

Texas Strategic Highway Safety Plan



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on the Road to Zero

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Table of Contents

Distracted Driving	2
Impaired Driving	4
Pedestrian Safety	6
Speeding	8
Roadway and Lane Departures	10
Intersection Safety	12
Older Road Users	14



The Traffic Safety Division of the Texas Department of Transportation, working in conjunction with the Center for Transportation Safety at the Texas A&M Transportation Institute, led this strategic highway safety planning process. Hundreds of safety stakeholders from across the State, representing local, regional and state agencies, law enforcement, industry and advocates, engineers, clinicians, and educators actively participated in the process.

Texas Strategic Highway Safety Plan

What do distracted, impaired, and speeding drivers, older road users, pedestrians, and lane departure and intersection crashes have in common?

They are the seven areas of greatest concern related to Texans dying or being seriously injured on our roadways.

Who's responsible for doing something about this?

We all are! Working together as professionals, citizens, drivers, pedestrians, bicyclists, motorcyclists and passengers is the best way forward.

What can we do about it?

By advocating for or implementing strategies and countermeasures from the Texas Strategic Highway Safety Plan, and by understanding how we personally can lower risk by staying alert and sober, buckling up, being visible, wearing gear, and slowing down.

In 2017, about a dozen Texans lost their lives on average each day in traffic crashes. You probably have been affected personally by a traffic crash. As traffic volumes grow in response to our robust economy and the influx of new Texans each day, we need to find ways to decrease the risk for everyone using our roads.

This introductory guide to the SHSP provides information on each of the seven areas of greatest concern. Each area also is accompanied by a list of strategies developed through a collaborative process that bridged disciplines, travel modes, and public and private sector agencies and organizations across the state. When you review the SHSP strategies and countermeasures, you will find ways you, your family, your organization, and your community can be involved. We invite you to join us On the Road to Zero, and we urge you to learn more about specific countermeasures you, your agency, or your community can adopt at: **www.texasSHSP.com**.

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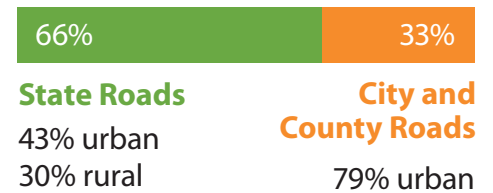
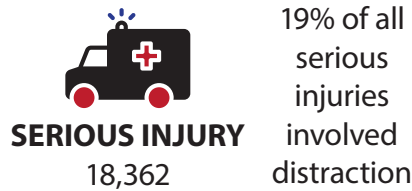
Distracted Driving

The Distracted Driving emphasis area includes a range of driver distractions. It encompasses crashes where distraction in vehicle, driver inattention, or cell phone or mobile use was cited as a contributing factor. Distracted driving, especially texting while driving, is a growing concern in Texas. As evidence of this trend, Texas recently became the 47th state to pass a statewide ban on texting while driving. Distracted driving was identified as a factor for 2,906 fatal crashes (14 percent) and 17,221 serious crashes (19 percent) from 2010–2016.



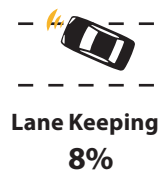
Fatal and Serious Injury Distracted Crashes

Distracted Driving Fatalities and Serious Injuries (2010–2015)



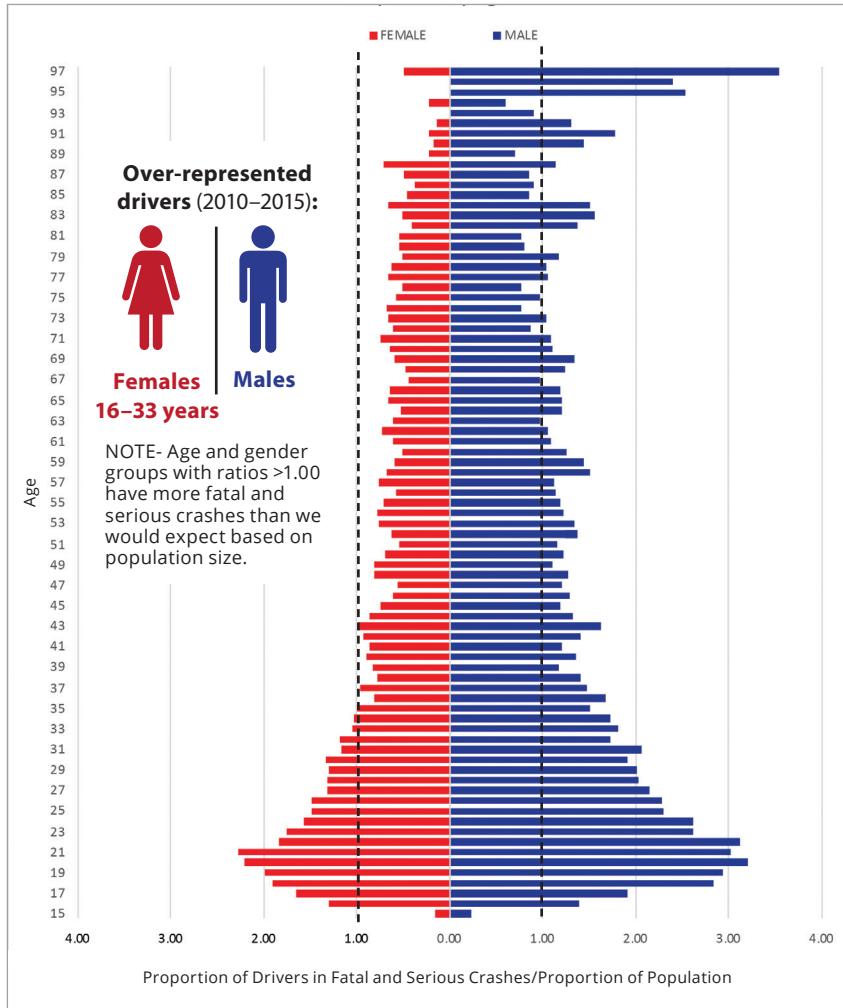
Fatal and Serious Injury Distracted Crashes

