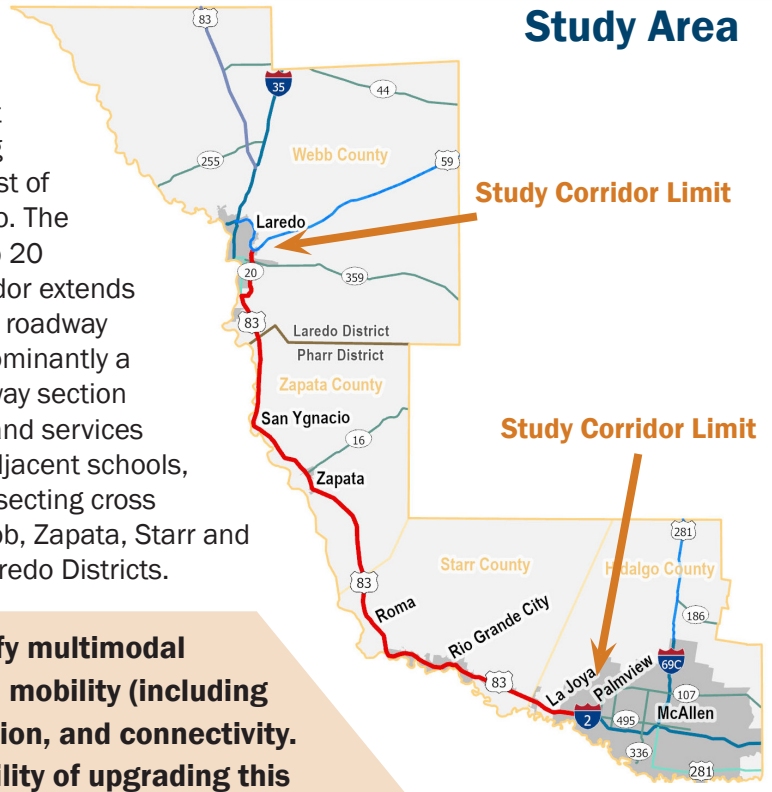


Study Overview

The Texas-Mexico border is North America’s busiest gateway for the movement of people and goods. The Texas Department of Transportation (TxDOT) is conducting a planning study along US Highway 83 (US 83) from the Interstate 2 (I-2) terminus west of Palmview to the vicinity of Mangana-Hein Road in south Laredo. The study corridor then continues generally north along State Loop 20 (SL 20) to its intersection with US 59 in east Laredo. The corridor extends approximately 130 miles and consists of a four-lane undivided roadway with a center left-turn lane from I-2 to Roma. It becomes predominantly a two-lane roadway along rural areas north of Roma with a freeway section in Laredo. The corridor serves as the “Main Street” for goods and services in many towns and communities where there are numerous adjacent schools, school zones, commercial and residential developments, intersecting cross streets and driveways. The study corridor extends through Webb, Zapata, Starr and Hidalgo counties and is located within the TxDOT Pharr and Laredo Districts.

Study Area



Study Purpose

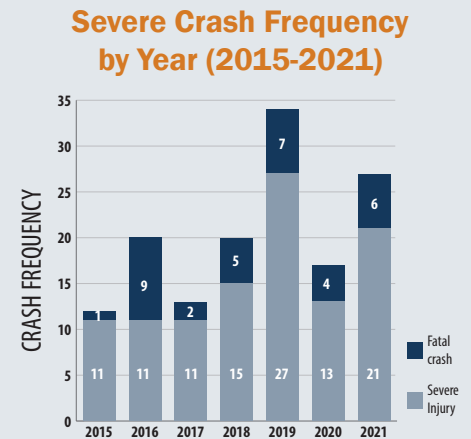
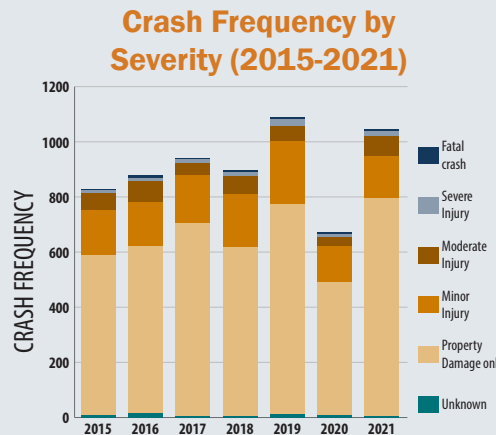
The study is being conducted to identify multimodal transportation needs related to safety, mobility (including freight), traffic flow, hurricane evacuation, and connectivity. The study will also evaluate the feasibility of upgrading this corridor to interstate design standards. The study will culminate with a plan that includes a list of recommendations such as detailed planning studies and specific transportation improvements.

