Houston-Galveston Area Council

2018 | STATE OF SAFETY REPORT

THE HOUSTON-GALVESTON METROPOLITAN PLANNING AREA

HOUSTON-GALVESTON AREA COUNCIL
METROPOLITAN PLANNING ORGANIZATION

Regional Collaboration • Transportation Planning • Multimodal Mobility

The Houston-Galveston Area Council Metropolitan Planning Organization:
2018 State of Safety Report

Houston-Galveston Area Council
3555 Timmons Lane, Suite 120
Houston, Texas 77027
713.627.3200
h-gac.com

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INTRODUCTION

The State of Safety Report is an annual overview of motor vehicle crash incidents in the eight-county Transportation Management Area (TMA). Utilizing Texas Department of Transportation (TxDOT) Crash Record Information System records, the report summarizes vehicle crashes by county and crash type category. Crash Type cover common crash types with emphasis on those crash types that contribute to most crash incidents in the region.

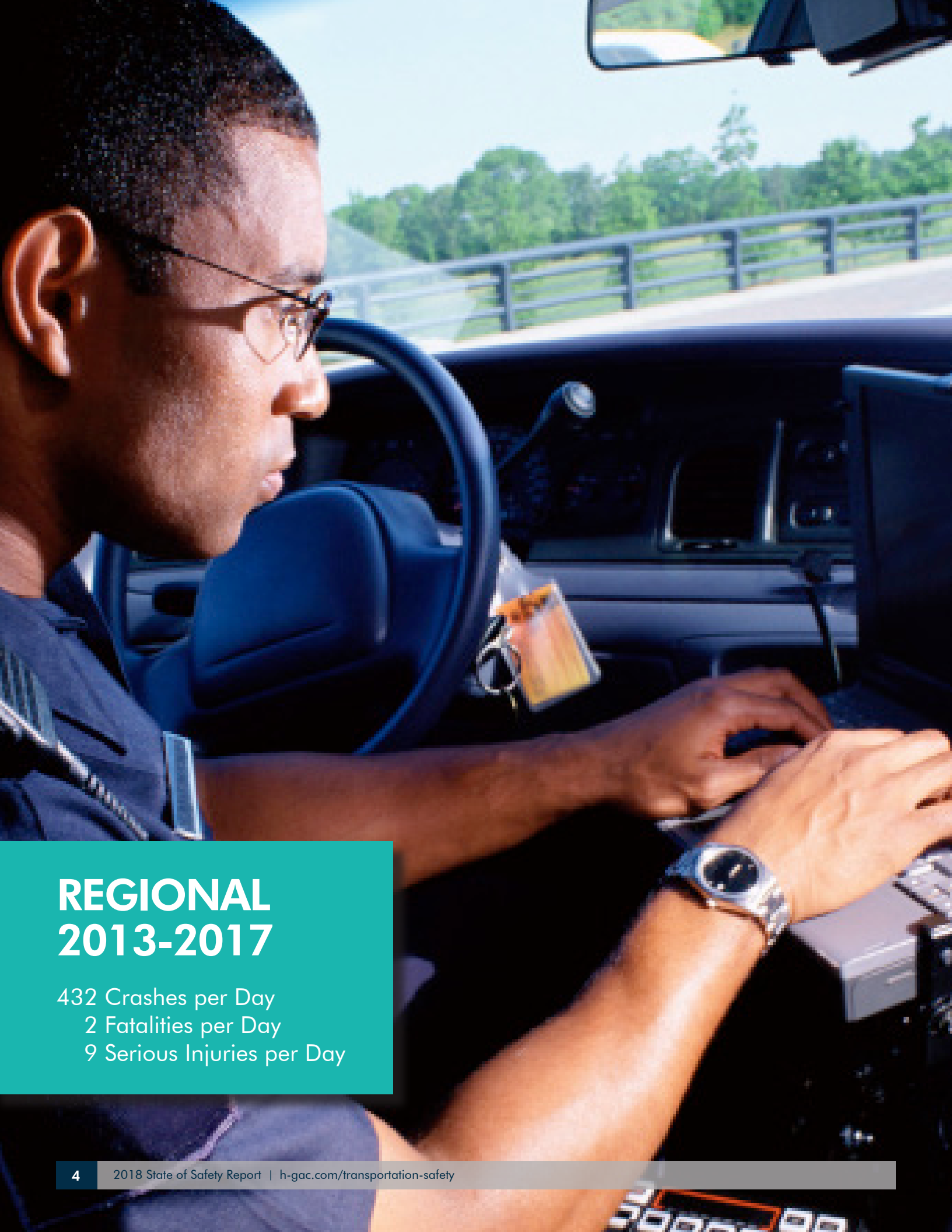
In 2017, the total number of regional vehicle crashes decreased by 2 percent. Serious injuries from vehicle crashes decreased by the same amount, while fatalities only decreased 0.3 percent. From 2013-2017, the region averaged over 400 vehicle crashes per day, or 18 crashes every hour. Likewise, there were nearly two fatalities and nine serious injuries per day. A summary of the region's vehicle crash statistics is shown in the table below.

Two important developments occurred recently that will allow the Metropolitan Planning Organization (MPO) to assist our regional partners to improve traffic safety throughout the region. First, in August 2018 the MPO's Transportation Policy Council adopted the first Regional Safety Plan. This plan describes the regional crash trends, identifies crash type emphasis areas, and lists proven countermeasures for improving traffic safety. Second, the Transportation Policy Council re-established the former Regional Safety Council as the new Transportation Safety Committee. The new committee is charged with developing implementation plans for each of the crash type emphasis areas in the Regional Safety Plan. The implementation plans will contain short-term, low-cost engineering solutions, law enforcement recommendations, relevant educational and outreach suggestions, and proposed policy changes where appropriate.

REGIONAL CRASH SUMMARY

Crash Type	Total Crashes	Percentage of Crashes	Percentage of Change 2016	Fatalities	Serious Injuries
Regional	166,748	100%	-2%	713	3,321
Speeding	55,787	33%	+2%	210	1,009
Young Drivers (15-20 yrs.)*	29,780	18%	-4%	22	173
Elderly Drivers (65 yrs +)*	20,237	12%	+6%	34	132
Distracted Drivers	27,861	17%	+15%	33	235
Commercial Vehicles	5,231	3%	+11%	6	19
Impaired Drivers (DUI)	5,019	3.0%	+14%	347	404
Work Zone	4,890	3%	+20%	14	102
Pedestrians	1,973	1%	-0.5%	149	294
Bicycles	883	1%	-0.7%	22	88
Motorcycles	1,165	1%	-2%	113	262
Railroad-related	358	0.2%	-11%	3	18
Intersection-related	58,323	35%	-10%	167	1,254

**Driver Only*



REGIONAL 2013-2017

432 Crashes per Day
2 Fatalities per Day
9 Serious Injuries per Day

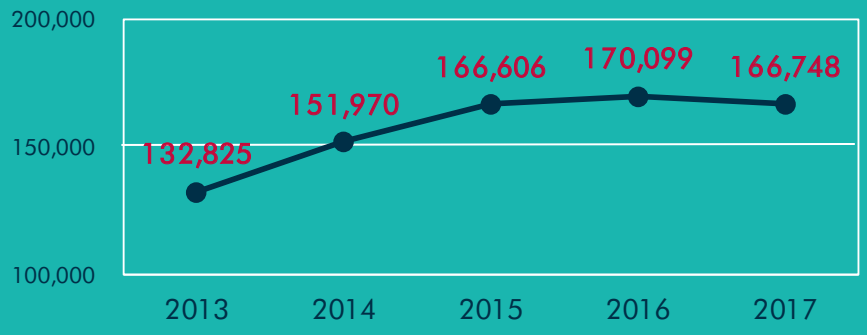
REGIONAL TOTALS

There were slight decreases in crashes, fatalities, and serious injuries from 2016 to 2017. However, during the five-year period from 2013 to 2016, crashes increased an average of six percent per year—which is nearly three times the rate of annual regional population growth. The region averaged 157,650 motor vehicle crashes, 658 fatalities, and 3,364 serious injuries per year.

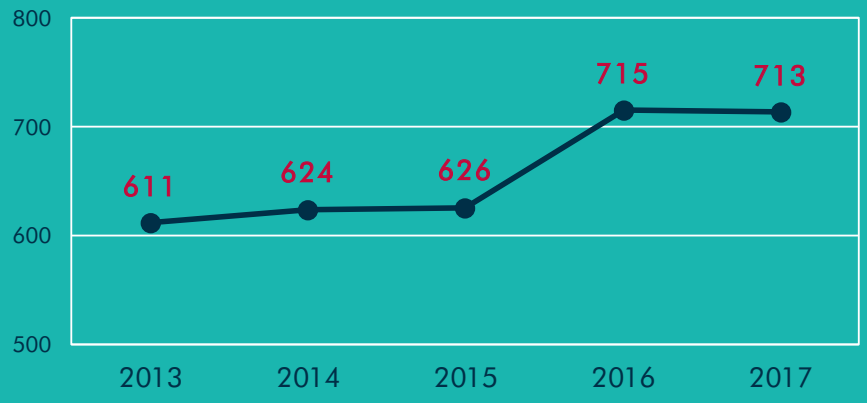
The charts below show trends in crashes, fatalities, and serious injuries over the five-year time period.

A detailed listing of annual vehicle crashes by county can be found in the appendix.

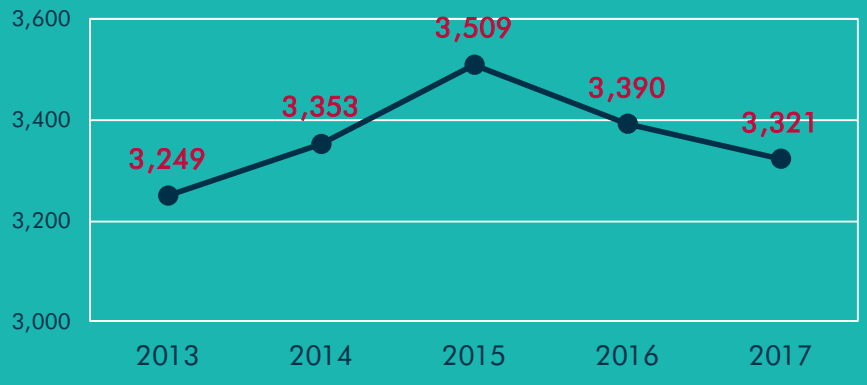
CRASHES



FATALITIES



SERIOUC INJURIES



PERFORMANCE MEASURES

In 2016, the Federal Highway Administration (FHWA) implemented the Transportation Performance Management program (TPM). TPM is a strategic approach to transportation investment and decision-making utilizing a data-driven approach to achieve national performance goals.

As part of TPM, five traffic safety performance measures were established to track fatalities and serious injuries in public roadways. These performance measures are five-year rolling averages based on state crash data. The performance measures include:

1. Number of Fatalities
2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
3. Number of Serious Injuries
4. Rate of Serious Injuries per 100 million VMT
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries

TPM establishes the process for State Departments of Transportation (DOT) and Metropolitan Planning Organizations (MPO) to establish and report their annual safety targets, and the process that FHWA will use to assess whether State DOTs have met or made significant progress toward meeting their safety targets.

MPOs may set their own safety targets or agree to support their State's safety targets. Either way, MPOs must calculate their safety targets and submit them to their State DOT. MPOs that chose to support their State's targets are not accountable for meeting their respective targets. H–GAC has chosen to support TxDOT's safety targets.

H-GAC updated its Safety Performance Targets for 2018. The table below depicts the 2018 targets for the MPO.

H–GAC SAFETY PERFORMANCE MEASURES

Performance Measure	2012-2016 Baseline (5YR Rolling AVG)	2017 Actual	CY 2018 Target	2019 Target
Fatalities	620	704*	681	773
Fatality Rate	1	1.1	1.3	1.1
Serious Injury	3,513	3,509	3,419	3,597
Serious Injury Rate	5.9	6.1	3.7	5.2
Non-Motorized Fatalities & Serious Injuries**	306	365	348	365

**NHTSA Annual Fatality Report (number of fatalities not final)*

*** Non-motorized fatalities and serious injuries adjusted based on federal guidance.*

IMPAIRED DRIVERS 2013-2017

13 Crashes per Day
1 Fatality per Day
1 Serious Injury per Day

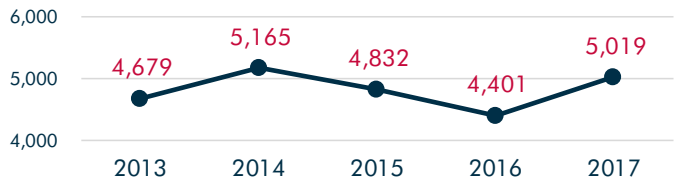
IMPAIRED DRIVERS

By far, impaired driving† is the region's most serious and deadly crash type. Impaired driving crashes account for nearly half of all traffic fatalities but represent only three percent of all traffic crashes. Compared to 2016, impaired crashes increased 14 percent, while impaired crash fatalities decreased 6.5 percent. Serious Injuries rose by one percent.

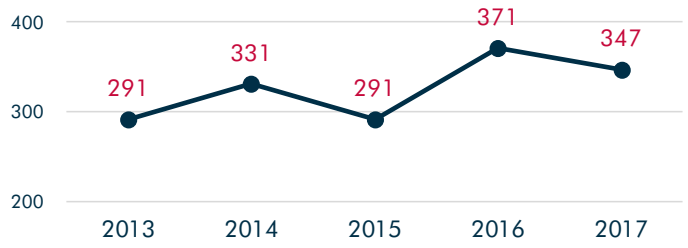
Interestingly, weekends (Saturday and Sunday) are when nearly half (45 percent) of all impaired driving crashes occur. Figure ID6 shows impaired driving crashes by time of day and weekday. Impaired crashes occur at roughly the same rate on highways, city streets and farm-to-market/county roads combined (Figure ID5). Figure ID8 shows impaired driving hotspots throughout the region.

Impaired drivers are overwhelmingly male by a ratio of 3:1 (Figure ID4). Those 25-34 years old account for over one-third of all impaired driving crashes. The region's average Blood Alcohol Content (BAC) level for impaired driving crashes is nearly twice the legal limit of 0.08 BAC (Figure ID7).

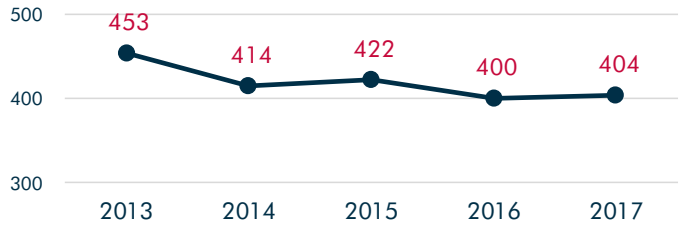
IMPAIRED DRIVING CRASHES *(Figure ID1)*



IMPAIRED DRIVING FATALITIES *(Figure ID2)*

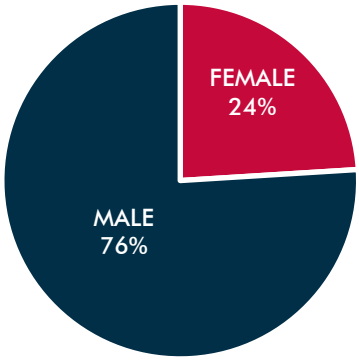


IMPAIRED DRIVING SERIOUS INJURIES *(Figure ID3)*



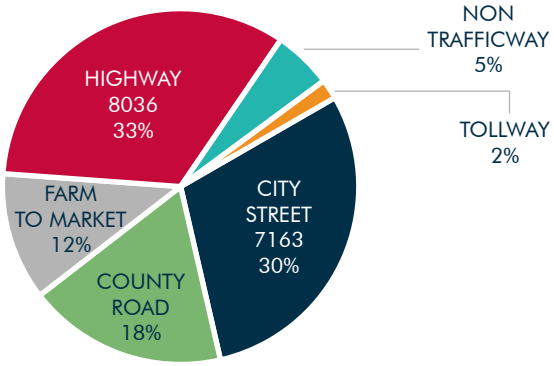
IMPAIRED DRIVERS BY GENDER

(Figure ID4)



IMPAIRED CRASHES BY ROAD TYPE

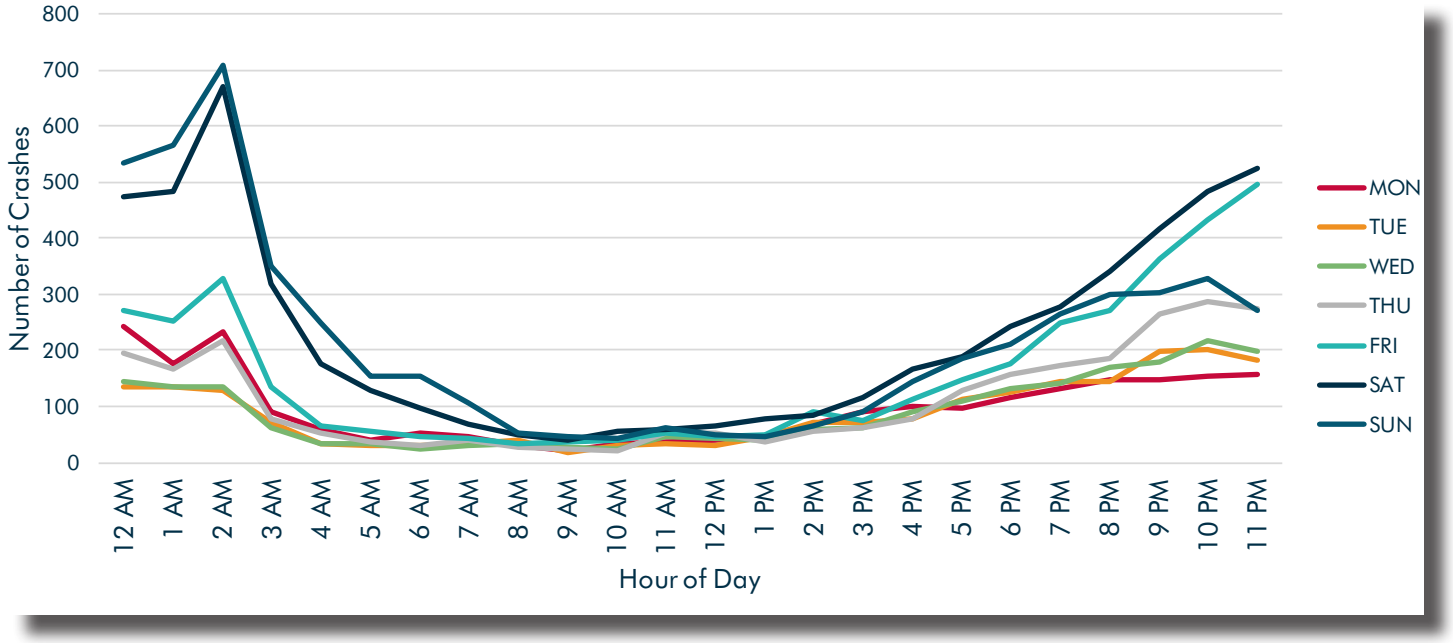
(Figure ID5)



†Impairment is defined as "Intoxicated" under Texas law. Intoxicated means not having the normal use of mental or physical faculties by reason of the introduction of alcohol, a controlled substance, a drug, a dangerous drug, a combination of two or more of those substances, or any other substance into the body; or, having a blood alcohol concentration of 0.08 or more (Texas Penal Code §49.01(2), as amended). Impaired driving or driving while intoxicated is illegal (Texas Penal Code §49.04, as amended).