Percent of Distracted Driving Fatal and Serious Injury Crashes that Also Involve:



Distracted Driving

Proportion of Drivers in Fatal and Serious Crashes Involving Distraction Relative to the Proportion of the Population by Age and Gender



59%



of distracted crashes involved striking another vehicle

Strategies to Help Distracted Driving Users

Reduce fatalities and serious injuries by identifying and implementing education and awareness strategies to reduce distracted driving.



1

Improve and increase enforcement capabilities for addressing distracted driving.



2

Improve the effectiveness of distracted road user educational techniques, tools, and strategies.



3

Increase the installation of engineering countermeasures known to reduce distracted driving.



4

Utilize technology to reduce distracted driving crashes, serious injuries, and fatalities.



5

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Impaired Driving

The Impaired Driving emphasis area includes those crashes where at least one driver was identified as having been drinking, having taken medication, been under the influence of alcohol or drugs, a blood alcohol content greater than zero, or a positive drug test. Impaired driving was identified as a factor for 8,301 fatal crashes (39 percent of all fatal crashes) and 13,841 serious injury crashes (15 percent of all serious injury crashes) from 2010–2016.



50%
of Impaired Driving
Fatal and Serious
Crashes are Rural

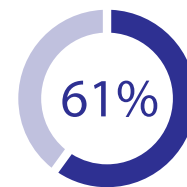
Impaired Driving Fatalities and Serious Injuries (2010–2015)


FATALITIES
8,034

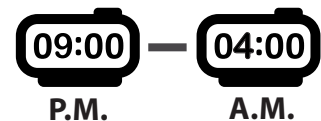
40% of all
fatalities were
associated
with an
impaired
driving crash


SERIOUS INJURY
16,799


17% of all
serious injuries
involved
impaired
driving




**of Impaired Driving Fatal
and Serious Crashes
Occur Between
9 p.m. and 4 a.m.**




Impaired Fatalities and Serious Injuries


Intersections
24%


Arterials
48%


State Roads
65%


Urban
50%

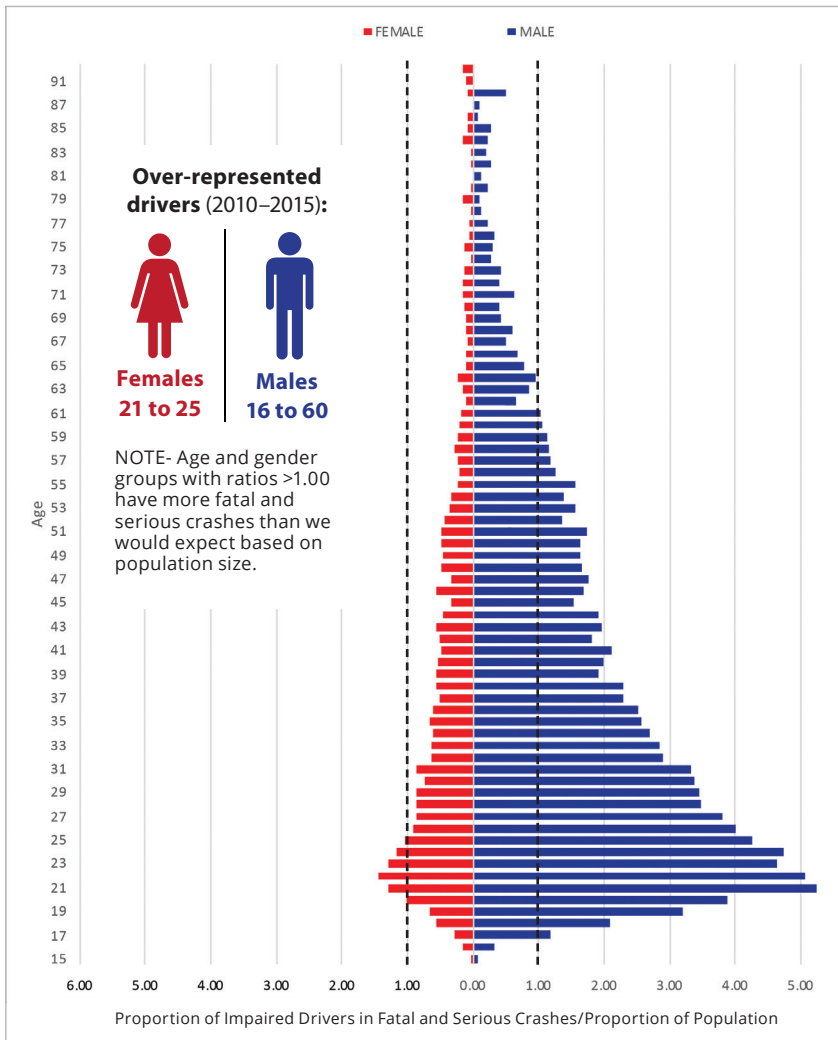

Single Vehicle
63%


Speeding
26%



Impaired Driving

Proportion of Impaired Drivers in Fatal and Serious Crashes Relative to the Proportion of the Population by Age and Gender



Strategies to Reduce Impaired Driving

Use data systems to identify licensed and permitted alcohol sales locations within a community and examine Alcoholic Beverage Code violation history to determine any correlation with alcohol related crashes.



