

THE State of
SAFETY
IN THE REGION



JUNE 2009

**Program Update, Legislative Review
and Crash Analysis**



State of Safety in the Region: 2009

June 2009

Houston-Galveston Area Council

Acknowledgements

The Transportation Safety Program staff at the Houston-Galveston Area Council would like to express their deepest appreciation to all the members of the Regional Safety Council, its subcommittees, our colleagues at TxDOT, the Texas Transportation Institute (TTI), local governments, regional law enforcement agencies, the medical community, area engineers and the employees and volunteers of the community service organizations throughout the region that have taken on the tireless responsibility of trying to make our region's roads safer for those who use them.

A special note of thanks goes to Phillippe Anchondo at H-GAC, who took the millions of crash data records we received and made them accessible and usable for this report.

This report is specifically dedicated to the law enforcement officers, who in carrying out their duty to make our streets safe, lost their lives in the process. Your efforts will not be forgotten.

In their memory, may we strive even harder in the year to come to make our streets safe.

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Introduction

Since its inception in 2005, the Regional Safety Council has served as forum for those involved in the area of transportation safety, including law enforcement, engineers, medical professionals, researchers, freight concerns, advocacy groups, and planners. The Council, along with staff from the Houston-Galveston Area Council (H-GAC), has worked to inventory the various safety-related efforts taking place in the region and foster partnerships between organizations to maximize resources and more-effectively promote safer roads in the region.

The 2009 State of Safety in the Region (SOSR) report serves as an overview of the transportation safety situation in the Houston-Galveston region, providing updates on regional traffic safety activities, including legislative action on transportation safety and accomplishments of the Regional Safety Council, its subcommittees, regional community organizations, governmental agencies at all levels, and H-GAC staff. In addition, TxDOT has released crash data for 2003-2007, which has allowed for the development of a data compendium to provide insight into the depth of the region's transportation safety problems.

These new data come with promising news. Serious motor vehicle crashes (defined as involving an injury, fatality, or at least \$1,000 in damage) have registered declines over the five-year period. This is a trend that is playing out nationwide as well. Regionally, between 2003-2007, serious crashes have dropped from 119,540 in 2003 to 105,862 in 2007, a 11.4% decrease. This included a 16.0% decline in fatalities from 669 in 2003 to 552 in 2007, and a 25.7% decline in injuries from 84,884 in 2003 to 63,101 in 2007.

While the decrease in crashes, fatalities, and injuries is welcome news, the numbers are still significant enough such that more work needs to be done to make the region's highways and streets safer. Using the National Safety Council's methodology on estimating the costs of crashes on society, motor vehicle crashes in 2007 cost the region in wages, productivity, medical expenses, emergency response and auto repairs approximately \$5.4 billion.¹ Traffic congestion costs, one of the region's pre-eminent concerns, were nearly \$2.5 billion in comparison for 2007, which includes non-recurring congestion caused by traffic-related crashes. The cost of vehicle crashes in lives, property, time and money will become a burden our region can ill afford to pay, and therefore efforts to reduce the frequency and severity of such crashes will hopefully gain currency with public institutions, the private sector and the general public.

The transportation safety problem is not one that will be solved overnight. It will not just require continued collaboration between the Regional Safety Council and the various groups who deal with this problem on a daily basis. It will also involve changes from the Legislature to better enable these groups to address the problem. Most importantly, it will involve a change in how the general public chooses to interact and respect fellow drivers on the region's roads.

¹ "Estimating the Costs of Unintentional Injuries, 2007," National Safety Council, <http://www.nsc.org/resources/issues/estcost.aspx>

Regional Safety Council

In August 2005, the H-GAC Transportation Policy Council (TPC) established the Regional Safety Council (RSC) to address the region's increasing traffic safety issues. The RSC's mission is to advise and make recommendations to the TPC regarding traffic safety policy. In addition, the RSC is responsible for encouraging safety education, effective law enforcement, safety engineering, emergency service activities, and infrastructure investments to help reduce the number and severity of traffic crashes, injuries and fatalities in the region.

The RSC consists of representatives from a broad spectrum of safety-related professions. Membership includes officials and professionals from local and State governments, transportation, law enforcement, health care, insurance, trucking, railroads and non-profit organizations involved in safety. The Council has provided a unique opportunity where these groups, many who have never worked together or heard of each other, have been able to build relationships, coordinate activities, and leverage resources to address the safety problem.

The RSC initially met in February 2006 and formed subcommittees to concentrate on four safety issues that have significantly impacted the region. These issues were DUI/DWI crashes, Aggressive Driving, Freight Safety, and Safety Information Systems. A fifth subcommittee, Improving Bicycle, Pedestrian & Child Safety, was added in 2007 to address non-motorized modes of transportation, as well as issues affecting child safety. These subcommittees were tasked to develop proposals and initiatives to address transportation safety in their respective areas. These initiatives, which are in various stages of development and implementation, are discussed in detail later in this report.

Regional Safety Council Members

- Allen Baity, Core Trucking of Texas
- Council Member Adrian Garcia, City of Houston
- Chief Thomas Lambert, METRO
- Roger Schuler, John L. Wortham & Son, L.P.
- Sheriff Charles Wagner, Brazoria County
- Andy Mao, P.E., Harris County
- Chief Deputy Chad Norvell, Fort Bend County, Precinct 4
- Captain Carl Driskell, Houston Police Dept.
- Joe Adams, Union Pacific
- Stuart Corder, P.E., TxDOT-Houston District
- Robert Benz, P.E., TTI
- Dr. Richard Bradley, LBJ Hospital
- Raymond Chong, P.E., City of Houston
- Chief Keith Dougherty, Baytown Police Department
- Anne O’Ryan, AAA-Texas
- Lee Jane Ream, P.E., City of Pasadena
- Dr. Rohit Sheno, Texas Children’s Hospital
- Officer Paul Lassalle, Houston Police Dept.
- Flora Allen, MADD
- Ralph Granados, City of Missouri City

Ex-Officio Members

- Alan Clark, H-GAC
- Jeff Kaufman, H-GAC
- Carolyn Cook, Federal Railroad Administration
- Cherie Kittle, Federal Highway Administration
- Manuel Espinosa, Federal Motor Carriers Safety Administration
- Kenneth Copeland, National Highway Traffic Safety Administration

Initial Council Recommendations

In February 2007, the Regional Safety Council, based on work by its subcommittees, approved the first State of Safety in the Region report. This report was the first of its kind to provide a comprehensive review of traffic safety in the Houston-Galveston region. Utilizing Texas Department of Public Safety data from 1999 to 2001, the 2007 SOSR report identified the critical traffic safety issues in the region and outlined strategies for addressing these problems.

The report focused on four major regional traffic safety problems: DWI/DUI crashes, aggressive driving, commercial motor vehicle safety, and safety information systems. A chapter is dedicated to each subject area, providing background information, statistical analysis and recommendations for addressing the issue. A fifth subcommittee addressing bicycle, pedestrian and child safety was added after the report's approval.

The report made a total of 17 recommendations for improving safety in each of the four subject areas. While some of these recommendations can be addressed through local action, several require legislative approval before action can be taken. Following this section is a progress report reflecting the status in fulfilling these recommendations.

Initial Regional Safety Council Recommendations

1. Implement interlock technology to a greater extent
2. Eliminate "intoxicants clause" in Texas Insurance Code
3. Modify state Administrative License Revocation laws
4. Enact legislation barring servers from drinking while on duty
5. Legalize sobriety checkpoints
6. Funding programs to reduce/prevent underage drinking
7. Identify problem alcohol establishments and concentrations of DWI offenders
8. Implement Dynamic Speed Signs
9. Promote road safety education to teenagers
10. Create safety corridors on high-incidence roadways
11. Expand the use of truck-restricted freeway lanes
12. Support the development of truck-only facilities
13. Increase truck enforcement funding
14. Develop commercial vehicle safety education campaign
15. Ensure proper crash data collection
16. Encourage regional crash data sharing
17. Utilize H-GAC as a regional crash data clearinghouse

Progress on Council Recommendations

1. Greater implementation of interlock technology

Currently, Texas law recognizes ignition interlock technology as an option for judges to implement in sentencing most DWI offenders. Implementation is only mandatory as a condition of bond or probation for subsequent DWI offenses or if the offender is convicted with a BAC is greater than 0.15, is under 21 years of age, or was on probation for Intoxication Assault or Manslaughter. Three pieces of legislation (HB 2432, HB 4061 & SB 1393) introduced in the 81st Legislative Session would have mandated the use of interlock devices as a requirement for deferred adjudication, community supervision, or a condition of release on bond for a DWI arrest. All bills died in committee.

2. Elimination of Intoxicants Clause

Texas law currently allows insurance companies to deny payment of medical expenses for claimants who were injured while under the influence of alcohol. Repealing or modifying these laws would make it easier to identify and treat drunk drivers by eliminating the concern of hospitals of recovering costs. HB 634, proposed during the 80th Legislative Session, would have modified the law to mandate that insurers provide coverage. The legislation died in committee, and the bill was not resubmitted in 2009.

3. Modification of State Administrative License Revocation Laws

It was recommended that state law be amended to allow those convicted of DWI offenses to retain their driver's licenses if they actively participate in and successfully complete a DWI Court program. This recommendation was made because as many as 75% of DWI offenders with suspended licenses continue to drive illegally, and nearly half of these drivers fail to reinstate their licenses when the suspension period has ended. SB 1177, which was introduced during the 81st Legislative Session, would have repealed administrative license revocations for DWI offenses. The bill was referred to committee with no further action taken.

4. Barring Servers from Drinking on Duty

It is illegal for the owners, agents, or employees of an establishment that serves alcohol to be intoxicated while on the premises. However, state law does not prohibit those persons from consuming alcohol while at work. When servers consume alcohol, their judgment can be impaired and consequently they would not be able to adequately determine when their patrons have become intoxicated, and are probably less likely to recommend alternative means for these patrons to safely leave the premises. Moreover, these servers will become alcohol-impaired drivers themselves when they leave work, thus compounding the impaired driving problem. To date, no legislation has been introduced to eliminate this practice.

5. Legalization of Sobriety Checkpoints

Currently, state law enforcement agencies can not set up or operate sobriety checkpoints due to a ruling by the Texas Court of Criminal Appeals due to a lack of guidelines for their operation. During the 81st Legislative Session, HB 169 (Smith, Todd) and SB 298 (Carona) proposed a set

of guidelines based on NHTSA's guidelines for operating a checkpoint. While SB 298 passed the Senate, it was left pending in committee in the House.

6. Funding Programs to prevent Underage Drinking

H-GAC staff continues to work with Bay Area Council on Drugs and Alcohol, the Bay Area Alliance for Youth & Families, the Coalition for Behavioral Health Services-North, the Southeast Harris Community Coalition and regional law enforcement agencies to eliminate underage drinking. These coalitions have received grants from the Texas Department of State Health Services to reach out to teen and college-age individuals to educate about the risks and dangers of underage and binge drinking and have provided funding to law enforcement for extra resources to crack down on this activity. The coalitions have also held forums for students, parents, and decision-makers about the issue of underage drinking and how to address it.

7. Identify Problem Alcohol Establishments

The report recommended conducting a study to (1) identify alcohol establishments with high numbers of DWI offenders as patrons, and (2) determine if there are areas where large numbers of DWI offenders reside. While new crash data has been released to assist in the analysis, two critical pieces of information are not available in data released – location of last drink and location of residence. Those arrested are hesitant to release the former data, while TxDOT will not release the latter due to privacy concerns. In the meantime, H-GAC staff continues to work with area coalitions to correlate establishment locations and crash locations in order to try and identify potential target areas for increased enforcement by local police and TABC, as well as to provide education.

8. Implement Dynamic Speed Signs

The Council recommended the implementation of radar-based speed limit signs that notify drivers of their speed in order to bring speeds within the limits. While many communities have utilized the signs in work zones and for temporary assignment, the Cities of West University and Sugar Land have installed these devices as more permanent fixtures. West University has seen a decrease in speeding since their implementation in 2005. The City of Sugar Land has seen mixed results, with fewer people adhering to the devices placed on the larger roadways.

9. Promote Teen Road Safety Education

H-GAC Staff has continued to support the Texas Transportation Institute (TTI) in promoting the Teens in the Driver Seat program, a peer-to-peer initiative where high-school students create and teach its own program. Regionally, TTI has grown the program from two schools in 2008 to 24 schools in 2009. H-GAC has also worked with the Driver's Edge program, a hands-on driver safety program geared towards teens, where participants receive in-car instruction from professional race-car drivers that is traditionally not taught in standard driver's education program. Due to the success of last year's event, a session was held in April 2009 at the Sam Houston Race Park, which attracted 370 students and 290 parents.

10. Implement Safety Corridors

Most safety corridors have been implemented in rural areas on either limited-access interstates or rural roads with limited business access. H-GAC staff has been studying how to adequately implement such a corridor on an urban arterial with multiple access points. Several

communities, including Seattle and Vancouver in Washington State have implemented urban corridors successfully. More information is being obtained about the process in order to duplicate it in the Houston-Galveston area.

11. Expand Truck-restricted Lanes

The 2007 recommended that TxDOT look into expanding truck-lane restrictions where deemed appropriate on the region's freeway system. Providing some separation between commercial and passenger vehicles can improve safety by reducing potential conflicts. Currently, TxDOT has implemented truck-lane restrictions on IH-10 East, US 290, IH-45 North, and SH 225. There are no plans at this time to add further lane restrictions at this time.

12. Increase Commercial Motor Vehicle Enforcement

To date, no legislation has been introduced which would dedicate revenue from fines levied against commercial motor vehicle (CMV) operators to CMV enforcement. In 2007 the State Legislature did pass three bills (HB1638, HB 2077, & SB 545) that expanded the number of municipal law enforcement agencies that can apply for CMV Enforcement certifications. In 2009, HB 2537 (Creighton) would have permitted county sheriffs to conduct enforcement activities. However, the bill failed to make it out of the House. Currently, only the City of Houston, City of Pasadena, Harris County, and the Department of Public Safety are the only agencies with dedicated CMV enforcement personnel.

13. Support Development of Truck-only Facilities

The report calls for the Council to support development of truck-only facilities either as part of the existing transportation infrastructure or as separate facilities. While the basis for this recommendation is sound, due to the current state-wide transportation fiscal crisis it is unlikely that existing truck-only facilities will be expanded or that separate facilities will be constructed. H-GAC will be conducting a study to assess regional truck parking availability and how to address deficiencies, if any.

14. Develop Commercial Motor Vehicle Safety Campaign

H-GAC staff has continued to develop its "NO-ZONE" campaign, which is directed towards drivers of passenger vehicles to heighten their awareness of the dangers of driving in the "blind spots" of commercial vehicles. Staff has redesigned and produced a 2' x4' decal to be placed on the back of commercial vehicles. Nearly 1,000 of these decals have been distributed to local trucking companies. In addition, H-GAC is in discussions of creating and airing PSAs in partnership with the Houston Police Department to further remind the public of safe driving around trucks.

15. Encourage Regional-level Data Sharing

The development and deployment of the state Crash Record Information System (CRIS), and the subsequent future development of a regional crash record data repository at H-GAC will allow for the sharing of crash data in the region. H-GAC has been working with communities, police departments, and advocacy groups to provide data to assist with their efforts. In the meantime, TxDOT is working to develop a system called CRASH (Crash Reporting and Analysis for Safer Highways) that will allow crash report entry on an officer's vehicle terminal for more direct

entry into CRIS. This will allow for the faster processing of crash data, reducing the amount of delay for data availability. Staff still needs to work with county vital statistics departments to bridge the gap between fatality data reported by NHTSA and actual motor vehicle deaths.

16. Ensure Proper Data Collection

With the receipt of new crash data from TxDOT, H-GAC has been able to review how crash data has been recorded by law enforcement. Through the review, some discrepancies were discovered, mostly involving how law enforcement reported the location of certain crashes, especially those on limited-access freeways with frontage roads. In addition, the data have raised concern that crashes due to impaired driving may be undercounted. This may be possibly due to the lack of drug recognition training of patrols, as well as the burdensome processing and reporting requirements for impaired driving crashes.

17. Setup a Regional Crash Information Clearinghouse

H-GAC received crash data from 2003-2007 from TxDOT in April 2009. Staff has made the data accessible internally and has been using it in answering information requests on a regular basis. H-GAC will be working with the North Central Texas Council of Governments (NCTCOG) on developing a web-based system where users can conduct queries on the data they need online. The system in question will be somewhat limited in terms of the types of queries conducted but should provide access to the most common types of data requests. More complex requests can still be directed towards H-GAC staff to be handled.

Review of the 81st Legislative Session

The 81st Texas Legislative Session was not a very successful one for transportation safety. Discussion of several major issues, including the fate of the Texas Department of Transportation, created a significant backlog of bills, ultimately resulting in their demise. Of nearly 100 bills filed covering areas such as aggressive driving, impaired driving, safety belt usage, crash data availability, freight safety, and driver's education, sixteen bills were sent to the Governor.

Bills Passed

HB 55 (Branch) would amend the Transportation Code to prohibit an operator of a motor vehicle from using a wireless communication device while operating a motor vehicle within a school crossing zone unless the vehicle is stopped or the wireless device is used with a hands-free device. An exception to the use of a wireless communication device in a school zone would be allowed for making an emergency call to certain entities.

HB 339 (Phillips, et al)/**SB 1077** (Carona) would require each school district to consider offering a driver education course for a fee, increase the hours of behind-the-wheel driving instruction a teen receives, make the qualifications for driving instructors more stringent, and require the Department of Public Safety of the State of Texas to conduct a driving test for each applicant under 18 years of age and to collect statistics to analyze the effectiveness of different methods of driver education. The bill also prohibits the use of a wireless device by a teen while operating a vehicle, except in case of an emergency.

HB 528 (Vaught, et al)/**SB 61** (Zaffarini) would increase the current safety seat system requirements for certain children, providing a violation when an individual transports a child between the ages of four years and eight years, unless the child is four feet, nine inches, and fails to keep the child secured in a child safety seat system. The bill makes the fine for violations \$25, focusing on educating families, not punishing them. The bill directs funds collected from citations to the Texas Department of Transportation for a child safety seat program focused on education and providing seats to low income families.

HB 537 (Berman) would amend current law to require that all passengers and the driver in a passenger van designed to transport 15 or fewer passengers, be required to be secured by a safety belt. It would also require third-party transportation providers that contract with the state to have child safety seats when transporting a child to medical services under the Medical Transportation Program. The bill also prohibits an operator of a motorcycle from carrying another person on the motorcycle unless the person is at least five years of age. This provision applies only to motorcycles used on public roads and does not prohibit an operator from carrying a passenger younger than five seated in a sidecar attached to a motorcycle.

HB 548 (Pickett) would allow for the impoundment of motor vehicles involved in the commission of the offense of racing on a highway that result in an accident with property damage or personal injury. It would require a peace officer to require the vehicle to be taken to

the nearest licensed vehicle storage facility. The owner of the motor vehicle that is removed or stored would be liable for all removal and storage fees incurred and is not entitled to take possession of the vehicle until those fees are paid.

HB 645 (Veasey)/**SB 481** (Carona) requires contract carriers to perform alcohol and drug testing of vehicle operators on employment, on suspicion of drug or alcohol abuse, and periodically as determined by the Department of Public Safety (DPS). The bill also requires the contract carrier to maintain a minimum of \$1.5 million in liability insurance for each vehicle and requires DPS to inform contract carriers and railroad companies that employ contract carriers of applicable state laws.

HB 1343 (Menendez)/**SB 647** (Van de Putte) would increase the penalties incurred by a motorist who fails to yield the right-of-way to a blind and disabled pedestrian.

HB 1826 (Smith, Todd)/**SB 375** (Carona) authorizes the Texas Department of Transportation (TxDOT) to release information that is gathered from accident reports held and compiled by TxDOT under state law and a vehicle identification number and specific accident information relating to that vehicle. The bill prohibits the release of personal information and information that would enable a person to provide specific details of a motor vehicle accident to TxDOT for the release of information pertaining to that accident.

HB 2399 (Jackson, Jim)/**SB 858** (Seliger) authorizes a driver education school to teach all or part of the classroom portion of an approved driver education course by an alternative method of instruction that does not require students to be present in a classroom if the commissioner of education approves the alternative method.

HB 2682 (Alvarado, et al)/**SB 2477** (Wentworth) would remove restrictions on municipalities to lower speed limits on certain roadways in urban districts to a minimum of 25 mph in such circumstances where a municipality determines that the prima facie speed limit of the roadway is unreasonable or unsafe.

SB 1107 (Shapiro) requires that information relating to the effect of using a wireless communication device or engaging in other actions that may distract a driver on the safe or effective operation of a motor vehicle be included in the curriculum of each driver education course or driving safety course.

SB 1967 (Carona) requires an applicant for a certain license or permit that includes an authorization to operate a motorcycle to furnish evidence satisfactory to TxDOT that the applicant has successfully completed a basic motorcycle operator training course approved by TxDOT. The bill also creates an offense for an accident that results from failure of a vehicle to yield the right-of-way to another vehicle and bodily injury or serious bodily injury occurs.

SB 2041 (Ellis, et al) would require that questions testing the applicant's knowledge of motorists' rights and responsibilities in relation to bicyclists are asked of every applicant for a Texas driver's license.

SB 333 (Carona) would authorize county courts that maintain their own certified breath alcohol testing programs to retain \$22.50 of the DWI court case fees and fines to help defray costs.

SB 1317 (Wentworth) would prohibit TxDOT from issuing a driver's license to a person who is younger than 25 years of age unless the person submits to TxDOT a driver education certificate that states that the person has completed and passed a driver education and traffic safety course approved by the Texas Education Agency (TEA) or a driver education course approved by TEA.