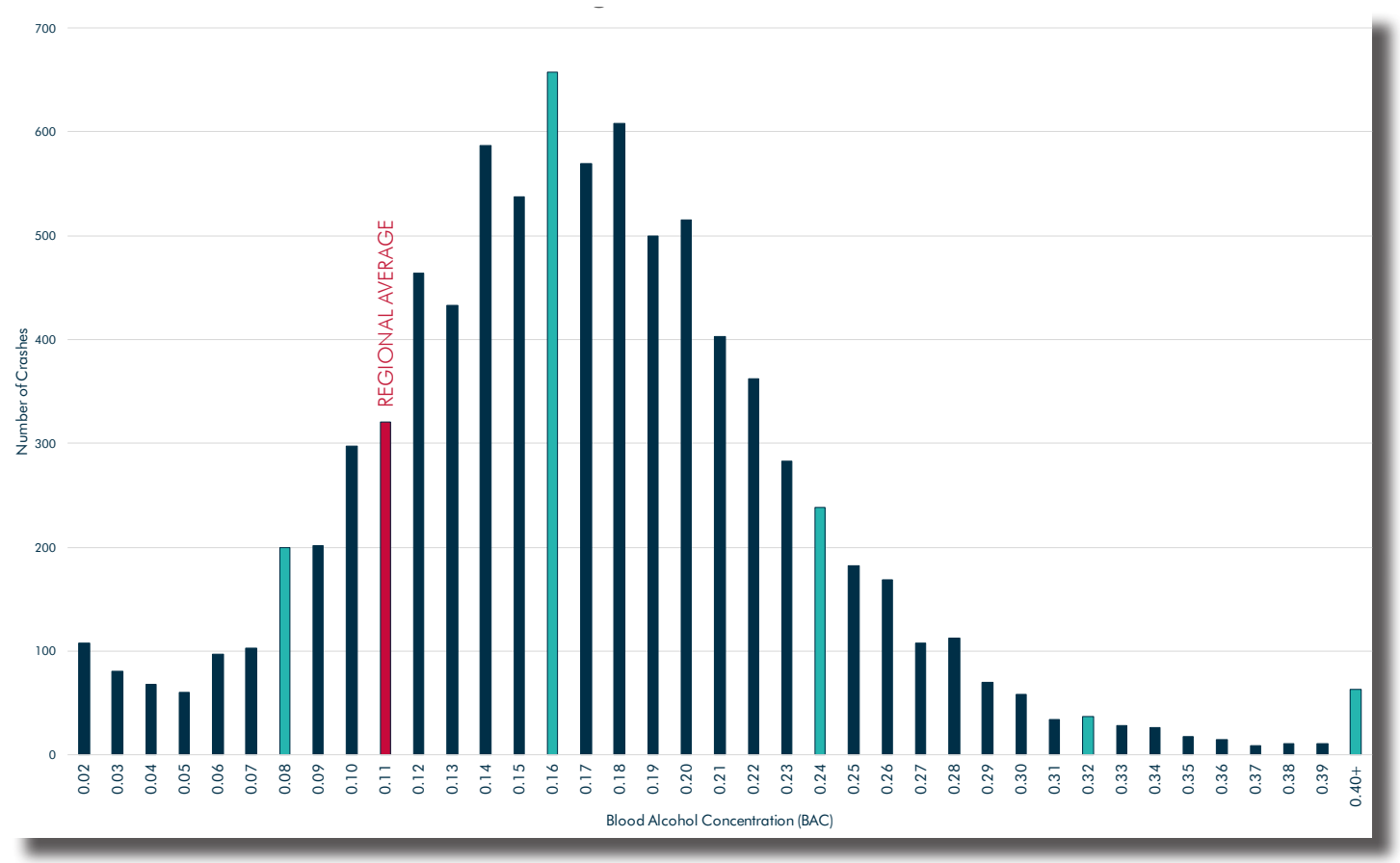
IMPAIRED DRIVER CRASHES BY HOUR OF DAY

(Figure ID6)



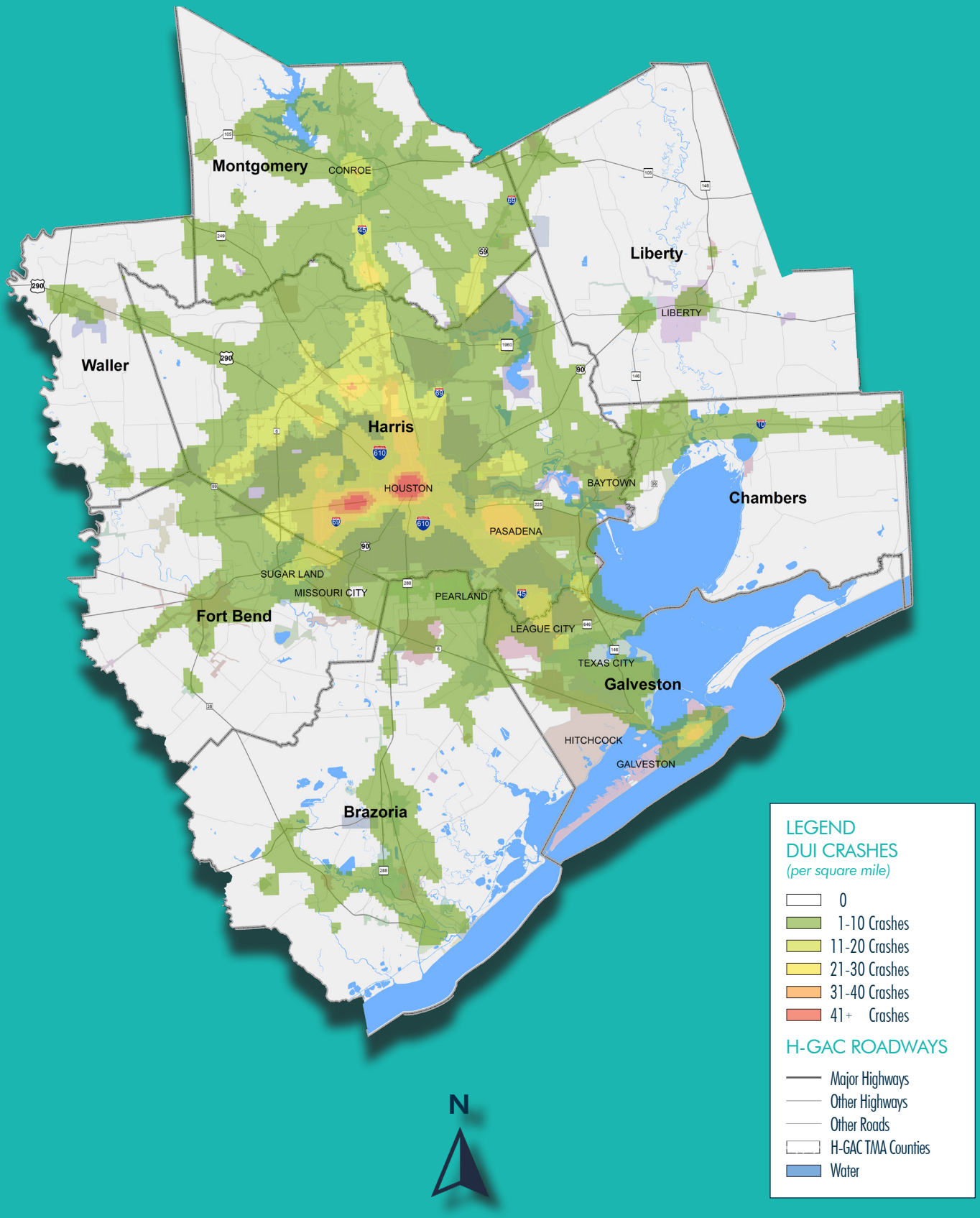
REGIONAL BLOOD ALCOHOL CONCENTRATION (BAC) LEVELS

(Figure ID7)



IMPAIRED DRIVER CRASH HOTSPOTS

(Figure ID8)



DISTRACTED DRIVERS

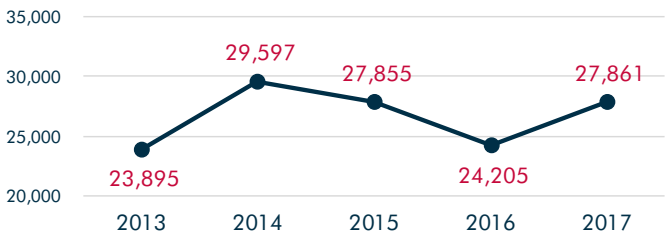
Traffic crashes caused by driver inattention is a growing problem in the region. Distracted driving (defined as any activity whereby the driver's eyes, hands and/or attention are diverted from driving the vehicle) accounted for nearly one-in-five traffic crashes in 2017. In 2017, distracted driving crashes increased 15 percent compared to 2016. Likewise, distracted driving fatalities increased 50 percent while serious injuries climbed 9 percent.

Slightly more males than females (3:2 ratio) are involved in distracted driving crashes (Figure DD4) which means that both genders are equally likely to engage in distracted driving behaviors. Most crashes occur during peak hour traffic times (6 AM to 9 AM; 3 PM to 7 PM Monday through Friday) as shown in Figures DD7. Combining farm-to-market and county road (which tend to be rural), distracted driving occurs at about the same rate on highways (≈ 32%), city streets (≈ 29%), and rural roads (≈ 26%) (Figure DD6).

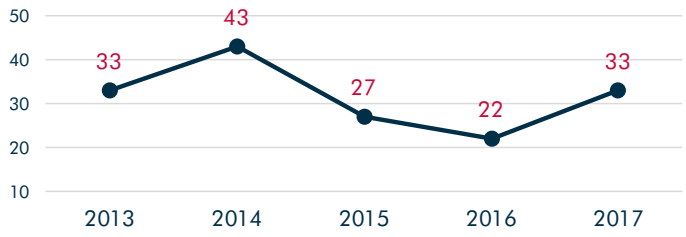
According to the Pew Research Center, 96 percent of Americans own a mobile phone, with 81 percent owing smartphones. Nearly all distracted driving crashes in the region are caused by some type of mobile phone use while driving.

Major public attention is now being devoted to preventing distracted driving. TxDOT has launched a public awareness campaign against distracted driving and private organizations like SAFE2SAVE, which uses incentives to discourage distracted driving, are springing up to combat the problem. Distracted driving is a focus area of the Regional Safety Plan.

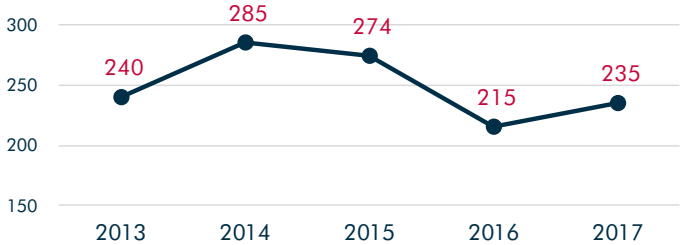
DISTRACTED DRIVING CRASHES *(Figure DD1)*



DISTRACTED DRIVING FATALITIES *(Figure DD2)*

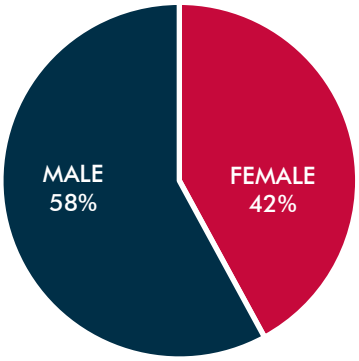


DISTRACTED DRIVING SERIOUS INJURIES *(Figure DD3)*



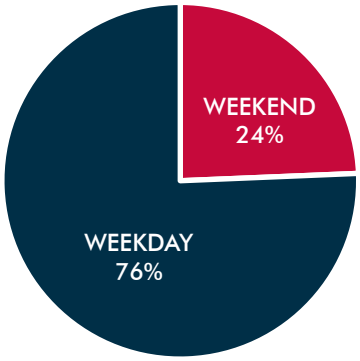
DISTRACTED DRIVERS BY GENDER

(Figure DD4)



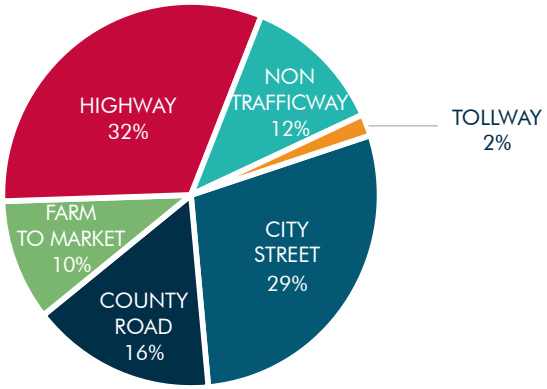
DISTRACTED CRASHES BY PERIOD OF THE WEEK

(Figure DD5)



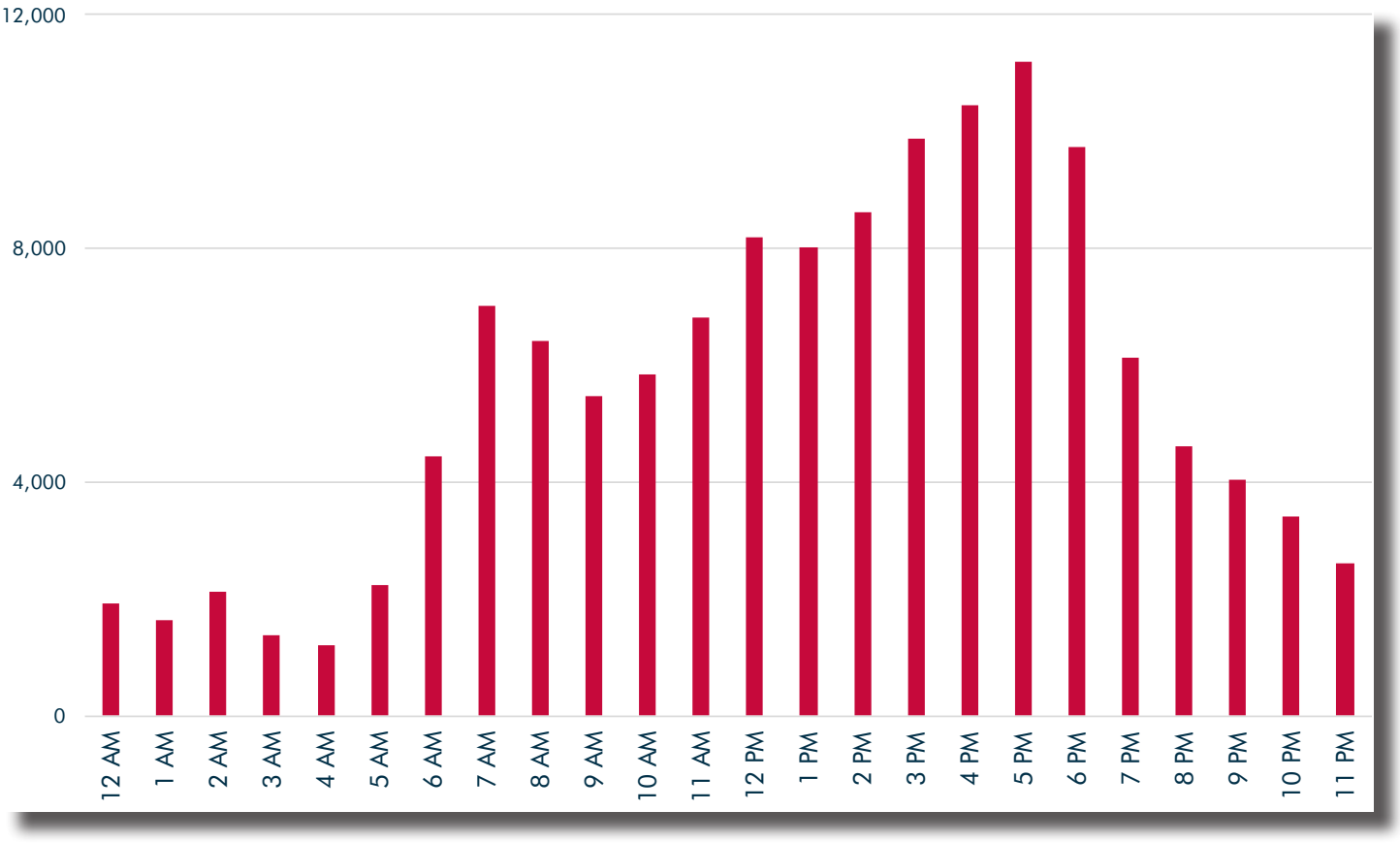
DISTRACTED CRASHES BY ROAD TYPE

(Figure DD6)



DISTRACTED CRASHES BY HOUR OF DAY

(Figure DD7)



BICYCLES 2013-2017

2 Crashes per Day
1 Fatality every 20 Days
1 Serious Injury every 4 Days

BICYCLES

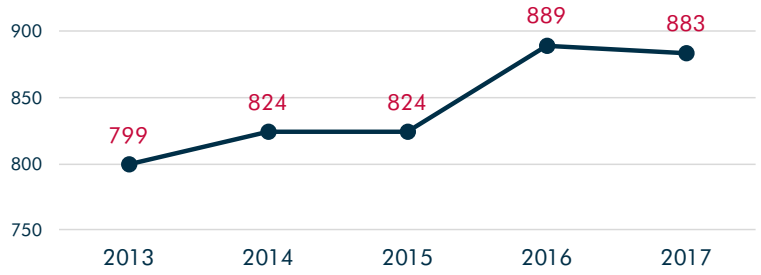
Bicycle-related traffic crashes, defined as a motor vehicle crash where the first harmful event involved a bicycle, remained relatively unchanged (-0.7 percent) in 2017 compared to 2016. Bicyclist fatalities however dropped 33 percent over the same period while serious injuries remained about the same. From 2013 to 2017, the region experienced approximately two bicycle-related crashes per day, with a fatality every 20 days and a serious injury every four days.

Males are overwhelming involved in bicycle-related crashes by a ratio of four-to-one (Figure B4). About 3-quarters of bicycle-related crashes occur Monday through Friday, and 55 percent happen during peak hour traffic periods (Figure B8). Most of those crashes occur on city streets (Figure B8) and are intersection-related (Figure B5). Figure B8 shows the hour of day with the highest percentage of bicycle-related crashes by months of the year.

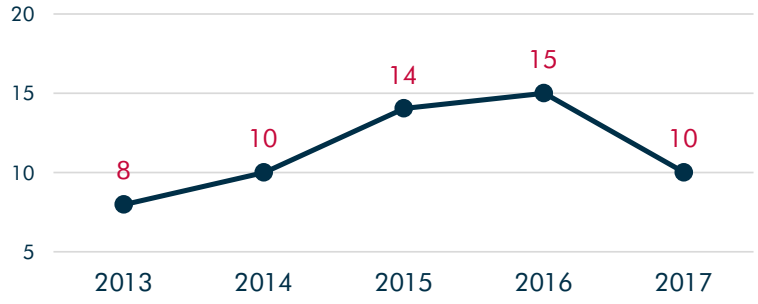
Surprisingly, nine out of 10 bicyclists involved in crashes were not wearing a helmet. The likelihood of bicyclist being killed or injured in a crash with a motor vehicle increased ten-fold when not wearing a helmet, as shown in Figure B7.