1.

Increase education for all road users on the impact of impaired driving and its prevention.



2.

Increase officer contacts with impaired drivers through regular traffic enforcement.



3.

Improve mobility options for impaired road users.



4.

Increase data, training, and resources for prosecutors and officers in the area of drugged driving.



5.

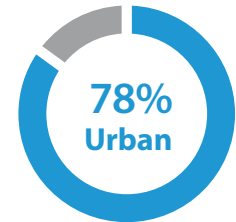
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Pedestrian Safety

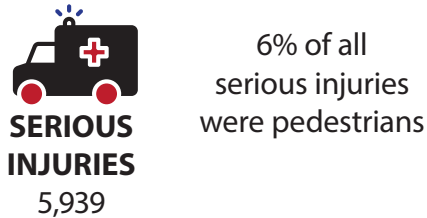
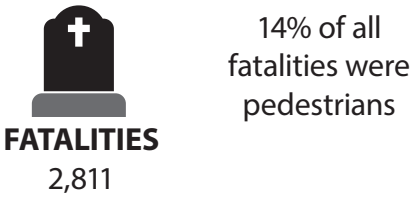
Crashes with pedestrians are a concern given that the pedestrians are more likely to sustain fatal or severe injuries compared to vehicle occupants. The **Pedestrian Safety** emphasis area encompasses crashes that involve at least one pedestrian and one motor vehicle. Pedestrian crashes accounted for 3,434 fatal crashes (16 percent of all fatal crashes) and 6,815 severe crashes (7 percent of all serious crashes) from 2010–2016.



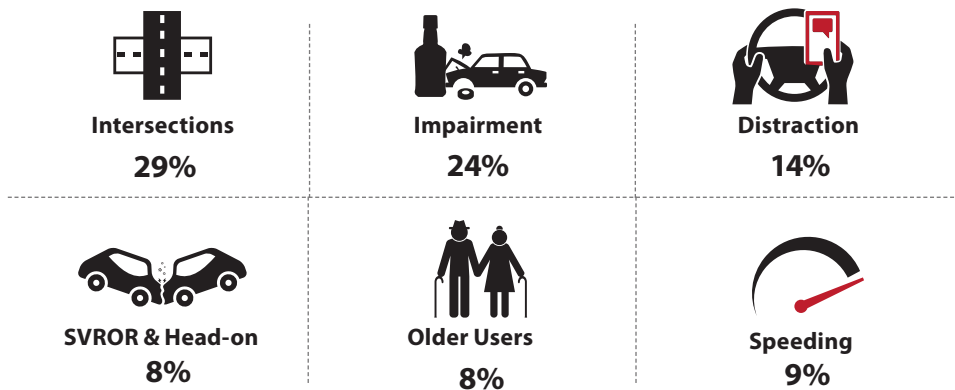
Fatal and Serious Pedestrian Crashes by Location Along Roadway

65% Midblock
31% Intersection

Pedestrian Fatalities and Serious Injuries (2010–2015)



Percent of Fatal and Serious Pedestrian Crashes that Also Involve:



Nighttime
79% of Fatalities
54% of Serious Injuries

Of the Fatal and Serious Pedestrian Crashes that Also Involve Impairment:



Pedestrians

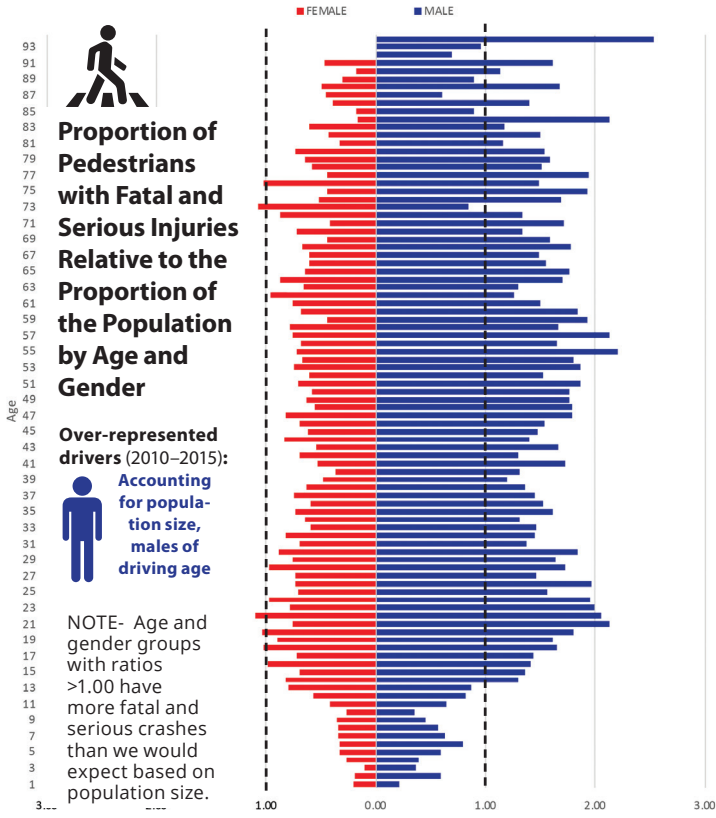


Proportion of Pedestrians with Fatal and Serious Injuries Relative to the Proportion of the Population by Age and Gender

Over-represented drivers (2010–2015):
Accounting for population size, males of driving age



NOTE- Age and gender groups with ratios >1.00 have more fatal and serious crashes than we would expect based on population size.



