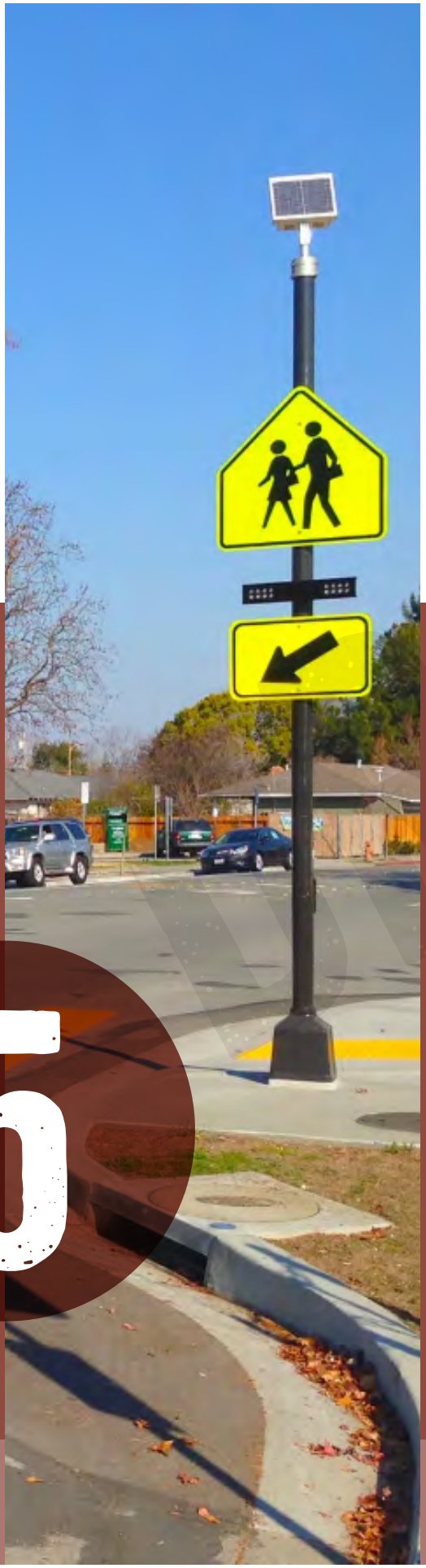
# LIST OF FIGURES

Figure 1 Components of a Comprehensive Safety Action Plan....12
Figure 2 Vision Zero Logo for FHWA....13
Figure 3 Six Key Principles of the Safe Systems Approach....14
Figure 4 Five Complementary USDOT Objectives Supporting the Safe Systems Approach....14
Figure 5 Photos from RSSC Meeting #3 in November 2024....18
Figure 6 Project Website....19
Figure 7 County Where Respondents Live and Work....20
Figure 8 Most Used Modes of Transportation within the Last 2 yrs....21
Figure 9 Residents Usage and Safety Opinions per Mode of Transportation....22
Figure 10 Top 5 Traffic Safety Concerns....23
Figure 11 Respondents Support of Different Actions to Improve Traffic Safety....23
Figure 12 Breakdown by Comment Type....24
Figure 13 PBRPC CSAP Pop-Up Meetings....27
Figure 14 PBRPC Study Area Crash Trends (2019-2023)....31
Figure 15 Top Contributing Factors....33
Figure 16 Top Manners of Collision....36
Figure 17 Example Crash Tree Result from Winkler County....56
Figure 18 Potential Risk Factor of Lane Width for Speed-related KAB Crashes....57
Figure 19 Leading Pedestrian Interval....65
Figure 20 Median and Pedestrian Refuge Island....66
Figure 21 Pedestrian Hybrid Beacon....67
Figure 22 Median and Pedestrian Refuge Island....68
Figure 23 Enhanced Delineation....69
Figure 24 Longitudinal Rumble Strips....70
Figure 25 Wider Edge Lines....71
Figure 26 Speed Limit Sign....72
Figure 27 Bike Lane....73
Figure 28 Crosswalk Visibility Enhancements....74
Figure 29 Rectangular Rapid Flashing Beacons....75
Figure 30 Sidewalks....76
Figure 31 Median Barriers....77
Figure 32 Retroreflective Backplates....78
Figure 33 Corridor Access Management....79
Figure 34 Dedicated Left-and Right-Turn Lanes....80
Figure 35 RCUT (top) and MUT (bottom) Intersections....81
Figure 36 Roundabouts....82
Figure 37 Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections....83
Figure 38 Yellow Change Intervals....84
Figure 39 Targeted Lighting....85
Figure 40 PBRPC's "News & Resources" Webpage....95
Figure 41 Campaign Materials from NHTSA and TxDOT....95
Figure 42 Example of a Complete Street....96

DRAFT

Figure 43 TxDOT's "Report an Issue" Webpage ..... 96
Figure 44 NHTSA's "5-Star Safety Ratings" Database ..... 97
Figure 46 Texas Safety Rest Areas Map ..... 99
Figure 45 Cattle Ranch Fencing ..... 99
Figure 47 Student during Driver Education ..... 100
Figure 48 Proven Safety Countermeasures for Intersections ..... 101
Figure 49 Student during Driver Education ..... 102
Figure 50 Click It or Ticket Campaign for Texas ..... 102
Figure 51 Sand Hauling Truck ..... 103
Figure 52 Police Traffic Stop ..... 104
Figure 53 Texas Commercial Motor Vehicle Drivers Handbook ..... 104
Figure 54 Areas of Focus for United Way of Midland ..... 107
Figure 55 NHTSA's "Countermeasures That Work" for Alcohol-Impaired Driving ..... 108
Figure 56 Mothers Against Drunk Driving Website ..... 108
Figure 57 US DHS Real ID Message ..... 110
Figure 58 First Responders Administering Medical Care ..... 110
Figure 59 STEP Resources Webpage ..... 111
Figure 60 Refurbished Apparatus as a Block Vehicle from the City of Irving, TX ..... 112
Figure 61 Example of a Dynamic Message Board ..... 112

DRAFT



5

# Creating a Safer System


**Introduction**

**Systemic Countermeasure Toolbox**

**Targeted Recommendations**


DRAFT

DRAFT

# INTRODUCTION

Chapter 5 outlines the countermeasure-based recommendations for the CSAP. During the planning process, each county in the study area was examined individually to identify a location with the highest potential for improvement by safety countermeasures. In total, 18 locations were recommended based on crash history roadway geometry, existing intersection control, and context. In addition to the targeted recommendations for the 18 corridors and intersections, a Systemic Countermeasures Toolbox was developed. This toolbox consists of a variety of roadway countermeasures that can be used by member cities and counties to enhance safety on their roadways. Member organizations are encouraged to use this document and its countermeasures as the foundation for improving traffic safety throughout the study area and eliminating roadways deaths and severe injuries.

# SYSTEMIC COUNTERMEASURE TOOLBOX

This section of the Plan details specific countermeasures that can be implemented in all cities and counties in the region that can improve safety. Due to the varying roadway environments in the region, the PBRPC systemic countermeasure toolbox is organized by context: rural, urban, or both. This will aid in selecting the appropriate countermeasure based on the context of the area the roadway is in. Countermeasures in the toolbox can be applied to any roadway in the study area, but roads that are within disadvantaged census tracts or on the high injury or high risk networks should be prioritized. Additionally, all countermeasures in the toolbox are also recommended in the FHWA's Proven Safety Countermeasures list. Implementing countermeasures on these specific roads can have a significant impact on the number of severe crashes in the region. The systemic countermeasures toolbox shown in **Table 20** is a comprehensive collection of strategies and countermeasures designed to address specific traffic safety issues.

**Table 20** Systemic Countermeasure Toolbox

| Context | Countermeasures | Cost Rating | Safety Rating | Crash Modification Factor (CMF) | Page Number |
|---|---|---|---|---|---|
| Urban | Leading Pedestrian Interval | Low | Medium | 0.81 | 65 |
| | Medians and Pedestrian Refuge Islands | Medium | High | 0.685 | 66 |
| | Pedestrian Hybrid Beacons | Medium-High | Medium | 0.883 | 67 |
| | Roadway Reconfiguration | Low | High | 0.53 | 68 |
| Rural | Enhanced Delineation for Horizontal Curves | Low | Medium | 0.63-0.652* | 69 |
| | Longitudinal Rumble Strips and Stripes on Two-Lane Roads | Low | Medium | 0.80 | 70 |
| | Wider Edge Lines | Low | Low | 0.635 | 71 |
| Both | Appropriate Speed Limits | Low | Medium | 0.856 | 72 |
| | Bike Lanes | Medium | High | 0.435 | 73 |
| | Crosswalk Visibility Enhancements | Low | High | 0.60 | 74 |
| | Rectangular Rapid Flashing Beacons (RRFB) | Medium | High | 0.31 | 75 |
| | Sidewalks | High | High | 0.598 | 76 |
| | Median Barriers | Medium | High | 0.29 | 77 |
| | Retroreflective Backplates | Low | Medium | 0.85 | 78 |
| | Corridor Access Management | Medium-High | Low | 0.93 | 79 |
| | Dedicated Left- and Right-Turn Lanes at Intersections | Low-Medium | Medium-High | 0.52 – 0.74* | 80 |
| | Reduced Left-Turn Conflict Intersections | High | Medium | 0.633 – 0.8* | 81 |
| | Roundabouts | High | High | 0.59 | 82 |
| | Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections | Low | Medium | 0.734 | 83 |
| | Yellow Change Intervals | Low | Low | 0.99 | 84 |
| | Targeted Lighting | Medium | High | 0.68 | 85 |

** Depending on Context*

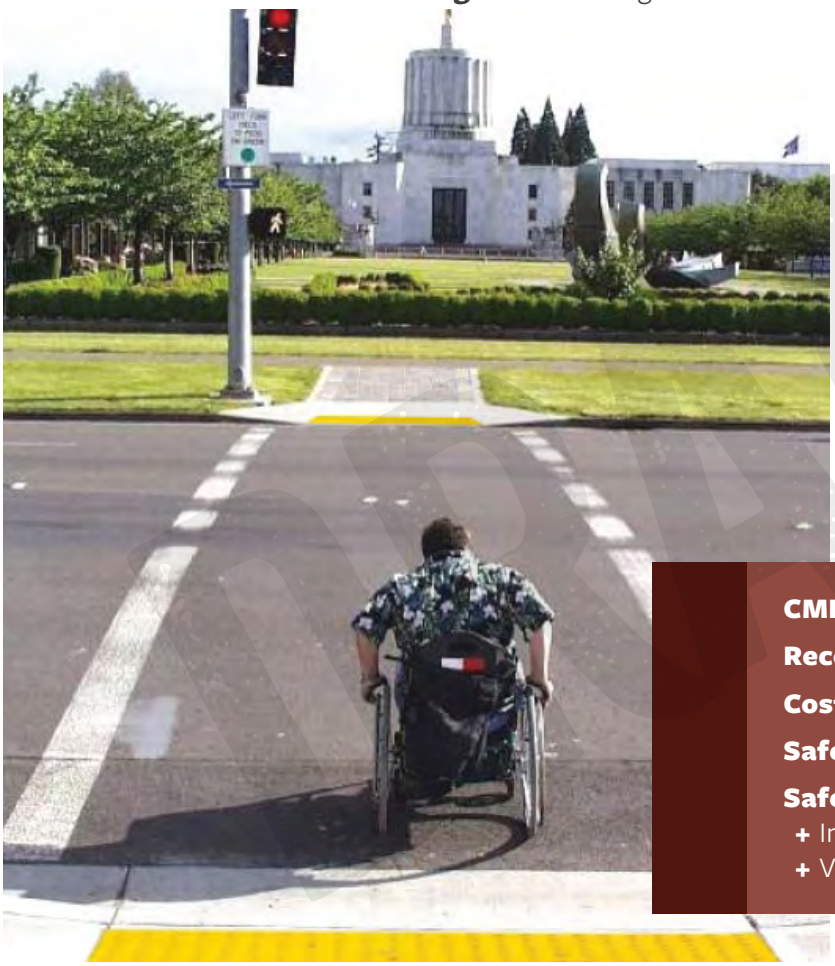
DRAFT

## Urban Context Countermeasures

### *Leading Pedestrian Interval*

A leading pedestrian interval gives pedestrians an opportunity to enter a crosswalk at an intersection 3 – 7 seconds before vehicles are given a green indication (**Figure 19**). Giving vulnerable road users this extra time, allows them to establish their presence on the crosswalk so drivers are clearly aware of their presence. LPIs reduce pedestrian crashes by 13% by increasing the visibility of crossing pedestrians, reducing conflicts between drivers and pedestrians, increasing the likelihood of drivers to yield to pedestrians, and allowing extra time for people who may need it to cross (FHWA).

**Figure 19** Leading Pedestrian Interval



**CMF:** 0.81 (vehicle/pedestrian)

**Recommended Context:** Urban

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**
- Intersection Safety
- Vulnerable Road Users

*Source: FHWA*

DRAFT

### *Medians and Pedestrian Refuge Islands*

For pedestrians to cross a roadway safely, they must consider many factors such as vehicle speed, acceptable gap distance, and vehicle paths. Installing medians or pedestrian refuge islands can help improve safety by allowing pedestrians to cross one direction of traffic at a time (**Figure 20**). Medians are areas between opposing lanes of traffic and are typically defined in urban and suburban areas by pavement markings or raised islands. Pedestrian refuge islands are medians with a refuge area that gives pedestrians a protected area to wait before crossing the other part of the road. These countermeasures should be considered in areas with a significant mix of pedestrian vehicle traffic, volumes over 9,000 vehicles per day, and travel speeds greater than 35 MPH. Each one of these countermeasures significantly decreases the number of pedestrian crashes; medians with marked crosswalks reduce by 46% while pedestrian refuge islands reduce by 56% (FHWA).

**Figure 20** Median and Pedestrian Refuge Island

*Source: FHWA*

**CMF:** 0.29

**Recommended Context:** Urban

**Cost Rating:** Medium

**Safety Rating:** High

**Safety Emphasis Area Addressed:**
- Roadway & Lane Departures
- Impaired Driving
- Speed-Related
- Occupant Protection
- Vulnerable Road Users

DRAFT

### *Pedestrian Hybrid Beacons*

A pedestrian hybrid beacon (PHB) is a traffic control device designed to aid pedestrians in crossing at midblock locations and uncontrolled intersections (**Figure 21**). The PHB is the intermediate option between a flashing beacon and a full pedestrian signal since it assigns the right of way to pedestrians and provides positive stop control. These are the most effective at locations where 3 or more lanes will need to be crossed, traffic volumes exceed 9,000 AADT, and travel speeds exceed 35 MPH. If PHBs are not already familiar with the community, agencies should conduct educational campaigns and outreach efforts as part of the implementation. With proper implementation, PHBs can reduces up to 55% of pedestrian crashes or 29% of all crashes (FHWA).