Table B6 shows contributing factors for bicycle-related crashes for both bicyclists and drivers. Failure to yield and distraction are major causes on those crashes for drivers and bicyclists. Figure B10 shows the regional crash density of bicycle-related crashes.

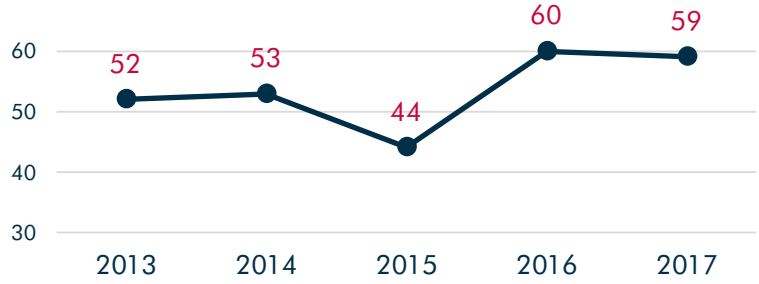
BICYCLE-RELATED CRASHES *(Figure B1)*



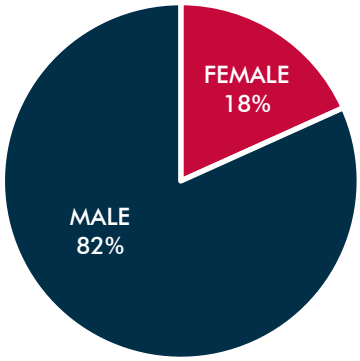
BICYCLIST FATALITIES *(Figure B2)*



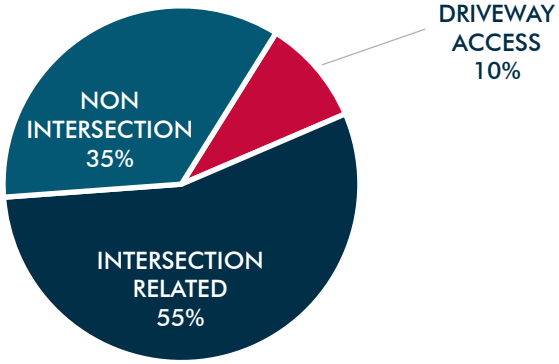
BICYCLIST SERIOUS INJURIES *(Figure B3)*



BICYCLISTS BY GENDER *(Figure B4)*



INTERSECTION-RELATED BICYCLE CRASHES *(Figure B5)*



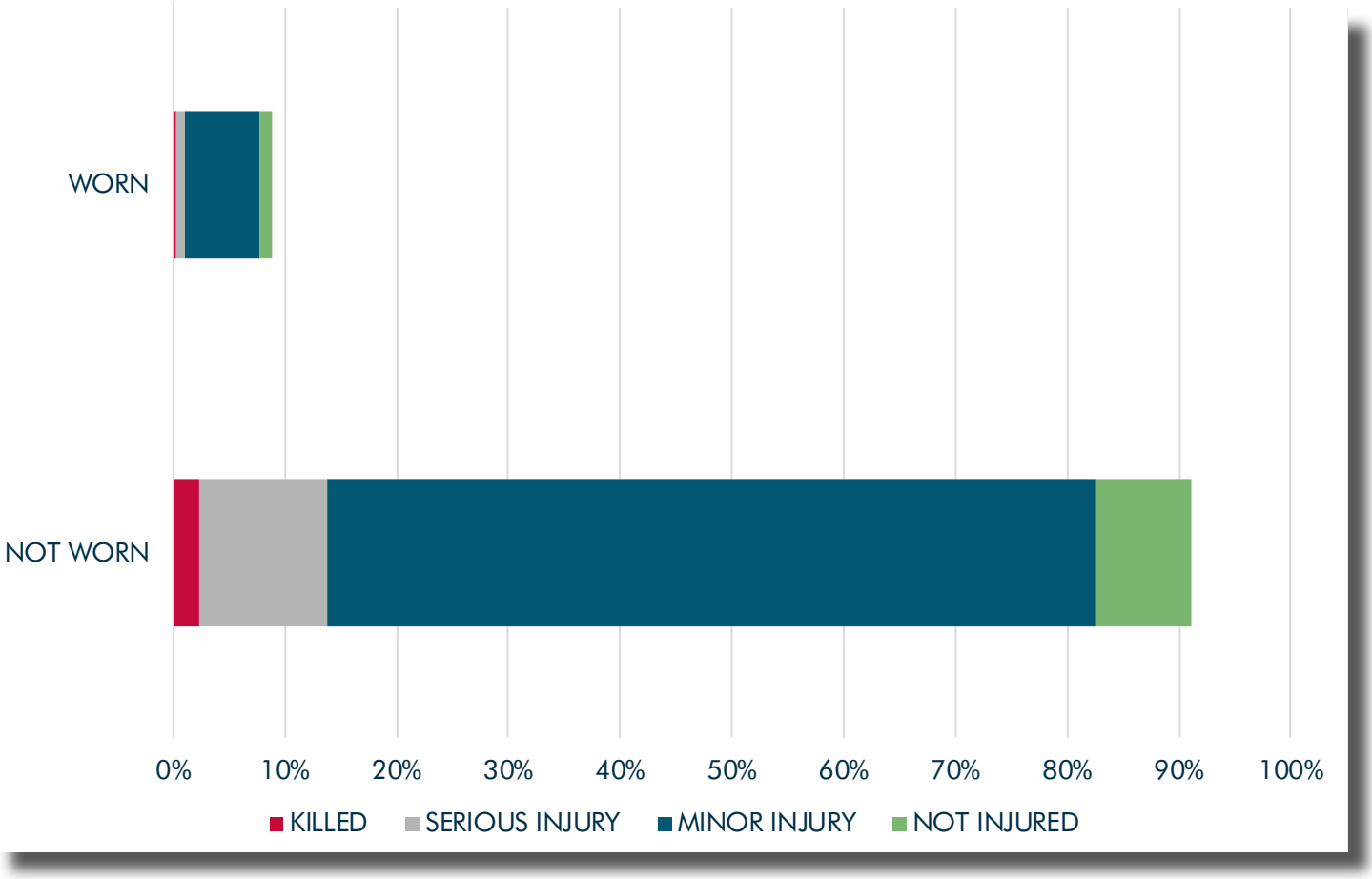
BICYCLE-RELATED CRASH CONTRIBUTING FACTORS

(Table B6)

	Bicyclist	Driver
Fail to Yield Right of Way	22%	27%
Impaired	2%	1%
Distracted	22%	24%
Disregarded Sign or Signal	7%	3%
Wrong Side/Wrong Way	5%	0.5%
Speeding		8%
Fatigue		0.1%
Vehicle Operations		7%

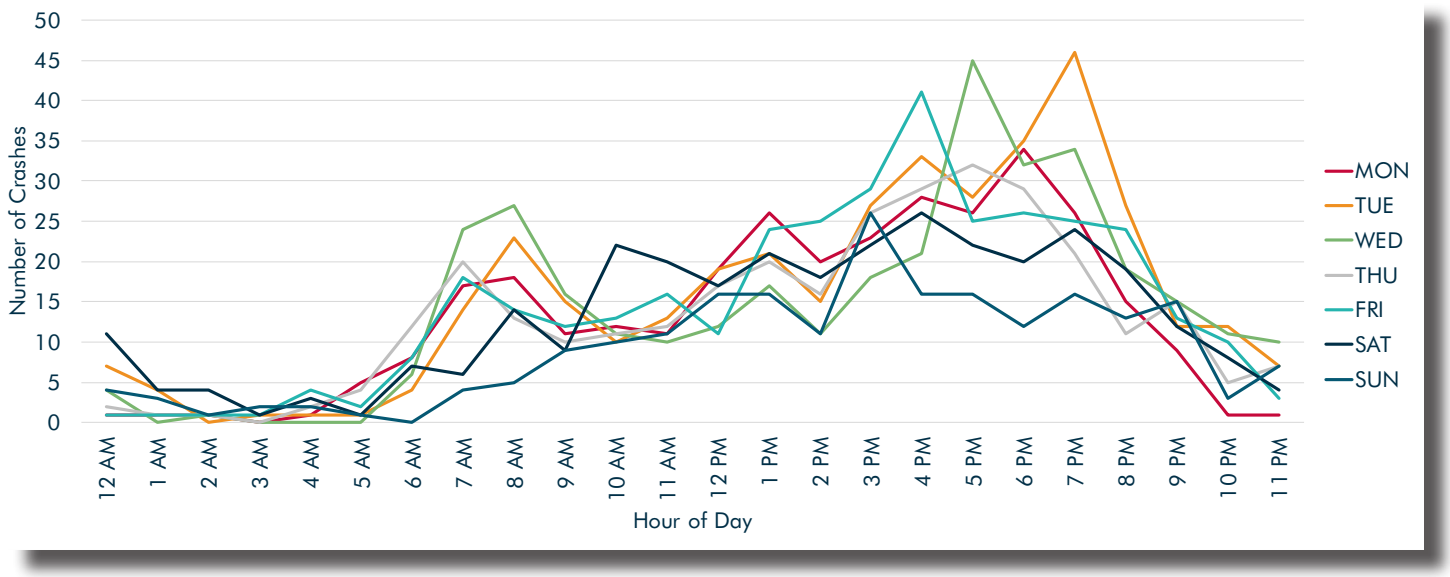
BICYCLIST INJURY SEVERITY BY HELMET USE

(Figure B7)



BICYCLE CRASHES BY HOUR OF DAY

(Figure B8)



BICYCLE CRASHES: HIGHEST HOURLY PERCENTAGE BY MONTH

(Figure B9)

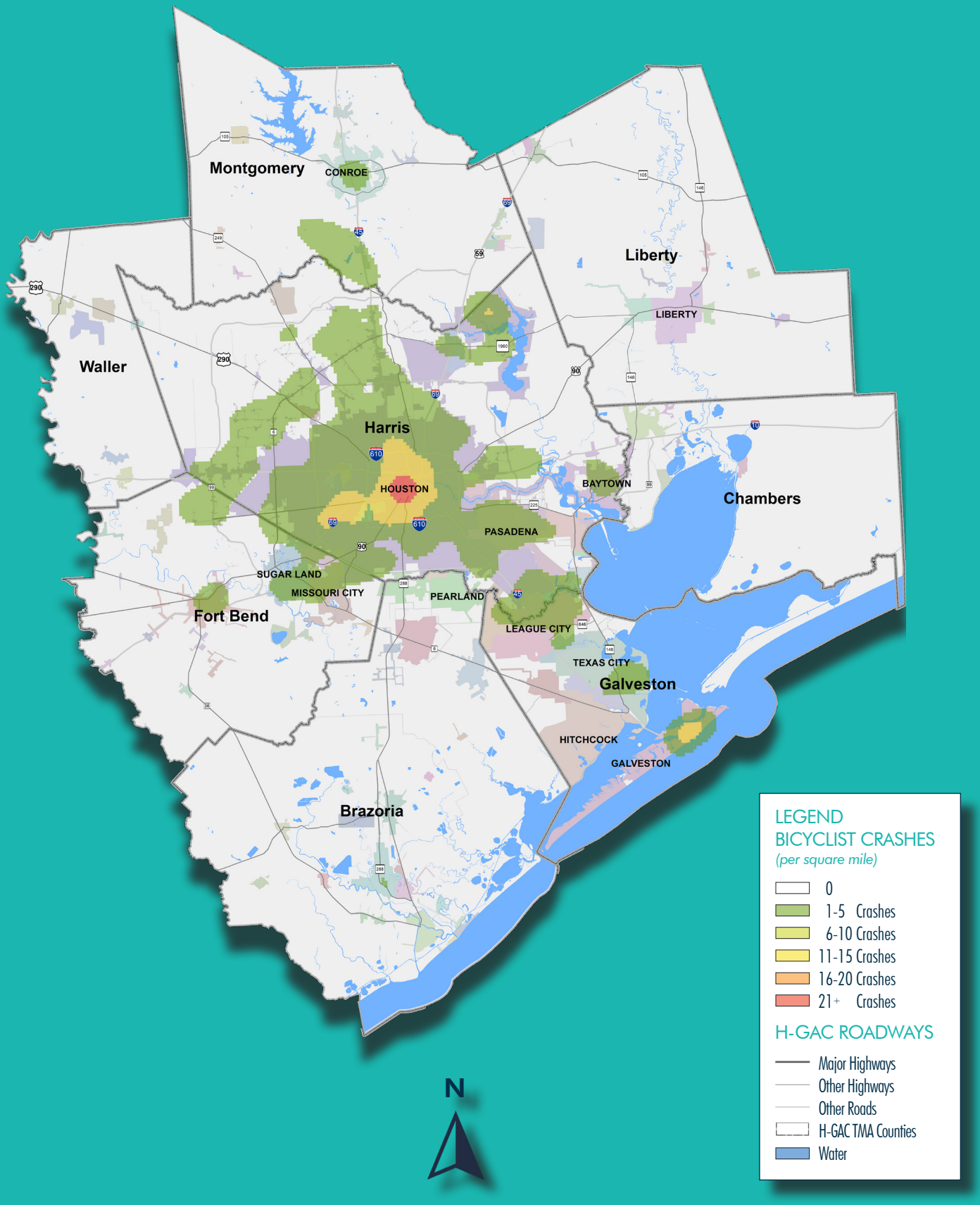
Month	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
January								■	■	■	■	■	■	■	■	■	●	■						
February								■	■	■	■	■	■	■	■	■	●	■	■					
March								■	■	■	■	■	■	■	■	■		●	■	■				
April							■	■	■	■	■	■	■	■	■	■		●	■	■	■			
May							■	■	■	■	■	■	■	■	■	●			■	■	■			
June							■	■	■	■	■	■	■	■	■	■			●	■	■			
July							■	■	■	■	■	■	■	■	■	■			●	■	■			
August							■	■	■	■	■	■	■	■	■	■			■	■	●			
September								■	■	■	■	■	■	■	■	■	●	■	■	■				
October								■	■	■	■	■	■	■	■	■	●	■	■					
November								■	■	■	■	■	■	■	■	■		●						
December								■	■	■	■	■	■	■	■	■		■	●					

● *Hours with Highest Percentage of Crashes*

■ *Daylight Hours*

BICYCLE CRASH HOTSPOTS

(Figure B10)



PEDESTRIANS 2013-2017

1 Crash every 5 Days
1 Fatality every 3 Days
1 Serious Injury per Day

PEDESTRIANS

Although pedestrian-related traffic crashes represented only 1 percent of all crashes in 2017, over one-in-five (21 percent) traffic fatalities in the region involved a pedestrian. From 2013 to 2017, on average the region had a pedestrian-related crash every five days, a pedestrian died every three days, and one was seriously injured every day.

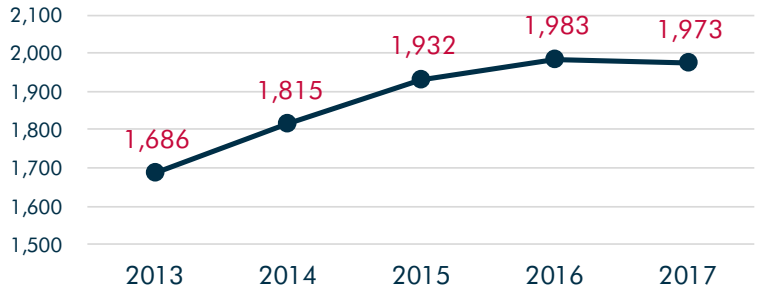
In 2017, pedestrian-related crashes were essentially unchanged (-0.5 percent) compared to 2016. Fatalities declined 16 percent, but serious injuries increased 12 percent.

Males lead females in crashes by a ratio of approximately 2-to-1 (Figure P4). Three-quarter of pedestrian-related crashes happen Monday through Friday (Figure P6), with nearly 60 percent of crashes occurring between 6 PM and 6 AM. As shown in Figure P9, twilight hours (6 PM to 9 PM) are the most dangerous for pedestrians.

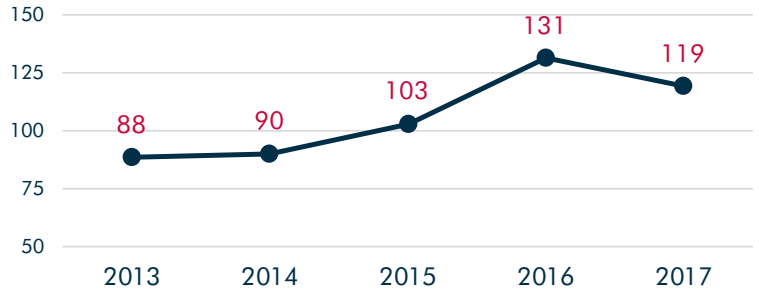
City streets are the most frequent location for these crashes, however, nearly 1-in-5 occur on highways and frontage roads (Figure P7). Interestingly, most pedestrian-related crashes do not occur at intersections (Figure P5). Figure P11 shows the regional crash density of pedestrian-related crashes.

Table P8 shows contributing factors for pedestrian-related crashes for both pedestrians and drivers. As with bicyclists, failure to yield and distraction are major causes of these crashes. However, vehicle operations (e.g.–backing up unsafely, improper turns, failing to stop for school bus, etc.) is also a major factor.