Study Corridor-wide Trends

A corridor safety performance evaluation was conducted using the TxDOT maintained Crash Records Information System (CRIS) data for the period between 2015-2021. Years 2020 and 2021 were included to understand the impact of COVID-19 on crash trends. Based on a review of the crash data, year 2021 crash history is almost at the same level as 2019. However, 2020 is still considered to be an outlier because of the significant drop in crash frequency. The analysis below includes some comparisons between year 2020 and the years 2015-2019 plus year 2021.

Crash Frequency (2015-2021)

According to the CRIS data, there were **6,354** recorded crashes along the study corridor **between 2015 and 2021**. TxDOT recognizes that all crashes are important and have a physical, monetary, and emotional impact on people lives.

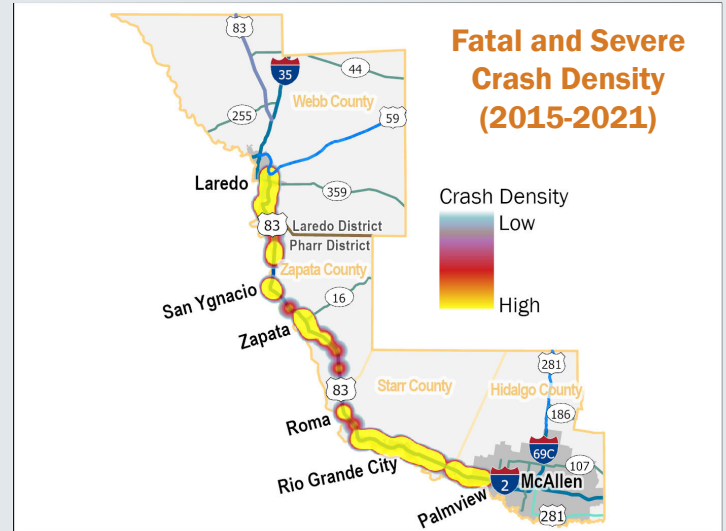
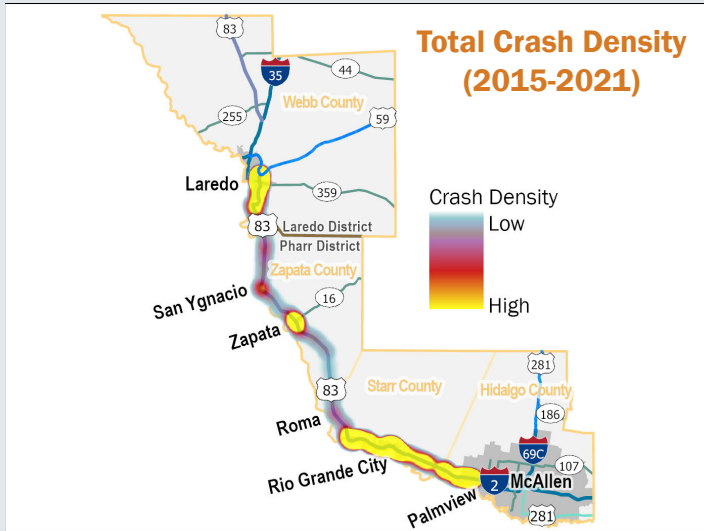


As shown in the following figures, the highest crash densities are concentrated in the urbanized areas.

The **fatal (K) and severe (A) crashes are widely dispersed** in the urbanized and rural areas. Also, there are reports of law and border enforcement high-speed chases in rural areas that have resulted in fatal and severe crashes within the study corridor.

As depicted in the graph below, **93 percent of the total crashes occurred inside urbanized areas. Intersection-**

related crashes account for 43 percent of the total crashes. Most of these crashes (98%) occurred in urban areas. Similarly, roadway segment crashes account for 57 percent of the total crashes, and 89 percent of this subset occurred in urban areas. Most of the issues within the urbanized areas are related to access management, recurring congestion, speed differentials from vehicles entering/exiting the roadway, construction work zones and school zones.