Bills that Failed

HB 149 (Smith, Todd) would have reduced the maximum fine for the offense of illegally passing a stopped school bus from \$1,000 to \$500.

HB 169 (Smith, Todd)/**SB 298** (Carona, et al) would have granted the authority of the Texas Department of Public Safety and certain local law enforcement agencies to establish a checkpoint on a highway or street to determine whether persons are driving while intoxicated.

HB 170 (Aycock) would have presumed that a person had an alcohol concentration equal to or higher than 0.08 at the time of an offense if that level of alcohol concentration is shown by an analysis of a specimen of the person's breath, blood, or urine taken from the person not later than 90 minutes after the time of the person's arrest.

HB 286 (Martinez Fischer) would have created an office of executive commissioner for the prevention of driving while intoxicated.

HB 300 (Isett, et al) while primarily addressing the authorization of the Texas Department of Transportation, has a clause amended into it calling for the repeal of red light photo enforcement.

HB 454 (Gonzalez Tourelles) would have allowed drivers who are paying a surcharge under the Driver Responsibility Program (DRP) to complete a defensive driving course for a deduction of two responsibility points. This reduction in the number of points would have resulted in a lower surcharge under DRP or elimination of the surcharge altogether.

HB 474 (Allen) would have authorized school districts to equip school buses with monitoring systems capable of taking photographic, electronic, video, or digital images on school buses to record violations for illegally passing a school bus. It would also have authorized a school district to impose a penalty for such a violation, by means of a school board resolution.

HB 509 (Riddle) would have added a certified emergency medical technician-intermediate or emergency medical technician-paramedic to the list of persons who are authorized to take a blood specimen at the request or order of a peace officer. It would have also removed chemists from the list. The bill had also set forth requirements for the taking of a specimen, the oversight of the draw and the possession for purposes of establishing a chain of custody.

HB 662 (Ortiz Jr, et al)/**SB 772** (Williams) would have prohibited a driver under 18 years of age from using a wireless communications device while driving, unless the device is used in the event of an emergency or with a hands-free device.

HB 738 (Quintanilla) would have created as an offense, Inattentive Driving. Punishment would have been at least twice the minimum fine and not more than twice the maximum fine applicable as punishment for an offense committed while operating a motor vehicle if the person who commits the offense was involved at the time in any of the activities listed in the bill.

HB 747 (Gattis)/**SB 261** (Deuell) would require a peace officer to require the taking of a specimen of the person's breath or blood under certain circumstances if the officer arrests the person for an offense involving the operation of a motor vehicle or a watercraft and the person refuses the officer's request to submit to the taking of a specimen voluntarily, including that the person was the operator of a motor vehicle or a watercraft involved in an accident that the officer reasonably believes occurred as a result of the offense and at the time of the arrest, the officer reasonably believes that as a direct result of the accident an individual other than the person has suffered bodily injury and been transported to a hospital or other medical facility for medical treatment

HB 758 (Martinez Fischer, et al) would have prohibited an operator of a motor vehicle from using a wireless communication device to read, write, or send a text message while operating a motor vehicle unless the vehicle is stopped or if the operator is a peace officer or emergency response provider using the device in connection with official duties.

HB 759 (Martinez Fischer) would have mandated that the Texas Department of Criminal Justice (TDCJ) develop and operate a 24 hour a day toll free number that one may use to report dangerous, impaired or intoxicated driving.

HB 805 (Quintanilla)/**SB 389** (Patrick, Dan) would authorize a county to allow the use of personal vehicles for law enforcement purposes upon approval from the appropriate authority and compliance with applicable commissioners court rule.

HB 823 (Turner, Sylvester) would have prohibited a peace officer from taking a blood specimen from a motor vehicle operator to test for alcohol concentration or other intoxicating substances regardless of whether the officer is a member of the medical profession a chemist, or a qualified technician authorized to take a blood specimen in such a situation.

HB 827 (Harper-Brown, et al)/**SB 488** (Ellis) would have required a safe passing distance of "vulnerable road users," being three feet for a car or light truck and six feet for a truck other than a light truck. These "vulnerable road users," would have included highway construction and maintenance workers, tow truck operators, utility workers, stranded motorists or passengers; a person on horseback; a person operating equipment other than a motor vehicle, including a horse-driven conveyance, or unprotected farm equipment, pedestrians, runners, physically disabled persons, children, skaters, or bicyclists, mopeds, motor-driven cycles, or motor-assisted scooters. The bill passed both houses of the Legislature, but was vetoed by the Governor.

HB 897 (Dutton) would have revoked the suspension of a person's driver's license for a failure to pass a test for intoxication or a refusal to submit to the taking of a breath or blood specimen if a dismissal of the underlying criminal charge from the same arrest occurs.

HB 996 (Giddings) would have allowed school districts to elect to conduct training for students and teachers concerning procedures for evacuating a school bus during an emergency.

HB 1158 (Truitt) would have amended the Transportation Code to at least double the fine imposed for certain offenses if at the time a person commits an offense they were using a wireless communication device without the use of a hands-free device.

HB 1236 (Menendez) would have created a misdemeanor offense of causing serious bodily injury or death to a disabled or visually impaired person, with fines going to an account for visually impaired safety services.

HB 1254 (Callegari) would have required flashing yellow lights to be located not more than 750 feet from an intersection with a red light camera

HB 1260 (Hopson) would have created a registration program for those convicted of certain intoxication offenses.

HB 1305 (Aycock) would have relieved a hospital from liability for the taking of a blood specimen pursuant to a search warrant if the specimen was taken according to recognized medical procedures.

HB 1354 (Vaught)/**SB 1607** (West) would have clarified that only magistrates who are licensed Texas attorneys may issue search warrants for blood specimens from certain persons arrested for certain intoxication offenses.

HB 1634 (Smith, Todd) would have prohibited access to motor vehicle accident reports during the 30-day period immediately after the date of the accident. It would have provided exceptions for those involved in the accident and other people with certain interests in the information.

HB 1906 (Guillen, et al)/**SB 1323** (Whitmire) would have allowed a judge or magistrate administering a drug court program to reduce the amount of the annual surcharge on the license of a person finally convicted of an offense relating to the operating of a motor vehicle while intoxicated if the convicted person meets certain requirements.

HB 1983 (Martinez Fischer) would create the offense of Aggravated Driving While Intoxicated, where a driver is intoxicated while operating a motor vehicle in a public place and the person has an alcohol concentration of 0.16 or more or has an alcohol concentration of 0.02 or more and is operating a commercial motor vehicle. The offense would be a Class A misdemeanor, with a minimum term of confinement of 30 days.

HB 2341 (Miller, Sid) would have required that a person convicted of an offense relating to the operating of a motor vehicle while intoxicated have an additional \$25,000 of coverage for each conviction, in addition to the minimum coverage required.

HB 2389 (Hernandez) would have set a supplemental breath alcohol testing program fee on conviction of certain intoxication offenses of \$50. The bill would have allowed a county to retain \$5 of the funds collected from the fees for administrative costs and allowed a county that does not use the services of a DPS technical supervisor forensic scientist to retain \$45 to help defray the cost of hiring or contracting with a technical supervisor forensic scientist or maintaining and supporting a program.

HB 2432 (Smith, Todd) would have allowed for deferred adjudication, with certain exceptions, for first-time DWI offenders and provides that an intoxication offense for which a defendant received deferred adjudication is available for enhancement purposes if the offender is convicted of a subsequent intoxication offense. The bill would have required a judge to require a defendant who receives deferred adjudication for certain intoxication offenses to have an ignition interlock device installed on certain vehicles.

HB 2537 (Creighton) would have made a sheriff or deputy sheriff in any county eligible for certification to enforce commercial motor vehicle safety standards.

HB 2639 (Isett) would have prohibited the installation of photographic enforcement systems and to remove provisions relating to the civil or administrative penalties currently assessed by such systems

HB 2839 (Riddle) would have increased the duration of a driver's license suspension resulting from an offense relating to racing a motor vehicle on a public highway or street from one year to two years on conviction of any subsequent offense and increase from 10 to 20 the minimum number of community services hours that a person whose license is suspended for an offense relating to racing a motor vehicle on a public highway or street is required to complete. The bill would have also provided for the impoundment and recovery and conditions for forfeiture to Texas of a motor vehicle involved in the commission of such an offense.

HB 3151 (Christian) would have given authority to certain justices of the peace to issue a search warrant for a blood specimen from a person arrested for certain intoxication offenses in counties with populations of 80,000 or less.

HB 3213 (Edwards)/**SB 1028** (Watson) would make an offense of operating or riding in a passenger vehicle while not secured by a safety belt.

HB 3275 (Ortiz, Jr.) would have prohibited a local authority from installing a photographic traffic signal enforcement system at an intersection approach located on a TxDOT state highway without TxDOT approval.

HB 3509 (Dunnam) would have removed language that disqualifies a driver's operation of a commercial motor vehicle if the driver had certain violations in any motor vehicle.

HB 3558 (Phillips) would have authorized a local authority to require an owner of a motor vehicle who operates the vehicle in violation of a traffic-control signal monitored by a photographic traffic signal enforcement system to complete an intersection safety course as part of the civil penalty imposed for such an offense.

HB 3912 (Madden) would have required the minimum change interval for a steady yellow traffic signal must be established in accordance with the Texas Manual on Uniform Traffic Control Devices at those intersections at which a photographic traffic monitoring system is in use.

HB 4061 (Smith, Todd) would require a court to require a person convicted of certain alcohol-related offenses who is placed on community supervision, as a condition of community supervision, to have an ignition interlock device installed on the defendant's motor vehicle to make impractical the operation of the motor vehicle if ethyl alcohol is detected in the breath of the operator and to prohibit the defendant from operating a vehicle unequipped with the device.

HB 4240 (Mallory Caraway) would have prevented local authorities from imposing a civil penalty for a violation recorded by a photographic traffic signal enforcement system if a vehicle was turning right or left at an intersection and failed to stop at a stop line or before entering the crosswalk on the near side of the intersection.

HB 4449 (Bolton) would have prohibited a motorcycle operator from carrying a person under the age of five on a motorcycle unless an emergency or law enforcement purpose exists or the child is seated in a sidecar.

HB 4628 (Lucio III)/**SB 2060** (Lucio) would have given the authority of a school district to implement a monitoring system that captures images of vehicles passing illegally, creating an offense for violators.

HB 4643 (Lucio III)/**SB 2295** (Lucio) would have established that the minimum allowable yellow change interval duration for a traffic signal at an intersection at which a photographic traffic monitoring system is in use must be the maximum allowable interval in accordance with the Texas Manual on Uniform Traffic Control Devices.

SB 374 (Carona) would prohibit a county and the Department of Public Safety, along with municipalities, from using automated traffic control systems to enforce compliance with posted speed limits.

SB 486 (Deuell) would have allowed a person to be eligible for community supervision for a conviction of intoxication manslaughter.

SB 506 (Carona) would authorize the operator of a motorcycle to operate at a safe distance between lanes of traffic moving in the same direction during periods of traffic congestion if the operator and any passenger wear protective headgear and the operator moves at a speed no more than five miles per hour greater than the speed of other traffic moving at a speed of 20 miles per

hour or less. This bill prohibits lane-splitting in a school crossing zone or a location where the posted speed limit is 20 miles per hour or less.

SB 558 (Ogden) would have allowed for the establishment of highway safety corridors, which would have allowed for a doubling of fines in the corridor.

SB 777 (Ogden) would require DPS to compile information received from law enforcement agencies, prosecutors, and courts involved in DUI cases, and to annually report the information to the legislature, enabling the legislature to consider the effectiveness and appropriateness of criminal laws regarding DUI offenses.

SB 784 (Hegar) would have the license of anyone convicted of driving while intoxicated with a child passenger automatically suspended.

SB 896 (Shapleigh) would have repealed the Texas Driver Responsibility Act.

SB 1177 (Patrick, Dan) would have repealed administrative license revocations for DWI offenses.

SB 1393 (Wentworth) would have required that a defendant charged with an intoxication offense have an ignition interlock device installed on the motor vehicle owned by the defendant or on the vehicle most regularly driven by the defendant as a condition of release on bond.

SB 1426 (Williams) would authorize the placement of automatic license plate cameras on the right-of-way of a state highway if they are operated by the Department of Public Safety or a federal law enforcement agency and for a fixed term.

Regional Safety Activities

There are a variety of traffic-safety related activities occurring in the region, including those initiatives stemming from the efforts of the Regional Safety Council, its subcommittees, and H-GAC staff. In order to better ascertain how the region is allocating its efforts to combat this problem, the following tries to be a comprehensive listing of traffic-safety related activities that are occurring in the Houston-Galveston area.

HPD Fatality Crash Reduction Campaign

In January 2008, the Houston Police Department (HPD) spearheaded the Fatality Crash Reduction Campaign, a regional, multi-agency initiative consisting of HPD, TxDOT, regional law enforcement agencies, victims' advocate groups, regional district attorneys, the media and H-GAC developed to combine resources in combating aggressive and drunk driving.

Law enforcement agencies throughout the region along with corresponding District Attorney's offices will target traffic crimes to reduce the number of fatality crashes in the region. The media will be provided access to enforcement initiatives via ride-alongs and dash-cam video releases of dangerous drivers whose cases have been adjudicated.

Some examples of initiatives that are being or have been rolled out include:

- *Aggressive Driver Program* – Unmarked vehicles within the HPD fleet have been equipped with radar, video, and police radios for patrolling freeways and major thoroughfares in search of aggressive drivers. The unmarked units will serve as spotters to identify and establish probable cause for those who engage multiple moving violations and excessive speed. Information will be radioed from these spotters concerning the aggressive driver to marked interceptor units, which will apprehend identified violators.
- *Media Campaign* – HPD has put out a series of controversial and through-provoking public service announcements and billboards regarding the dangers of aggressive and drunk driving. The Department received funding from the Harris County High Risk Drinking Epidemiological Workgroup partners and will be receiving additional funding from H-GAC for additional PSA airings.
- *Blood-Alcohol Testing (BAT) Mobile Deployment* – Six mobile DWI processing units are being brought on-line for rapid evaluation and processing of motorists suspected of DWI. Experts in drug-use recognition and DWI recognition will be teamed with processing units who will transport suspects to mobile BAT units and complete the prisoner processing paperwork and charges.
- *Vehicle Seizure* – In a joint effort between HPD and the Harris County District Attorney, the Houston Police Department have implemented a new process which will

allow for the seizure of vehicles owned and driven by habitual DWI offenders, racers, and those who attempt to evade arrest using a motor vehicle.

- *Teen DWI Documentary* – HPD, in partnership with H-GAC, will be producing an in-depth documentary about the impact that teen drinking and driving has on the lives of victims, family members and offenders. The documentary will be done through interviews and narration, accompanied by real world footage and photographs of traffic crashes, hospital scenes, arrests, trials, and similar scenes. The finished production will be suitable for broadcast in a 30 minute time slot and with the primary audience being teens.

For more information about the program, please visit the website at <http://www.trafficcrime.net>.

Teens in the Driver Seat

Motor vehicle crashes are the leading killer of teens in the United States accounting for approximately 6,000 deaths each year. Regionally, nearly one in four serious crashes involves a teen driver. Many of these crashes are due to driver inexperience and distractions such as cellular phone use and text messaging. In response to this growing epidemic, the Texas Transportation Institute (TTI) established *Teens in the Driver Seat* (TDS), a peer-to-peer driving safety initiative to reduce the number of teen injuries and deaths from traffic crashes.

The program use positive peer relations to encourage teenage drivers to develop safe driving habits because teenagers would more likely listen to their fellow teenagers than to adults in many instances. With that in mind, TTI began working with high-school students in San Antonio to develop a curriculum for safe driving that the students would promote. Assessments conducted by TTI showed that awareness increased 200 percent, seat belt use increased 11 percent and cell phone use and texting decreased 30 percent at schools that have implemented the program.

Over the past year, TTI has grown the TDS program from two high schools participating to 24 schools. In April, in conjunction with H-GAC, TTI put on a Houston-area Regional Roundup, an informational meeting for high school students, faculty, parents, and other parties interested in developing a TDS program for their school. H-GAC is working with TTI to provide additional support for the program over the next two years.

For more information about the program, visit the website at <http://www.t-driver.com>.

Driver's Edge

The Driver's Edge program, a non-profit defensive driving organization founded in 2002, held its second annual event in the Houston area at the Sam Houston Race Park on April 4-5, 2009. The organization focuses solely on providing free advance defensive driving instruction to young drivers through a combination of classroom instruction and behind-the-wheel training taught by professional race car drivers and performance driving instructors. Participants receive in-car instruction that is traditionally not taught in driver's education, including skid control, evasive lane changing, anti-lock braking skills, panic breaking techniques and more.

Since its inception, over 56,000 young drivers and their parents have participated in the program. During a typical event, there are two daily sessions with between 80 to 100 students each. The program also contacts students at 12 and 24 month intervals to monitor their progress and get feedback. This free training usually costs approximately \$450 per person at a comparable program. For more information about the Driver's Edge program, please visit the website at <http://www.driversedge.org>.

Statewide Traffic Safety Conference

After putting on two successful regional conferences, H-GAC staff recognized that in order to further the importance of traffic safety regionally, the message needed to be proliferated statewide so that the message was more a chorus of voices as opposed to one lone voice. To increase outreach, H-GAC partnered with the Texas Transportation Institute's Center for Transportation Safety to put on the first Statewide Traffic Safety Conference in November 2008. This two-day conference addressed 16 different traffic safety topic areas including DUI prevention, Freight Safety, Child Safety, Pedestrian and Bicycle Safety, and Legislative Issues. 240 people attended the conference with the majority of attendees coming from outside of the greater Houston region.

Red Light Cameras

In September 2006, the City of Houston began implementing red-light enforcement cameras at select intersections. Currently, there are 70 cameras in operation, which have identified over 500,000 violators since the program's inception. Since Houston's decision to install cameras, the Cities of Humble, Sugar Land, Baytown, and Tomball, as well as Montgomery County have installed them as well.

The program has been controversial due to the perception that the cameras are a revenue-generating program and invade one's privacy. Several lawsuits have been brought against the City of Houston challenging the constitutionality of red light cameras. However, all the lawsuits have been dismissed by the courts. Moreover, the State Legislature passed legislation reducing the violation to civil infraction with a \$75.00 fine. In addition, implementing municipalities must surrender half of all revenue generated by red light cameras to the State Trauma Fund, and limits how communities can spend the money they keep.

Legislation was introduced through an amendment inserted into the Texas Department of Transportation Authorization Bill (HB 300, 81st Legislature) calling for the end of red light camera enforcement, but allowing for existing contracts to continue until their termination date. The Legislature failed to pass the bill. While a special session will most likely be called to address the continuance of TxDOT, most likely, the amendment will not be included in the discussion. In the meantime, the City of Houston decided to extend its red light camera contract through 2014.

No Refusal Nights/Weekends

Area law enforcement has continued to conduct No-Refusal Weekends in an attempt to reduce drunk driving. Anyone arrested under suspicion of DWI would be required to provide a blood sample upon being brought to the central booking facility. If a suspect refuses to provide a sample, a search warrant would be drawn up and faxed to a judge who has agreed to stay up all night, if necessary, to process the warrant. Upon return of the warrant from the judge, a nurse would take the blood draw. These No Refusal Weekends are expected to be held on holiday weekends when drunk driving tends to be more prevalent. However, they can be held at any time with no warning.

Since May 2007, 35 No Refusal Nights were conducted, resulting in 456 blood draws. During the most recent No Refusal Weekend held during Memorial Day weekend 2009, 168 drivers were arrested for DWI compared to 70 arrested during Memorial Day weekend 2008.

DWI Courts

In 2001, the 77th Texas Legislature passed legislation authorizing counties of over 200,000 people to establish DWI courts. The concept of the court is to provide an option that would allow DWI offenders to avoid jail time by being placed under supervision and receiving counseling to address the offender's alcohol problem. Similar courts have shown promise in terms of reducing recidivism. Currently, DWI courts operate in Harris, Montgomery and Fort Bend Counties, with courts planned for Brazoria and Galveston Counties.

While the DWI Court is a commendable approach of trying to address the root causes leading to DWI offenses and treating the problem, few offenders have taken up this option in favor of jail time. The DWI court program usually involves two years of meeting with probation officers, paying for the installation of an ignition interlock, and paying additional surcharges that make the program unappealing in terms of time and money compared with up to a week in jail. It is an unfortunate dilemma, especially since the program can address a potentially more serious alcohol problem with offenders.

NO ZONE Campaign

The "NO ZONE" Campaign is part of a public education effort by the Federal Motor Carrier Safety Administration (FMCSA) to educate motorists about how to safely share the road with trucks and buses. The Campaign was created in 1994 as a result of the enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991.

The goal of the campaign is to teach drivers about the "NO ZONE"s or blind spots around commercial vehicles in which passenger cars can "disappear", thereby increasing the likelihood of crashes and/or fatalities. Educating the driving public about these "NO ZONES" is one way of reducing accidents, injuries and deaths involving commercial vehicles.

One aspect of the "NO ZONE" Campaign is the placement of "NO ZONE" decals on tractor-trailers and buses. These 2 by 4-foot decals illustrate where the blind spots of commercial

vehicles are located and warn other drivers not to linger in these areas. H-GAG staff have modified and enhanced the original “NO ZONE” decals to more effectively convey the message that driving in the blind spots of commercial vehicles is dangerous and should be avoided. The decals can be seen at 150 feet, a much safer range than the original concept. Nearly 1,000 of these decals have been distributed to trucking companies in the region, including Silver Eagle, Empire Trucking, Canal Cartage, W.W. Rowland Trucking, Gulf Winds International, and Cheetah Transportation Systems.