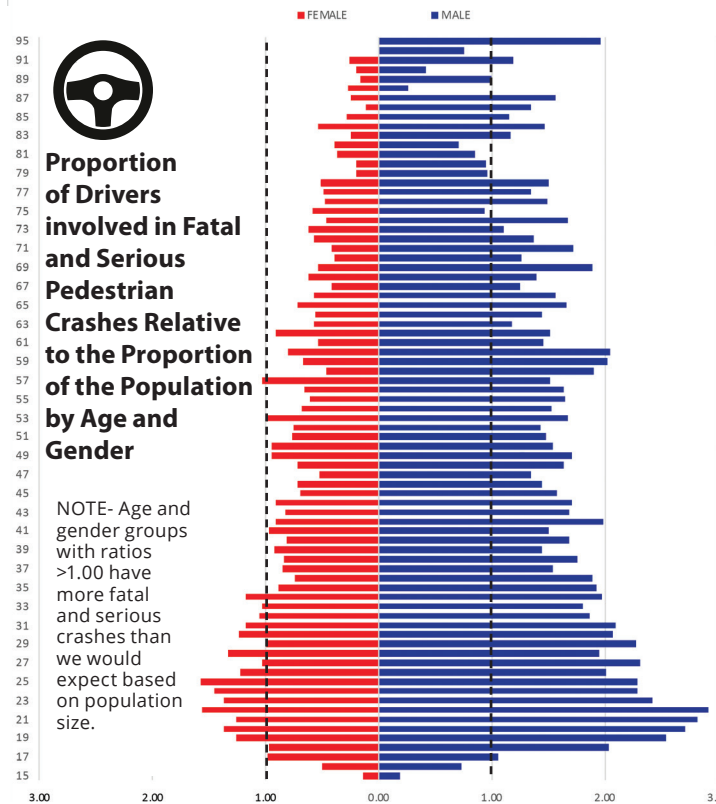
Proportion of Pedestrians with Fatal or Serious Injuries/Proportion of Population

Drivers



Proportion of Drivers involved in Fatal and Serious Pedestrian Crashes Relative to the Proportion of the Population by Age and Gender

NOTE- Age and gender groups with ratios >1.00 have more fatal and serious crashes than we would expect based on population size.



Proportion of Drivers in Fatal and Serious Crashes/Proportion of Population

Strategies to Increase Pedestrian Safety



1. Improve driver and pedestrian safety awareness and behavior.



2. Reduce pedestrian crashes on urban arterials and local roadways.



3. Improve pedestrian visibility at crossing locations.



4. Improve pedestrian networks.



5. Improve pedestrian-involved crash reporting.



6. Establish vehicle operating speeds to decrease crash severity.



7. Develop strategic pedestrian safety plans tailored to local conditions.

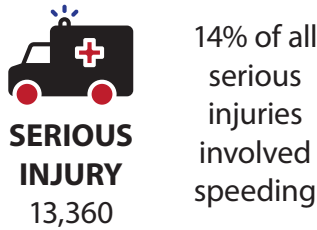
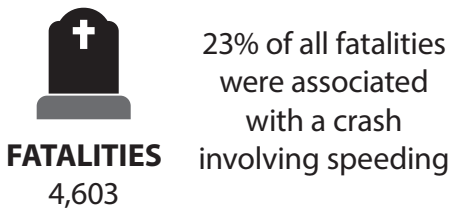
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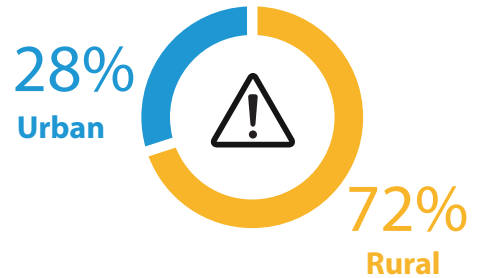
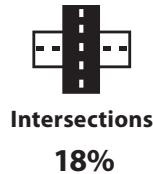
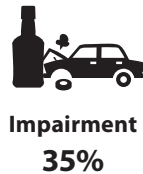
Speeding

Speeding is a concern because the injury severity of crashes increases as speed increases. The Speeding emphasis area includes those crashes where unsafe speed under the limit or speeding over the limit was cited as a contributing factor. Speeding was identified as a factor for 4,762 fatal crashes (22 percent of all fatal crashes) and 11,840 serious injury crashes (13 percent of all serious injury crashes) from 2010–2016.

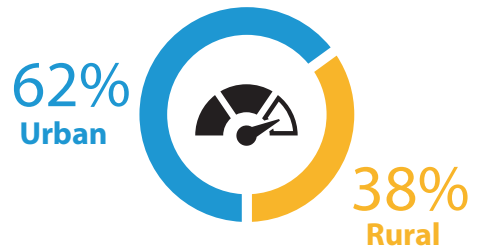
Speeding Fatalities and Serious Injuries (2010–2015)



Percent of Fatal and Serious Speeding Crashes that Also Involve:



Fatal and Serious Injury Unsafe Speed Crashes
(unsafe speed is under the speed limit)