**Figure 21** Pedestrian Hybrid Beacon

*Source: City of San Luis Obispo*

**CMF:** 0.432 (vehicle/pedestrian)

**Recommended Context:** Urban

**Cost Rating:** Medium-High

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**

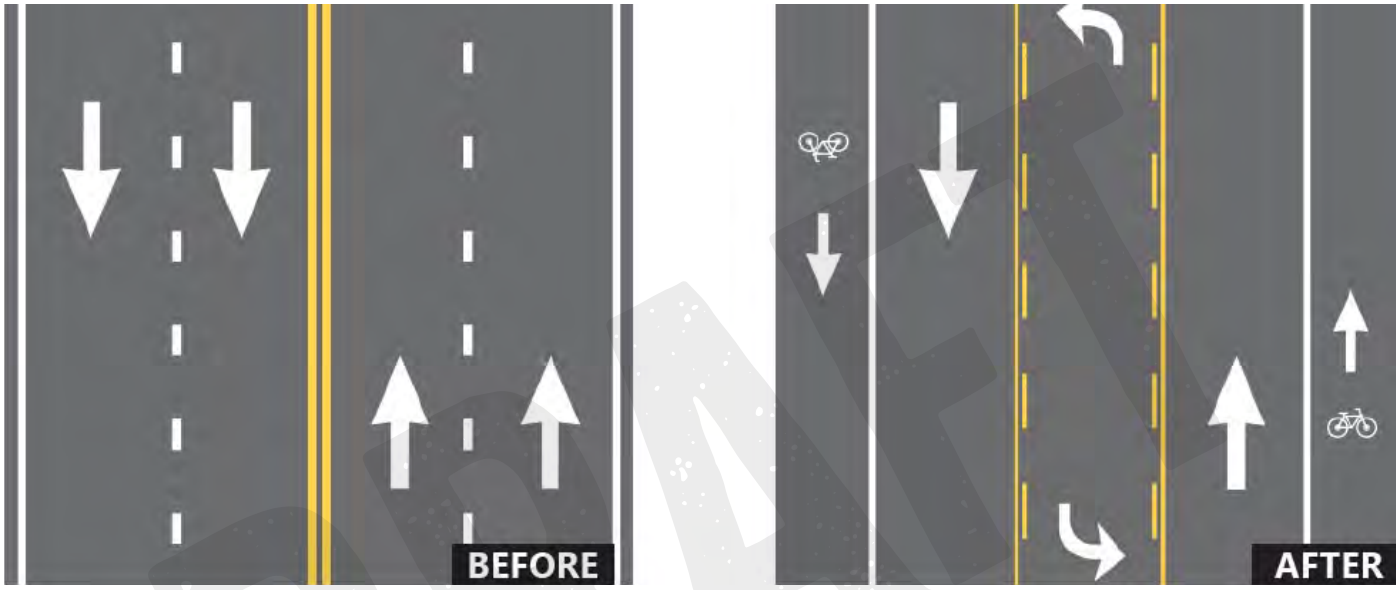
- Roadway & Lane Departures
- Distracted Driving
- Speed-Related
- Vulnerable Road Users

DRAFT

### *Roadway Reconfiguration*

Roadway reconfigurations, also known as road diets, can improve safety by calming traffic, providing better mobility and access for all road users, and enhancing overall quality of life within a community. This countermeasure typically involves converting an existing four-lane undivided roadway into a three-lane roadway that has two through lanes and a center two-way left turn lane (**Figure 22**). Roadway reconfigurations can be a low-cost safety countermeasure if planned alongside a pavement overlay. In the context of a 4-lane to 3-lane roadway reconfiguration, a road segment can experience a 19 – 47% reduction in crashes.

**Figure 22** Median and Pedestrian Refuge Island




*Source: FHWA*

**CMF:** 0.53

**Recommended Context:** Urban

**Cost Rating:** Low

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

+ Roadway & Lane Departures
+ Distracted Driving
+ Speed Related
+ Vulnerable Road Users
+ Occupant Protection

DRAFT

## Rural Context Countermeasures

### *Enhanced Delineation for Horizontal Curves*

Enhanced delineation for horizontal curves includes a variety of implementation strategies including pavement markings, in-lane curve warning pavement markings, retroreflective strips on signposts, delineators, chevron signs, enhanced conspicuity, dynamic curve warning signs, and sequential dynamic chevrons (**Figure 23**). Enhanced delineation can improve safety by alerting drivers of upcoming curves. Enhanced delineation methods can be used in both in advance of curves and within curves. Sequential dynamic warning signs are one of the most effective forms of enhanced delineation for horizontal curves reducing fatal and injury crashes by up to 60% (FHWA).

**Figure 23** Enhanced Delineation

*Source: FHWA*

**CMF:** 0.63-0.652 (depending on what strategy used and context)

**Recommended Context:** Rural

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**
- Roadway & Lane Departure
- Distracted Driving
- Speed Related

DRAFT

### *Longitudinal Rumble Strips and Stripes on Two-Lane Roads*

Longitudinal rumble strips and stripes on two-lane roads are milled or raised elements created to alert drivers in the case that they leave the traveled way through creating a noise and vibration in the case that the vehicle travels over them (**Figure 24**). This relatively low-cost countermeasure is used to prevent against lane departure collision. A two-lane road can experience a 44-64% reduction of head-on fatal and injury crashes with the installation of center line rumble strips (FHWA).

**Figure 24** Longitudinal Rumble Strips

*Source: FHWA*

**CMF:** 0.80 (All)

**Recommended Context:** Rural

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**

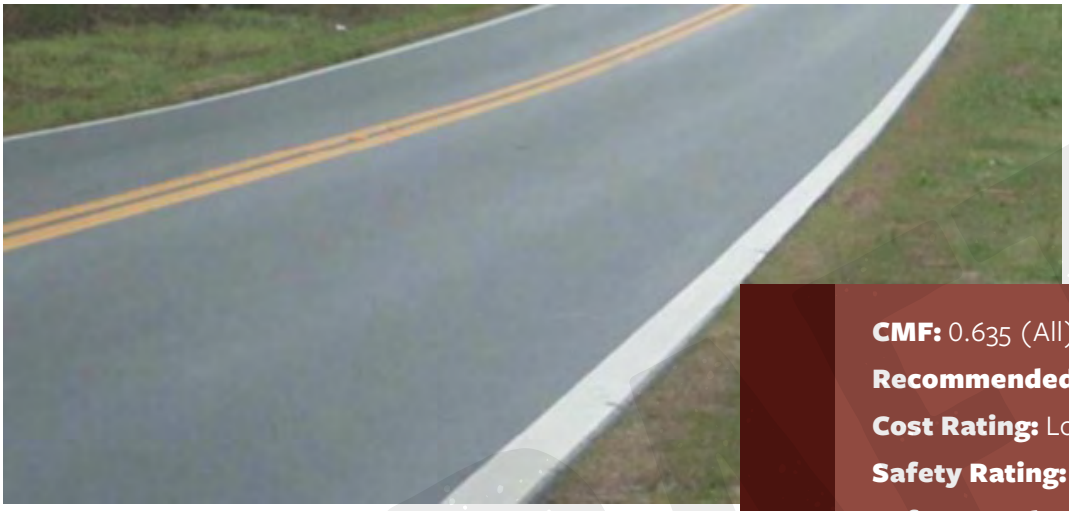
+ Roadway & Lane Departures
+ Impaired Driving
+ Occupant Protection
+ Speed Related
+ Vulnerable Road Users

DRAFT

### *Wider Edge Lines*

Wider edge lines are defined as increasing the edge striping from the minimum normal width of 4 inches to the maximum normal width of 6 inches (**Figure 25**). Wider edge lines can improve roadway safety by increasing visibility and reducing lane departure crashes. Wider edge lines are an effective low-cost strategy to reduce roadway departure crashes for all facility types. Wider edge lines installed on rural two-lane roads can lead to a 37% reduction in non-intersection related fatal and injury crashes (FHWA).

**Figure 25** Wider Edge Lines



*Source: FHWA*

**CMF:** 0.635 (All)

**Recommended Context:** Rural

**Cost Rating:** Low

**Safety Rating:** Low

**Safety Emphasis Area Addressed:**

+ Roadway & Lane Departure
+ Impaired Driving

DRAFT

## All Context Countermeasures

### *Appropriate Speed Limits*

While posted speed limits are typically the same as legislative statutory speed limits, agencies with the power to set speed limits can establish non-statutory speed limits or designated reduced speed zones (**Figure 26**). According to FHWA, reducing speed is one of the most important methods for reducing fatalities and serious injuries. Although drivers may feel that their speed feels reasonable, it may not be when considering the details of the entire corridor; this could include roadway conditions and all other users of the system such as children and seniors. A driver travelling at 30 miles per hour (MPH) who hits a pedestrian has a 45% chance of killing or seriously injuring them, but at 20 MPH that percentage drops to 5%. To protect all users of the roadway system, not only drivers, the FHWA strongly supports the reduction of speed limits where appropriate.

**Figure 26** Speed Limit Sign

**CMF:** 0.856

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**

+ Occupant Protection
+ Unsafe Speed
+ Vulnerable Road Users

*Source: FHWA*

### *Bike Lanes*

A bike lane is a designated area of roadway that is reserved for bicycles, typically marked with pavement marking and signage (**Figure 27**). Similarly to pedestrian crashes, most bicyclist related crashes do not occur at intersections usually due to motorists overtaking bicyclists. Bike lanes provide a dedicated space for bicyclists to ride in which improves safety by reducing the interaction with vehicles and encourages more people to choose bicycling as their mode of transportation. Since there are several types of bike lanes that can be implemented, FHWA's Bikeway Selection Guide and the Incorporating On-Road Bicycle Network into Resurfacing Projects documents can assist agencies in determining which facility provides the most benefit based on the roadway and land use context. In urban settings, bike lanes can reduce crashes by up to 49% for total crashes on 4-lane undivided collectors and local roads or 30% for total crashes on 2-lane undivided collectors and local roads (FHWA).

**Figure 27** Bike Lane

*Source: Adobe Stock*

**CMF:** 0.435 (All Crashes)

**Cost Rating:** Medium

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

- Impaired Driving
- Distracted Driving
- Occupant Protection
- Unsafe Speed
- Vulnerable Road Users

### *Crosswalk Visibility Enhancements*

For multilane roadway crossings where vehicle volumes exceed 10,000 Average Annual Daily Traffic (AADT), a marked crosswalk alone is typically not sufficient. Under these circumstances, visibility enhancements should be implemented to prevent potential pedestrian crashes. Crosswalk visibility enhancements encompass multiple strategies that can be used together or alone (**Figure 28**). The 3 main visibility enhancements are high visibility crosswalks, increased lighting, and pavement markings and signing. Out of these enhancements, intersection lighting produces the greatest reduction in pedestrian crashes with up to a 42% reduction according to the FHWA.

**Figure 28** Crosswalk Visibility Enhancements

*Source: FHWA*

**CMF:** 0.6

**Cost Rating:** Low

**Safety Rating:** High

**Safety Emphasis Area Addressed:**
- Distracted Driving
- Intersection Safety
- Vulnerable Road Users

DRAFT

### *Rectangular Rapid Flashing Beacons (RRFB)*

To enhance driver awareness of pedestrians at uncontrolled, marked crosswalks, rectangular rapid flashing beacons can be installed. RRFBs are pedestrian-activated traffic control device that consist of two-rectangular shaped yellow indications, each with a LED light source, that flash with an alternating high frequency (**Figure 29**). This countermeasure is particularly effective at multilane crossings with speed limits less than 40 MPH. According to FHWA, RRFBs can increase motorists yielding rates up to 98% and decrease pedestrian crashes by 47%.

**Figure 29** Rectangular Rapid Flashing Beacons

*Source: Kimley-Horn*

**CMF:** 0.31 (pedestrian/vehicle)

**Cost Rating:** Medium

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

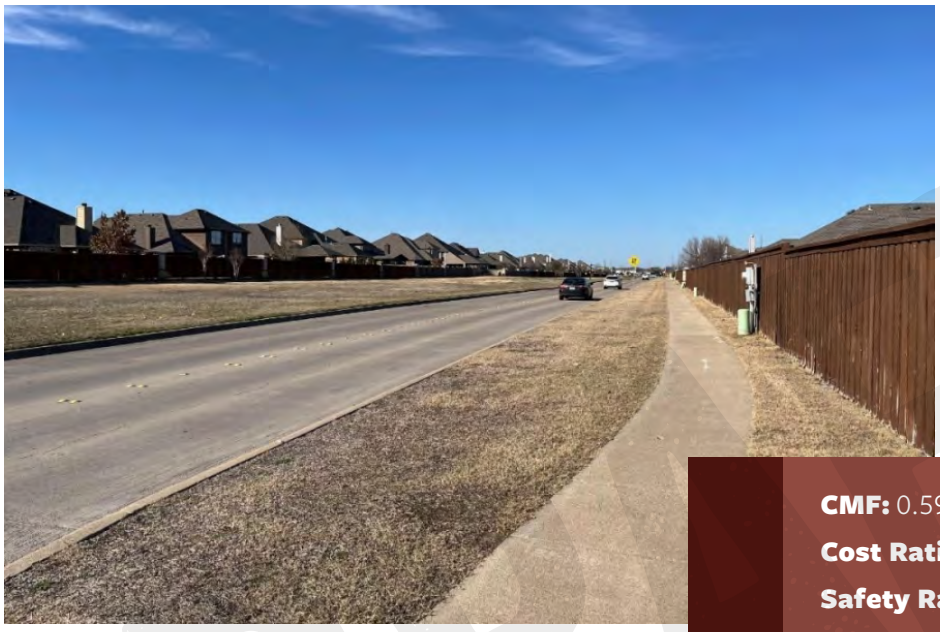
+ Intersection Related
+ Distracted Driving
+ Speed Related
+ Vulnerable Road Users

DRAFT

### *Sidewalks*

Sidewalks provide a designated pathway for vulnerable road users that is separate from motorists (**Figure 30**). Sidewalks can improve pedestrian safety, encourage modes of active transportation, and improve quality of life. Installation of sidewalks is particularly beneficial in areas of increased pedestrian activity such as near schools, parks, and transit locations. Creating physical separation between vulnerable road users and motorists through installation of sidewalks can cause a 65-89% reduction in crashes involving pedestrians walking along roadways (FHWA).