H-GAC will also be working with the Houston Police Department to develop and air public service announcements to educate the public about “NO ZONES”.

Houston Impaired Driving Town Hall Meeting

On August 7, 2008, an “Impaired Driving Town Hall Meeting” sponsored by the National Highway Traffic Safety Administration was held at Texas Southern University to provide a forum regarding the effects of impaired driving in the Houston area and how possible solutions such as ignition interlocks and sobriety checkpoints could help address the problem. Presenters included representatives from law enforcement, the judiciary, researchers, DWI advocacy groups, local churches, the district attorney’s office and the medical community. Panelists included:

- Adrian Garcia, Houston Council Member, (Chair)
- Brian McLaughlin, NHTSA Senior Associate Administrator, TIC
- Carlos Lopez, Director of TxDOT Traffic Operations Division
- Carol Alvarado, Former City Council Member
- Mario Gallegos, Texas State Senate District 6
- Armando Walle, State Representative Elect District 140
- Garnet F. Coleman, State Representative District 147
- Ellen Cohen, State Representative District 134

Recommendations from the Town Hall Meeting included additional funding law enforcement for overtime impaired driving enforcement initiatives, saturation patrols, and stings to catch retailers and bars selling alcohol to minors and adults buying alcohol for minors. It was also believed legislation should be passed to authorize sobriety checkpoints.

Healing Field

On December 8, 2007 the Bay Area Council on Drugs and Alcohol (BACODA) hosted a Healing Field in Tom Bass Park in Pearland, Texas. The event was intended to draw awareness to alcohol-related traffic fatalities in Texas. The memorial consisted of 1,677 3 x 5 foot American flags, each representing a life lost to drunk driving in 2006. The Healing Field® concept was based off of a temporary memorial for the victims of 9/11 and has evolved into commemorative events for other causes nation-wide. The Colonial Flag Foundation is the non-profit organization that promotes Healing Fields and Fields of Honor by assisting local charities and non-profits host these events.

BACODA sponsored the free event in conjunction with the Texas Alcoholic Beverage Commission, Texas Department of Transportation, Department of State Health Services, Sam Houston Area Council-Boy Scouts of America, Texas National Guard and the Houston-Galveston Area Council. H-GAC staff designed the field and conducted the surveying and supervision of flag installation for the event. In addition to the family-oriented activities, attendees could purchase the flags on display, with the proceeds going to fund BACODA's efforts to reduce underage drinking and drunk driving.

An event was planned for November 2008 in Walter Hall Park in League City to commemorate those who lost their lives to drunk driving in 2007. Unfortunately, due to complications arising from Hurricane Ike, the event was cancelled. However, an event is scheduled for November 9-14, 2009.

Safe Kids of Greater Houston Activities

Safe Kids Greater Houston (SKGH) is a coalition made up of health & safety experts, educators, corporations, foundations, law enforcement and volunteers working together to address child safety issues. Texas Children's Hospital is the lead organization of SKGH, which provides outreach and assistance on issues such as child passenger safety, bicycle and pedestrian safety, fire and water safety. Some of the transportation safety initiatives SKGH has implemented regionally include:

- *Child Safety Seat Inspections* – Approximately four of five child safety seats are improperly installed, leaving children at risk in the event of a crash. SKGH sponsors 15 child safety seat inspection centers in the greater Houston area where, by appointment, families can have their seats inspected and learn from certified technicians how to properly secure their children. In addition to the centers, SKGH holds events throughout the year in various locations where the same services are provided. Between May 2008-May 2009, 4,838 seats were checked and 1,437 seats were distributed to low-income families.
- *Child Passenger Safety Technician Training* – SKGH also sponsors NHTSA-approved training for child passenger safety technicians (CPSTs). CPST training takes four days and includes classroom instruction, hands-on work with car seats and vehicles, and participation in a community safety seat checkup event, where trainees must demonstrate proper use and installation of child restraints and safety belts and then teach these skills to parents. Those that successfully complete the course are certified as CPS technicians for two years. Between May 2008-May 2009, 45 new CPSTs were trained.
- *Bicycle Helmet Giveaway* – Texas Children's Center for Childhood Injury Prevention received a grant to provide bicycle safety education and helmets to low-income children. In conjunction with SKGH partners, the helmet distribution was coordinated with the annual Elves and More Bicycle Giveaway in December 2008, and 3,650 helmets were provided for these children to wear while riding their new bicycles. SKGH also holds bike safety presentations and bike rodeos in the community. Between May 2008-May 2009, 4,742 helmets were distributed to low-income children.

- *“Walk This Way” Program* - This program happens once a year in October. Safe Kids works with an elementary school to provide pedestrian safety presentations to the students. On the first Wednesday of the month, we walk with the students to and from school in celebration of International Walk to School Day. During the event, we remind students of the safety precautions they should take when they are walking. Approximately 1,650 students were educated on pedestrian safety tips as part of this program in October 2008.

For more information on Safe Kids of Greater Houston, please go to its website at <http://www.safekidsgreaterhouston.org/>

Child Seat Information Mailout

H-GAC staff and the Bicycle/Pedestrian/Child Safety Subcommittee redesigned its child safety seat poster to promote child safety seats and present national fatality information, state legal requirements and potential penalties associated with failing to properly restrain children in safety seats. H-GAC staff mailed these posters, along with information on Safe Kids child seat inspection sites, to over 2,200 day care facilities throughout the Houston-Galveston region. Staff will be revising the poster over the summer for a fall mail-out to reflect the recent changes passed by the Texas Legislature, requiring that children eight years old or younger, unless taller than 4’-9”, be secured in an appropriate child safety seat.

AAA Child Restraint Prescription Kits

H-GAC and AAA-Texas worked together in piloting an initiative developed by AAA-Texas to promote child restraint usage for children. This initiative consisted of a “medical kit” containing information about child restraint usage, both in English and Spanish, which were distributed to pediatric groups at Hermann Memorial Hospital, Texas Children’s Hospital, and the Kelsey-Seybold Clinic. The kit information included prescription pads for pediatricians to “prescribe” to parents the use of age-appropriate child restraint systems for their children. Nearly 300 of these kits were distributed.

Click It or Ticket Campaign

The National Highway Traffic Safety Administration (NHTSA), the Texas Department of Transportation (TxDOT) and the Texas Department of Public Safety worked with local police and sheriffs’ departments in the region and across Texas on the annual Click It or Ticket Campaign, taking place from May 18-31, 2009. The campaign involved a media blitz on seat belt usage and provides funding to law enforcement officers to work overtime ticketing drivers and passengers who aren’t wearing safety belts.

The campaign’s goal was to raise state safety belt compliance to 93.5 percent, with special focus on groups with a lower compliance record, specifically teen drivers and drivers and passengers in pickup trucks. As part of this year’s campaign, a demonstration project is being implemented in five counties throughout Texas, including Harris County, specifically targeting 16- to 20-year-

old drivers and passengers. Regionally, 19 law enforcement agencies participated in the program, either funded or on a volunteer basis in terms of providing data.

Additional information on Texas' Click It or Ticket campaign can be found at www.texasclickitorticket.com

MADD “Take the Wheel” Campaign

In response to Harris County's alcohol-related crash fatalities, Mothers Against Drunk Driving (MADD) launched the “Take the Wheel” initiative in November 2006. The initiative, the first of its kind for MADD, involved the organization focusing all of its resources and enlisting the greater community's resources in combating drunk driving. The multi-phase initiative included town hall meetings, a drunk-driving summit, and the following activities:

- Informing citizens about the extent of drunk driving and what to do to stop it.
- Working with law enforcement agencies to step up enforcement of the state's driving while intoxicated laws.
- Asking lawmakers to sponsor laws that strengthen enforcement and support the fight to eliminate drunk driving, such as sobriety checkpoints and stronger ignition interlock laws.
- Putting volunteers in courtrooms to help judges and prosecutors identify ways to impose strict and swift sentences for DWI offenders.
- Helping victims of drunk driving through their grief and legal battles.
- Implementing programs in schools to teach students about the effects of alcohol on the developing brain and ways to make healthy decisions involving alcohol.
- Implementing parents initiative to teach adults about social hosts laws and the importance of adult supervision and guidance for youth with a zero tolerance message.
- Implementing programs in colleges to prevent underage drinking and to prevent drunk driving and binge drinking.
- Calling on citizens to get involved and help eliminate drunk driving.

In early April 2008 a town hall meeting was held in Harris County. This meeting, which was open to the public, included presentations by a panel of experts representing different segments of the community, including H-GAC, the Houston City Council, Houston Police Department, the Texas Alcoholic Beverage Commission, Harris County Sheriff's Department, Houston ISD, the Harris County District Attorney's Office, and several other entities working with MADD to reduce drunk driving. In addition, MADD, the Texas Department of Transportation, and other organizations had booths with materials available for attendees about drunk driving.

MADD also worked with the Harris County District Attorney's Office and local Harris County Law Enforcement agencies on the No Refusal Program. This initiative is one of the five prongs to MADD's Campaign to Eliminate Drunk Driving: support of high visibility law enforcement. In addition, MADD staff and volunteers have attended 50 roll calls with Harris County law enforcement agencies which included Municipal Police departments, Sheriff Department; Constable Precincts; ISD Police Departments and Department of Public Safety.

Throughout the year MADD had volunteers in the Harris County Courtrooms as part of our Court Monitoring Program. In 2008, there were over 2000 cases observed for DWI. The data collected from these cases are used to track trends and enable MADD to have an open dialog with Law Enforcement and the Judicial System.

MADD continues to work with TABC to overcome underage drinking in Harris County by teaming up for underage drinking stings where compliance checks are done with local retailers.

More information on MADD's Take the Wheel campaign can be found at <http://www.madd.org/Drunk-Driving/Drunk-Driving/Programs/View-Program.aspx?program=14>

Epidemiology Workgroup Activities

In December 2006, the Harris County Public Health and Environmental Services, along with three area coalitions, Bay Area Alliance for Youth & Families, Coalition for Behavioral Health Services-North, and the Southeast Harris Community Coalition created the Harris County High Risk Drinking Epidemiological Workgroup. The purpose of the Workgroup is to develop and implement strategies to reduce underage and high-risk drinking and alcohol-related motor vehicle fatalities. The Texas Department of State Health Services awarded grants to the three coalitions to help carry out this goal.

Due to the commonalities of H-GAC's DWI Subcommittee and the Workgroup's efforts, the two groups have combined their efforts and now hold joint meetings. This partnership has allowed all entities to maximize resources for data collection and implementation of community-based strategies that address the alcohol-related motor vehicle fatalities and binge-drinking in Harris County and other parts of the region.

The Workgroup has yielded invaluable data on the prevalence of high-risk drinking, alcohol-related motor vehicle fatalities, and the intervening variables that precipitate those consequences. It has also identified gaps in the data collection process, namely the lack of data below the county level, and worked on ways to bridge those gaps and obtain data that are needed to strategically plan prevention efforts at a community level. The coalitions that make up this workgroup have also stepped out into the community to try to reduce drunk driving through the following activities:

- Fatality Crash Reduction Campaign – the coalitions provided \$144,000 to the Houston Police Department for the airing of PSAs and the development of billboards regarding drunk and aggressive driving.
- DWI Court Workshop – A workshop for Harris County judges and probation officers was given about DWI Courts and how to increase their effectiveness and usefulness.
- Festival/Event Assessment Training - A local training for community festivals and events safety assessments was given to staff and volunteers on how to "assess" events/festivals

for responsible beverage service" in order to reduce the incidence of DWI's following festivals and events.

- City of Webster Enforcement Project – this project is a comprehensive approach for assessing underage drinking consisting of 1) undercover assessments of bars and clubs to determine the level of risk the establishment poses to underage youth, 2) Alcohol Compliance Checks on local retail stores, bars and clubs, 3) Underage Drinking Task Force who visit high schools before prom, spring break, etc. to raise awareness of the risks/consequences of underage drinking , 4) Alcohol Enforcement Details on clubs/bars by Webster PD, and 5) the gathering of monthly alcohol violation statistics from local police departments.
- Sting Operations – Members, law enforcement, and TABC officers have conducted sting operations at retail establishments serving alcohol to determine whether these establishments are in compliance in regards to serving and selling to underage individuals.
- Responsible Beverage Service Campaign - Materials were provided to all licensed alcohol vendors, both on-premise and off-premise, in the Southeast Houston Coalition target area regarding sales of alcoholic beverage to underage individuals.
- No Refusal Weekends – the Coalitions worked with area police departments on their no refusal weekends, including the funding of nurse assistance in conducting mandatory blood draws.
- College Underage Drinking Coalition – A coalition of colleges within the City of Houston was established with grant assistance to address the issue of underage and binge drinking on college campuses.
- Spring Break Awareness Campaign - Stickers were distributed to 5 Bay Area pizza establishments to put on their pizza boxes during the week of Spring Break. The stickers had the tagline of “Parents Who Host Lose the Most” and warned adults of the consequences of serving alcohol to minors. A total of 4,181 stickers were distributed during the week of March 14-22, Clear Creek ISD’s Spring Break. The participating pizza places (Papa John’s, Cici’s, and Buck’s) signed a Memorandum of Understanding supporting the sticker campaign and were named in an article that ran in the Clear Lake Citizen about the campaign

Motorcycle Safety Campaign

Regionally, serious motorcycle crashes have continued to increase in the region over the past five years. In Deer Park, a series of motorcycle fatalities led to the City’s police department to spearhead the Partnership Against Cycling Tragedies (PACT). A partnership, consisting of several southeast Harris County communities (Deer Park, Pasadena, Baytown, La Porte, Webster), the Galveston County Sheriff’s Department, NHTSA, TxDOT, the Harris County D.A.’s Office, MADD, the Bay Area Council on Drugs and Alcohol (BACODA) and H-GAC,

was developed to begin addressing the issue of motorcycle crashes. The kickoff press conference was held in November 2008 at the Deer Park Police Department to commemorate those lost in motorcycle crashes and to get the message out about motorcycle safety. The PACT is in the process of developing a five-year strategic plan with key goals focusing on prevention, education, safety, and law enforcement.

Railroad Crossing Cameras

The Houston-Galveston Area is a major hub for Intermodal freight, much of which is moved into and out the region by rail. With more than 1,800 railroad-highway grade crossings throughout the region, there are a high number of railroad-highway grade crossing incidents. While the region has 12% of the railroad-highway crossings in the state, it accounts for approximately 20% of all incidents. Moreover, trains that block roads for extended periods increase traffic congestion, impede the flow of people and goods, and increase air pollution as blocked vehicles sit idling at crossings.

The Houston Police Department and the City of Houston Public Works Department have deployed 19 railroad crossing cameras to monitor certain at-grade crossings where parked trains have been a problem. These cameras, which do not record or report violations, help City officials monitor crossings where parked trains have caused excessive traffic delays and create potential hazards for pedestrians, who may attempt to climb over trains parked to extended periods. The City plans to deploy more cameras at additional crossings as resources permit.

The Regional Safety Council has reviewed a potential solution for railroad crossing violations namely the deployment of railroad crossing enforcement cameras. These devices, which operate similar to red light cameras, can record a vehicle that drives through a crossing when its signals and/or devices have been activated by approaching trains. Violations recorded by the cameras would be verified and processed, and the motorists would be issued citations accordingly. Grand Prairie, Texas became the first city in the state to install a railroad crossing enforcement camera in June 2007. Regionally, the City of Magnolia is considering a system for its two railroad crossings. However, a final decision will depend on the outcome of photo enforcement legislation currently pending in the Legislature.

Texas Operation Lifesaver

Texas Operation Lifesaver is a non-profit organization committed to educating the public about safety at highway-rail grade crossings and on railroad rights-of-way in Texas. According to the 2008 Federal Railroad Administration statistics, Texas had the highest number of vehicle-train collisions (238) at railroad crossings, resulting in the highest number of injuries (93), in the U.S. Texas also had the most number of injuries (51), resulting from trespassing on railroad rights-of-way. The program is sponsored through partnerships with the railroads, grants and corporate contributions.

Three things most drivers and the general public don't realize about trains and tracks are:

- The U.S. Supreme Court determined trains *always* have the right-of-way; all vehicles and pedestrians must yield to all trains.
- A lowered gate and flashing lights at a crossing mean that a train is approaching and the road is *closed*, you need to find an alternate route.
- Train tracks, rail cars and areas on either side of the track are private property; being anywhere near, walking or playing on tracks or rail cars is trespassing. Trespassing is dangerous and in Texas, it is a ticketable offense.

Since 1977, Texas Operation Lifesaver has been training volunteer Presenters and providing free rail safety education programs to the public. The presentations are group and age-appropriate, however they do have five target audiences: Driver education, professional drivers, school bus drivers, law enforcement and emergency responders. There are currently 230 Certified Presenters throughout the state who can make rail safety presentations to any type or size audience. Volunteer Presenters represent business, educators, school bus driver trainers, railroad employees, law enforcement, first responders, and retirees.

Texas Operation Lifesaver's three program components are:

1. **Education** - increasing public awareness of rail safety through education programs, printed materials, videos and Public Service Announcements.
2. **Engineering** - endorsement of continuous safety improvements at crossings through design and technology.
3. **Enforcement** - encouraging active enforcement of existing laws regarding railroad crossings and trespassing on railroad property.

Texas Operation Lifesaver initiatives in the Regional area include:

- *Rail Safety Education for schools near train tracks* - working with schools in Houston that are significantly impacted by train traffic to educate students, parents, and the general community regarding rail safety and the dangers of playing around trains and tracks.
- *Rail Safety Education Campaign in four counties affected by new Kansas City Southern (KCS) Line* – KCS is laying 85 miles of new track between Rosenberg and Victoria and reintroducing train traffic through Fort Bend, Jackson, Wharton and Victoria counties. Texas Operation Lifesaver is working with communities in these counties to educate drivers, students, first responders and law enforcement agencies about rail safety and enforcement.
- *Trespass Prevention* - The operation of All Terrain Vehicles (ATVs) along railroad right-of-ways is trespassing. It is dangerous and can cause erosion of the rail line. Texas Operation Lifesaver is working with Union Pacific and law enforcement agencies

Other rail safety training sponsored by Texas Operation Lifesaver is Grade Crossing Collision Investigation (GCCCI) for law enforcement officers and Rail Safety for Emergency Responders (RSER).

Additional information about Texas Operation Lifesaver can be found on its website at www.texasoperationlifesaver.com or on the national program's website at www.oli.org.

Future Directions

The state of transportation safety in the Houston-Galveston region has been improving, albeit slowly. Crashes, and the fatalities and injuries that stem from them, have declined between 2003 and 2007. While this is promising news, the transportation safety problem remains severe in the region. The process of making the region's roads safer will continue to be a long one. However, the continued efforts of the Regional Safety Council, regional law enforcement, medical community, engineers, and community service organizations can help to minimize impacts of these issues in our region.

A major result of the Regional Safety Council's activities has been the building and strengthening of partnerships throughout the region. The Council has brought together various people, ideas, and resources together unlike ever before. Some of these relationships have resulted in financial partnerships in funding safety initiatives such as the Fatality Crash Reduction Campaign. The Council needs to focus on not just maintaining these relationships but forging new ones as it comes upon other organizations addressing the safety problem.

No matter what programs are developed and implemented to address transportation safety, little success will be made unless the general public is aware not just of these programs but of the overall problem. A key obstacle in accomplishing this is the funding required to adequately promote the message. Maximizing resources will only go so far. Alternative sources of funding need to be identified to perpetuate the message. In addition, the local news media needs to be brought into the equation as a resource that has not been fully utilized for spreading the message.

The acquisition of more recent crash data from TxDOT has been a long-awaited resource in regards to being able to quantify the transportation safety problem in the region. Although recently received, the data have already been used by various organizations to assess programs and begin their planning efforts for future initiatives. However, the amount of data available is staggering, and the opportunity to misanalyze the information is plentiful. Efforts will be taking place in the near future to make this data more accessible in a format that is properly usable by the public.

Making significant headway on the transportation safety front will still, in many cases, depend on the actions of the State Legislature. This past session had many pieces of legislation that would have greatly enhanced safety on our roads. However, the majority again failed to win serious consideration, and the delays that occurred doomed others that made headway through the process. The Council and its members should still continue to demonstrate the need for appropriate legislation to address regional and statewide traffic safety concerns.

According to its bylaws, the Regional Safety Council is to go through a sunset review by the Transportation Policy Council (TPC) at the end of 2009. It is hoped that the efforts of the Regional Safety Council and the various organizations that contribute to its progress will be recognized, and that the TPC will choose to continue the Council's mission – to reduce crashes in the region and make its roads safer for everyone.

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State of Safety in the Region: 2009

Regional Crash Assessment Appendix

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Regional Serious Crash Assessment, 2003-2007

One of the biggest obstacles in addressing the transportation safety issue in the Houston-Galveston region has been a lack of recent data to adequately analyze the regional situation. In 2007, the Texas Legislature transferred the responsibility of crash record collection and reporting from the Texas Department of Public Safety (TxDPS) to the Texas Department of Transportation (TxDOT). Since then, TxDOT has developed a comprehensive database called the Crash Record Information System (CRIS), which houses crash report data for serious crashes in Texas.