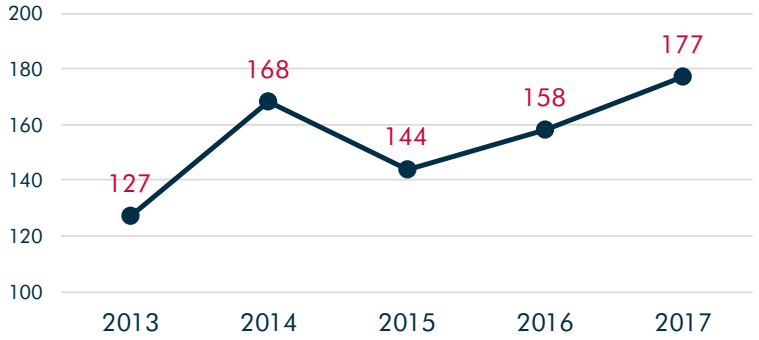
PEDESTRIAN-RELATED CRASHES *(Figure P1)*



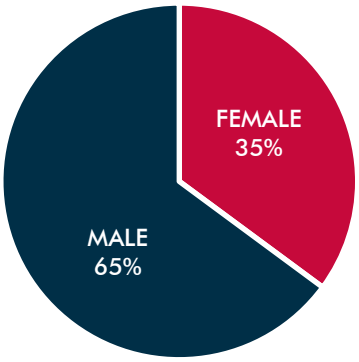
PEDESTRIAN FATALITIES *(Figure P2)*



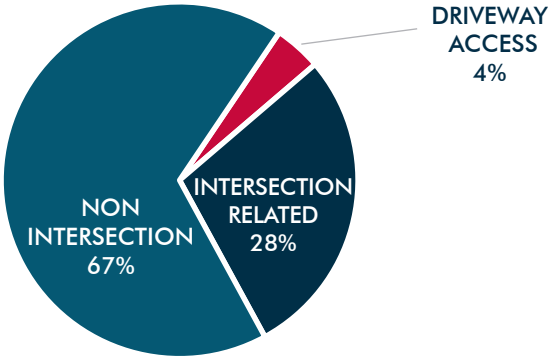
PEDESTRIAN SERIOUS INJURIES *(Figure P3)*



PEDESTRIANS BY GENDER *(Figure P4)*

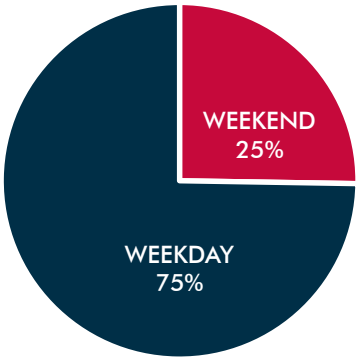


INTERSECTION-RELATED PEDESTRIAN CRASHES *(Figure P5)*



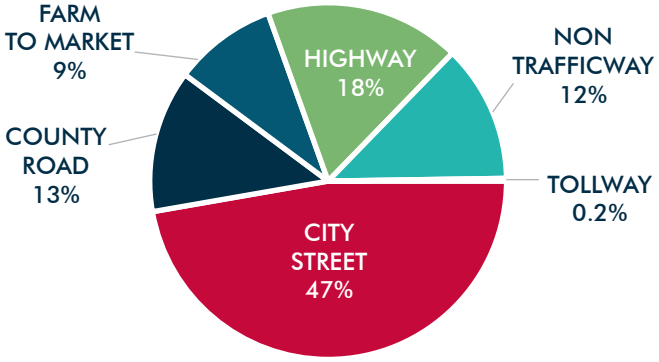
PEDESTRIAN-RELATED BY PERIOD OF THE WEEK

(Figure P6)



PEDESTRIAN CRASHES BY ROAD TYPE

(Figure P7)



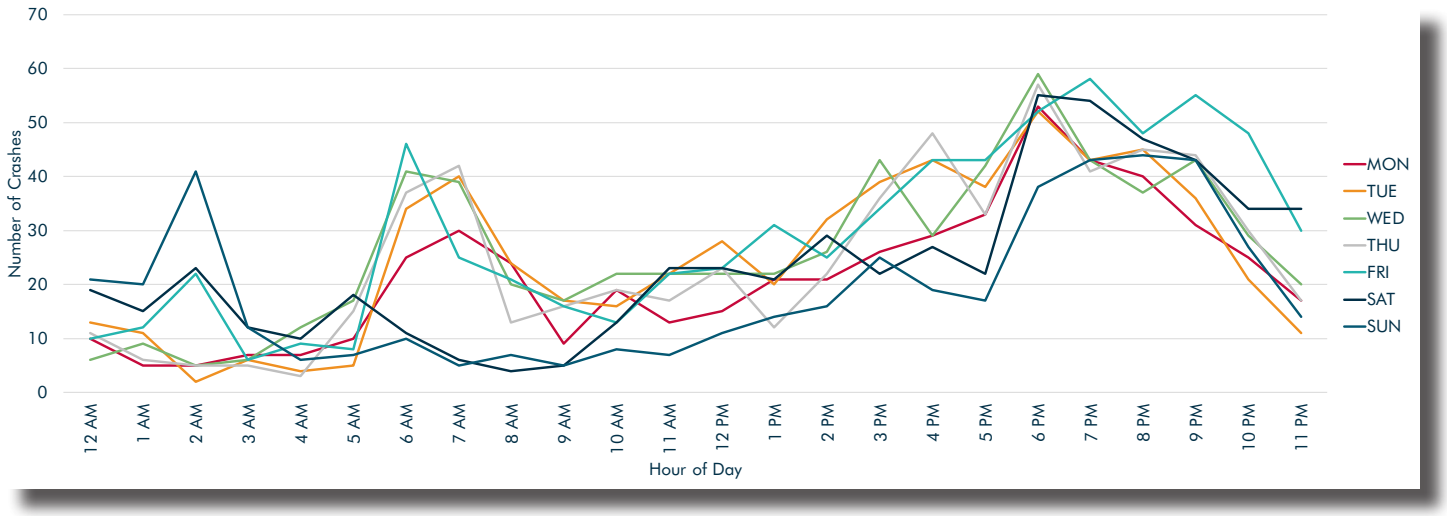
PEDESTRIAN-RELATED CRASH CONTRIBUTING FACTORS

(Table P8)

	Pedestrian	Driver
Fail to Yield Right of Way	36%	20%
Impaired	5%	2%
Distracted	10%	7%
Disregarded Sign or Signal	1%	2%
Speeding		7%
Fatigue		0.4%
Vehicle Operations		14%

PEDESTRIAN CRAHES BY HOUR OF DAY

(Figure P9)



PEDESTRIAN-RELATED HIGHEST HOURLY PERCENTAGE BY MONTH

(Figure P10)

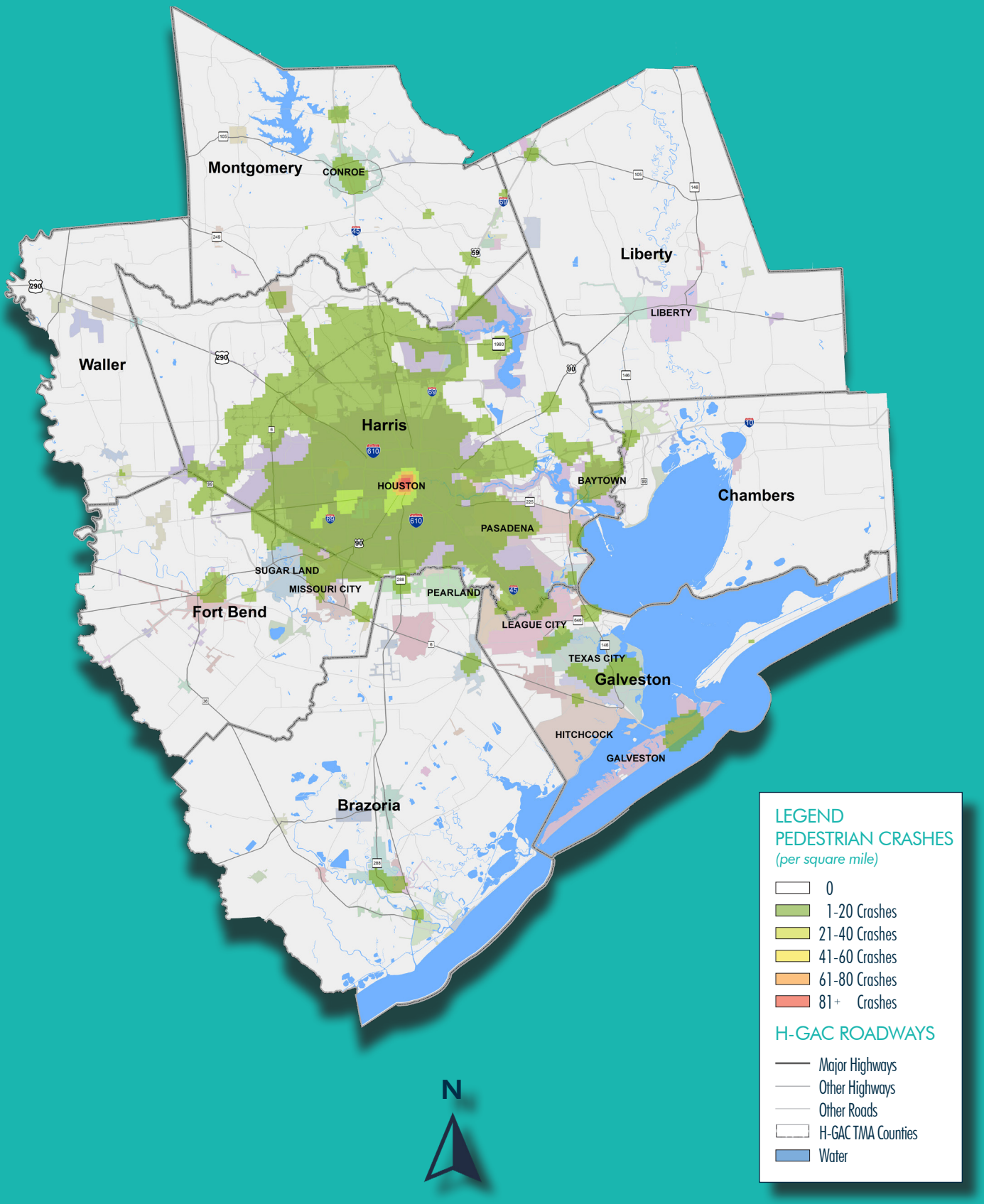
MONTH	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
January								■	■	■	■	■	■	■	■	■	■	■	●					
February								■	■	■	■	■	■	■	■	■	■	■	●					
March								■	■	■	■	■	■	■	■	■	■	■		■	●			
April							■	■	■	■	■	■	■	■	■	■	■	■		■	●			
May							■	■	■	■	■	■	■	■	■	■	■	■		■	●			
June							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	●		
July							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	●		
August							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	●		
September								■	■	■	■	■	■	■	■	■	■	■	■	■	●			
October								■	■	■	■	■	■	■	■	■	■	■	■	●				
November								■	■	■	■	■	■	■	■	■	■	■	●					
December								■	■	■	■	■	■	■	■	■	■	■	●					

● *Hours with Highest Percentage of Crashes*

■ *Daylight Hours*

PEDESTRIAN CRASH HOTSPOTS

(Figure P11)



SPEEDING 2013-2017

144 Crashes per Day
2 Fatalities per Day
3 Serious Injuries per Day

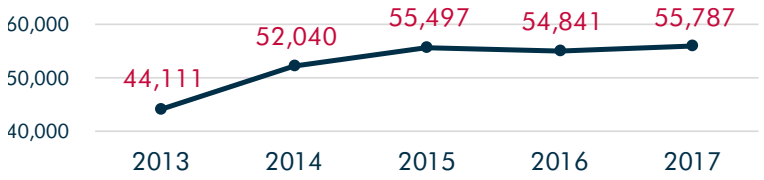
SPEEDING

One-third of all crashes in 2017 were speed-related. Speeding crashes increased slightly (2 percent) compared to 2016. However, speed-related fatalities and serious injuries increased significantly, rising 19 percent and 14 percent respectively during the same period. Approximately 30 percent of all regional traffic fatalities and serious injuries in 2017 were speed-related. On average, there are 144 speed-related crashes per day, a fatality every two days, and three serious injuries per day in the region.

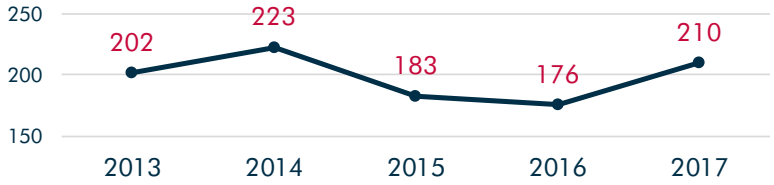
Males are still nearly twice as likely to be involved in speed-related crashes (Figure S4). Over three-quarters (78 percent) of speed-related crashes happen Monday through Friday. About half (49.8 percent) occur during weekday peak traffic periods (6 AM- 9 AM and 3 PM-7 PM) (Figure S6). 26 to 39-year-old drivers accounted for over one-third of all speed-related crashes from 2013 to 2017. Nearly half of speed-related crashes occur on highways (Figure S5).

Speeding is a focus area of the Regional Safety Plan.

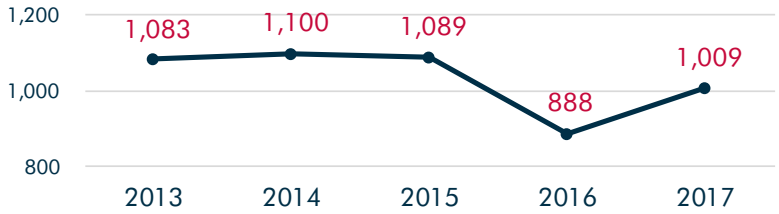
SPEEDING-RELATED CRASHES *(Figure S1)*



SPEEDING-RELATED FATALITIES *(Figure S2)*

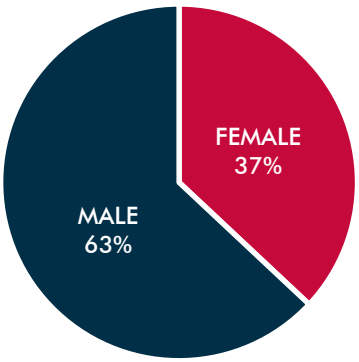


SPEEDING-RELATED SERIOUS INJURIES *(Figure S3)*



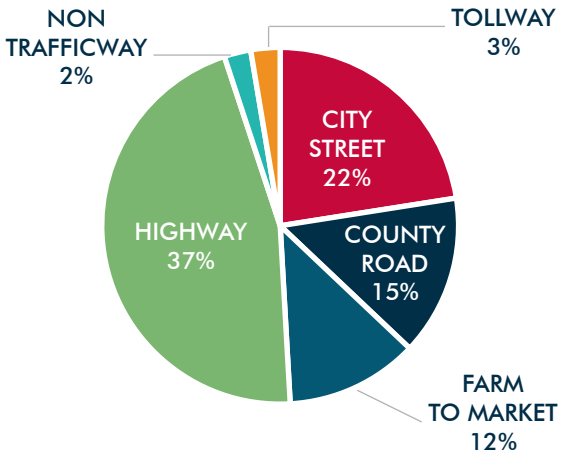
SPEEDING DRIVERS BY GENDER

(Figure S4)



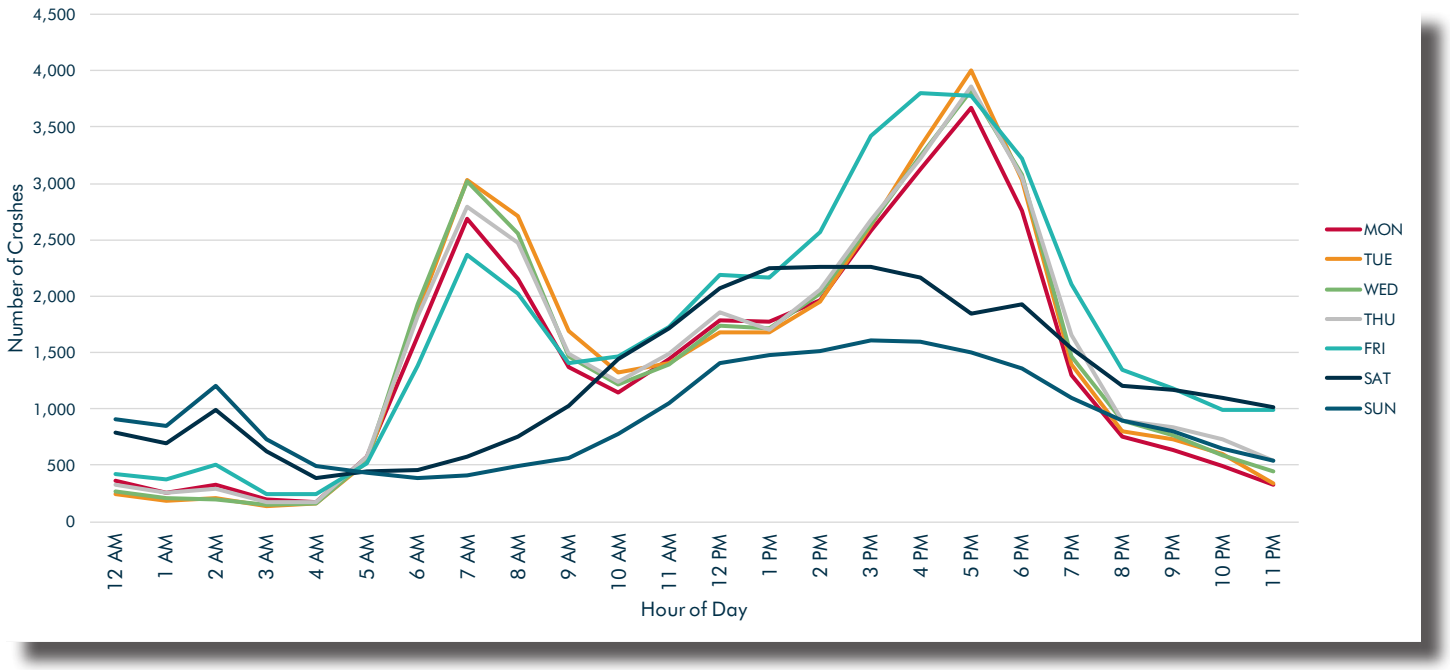
SPEEDING CRASHES BY ROAD TYPE

(Figure S5)



SPEEDING CRASHES BY HOUR OF DAY

(Figure S6)



YOUNG DRIVERS 2013-2017

81 Crashes per Day
1 Fatality every 4 Days
1 Serious Injury every 2 Days

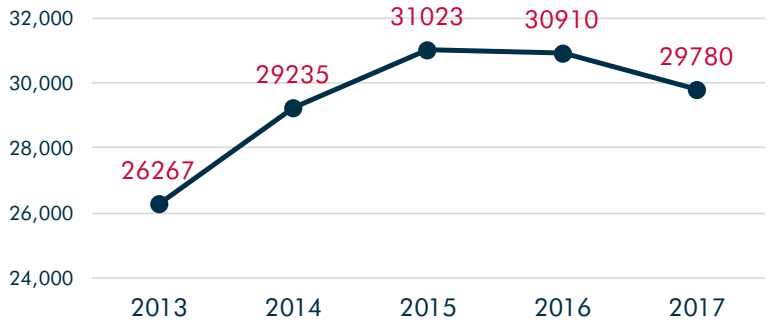
YOUNG DRIVERS

Young drivers (15 to 20 years old) were involved in 18 percent of all regional traffic crashes in 2017—roughly 2.5 times their percent of the region's population. Compared with 2016, crashes for this group declined 4 percent. However, fatalities increased 16 percent while serious injuries decreased by about the same amount. From 2013 to 2017, young drivers were involved in an average of 81 crashes per day, one fatality every four days, and a serious injury every other day.

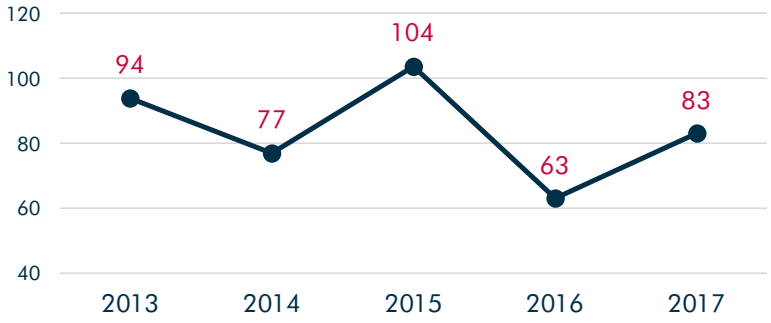
There is a 3-to-1 ratio of males to females involved in crashes (Figure YD4). Weather conditions were not a factor in most crashes. Over 90 percent of the crashes occurred on clear or overcast days. Figure YD5 shows crashes by road type.