**Figure 30** Sidewalks



*Source: communityimpact.com*

**CMF:** 0.598 (vehicle/pedestrian)

**Cost Rating:** High

**Safety Rating:** High

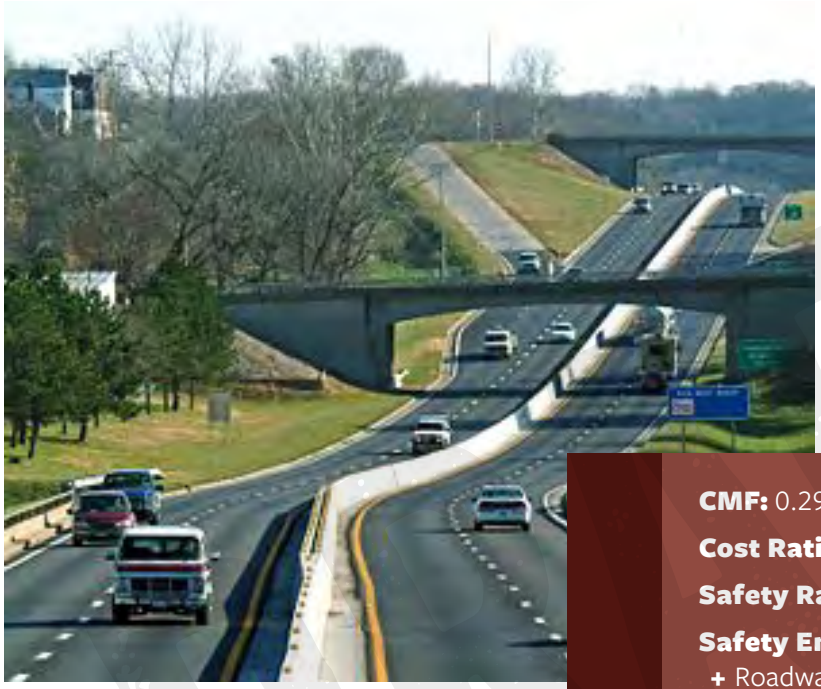
**Safety Emphasis Area Addressed:**
+ Vulnerable Road Users

DRAFT

### *Median Barriers*

Median barriers are longitudinal barriers separating opposing traffic. These barriers are intended to prevent against and limit collisions involving oncoming traffic crossing over the median. Median barriers can come in various forms, cable barriers, metal-beam guardrails, and concrete barriers (**Figure 31**). Head on collisions on divided highways have an 8% fatality rate, if median barriers are installed on rural four-lane freeways cross-median crashes can experience up to a 97% reduction (FHWA).

**Figure 31** Median Barriers



*Source: Missouri Department of Transportation*

**CMF:** 0.29 (All)

**Cost Rating:** Medium

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

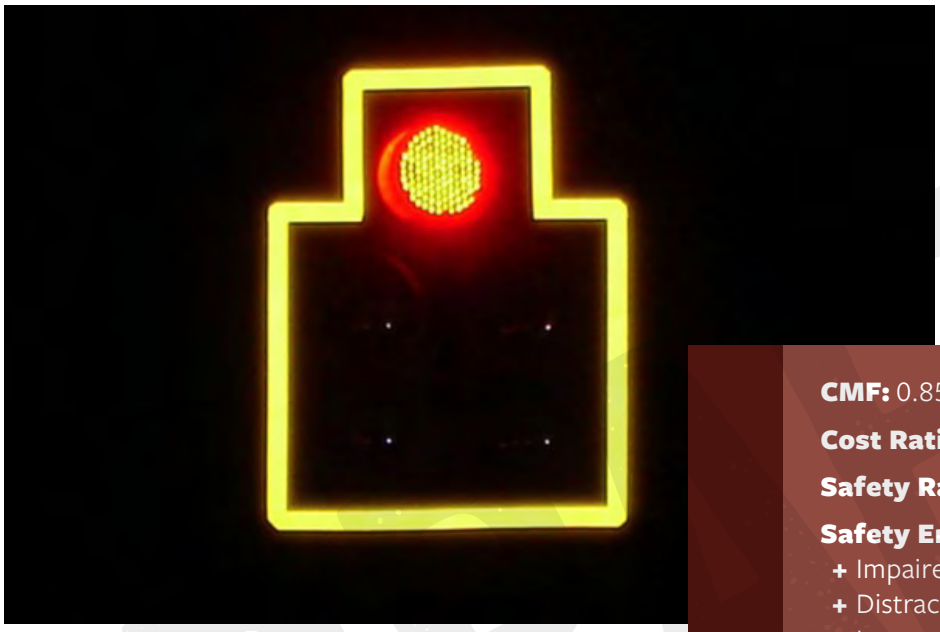
- Roadway & Lane Departures
- Impaired Driving
- Occupant Protection
- Speed Related
- Vulnerable Road Users

DRAFT

### *Retroreflective Backplates*

Retroreflective backplates are backplates with a 1–3-inch yellow retroreflective border (**Figure 32**), these backplates are installed on signal heads to improve signal head visibility during both day and nighttime conditions. Installing a retroreflective backplate to an existing signal head or installing retroreflective tape to the border of existing backplate is a low-cost method of improving roadway safety by increasing visibility. Intersection related crashes can experience up to a 15% reduction in total crashes with this cost-effective countermeasure (FHWA).

**Figure 32** Retroreflective Backplates



*Source: FHWA*

**CMF:** 0.85

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**

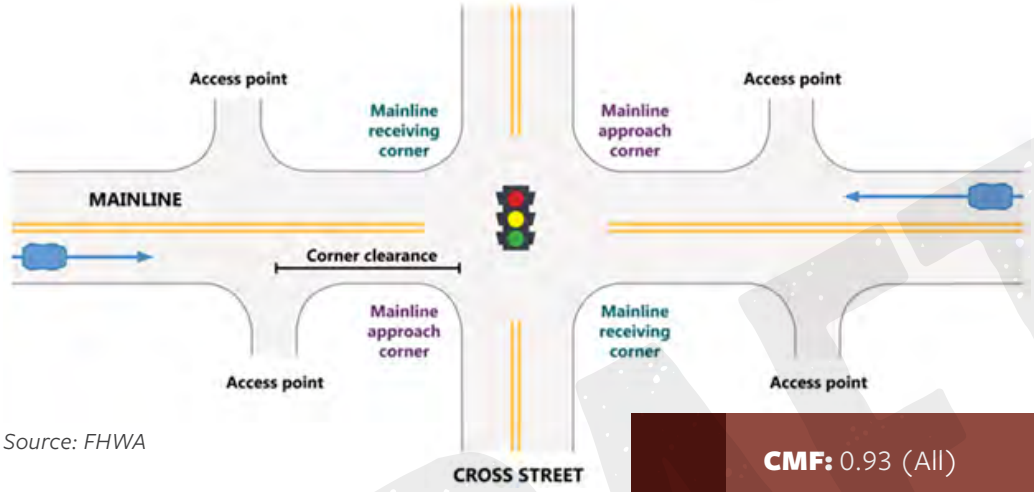
+ Impaired Driving
+ Distracted Driving
+ Intersection Safety

DRAFT

### *Corridor Access Management*

Corridor access management pertains to the control of entry and exit points along a roadway (**Figure 33**). Proper corridor access management can improve safety for roadway users of all modes throughout the corridor through limiting the number of points of conflict. Access management can also reduce congestion and improve bicycling and walking conditions. Urban and Suburban arterials benefit greatly from corridor access management implementation and can experience a 25-31% reduction in fatal and injury crashes (FHWA).

**Figure 33** Corridor Access Management




*Source: FHWA*

**CMF:** 0.93 (All)

**Cost Rating:** Medium-High

**Safety Rating:** Low

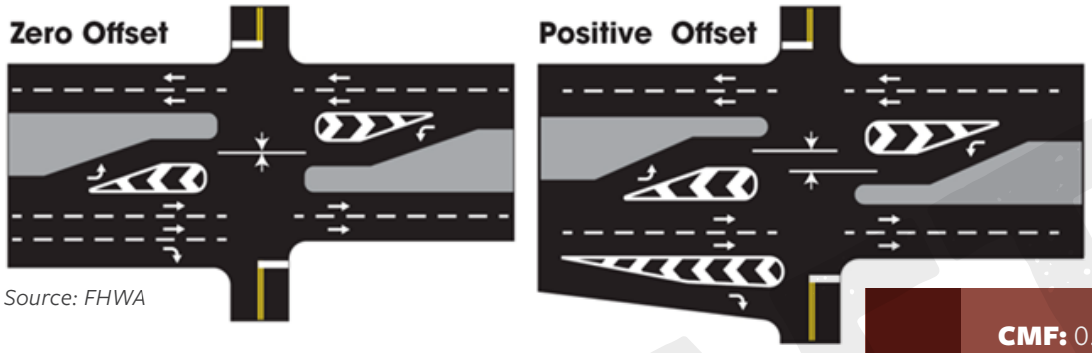
**Safety Emphasis Area Addressed:**
+ Intersection Safety

DRAFT

### *Dedicated Left- and Right-Turn Lanes at Intersections*

Dedicated left-and right-turn lanes at Intersections improve traffic safety by separating turning traffic and through traffic allowing a space for vehicles turning to safely decelerate as well as wait for a safe turning opportunity (**Figure 34**). Dedicated turning lanes are particularly beneficial at reducing turning and rear-end collisions at two-way stop-controlled intersections. Installing dedicated right-turn lanes can reduce crashes by 14-26% while installing dedicated left-turn lanes can have an even greater impact, reducing crashes 28-48% (FHWA).

**Figure 34** Dedicated Left-and Right-Turn Lanes




*Source: FHWA*

**CMF:** 0.52 – 0.74 (All)

**Cost Rating:** Low-Medium

**Safety Rating:** Medium-High

**Safety Emphasis Area Addressed:**

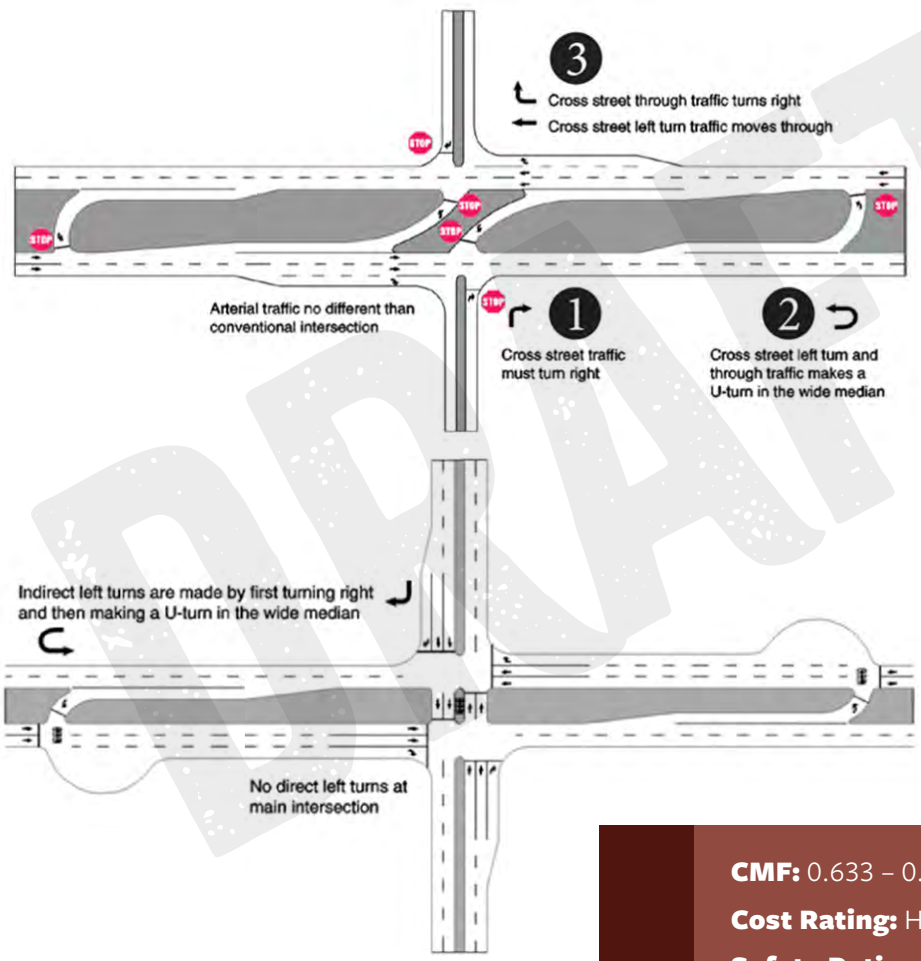
+ Intersection Safety

DRAFT

### *Reduced Left-Turn Conflict Intersections*

Reduced left-turn conflict intersections are intersections designed change how drivers make left-turn movements through simplifying decision making at intersections. The two methods used are both involving U-Turns to complete certain left-turn movements (**Figure 35**). The methods used are the restricted crossing U-turn (RCUT) and the median U-turn (MUT). Reduced left-turn conflict intersections improve traffic safety through reducing points of conflict and simplifying turning movements. An unsignalized intersection converted into an unsignalized MUT can experience a 30% reduction in intersection related injury crashes. Converting an unsignalized intersection into an unsignalized RCUT can create a bigger reduction in intersection related fatal and injury crashes, reducing crashes up to 63% (FHWA).

**Figure 35** RCUT (top) and MUT (bottom) Intersections




*Source: FHWA*

**CMF:** 0.633 – 0.8 (All)

**Cost Rating:** High

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**
+ Intersection Safety
+ Vulnerable Road Users

DRAFT

### *Roundabouts*

Roundabouts are an intersection configuration in which traffic circulates in a circular pattern around a central island (**Figure 36**). Traffic entering the circular flow of traffic must yield to traffic already circulating within the intersection. Roundabouts safely and efficiently move traffic, reducing points of conflict, congestion, and speed resulting in reduced crash severity. According to FHWA conversion of a two-way stop-controlled intersection into a roundabout can cause up to an 82% reduction in fatal and injury crashes.

**Figure 36** Roundabouts

*Source: Tippah County, MS News*

**CMF:** 0.59 (All)

**Cost Rating:** High

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

+ Intersection Safety
+ Speed Related
+ Distracted Driving
+ Vulnerable Road Users

### *Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections*

This countermeasure involves the application of multiple low-cost countermeasures. Examples include enhancing signage and pavement markings at stop-controlled intersection throughout a corridor (**Figure 37**). Through implementing multiple low-cost methods at stop-controlled intersections resources can be maximized and a high number of intersections can be treated with these highly cost-effective methods. Rural intersections can particularly benefit from being treated with multiple low-cost countermeasures and can experience as much as a 27% decrease in fatal and injury crashes (FHWA).

**Figure 37** Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections

*Source: Pennsylvania Department of Transportation*

**CMF:** 0.734 (All)

**Cost Rating:** Low

**Safety Rating:** Medium

**Safety Emphasis Area Addressed:**

+ Intersection Safety
+ Distracted Driving
+ Speed Related

DRAFT

### *Yellow Change Intervals*

Yellow Change Intervals refer to the length of the yellow change indicator (**Figure 38**). Yellow Change Intervals are important due to the impact they can have on the number of instances of red-light running at intersections. Poorly timed Yellow Change Intervals, whether too short or too long, can cause confusion for drivers and increase chances of intersection related collisions. With proper timing of Yellow Change Intervals red-light running can be decreased 36-50% decreasing total crashes by 8-14% (FHWA).