In September 2008, TxDOT released 2005-2007 crash data to H-GAC staff, who conducted a preliminary analysis. The analysis, which was compared with H-GAC's data from 1999-2001, showed considerable discrepancies that needed additional investigation, review, and evaluation. In April 2009, H-GAC received additional data from TxDOT, increasing its dataset from 2003-2007. The following analysis is based on this newly-acquired data with the exception of fatality information, which is based on the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS) and rail-grade crossing data from the Federal Railroad Administration (FRA). The FARS database is seen as more accurate than the CRIS database in regards to fatalities because law enforcement agencies may not provide updated information on fatalities to TxDOT.

It was decided that the data from 1999-2001, which was used for the initial 2007 State of Safety Report, was not to be included for this analysis. The 1999-2001 data came from a different source (TxDPS) and was processed in a different manner than TxDOT's data. In addition, the definition of a "serious crash" has changed, raising minimum damage requirements from \$500 to \$1,000. Thus, in order to maintain consistency, the 1999-2001 data was not included.

In reviewing the data, it was noted that a significant decline in crashes occurred in 2004, specifically in Harris County. Further analysis showed a notable drop for the months of September and October of that year. It was deemed most likely that crash records for those two months were not provided to TxDOT, resulting in a decline for the year overall.

There are several sources of error that need to be considered in reviewing this information:

1. *Accuracy of Reporting:* This information is based on crash reports submitted by law enforcement officers processing the incidents. There is potential for the miscoding of events in their reports, which would be carried over into the data.
2. *Accuracy of Data Entry:* The information from the reports is hand-entered into a database. Miskeying of data into the system will be passed on unless caught. It should be noted that TxDOT has implemented a double-blind entry approach, which increases accuracy.
3. *Accuracy of Compilation:* The information provided is based on H-GAC staff's understanding of what the data elements mean. Because there is no thorough explanation of some of these data elements, the results provided may be incorrect. However, staff have become much more familiar with the data and believe the information provided in this report accurately portray the data entered.

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Regional Overview

The principal reason for the establishment of the Regional Safety Council and H-GAC's Transportation Safety Program was the significant number of serious crashes recorded in the region. The 2007 *State of Safety in the Region* report showed an average of 84,080 serious crashes a year between 1999 and 2001. Unfortunately, the new data showed the region reaching a high of 119,540 serious crashes in 2003.

What is promising, however, is that the region has been registering a decline since. Total serious crashes have declined 11.4 percent to 105,862 serious crashes in 2007 (Table 1). Fatalities, region-wide, dropped 16.0 percent from 669 in 2003 to 562 in 2007 (Table 2), and overall injuries dropped 25.7 percent from 84,884 in 2003 to 63,101 in 2007 (Table 3). In terms of injury severity, declines were registered in all categories (incapacitating, non-incapacitating, and possible). Incapacitating (Type A) injuries declined 17.3 percent from 4,276 in 2003 to 3,535 in 2007 (Table 4); non-incapacitating (Type B) injuries declined 16.8 percent from 17,535 in 2003 to 14,595 in 2007 (Table 5); and possible (Type C) injuries declined 28.7 percent from 63,073 in 2003 to 44,971 in 2007 (Table 6).

The decline in serious crashes is considerable over this five-year period, especially taking into consideration the increased amount of vehicle travel during this period. H-GAC estimates that vehicle travel increased from 132.9 million vehicle-miles traveled (VMT) in 2003 to 150.2 million vehicle-miles traveled in 2007, a 13.0 percent increase. The resulting regional annual crash rate, which shows the number of crashes per 100 million VMT annually, fell 21.7 percent from 263.9 crashes per 100 million VMT in 2003 to 206.7 crashes per 100 million VMT (Table 7). In addition, the fatality rate fell 25.7 percent from 1.48 fatalities per 100 million VMT in 2003 to 1.10 million VMT in 2007 (Table 8).

In regards to road type, nearly half of all crashes occurred on local streets, referring to arterials and collectors, not owned or maintained by TxDOT (Table 9). However, nearly the same number of crashes occurred on interstates, U.S., state, and farm-to-market roads, which account for far fewer lane miles of roadway. This is most likely due to higher speeds and a greater concentration of traffic occurring on these facilities. The data show a higher percentage of fatalities occurring on these higher-speed facilities compared to local roads (35 percent vs. 24 percent) (Table 10). Injury levels, however, fall in line with the number of crashes, most likely due to a greater number of potential collision points located within densely populated areas.

In reviewing temporal aspects of crashes, the data showed that Fridays registered the highest number of crashes during this five-year period (89,370) and Sunday registered the lowest (65,045) (Figure 1). The increased number of incidents may be due to two separate sets of travel patterns occurring – commutes to/from work and travel related to the weekend – compared to the predominant commute that occurs during the workweek. As for time of day, crashes tend to rise throughout the day with a small peak occurring during the morning commute and a more-pronounced peak during the evening rush hour (Figure 2).

Age is a telling component of the safety equation, as the data show that the potential for being in a serious crash goes down with age. According to the Center for Disease Control, motor vehicle incidents are the leading cause of death for those under 35 years old. Drivers under 40 end up in crashes in greater proportion to their percentage of the population. This is especially true with drivers between 15 and 20 years old, who make up 9.1 percent of the population but cause 16.0 percent of the crashes (Table 13). Much of this may be due to experience behind the wheel. As for gender, contrary to the espoused myth of “women drivers,” the data show that men are more likely to cause serious crashes than women (Table 14).

Looking at the factors contributing to serious crashes in the region, the data show that a vast majority of crashes are primarily due to behavioral reasons where a driver either is not driving appropriately, not paying attention, or fails to adequately control the vehicle. The predominant factor in regional crashes is a Failure to Control Speed, which traditionally refers to a driver’s inability to slow the car sufficiently to avoid a crash. Nearly 30 percent of drivers responsible for crashes failed to control their speed, which is more than three times more than the second leading factor, Failure to Drive in a Single Lane, where only 9.1 percent of drivers were cited (Table 15).

TABLE 1: Total Crashes by County

County Name	2003	2004	2005	2006	2007	Total
Brazoria	4,500	4,238	4,403	4,425	4,811	22,377
Chambers	741	811	921	1,124	1,185	4,782
Fort Bend	6,216	6,181	6,284	6,113	6,310	31,104
Galveston	5,758	5,096	5,253	4,799	5,139	26,045
Harris	93,177	75,598	85,261	79,669	77,931	411,636
Liberty	1,444	1,355	1,466	1,521	1,598	7,384
Montgomery	7,066	7,347	7,639	7,837	8,203	38,092
Waller	638	791	758	702	685	3,574
Region Total	119,540	101,417	111,985	106,190	105,862	544,994

TABLE 2: Total Fatalities by County

County Name	2003	2004	2005	2006	2007	Grand Total
Brazoria	37	34	46	32	26	175
Chambers	23	26	10	18	17	94
Fort Bend	49	50	32	39	28	198
Galveston	40	30	40	32	32	174
Harris	397	397	388	324	339	1,845
Liberty	30	22	19	35	37	143
Montgomery	79	64	64	74	69	350
Waller	14	21	10	11	14	70
Region Total	669	644	609	565	562	3,049

TABLE 3: Total Injuries by County (Types A, B, & C)

County Name	2003	2004	2005	2006	2007	Grand Total
Brazoria	2,624	2,261	2,368	2,377	2,394	12,024
Chambers	529	631	524	686	574	2,944
Fort Bend	3,328	3,367	3,032	2,904	2,862	15,493
Galveston	3,579	3,043	2,847	2,471	2,325	14,265
Harris	69,457	55,265	61,936	55,086	49,412	291,156
Liberty	748	718	796	823	878	3,963
Montgomery	4,240	4,216	4,329	4,176	4,241	21,202
Waller	379	493	532	427	415	2,246
Region Total	84,884	69,994	76,364	68,950	63,101	363,293

TABLE 4: Total Incapacitating Injuries by County (Type A)

County Name	2003	2004	2005	2006	2007	Grand Total
Brazoria	213	183	222	174	211	1,003
Chambers	86	92	58	51	40	327
Fort Bend	223	251	217	193	161	1,045
Galveston	271	268	250	231	202	1,222
Harris	2,950	2,355	2,634	2,646	2,417	13,002
Liberty	117	96	91	106	71	481
Montgomery	379	479	440	377	389	2,064
Waller	37	43	56	42	44	222
Region Total	4,276	3,767	3,968	3,820	3,535	19,366

TABLE 5: Total Non-Incapacitating Injuries by County (Type B)

County Name	2003	2004	2005	2006	2007	Grand Total
Brazoria	754	692	793	745	791	3,775
Chambers	167	275	211	238	213	1,104
Fort Bend	806	847	717	744	747	3,861
Galveston	935	821	760	795	768	4,079
Harris	13,103	10,792	11,796	10,912	10,207	56,810
Liberty	189	246	254	264	347	1,300
Montgomery	1,436	1,485	1,416	1,483	1,409	7,229
Waller	145	156	181	122	113	717
Region Total	17,535	15,314	16,128	15,303	14,595	78,875

TABLE 6: Total Possible Injuries by County (Type C)

County Name	2003	2004	2005	2006	2007	Grand Total
Brazoria	1,657	1,386	1,353	1,458	1,392	7,246
Chambers	276	264	255	397	321	1,513
Fort Bend	2,299	2,269	2,098	1,967	1,954	10,587
Galveston	2,373	1,954	1,837	1,445	1,355	8,964
Harris	53,404	42,118	47,506	41,528	36,788	221,344
Liberty	442	376	451	453	460	2,182
Montgomery	2,425	2,252	2,473	2,316	2,443	11,909
Waller	197	294	295	263	258	1,307
Region Total	63,073	50,913	56,268	49,827	44,971	265,052

TABLE 7: Crash Rate per 100 Million Vehicle Miles Traveled

County Name	2003	2004	2005	2006	2007
Brazoria	229.38	210.42	212.14	208.63	217.90
Chambers	90.49	99.75	110.38	120.04	129.45
Fort Bend	224.69	223.93	219.45	199.79	193.98
Galveston	286.79	252.36	245.79	221.32	234.48
Harris	282.48	216.17	242.57	222.04	209.52
Liberty	187.12	167.43	174.75	175.88	188.54
Montgomery	211.05	211.22	211.16	213.02	212.48
Waller	99.15	117.17	108.74	102.29	92.96
Region	263.87	213.33	232.27	214.98	206.73

TABLE 8: Fatality Rate per 100 Million Vehicle Miles Traveled

County Name	2003	2004	2005	2006	2007
Brazoria	1.89	1.69	2.22	1.51	1.18
Chambers	2.81	3.20	1.20	1.92	1.86
Fort Bend	1.77	1.81	1.12	1.27	0.86
Galveston	1.99	1.49	1.87	1.48	1.46
Harris	1.20	1.14	1.10	0.90	0.91
Liberty	3.89	2.72	2.26	4.05	4.37
Montgomery	2.36	1.84	1.77	2.01	1.79
Waller	2.18	3.11	1.43	1.60	1.90
Region	1.48	1.35	1.26	1.14	1.10

TABLE 9: Crashes by Road Type

County Name	Interstates	US & State Highways	Farm to Market	County Road	Local Streets	Other Roads	Total
Brazoria	18	8,700	5,204	3,160	5,293	2	22,377
Chambers	2,189	981	1,165	69	378	0	4,782
Fort Bend	337	12,031	6,286	3,121	9,310	19	31,104
Galveston	3,095	5,208	8,190	274	9,276	2	26,045
Harris	73,070	62,378	23,993	34,465	214,659	3,071	411,636
Liberty	4	3,805	1,708	932	935	0	7,384
Montgomery	7,367	8,210	7,431	4,553	10,526	5	38,092
Waller	434	943	1,278	512	407	0	3,574
Region Total	86,514	102,256	55,255	47,086	250,784	3,099	544,994

Other Roads includes Tollways & Toll Bridges

TABLE 10: Fatalities by Road Type

County Name	Interstate	US & State Highways	County Road	Local Streets	Other/Unknown	Total
Brazoria	0	70	40	15	50	175
Chambers	33	26	2	5	28	94
Fort Bend	2	70	28	34	64	198
Galveston	31	53	7	31	52	174
Harris	257	291	325	615	357	1,845
Liberty	0	79	12	3	49	143
Montgomery	39	85	91	23	112	350
Waller	3	25	11	4	27	70
Region Total	365	699	516	730	739	3,049

Other/Unknown includes Frontage Roads

TABLE 11: Total Injuries by Road Type

County Name	Interstates	US & State Highways	Farm to Market	County Road	Local Streets	Other Roads	Total
Brazoria	7	5,312	2,976	1,575	2,154	0	12,024
Chambers	1,198	715	773	51	207	0	2,944
Fort Bend	189	6,215	3,570	1,339	4,164	16	15,493
Galveston	1,672	3,338	4,489	121	4,643	2	14,265
Harris	54,765	46,100	17,268	19,133	151,947	1,943	291,156
Liberty	3	2,117	915	500	428	0	3,963
Montgomery	3,755	5,131	4,864	2,411	5,038	3	21,202
Waller	275	631	859	269	0	0	2,034
Region Total	61,864	69,559	35,714	25,399	168,581	1,964	363,081

Other Roads includes Tollways & Toll Bridges

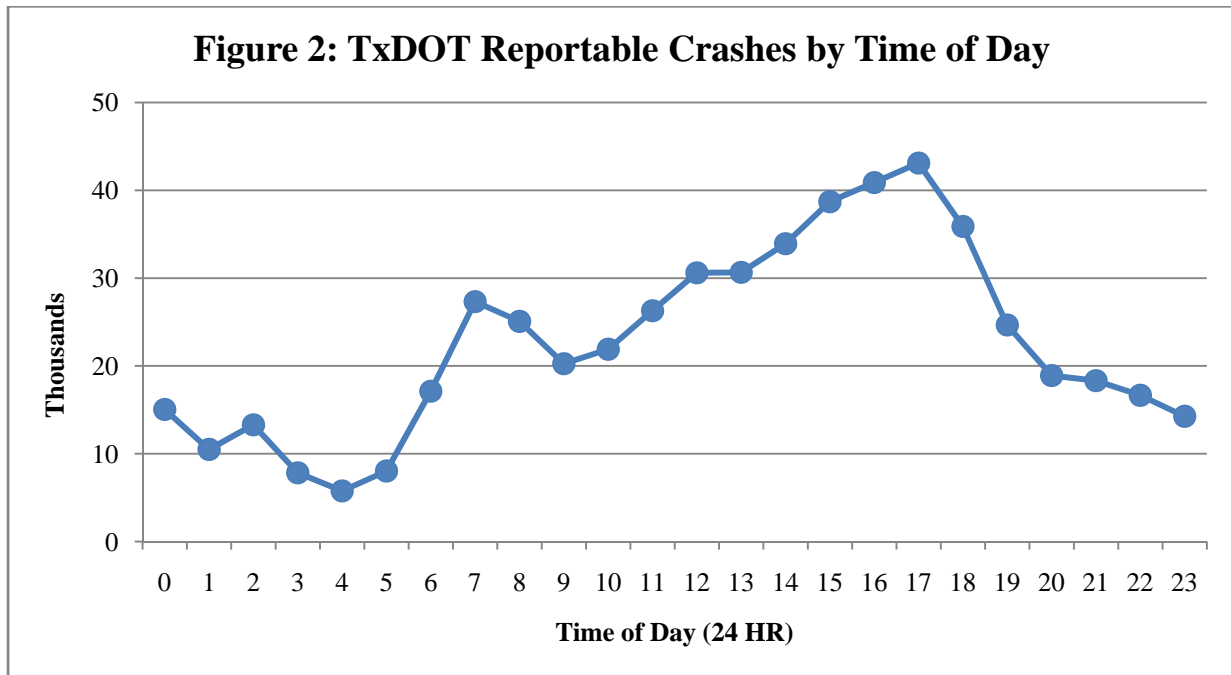
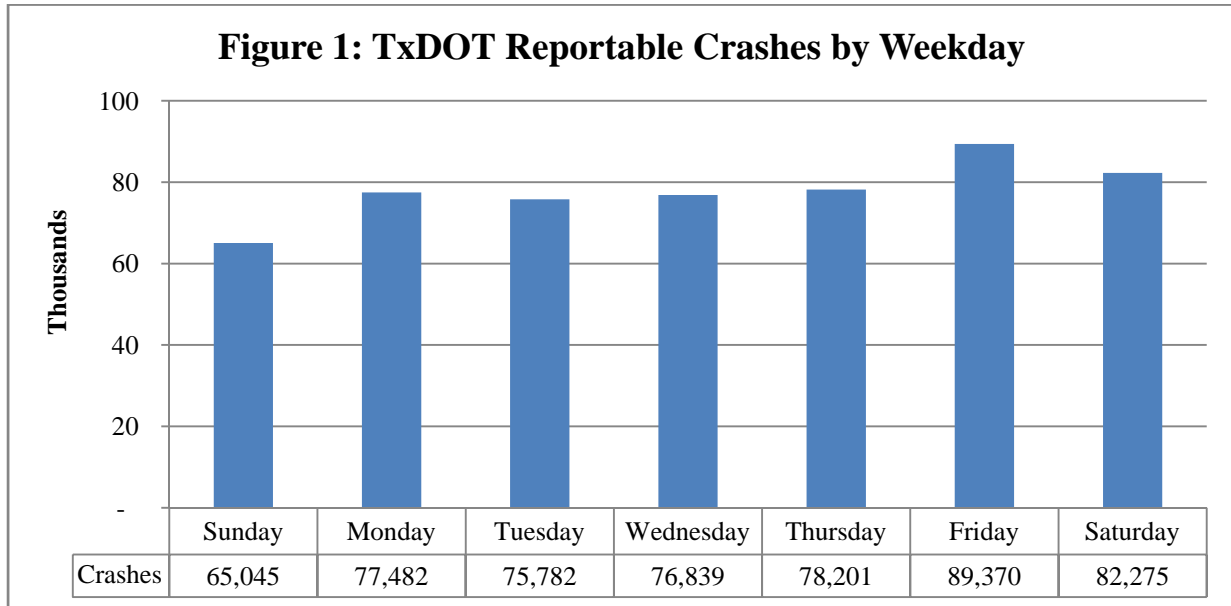


TABLE 12: Age of All Drivers Involved In Crashes

County Name	Under 15 years	15 to 20 years	21 to 39 years	40 to 64 years	65+ years	Unknown	Total
Brazoria	96	7,254	15,826	12,200	2,340	3,025	40,741
Chambers	10	1,120	3,215	3,051	421	678	8,495
Fort Bend	110	10,199	22,827	19,218	2,503	5,216	60,073
Galveston	113	7,468	18,502	15,368	3,220	5,167	49,838
Harris	1,602	91,687	336,300	223,855	30,997	134,922	819,363
Liberty	49	2,001	4,712	4,121	900	838	12,621
Montgomery	122	12,093	27,763	21,710	3,804	5,359	70,851
Waller	6	888	2,140	1,711	319	444	5,508
Region Total	2,108	132,710	431,285	301,234	44,504	155,649	1,067,490

TABLE 13: Age of At-Fault Drivers In Crashes

County Name	Under 15 years	15 to 20 years	21 to 39 years	40 to 64 years	65+ years	Unknown	Total
Brazoria	66	5,047	8,786	5,801	1,337	1,222	22,259
Chambers	7	759	1,768	1,462	232	300	4,528
Fort Bend	76	6,945	11,625	8,565	1,427	2,328	30,966
Galveston	77	5,053	9,831	7,164	1,802	1,966	25,893
Harris	1,037	58,278	162,236	95,259	16,042	74,913	407,765
Liberty	42	1,418	2,702	2,110	516	418	7,206
Montgomery	93	8,280	15,034	9,993	1,962	2,880	38,242
Waller	5	677	1,431	987	198	215	3,513
Region Total	1,403	86,457	213,413	131,341	23,516	84,242	540,372
Pct. of Total	0.3%	16.0%	39.5%	24.3%	4.4%	15.6%	

TABLE 14: Gender of Drivers Involved in Crashes

All Drivers Involved in Crashes			At-Fault Drivers		
Gender	Count	Percent	Gender	Count	Percent
Male	560,035	52%	Male	295,496	55%
Female	389,858	37%	Female	183,095	34%
Not Reported	117,639	11%	Not Reported	61,799	11%
Total	1,067,532		Total	540,390	

TABLE 15: Top Ten Primary Contributing Factors

Contributing Factor	Frequency	Percent
FAILED TO CONTROL SPEED	205,502	29.62%
FAILED TO DRIVE IN SINGLE LANE	63,346	9.13%
DRIVER INATTENTION	45,917	6.62%
BACKED WITHOUT SAFETY	45,204	6.52%
CHANGED LANE WHEN UNSAFE	40,200	5.79%
FAILED TO YIELD ROW - STOP SIGN	34,763	5.01%
FAILED TO YIELD ROW - TURNING LEFT	32,248	4.65%
DISREGARD STOP AND GO SIGNAL	27,344	3.94%
FAILED TO YIELD ROW - PRIVATE DRIVE	27,000	3.89%
DISREGARD STOP SIGN OR LIGHT	19,332	2.79%
OTHER FACTORS	152,911	22.04%

Single-Vehicle Crashes

Approximately one in six serious crashes is a single-vehicle crash, where a vehicle strikes an object either on the road or on the side of the road as opposed to another motor vehicle. While serious crashes overall have declined between 2003 and 2007, single-vehicle crashes have remained relatively flat (Table 16). While this is the case, fatalities during this period dropped 13.9 percent from 359 deaths in 2003 to 309 deaths in 2007 (Table 17), and overall injuries dropped 13.5 percent from 10,529 in 2003 to 9,106 in 2007 (Table 18).