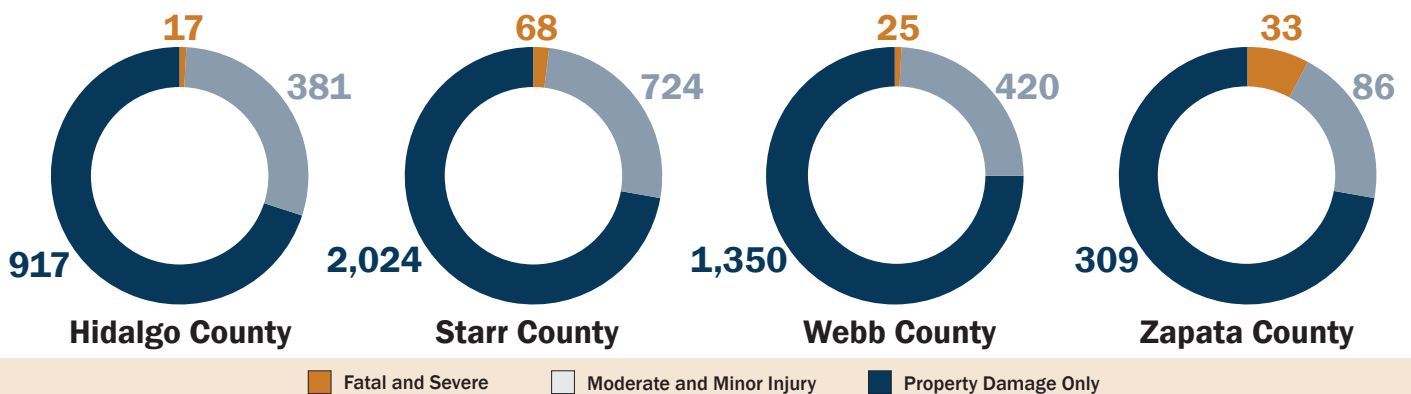


The portion of the corridor in **Starr County experienced nearly half of the total study corridor crashes**, followed by Webb County with 28 percent of the crashes. **Fatal and severe crashes account for about 2 percent of the crashes in each county**, except for **Zapata County where fatal and severe crashes account for 8 percent** of the total crashes. Most of the fatal and severe crashes in Zapata County occurred in the Cities of Zapata and San Ygnacio.

Number of Crashes by Location and Severity (2015-2021)

		Fatal crash	Severe Injury	Moderate Injury	Minor Injury	Property Damage only
Rural	Intersection	0	4	8	12	32
	Segment	9	19	57	60	255
Urban	Intersection	2	27	132	557	1959
	Segment	23	59	208	577	2282

Crash Frequency by County and Severity (2015-2021)

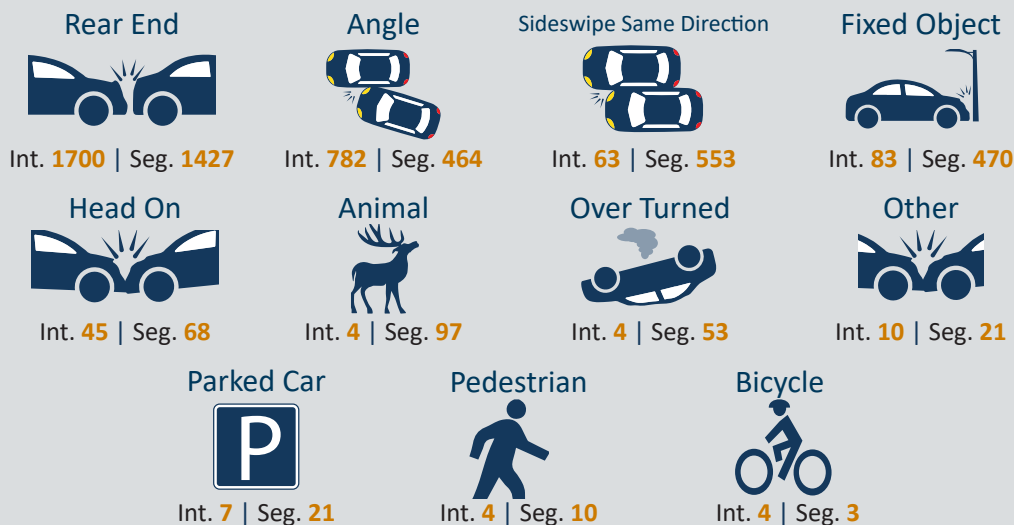


Crash Frequency by Crash Type (2015-2021)