However, time of day and driver behavior were major factors in young driver crashes. Figures YD6 shows that nearly 60 percent of crashes occur between 12 AM and 8 AM, and that 40 percent of crashes occur on Saturday and Sunday alone. Moreover, driver distraction is a contributory factor in 58 percent of young driver crashes.

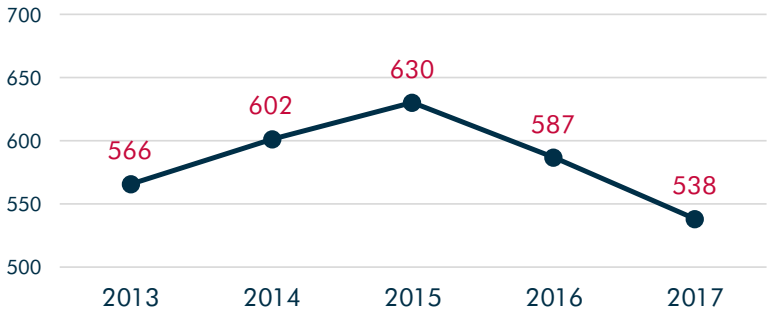
YOUNG DRIVER-RELATED CRASHES *(Figure YD1)*



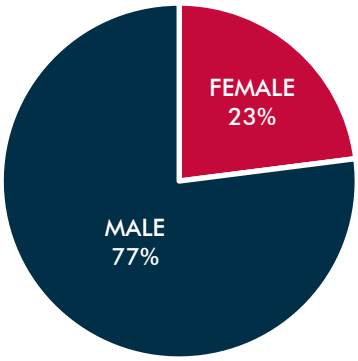
YOUNG DRIVER FATALITIES *(Figure YD2)*



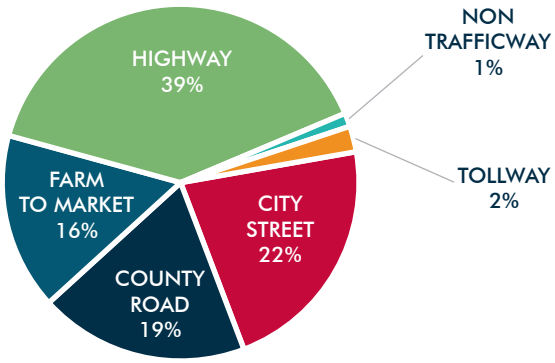
YOUNG DRIVER SERIOUS INJURIES *(Figure YD3)*



YOUNG DRIVERS BY GENDER *(Figure YD4)*

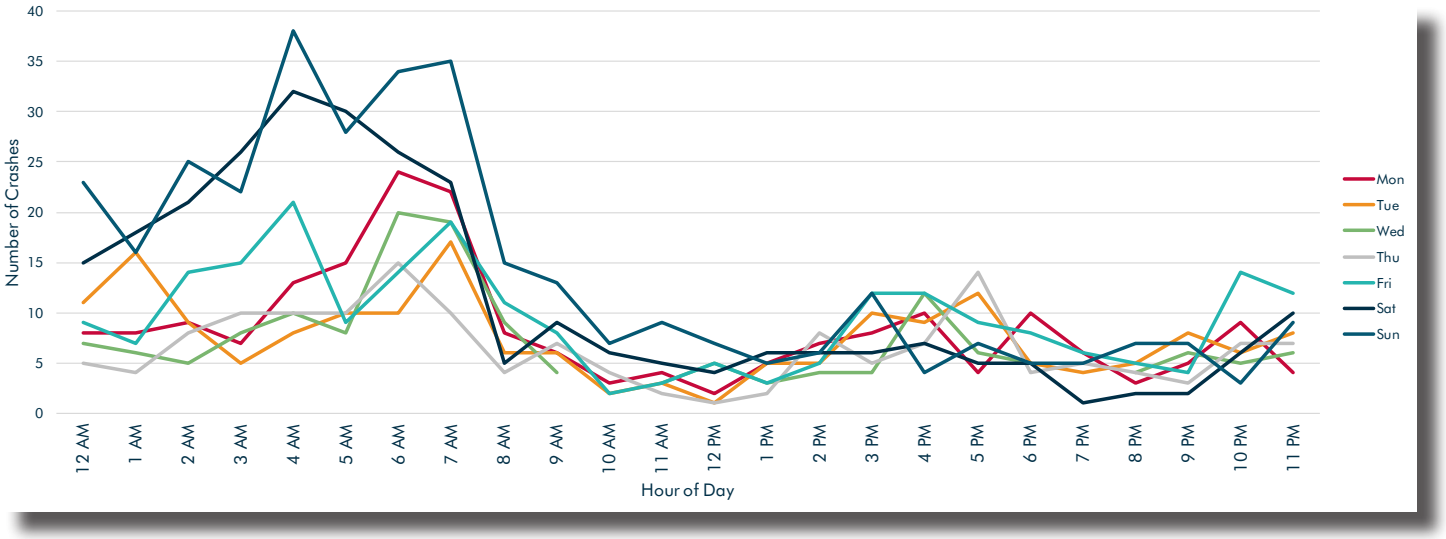


YOUNG DRIVER-RELATED CRASHES BY ROAD TYPE *(Figure YD5)*



YOUNG DRIVER CRASHES BY HOUR OF DAY

(Figure YD6)



ELDERLY DRIVERS 2013-2017

48 Crashes per Day
1 Fatality every 5 Days
1 Serious Injury per Day

ELDERLY DRIVERS

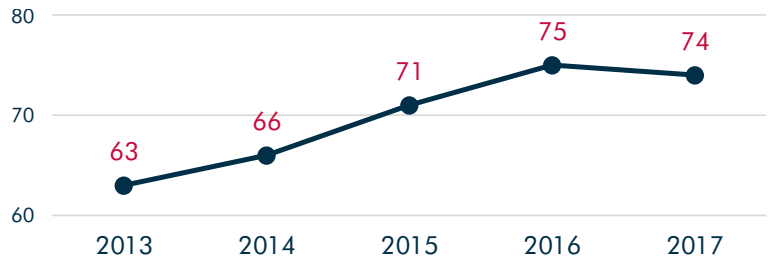
Persons 65 years and older accounted for 12 percent of all regional traffic crashes in 2017. That number is slightly higher than their percent of the region's population (10 percent). Elderly driver crashes have risen an average of 10 percent a year from 2013 to 2017. On average, 48 elderly drivers are involved in traffic crashes daily, an elderly driver is killed every five days, or suffers a serious injury every day.

The ratio of male to female drivers is roughly 3-to-2 (Figure ED4). Like young drivers, weather played no role in most crashes. However, unlike the young, elderly drivers seems to have equal difficulty on highways and city streets (Figure ED5).

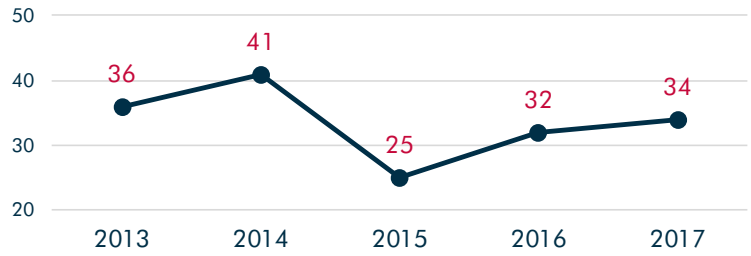
Over 90 percent of elderly driver crashes occur between 6 AM and 8 PM (Figure ED7). 80 percent happen Monday through Friday.

Non-compliance (failure to yield, disregarding signs and signals, etc.) and vehicle operations (backing unsafely, improper turns, etc.) were the majority of causes for elderly driver crashes (TABLE ED6).

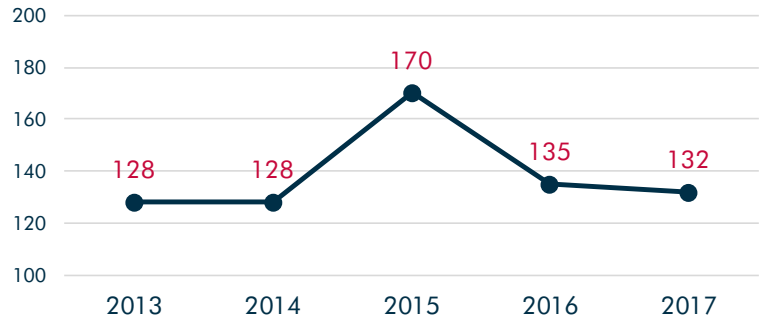
ELDERLY DRIVER-RELATED CRASHES *(Figure ED1)*



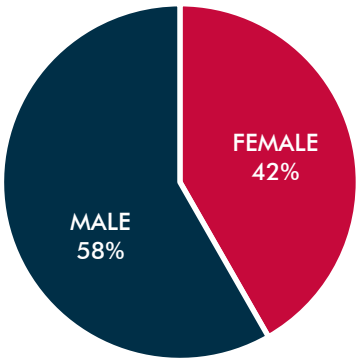
ELDERLY DRIVER FATALITIES *(Figure ED2)*



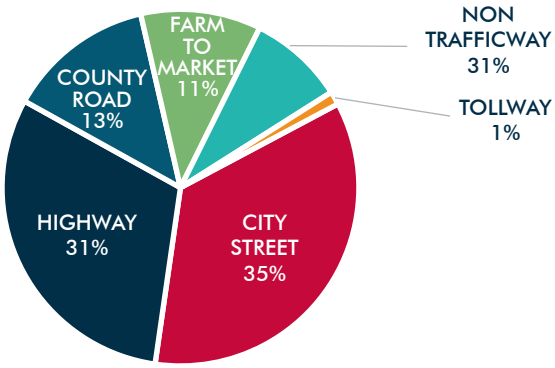
ELDERLY DRIVER SERIOUS INJURIES *(Figure ED3)*



ELDERLY DRIVERS BY GENDER *(Figure ED4)*



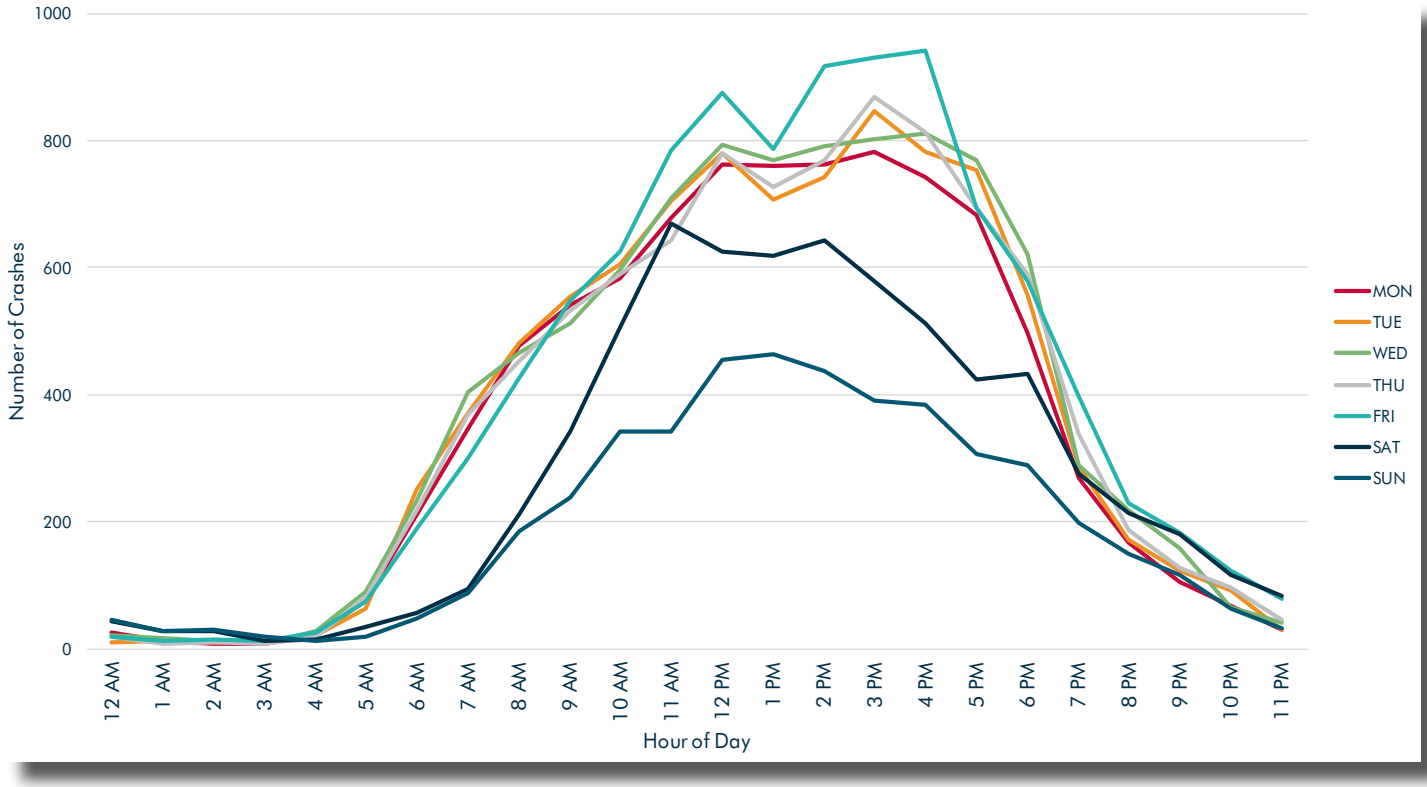
ELDERLY DRIVER-RELATED CRASHES BY ROAD TYPE *(Figure ED5)*



ELDERLY DRIVER CRASH CONTRIBUTING FACTORS *(TABLE ED6)*

	Percentage of Crashes
Non-Compliance	34%
Vehicle Operations	26%
Speeding	18%
Inattention	14%
Other	4%
Fatigue/Illness	2%
Driver Condition	0.9%
Impaired	0.7%
Animal	0.4%
Vehicle Condition	0.1%
Mechanical	0.08%
Illegal Action	0.005%
Grand Total	100%

ELDERLY DRIVER CRASHES BY HOUR OF DAY *(Figure ED7)*



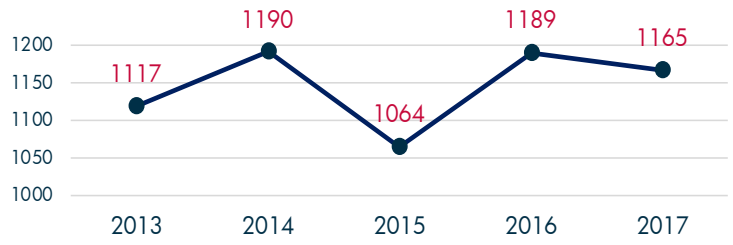
MOTORCYCLES 2013-2017

1 Crash every 3 Days
1 Fatality every 4 Days
1 Serious Injury per Day

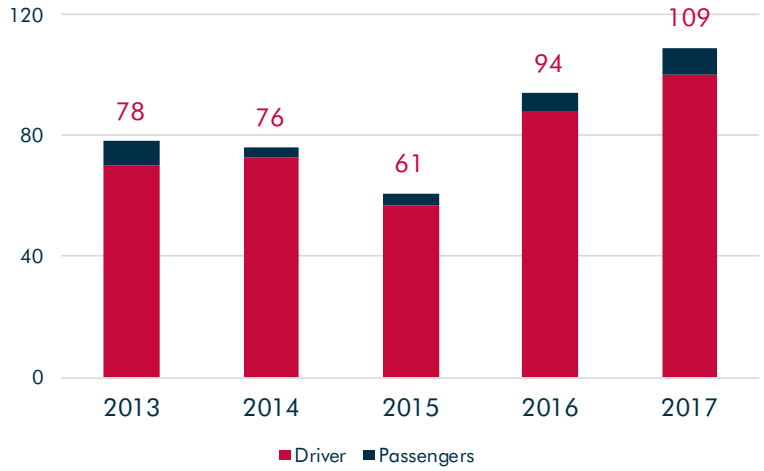
MOTORCYCLES

Motorcycle crashes represented just 1 percent of regional traffic crashes in 2017, yet they accounted for 16 percent of all traffic fatalities. These crashes have fluctuated over the five-year period, averaging about 1,145 crashes per year. The region experiences a motorcycle crash about every three days, the death of a driver or passenger every four days, and the serious injury of a driver or passenger every day on average.

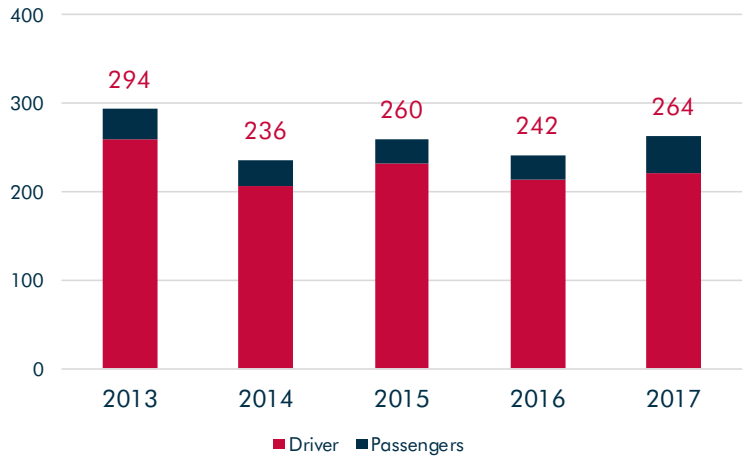
MOTORCYCLE-RELATED CRASHES *(Figure M1)*



MOTORCYCLE DRIVER & PASSENGER FATALITIES *(Figure M2)*



MOTORCYCLE DRIVER & PASSENGER SERIOUS INJURIES *(Figure M3)*

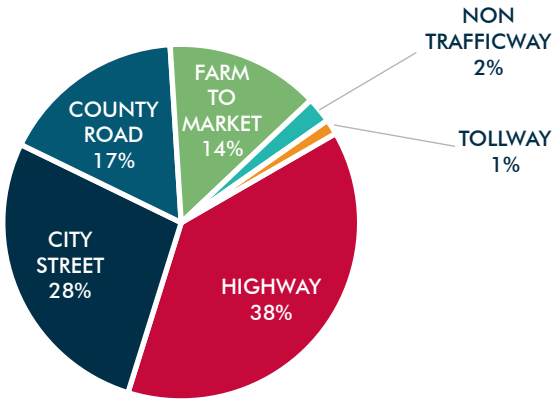


Motorcycle crashes are more likely in the afternoon and evening (Figure M6). 40 percent occur on weekends. Highways make close to 40 percent of crashes, followed by city streets (Figure M4).

Speeding and vehicle operations (lane changes, evasive actions, etc.) most frequent contributing factors in these crashes. Distraction and impairment were factors for 9 percent and 6 percent of crashes respectively. However, only 3.5 percent of motorcycle drivers were legally impaired at the time of the crash.

Driver and occupant gender and helmet use reveal some surprising findings (Figures M7-10). Motorcycle drivers are overwhelmingly male (95 percent) and over half wore a helmet. Eighty percent of passengers are females, yet less than 40 percent of motorcycle passengers wore helmets.