**Figure 38** Yellow Change Intervals

**CMF:** 0.99 (All)

**Cost Rating:** Low

**Safety Rating:** Low

**Safety Emphasis Area Addressed:**

+ Intersection Safety
+ Speed Related
+ Vulnerable Road Users

*Source: driveincontrol.org*

DRAFT

### *Targeted Lighting*

Targeted Lighting refers to the installation of lighting to bring illumination up to or above recommended standards. Through improving visibility drivers can safely navigate roadways at night allowing drivers to see roadway conditions at distances not allowable by headlights alone (**Figure 39**). Proper Lighting improves safety for roadway users of all modes through improving visibility and comfortability. Installation of Targeted Lighting can reduce pedestrian related nighttime crashes by up to 42%.

**Figure 39** Targeted Lighting

**CMF:** 0.68 (All)

**Cost Rating:** Medium

**Safety Rating:** High

**Safety Emphasis Area Addressed:**

+ Roadway & Lane Departures
+ Intersection Safety
+ Vulnerable Road Users

*Source: Pheonix Lighting*

DRAFT

# TARGETED RECOMMENDATIONS

Projects and recommendations that would enhance safety were chosen after conducting in-field observations to ensure a wholistic understanding of the existing conditions and crash history at those locations. A memorandum summarizing the in-field observations, field photos, and preliminary recommendations can be found in the Appendix. The following section summarizes the existing conditions, crash history, corridor recommendations, and intersection recommendations for each of the study locations.

## Study Corridors

Eighteen roadway segments and intersections were selected from the high injury and high risk networks to be priority corridors. The chosen corridors and intersections received targeted recommendations that will improve safety on some of the most unsafe roads in the study area. The 18 study locations were selected based on the following criteria:

| Equity | Engagement | Feasibility | Priority Corridor |
|---|---|---|---|
| Disadvantaged Areas (USDOT ETC Explorer)<br>Transportation Disadvantaged Areas (USDOT ETC Explorer) | Social Pinpoint Map Survey Comments<br>RSSC Study Area Comments (from Meeting 2)<br>RSSC Priority Corridor Selection (from Meeting 3) | Current Roadway Projects<br>TxDOT On/Off System | Located on the HIN<br>Located on the HRN |

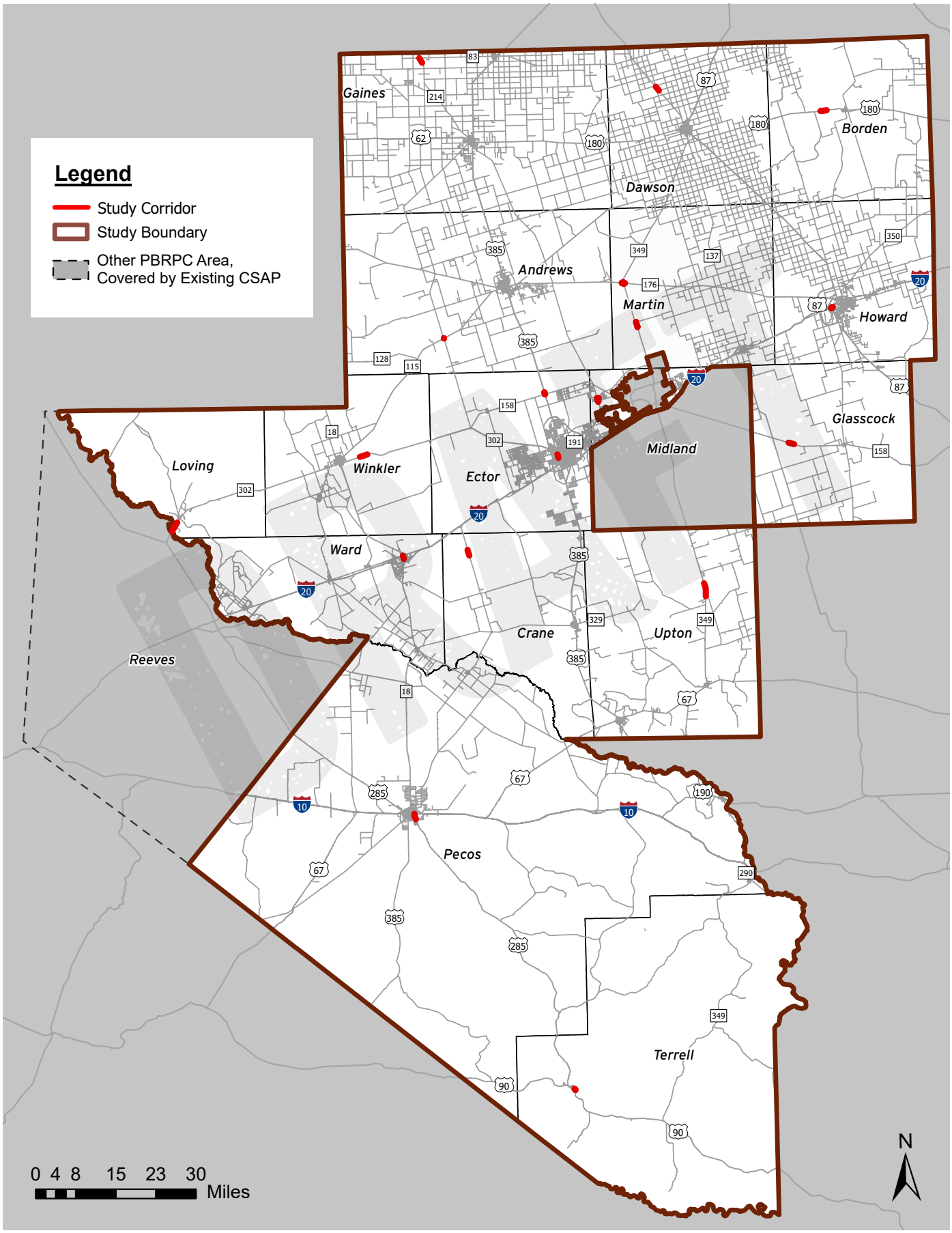
The eighteen study locations are summarized below in **Table 21**. The study locations together compose of 15.6 miles of roadway and capture 189 KAB crashes. A study location was selected for each county in the study as shown in **Exhibit 15** on page 87.

**Table 21** Study Corridors

| Study Corridor | County | Limits | | | Crashes | |
|---|---|---|---|---|---|---|
| | | From | To | Length (mi) | KAB Count | County Crash Count |
| **SH 115 & FM 181** | Andrews | Intersection | | | 28 | 1,954 |
| **US 180** | Borden | Private Drive | 6,200 ft East from Private Drive | 1.17 | 3 | 96 |
| **FM 1053** | Crane | Private Drive | 5,900 ft South of Private Drive | 1.13 | 5 | 374 |
| **SH 137** | Dawson | CR 8 | CR H | 0.86 | 2 | 1,091 |
| **N County Rd W** | Ector | W 16th St | W 24th St | 0.67 | 36 | 24,393 |
| **US 385** | Ector | SH 158 | 2,000 ft North of SH 158 | 0.37 | 11 | 24,393 |
| **SH 214** | Gaines | 5,280 ft South of FM 2056 | FM 2056 | 1.00 | 8 | 1,369 |
| **SH 158** | Glasscock | 16,400 ft East of SH 137 | 5,700 ft East from Starting Point | 1.04 | 5 | 246 |
| **IH 20 Business Loop** | Howard | Frazier St | FM 700 | 0.34 | 6 | 3,879 |
| **SH 302** | Loving | 500 ft East from the County Border | 10,400 ft North of the Starting Point | 1.95 | 4 | 363 |
| **SH 349** | Martin | 5,200 ft South of CR 3200 | 400 ft North of CR 3200 | 1.08 | 22 | 1,362 |
| **SH 176 & SH 349** | Martin | Intersection | | | 10 | 1,362 |
| **FM 1788 & SH 349** | Midland | Intersection | | | 27 | 4,312 |
| **US 285** | Pecos | Old Cemetary Rd | E Dickerson Blvd | 1.08 | 7 | 1,911 |
| **US 90** | Terrell | Legion St | Georgia Ave | 0.35 | 2 | 120 |
| **US 349** | Upton | 1,000 ft South of CR 115 | 2,500 ft North of CR 205 | 2.48 | 7 | 356 |
| **SH 18** | Ward | W 10th St | IH 20 Business Loop | 0.64 | 8 | 1,549 |
| **SH 302** | Winkler | 14,500 ft East of CR 313 | 7,300 ft East of Starting Point | 1.47 | 7 | 1,228 |

DRAFT

**Exhibit 15** Study Locations



## Recommendations for Study Locations

For each study location, targeted recommendations were given that would apply for either the entire study location or at specific intersection along the corridor. **Table 22** summarizes the recommended countermeasures for each study location by County. Detailed summary sheets with the study location's existing conditions, crash history, and targeted recommendations are in the Appendix for reference.

**Table 22** Recommendations for Each Study Location

| County | Location | Recommended Countermeasures |
|---|---|---|
| **Andrews** | SH 115 & FM 181 | + Before/After Study to Evaluate Recent Improvements |
| **Borden** | US 180 from Private Drive to 6,200 ft east of Private Drive | + Lighting<br>+ Appropriate Speed Limits<br>+ Longitudinal Rumble Strips<br>+ Improved Signage |
| **Crane** | FM 1053 from Private Drive to 5,900 ft South of Private Drive | + Lighting<br>+ Longitudinal Rumble Strips<br>+ Improved Signage<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections Dedicated Left- and Right- Turn Lanes Shoulder Expansion |
| **Dawson** | SH 137 from CR 8 to CR H | + Refresh Pavement Markings<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Add a "No Passing" Zone<br>+ Add a Wide Edge Line |
| **Ector** | N County Rd West from West 16th St to West 24th St | + Sidewalks<br>+ Refresh Pavement Markings<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Retroreflective Backplates<br>+ Access Management<br>+ Leading Pedestrian Intervals |
| **Ector** | US 385 from SH 158 to 2,000 ft north | + Appropriate Speed Limits<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Install Transverse Rumble Strips<br>+ Install Raised Pavement Markings |
| **Gaines** | SH 214 from FM 2056 to 5,280 ft south | + Lighting<br>+ Improved Signage<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Dedicated Left- and Right- Turn Lanes<br>+ Extend Acceleration or Deceleration Lane<br>+ Add Striped Island<br>+ Install Transverse Rumble Strips |
| **Glasscock** | SH 158 from 16,400 ft east of SH 137 to 5,700 ft east | + Lighting<br>+ Longitudinal Rumble Strips |
| **Howard** | IH-20 Business Loop from Frazier St to FM 700 | + Sidewalks<br>+ Lighting<br>+ PHB<br>+ Refresh Pavement Markings |

DRAFT

| County | Location | Recommended Countermeasures |
|---|---|---|
| **Loving** | SH 302 from 500 ft east of County Border to 10,400 ft north | + Lighting<br>+ Improved Signage |
| **Martin** | SH 349 from 5,200 ft south of CR 3200 to 400 ft north of CR 3200 | + Lighting<br>+ Longitudinal Rumble Strips<br>+ Shoulder Expansion<br>+ Install Two-way Left Turn Lane |
| **Martin** | SH 176 & SH 349 | + Install Traffic Signal<br>+ Refresh Pavement Markings<br>+ Appropriate Speed Limit<br>+ Improve Signage<br>+ Install Transverse Rumble Strips |
| **Midland** | FM 1788 & SH 349 | + Pave Existing Roadways<br>+ Lighting<br>+ PHB<br>+ Refresh Pavement Markings<br>+ Add Yield Pavement Markings<br>+ Longitudinal Rumble Strips<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Access Management<br>+ Install Transverse Rumble Strips<br>+ Install Acceleration or Deceleration Lanes<br>+ Extend Acceleration or Deceleration Lane |
| **Pecos** | US 285 from Old Cemetary Rd to E Dickerson Blvd | + Lighting<br>+ Refresh Pavement Markings<br>+ Appropriate Speed Limits<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ Access Management<br>+ Realign Offset Intersection<br>+ Crosswalks<br>+ Roundabout |
| **Terrell** | US 90 from Legion St to Georgia Ave | + Access Management<br>+ Realign Offset Intersection<br>+ Install Two-way Left Turn Lane |
| **Upton** | US 349 from 1,000 ft South of CR 115 to 2,500 ft North of CR 205 | + Appropriate Speed Limits<br>+ Enhanced Delineation at Horizontal Curves<br>+ Speed Feedback Signs<br>+ Install Acceleration or Deceleration Lanes<br>+ Lighting |
| **Ward** | SH 18 from W 10th St to IH 20 Business Loop | + Retroreflective Backplates<br>+ Crosswalks<br>+ Crosswalk Visibility Enhancements<br>+ Install a Traffic Signal<br>+ Install Pedestrian Countdown Timer<br>+ Add Flashing Yellow Arrow<br>+ Implement No-Right on Red |
| **Winkler** | SH 302 from 14,500 ft East of CR 313 to 7,300 ft East of Starting Point | + Lighting<br>+ Low-Cost Countermeasures at Stop-Controlled Intersections<br>+ High Contrast Lane Markings |

DRAFT

# 6

# Promoting a Culture of Safety

DRAFT

**Introduction**

**Action Plan Structure**

**Recommended Actions by Emphasis Area**

**Annual Reporting & Transparency**

DRAFT

## INTRODUCTION

Chapter 6 focuses on the implementation of the CSAP according to the action plan. The action plan is organized by the 8 safety emphasis area and includes details for each of the 29 actions pertaining to proper implementation. These details include context, six E's of safety, timeframe, implementation partners, and funding sources. Improving road safety in the region requires prioritization of all users, because of this the action plan includes actions to improve transportation safety for all users and modes. Each action item is intended to fill a particular gap in the current state of safety. Through utilizing a variety of methods and implementing a multifaceted approach it will ensure that if one piece of the system fails there are other measures in place to protect users and minimize consequences.

# ACTION PLAN STRUCTURE

## Safety Emphasis Areas and Six E's of Safety

The Action Plan was created with. While the policy and program recommendations are organized by safety emphasis area addressed, the Six E's of Safety describe the methods used to address the area; each listed in **Table 23**.