In terms of objects struck, there is no single object that has a preponderance of crash events attached. Only 28 percent of objects struck were road-related objects such as curbs, medians, barriers, light posts, and signs (Table 22). While there may be in some cases an engineering issue in regards to the placement or design of these road-related items, the top contributing factors involved in these crashes were due to a failure to drive in a single lane and a failure to control speed (47 percent of crashes combined), suggesting that in most cases, the crashes were possibly avoidable (Table 23).

TABLE 16: Total Single-Vehicle Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1,107	1,052	1,081	1,142	1,220	5,602
Chambers	251	276	237	288	337	1,389
Fort Bend	1,045	1,118	1,031	1,054	1,071	5,319
Galveston	1,039	920	889	790	1,005	4,643
Harris	12,368	10,959	12,141	11,437	11,559	58,464
Liberty	437	444	460	540	592	2,473
Montgomery	1,686	1,794	1,829	1,878	1,977	9,164
Waller	292	358	341	354	318	1,663
Region Total	18,225	16,921	18,009	17,483	18,079	88,717

TABLE 17: Total Single-Vehicle Crash Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	22	24	22	16	10	94
Chambers	13	10	6	12	5	46
Fort Bend	28	26	16	19	9	98
Galveston	20	14	28	22	19	103
Harris	209	209	211	180	204	1,013
Liberty	18	8	11	16	16	69
Montgomery	43	35	29	43	38	188
Waller	6	10	3	9	8	36
Region Total	359	336	326	317	309	1,647

TABLE 18: Total Single-Vehicle Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	564	477	513	546	498	2,598
Chambers	168	187	136	176	157	824
Fort Bend	534	584	507	502	475	2,602
Galveston	569	446	455	383	465	2,318
Harris	7,460	6,225	6,631	6,455	6,128	32,899
Liberty	201	232	243	235	261	1,172
Montgomery	889	928	931	975	951	4,674
Waller	144	175	194	189	171	873
Region Total	10,529	9,254	9,610	9,461	9,106	47,960

TABLE 19: Total Single-Vehicle Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	88	59	82	59	78	366
Chambers	35	43	15	26	17	136
Fort Bend	70	82	78	60	53	343
Galveston	89	64	80	54	74	361
Harris	773	643	725	759	700	3,600
Liberty	48	30	44	29	26	177
Montgomery	141	183	164	170	148	806
Waller	17	18	27	29	22	113
Region Total	1,261	1,122	1,215	1,186	1,118	5,902

TABLE 20: Total Single-Vehicle Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	218	205	243	248	210	1,124
Chambers	67	91	73	73	68	372
Fort Bend	221	226	199	204	187	1,037
Galveston	231	178	167	165	191	932
Harris	2,452	2,004	2,065	2,070	1,986	10,577
Liberty	66	111	94	99	124	494
Montgomery	444	457	405	463	414	2,183
Waller	63	76	78	59	59	335
Region Total	3,762	3,348	3,324	3,381	3,239	17,054

TABLE 21: Total Single-Vehicle Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	258	213	188	239	210	1,108
Chambers	66	53	48	77	72	316
Fort Bend	243	276	230	238	235	1,222
Galveston	249	204	208	164	200	1,025
Harris	4,235	3,578	3,841	3,626	3,442	18,722
Liberty	87	91	105	107	111	501
Montgomery	304	288	362	342	389	1,685
Waller	64	81	89	101	90	425
Region Total	5,506	4,784	5,071	4,894	4,749	25,004

TABLE 22: Single-Vehicle Crash Object Struck Frequency

Object Struck	Crashes	Percentage
HIT CONCRETE TRAFFIC BARRIER	7,980	8.99%
HIT TREE SHRUB LANDSCAPING	7,821	8.82%
HIT OTHER FIXED OBJECT	6,129	6.91%
HIT GUARDRAIL	6,053	6.82%
HIT FENCE	5,727	6.46%
HIT CURB	4,853	5.47%
HIT LUMINAIRE POLE	4,029	4.54%
DITCH	3,675	4.14%
HIT HIGHWAY SIGN	3,485	3.93%
HIT RETAINING WALL	3,440	3.88%
HIT UTILITY POLE	3,369	3.80%
HIT CULVERT-HEADWALL	2,134	2.41%
HIT MAILBOX	1,933	2.18%
HIT HOUSE BLDG. OR BLDG. FIXTURE	1,674	1.89%
HIT MEDIAN BARRIER	1,435	1.62%
HIT OTHER OBJECTS	24,980	28.14%

TABLE 23: Top Ten Single-Vehicle Primary Contributing Factors

Contributing Factor	Crashes	Pct
FAILED TO DRIVE IN SINGLE LANE	25,192	28.40%
FAILED TO CONTROL SPEED	16,588	18.70%
DRIVER INATTENTION	5,100	5.75%
SPEEDING - UNSAFE (UNDER LIMIT)	5,030	5.67%
OTHER FACTOR	4,586	5.17%
FAULTY EVASIVE ACTION	4,288	4.83%
UNDER INFLUENCE - ALCOHOL	2,360	2.66%
ANIMAL ON ROAD- WILD	2,010	2.27%
FATIGUED OR ASLEEP	1,947	2.19%
ANIMAL ON ROAD- DOMESTIC	1,305	1.47%
OTHER FACTORS	20,311	22.89%

Intersection Crashes

Approximately four of every ten serious crashes occur at the intersection of two streets. These crashes are usually one of two varieties – rear-end collisions and angled collisions. Rear-end collisions tend to occur at these locations due to a driver’s failure to slow down in adequate time to hit a stopped car at an intersection. These crashes tend to be less severe in terms of injuries and fatalities, much due to improved car design and the location of impact. Angled collisions tend to occur at intersections due to one driver’s failure to adhere to traffic signals or signage or a failure to yield right-of-way. Angled collisions tend to be more severe in terms of injuries and fatalities because unlike a rear-end crash, where both vehicles have crumple zones between the drivers and vehicles impacted, impacted vehicles only have sheet metal and limited side structural support to protect the affected drivers and passengers.

Staff conducted a preliminary analysis for the period of 2005-2007 of over 5,000 intersections in the region to identify those with a high incidence of motor vehicle crashes. The analysis looked at crashes within 150 feet of an intersection that were identified in CRIS as either “intersection” or “intersection-related” crashes. While TxDOT looks at crashes within a 500 foot radius, the 150 foot radius was chosen in order not to incorporate crashes that may be related to intersections up to two blocks away. Table 24 lists intersections where on average at least two crashes per month have occurred at a specific location. Additional analysis will be conducted in the future to assess these and other intersections in relation to the amount of traffic traversing these locations.

TABLE 24: Regional Intersections of High Crash Incidence, 2005-2007

Intersection Location	Crashes	Deaths	Injuries				Non-Injury
			Incap.	Non- Incap.	Possible	Total Injuries	
FM 1960 W @ SH-249 NSR	277	0	15	103	267	385	469
Louetta @ IH 45 N	209	0	1	7	76	84	521
SH 242 @ IH 45 N	202	1	6	37	84	127	461
Bissonnet @ BW 8 West WSR	190	0	3	13	198	214	337
Bellaire Blvd @ US-59 S WSR	187	1	2	21	192	215	420
IH-45 @ Rankin ESR	175	0	3	32	138	173	349
FM 1960 @ US 59 N	170	0	6	26	73	105	441
Gessner Dr @ I-10 NSR	162	0	0	11	140	151	320
SH-6 @ IH-10 NSR	160	0	3	1	110	114	328
IH 45 @ FM 518	157	0	3	11	61	75	428
Fairbanks North Houston @ US-290 NSR	154	0	1	21	98	120	293
SH 6 @ US 290 SSR	151	0	0	7	54	61	391
Almeda Genoa Rd @ IH-45 WSR	149	0	1	16	137	154	288
Federal @ IH-10 NSR	148	0	0	7	136	143	347
US-59 @ Wilcrest ESR	147	1	4	20	158	182	277
West Hardy Rd @ BW 8 North SSR	139	0	10	35	132	177	262
Senate @ US 290	138	0	1	7	71	79	333
Almeda Genoa @ SH 288	137	0	4	22	138	164	266
FM 1960 @ IH 45 N	133	0	2	15	57	74	303

Intersection Location	Crashes	Deaths	Injuries				Non-Injury
			Incap.	Non-Incap.	Possible	Total Injuries	
Greens Rd @ I-45 N WSR	127	0	7	26	128	161	247
US 59 S @ SH 6	127	0	4	10	57	71	319
Hillcroft @ US-59 S NSR	126	0	6	26	111	143	211
IH-45 N @ SH 105	126	0	0	8	53	61	375
BW 8 East & SH 225 NSR	125	1	2	23	57	82	256
Chartres @ Pease	124	0	1	14	104	119	249
Normandy @ IH 10 NSR	124	1	0	10	69	79	321
BW 8 North @ IH 45 N	124	0	5	33	100	138	219
BW 8 South @ SH 288	123	1	3	13	73	89	276
West @ IH 45 N	121	0	0	12	100	112	295
FM 1960 @ Deerbrook Mall Entrance	120	0	6	31	39	76	326
Aldine Bender @ IH 45 N	120	0	1	12	111	124	249
El Dorado @ IH 45 S	116	0	10	28	82	120	261
Spring Cypress @ IH 45 N	115	0	6	9	61	76	255
IH-10 @ Wayside N Dr	114	0	1	12	137	150	184
SH 146 @ FM 1764	114	0	3	15	51	69	261
Bissonnet @ US-59 S WSR	113	3	2	4	111	117	217
Bellaire Blvd @ Fondren Rd	109	1	2	23	110	135	218
BW 8 West @ US 290	109	0	5	8	76	89	219
Hollister @ US-290 SSR	108	0	2	20	90	112	203
Hillcroft/Voss @ Westheimer	107	0	2	7	78	87	228
N. Shepherd @ IH-610 North Loop NSR	105	0	5	8	100	113	201
West @ US 290	105	1	2	9	55	66	258
Beechnut @ Gessner Dr	104	1	5	9	133	147	154
Beechnut @ US-59 S WSR	104	0	2	9	106	117	206
Greenbriar @ US-59 S SSR	103	0	0	8	86	94	226
Bellaire Blvd @ Dairy Ashford S Rd	101	0	2	13	118	133	180
Tamina/Research Forest @ IH 45 N	100	0	0	5	37	42	246
Gessner Dr @ US-290 NSR	99	0	5	7	98	110	184
Beechnut @ BW 8 W	99	0	0	25	101	126	198
Lockwood @ IH 10 E	98	1	0	23	100	123	181
Wayside S Dr @ IH-45 S ESR	95	0	0	12	79	91	201
Bellaire Blvd @ Gessner Dr	95	0	1	17	77	95	218
BW 8 E @ US 90/Crosby Fwy	95	0	4	12	71	87	206
W. Little York @ BW 8 W	95	0	4	28	118	150	160
Fountainview @ US-59 S SSR	94	1	0	16	84	100	177
BW 8 West @ US 290	94	0	5	4	56	65	207
Fairmont Pkwy @ BW 8 East	94	0	3	19	47	69	218
Monroe @ IH-45 S ESR	92	0	1	11	78	90	190
SH 6 @ US 90A	90	0	2	19	40	61	196
Fondren Rd @ US-59 S WSR	89	0	0	14	75	89	163
Harwin Dr @ BW 8 West ESR	89	1	4	29	110	143	166
Antoine Dr @ US-290 SSR	88	0	1	9	66	76	166
Veterans Memorial @ BW 8 North	88	1	3	25	77	105	173
I-10 @ Wilcrest N Dr SSR	87	0	1	11	64	76	143
Broadway/Park Place Blvd @ IH-45 ESR	87	0	1	4	85	90	154
Bellaire Blvd @ BW 8 West ESR	86	0	2	15	82	99	181

Intersection Location	Crashes	Deaths	Injuries				Non-Injury
			Incap.	Non- Incap.	Possible	Total Injuries	
BS 249 @ FM 2920	86	0	1	12	29	42	251
Decker @ SH 146	86	1	2	18	41	61	190
FM 1960 @ US 290 NSR	85	1	1	5	37	43	225
SH 336 @ IH 45 N	85	0	0	11	41	52	226
Gessner Dr @ Richmond Ave	84	0	1	12	116	129	150
McCarty @ I-610 North Loop SSR	84	0	9	3	83	95	159
Edgebrook @ IH-45 S WSR	84	0	0	12	66	78	171
US 290 @ Jones Rd	84	0	0	6	25	31	220
IH 45 S @ FM 517	83	0	1	3	29	33	201
SH 249 @ Spring Cypress	83	0	0	4	57	61	228
Woodridge @ IH-45 S WSR	82	0	1	9	63	73	164
Fondren Rd @ Westheimer	82	0	2	2	61	65	152
Bellfort W @ US-59 S WSR	82	0	1	20	86	107	156
Telephone Rd @ BW 8 South SSR	82	1	7	12	72	91	167
S. Braeswood @ IH 610 S	82	0	1	6	72	79	182
SH 249 @ BW 8 North	82	0	2	14	39	55	178
Texas Pkwy @ US 90A	81	1	4	13	33	50	217
Clay @ BW 8 West	81	0	1	13	59	73	141
Grand Ave. @ IH 10 E	81	0	7	3	35	45	218
Chartres @ St Joseph Pkwy	78	0	2	18	59	79	200
Chartres @ Pierce	78	0	0	9	86	95	191
Dairy Ashford N Rd @ IH-10 W NSR	78	0	0	6	58	64	167
Gessner Dr @ Hammerly Blvd	78	0	0	10	61	71	171
Tidwell W Rd @ US-290 SSR	78	0	3	11	76	90	166
Chimney Rock Dr @ US-59 S SSR	77	0	1	8	70	79	135
Eldridge Pkwy N @ IH-10 W SSR	77	0	1	4	62	67	143
NASA Parkway @ SH 146	77	0	6	19	30	55	263
FM 1960 @ W Lake Houston	77	0	2	6	38	46	202
S. Shepherd @ US-59 S NSR	76	0	2	4	57	63	147
Bay Area Blvd @ El Camino Real	76	0	1	9	126	136	155
SH 6 @ Bellaire	76	0	0	7	33	40	207
N. Alexander @ SH 146	76	1	11	12	54	77	149
Sheldon @ IH-10 E	76	0	1	4	52	57	182
San Felipe @ I-610 West Loop WSR	75	0	1	10	51	62	132
Little York @ US 59 E	75	0	1	12	51	64	156
Spencer Highway @ BW 8 East	75	0	2	13	46	61	198
El Camino Real @ NASA Parkway	75	0	1	4	47	52	175
SH 3 @ Bay Area Blvd	74	0	1	10	31	42	186
Gessner Dr @ US-59 S WSR	73	1	3	15	81	99	123
Beechnut @ Wilcrest Dr	73	0	0	3	66	69	152
Westpark Toll Road FR @ BW 8 West ESR	73	1	7	19	65	91	146
BW 8 E @ Wallisville Rd.	73	0	3	11	51	65	199
Chartres @ Congress	72	0	0	4	41	45	167
Live Oak @ Southmore	72	0	3	8	71	82	125
SH 35 @ FM 528	72	0	1	16	46	63	161

Signalized Intersection Crashes

Signalized intersections tend to be located where there traffic volumes are heavier. While these increased volumes can ultimately lead to a greater opportunity for crash events, traffic signal serve as a critical safety device in terms of reducing intersection crashes. However, approximately 41 percent of intersection crashes still occur at signalized intersections regionally. Drivers, either intentionally or due to inattentiveness, run red lights, occasionally resulting in a crash. In addition, the signal itself can partially contribute to crashes; primarily in rear-end crashes where a signal with insufficient timing can result in a crash due to sudden stops. Despite these potential issues, traffic signals play an important role in addressing traffic safety.

Regionally, signalized intersection crashes have fluctuated between 2003 and 2007 have declined slightly overall since 2003 (Table 25). Fatalities during this period have decreased overall from 60 deaths in 2003 to 44 deaths in 2007, but reached a high of 65 deaths in 2005 (Table 26). Total injuries showed a 21.5 percent decline from 18,012 in 2003 to 14,133 in 2007 (Table 27). However, much of the drop came from Possible Injuries during this period (Table 30), while Incapacitating Injuries (Table 28) and Non-incapacitating Injuries (Table 29) dropped slightly.

TABLE 25: Total Signalized Intersection Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	678	600	553	686	707	3,224
Chambers	41	27	48	48	48	212
Fort Bend	989	1,001	988	997	1,177	5,152
Galveston	987	945	955	966	974	4,827
Harris	16,267	12,779	14,107	15,109	14,617	72,879
Liberty	134	129	139	144	137	683
Montgomery	936	841	898	1,035	1,060	4,770
Waller	31	39	28	31	27	156
Region Total	20,063	16,361	17,716	19,016	18,747	91,903

TABLE 26: Total Signalized Intersection Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	2	2	4	0	1	9
Chambers	1	0	0	0	0	1
Fort Bend	5	3	5	3	2	18
Galveston	0	2	3	1	1	7
Harris	48	47	50	35	34	214
Liberty	1	1	0	0	1	3
Montgomery	3	3	3	4	5	18
Waller	0	0	0	0	0	0
Region Total	60	58	65	43	44	270

TABLE 27: Total Signalized Intersection Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	512	382	351	463	423	2,131
Chambers	35	16	27	17	23	118
Fort Bend	705	640	568	550	659	3,122
Galveston	804	705	641	579	532	3,261
Harris	15,234	11,518	13,257	12,862	11,752	64,623
Liberty	57	70	87	67	102	383
Montgomery	649	591	588	640	621	3,089
Waller	16	31	31	17	21	116
Region Total	18,012	13,953	15,550	15,195	14,133	76,843

TABLE 28: Total Signalized Intersection Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	19	14	14	27	22	96
Chambers	3	3	3	-	2	11
Fort Bend	37	28	30	35	34	164
Galveston	53	48	42	38	38	219
Harris	608	477	524	533	519	2,661
Liberty	1	6	9	9	4	29
Montgomery	28	34	39	33	42	176
Waller	1	2	4	1	1	9
Region Total	750	612	665	676	662	3,365

TABLE 29: Total Signalized Intersection Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	158	94	88	121	113	574
Chambers	5	5	10	4	4	28
Fort Bend	140	171	113	120	176	720
Galveston	195	184	132	177	146	834
Harris	2,894	2,211	2,668	2,618	2,481	12,872
Liberty	11	15	19	14	22	81
Montgomery	186	195	198	206	212	997
Waller	3	6	5	9	6	29
Region Total	3,592	2,881	3,233	3,269	3,160	16,135

TABLE 30: Total Signalized Intersection Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	335	274	249	315	288	1,461
Chambers	27	8	14	13	17	79
Fort Bend	528	441	425	395	449	2,238
Galveston	556	473	467	364	348	2,208
Harris	11,732	8,830	10,065	9,711	8,752	49,090
Liberty	45	49	59	44	76	273
Montgomery	435	362	351	401	367	1,916
Waller	12	23	22	7	14	78
Region Total	13,670	10,460	11,652	11,250	10,311	57,343

Un-signalized Intersections

Unsignalized intersections are much more prevalent throughout the region than signalized. A city arterial can have 10-20 unsignalized intersections on a mile stretch. While speeds on intersecting streets tend to be slower than the arterial to which they connect, each intersection represents a crash opportunity. Approximately 59 percent of the region's intersection crashes occur at unsignalized intersections. The lack of an active traffic control device leaves drivers at these intersections to operate strictly based on their assessment of the traffic situation, which unfortunately can result in a crash.

Regionally, unsignalized intersection crashes have decreased 22.9 percent from 30,250 crashes in 2003 to 23,337 crashes in 2007 (Table 31). Fatalities during this period have decreased 28.2 percent from 85 deaths in 2003 to 61 deaths in 2007 (Table 32). Total injuries dropped a remarkable 35.7 percent from 22,408 in 2003 to 14,399 in 2007 (Table 33).

TABLE 31: Total Un-signalized Intersection Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1,297	1,238	1,262	1,186	1,307	6,290
Chambers	151	170	180	220	215	936
Fort Bend	1,831	1,616	1,602	1,539	1,565	8,153
Galveston	1,862	1,559	1,652	1,358	1,420	7,851
Harris	22,581	17,979	20,002	17,247	16,375	94,184
Liberty	490	450	475	437	419	2,271
Montgomery	1,852	1,902	1,885	1,876	1,841	9,356
Waller	186	239	219	189	195	1,028
Region Total	30,250	25,153	27,277	24,052	23,337	130,069

TABLE 32: Total Un-signalized Intersection Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	5	7	6	7	3	28
Chambers	3	3	2	2	2	12
Fort Bend	7	7	7	4	7	32
Galveston	7	11	2	2	8	30
Harris	47	44	40	38	29	198
Liberty	3	2	2	1	3	11
Montgomery	11	10	8	12	6	47
Waller	2	4	3	1	3	13
Region Total	85	88	70	67	61	371

TABLE 33: Total Un-signalized Intersection Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	778	687	693	722	702	3,582
Chambers	135	166	119	196	121	737
Fort Bend	1,020	979	838	823	736	4,396
Galveston	1,229	943	897	795	669	4,533
Harris	17,729	13,963	15,407	12,465	10,880	70,444
Liberty	291	242	262	250	243	1,288
Montgomery	1,108	1,097	1,107	960	933	5,205
Waller	118	168	172	119	115	692
Region Total	22,408	18,245	19,495	16,330	14,399	90,877

TABLE 34: Total Un-signalized Intersection Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	59	50	62	51	57	279
Chambers	18	19	20	7	8	72
Fort Bend	64	77	57	52	41	291
Galveston	69	67	66	63	62	327
Harris	731	533	614	483	490	2,851
Liberty	41	25	23	19	16	124
Montgomery	89	110	91	67	73	430
Waller	11	14	14	6	6	51
Region Total	1,082	895	947	748	753	4,425

TABLE 35: Total Un-signalized Intersection Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	209	192	219	189	248	1,057
Chambers	48	87	51	84	51	321
Fort Bend	252	236	186	188	173	1,035
Galveston	288	246	232	263	206	1,235
Harris	3,189	2,629	2,624	2,348	2,185	12,975
Liberty	67	63	82	76	96	384
Montgomery	359	371	339	359	298	1,726
Waller	49	49	55	33	24	210
Region Total	4,461	3,873	3,788	3,540	3,281	18,943

TABLE 36: Total Un-signalized Intersection Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	510	445	412	482	397	2,246
Chambers	69	60	48	105	62	344
Fort Bend	704	666	595	583	522	3,070
Galveston	872	630	599	469	401	2,971
Harris	13,809	10,801	12,169	9,634	8,205	54,618
Liberty	183	154	157	155	131	780
Montgomery	660	616	677	534	562	3,049
Waller	58	105	103	80	85	431
Region Total	16,865	13,477	14,760	12,042	10,365	67,509

Impaired Driving

Crashes from Impaired Driving are some of the most unfortunate and most avoidable crashes occurring on the region's roadways. Alcohol is the largest contributing factor in motor vehicle fatalities in the nation and was the key factor in half of the region's motor vehicle fatalities.