MOTORCYCLE CRASHES BY ROAD TYPE *(Figure M4)*



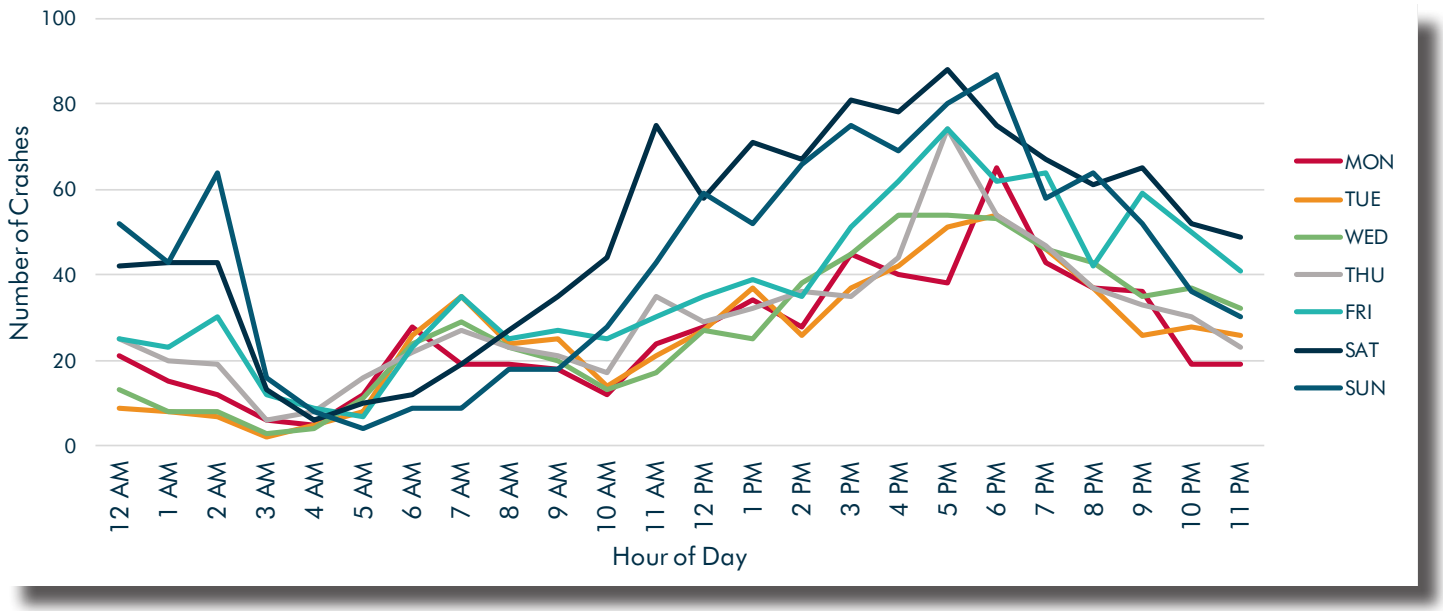
MOTORCYCLE CRASH CONTRIBUTING FACTORS

(Table M5)

	Percentage of Crashes
Speeding	38%
Vehicle Operations	26%
Inattention	9%
Other	8%
Non-Compliance	8%
Impaired	6%
Animal	2%
Illegal Action	1%
Fatigue/Illness	0.6%
Driver Condition	0.4%
Vehicle Condition	0.3%
Mechanical	0.1%
Grand Total	100%

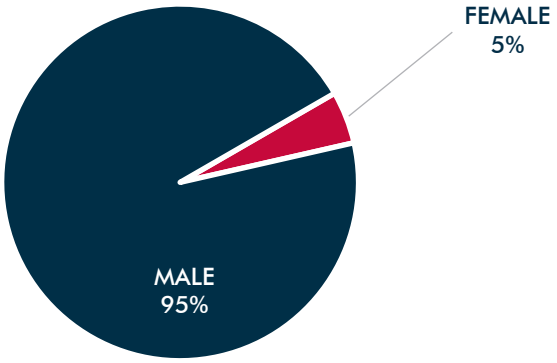
MOTORCYCLE CRASHES BY HOUR OF DAY

(Figure M6)



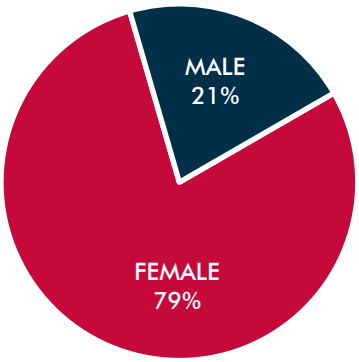
MOTORCYCLE DRIVER BY GENDER

(Figure M7)



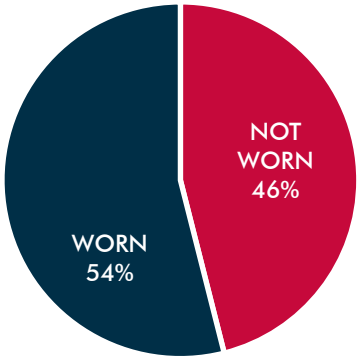
MOTORCYCLE PASSENGER BY GENDER

(Figure M8)



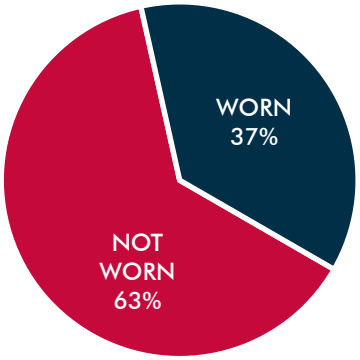
MOTORCYCLE DRIVER HELMET USE

(Figure M9)



MOTORCYCLE PASSENGER HELMET USE

(Figure M10)



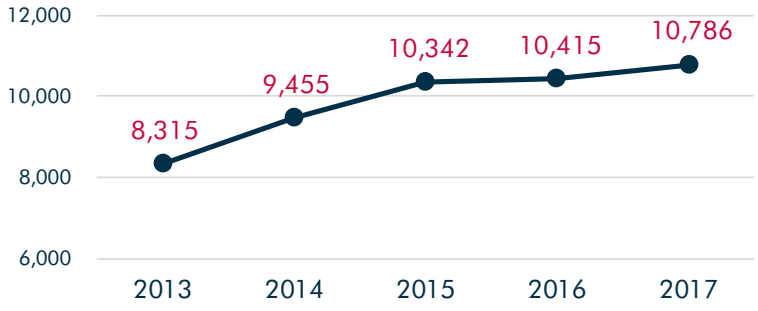
UNRESTRAINED PERSONS 2013-2017

27 Crashes per Day
1 Fatality every 36 Hours
2 Serious Injuries per Day

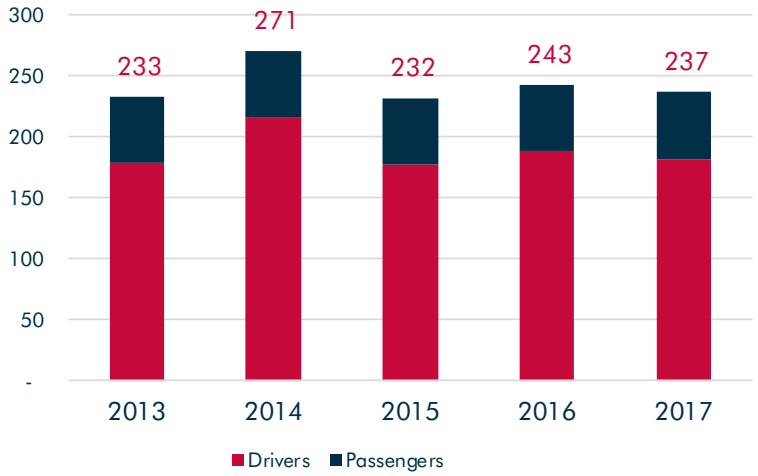
UNRESTRAINED PERSONS

The most preventable deaths and injuries are those of unrestrained drivers and passengers. On average there are 27 unrestrained person crashes daily, an unrestrained person is killed every one and half days, and two unrestrained persons are seriously injured each day in the region.

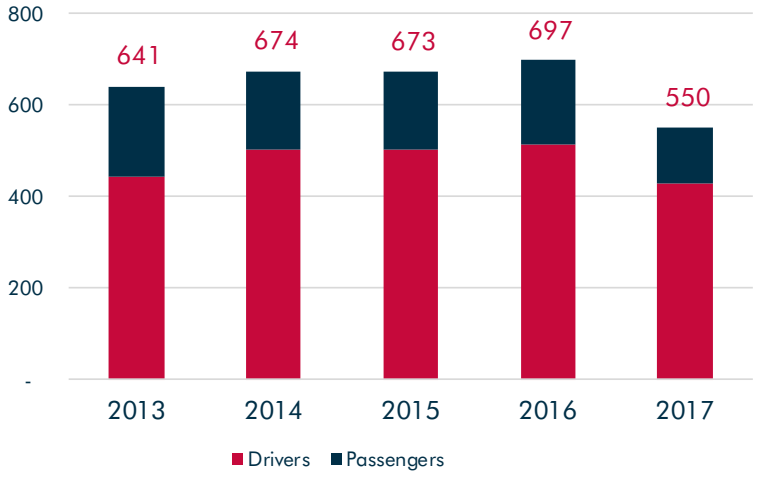
UNRESTRAINED-RELATED CRASHES *(Figure UP1)*



UNRESTRAINED FATALITIES *(Figure UP2)*



UNRESTRAINED SERIOUS INJURIES *(Figure UP3)*



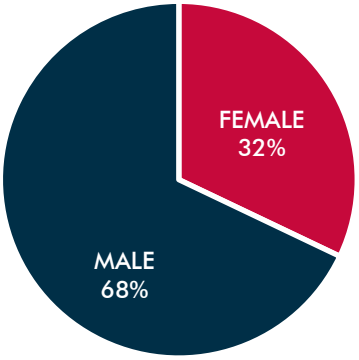
There were over 10,000 crashes with an unrestrained driver and/or occupant in 2017 alone. Such crashes have increased an average of 7 percent annually from 2013 to 2017 as shown in Figure UP1. Figure UP6 shows state-wide seat belt usage over the same period.

Males drive unrestrained twice as much as females (Figure UP4), but female passengers are just as likely to be unrestrained as male passengers (Figure UP5).

As shown in Table UP7, 20 percent of unrestrained passengers were under the age of eight years (despite a state law requiring children less than 8 years-old or under 4 foot-11 inches tall to be restrained in a child safety seat or booster seat), and almost one-third were between 8 and 15 years of age. Drivers 25 to 34 years old represent approximately 30 percent of all unrestrained drivers.

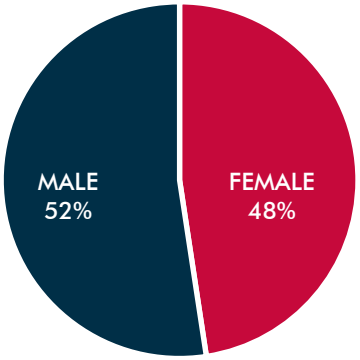
UNRESTRAINED DRIVER BY GENDER

(Figure UP4)



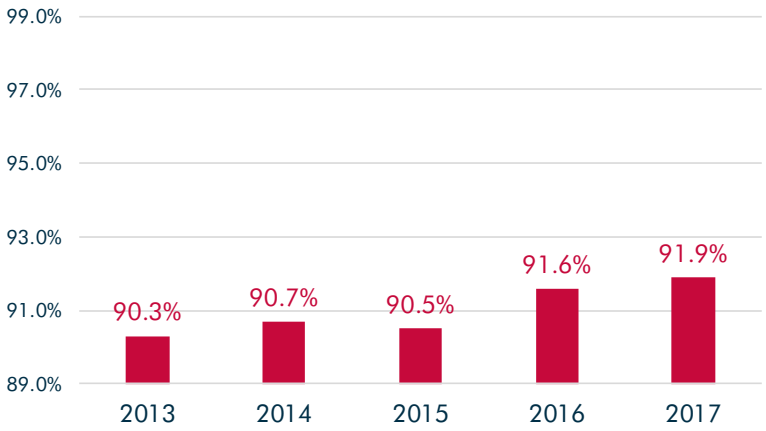
UNRESTRAINED PASSENGER BY GENDER

(Figure UP5)



SEATBELT USE IN TEXAS

(Figure UP6)



UNRESTRAINED PERSONS BY AGE GROUPS

(Table UP7)

	Percentage of Drivers	Percentage of Passengers
< 8 years	0%	20%
8-15 years	1%	32%
16-20 years	13%	16%
21-24 years	15%	6%
25-34 years	30%	11%
35-44 years	17%	6%
45-64 years	19%	7%
65+ years	5%	2%
Grand Total	100%	100%

COMMERCIAL VEHICLES

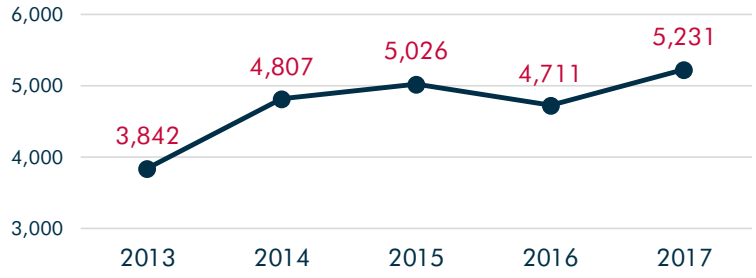
With the largest petro-chemical complexes and one of the busiest seaports in the country, commercial vehicle traffic is ever-present in our region. Commercial vehicles comprised roughly 6 percent of the region's vehicle-miles in 2017.

Unfortunately, commercial vehicle crashes increased by 11 percent in 2017 and serious injuries went up more than one and half times. However, fatalities declined by 33 percent. On average, the region experiences 13 commercial vehicle crashes per day, a serious injury every month, and a fatality every two months.

As shown in Table CV6, vehicle operations (unsafe lane changes, improper turns, etc.), speeding, distraction, and non-compliance (failure to yield, disregarded sign or signal, etc.) are the predominant factors in commercial vehicle crashes. Three-quarter of all commercial vehicle crashes occur on highways and city streets. About one-third of all crashes are intersection-related (Figure CV4). Table CV7 lists the percentage of commercial vehicle types involved in crashes. Only 2 percent of commercial vehicles were carrying hazardous cargo at the time of the crash.

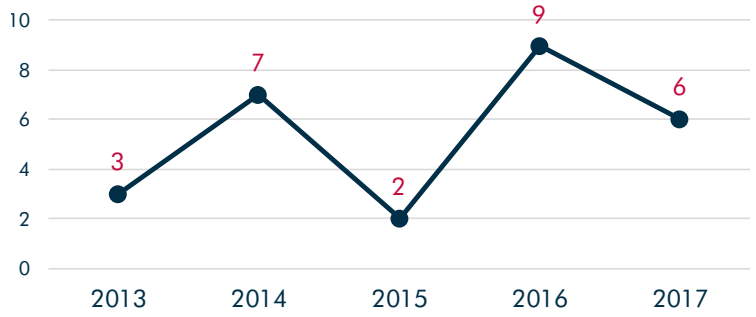
COMMERCIAL VEHICLE-RELATED CRASHES

(Figure CV1)



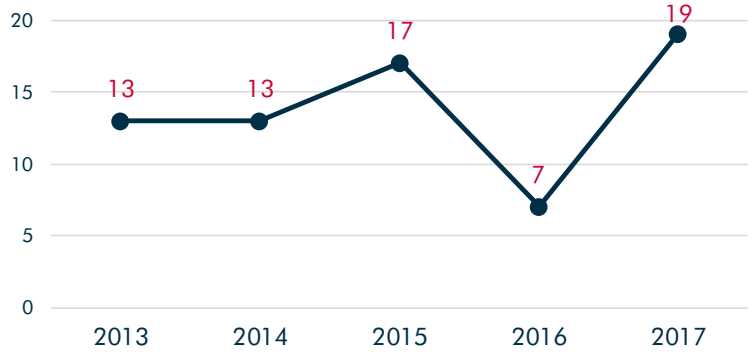
COMMERCIAL VEHICLE DRIVER FATALITIES

(Figure CV2)

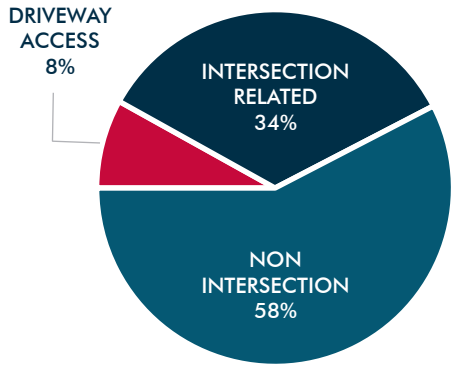


COMMERCIAL VEHICLE DRIVER SERIOUS INJURIES

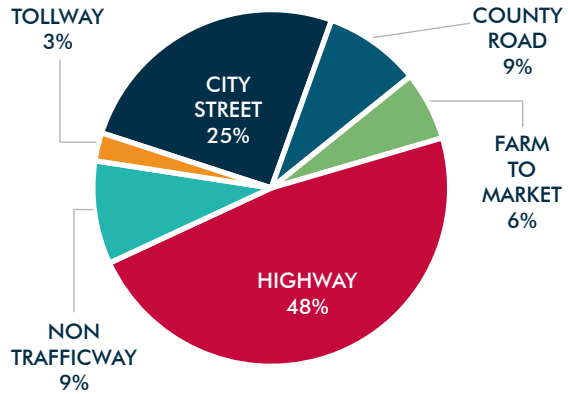
(Figure CV3)



INTERSECTION-RELATED COMMERCIAL VEHICLE CRASHES *(Figure CV4)*



COMMERCIAL VEHICLE CRASHES BY ROAD TYPE *(Figure CV5)*



COMMERCIAL VEHICLE CRASH CONTRIBUTING FACTORS *(Table CV6)*

	Percentage of Crashes
Vehicle Operations	48%
Speeding	17%
Inattention	14%
Non-Compliance	11%
Other	6%
Vehicle Condition	3%
Fatigue/Illness	1%
Driver Condition	1%
Mechanical	0.2%
Impaired	0.2%
Animal	0.2%
Illegal Action	0.01%
Grand Total	100%

COMMERCIAL VEHICLE TYPE INVOLVED IN CRASHES *(Table CV7)*

	Percentage of Crashes
Van and Enclosed Box	30%
Flatbed	20%
Bus (>15)	13%
Dump	10%
Cargo Tank	7%
Another Vehicle	4%
Other	3%
Concrete Mixer	3%
Bus (9 - 15)	2%
Garbage Refuse	2%
Intermodal	1%
Pole	1%
Auto Transporter	1%
Grain Chips Gravel	1%
Logging	0.2%
Grand Total	100%

WORK ZONE 2013-2017

11 Crashes per Day
1 Fatality every 30 Days
1 Serious Injury every 5 Days

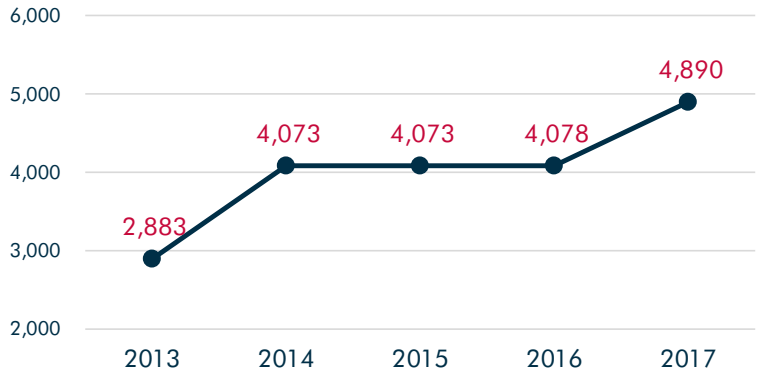
WORK ZONE

In our growing region, roadway construction and maintenance are daily facts of life. Work zones are everywhere and present additional challenges to drivers. In 2017, work zone crashes and serious injuries increased 20 percent and 34 percent respectively. Fatalities decreased 22 percent.