**Table 23** Safety Emphasis Areas and Six E's of Safety

| Safety Emphasis Areas | Six E's of Safety |
|---|---|
| + Roadway and Lane Departures | + Engineering |
| + Intersection Safety | + Education |
| + Occupant Protection | + Evaluation |
| + Speed-Related | + Equity |
| + Distracted Driving | + Enforcement |
| + Impaired Driving | + Encouragement |
| + Vulnerable Road Users | |
| + Post Crash Care | |

## Timeframe

To ensure progress towards the region's vision zero goals, an estimated timeframe for implementation is provided for each recommended action. These timeframes aid in the decision-making process by providing information on which actions should be prioritized based on expected completion dates. The timeframes assigned for the actions are as follows:

+ **Short (< 2 years):** This action is a priority and can be completed quickly
+ **Medium (2- 5 years):** This action could take more time to complete but could still be completed by the next CSAP update
+ **Long (> 5 years):** This action will have a significant impact but will require many years to complete
+ **Ongoing:** This action does not have a set timeframe but should be an ongoing effort

DRAFT

## Implementation Partners

Various departments and organizations in the region have been identified as having a crucial role in the implementation of the PBRPC CSAP. Within each matrices containing actions, the column labeled "Partner" includes a list of agencies and organizations that should be included in the implementation of the action alongside PBRPC. Below is a list of key regional partners included in the action matrices:

- **PBRPC RS:** PBRPC Regional Services Department
- **PBRPC CH:** PBRPC Criminal Justice & Homeland Security Department
- **PBRPC 911:** PBRPC 911 Emergency Communications
- **PBRPC TI:** PBRPC Transportation Information
- **AAA:** Area Agency for Aging
- **TxDOT:** Texas Department of Transportation
- **DPS:** Department of Public Safety
- **County:** County Departments
- **City:** City Departments
- **ISD:** Independent School Districts
- **PD/SO:** Police Departments and Sheriff's Offices
- **Private:** Private Organizations
- **CoC:** Chamber of Commerces

## Funding Sources

Identifying funding sources is a vital part in the implementation of the action plan for the PBRPC CSAP. For each action in the plan, a potential funding source has been identified. Funding sources have been categorized into one of the following three options:

- Existing Funds (**Existing**)
- Reallocation of Funds (**Reallocate**)
- Grant Acquisition (**Grants**)

# RECOMMENDED ACTIONS BY EMPHASIS AREA

Texas has not had a deathless day on its roadways since November 7th, 2000. In an effort to eliminate fatalities on Texas roads, TxDOT adopted the of Road to Zero in 2019. This initiative's goal is to make Texas roads safer for all by eliminating roadway deaths by 2050. The Texas Strategic Safety Plan (SHSP) is the key planning document that outlines Texas's path towards achieving the state's goal. From the SHSP, 8 safety emphasis were identified based on the most common contributing factors associated with fatal and severe crashes in the State. The eights safety emphasis areas in Texas are:

- Roadway & Lane Departures
- Intersection Safety
- Occupant Protection
- Speed-Related
- Distracted Driving
- Impaired Driving
- Vulnerable Road Users
- Post Crash Care

DRAFT

## Actions Addressing All Emphasis Areas

Although most of the recommended actions for this plan fall into one of the safety emphasis areas, the five actions in **Table 24** have the capacity to address all the safety emphasis areas. These actions use a variety of methods to enhance traffic safety such as education, engineering, and evaluation.

**Table 24** Recommendations Covering All Safety Emphasis Area

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **A1*** | Establish a road safety section in regular messaging campaigns (online or email-based) that highlight educational materials on safe driving. | Both | Education | Short (<2 yrs.) | PBRPC TI | Reallocate |
| **A2*** | Create an online education resource hub connecting member agencies to existing TxDOT and NHTSA materials that enhance traffic safety. | Rural | Education | Short (<2 yrs.) | PBRPC RS | Existing |
| **A3*** | Develop a Safety Countermeasures Toolbox guidance document for member agencies to implement on city- and county-owned roadways. | Both | Engineering | Short (<2 yrs.) | PBRPC RS | Existing |
| **A4*** | Connect local agencies with TxDOT to advocate for stronger public involvement when preparing roadway maintenance, rehabilitation, and design projects. | Rural | Engineering | Ongoing | TXDOT, Counties, Cities | Existing, Reallocate |
| **A5** | Connect local agencies to grant funding opportunities that support the creation of long-range mobility plans for their jurisdictions. | Rural | Evaluation | Ongoing | PBRPC RS | Grants |
| **A6** | Create an example policy document for municipal or other publicly purchased vehicles to meet higher safety standards. | Both | Evaluation | Short (<2 yrs.) | PBRPC RS | Existing |
| **A7*** | Enhance funding opportunities for projects submitted to PBRPC that fall on the region's high-injury and/or high-risk networks. | Both | Evaluation | Ongoing | PBRPC RS | Grants |

**Indicates an action that is high impact and low cost*

DRAFT

### *A1. Road Safety Messaging Campaigns*

By including road safety information in regular messaging campaigns such as newsletters and public advertisements, PBRPC will be dispersing road safety information regularly to the public and its own organizations. PBRPC could also add a "Road Safety Corner" in the "News & Resources" section of their website where road safety tips and other information could reside (**Figure 40**). Integrating roadway safety education materials into already existing campaigns either for internal use or the public would show the commitment PBRPC has to creating a culture in which road safety is in the forefront of all minds.

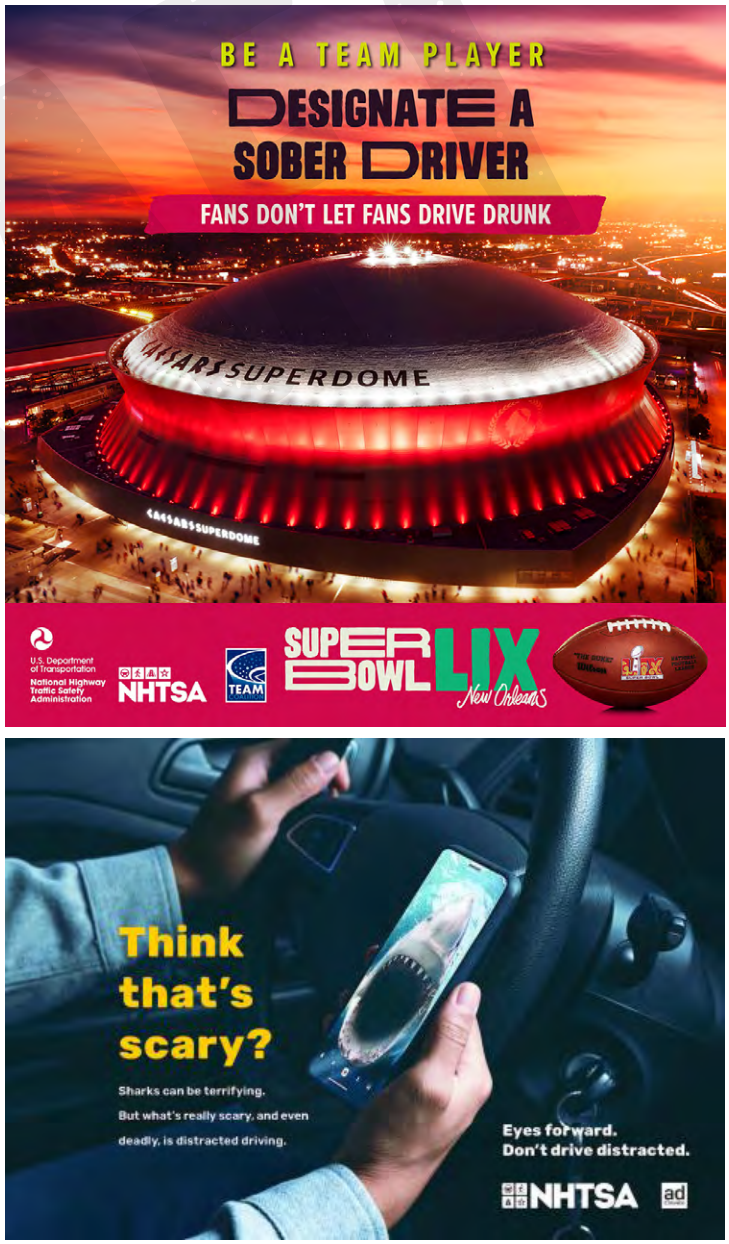
**Figure 40** PBRPC's "News & Resources" Webpage

*Source: PBRPC*

### *A2. Online Hub for Safety Campaign Materials*

Educational campaigns are a great method of disseminating important safety information regarding a plethora of topics. Since the Permian Basin is made up of several counties each with their own safety needs and issues, it is recommended that PBRPC host an online education resource hub on their "News & Resources" webpage. This online education resource hub should host links to various websites that have traffic safety education materials. These resources should include TxDOT's traffic safety campaigns, NHTSA's traffic safety marketing, and others, such as the national sleep foundation's (NSF) drowsy driving prevention week campaign. Offering these resources in a centralized locations will give member agencies easy access to educational materials for several traffic safety. This gives each member agency or organization the opportunity to select campaign materials that specifically address the traffic issues in those jurisdictions. The materials included in these resources range from social media posts to billboard advertisements (**Figure 41**).

**Figure 41** Campaign Materials from NHTSA and TxDOT




*Source: TxDOT, NHTSA*

### *A3. Safety Countermeasures Toolbox*

A crucial part of creating safer roadways is the engineering of the system; safety should be at the forefront of all improvement efforts. To aid in future design choices, it is recommended that a guidance document for the safety countermeasures toolbox (as shown in Chapter 5) is developed so member agencies may implement safety countermeasures on city- and county-owned roads. Since the document will include several countermeasures, member agencies will have the freedom to choose the countermeasures that best fit the context of their roads and their specific safety needs. This guidance document will contain information about each countermeasure, its crash modification factor, and

in which context (rural or urban) it would be most useful in. Ultimately, the purpose of the guidance document is to inform member agencies of the proven engineering countermeasures available that would increase traffic safety for all residents. **Figure 42** shows an example of sidewalks, which are an FHWA proven safety countermeasure, added near a residential area to the safety of vulnerable road users.

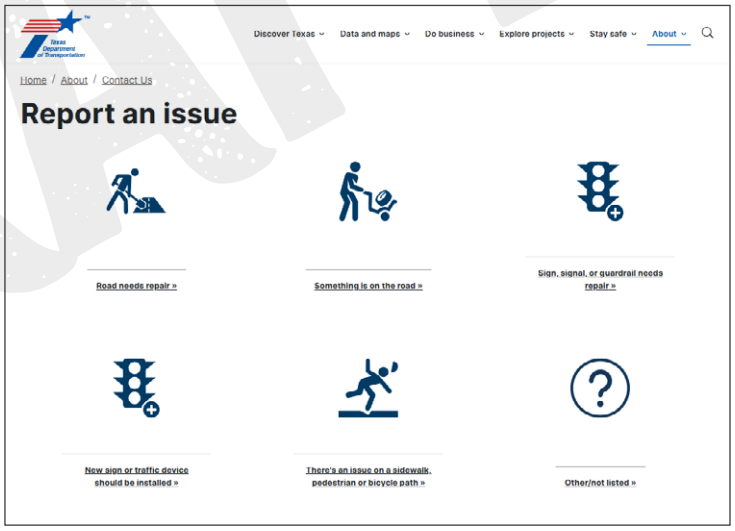
**Figure 42** Example of a Complete Street

*Source: FHWA*

### *A4. Public Involvement Advocacy with TxDOT*

Partnerships will be an integral part of achieving the region's goal of zero traffic deaths by 2050, therefore, it is imperative that strong relationships be built between local agencies and TxDOT. Although TxDOT is responsible for maintaining and improving Texas's roads, local agencies and stakeholders may have greater knowledge on where issues in the network are. TxDOT currently operates a ***"Report an Issue"*** webpage (**Figure 43**) that allows anyone to report a maintenance issue encountered, but connecting local agencies directly to TxDOT officials would take these efforts further. Through a direct connection, local agencies and stakeholders would have an opportunity to advocate for specific maintenance, rehabilitation, and design projects based on issues currently present or developing within those communities.

**Figure 43** TxDOT's "Report an Issue" Webpage




*Source: TxDOT*

DRAFT

### *A5. Long-Range Mobility Plan Funding*

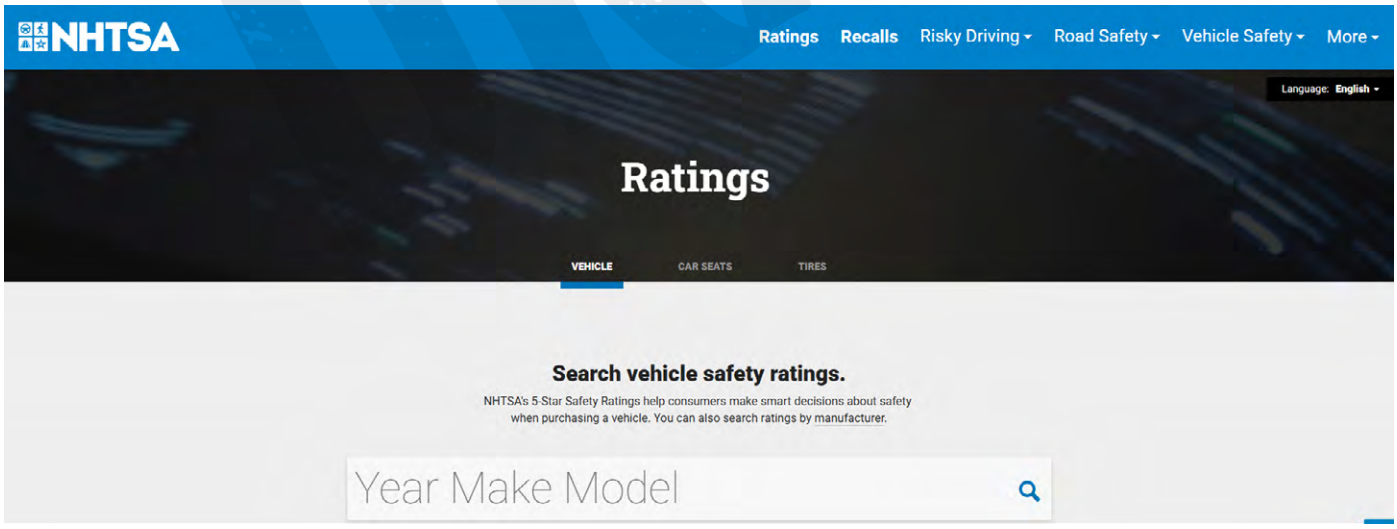
As member communities continue to grow and industries expand into the region, long-range mobility plans could help mitigate any safety issues that could arise from while helping plan safety improvement projects. Since each county and city may have different needs, each member agency should strive to complete their own long range mobility plan. This would allow these plans to outline a transportation network that best fits its future needs based on population growth, economic development, environmental factors, safety needs, and available project funds. To fund the creation of these long range mobility plans, PBRPC should make member agencies aware of any grant funding opportunities. This could be done through posting links to available grants on a centralized location on the organization's website.

### *A6. Publicly Owned Vehicle Safety Policy*

Although improving human behavior and engineering design can increase safety in the existing transportation system, the use of safer vehicles can play a large role in keeping roadway users safe, especially those whose work requires them to be on the road. NHTSA's ***"5-Star Safety Ratings"*** program evaluates how vehicles perform in crash tests; specifically, the tests look at how vehicles bear frontal, side, and rollover crashes. Additionally, vehicles with driver assistance technologies (such as lane departure warning, crash imminent braking, or dynamic brake support) that have met NHTSA performance tests can increase the safety rating with the highest rating being 5 stars. The 5-Star Safety Ratings Database (**Figure 44**) compiles all available NHTSA ratings in a centralized location where any user can find a vehicles rating.