Rear end and angle crashes are the two most prevalent crash types that occurred in the urbanized areas. Rear end crashes are typically associated with stop-and-go conditions, speed differentials due to traffic entering/exiting driveways, and construction zones. In rural areas, the predominant roadway segment crash types include fixed object, animal, and rear end. For rural intersections, the predominant crash types are angle and rear end.

Of the **143 severe crashes** along the study corridor **between 2015 and 2021**, **23% occurred at intersections** and **77% on roadway segments**. The primary intersection crash type was **angle, accounting for 61%** of the severe crashes, followed by **rear ends at 27%**, and **fixed object at 12%**. For roadway segments, the top three severe crash types included **fixed object (34%)**, **angle (17%)**, and **head on (15%)**.

Urban Total Crash Frequency by Type for Intersections (Int.) and Segments (Seg.)



Rural Total Crash Frequency by Type for Intersections (Int.) and Segments (Seg.)

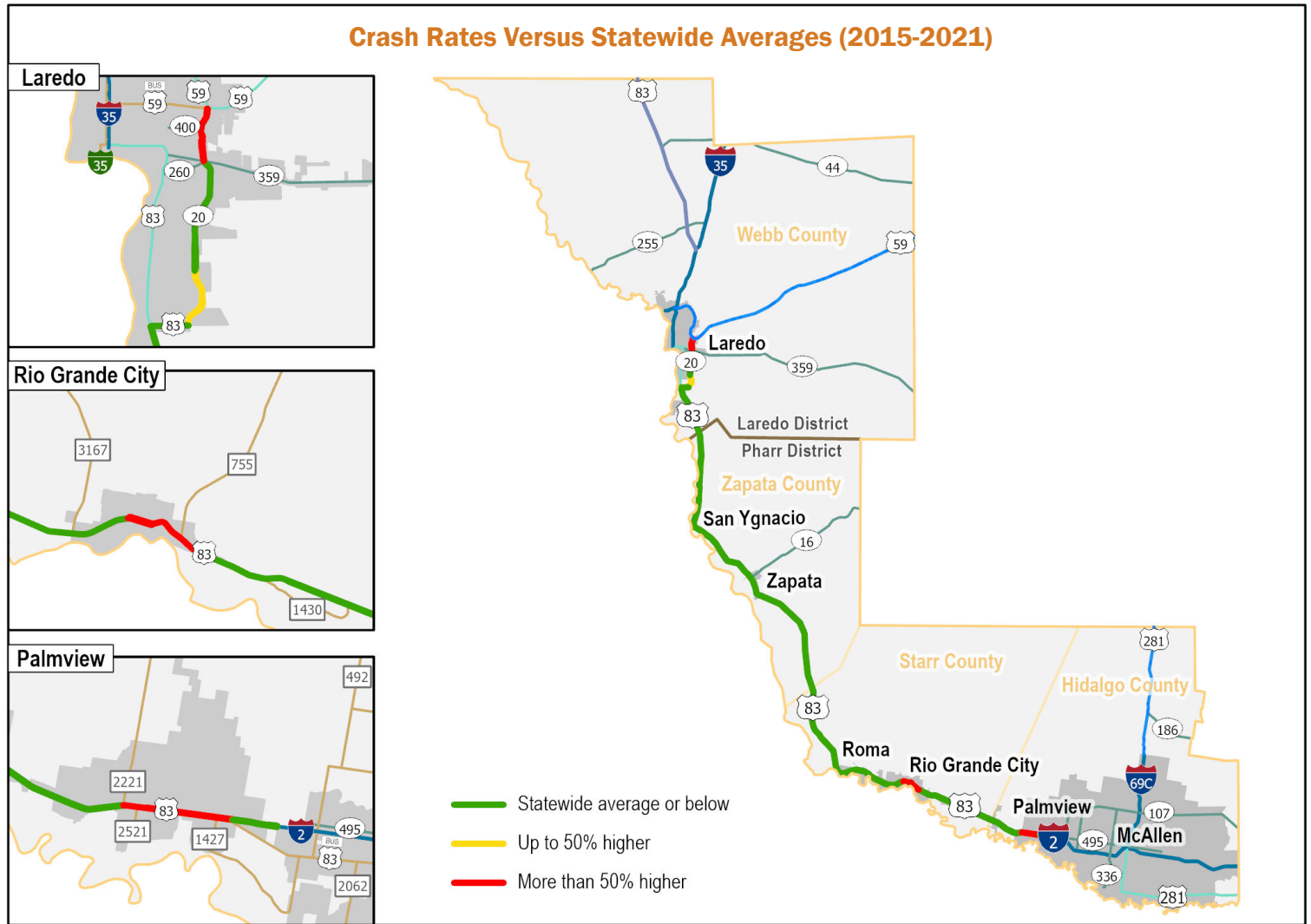


Severe Crashes by Type for Intersections (Int.) and Segments (Seg.)



Study Corridor Crash Rates

The crash rates were calculated separately for the urban and rural portions of the study corridor using annual Daily Vehicle Miles Traveled (DVMT) and the total crash count from 2015 to 2021. Crash rates for year 2020 were also included, even though it is an outlier because of the COVID-19 pandemic. **As depicted in the following graphic, roadway segments with crash rates above the statewide average are primarily located in the urban areas of Palmview, Rio Grande City, and Laredo.**



Corridor-wide crash rates were calculated separately for the years 2015-2019/2021 and for year 2020, as 2020 is a recognized outlier because of COVID-19. As shown below, SL 20 experienced urban and rural crash rates well above the statewide average rates. However, it is important to point out that the northern portion of SL 20 was under construction for the past few years, which may have contributed to the increased crash occurrences. **US 83 experienced crash rates below the statewide and TxDOT Laredo and Pharr averages.** Nevertheless, as shown in the crash rate graphic above, there are two sections of US 83 in Rio Grande City and west of Palmview that exceeded the statewide average crash rate by more than 50 percent.