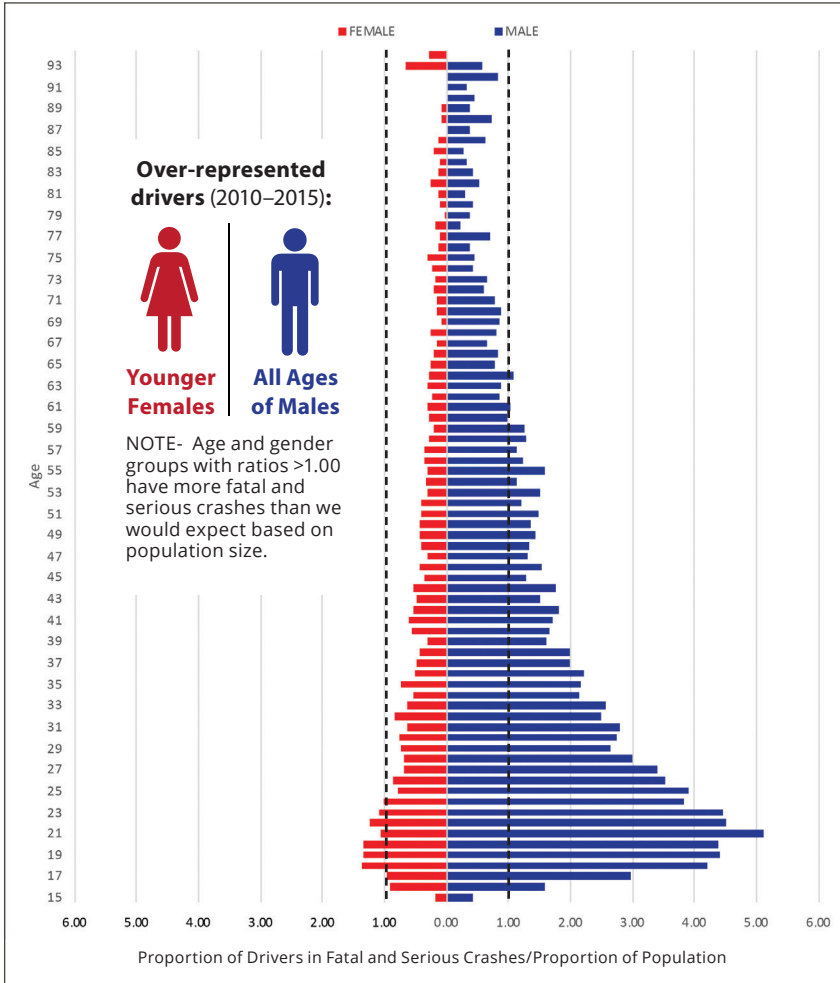


Fatal and Serious Injury Over Speed Limit Crashes

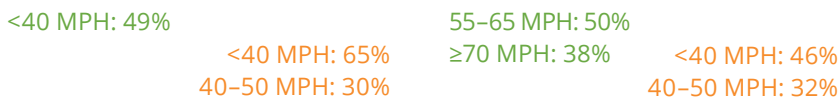
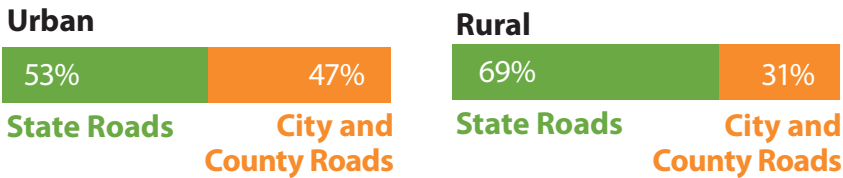


Speeding

Proportion of Drivers in Fatal and Serious Crashes Involving Speeding to the Proportion of the Population by Age and Gender



Fatal and Serious Speeding Crashes by System and Area



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Strategies to Avoid Speeding



Use the concept of target speed and road characteristics to reduce speeding.

1.



Educate law enforcement on contributing crash factors to improve crash data collection.

2.



Leverage data to improve engineering, education, and deployment.

3.



Increase and sustain high visibility speeding enforcement. (Develop, catalogue, and disseminate tools and other resources to improve enforcement capabilities.)

4.



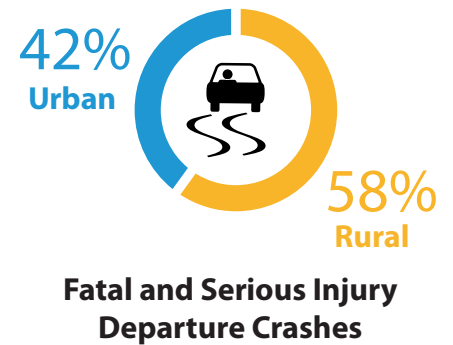
Improve the effectiveness of educational techniques, tools, and strategies for speeding. (Target specific age groups.)

5.

Roadway and Lane Departures



The Roadway and Lane Departures emphasis area encompasses two crash types pertaining to difficulties with lane keeping: single motor vehicles that run off the road (SVROR) and head-on collisions. SVROR describes a crash where only one vehicle is involved and the first harmful event impact occurred on the shoulder, beyond the shoulder, or in the median of the roadway. Head-on crashes involve two motor vehicles traveling straight and in opposite directions prior to impact. Roadway and lane departure crashes are the most common type of crash in Texas. These types of crashes were the identified crash type for 9,560 fatal crashes (45 percent of all fatal crashes) and 30,766 serious injury crashes (34 percent of all serious injury crashes) from 2010–2016.