Creating an example policy document for member cities, counties, agencies, and organizations could aid in these stakeholders implementing the use of safer vehicles in their organizations. The example policy document should outline what the minimum safety rating fleet vehicles are required to meet as well as if fleet vehicles should have any recommended driver assistance technologies. Making an example policy such as this one available to all member agencies and organizations shows a dedication towards safety efforts by beginning with key stakeholders. Safer vehicles not only have the potential to prevent crashes from occurring, but also offering extra protection to drivers and passengers if one were to occur.

**Figure 44** NHTSA's "5-Star Safety Ratings" Database




*Source: NHTSA*

### *A7. Prioritize HIN & HRN Segments*

To aid in member cities and counties' safety improvement efforts, PBRPC should enhance funding opportunities for projects submitted that fall on the region's high injury or high risk networks. The HIN and HRN are both tools meant to identify problem locations in the study area to help inform decisionmakers, like PBRPC, as to where funding should be allocated and what projects should be a priority. Safety improvement projects on the HIN and HRN should be prioritized due to the significant impacts improvements can have on the number of severe crashes occurring in the study area.

## Roadway & Lane Departure Actions

Roadway and lane departure crashes are one of the most common type of crashes in the region resulting in fatal, severe, and/or minor injury crashes. Approximately 26% of fatal, severe, and minor injury crashes in the region are from roadway or lane departures. These crashes are typically either a single motor vehicle that ran off the road or head-on collisions that occurred after one or more motor vehicles left their designated travel lanes. Roadway and lane departure crashes occur for a variety of reasons such as the environment (weather or animal crossings), human error (inattention or drowsiness), roadway design (substandard curves, narrow travel lanes, inadequate shoulder), or a combination of factors as stated by FHWA. While the systemic countermeasures toolbox provides engineering solutions to roadway and lane departures in the region, the following actions attempt to address this issue from a policy and programs standpoint (**Table 25**).

**Table 25** Roadway and Lane Departure Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **LD1*** | Work with County Commissions to implement closed range policies that help decrease animal (livestock)-related collisions. | Rural | Enforcement | Long (>5 yrs.) | Counties, Cities | Reallocate |
| **LD2** | Partner with TxDOT to identify potential locations for new rest stops throughout the region. | Rural | Evaluation | Medium (2-5 yrs.) | PBRPC RS, TXDOT | Reallocate, Grants |
| **LD3** | Partner with TxDOT to identify locations for wildlife crossing feasibility studies and apply for funding through the FHWA's Wildlife Crossings Program | Rural | Evaluation/ Engineering | Short (<2 yrs.) | PBRPC RS, TXDOT, Counties, Cities | Grants |

**Indicates an action that is high impact and low cost*

### *LD1. Closed Range Policies*

While the Permian Basin is best known for its oil and energy industries, the livestock industry remains a strong presence within the region. Animal related crashes (either wild or domestic) in the study area accounted for 1.5% of all fatal, severe, and minor injury crashes. Although the percentage of animal-related severe crashes is small, rural residents of the region expressed concern about the risk livestock pose to roadway users if they enter highway areas or are allowed to roam on the highways. Many residents cited near miss collisions with livestock when travelling on the more rural roadways in the region.

To aid in reducing the risk of animal related crashes, specifically regarding livestock, it is recommended that counties in the region move towards becoming "closed range". Since 1876, the Texas Legislature has allowed the passage of local stock laws that modify the common law rule of open range. "Open range" being when property owners

DRAFT

are required to build and maintain a fence that is sufficient to keep livestock off their property (Texas Agriculture Code, Chapter 143), however, livestock are not permitted to cross or traverse along U.S. or state highways unattended. This does not apply to numbered farm-to-market, county, or local roadways. Counties becoming "closed range" means livestock owners are responsible for fencing in their livestock (**Figure 45**). As of this report, 5 counties in the study area are closed range. Enacting stock laws would help reduce the risk of livestock related crashes in the region while also ebbing the concerns of roadways users.

**Figure 45** Cattle Ranch Fencing

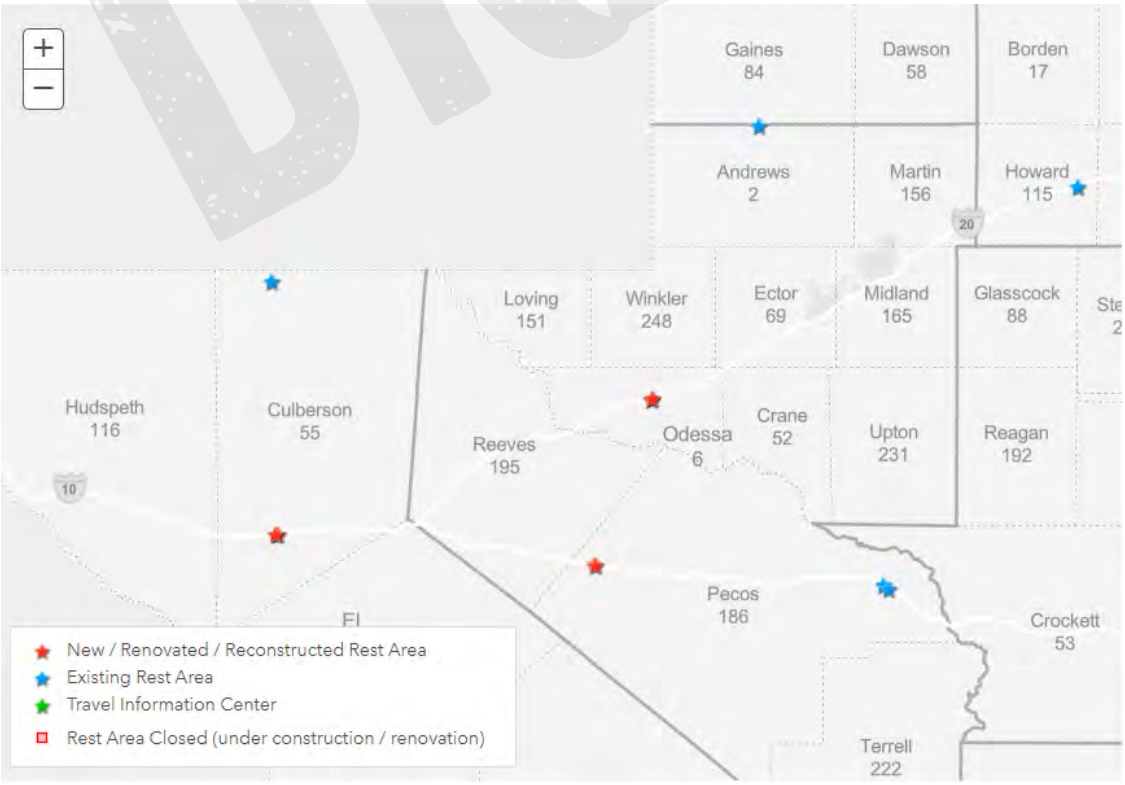
*Source: Adobe Stock*

### *LD2. Rest Stops*

One of the most common contributors to roadway and lane departure crashes is drowsy driving. To decrease the number of drowsy drivers, the addition of rest stops in the region should be considered. Currently there are only 7 rest areas within the region with the majority being in the southern portion of the study area (**Figure 46**). The addition of safe rest areas in the region, would not only encourage drivers to rest if drowsy, but would also provide much needed truck parking for commercial truck drivers.

In April 2020, TxDOT completed a Statewide Truck Parking Study that focused on finding solutions for safe truck parking in the El Paso and Odessa Districts. Due to TxDOT's efforts with this plan, it is recommended that PBRPC partner with TxDOT to identify locations in the study area that would benefit from rest areas. The potential locations could be identified by determining where TxDOT sees a need for truck parking and where the region experiences large amounts of severe roadway departure crashes as well as freight crashes. This partnership could lead to creating a safer transportation system for all while also helping to protect commercial truck drivers while they work.

**Figure 46** Texas Safety Rest Areas Map




*Source: TxDOT*

DRAFT

### *LD3. Wildlife Crossings*

Being cautious of elk or deer is a common warning by residents of the study area. Approximately 1,040 (2.3%) crashes during the study period were animal related. Although animal related crashes only comprise 2.3% of crashes in the study area, this number is only derived from crashes that are reported to police; the number of animal-related crashes may be higher due to under reporting. Residents of the study area have expressed concerns regarding the crossing behaviors of various animal in the region, but especially elk in the southern part of the study area. To aid in creating a safer transportation environment for people and animals, it is recommended that local governments partner with TxDOT and PBRPC to acquire grant funding to identify locations for wildlife crossing feasibility studies.

The ***FHWA's Wildlife Crossing Program*** provides funding for construction and non-construction projects that aim to reduce the number of wildlife vehicle collisions (WVCs) while improving habitat connectivity for terrestrial and aquatic species. Construction projects include engineering, design, permitting, right-of-way acquisition and other activities related to infrastructure improvements such as wildlife crossing overpasses and/or underpasses (**Figure 47**). Non-construction projects include planning, research, and educational activities that are not directly related to construction of infrastructure improvements. The application period for FY 2026 will open on May 1st, 2025 and close on August 1st, 2025.

**Figure 47** Wildlife Crossing in San Antonio, TX

*Source: texasmonthly.com | Justin Moore Airborne Aerial Photography*

## Intersection Safety Actions

In the study area, intersection-related crashes comprised approximately 42% of all fatal, severe, and minor injury crashes - slightly higher than in the state overall of 41%. Intersection safety was also the most common safety emphasis with six counties identifying it as the largest contributor to severe crashes in their County. Since intersections are where roads intersect and paths cross, the resulting number of conflict points and mixing of travel modes creates multiple opportunities for crashes to occur. Designing with the safety of all road users explicitly in mind will result in intersections that facilitate safety, accessibility, and convenience for all. The following action highlights the use of proven safety countermeasures at intersections in the region (**Table 26**).

**Table 26** Intersection Safety Policy Recommendations

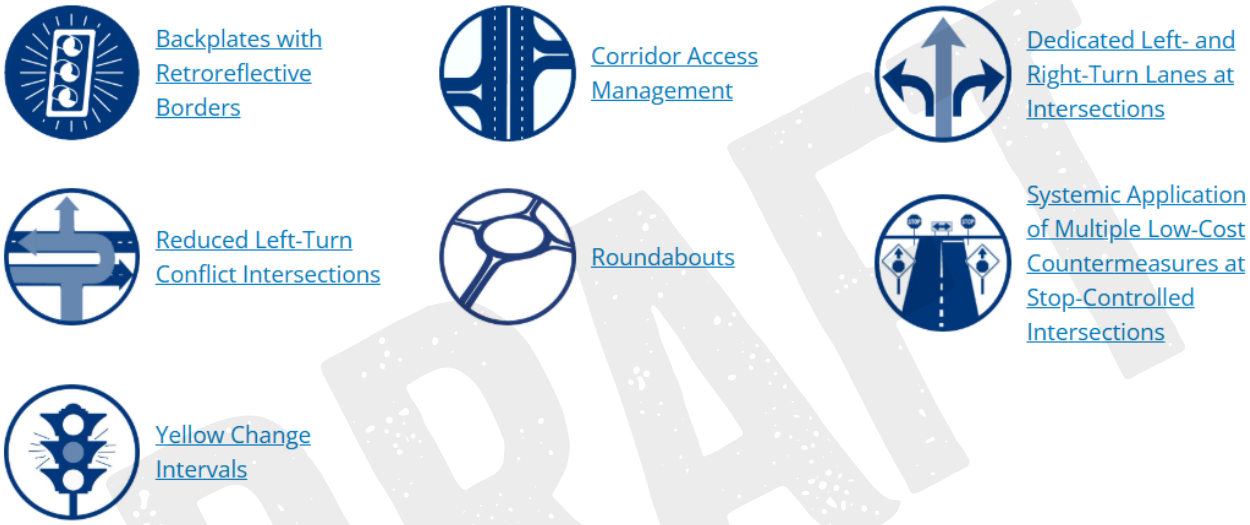
| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **IN1*** | Meet and present with City Councils and County Commissioner Courts to spread awareness on the Toolbox as a resource. | Both | Engineering | Short (<2 yrs.) | Counties, Cities | Existing |

**Indicates an action that is high impact and low cost*

### *IN1. Toolbox Awareness*

As part of this plan, a systemic countermeasures toolbox has been developed (Chapter 5) which contains several countermeasures that can be applied at intersections to enhance safety as shown in **Figure 48**. Informing member city councils and county commissioner courts about the existing toolbox will allow these community stakeholders to learn about possible engineering solutions that could be applied in their communities to decrease the number of crashes. These meetings will also give stakeholders an opportunity to ask questions regarding any of the countermeasures. Ultimately, this action aims to educate city councils and county commissioners courts about the systemic countermeasure toolbox, so it can be used as a resource in their communities when decisions are made regarding the future improvements or design of intersections. Building safety into the design of intersections will ensure that a safer transportation network is being created.

**Figure 48** Proven Safety Countermeasures for Intersections




*Source: FHWA*

## Occupant Protection Actions

In the Texas SHSP, "occupant protection" refers crashes that involve unrestrained people. A crash is identified associated with occupant protection if anyone in the vehicle was not wearing a seatbelt. As a state, only 9% of all fatal, severe, and minor injury crashes had a driver or passenger not wearing a seatbelt. Although as a state there is high seatbelt usage rate, in the study area 15% of fatal, severe, and minor injury crashes show a factor of unrestrained persons; 66 times higher than the state. The following actions aim to increase the use of seatbelts in the region by creating a culture that recognizes the importance of buckling up (**Table 27**).