Addressing impaired driving can be a complex process and one met with great resistance from a host of parties. The process in processing a DWI is extremely time consuming for law enforcement, taking officers off patrol and at times, resulting in offenders being able to register far lower blood-alcohol levels due to the passage of several hours spent waiting for paperwork to be completed. The DWI defense industry, which is well-funded, often counsels offenders not to take a breathalyzer or blood-alcohol test, placing increased burden on law enforcement and prosecuting attorneys in convictions. There are financial disincentives to many hospitals for conducting blood-alcohol tests on potentially impaired drivers due to State statutes that allow insurance companies to decline coverage if the driver tests positive. Attempts to implement proven strategies such as sobriety checkpoints have failed in the Texas Legislature.

The data show that regionally, impaired driving crashes have fluctuated between 2003 and 2007 (Table 37). While this is the case, fatalities and injuries have been declining from these crashes over this period, possibly due to the improved safety features built into motor vehicles. While fatalities have dropped to a period low of 280 deaths due to crashes stemming from impaired driving, this figure still represents half of all motor vehicle fatalities in the region (Table 38). In addition, injuries arising from these crashes have dropped 21.2 percent from 3,850 in 2003 to 3,032 in 2007 (Table 39). Of impaired driving crashes where a blood alcohol content (BAC) was obtained, the average BAC of impaired drivers involved was 0.17, which is more than twice the legal limit of 0.08 (Figure 3). A notable item is that 18.4 percent of drivers faulted in impaired driving crashes were between 21-24 years of age, considering the population group makes up only 5.8 percent of the population (Table 43).

Looking at temporal factors, as mentioned earlier, impaired driving crashes differ from the majority of crashes in terms of time of day. Impaired driving crashes peak around 2am, which corresponds to closing time at most establishments serving liquor (Figure 4). In addition, while crashes overall are higher during the weekend, this trend is much more pronounced when it comes to impaired driving crashes. There are over twice as many crashes per day on the weekends than during the week (Figure 5).

In reviewing the data on impaired driving crashes, concern has arisen that the data may be understating the actual problem. Due to the resistance of drivers to test for BAC, the lengthiness of the arrest process, the training of law enforcement needed to recognize drug and alcohol use, along with the cumbersome legal process that follows, there is question on whether more of the crashes listed in this report are connected to impaired driving. However, until there is more of a consensus that impaired driving is a problem that needs to be seriously addressed, the data may never tell the full story.

TABLE 37: Total Impaired Driving Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	271	256	266	249	305	1,347
Chambers	51	64	67	58	85	325
Fort Bend	263	324	332	337	378	1,634
Galveston	367	371	291	256	301	1,586
Harris	3,404	3,012	3,061	2,800	2,961	15,238
Liberty	115	72	100	87	110	484
Montgomery	477	515	578	646	672	2,888
Waller	55	72	49	40	53	269
Region Total	5,003	4,686	4,744	4,473	4,865	23,771

TABLE 38: Total Impaired Driving Fatalities (BAC Level 0.01+)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	11	19	20	16	12	78
Chambers	8	11	4	6	6	35
Fort Bend	18	28	15	15	13	89
Galveston	21	18	19	15	17	90
Harris	206	214	194	200	181	995
Liberty	15	12	7	18	13	65
Montgomery	38	30	35	27	31	161
Waller	6	12	4	5	7	34
Region Total	323	344	298	302	280	1,547

TABLE 39: Total Impaired Driving Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	194	185	171	199	153	902
Chambers	40	41	40	37	38	196
Fort Bend	198	229	194	185	224	1,030
Galveston	235	268	175	174	194	1,046
Harris	2,752	2,470	2,383	2,028	1,893	11,526
Liberty	74	38	72	34	59	277
Montgomery	323	433	384	470	432	2,042
Waller	34	49	30	25	39	177
Region Total	3,850	3,713	3,449	3,152	3,032	17,196

TABLE 40: Total Impaired Driving Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	36	22	33	34	20	145
Chambers	6	5	5	5	2	23
Fort Bend	34	35	39	35	29	172
Galveston	32	55	27	30	35	179
Harris	257	222	201	251	196	1,127
Liberty	18	10	12	4	6	50
Montgomery	48	84	72	70	72	346
Waller	2	10	5	2	5	24
Region Total	433	443	394	431	365	2,066

TABLE 41: Total Impaired Driving Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	61	71	74	83	68	357
Chambers	16	17	20	14	20	87
Fort Bend	70	77	64	69	73	353
Galveston	88	74	51	61	78	352
Harris	747	774	703	530	545	3,299
Liberty	21	16	32	11	30	110
Montgomery	127	175	145	219	178	844
Waller	12	18	10	11	11	62
Region Total	1,142	1,222	1,099	998	1,003	5,464

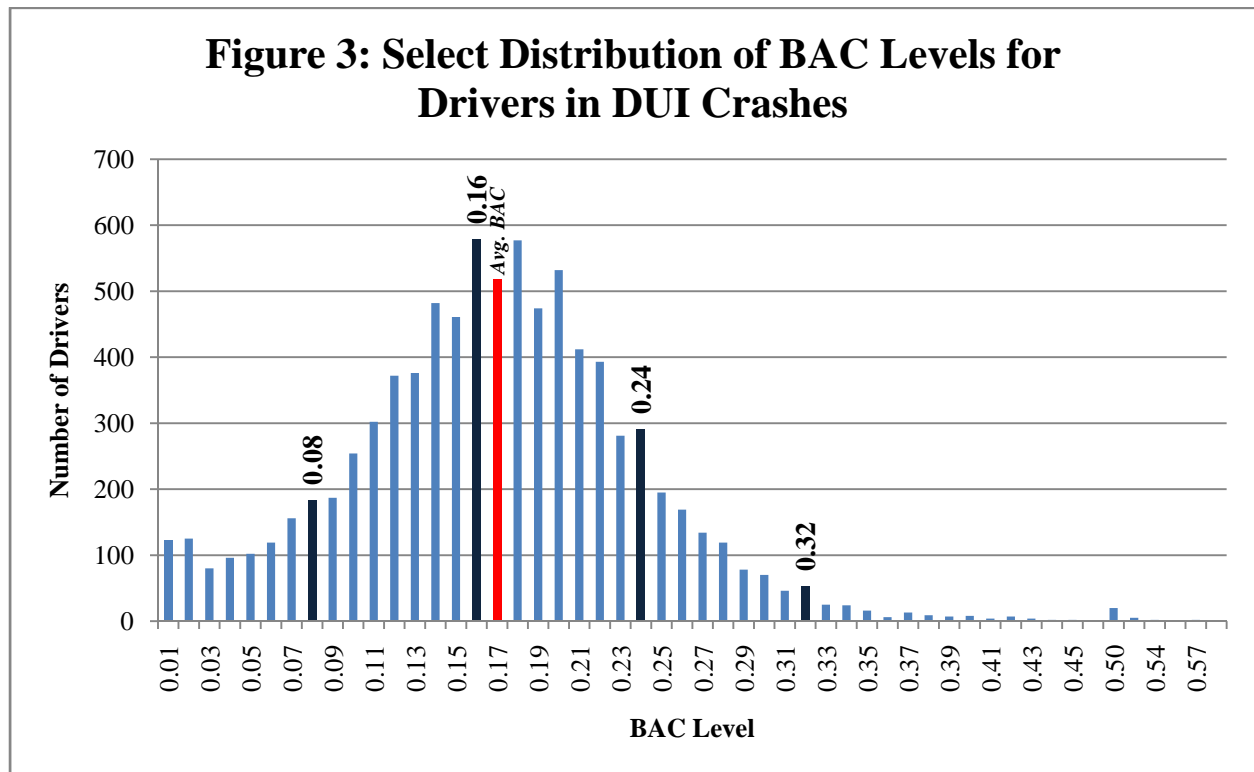
TABLE 42: Total Impaired Driving Possible Injuries (Type C)

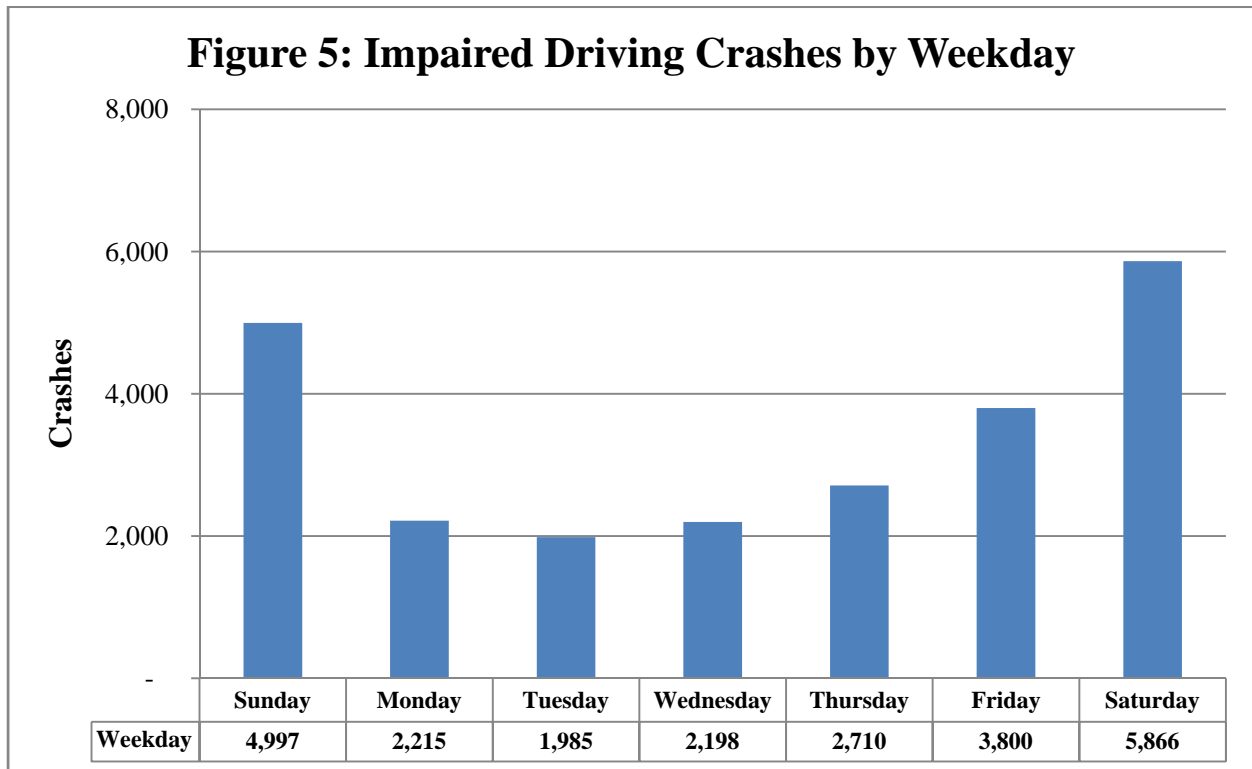
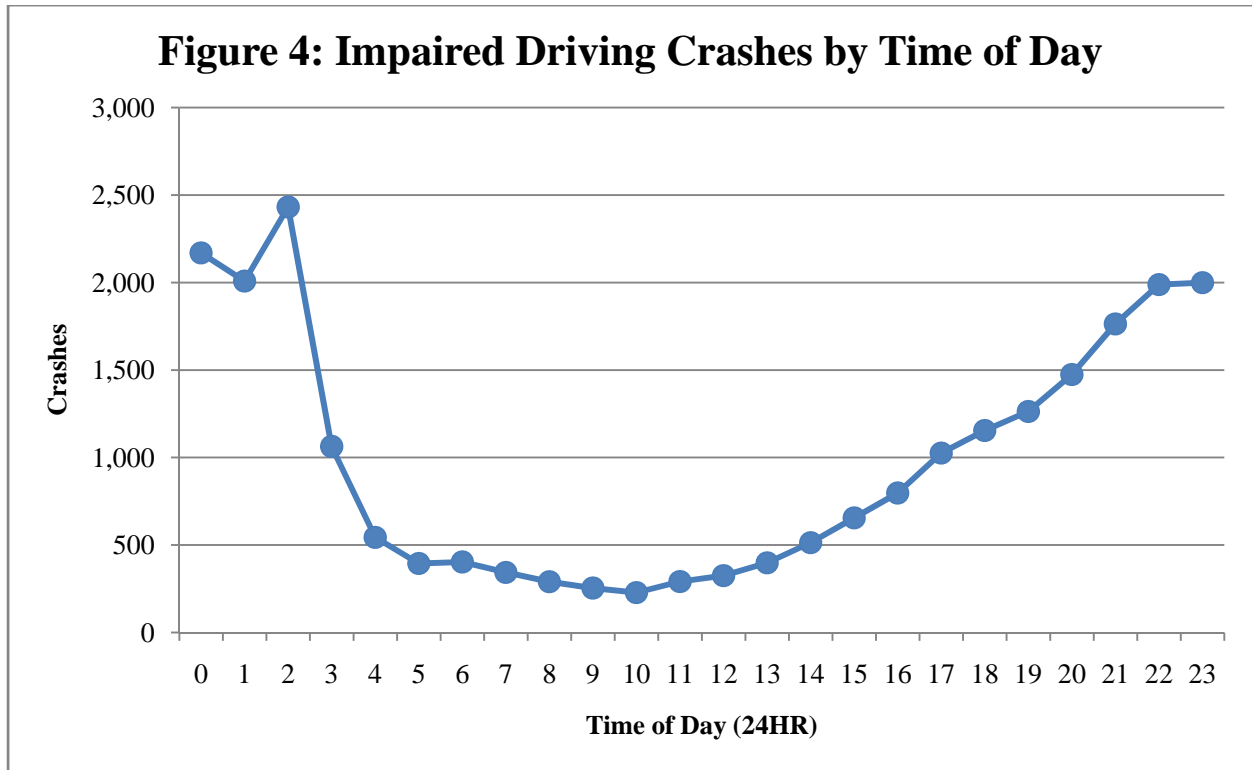
County Name	2003	2004	2005	2006	2007	Total
Brazoria	97	92	64	82	65	400
Chambers	18	19	15	18	16	86
Fort Bend	94	117	91	81	122	505
Galveston	115	139	97	83	81	515
Harris	1,748	1,474	1,479	1,247	1,152	7,100
Liberty	35	12	28	19	23	117
Montgomery	148	174	167	181	182	852
Waller	20	21	15	12	23	91
Region Total	2,275	2,048	1,956	1,723	1,664	9,666

TABLE 43: Impaired Driving Crashes by Age of Impaired Driver

Age Group	Crashes	Pct/Crashes	Pct/Pop*
< 16 years	5	0.1%	12.3%
16-20 years	806	10.5%	7.5%
21-24 years	1,409	18.4%	5.8%
25-34 years	2,275	29.7%	15.7%
35-44 years	1,490	19.5%	15.5%
45-64 years	1,246	16.3%	23.0%
65+ years	115	1.5%	7.8%
Unknown	304	4.0%	N/A
Total	7,650	100%	N/A

Figure 3: Select Distribution of BAC Levels for Drivers in DUI Crashes





Young Drivers (15–20 years old)

Young drivers between the ages of 15 and 20 years of age are at significant risk in regards to being in a serious crash. Young drivers lack driving experience and tend to be overconfident in their abilities, at times to their detriment. Drivers in this age group, which represent about nine percent of the population, cause 16 percent of serious crashes. In addition, passengers in this age group are also highly at risk for injury and death. The data show that young drivers and passengers that were injured in crashes were more likely not to use seat belts compared to other age groups. Another factor of concern is the allowability of parent-taught driver's education as an option to a certified course. It is questionable whether the parents who choose this option are adequately trained to instruct their teens on how to drive. A NHTSA study conducted in 2007 on the program found that the parent-taught approach had a negative impact on young driver safety.

Crashes caused by young drivers have been on the decline in the region. Crashes have decreased 11.6 percent from 18,826 crashes in 2003 to 16,646 crashes in 2007 (Table 44). Fatalities from these crashes during this period dropped 28.4 percent from 183 deaths in 2003 to 131 deaths in 2007 (Table 45). In addition, injuries dropped 30.1 percent from 10,989 in 2003 to 7,680 in 2007 (Table 46). Most crashes tend to occur immediately following school hours with the peak period between 3pm and 5pm (Figure 6). One-third of crashes caused by drivers were due to a failure to control speed, and nearly one-quarter of crashes involved either a failure to yield right of way or a disregard of a traffic sign or signal (Table 50).

A possible reason for the decline in crashes and resulting fatalities and injuries may be the Graduated Drivers License (GDL) program instituted in Texas in 2002. This law places restrictions for drivers under 18 years of age including the times drivers can operate a vehicle and the allowability of passengers unless supervised by a family member age 21 or over. Currently, there are 46 states that have implemented some form of a GDL program to help promote safer driving for young drivers.

TABLE 44: Total Crashes Caused by Young Drivers

County Name	2003	2004	2005	2006	2007	Total
Brazoria	980	988	993	1,012	1,074	5,047
Chambers	116	146	158	166	173	759
Fort Bend	1,438	1,383	1,407	1,374	1,343	6,945
Galveston	1,132	1,008	963	929	1,021	5,053
Harris	13,194	11,195	11,866	11,108	10,915	58,278
Liberty	276	283	264	297	298	1,418
Montgomery	1,560	1,661	1,707	1,651	1,701	8,280
Waller	130	151	137	138	121	677
Region Total	18,826	16,815	17,495	16,675	16,646	86,457

TABLE 45: Total Fatalities from Young Driver Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	8	9	9	9	3	38
Chambers	2	3	1	1	2	9
Fort Bend	12	11	6	6	8	43
Galveston	2	3	4	5	4	18
Harris	125	96	116	80	87	504
Liberty	4	11	5	5	9	34
Montgomery	29	18	16	27	18	108
Waller	1	5	1	3	0	10
Region Total	183	156	158	136	131	764

TABLE 46: Total Injuries from Young Driver Crashes (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	429	447	441	416	423	2,156
Chambers	76	111	73	102	85	447
Fort Bend	549	569	491	502	447	2,558
Galveston	544	447	404	366	341	2,102
Harris	8,469	6,816	7,140	6,207	5,506	34,138
Liberty	130	124	115	161	144	674
Montgomery	725	709	726	611	677	3,448
Waller	67	113	113	101	57	451
Region Total	10,989	9,336	9,503	8,466	7,680	45,974

TABLE 47: Total Incapacitating Injuries from Young Driver Crashes (Type A)