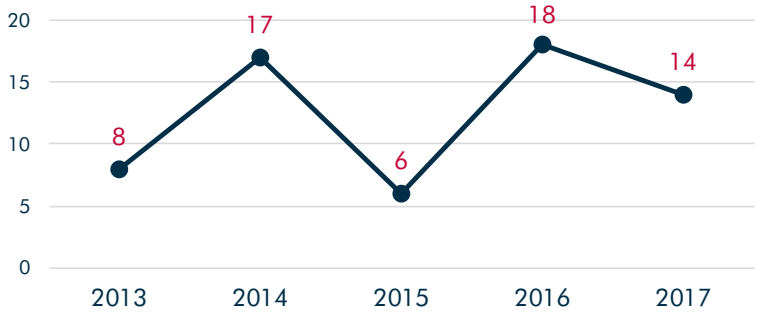
60 percent of work zone crashes occurred on the region's highways. Figure WZ7 shows that 63 percent of work zone crashes occur from 6 AM to 6 PM Monday through Friday. Approximately half of these weekday crashes happen during peak traffic hours (6 AM to 9 AM/3 PM to 7 PM).

Male drivers outpace female drivers by a ratio of 3-to-2 in work zone crashes (Figure WZ4). Table WZ6 shows that adverse weather conditions rain, sleet, fog, etc.) were a factor in only 8 percent of work zone crashes.

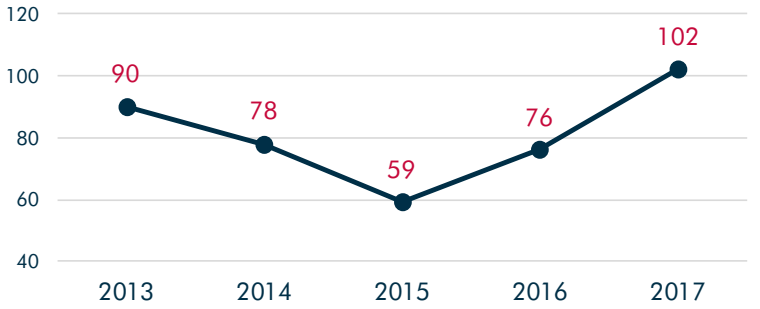
WORK ZONE-RELATED CRASHES *(Figure WZ1)*



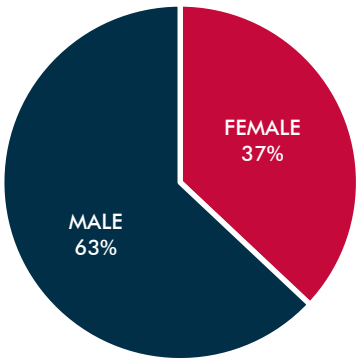
WORK ZONE CRASH DRIVER FATALITIES *(Figure WZ2)*



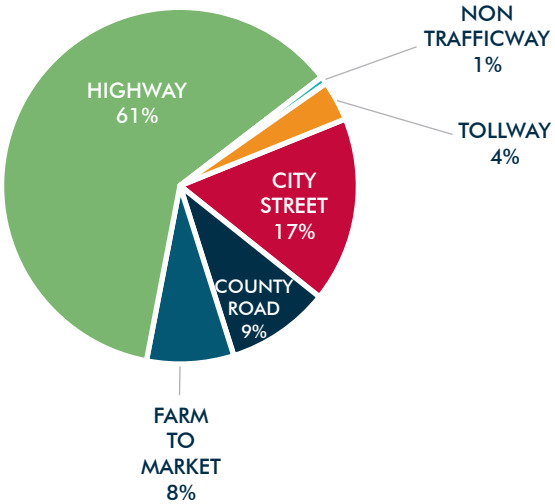
WORK ZONE CRASH DRIVER SERIOUS INJURIES *(Figure WZ3)*



WORK ZONE CRASH DRIVERS BY GENDER *(Figure WZ4)*



WORK ZONE CRASHES BY ROAD TYPE *(Figure WZ5)*



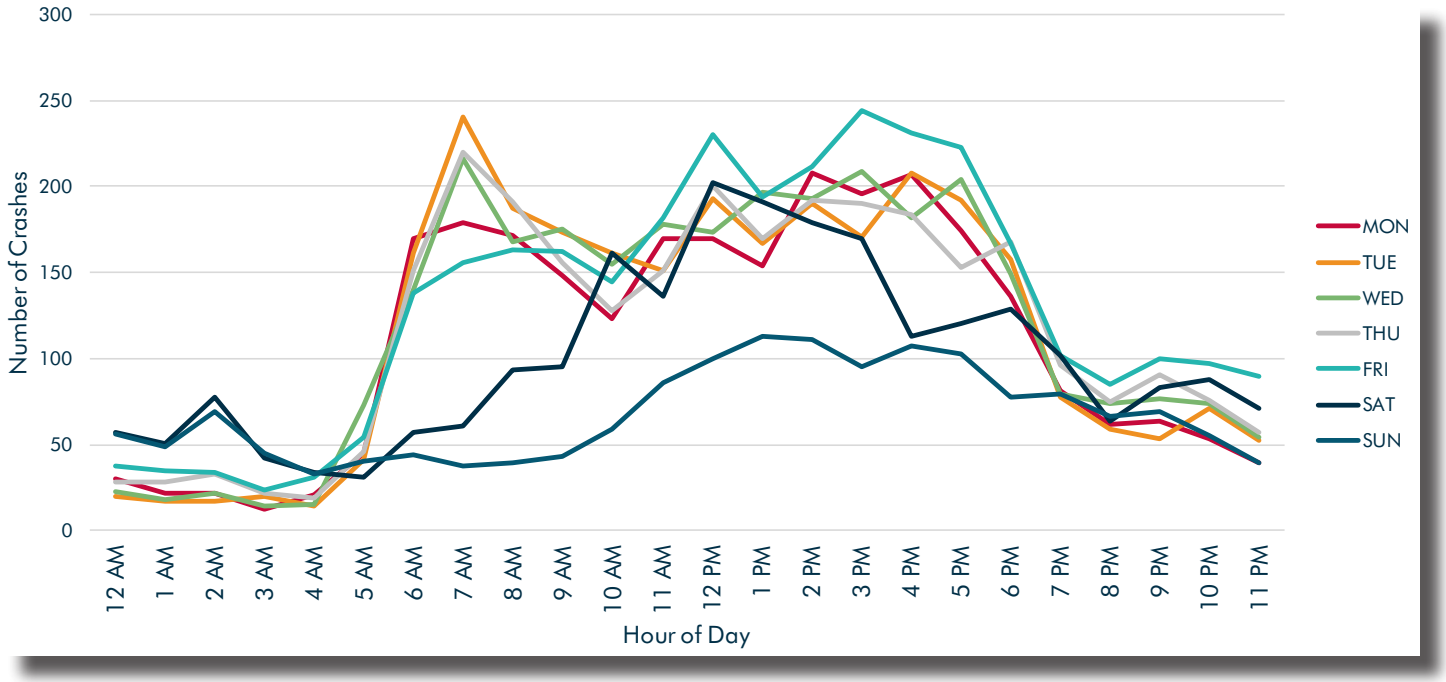
WORK ZONE CRASH WEATHER CONDITIONS

(Table WZ6)

	Percentage of Crashes
Clear and Overcast	92%
Rain	7%
Other Advisory Weather	1%
Grand Total	100%

WORK ZONE CRASHES BY HOUR OF DAY

(Figure WZ7)



RAILROAD

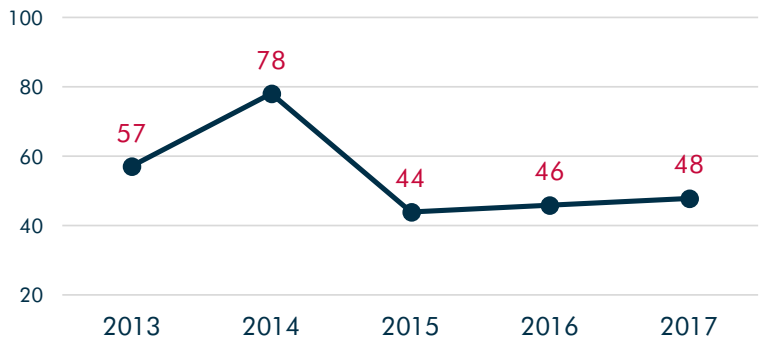
At-Grade vs. Railroad-Related

Two types of railroad incidents are tracked in this report. The first is at-grade crash incidents and the second is railroad-related incidents. At-grade crash incidents, also known as Highway-Rail Grade Crossing Incidents, are defined as, "any impact between on-track railroad equipment and a highway user at a highway-rail grade crossing" (Federal Railroad Administration (FRA) Guide for preparing accident/incident reports, 2011). Railroad-related incidents are defined as a crash involving or related to a train, railcar, or railroad crossing (TxDOT Instructions to Police for reporting crashes, 2018). This definition includes instances where railroad crossing signal equipment is struck by a vehicle, or when two vehicles collide at a railroad crossing and no train is present.

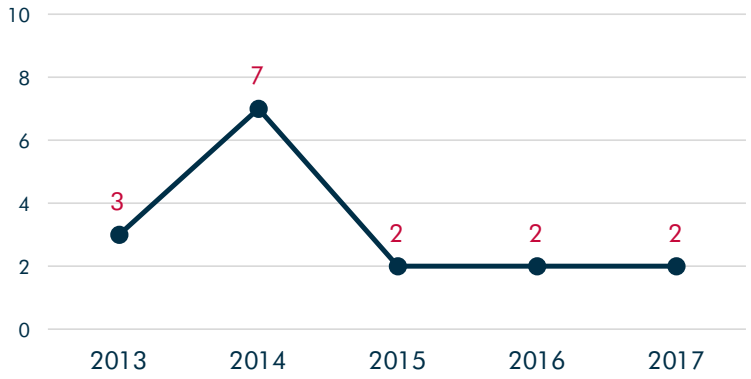
The data for highway-rail grade crossing incidents and railroad-related incidents are not complementary. The Federal Railroad Administration collects data on highway-rail grade crossing incidents. TxDOT collects data on railroad-related incidents.

Figures RR1-6 describe the five-year crash experience for both at-grade and railroad-related crashes, fatalities, and serious injuries from 2013 to 2017. Adverse weather conditions (rain, sleet, fog, etc.) were only a factor in about 10 percent of both types of crashes. Figure RR8 shows the at-grade and railroad-related crashes by hour of day. 49 percent of at-grade crashes and 40 percent of railroad-related crashes occur between 6 PM and 6 AM. Table RR7 lists the regional at-grade crossings with two or more crashes in the last five years. Figure RR9 depicts the same information.

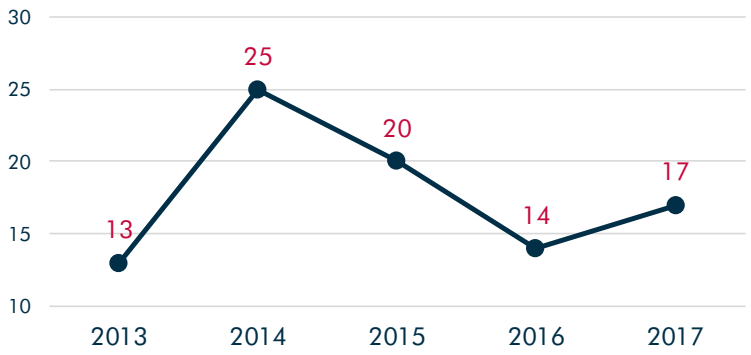
AT-GRADE-RELATED CRASHES *(Figure RR1)*



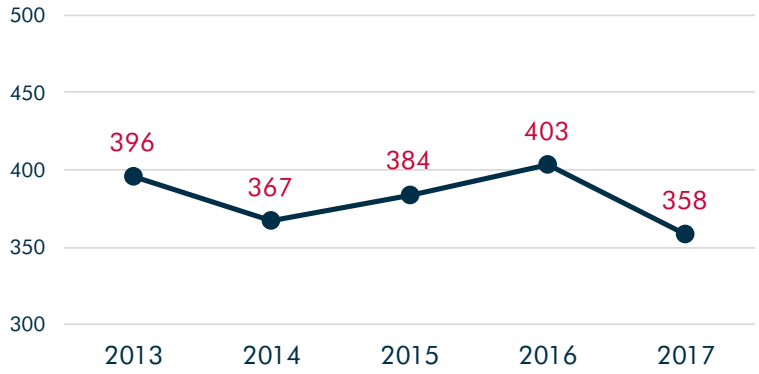
AT-GRADE FATALITIES *(Figure RR2)*



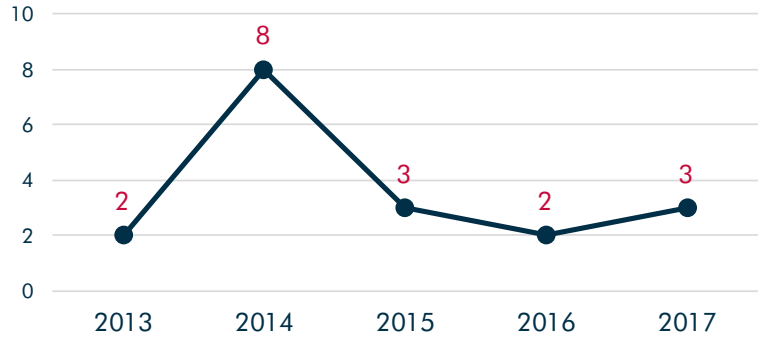
AT-GRADE SERIOUS INJURIES *(Figure RR3)*



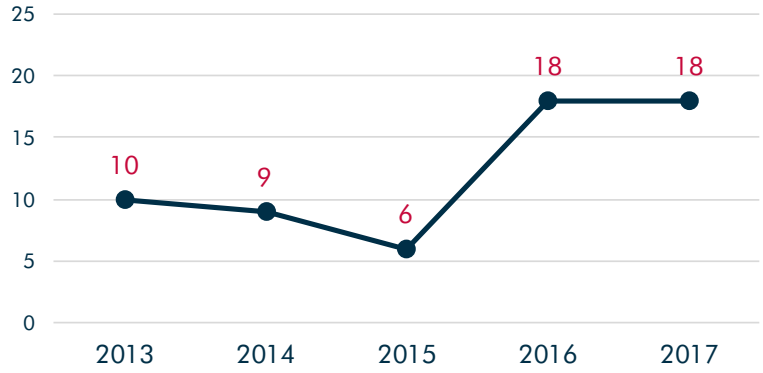
RAILROAD-RELATED CRASHES *(Figure RR4)*



RAILROAD RELATED FATALITIES *(Figure RR5)*



RAILROAD RELATED SERIOUS INJURIES *(Figure RR6)*



HIGH FREQUENCY AT-GRADE CROSSING CRASH LOCATIONS

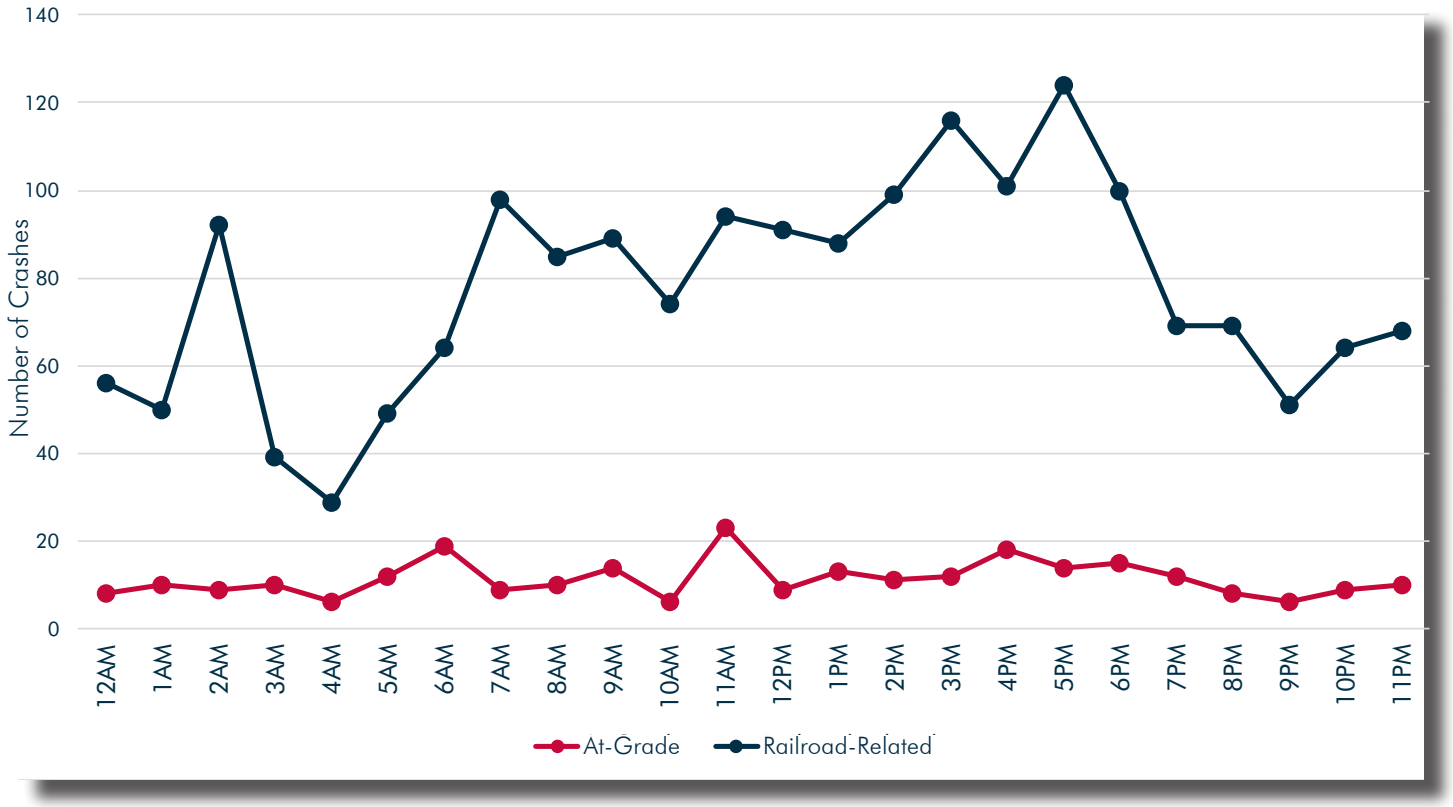
(Table RR7)

#	County	City	Location	Crashes	Fatalities	Serious Injuries
1	Harris	Houston	Long Dr @ Mykawa @ Griggs	12	0	4
2	Fort Bend	Missouri City	S Cravens Rd @ Alt 90	6	1	2
3	Harris	Houston	Fondren Rd @ Alt 90	6	2	10
4	Harris	Houston	Scott St @ Holmes	6	0	7
5	Harris	Houston	Clinton Dr @ Dorsett	6	0	0
6	Harris	Channelview	Penninsula Blvd @ San Jacinto	5	0	0
7	Fort Bend	Missouri City	S Gessner Rd @ Alt 90	4	1	1
8	Harris	Houston	Tidwell Rd @ Antoine	4	0	4
9	Harris	Houston	Haviland St @ Alt 90	3	1	0
10	Harris	Houston	Hillcroft Ave @ Alt 90	3	1	2
11	Harris	Spring	Rankin Rd @ E Hardy	3	0	1
12	Harris	Channelview	Jacinto Port Blvd @ San Jacinto	3	0	0
13	Fort Bend	Unincorporated	Harlem Rd @ Alt 90	2	1	1
14	Fort Bend	Sugar Land	TX 6 Southbound Frtg Rd @ Alt 90	2	0	2
15	Harris	Houston	Campbell Rd @ Hempstead	2	0	0
16	Harris	Houston	Parker St @ Allen	2	0	0
17	Harris	Houston	Knight Rd @ Holmes	2	0	0
18	Harris	Spring	E Richey Rd @ E Hardy	2	0	0
19	Harris	Houston	Collingsworth St @ Carr	2	0	1
20	Harris	Houston	Jensen Dr @ Vintage	2	0	0
21	Harris	Houston	Altic St @ S Capitol	2	0	1
22	Harris	Houston	W Bellfort Ave @ Mykawa	2	0	0
23	Harris	Houston	Lyons Ave @ Shotwell	2	0	1
24	Brazoria	Liverpool	FM 2917 @ Monsanto	2	3	0
25	Harris	Unincorporated	Sheldon Rd @ Hwy 90	2	0	1
26	Liberty	Unincorporated	CR 615/Texaco Rd @ NA	2	0	1
27	Galveston	Texas City	Loop 197 @ SH 146	2	0	3
28	Liberty	Dayton	US 90 @ Waco	2	0	0

Two or More Crashes in Five Years
Source: Federal Railroad Administration

AT-GRADE AND RAILROAD-RELATED CRASHES BY HOUR OF DAY (2013-2017)

(Figure RR8)



Source: Federal Railroad Administration; Texas Department of Transportation

HIGH FREQUENCY AT-GRADE CROSSING CRASH LOCATIONS

(Figure RR9)

Regional Railroad Crossings with Two or More Crashes in Five Years (FRA) as Listed in Table RR7

LEGEND
AT-GRADE CROSSINGS
CRASHES

- 2-4 Crashes
- 4-8 Crashes
- 8-12 Crashes

N

APPENDIX

Below are statistics on crashes, fatalities and serious injuries by county from 2013 to 2017 for various crash types.