**Table 27** Occupant Protection Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **OP1** | Champion the return of driver's education classes back to the independent school districts. | Both | Education | Long (>5 yrs.) | PBRPC RS, ISDs, Cities | Grants |
| **OP2*** | Create a program guidance document on how local law enforcement can organize a targeted enforcement plan for unrestrained drivers and passengers. | Rural | Enforcement | Short (<2 yrs.) | PBRPC CH, DPS, SO, CPD | Existing |

**Indicates an action that is high impact and low cost*

DRAFT

### *OP1. Drivers' Education Courses in Schools*

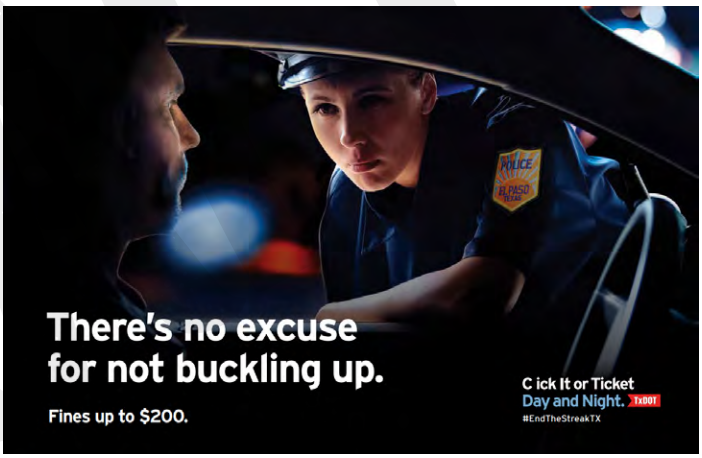
Part of creating a culture of safety is ensuring roadway users learn safe habits from an early stage. During several engagement events, residents and key stakeholders expressed concerns about the level of driver education available to young drivers. For people under the age of 18, driver education is a requirement for obtaining a driver license. Young people can fulfill this requirement through attending a private driving school, a paid online course, being parent taught, or taking a drivers education class at a high school (Texas DPS); high school driver education though is not available everywhere.

Championing the return of driver education back to the independent school districts (ISD) would ensure that all students receive the same level of driver education (**Figure 49**). Bringing driver education back into the public schools could offer administrators an opportunity to develop a lesson plan with local police departments that would include an emphasis on the reason for certain safe driving habits. By offering driver education in public schools again, the education of young drivers can be standardized throughout the region and ensure all drivers have the same level of driving knowledge. This would be one large step towards creating a culture of safety in the region with one of its most vulnerable populations.

**Figure 49** Student during Driver Education

*Source: Adobe Stock*

**Figure 50** Click It or Ticket Campaign for Texas




*Source: TxDOT*

### *OP2. Targeted Enforcement Plans for Seatbelt Usage*

Targeted enforcement efforts would act in tandem with educational efforts by reminding drivers and passenger of the financial consequences of not wearing a seatbelt. According to NHTSA, a correlation exists between fines and seatbelt usage; larger fines were associated with increased usage due to the financial disincentive. With the highest fines in the country at $200 for first time offenders, not wearing a seatbelt can bring both safety risk and financial consequences.

To aid local police departments and sheriff offices in implementing targeted enforcement for seatbelt usage, a guidance document should be developed that would outline how local enforcement could organize a targeted enforcement plan (**Figure 50**). This document should outline how local law enforcement can utilize the ArcGIS dashboard developed for this plan to identify locations where there are high frequencies of unrestrained person crashes. By focusing enforcement on these locations, law enforcement resources could be used more efficiently. While increased enforcement can be inconvenient for both residents and law enforcement professionals, it is one part of increasing seatbelt usage in an effort to decrease severe crashes in the region.

## Speed-Related Actions

In the region, approximately 32% of all severe crashes are contributed to speeding; this is only slightly more than the state of Texas with 30%. Although only slightly more severe than the state, speed-related crashes was one of the most common safety emphasis areas exhibited in the region. While it is widely known speeding dramatically increases both the frequency and severity of crashes, it is a norm within drivers. Speeding endangers not only the life of the speeder, but all roadway users like pedestrians, bicyclists, and other vulnerable road users. To change the general acceptance of speeding as the norm in the region, the following actions aid in reducing speeds and encouraging safer driving habits through various methods (**Table 28**).

**Table 28** Speed-Related Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **SP1*** | Partner with PRSC to champion the inclusion of sand mining companies as members in the Coalition. | Both | Encouragement | Ongoing | PBRPC RS, Private | Existing |
| **SP2** | Partner with Chambers of Commerce and ISDs to encourage insurance agencies to advertise safe driving discounts for their services. | Both | Encouragement | Ongoing | CoC, ISDs | Reallocate, Grants |
| **SP3*** | Create a program guidance document on how local law enforcement can organize a targeted enforcement plan for speeding violations. | Both | Enforcement | Short (<2 yrs.) | PBRPC CH, DPS, SO, CPD | Existing |
| **SP4** | Educate business owners and law enforcement on the English proficiency requirements in place in Texas for CDL drivers. | Both | Equity | Short (<2 yrs.) | PBRPC RS, Private | Reallocate |

**Indicates an action that is high impact and low cost*

DRAFT

### *SP1. PRSC and Sand Mining Companies*

The Permian Road Safety Coalition is a steering committee made up of government officials and industry leaders in West Texas that seek to improve traffic safety for all; they have been an integral part in the creation of this Comprehensive Safety Action Plan. The PRSC with its strong connections to industry leaders in the region has worked with many companies to teach best practices during their coaching lessons with their employees. Although the list of PRSC members is large, it is encouraged that there be a renewed effort to include more local sand mining and hauling companies. These industries have grown exponentially within the region in recent years and need to be included in roadway safety conversations increase their influence on the creation of a safer transportation network for themselves and others. **Figure 51** shows an example of a sand truck.

**Figure 51** Sand Hauling Truck

*Source: Bold Logistics | gfhlogistics.com*

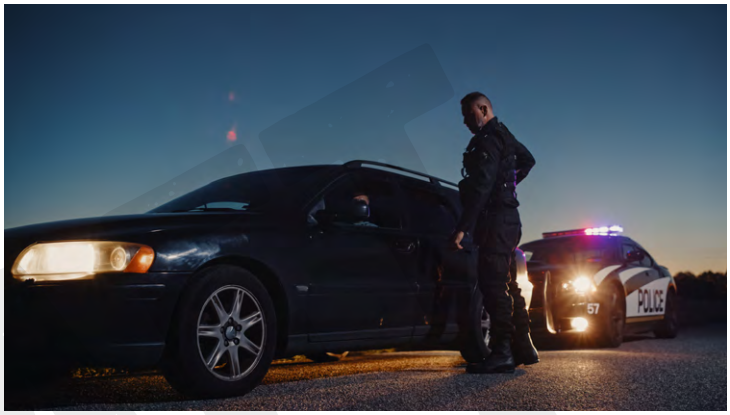
### *SP2. Safe Driving Insurance Discounts*

To encourage the use of safer driving habits, it is recommended that PBRPC partners with local Chambers of Commerce and ISDs to encourage insurance agencies to advertise policies that reward safe driving. Most auto insurance companies have "usage-based policies" which use either a phone-based app or a device that plugs into the car's computer to monitor driving behavior. Insurance companies then analyze factors such as speed, braking, acceleration habits, and when driving among others to determine the cost of the insurance (Texas Department of Insurance). Increasing the awareness of these programs could aid in creating a safer transportation network for all users by offering a financial incentive for safe driving habits, such as not speeding or using appropriate speeds.

### *SP3. Targeted Enforcement Plan for Speeding*

Similarly to the guidance document on how to organize a targeted enforcement plan for seatbelt compliance, this document would serve the same purpose but would target speeding violations. Not only do targeted enforcement plans deter unsafe speeding behaviors due to increased presence, but they also serve as an opportunity for law enforcement officers to remind residents of local speed limits (**Figure 52**). To create the largest awareness possible, law enforcement agencies in the area should partner with one another during the planning of these enforcement efforts and the selection of locations. These targeted enforcement efforts can encourage safer speed practices by providing a financial deterrent and targeted awareness efforts.

**Figure 52** Police Traffic Stop

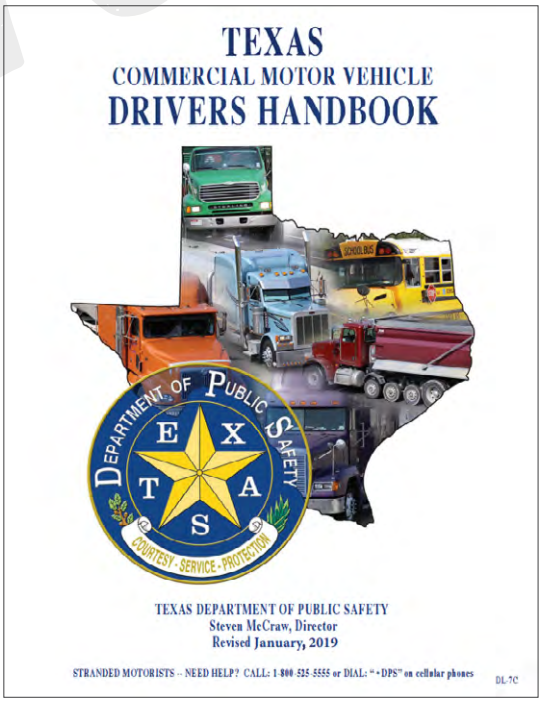



*Source: Adobe Stock*

### *SP4. CDL English Proficiency Education*

To obtain a CDL, several requirements must be met by applicants, but depending on the type of trips being taken requirements can be reduced, especially in Texas. For interstate travel (typically referring to trips across state lines) in the U.S., CDL applicants must meet several health and skill requirements as well as a language requirement. Applicants must be able to read and speak English well enough to: converse with the general public, understand traffic signs and highway signals, respond to official inquiries, and make entries on reports and records (Federal Motor Carrier Safety Administration). Although a requirement for interstate travel is being able to read and speak English, this is not a requirement in the state of Texas if the applicant will only be doing intrastate trips (trips only within a state). More information about the different in this requirement can be found in the Texas Commercial Motor Vehicle Driver Handbook (**Figure 53**).

**Figure 53** Texas Commercial Motor Vehicle Drivers Handbook




*Source: Texas DPS*

DRAFT

## Distracted Driving Actions

Distracted Driving is one of least cited contributing factors in severe crashes in the region. Approximately 10% of fatal, severe, and minor injury crashes list distracted driving as a contributing factor; this is significant less than Texas with 17%. While the crash data shows distracted driving is not a major issue in the region, it is important to note that distracted driving often goes underreported due to the difficulty associated with proving a driver was distracted. Additionally, distractions can come from various avenues like texting, eating, grooming, or having a conversation – all though equally as dangerous. If crash data were the only method used to identify safety issues, distracted driving could be disregarded, but stakeholder engagement highlighted the region's concern with the number of distracted drivers especially given the roadway environment. **Table 29** summarizes the recommended actions to aid in reducing the number of distracted drivers in the region.

**Table 29** Distracted Driving Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **DD1*** | Create an example ordinance for member agencies that would prohibit cell phone use while the vehicle is in motion. | Both | Enforcement | Short (<2 yrs.) | PBRPC RS, Cities, Counties | Existing |
| **DD2*** | Encourage companies to implement and enforce policies to prevent distracted driving when using fleet vehicles. | Both | Encouragement / Enforcement | Ongoing | PBRPC CH, Private | Existing |

**Indicates an action that is high impact and low cost*

### *DD1. Example Ordinance for Prohibiting Cell Phone Use*

Since September 1, 2017, it has been illegal to read, write, or send a text while driving in the state of Texas with a fine up to $200. While texting while driving is illegal throughout the state, cities and towns can pass stricter ordinances; some Texas like El Paso cities have banned all cellphone while driving. Although distractions when driving can come from anywhere, by banning the use of cell phones when driving cities could eliminate one of the biggest possible distractions when driving. To make the passing of these ordinances easier and faster for cities in the region, it is recommended that PBRPC provide an example ordinance that cities could easily use as a base for their own ordinances. If all member cities work to pass ordinances banning all cell phone use when driving, the region could become a leader in distracted driving reduction.

### *DD2. Distracted Driving Policies for Freight Companies*

With the large amount of freight traffic in the region, it is important that commercial truck drivers avoid distracted driving not only for their own safety but for all others on the road. In the study area, there were a total of 7,898 freight crashes of those 9.5% cited distracted driving as a contributing factor, furthermore, 20.5% of freight crashes contributed to distracted driving resulted in a fatality, severe, or minor injury. To ensure the protection of these essential workers as well as other road users, it is recommended that companies with vehicle fleets implement and enforce policies to prevent distracted driving when employees are using them. These policies should clearly outline what distracted driving violations are for employees. Additionally, with the rollout of such policies awareness efforts need to be made within the companies to ensure all employees are aware of the new policy and how it will affect their day-to-day. These awareness efforts can also serve as educational opportunities where information regarding the dangers of distracted and tips on how to avoid distracted driving.

DRAFT

## Impaired Driving Actions

Approximately 14% of severe crashes during the study period were attributed to some form of impaired driving – either from alcohol or drugs. While 14% is not as high as other of the safety emphasis areas, it is higher than the percentage of severe crashes associated with impaired driving (10%). These number could suggest that the region has a unique problem with impaired driving. If a driver is impaired, they cannot drive safely which put them and others at risk. Impaired driving is not a safety emphasis area that can be wholly solved through engineering solutions, but rather requires a shift in the cultural mindset that deems any level of impaired driving as unacceptable. **Table 30** summarizes the recommended actions aimed at increasing awareness on the dangers of impaired driving, rewarding safe driving practices, and exploring enforcement options.

**Table 30** Impaired Driving Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **ID1** | Support addiction service organizations to treat patients. | Both | Encouragement | Short (<2 yrs.) | PBRPC RS, Private | Existing, Grants |
| **ID2*** | Establish an incentive for Chambers of Commerce that integrate safe ride programs into community events. | Both | Encouragement | Medium (2-5 yrs.) | PBRPC RS, CoC | Grants |
| **ID3*** | Partner with the Area Agency for Aging to expand their existing voucher program. | Both | Encouragement | Long (>5 yrs.) | PBRPC RS, AAA | Grants |
| **ID4** | Partner with PRSC to get connected with legislative resources to determine the eligibility of jurisdictions to establish sobriety checks. | Both | Evaluation | Short (<2 yrs.) | PBRPC CH, SO, CPD, Private | Existing |
| **ID5*** | Develop a partnership with MADD to increase their presence and influence in the region. | Both | Education | Medium (2-5 yrs.) | PBRPC RS, Private | Existing |

**Indicates an action that is high impact and low cost*

DRAFT

### *ID1. Support Addiction Treatment Services*

Reducing access to drugs and alcohol can be extremely difficult therefore another possible solution is to target the root of the impaired driving problem – the irresponsible use of substances. Supporting organizations that provide substance abuse and mental health help resources could help reduce the number of impaired driving crashes by helping community members who struggle with irresponsible substance use. PBRPC and member agencies should partner with local organizations, like United Way, to identify the best ways to support them to ensure help resources can be available to all who need them (**Figure 54**). Having PBRPC, member cities, counties, and other organizations support organizations who provide these types of care and support will show the region's dedication to reducing the number of impaired crashes with empathy and care.

**Figure 54** Areas of Focus for United Way of Midland

*Source: United Way | https://www.uwmidland.org/*

### *ID2. Safe Ride/Designated Driver Program Incentives*

A strong reducer of impaired driving is alternate transportation options such as public transit or shared rides (Uber, Lyft). In more rural areas, though, alternative transportation options are not always available, but safe ride programs can be a solution to this problem. In the City of Andrews during the Oktoberfest Event the Chamber of Commerce offered safe rides for any person who needed a ride after drinking. The rides were all given by Chamber of Commerce members who volunteered to be designated drivers. Official and unofficial programs such as these exemplify the culture of safety that already exists in the region, and it should be rewarded. To encourage more programs such as these, it is recommended that PBRPC find an incentive they could provide to other Chambers of Commerce to encourage the deployment of these programs at local events.