Roadway and Lane Departure Fatalities and Serious Injuries (2010–2015)

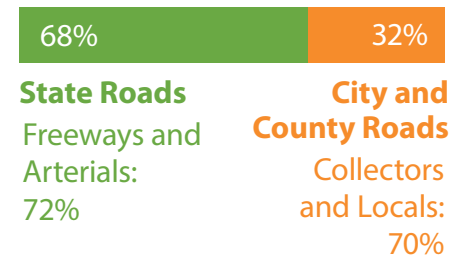

FATALITIES
9,113

45% of fatalities were associated with a crash involving an roadway or lane departure


SERIOUS INJURY
32,702

34% of all serious injuries involved roadway or lane departure

Roadway Departure Fatal and Serious Crashes by System and Functional Class



Roadway Departure Fatal and Serious Crashes Summary



Day
50%



Night
50%



Dry Conditions
80%+



Speeding
44%



Impaired
32%



Lane Keeping
20%

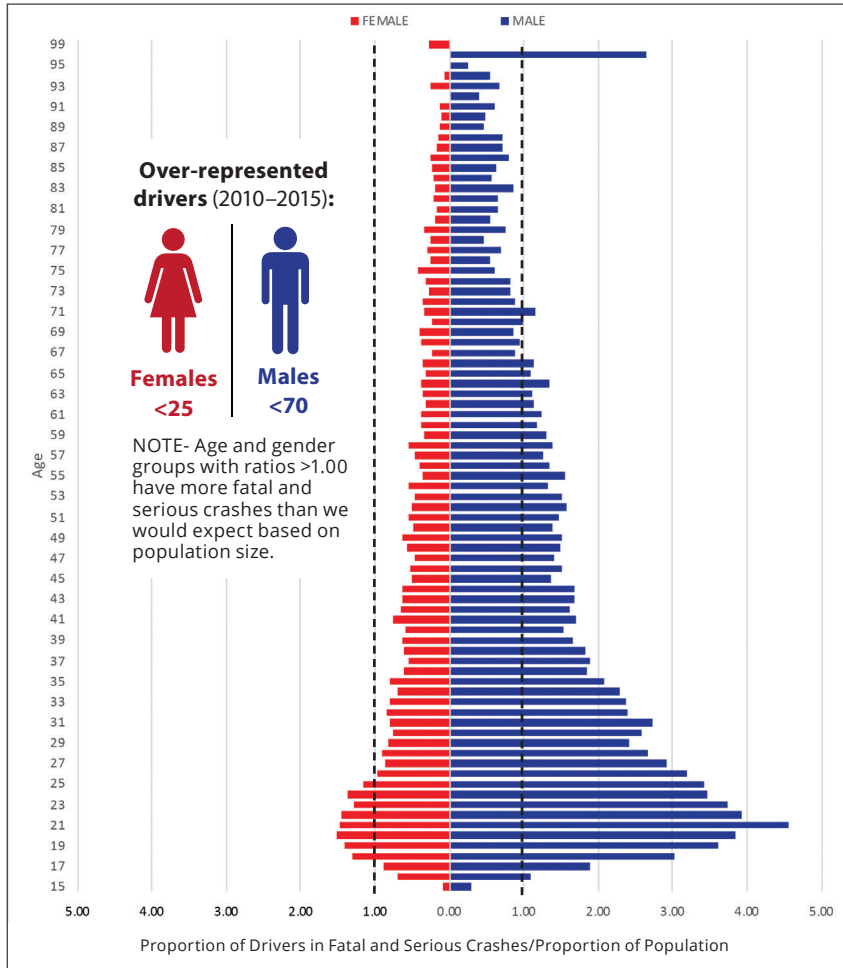


Distraction
15%

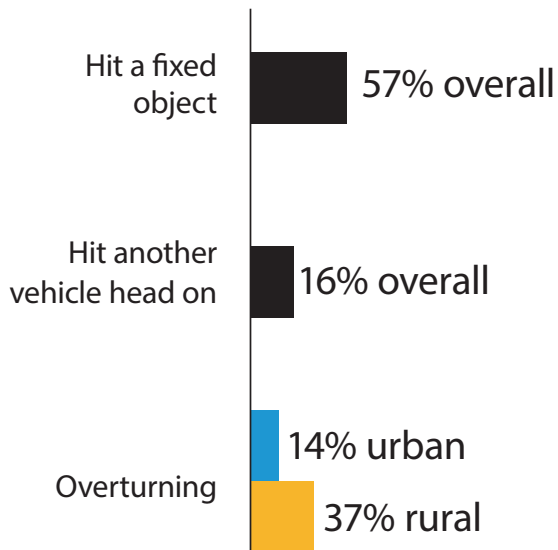


Roadway and Lane Departure

Proportion of Drivers in Fatal and Serious Crashes Involving Roadway and Lane Departures Relative to the Proportion of the Population by Age and Gender



First Harmful Event in Fatal and Serious Injury Crashes



Strategies to Avoid Roadway and Lane Departures

Analyze roadway and lane departure crashes and roadway characteristics using the new safety methodologies (e.g., HSM and systemic approaches).

1.

Keep vehicles from encroaching on the roadside or opposite lane.

2.

Minimize the consequences of vehicles leaving the road.

3.

Minimize the likelihood of crashing in adverse conditions.

4.

Identify and address behavioral characteristics associated with roadway departure.

5.

Improve emergency response time in rural areas.

6.

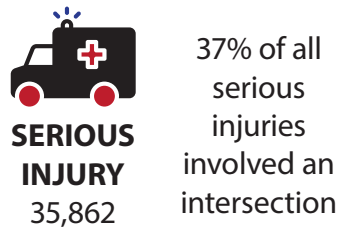
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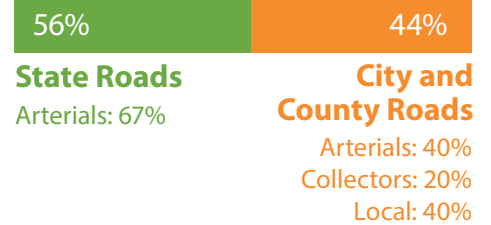
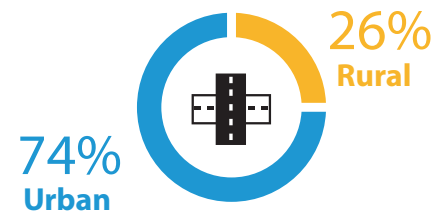
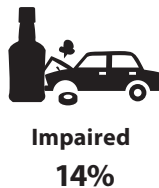
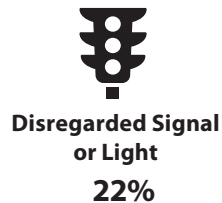
Intersection Safety

An intersection crash is one that occurs within the boundaries of an intersection or in which the first harmful event occurred on an approach to or an exit from an intersection and is related to movement through the intersection. As such the **Intersection Safety** emphasis area includes crashes at or related to an intersection. Intersection crashes are the second most common type of crash in Texas. Intersection crashes was the identified crash type for 4,970 fatal crashes (23 percent of all fatal crashes) and 33,909 serious crashes (37 percent of all serious injury crashes) from 2010–2016.