Average Crash Rate by Facility Type Crash Rates 2015-2019 and 2021 (Crashes per 100 MVMT)

US 83 VS US HIGHWAYS			SL20 VS STATE HIGHWAYS		
	URBAN	RURAL		URBAN	RURAL
US 83	154	20	SL20	377	108
STATEWIDE	194	71	STATEWIDE	238	91
TXDOT LAREDO DISTRICT*	326	45	TXDOT LAREDO DISTRICT*	223	49
TXDOT PHARR DISTRICT*	283	50	TXDOT PHARR DISTRICT*	290	83

* Source: Border Districts Safety Analysis. Crash Rates 2017-2020

The fatality rate for **SL 20** was nearly double the statewide average for the period between **2015-2019** and **2021**. The US 83 fatality rate was substantially lower because the fatalities were widely distributed over a longer portion of the study corridor.

	FATALITY RATE: 2015-2019 and 2021	FATALITY RATE: 2020
STATEWIDE	1.4 crashes/100 MVMT	1.5 crashes/100 MVMT
US 83	0.4 crashes/100 MVMT	0.5 crashes/100 MVMT
SL 20	2.7 crashes/100 MVMT	0.0 crashes/100 MVMT

Crash rates expressed in crashes / 100 Million Vehicle Miles Traveled (MVMT)

Crash Contributing Factors

The top 5 crash contributing factors for urban and rural areas along the study corridor are listed below. **Speeding was the top contributing factor between 2015 and 2021 in both urban and rural areas.** In rural areas, animals on the road was the second highest contributing factor. Driver inattention, which was a contributing factor in both urban and rural areas, is listed as one of the Texas Strategic Highway Safety Plan (SHSP) emphasis areas.

Top 5 Crash Contributing Factors for Urban and Rural Areas (2015-2021)

Rural Areas		Urban Areas	
Speed ¹	24%	Speed	43%
Animal on Road	21%	Failed to Yield Right of Way ¹	11%
Fatigued or Falling Asleep	9%	Driver Inattention	10%
Driver Inattention	7%	Changed Lane When Unsafe	8%
Failed to Drive in Single Lane	5%	Followed Too Closely	3%

* Percentages were calculated using the records with recorded contributing factors.