### *ID3. Expand Ride Voucher Programs*

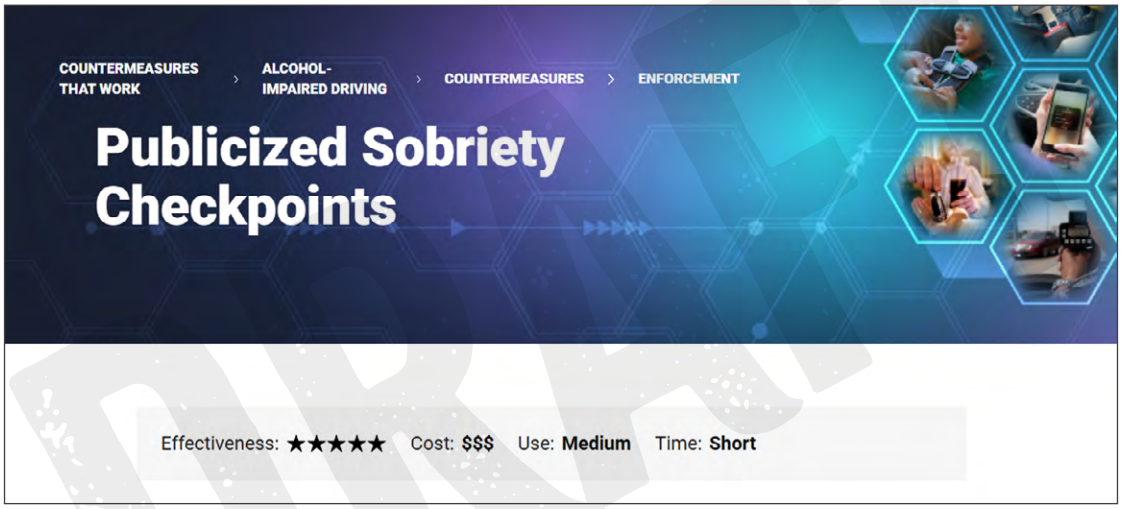
The Area Agency for Aging (AAA) of the Permian Basin not only serve as advocates for older individuals, but also provide a wide range of services for seniors and their caregivers. One such service is their nonemergency medical transportation program that offers free transportation to doctor's offices, dentist's offices, hospitals, drug stores, and any other locations that provide covered health care services. This program aids one of the most vulnerable populations within communities by ensuring that seniors continue to have access to healthcare while not requiring them to drive. Although this program does not specifically contribute to the reduction of impaired driving, it would be beneficial for PBRPC to partner with AAA to determine how to start an on-demand service like AAA's but dedicate it to aiding impaired drivers to offer more alternative transportation options in the region.

DRAFT

### *ID4. Sobriety Checks*

In Texas as well as 11 other states in the Country, prohibit the use of DUI/DWI (sobriety) checkpoints by law enforcement due to its violation of an individual's fourth amendment right. This means law enforcement officers are not allowed to set up random sobriety checkpoints to check for impaired driving rather they must have reasonable suspicion of a driver's impairment before pulling them over and conducting sobriety tests. Although prohibited in the state, sobriety checkpoints are listed as a highly effective countermeasure for impaired driving according to NHTSA (**Figure 55**). Sobriety checkpoints increased the perceived likelihood that impaired driving will be identified and penalized which leads to a reduction in impaired driving. Allowing sobriety checkpoints in Texas would give law enforcement another tool to aid in the decrease of impaired driving crashes therefore it is recommended that PBRPC partner with PRSC to use their legislative resources to determine how difficult it will be to change legislation in Texas or if there are any ways sobriety checkpoints could be legal in Texas. Ultimately though it is important to note that even if sobriety checkpoints become legal in the state random sobriety checkpoints are not as effective as publicized sobriety checkpoints paired with educational campaign efforts (NTSA).

**Figure 55** NHTSA's "Countermeasures That Work" for Alcohol-Impaired Driving

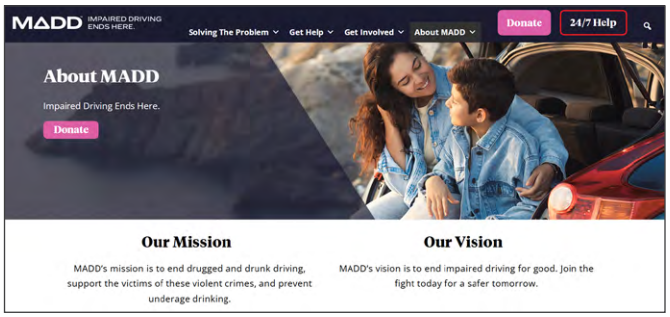



*Source: NHTSA*

### *ID5. Establish a Permian Basin MADD Chapter*

Mothers Against Drunk Driving (MADD) is a nationally recognized non-profit organization that works to end impaired driving (**Figure 56**). Developing a partnership with MADD would be a strong step towards eliminating impaired driving in the region due to the network and resources the organization could provide. As of this report, MADD's only office in West Texas is in El Paso, but through a strategic partnership MADD could open an office within the boundaries of the study area to establish a more local presence. Brining MADD into the region, could increase the amount of local support and efforts towards ending impaired driving; the goal of MADD and PBRPC.

**Figure 56** Mothers Against Drunk Driving Website




*Source: MADD | https://madd.org/about-madd/*

DRAFT

## Post-Crash Care Actions

Post-crash care is a critical part of a safe roadway system because it is the final opportunity to prevent a fatality. To ensure all victims have the best chance of survival, timely arrival of emergency services and law enforcement is vital. This is especially true for rural communities, where response times are longer, and emergency medical service resources can be limited. Although post-crash care typically refers to medical treatment after a crash, post-crash care also includes first responders, crash investigation, traffic incident management, and the resulting judiciary elements of a crash investigation. The following actions aim to enhance access to emergency medical care while creating a safe working environment for first responders through a focus on traffic incident management strategies (**Table 31**).

**Table 31** Post-Crash Care Policy Recommendations

| ID | Action | Context | Which of the Six E's | Timeframe | Partners | Funding |
|---|---|---|---|---|---|---|
| **PC1** | Champion participation in the State to State (S2S) Program (REAL ID). | Both | Encouragement | Short (<2 yrs.) | PBRPC CH, DPS | Existing |
| **PC2** | Partner with local hospital systems or insurance companies to educate the public on the importance of seeking medical care post-crash. | Both | Encouragement | Medium (2-5 yrs.) | PBRPC CH, Private | Existing |
| **PC3*** | Acquire a STEP grant to support funding overtime of traffic law enforcement. | Both | Enforcement | Ongoing | PBRPC CH, SO, CPD | Grants |
| **PC4*** | Partner with DPS and local law enforcement to encourage the acquisition of vehicles for the sole purpose of facilitating lane closures during the crash-clearing process. | Both | Enforcement | Ongoing | PBRPC CH, PBRPC RS, DPS | Reallocate, Grants |
| **PC5** | Establish more emergency service districts (ESD) to increase coverage in the region. | Rural | Equity | Long (>5 yrs.) | PBRPC CH, PBRPC 911, Counties | Reallocate |
| **PC6** | Create or expand on the network's inventory of dynamic message boards to communicate closures or slowdowns of traffic due to crash incidents. | Rural | Evaluation | Short (<2 yrs.) | PBRPC CH, Cities, Counties | Existing, Grants |

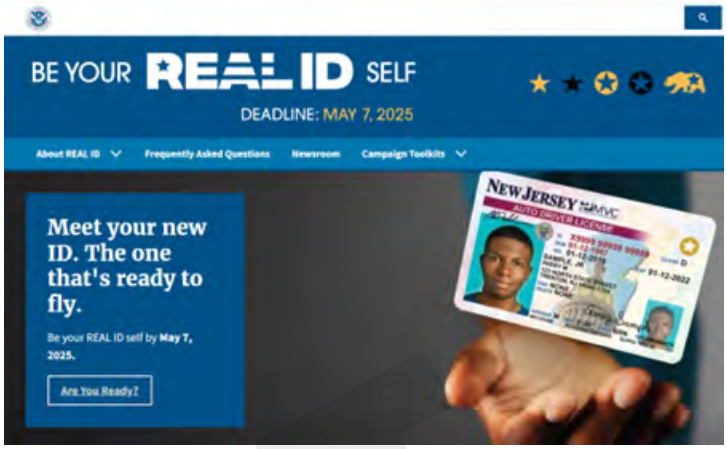
**Indicates an action that is high impact and low cost*

DRAFT

### *PC1. State to State Program & REAL ID*

The state to state (S2S) program is the state of Texas's program the achieve the requirements of the REAL ID Act. Aside from preventing fraud, the S2S program aids in improving traffic safety. Participating in the program allows for the easy transfer of driver information and history to ensure that ineligible drivers cannot obtain a license therefore keeping them off the roadway. Although the deadline for obtaining a REAL ID is May 7th, 2025, PBRPC should encourage residents in the region to participate if they have not already and continue to support any further efforts similar to the REAL ID Act. **Figure 57** shows an example of a valid REAL ID for the state of Texas.

**Figure 57** US DHS Real ID Message




*Source: US Department of Homeland Security*

### *PC2. Encourage Voluntary Medical Treatment Post-Crash*

PBRPC should partner with local hospital systems and insurance companies to help educate the public on the importance of seeking medical care post-crash even if injuries do not seem too severe. Injuries can be serious while not being immediately obvious such as internal bleeding or concussions. Additionally, early treatment can help prevent any medical complications that could lead to long-term damage (**Figure 58**). While the cost of medical care is a large deterrent to receiving care, local hospital systems, insurance companies, and EMS should partner with PBRPC to determine the best ways to educate and encourage the public on the importance of receiving care.

**Figure 58** First Responders Administering Medical Care

*Source: Adobe Stock*

DRAFT

### *PC3. STEP Grant for Law Enforcement Overtime*

Throughout this Plan, the participation of law enforcement is a critical part of achieving zero roadway deaths by 2050. Law enforcement officers play a significant part in reducing unsafe driving behaviors through the targeted enforcement programs suggested in this Plan. To ensure there is enough funding to cover the extra vigilance conducted, it is recommended that a Selective Traffic Enforcement Program (STEP) grant is acquired to cover these expenses. The STEP grant provides grant funding to law enforcement agencies to allow an increase in traffic enforcement activities aimed at reducing crashes and severe injuries; key focus areas covered by the grant are speeding, impaired driving, distracted driving, and seatbelt compliance. **Figure 59** shows the available STEP Resources webpage that offers more information about the grant and how to apply.

**Figure 59** STEP Resources Webpage

*Source: Texas Law Enforcement Liaison Program*

### *PC4. Crash Clearing Vehicle Acquisition*

After a crash, adequate traffic incident management is essential to avoiding a secondary crash (a crash that occurs because of the original crash within the crash scene) usually involving first responders and EMS staff. Approximately 20% of all crashes in the Nation are secondary crashes caused by improper traffic incident management. Since traffic incident management is not only meant to protect the public but also on-scene responders, an innovative tool is suggested to help with the securing of a scene and protecting first responders.

In October 2017, the City of Irving, TX put its first blocker pumper, pictured in **Figure 60** on page 112, into service with at least four more being added after. This blocker pumper is a decommissioned pumper truck that was scheduled to be auctioned by the City but was retained to be used as a blocker truck for traffic incident management. The pumper truck was stripped of its equipment while keeping its water tank full to provide weight and adding signage to inform the public of the trucks use. The blocking trucks have helped increase the safety at crash scenes for both first responders and drivers by giving sufficient space for first responders to work and for drivers to be made aware of an incident. Although refurbishing retired pump trucks may not be possible for member cities and counties, PBRPC should still encourage the acquisition of blocking trucks when possible. These blocking trucks will increase the safety of all first responders post crash and can decrease the risk of a secondary crash.

### *PC5. Expand Emergency Service District Coverage*

The timely arrival of emergency respondents and well-trained EMS staff is a major factor in ensuring an injured person receives the proper medical care needed to survive a crash. This can be especially difficult in rural areas though due to lengthy distances needed to travel to get to crashes. Due to the expansiveness and rural context of the study area, response times to crashes can be lengthy especially when resources are limited. To potentially increase the number of resources and lower response times, it is recommended that more emergency service districts (ESD) are established in member counties. Emergency service districts are political subdivisions, similar to school districts, established by public vote to provide fire protection and/or emergency medical services within specific areas. Increasing ESDs would create more dedicated coverage within the study area leading to shortened response times to crashes, increasing survivability.

### *PC6. Expand Access and Deployment of Dynamic Message Boards*

Dynamic message boards are another tool that can be used post-crash to manage the scene of a crash. **Figure 61** shows an example of a portable dynamic message board. Boards such as these can be a large aid to traffic incident management by conveying messages to drivers alerting them to stopped traffic, slow traffic, or closed lanes ahead due to a crash allowing them time to prepare for what is ahead. Portable dynamic message boards can be especially useful in traffic incident management because of their ability to be moved to different locations. Due to the usefulness of dynamic messaging boards, it is recommended that an inventory of these boards be conducted to determine how many exist in the region and where they reside. Determining the number of boards that exist and where they are stored, will allow for quick deployment, if needed, to crashes.

**Figure 60** Refurbished Apparatus as a Block Vehicle from the City of Irving, TX

*Source: Fire Apparatus Magazine | fireapparatusmagazine.com*

**Figure 61** Example of a Dynamic Message Board

*Source: Wanco | wanco.com*

DRAFT

## ANNUAL REPORTING & TRANSPARENCY

The regional Safety Steering Committee is responsible for implementing the actions recommended in this plan with special consideration for maintaining transparency through the production of an annual Vision Zero Progress Report. Annual progress reporting procedures are established in the Vision Zero Resolution passed by the Executive Board on April 9, 2025. **Table 32** details the procedures by how often each task is expected to be completed by the RSSC.

**Table 32** Post-Crash Care Policy Recommendations

| Plan Update Level | Recommended Frequency | Approval By |
|---|---|---|
| **Minor Revision –** text or wording changes, not affecting the recommendations | As needed | Regional Safety Steering Committee |
| **Major Revision –** any change that substantively changes a recommendation | As needed | Regional Safety Steering Committee |
| **Vision Zero Implementation Progress Report** | Annual | PBRPC Executive Board |
| **Full Plan Update** | Every five years | PBRPC Executive Board |

Overall, the annual reporting of Vision Zero efforts plays a crucial role in ensuring transparency, accountability, and effectiveness in the use of public resources allocated for community safety and improvement initiatives. In addition to the online publication of this plan, a dashboard is in development to also host on PBRPC's website to make crash data and progress on projects publicly available.

DRAFT