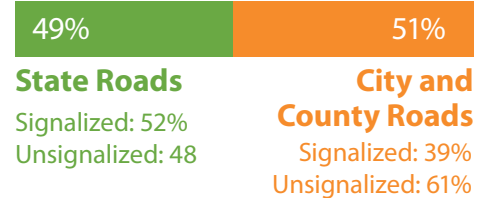
Intersection Fatalities and Serious Injuries (2010–2015)



Other Factors in Fatal and Serious Injury Intersection Crashes



All Fatal and Serious Injury Crashes at Intersections

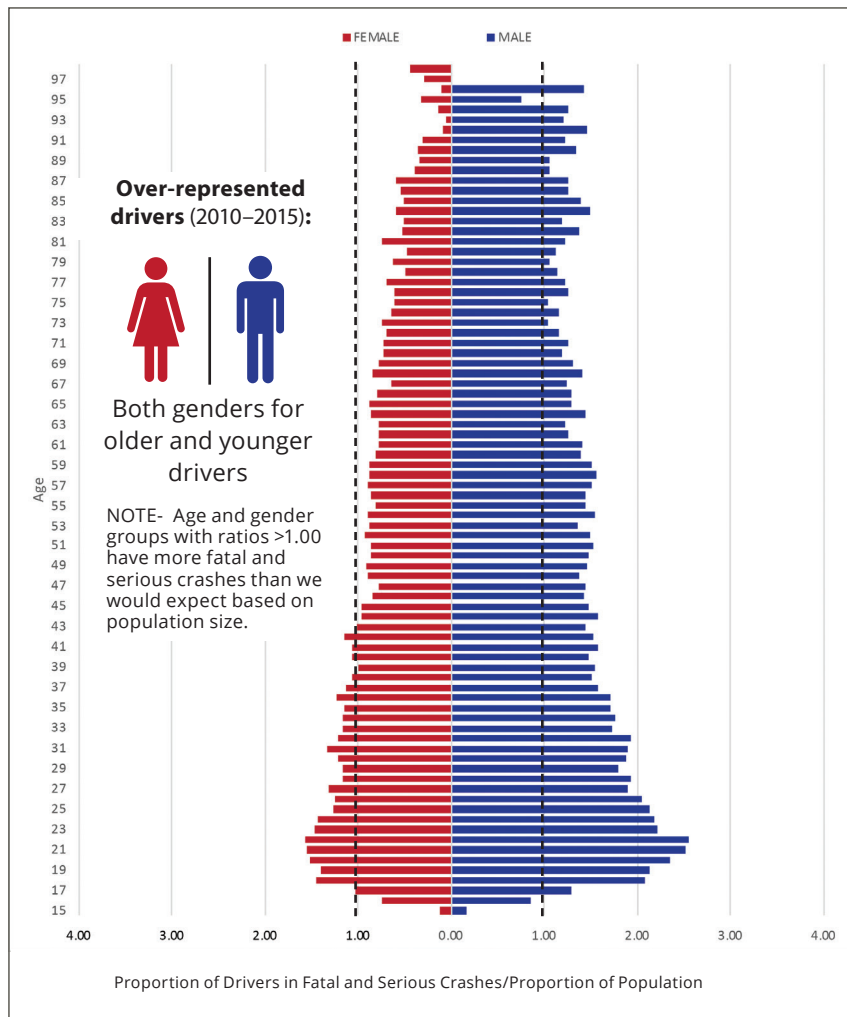


Fatal and Serious Crashes at Urban Intersections



Intersection Safety

Proportion of Drivers in Fatal and Serious Crashes Involving Intersections Relative to the Proportion of the Population by Age and Gender



Strategies to Increase Intersection Safety



1. Improve data systems for identifying specific intersections and intersection types with high probability for serious injury crashes.



2. Consider alternative design strategies for improving intersection safety.



3. Improve pedestrian safety at intersections with high probability of crashes.



4. Increase driver awareness of intersections.



5. Develop educational campaigns incorporating data analysis to improve intersection safety.



6. Reduce red light running.

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Older Road Users

With the continued aging of the baby boomer generation, more system users will be older drivers and pedestrians. This is a concern given that physical frailty may put older road users at an increased risk of sustaining a fatal or serious injury. The **Older Road Users** emphasis area focuses on drivers and pedestrians who are ages 65 years and older. There were 2,983 fatal crashes (14 percent of all fatal crashes) and 10,882 serious injury crashes (12 percent of all serious injury crashes) involving older drivers from 2010–2016.

Older Road User Fatalities and Serious Injuries (2010-2015)



FATALITIES
Drivers: 1,582
Pedestrians: 390

12% of all driver fatalities were older drivers. 14% of all pedestrian fatalities were older pedestrians.