1. Failed to control speed, Unsafe speed.

Source: TxDOT CRIS Data 2015-2021

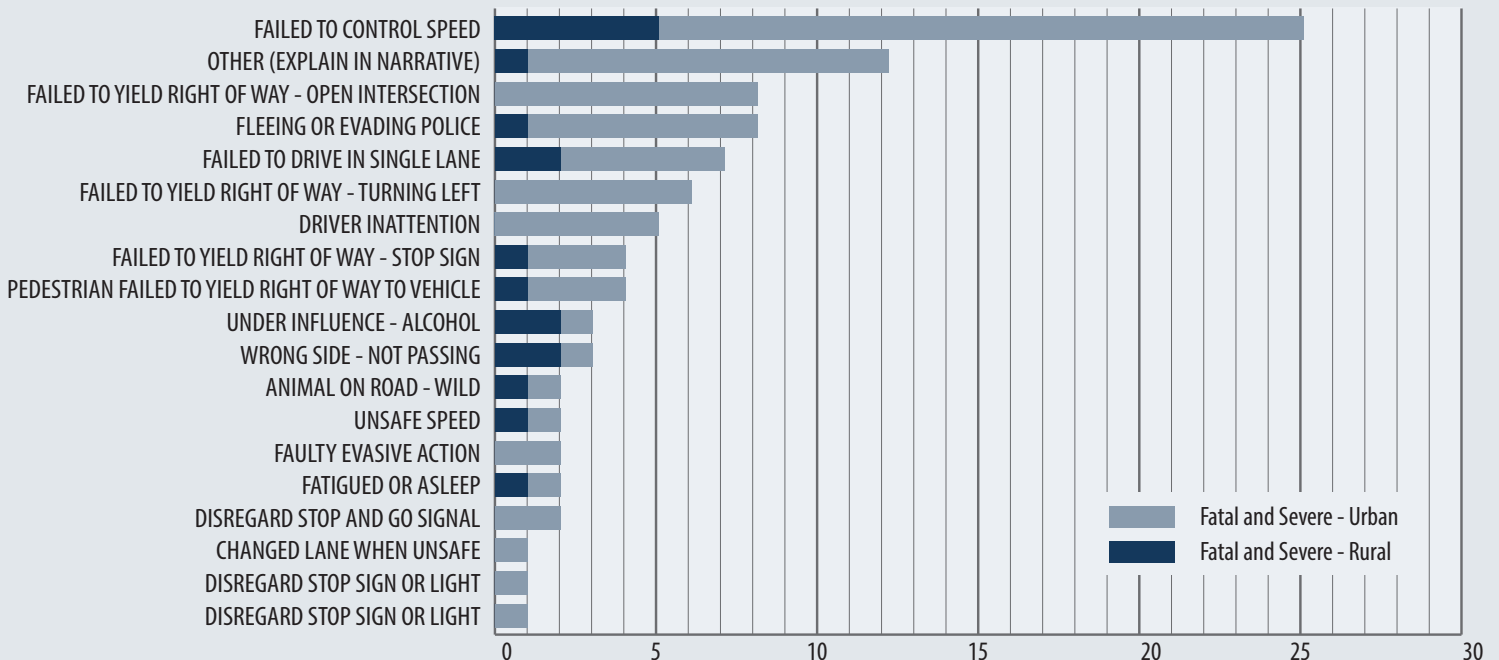
* Percentages were calculated using the records with recorded contributing factors.

1. Failed to yield right of way - turning left, open intersection, stop sign, yield sign.

Source: TxDOT CRIS Data 2015-2021

As shown in the graphic below, the top two contributing factors for fatal and severe crashes were speeding and aggressive driving.

Fatal and Severe Crashes Contributing Factors (2015-2021)