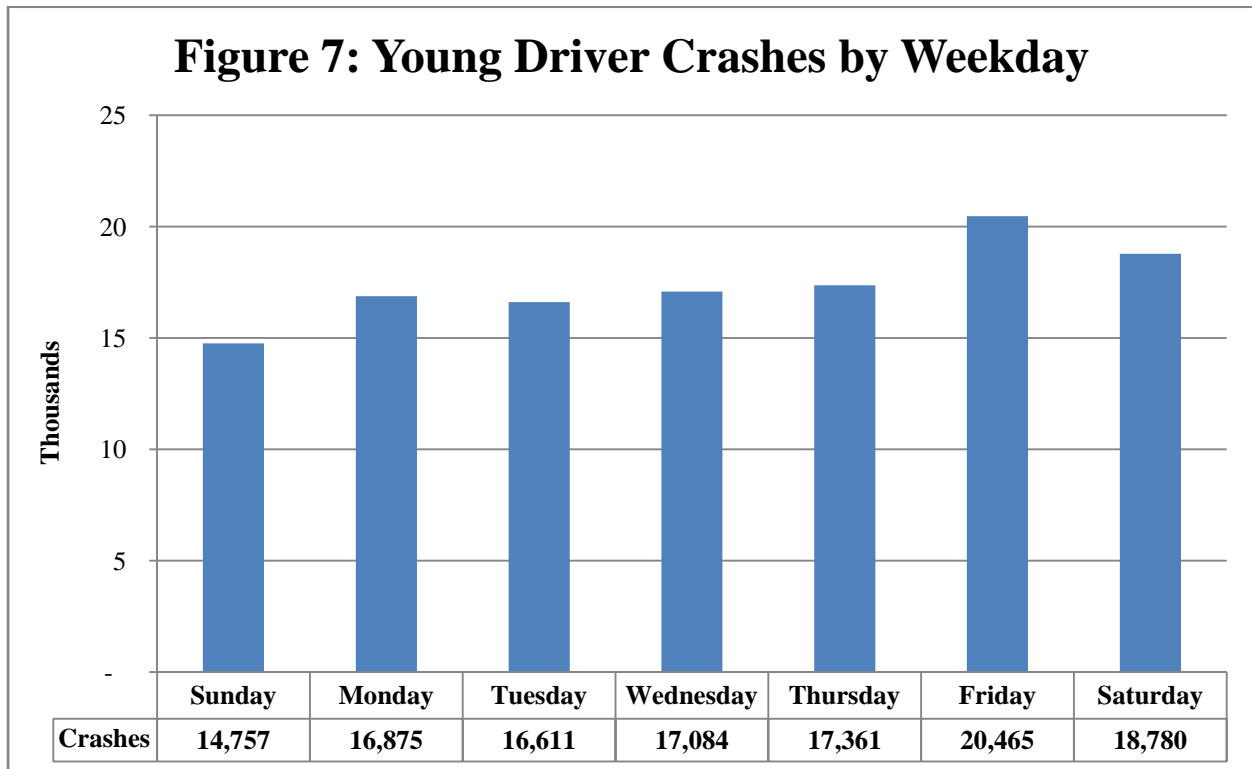
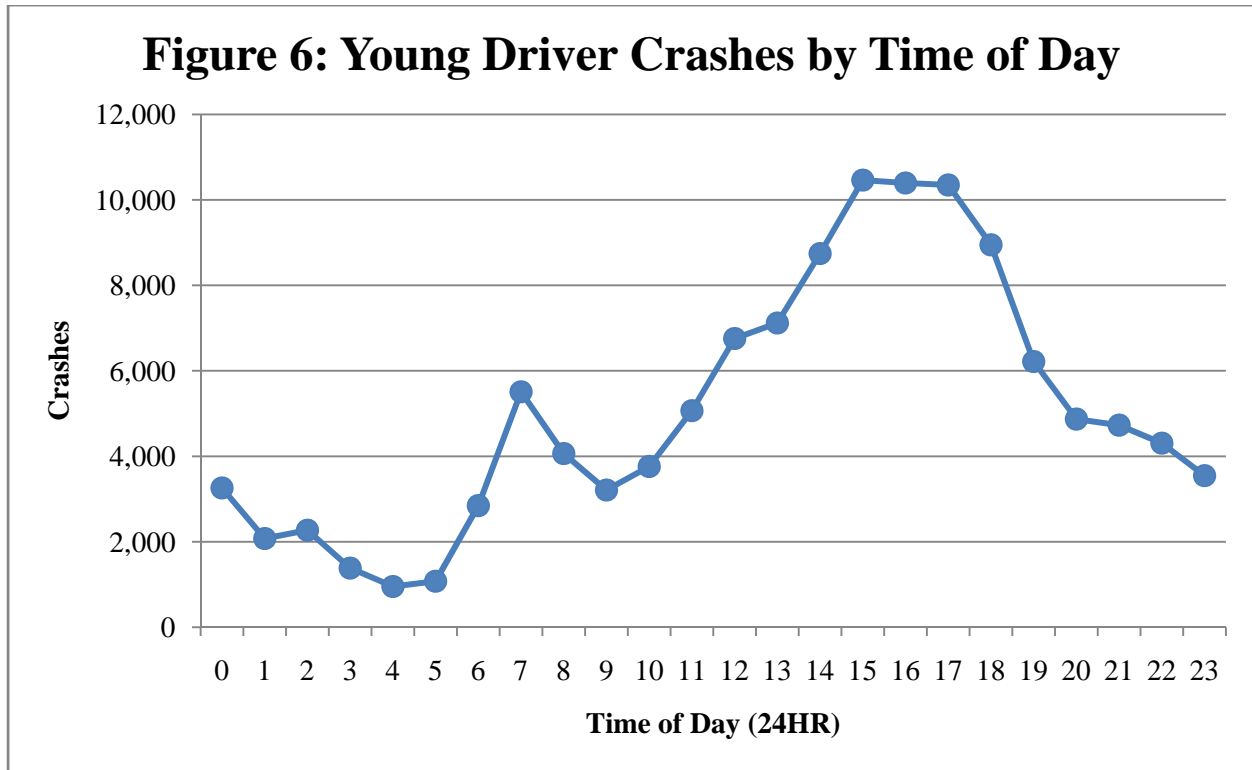
County Name	2003	2004	2005	2006	2007	Total
Brazoria	35	42	55	24	42	198
Chambers	16	20	7	6	5	54
Fort Bend	34	49	39	36	35	193
Galveston	32	31	35	26	32	156
Harris	403	319	332	335	266	1,655
Liberty	20	17	12	16	10	75
Montgomery	64	88	63	67	62	344
Waller	6	10	13	17	2	48
Region Total	610	576	556	527	454	2,723

TABLE 48: Total Non-Incapacitating Injuries from Young Driver Crashes (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	160	144	134	129	148	715
Chambers	33	47	33	41	27	181
Fort Bend	162	154	124	166	104	710
Galveston	153	117	126	134	138	668
Harris	1,952	1,612	1,604	1,416	1,331	7,915
Liberty	34	47	41	48	55	225
Montgomery	307	277	269	234	252	1,339
Waller	28	29	38	21	12	128
Region Total	2,829	2,427	2,369	2,189	2,067	11,881

TABLE 49: Total Possible Injuries from Young Driver Crashes (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	234	261	252	263	233	1,243
Chambers	27	44	33	55	53	212
Fort Bend	353	366	328	300	308	1,655
Galveston	359	299	243	206	171	1,278
Harris	6,114	4,885	5,204	4,456	3,909	24,568
Liberty	76	60	62	97	79	374
Montgomery	354	344	394	310	363	1,765
Waller	33	74	62	63	43	275
Region Total	7,550	6,333	6,578	5,750	5,159	31,370



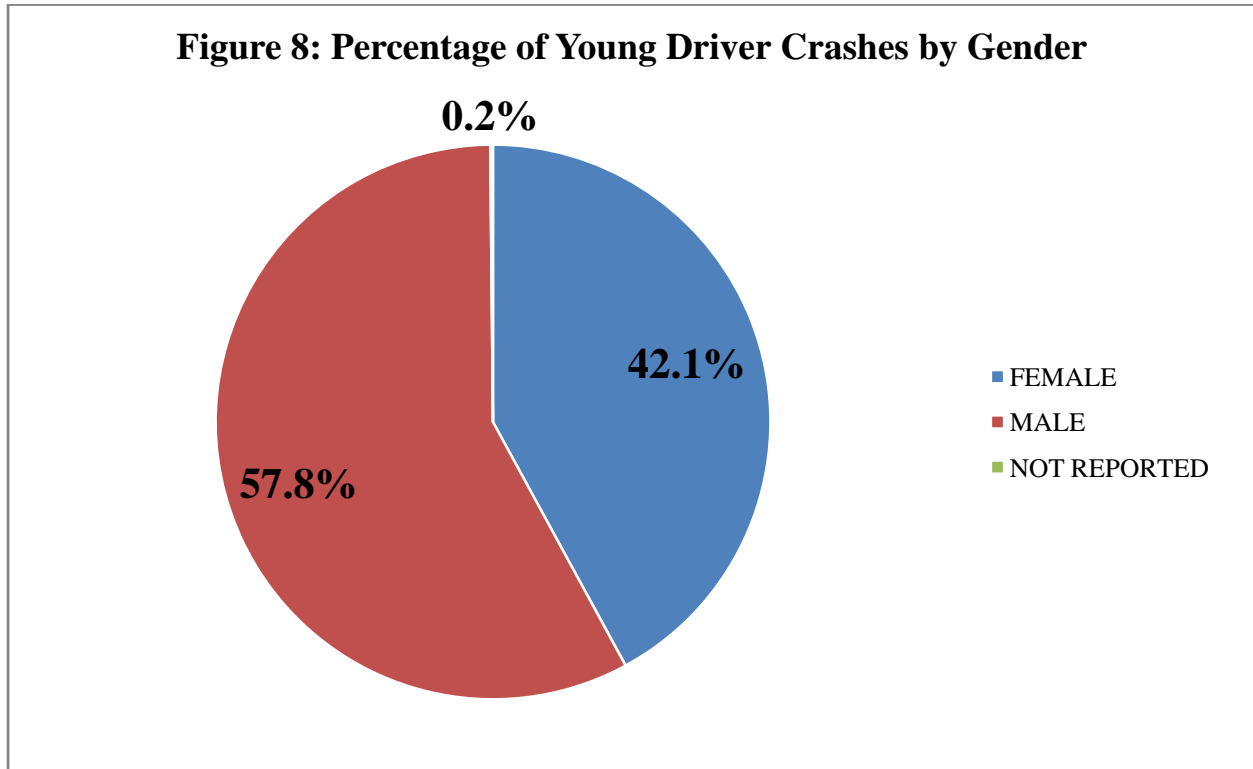


TABLE 50: Top Ten Primary Contributing Factors for Young Driver Crashes

Contributing Factor	Frequency	Percent
FAILED TO CONTROL SPEED	28,842	33.36%
FAILED TO DRIVE IN SINGLE LANE	7,796	9.02%
FAILED TO YIELD ROW - STOP SIGN	5,816	6.73%
FAILED TO YIELD ROW - TURNING LEFT	5,497	6.36%
DRIVER INATTENTION	5,253	6.08%
FAILED TO YIELD ROW - PRIVATE DRIVE	4,054	4.69%
CHANGED LANE WHEN UNSAFE	3,737	4.32%
DISREGARD STOP AND GO SIGNAL	3,240	3.75%
DISREGARD STOP SIGN OR LIGHT	2,613	3.02%
FAULTY EVASIVE ACTION	1,692	1.96%
OTHER FACTORS	17,917	20.71%

Senior Drivers (65+ years)

Senior drivers are becoming a demographic of increasing concern as the “Baby Boomer” generation begins to reach age 65. Unfortunately, with old age often comes deterioration in certain skills required for driving such as strength, flexibility, vision, attentiveness, and reaction time. However, despite these issues, senior drivers are still often dependent on their motor vehicles, which could result in conflict when having to drive amongst a younger driving public. There is also additional concern in crashes involving senior drivers that due to increasing frailty, senior drivers have a greater potential for injury or death in a crash.

Regionally, crashes where drivers age 65 and older were considered at fault stayed relatively constant between 2003 and 2007 (Table 51). Both fatalities and injuries stemming from these crashes fluctuated during this period (Tables 52 and 53). While failure to control speed was the top reason for senior driver crashes, it was not as predominant of a cause in comparison to other crashes. More crashes were due to a failure to either yield right of way or due to disregarding of a traffic sign or signal (Table 57). While women are a greater percentage of the elderly population, male senior drivers are still more likely to cause serious crashes (Figure 11).

TABLE 51: Total Crashes Caused by Senior Drivers

County Name	2003	2004	2005	2006	2007	Total
Brazoria	443	488	425	474	511	2,341
Chambers	68	75	79	102	97	421
Fort Bend	480	453	514	517	541	2,505
Galveston	679	615	651	607	671	3,223
Harris	6,811	5,570	6,290	6,247	6,114	31,032
Liberty	163	160	205	188	184	900
Montgomery	684	689	771	824	837	3,805
Waller	48	88	69	63	51	319
Region Total	9,376	8,138	9,004	9,022	9,006	44,546

TABLE 52: Total Fatalities from Senior Driver Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1	5	9	5	1	21
Chambers	4	6	0	2	0	12
Fort Bend	4	5	9	6	4	28
Galveston	3	0	4	2	6	15
Harris	76	77	74	55	79	361
Liberty	2	2	1	0	6	11
Montgomery	7	7	9	7	15	45
Waller	1	2	3	0	1	7
Region Total	98	104	109	77	112	500

TABLE 53: Total Injuries from Senior Driver Crashes (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	128	135	101	141	138	643
Chambers	27	16	22	36	35	136
Fort Bend	135	98	146	136	102	617
Galveston	212	179	181	142	140	854
Harris	2,450	2,013	2,226	2,298	2,018	11,005
Liberty	32	36	63	59	48	238
Montgomery	213	179	224	233	237	1,086
Waller	26	35	29	32	16	138
Region Total	3,223	2,691	2,992	3,077	2,734	14,717

TABLE 54: Total Incapacitating Injuries from Senior Driver Crashes (Type A)

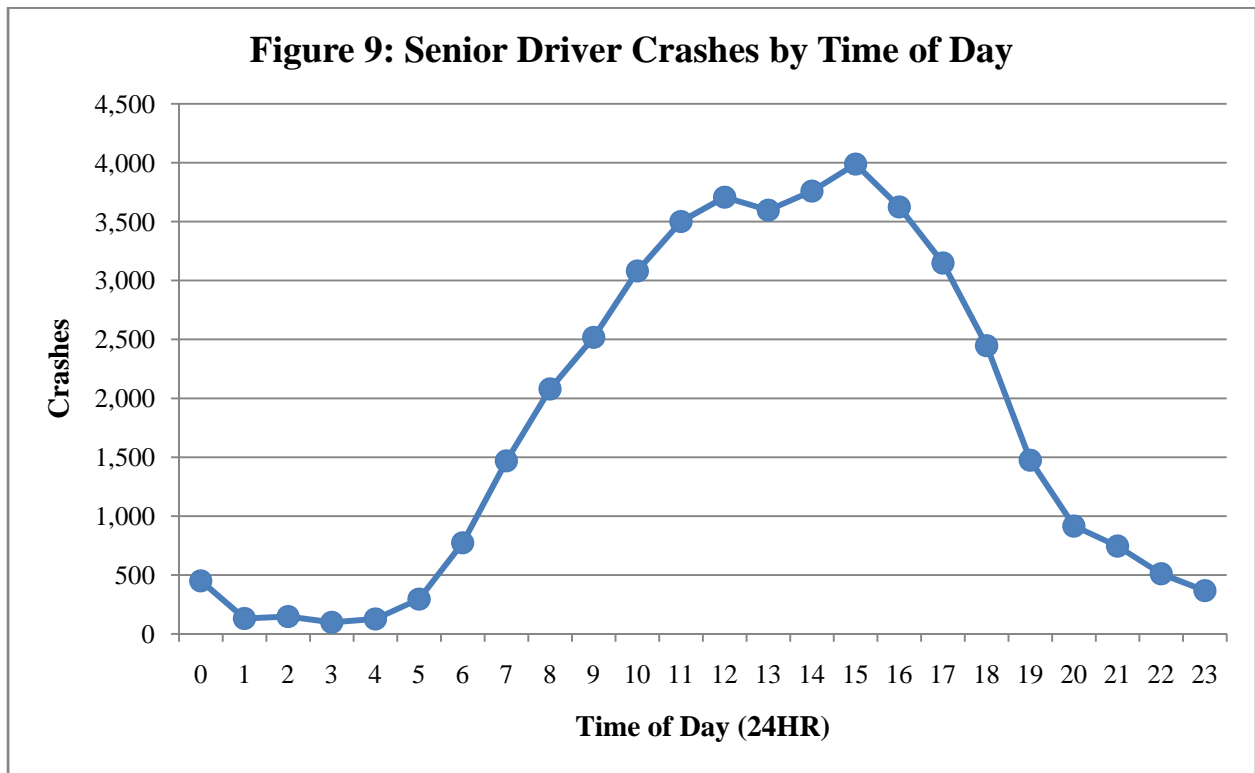
County Name	2003	2004	2005	2006	2007	Total
Brazoria	10	9	9	11	14	53
Chambers	1	0	4	4	1	10
Fort Bend	13	12	11	3	5	44
Galveston	14	12	15	11	7	59
Harris	97	84	85	95	90	451
Liberty	2	7	10	3	3	25
Montgomery	12	8	20	20	23	83
Waller	1	4	2	1	1	9
Region Total	150	136	156	148	144	734

TABLE 55: Total Non-Incapacitating Injuries from Senior Driver Crashes (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	37	41	34	51	48	211
Chambers	11	7	5	13	18	54
Fort Bend	23	33	34	33	25	148
Galveston	48	44	47	44	32	215
Harris	425	358	413	495	396	2,087
Liberty	4	13	19	20	15	71
Montgomery	89	76	73	80	73	391
Waller	8	11	11	12	2	44
Region Total	645	583	636	748	609	3,221

TABLE 56: Total Possible Injuries from Senior Driver Crashes (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	81	85	58	79	76	379
Chambers	15	9	13	19	16	72
Fort Bend	99	53	101	100	72	425
Galveston	150	123	119	87	101	580
Harris	1,928	1,571	1,728	1,708	1,532	8,467
Liberty	26	16	34	36	30	142
Montgomery	112	95	131	133	141	612
Waller	17	20	16	19	13	85
Region Total	2,428	1,972	2,200	2,181	1,981	10,762



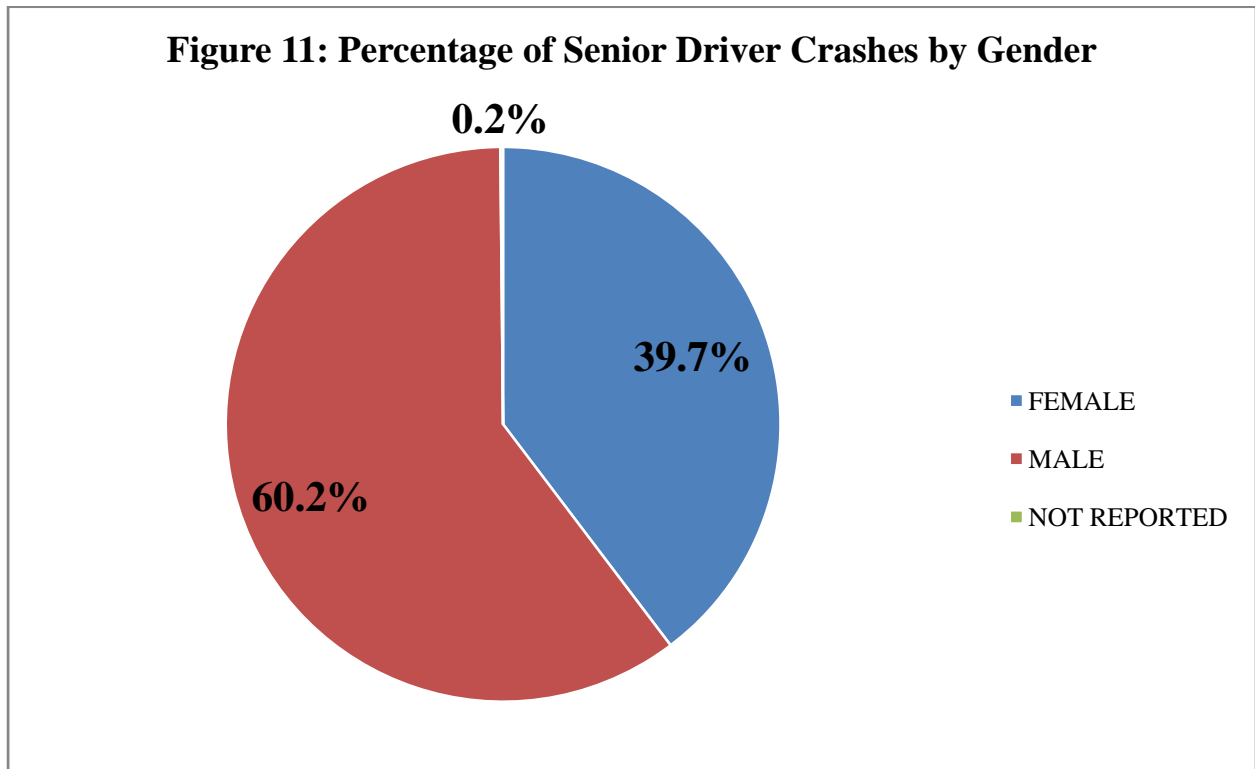
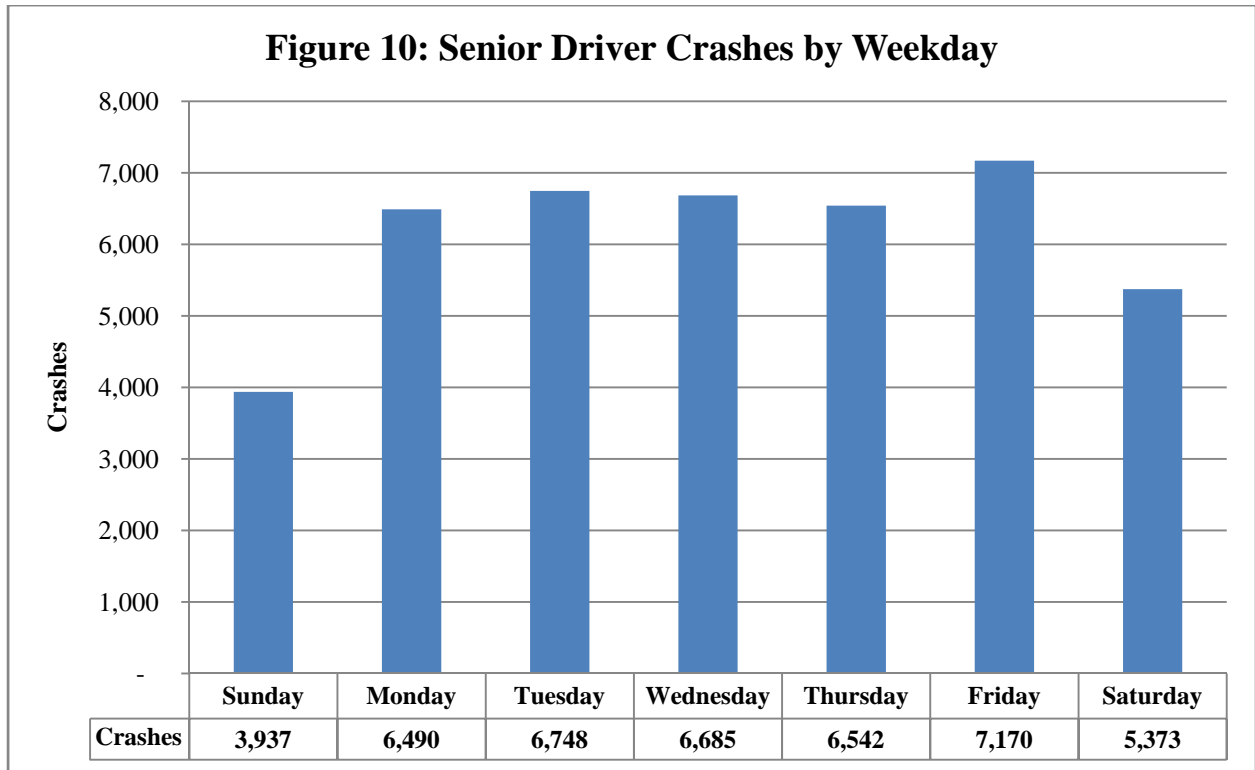


TABLE 57: Top Ten Primary Contributing Factors for Senior Driver Crashes

Contributing Factor	Frequency	Percent
FAILED TO CONTROL SPEED	4,505	19.14%
FAILED TO YIELD ROW - STOP SIGN	2,547	10.82%
FAILED TO YIELD ROW - TURNING LEFT	2,331	9.90%
FAILED TO YIELD ROW - PRIVATE DRIVE	1,790	7.61%
DRIVER INATTENTION	1,668	7.09%
DISREGARD STOP AND GO SIGNAL	1,491	6.34%
CHANGED LANE WHEN UNSAFE	1,404	5.97%
FAILED TO DRIVE IN SINGLE LANE	1,171	4.98%
DISREGARD STOP SIGN OR LIGHT	1,024	4.35%
TURNED IMPROPERLY - WRONG LANE	524	2.23%
OTHER FACTOR	5,071	21.57%

Speed-Related Crashes

Speed-related crashes refer to those crashes where the speed of the driver at fault is driving at a speed that is unsafe, be it over or under the speed limit, usually with intent. The data presented, however, may not be reflective of all speed-related crashes because law enforcement in many cases would not have witnessed whether there was excessive speed since police involvement often occurs after the crash. Many speed-related crashes may be mixed in with crashes listed as “failure to control speed.” The data presented reflects crashes where unsafe speeds were determined as a factor.