SERIOUS INJURY
Drivers: 5,069
Pedestrians: 483

8% of all drivers with serious injuries were an older driver. 8% of all pedestrian serious injuries were an older pedestrian.

Older Road User Fatal and Serious Injury Crashes Summary

Crashes involving

older pedestrians



are increasing faster than crashes involving

older motorists



Drivers over represented in crashes

Males
≥75 years



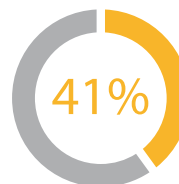
Females
≥80 years



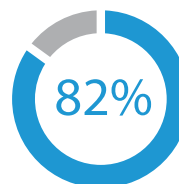
Pedestrians over represented in crashes



Males
≥65 years



of fatal and severe older driver crashes occurred in rural areas



of older pedestrian fatalities and severe injuries occurred in urban areas

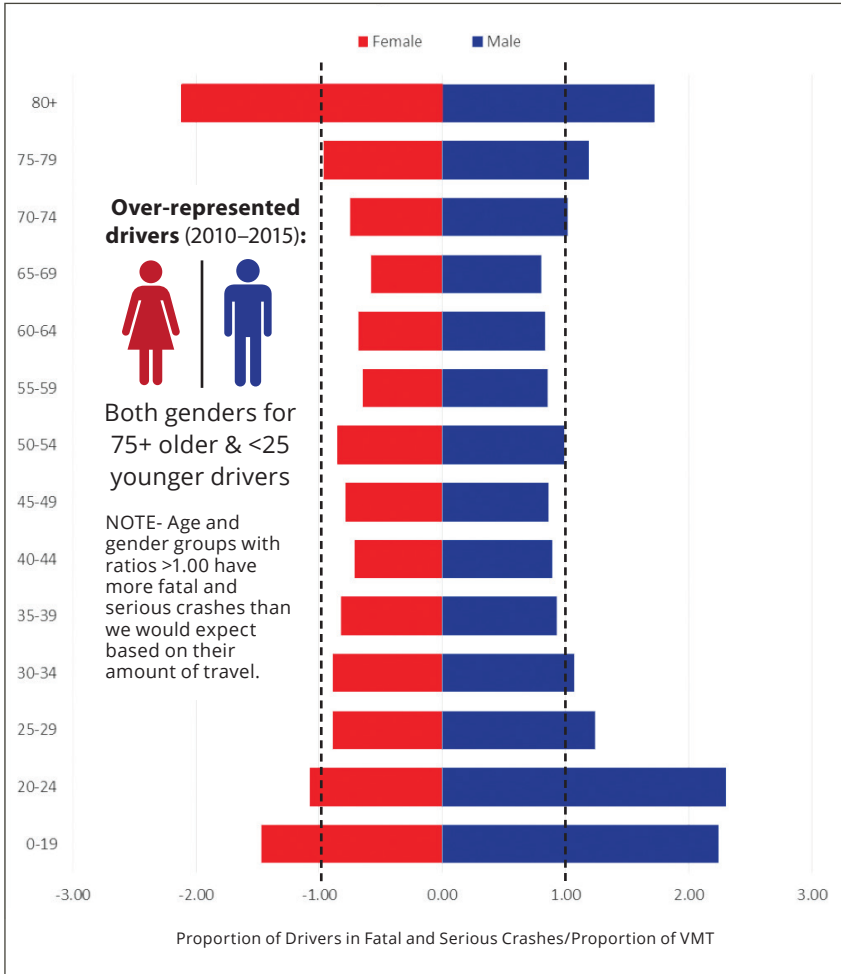
Older drivers are more likely to hit another vehicle, and less likely to run off the road and crash compared to younger drivers.

Older road users are defined as anyone age 65 years or older.

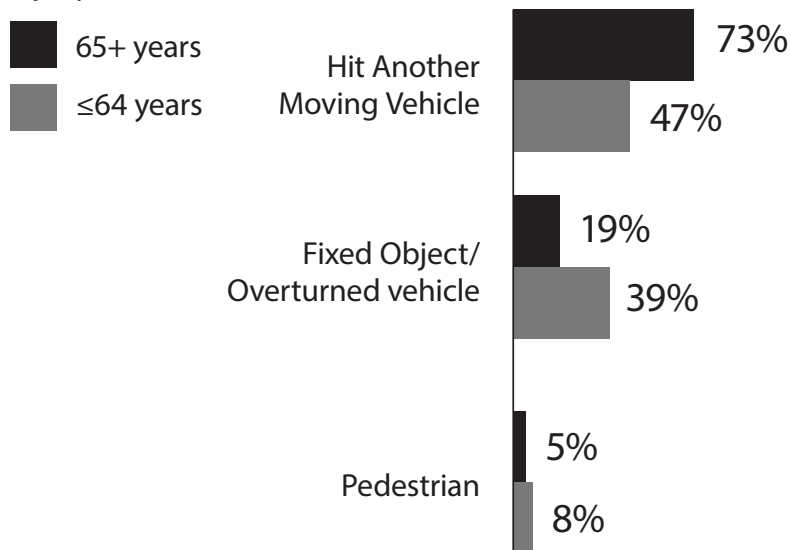


Older Road Users

Proportion of Drivers Involved in Fatal and Serious Crashes Relative to the Proportion of Vehicle Miles Traveled by Age and Gender



First Harmful Event (65+ vs ≤64) in Fatal and Serious Injury Crashes



Strategies to Help Older Road Users



Reduce wrong way crashes.

1



Design and operate roadways to meet the needs of older system users.

2



Implement effective methods and tools to prepare older road users to deal with the limitations brought on by the aging process.

3



Improve mobility options for older road users.

4



Implement methods to reduce injury severity among older road users.

5

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