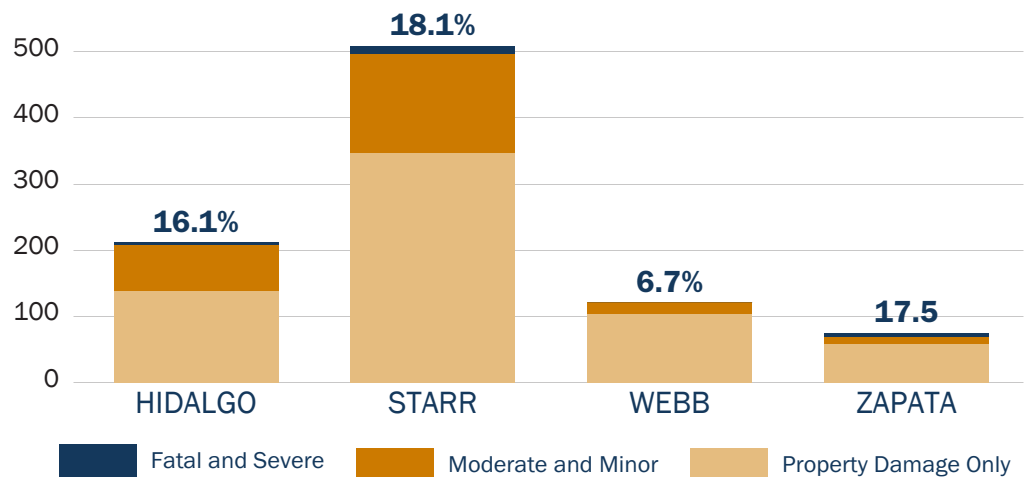


Source: TxDOT CRIS Data 2015-2021

Older Drivers

For those **65 or older**, the Rio Grande Valley is a popular destination to retire and to vacation during the winter months. **The number of crashes that involved at least one older driver represented approximately 14.4% of the total crashes within the study corridor.** The graph to the right presents the number and severity of older driver crashes that occurred along the study corridor by county and the percentage of total crashes they represent.

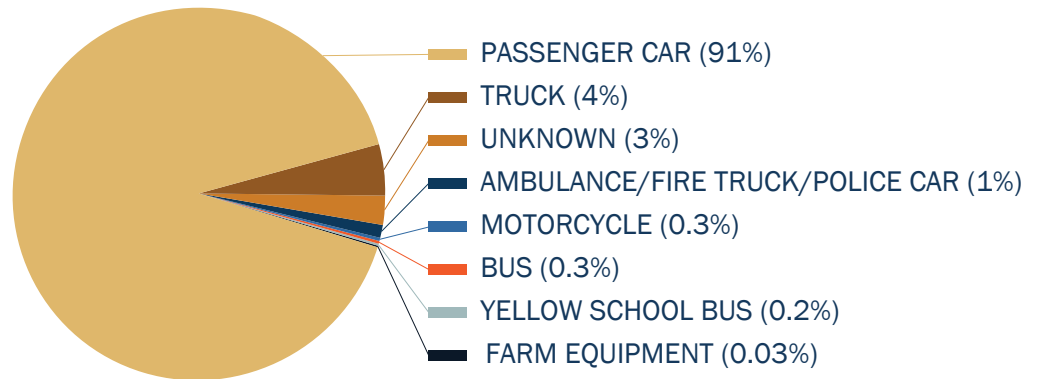
Older Driver Crashes by Severity and County (2015-2021)



Vehicle Type

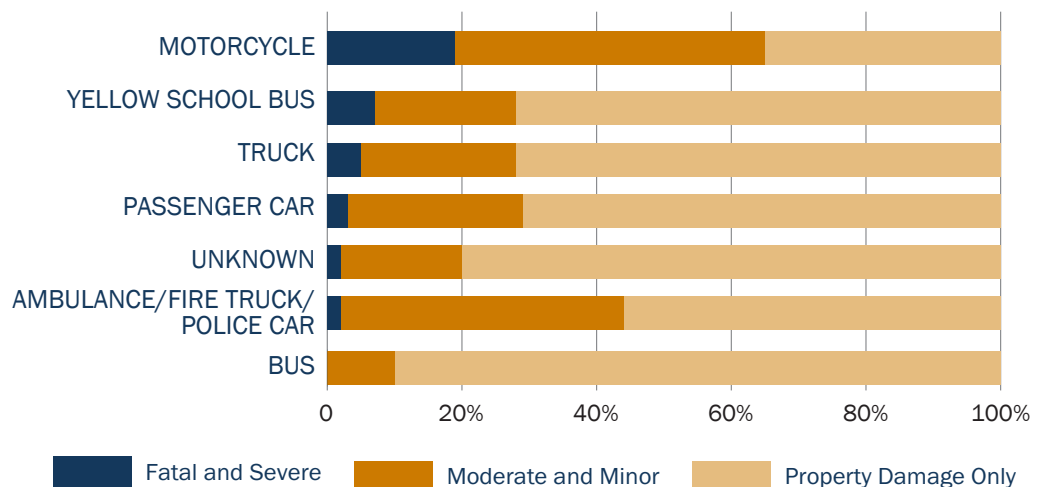
Over 90 percent of the crashes along the study corridor involved **at least one or more passenger car.** **Truck-involved crashes accounted for 4 percent of the total crashes.** The remaining crashes involving other vehicle types each accounted for 3 percent or less of the total crashes.