IMPAIRED DRIVERS

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	313	293	304	277	275	1,462
Chambers	99	91	87	77	97	451
Fort Bend	293	347	291	252	326	1,509
Galveston	288	335	301	283	302	1,509
Harris	2,938	3,373	3,123	2,828	3,310	15,572
Liberty	77	82	57	68	76	360
Montgomery	614	595	621	557	576	2,963
Waller	57	49	48	59	57	270
Grand Total	4,679	5,165	4,832	4,401	5,019	24,096

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	17	9	18	22	24	90
Chambers	5	7	2	4	0	18
Fort Bend	14	12	19	12	9	66
Galveston	10	16	17	24	24	91
Harris	204	255	199	258	234	1,150
Liberty	7	4	5	4	10	30
Montgomery	25	28	29	46	33	161
Waller	9	0	2	1	13	25
Grand Total	291	331	291	371	347	1,631

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	38	23	35	42	33	171
Chambers	13	7	18	7	15	60
Fort Bend	21	25	21	21	33	121
Galveston	16	29	16	20	28	109
Harris	256	266	245	223	201	1,191
Liberty	22	12	13	10	14	71
Montgomery	68	45	70	69	73	325
Waller	19	7	4	8	7	45
Grand Total	453	414	422	400	404	2,093

DISTRACTED DRIVERS

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	1,388	1,582	1,507	1,196	1,580	7,253
Chambers	223	214	232	189	186	1,044
Fort Bend	1,975	2,107	1,517	1,399	1,585	8,583
Galveston	1,981	2,337	2,349	1,920	2,387	10,974
Harris	16,128	20,620	19,506	17,347	19,670	93,271
Liberty	246	250	179	217	283	1,175
Montgomery	1,776	2,286	2,330	1,724	1,951	10,067
Waller	178	201	235	213	219	1,046
Grand Total	23,895	29,597	27,855	24,205	27,861	133,413

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	3	1	4	2	3	13
Chambers	0	6	1	1	1	9
Fort Bend	8	9	1	1	3	22
Galveston	6	2	3	5	3	19
Harris	11	17	9	10	16	63
Liberty	1	0	2	1	3	7
Montgomery	3	8	7	2	2	22
Waller	1	0	0	0	2	3
Grand Total	33	43	27	22	33	158

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	15	18	27	17	22	99
Chambers	6	5	4	2	1	18
Fort Bend	23	21	10	15	10	79
Galveston	22	22	18	15	26	103
Harris	140	183	176	143	144	786
Liberty	9	4	5	2	4	24
Montgomery	19	31	30	19	22	121
Waller	6	1	4	2	6	19
Grand Total	240	285	274	215	235	1,249

BICYCLES

The first harmful event was a bicyclist.

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	21	22	12	22	28	105
Chambers	0	3	1	1	1	6
Fort Bend	48	53	74	65	74	314
Galveston	56	40	51	83	81	311
Harris	627	654	635	660	644	3,220
Liberty	5	4	4	2	6	21
Montgomery	41	46	44	52	43	226
Waller	1	2	3	4	6	16
Grand Total	799	824	824	889	883	4,219

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	1	0	2	0	1	4
Fort Bend	0	0	3	0	0	3
Galveston	0	0	1	1	1	3
Harris	6	10	7	9	6	38
Liberty	0	0	1	0	1	2
Montgomery	0	0	0	5	1	6
Waller	1	0	0	0	0	1
Grand Total	8	10	14	15	10	57

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	3	2	0	1	6	12
Fort Bend	4	6	9	1	6	26
Galveston	4	3	7	6	3	23
Harris	39	37	24	43	40	183
Liberty	0	1	0	0	0	1
Montgomery	2	4	4	8	4	22
Waller	0	0	0	1	0	1
Grand Total	52	53	44	60	59	268

PEDESTRIANS

The first harmful event was a pedestrian.

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	36	31	38	46	45	196
Chambers	7	4	9	5	7	32
Fort Bend	62	64	77	73	90	366
Galveston	46	69	68	81	75	339
Harris	1,466	1,560	1,662	1,691	1,673	8,052
Liberty	8	7	6	14	12	47
Montgomery	54	79	66	66	65	330
Waller	7	1	6	7	6	27
Grand Total	1,686	1,815	1,932	1,983	1,973	9,389

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	3	0	3	5	3	14
Chambers	0	2	0	3	1	6
Fort Bend	3	2	8	3	5	21
Galveston	2	2	7	10	5	26
Harris	70	78	73	100	93	414
Liberty	2	1	1	1	3	8
Montgomery	5	5	10	7	6	33
Waller	3	0	1	2	3	9
Grand Total	88	90	103	131	119	531

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	4	4	5	6	5	24
Chambers	2	0	1	0	2	5
Fort Bend	2	6	9	5	9	31
Galveston	3	11	6	5	11	36
Harris	105	135	116	132	131	619
Liberty	1	3	1	0	3	8
Montgomery	9	9	6	9	16	49
Waller	1	0	0	1	0	2
Grand Total	127	168	144	158	177	774

SPEEDING

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	1,792	1,770	2,052	1,996	1,969	9,579
Chambers	270	337	352	390	429	1,778
Fort Bend	2,990	3,355	3,619	3,766	3,919	17,649
Galveston	1,985	2,106	2,353	2,339	2,638	11,421
Harris	33,063	40,000	42,232	41,793	42,227	199,315
Liberty	435	456	423	388	434	2,136
Montgomery	3,379	3,794	4,220	3,924	3,904	19,221
Waller	197	222	246	245	267	1,177
Grand Total	44,111	52,040	55,497	54,841	55,787	262,276

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	14	13	15	14	21	77
Chambers	3	8	5	4	0	20
Fort Bend	19	13	9	12	8	61
Galveston	12	17	15	16	14	74
Harris	126	138	118	106	136	624
Liberty	5	7	4	6	10	32
Montgomery	17	22	16	17	13	85
Waller	6	5	1	1	8	21
Grand Total	202	223	183	176	210	994

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	63	45	56	61	53	278
Chambers	25	9	25	6	23	88
Fort Bend	89	69	65	65	54	342
Galveston	54	63	49	35	80	281
Harris	671	770	733	603	652	3,429
Liberty	42	17	23	19	24	125
Montgomery	116	115	127	84	117	559
Waller	23	12	11	15	6	67
Grand Total	1,083	1,100	1,089	888	1,009	5,169

YOUNG DRIVERS

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	1,342	1,325	1,516	1,424	1,416	7,023
Chambers	218	219	188	248	240	1,113
Fort Bend	2,060	2,287	2,393	2,495	2,579	11,814
Galveston	1,466	1,387	1,579	1,666	1,571	7,669
Harris	18,375	21,109	22,090	21,965	20,854	104,393
Liberty	241	280	279	286	353	1,439
Montgomery	2,386	2,504	2,816	2,651	2,594	12,951
Waller	179	124	162	175	173	813
Grand Total	26,267	29,235	31,023	30,910	29,780	147,215

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	8	4	7	4	2	25
Chambers	3	1	0	2	1	7
Fort Bend	10	6	6	4	8	34
Galveston	4	6	12	1	3	26
Harris	59	51	63	45	53	271
Liberty	0	0	2	2	4	8
Montgomery	6	6	13	5	10	40
Waller	4	3	1	0	2	10
Grand Total	94	77	104	63	83	421

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	26	36	42	32	22	158
Chambers	11	13	9	5	12	50
Fort Bend	56	46	32	37	49	220
Galveston	28	25	20	22	38	133
Harris	350	402	413	413	320	1898
Liberty	14	12	25	18	14	83
Montgomery	64	66	84	55	79	348
Waller	17	2	5	5	4	33
Grand Total	566	602	630	587	538	2923

ELDERLY DRIVERS

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	690	705	748	891	860	3,894
Chambers	111	104	119	133	157	624
Fort Bend	1,037	1,125	1,268	1,407	1,645	6,482
Galveston	959	989	1,199	1,323	1,376	5,846
Harris	9,713	11,695	13,050	13,369	14,210	62,037
Liberty	189	217	171	224	222	1,023
Montgomery	1,197	1,416	1,542	1,563	1,662	7,380
Waller	57	85	87	101	105	435
Grand Total	13,953	16,336	18,184	19,011	20,237	87,721

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	5	5	7	9	1	27
Chambers	2	4	3	3	4	16
Fort Bend	8	5	5	7	2	27
Galveston	2	2	5	8	4	21
Harris	34	36	35	36	51	192
Liberty	2	4	3	2	4	15
Montgomery	5	9	11	10	4	39
Waller	5	1	2	0	4	12
Grand Total	63	66	71	75	74	349

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	23	13	25	38	17	116
Chambers	9	2	2	2	5	20
Fort Bend	38	13	33	24	25	133
Galveston	28	25	25	21	29	128
Harris	200	238	286	215	231	1,170
Liberty	17	10	9	11	5	52
Montgomery	28	44	49	32	42	195
Waller	4	6	6	14	2	32
Grand Total	347	351	435	357	356	1,846

MOTORCYCLES

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	76	70	75	88	73	382
Chambers	15	13	14	12	12	66
Fort Bend	52	73	56	61	49	291
Galveston	74	85	67	95	99	420
Harris	745	802	723	785	764	3819
Liberty	21	15	11	21	23	91
Montgomery	113	106	104	110	121	554
Waller	21	26	14	17	24	102
Grand Total	1117	1190	1064	1189	1165	5725

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	10	3	3	6	11	33
Chambers	1	3	0	1	0	5
Fort Bend	4	6	2	2	6	20
Galveston	5	6	9	9	9	38
Harris	45	49	42	60	67	263
Liberty	3	1	1	2	8	15
Montgomery	8	11	7	15	9	50
Waller	3	3	0	1	3	10
Grand Total	79	82	64	96	113	434

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	24	21	21	28	17	111
Chambers	7	1	4	2	3	17
Fort Bend	19	14	6	13	13	65
Galveston	17	24	23	17	24	105
Harris	171	131	173	132	146	753
Liberty	10	6	3	6	3	28
Montgomery	31	29	25	30	52	167
Waller	11	7	2	6	4	30
Grand Total	290	233	257	234	262	1276

UNRESTRAINED PERSONS

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	195	226	225	299	267	1212
Chambers	29	30	32	28	33	152
Fort Bend	269	327	338	351	361	1646
Galveston	355	398	608	563	554	2478
Harris	5102	5743	6065	6192	6798	29900
Liberty	61	58	40	37	44	240
Montgomery	246	332	354	349	323	1604
Waller	53	45	47	55	46	246
Grand Total	6310	7159	7709	7874	8426	37478

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	7	12	12	13	9	53
Chambers	4	9	6	2	2	23
Fort Bend	16	11	13	10	8	58
Galveston	7	15	10	10	7	49
Harris	119	147	113	128	122	629
Liberty	9	3	7	5	11	35
Montgomery	12	18	16	18	14	78
Waller	7	2	1	2	8	20
Grand Total	181	217	178	188	181	945

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	26	23	33	44	27	153
Chambers	15	6	12	4	10	47
Fort Bend	38	28	18	19	27	130
Galveston	32	27	25	25	27	136
Harris	273	364	360	390	299	1686
Liberty	23	13	7	12	6	61
Montgomery	25	40	48	30	32	175
Waller	14	5	6	4	3	32
Grand Total	446	506	509	528	431	2420

COMMERCIAL VEHICLES

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	129	132	140	126	159	686
Chambers	89	91	96	105	120	501
Fort Bend	243	266	287	297	336	1,429
Galveston	134	113	153	123	155	678
Harris	2,835	3,709	3,817	3,579	3,992	17,932
Liberty	50	61	54	59	68	292
Montgomery	319	381	402	359	339	1,800
Waller	43	54	77	63	62	299
Grand Total	3,842	4,807	5,026	4,711	5,231	23,617

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	0	0	0	0	0	0
Chambers	0	0	0	3	0	3
Fort Bend	0	1	0	2	1	4
Galveston	1	0	0	0	0	1
Harris	2	5	1	3	4	15
Liberty	0	0	1	0	1	2
Montgomery	0	1	0	1	0	2
Waller	0	0	0	0	0	0
Grand Total	3	7	2	9	6	27

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	1	2	2	2	1	8
Chambers	0	0	2	0	1	3
Fort Bend	1	0	0	1	2	4
Galveston	1	0	1	0	1	3
Harris	5	10	11	3	10	39
Liberty	1	0	0	0	2	3
Montgomery	2	0	1	0	2	5
Waller	2	1	0	1	0	4
Grand Total	13	13	17	7	19	69

WORK ZONE

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	100	90	40	72	89	391
Chambers	28	11	16	39	76	170
Fort Bend	173	214	277	604	823	2,091
Galveston	59	37	58	54	259	467
Harris	2,047	3,017	3,214	3,045	3,308	14,631
Liberty	9	18	14	22	13	76
Montgomery	464	682	431	228	287	2,092
Waller	3	4	23	14	35	79
Grand Total	2,883	4,073	4,073	4,078	4,890	19,997

Fatality Count	2013	2014	2015	2016	2017	5- Year Total
Brazoria	2	0	0	0	0	2
Chambers	0	0	0	0	0	0
Fort Bend	1	1	0	7	2	11
Galveston	0	0	0	0	3	3
Harris	5	12	5	6	8	36
Liberty	0	0	1	2	1	4
Montgomery	0	4	0	3	0	7
Waller	0	0	0	0	0	0
Grand Total	8	17	6	18	14	63

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	3	5	2	3	1	14
Chambers	3	2	1	0	9	15
Fort Bend	3	7	2	17	14	43
Galveston	4	0	0	2	4	10
Harris	51	54	46	41	60	252
Liberty	0	0	0	2	0	2
Montgomery	26	9	7	11	14	67
Waller	0	1	1	0	0	2
Grand Total	90	78	59	76	102	405

RAILROAD

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	29	24	21	19	17	110
Chambers	0	7	2	7	1	17
Fort Bend	31	41	27	35	30	164
Galveston	18	17	26	14	20	95
Harris	271	220	261	275	246	1273
Liberty	16	16	9	8	12	61
Montgomery	30	40	36	39	32	177
Waller	1	2	2	6	0	11
Grand Total	396	367	384	403	358	1908

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	2	0	1	1	0	4
Chambers	0	0	0	0	0	0
Fort Bend	0	1	1	1	0	3
Galveston	0	1	1	0	0	2
Harris	0	4	0	0	3	7
Liberty	0	0	0	0	0	0
Montgomery	0	2	0	0	0	2
Waller	0	0	0	0	0	0
Grand Total	2	8	3	2	3	18

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	0	0	0	0	0	0
Chambers	0	0	0	0	0	0
Fort Bend	1	2	1	1	4	9
Galveston	2	0	0	5	2	9
Harris	5	6	5	8	11	35
Liberty	1	0	0	2	0	3
Montgomery	1	1	0	2	1	5
Waller	0	0	0	0	0	0
Grand Total	10	9	6	18	18	61

AT-GRADE CROSSING

At-grade crossing crashes are a subset of railroad-related crashes. These crashes are one the public is most familiar with—when a vehicle is struck by a train or other on-track railroad equipment.

Crash Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	2	2	2	2	5	13
Chambers	0	1	0	0	0	1
Fort Bend	5	9	4	9	4	31
Galveston	1	1	1	2	2	7
Harris	39	55	28	30	34	186
Liberty	4	4	2	2	3	15
Montgomery	6	5	7	1	0	19
Waller	0	1	0	0	0	1
Grand Total	57	78	44	46	48	273

Fatality Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	2	0	1	0	0	3
Chambers	0	0	0	0	0	0
Fort Bend	1	3	1	1	0	6
Galveston	0	0	0	0	0	0
Harris	0	3	0	1	2	6
Liberty	0	0	0	0	0	0
Montgomery	0	1	0	0	0	1
Waller	0	0	0	0	0	0
Grand Total	3	7	2	2	2	16

Serious Injury Count	2013	2014	2015	2016	2017	5-Year Total
Brazoria	0	0	0	0	2	2
Chambers	0	0	0	0	0	0
Fort Bend	3	3	3	3	0	12
Galveston	1	0	0	3	2	6
Harris	4	21	16	6	13	60
Liberty	3	1	0	2	0	6
Montgomery	2	0	1	0	0	3
Waller	0	0	0	0	0	0
Grand Total	13	25	20	14	17	89

Houston-Galveston Area Council
3555 Timmons Lane, Suite 120
Houston, Texas 77027
713.627.3200
h-gac.com

@HouGalvAreaCog
@HouGalvAreaCog
@HouGalvAreaCog
@HouGalvAreaCog
@houston-galveston-area-council