Breakdown of Vehicles Involved in Crashes by Type



Looking at crashes by vehicle type and severity, it was observed that about **20 percent of the crashes** along the study corridor involving a **motorcycle** resulted in a **fatality or severe injury.** Approximately **7 percent of the crashes** involving a **school bus also resulted in a fatality or severe injury.**

Corridor Crashes by Vehicle Type and Severity



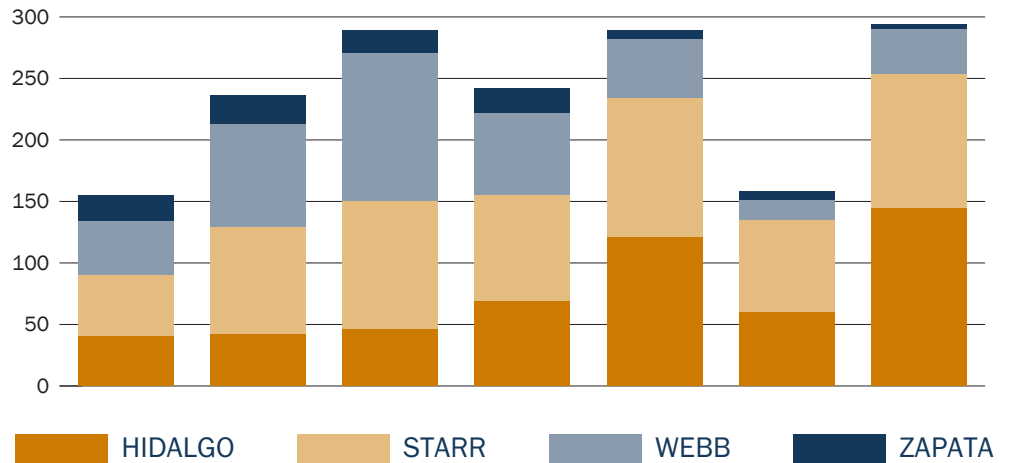
Work Zones/ Construction Zone:

Numerous projects were constructed along the study corridor over the past few years. Work zones are prone to crashes, primarily due to lane reductions, obstacles, non-compliance with work zone posted speeds and poor lighting. As the graph depicts, well over 100 work zone-related crashes have occurred every year along the study corridor, with nearly 70 percent of the crashes occurring in Starr and Hidalgo Counties.

Study Corridor and TXDOT SHSP (2017-2022)

The TXDOT SHSP is structured around seven emphasis areas (EAs) identified using data analysis and stakeholder input. The EAs represent the focus area where resources can be used to effectively address road safety. The percent of crashes by EA was calculated for the study corridor and statewide. The study corridor intersection, speeding, and distracted driving EA percentages are higher than the statewide averages.

Construction Related Crashes by County and Year



State vs Study Corridor Percent of Crashes by Emphasis Area
(Rural and Urban)

Intersection Safety



State | Study
40% | 46%

Speeding



State | Study
28% | 39%

Roadway and Lane Departures



State | Study
19% | 14%

Older Road Users



State | Study
15% | 12%

Distracted Driving



State | Study
9% | 9%

Impaired Driving



State | Study
2% | 1%

Pedestrian Safety



State | Study
1% | 0%

US 83 Regional Corridor Study Schedule (Subject to Change)

Spring 2022

- Study Begins
- Collect Data

Summer 2022

- Conduct a Public Survey
- Identify Needs
- Analyze Data

Fall 2022 and Winter 2023

- Develop and Recommend Improvements
- Engage Stakeholders

Spring 2023

- Host Public Open Houses
- Finalize Recommendations

Summer 2023

- Prepare a Corridor Development Plan
- Study Concludes

Questions/Comments



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