Speed-related crashes are of significant concern because of the force of impact involved and the higher potential for fatalities and injury. While overall crashes have declined between 2003 and 2007 regionally, speed-related crashes increased 26.6 percent during this period from 2,153 crashes in 2003 to 2,726 crashes in 2007 (Table 58). Fatalities decreased 19.8 percent during this period from 253 in 2003 to 203 in 2007 (Table 59). Injuries have fluctuated during this period, increasing in 2004-2006, but falling to a five-year low in 2007 (Table 60). In terms of time of day, while most crashes have a peak period, speed-related crashes have an extended peak period lasting from 12pm to 2am, with the highest levels occurring during evening rush hour and at midnight (Figure 12). Two-thirds of those speeding were male (Figure 14).

TABLE 58: Total Speed-Related Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	306	326	399	422	431	1,884
Chambers	55	103	93	113	131	495
Fort Bend	154	206	251	308	313	1,232
Galveston	143	144	101	88	107	583
Harris	782	757	688	704	636	3,567
Liberty	158	169	212	225	244	1,008
Montgomery	496	518	509	594	759	2,876
Waller	59	118	129	98	105	509
Region Total	2,153	2,341	2,382	2,552	2,726	12,154

TABLE 59: Total Speed-Related Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	22	17	20	16	14	89
Chambers	4	8	3	6	6	27
Fort Bend	12	19	11	22	11	75
Galveston	17	16	21	12	14	80
Harris	147	140	136	135	113	671
Liberty	10	10	8	13	17	58
Montgomery	36	33	25	31	24	149
Waller	5	5	3	0	4	17
Region Total	253	248	227	235	203	1,166

TABLE 60: Total Speed-Related Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	184	176	252	284	217	1,113
Chambers	47	120	51	88	75	381
Fort Bend	90	131	151	151	144	667
Galveston	126	123	94	77	80	500
Harris	733	706	585	603	492	3,119
Liberty	99	90	140	121	114	564
Montgomery	339	359	373	394	400	1,865
Waller	40	66	91	55	79	331
Region Total	1,658	1,771	1,737	1,773	1,601	8,540

TABLE 61: Total Speed-Related Incapacitating Injuries (Type A)

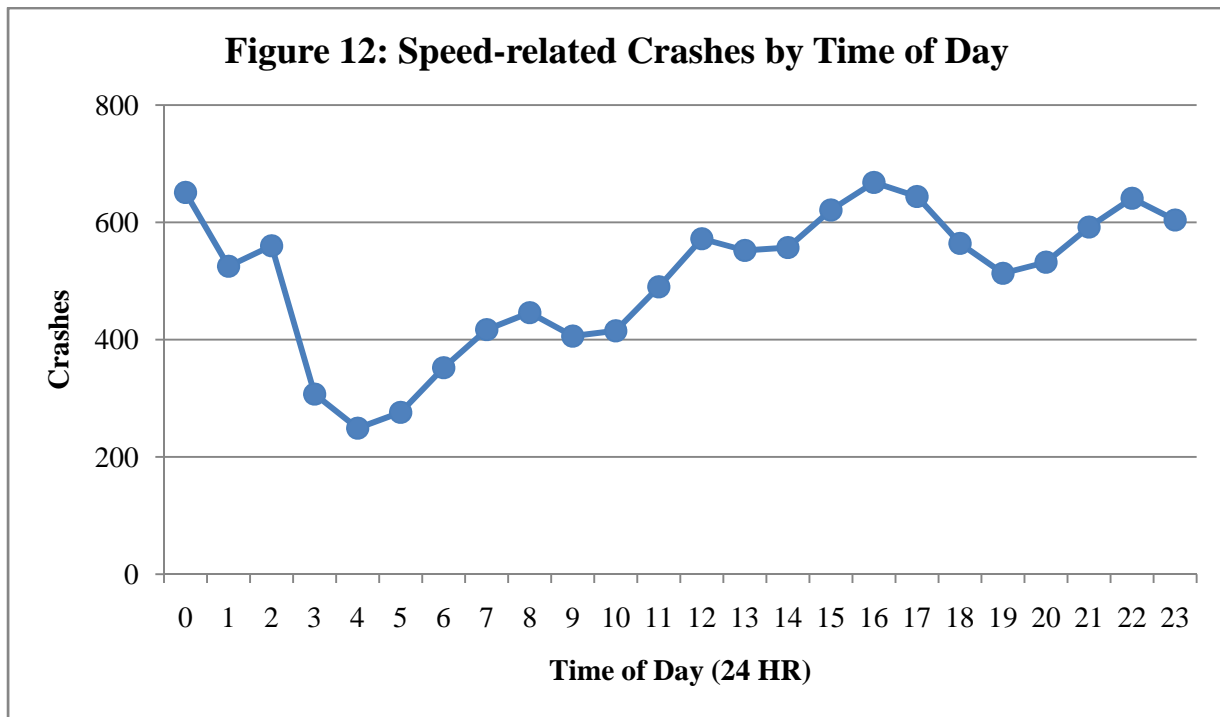
County Name	2003	2004	2005	2006	2007	Total
Brazoria	39	24	46	30	43	182
Chambers	12	24	4	9	11	60
Fort Bend	11	27	22	19	13	92
Galveston	17	20	21	13	17	88
Harris	103	105	107	94	64	473
Liberty	26	17	19	22	9	93
Montgomery	58	81	77	75	72	363
Waller	2	12	18	12	10	54
Region Total	268	310	314	274	239	1,405

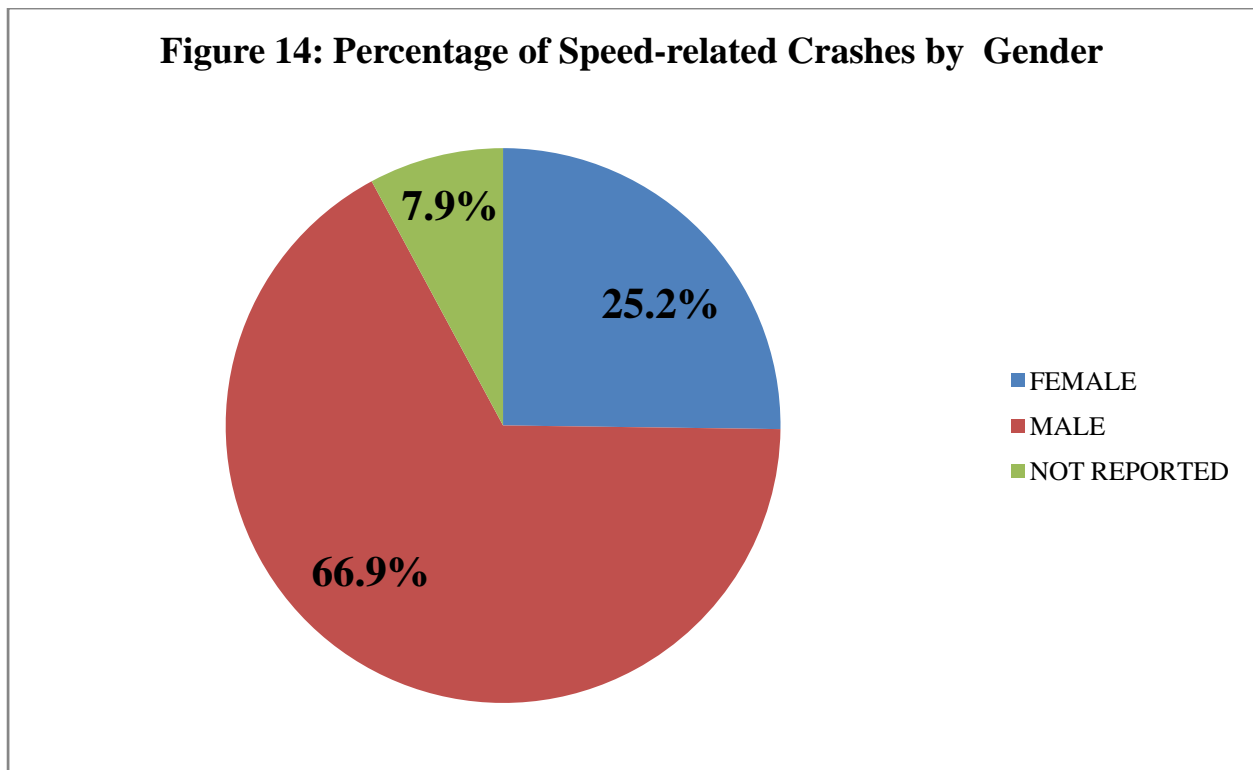
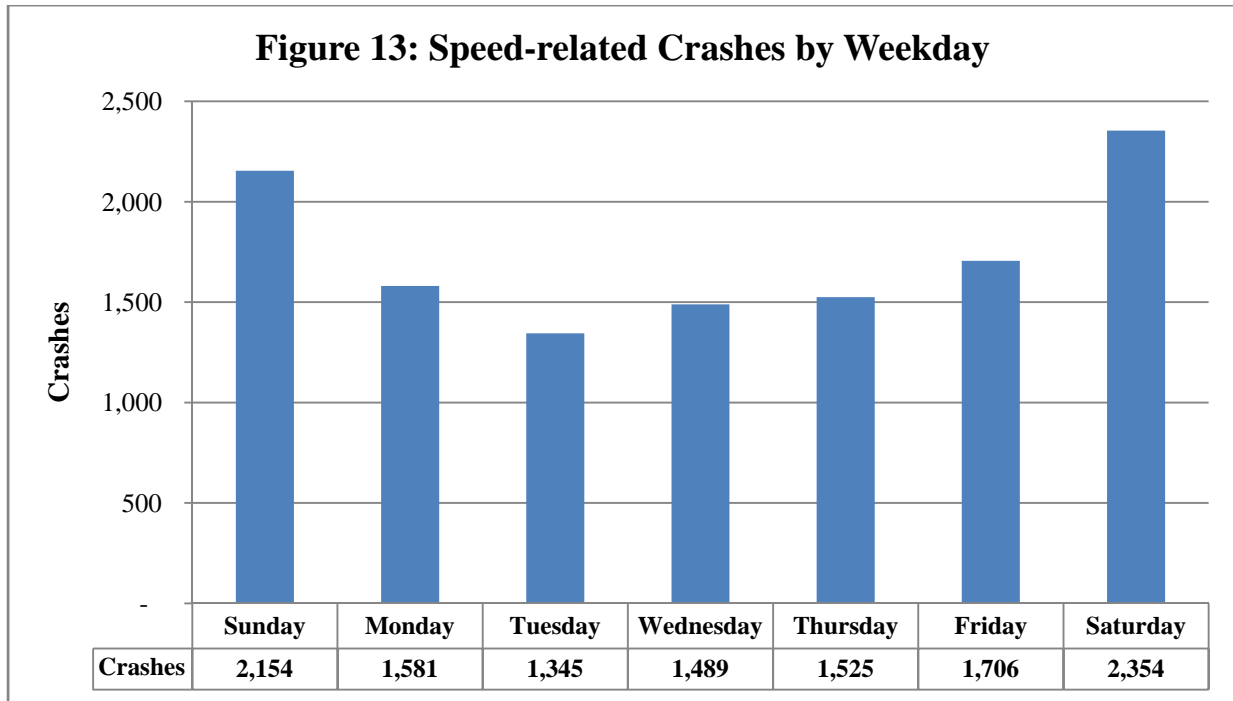
TABLE 62: Total Speed-Related Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	71	74	119	145	103	512
Chambers	18	75	28	41	33	195
Fort Bend	34	53	60	69	49	265
Galveston	39	44	26	30	40	179
Harris	268	256	192	210	169	1,095
Liberty	31	44	60	51	50	236
Montgomery	183	152	165	180	185	865
Waller	19	20	40	19	23	121
Region Total	663	718	690	745	652	3,468

TABLE 63: Total Speed-Related Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	74	78	87	109	71	419
Chambers	17	21	19	38	31	126
Fort Bend	45	51	69	63	82	310
Galveston	70	59	47	34	23	233
Harris	362	345	286	299	259	1,551
Liberty	42	29	61	48	55	235
Montgomery	98	126	131	139	143	637
Waller	19	34	33	24	46	156
Region Total	727	743	733	754	710	3,667





Occupant Safety

Seat belts and other restraint devices are proven to reduce fatalities and injuries in a motor vehicle crash. According to NHTSA, buckling seat belts reduces the risk of fatal and critical injuries to front seat passenger occupants by as much as 50 percent. In Texas, children under five years of age and less than 36 inches tall must be in a child passenger seat system. In addition, all children under 17 must use a seat belt no matter where in the car, and all drivers and passengers in the front seat must be buckled. Beginning this fall, children up to eight years of age or at least 4'-9" will be required to be in an appropriate child passenger seat system.

Recent crash data suggest that there has been significant improvement in the region in terms of restraint usage. The number of crashes occurring where an occupant has been unrestrained dropped over 50 percent from 32,255 crashes in 2003 to 15,844 crashes in 2007 (Table 64). Fatalities of unrestrained occupants declined 30.6 percent from 297 in 2003 to 206 in 2007 (Table 65). During this same period, injuries dropped 46.6 percent from 10,084 in 2003 to 5,387 in 2007 (Table 66). Looking at fatality and injury data by age, those ages 16-34 are significantly overrepresented in comparison to their percentage of the population (Tables 70 & 71)

TABLE 64: Crashes Involving at Least One Unrestrained Occupant

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1,182	1,189	1,239	917	937	5,464
Chambers	416	570	516	377	387	2,266
Fort Bend	1,838	2,124	1,648	990	1,032	7,632
Galveston	2,428	1,762	1,654	931	873	7,648
Harris	23,262	18,461	20,040	11,514	10,381	83,658
Liberty	581	463	386	685	453	2,568
Montgomery	2,297	2,227	2,324	1,326	1,566	9,740
Waller	251	282	209	109	215	1,066
Region Total	32,255	27,078	28,016	16,849	15,844	120,042

TABLE 65: Unrestrained Occupant Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	17	13	18	12	12	72
Chambers	16	9	6	8	3	42
Fort Bend	24	25	16	12	7	84
Galveston	23	14	19	15	14	85
Harris	158	153	157	123	124	715
Liberty	16	11	9	16	15	67
Montgomery	38	21	24	33	26	142
Waller	5	8	4	3	5	25
Region Total	297	254	253	222	206	1,232

TABLE 66: Unrestrained Occupant Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	351	334	361	359	269	1,674
Chambers	170	285	120	131	102	808
Fort Bend	433	478	365	309	259	1,844
Galveston	642	588	490	345	271	2,336
Harris	7,431	5,755	6,159	3,831	3,830	27,006
Liberty	205	157	159	203	183	907
Montgomery	772	711	676	451	420	3,030
Waller	80	120	72	55	53	380
Region Total	10,084	8,428	8,402	5,684	5,387	37,985

TABLE 67: Unrestrained Occupant Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	71	65	78	50	81	345
Chambers	73	44	30	20	12	179
Fort Bend	95	107	62	65	59	388
Galveston	107	96	93	57	49	402
Harris	888	658	712	638	567	3,463
Liberty	64	55	35	43	38	235
Montgomery	137	173	133	115	134	692
Waller	22	16	26	20	21	105
Region Total	1,457	1,214	1,169	1,008	961	5,809

TABLE 68: Unrestrained Occupant Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	120	145	163	165	96	689
Chambers	59	144	58	87	52	400
Fort Bend	130	153	116	97	92	588
Galveston	225	210	204	135	135	909
Harris	2,083	1,658	1,930	1,219	1,240	8,130
Liberty	52	52	68	66	83	321
Montgomery	371	295	270	190	158	1,284
Waller	25	52	24	14	21	136
Region Total	3,065	2,709	2,833	1,973	1,877	12,457

TABLE 69: Unrestrained Occupant Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	160	124	120	144	92	640
Chambers	38	97	32	24	38	229
Fort Bend	208	218	187	147	108	868
Galveston	310	282	193	153	87	1,025
Harris	4,460	3,439	3,517	1,974	2,023	15,413
Liberty	89	50	56	94	62	351
Montgomery	264	243	273	146	128	1,054
Waller	33	52	22	21	11	139
Region Total	5,562	4,505	4,400	2,703	2,549	19,719

TABLE 70: Unrestrained Occupant Fatalities by Age

Age Group	2003	2004	2005	2006	2007	Total	Pct/Fatalities	Pct/Pop.
<1 year	2	4	1	0	1	8	0.6%	1.7%
1-3 years	6	1	1	2	2	12	1.0%	4.9%
4-7 years	4	1	6	1	3	15	1.2%	6.0%
8-15 years	9	10	10	11	7	47	3.8%	12.3%
16-20 years	47	34	38	30	27	176	14.3%	7.5%
21-24 years	37	39	35	37	28	176	14.3%	5.8%
25-34 years	66	57	50	45	49	267	21.7%	15.7%
35-44 years	57	49	41	40	33	220	17.9%	15.5%
45-64 years	55	47	54	47	44	247	20.0%	23.0%
65+ years	14	12	17	9	12	64	5.2%	7.8%
Region Total	297	254	253	222	206	1,232	100%	N/A

TABLE 71: Unrestrained Occupant Injuries By Age (Type A, B, & C)

Age Group	2003	2004	2005	2006	2007	Total	Pct/Fatalities	Pct/Pop.
<1 year	535	324	373	207	135	1,574	4.14%	1.70%
1-3 years	370	286	312	248	212	1,428	3.76%	4.90%
4-7 years	405	403	409	236	252	1,705	4.49%	6.00%
8-15 years	1,054	970	923	569	494	4,010	10.56%	12.30%
16-20 years	1,758	1,506	1,265	948	921	6,398	16.84%	7.50%
21-24 years	1,318	1,091	1,075	714	669	4,867	12.81%	5.80%
25-34 years	1,962	1,499	1,596	1,119	1,067	7,243	19.07%	15.70%
35-44 years	1,249	975	1,074	676	687	4,661	12.27%	15.50%
45-64 years	1,202	1,136	1,158	809	817	5,122	13.48%	23.00%
65+ years	231	238	217	158	133	977	2.57%	7.80%
Region Total	10,084	8,428	8,402	5,684	5,387	37,985	100%	N/A

Rail Crossing Crashes

Rail crossing crashes, while only a tiny percentage of all crashes regionally, tend to be some of the most spectacular and attention-getting crashes. Motor vehicles, including commercial trucks, are no match for a train weighing thousands of tons. Trains do not have the luxury of being able to stop quickly, often requiring up to a mile to come to a complete stop. A car that cannot get out of the way of an oncoming train is most likely to be destroyed when struck. While many adhere to warning signals and traffic stopping devices, some choose to try to beat the train across the tracks or try to drive around the control arms to avoid waiting for a train to pass.

The data provided by the Federal Railroad Administration suggest that there is not a significant problem in regards to crashes at these intersections. However, in 2007, there was a significant jump in fatalities and injuries due to rail-grade crossing crashes (Tables 73 and 74). According to the Houston Region Freight Rail Study, the Houston-Galveston region has over 1,200 at-grade rail crossings with 2,200 trains per week traveling through these crossings. Some of these crossings occur in neighborhoods where children must cross them to go to school. The situation should continue to be monitored due to the potential for serious injury and death.

TABLE 72: Total Crashes at Rail-Grade Crossings

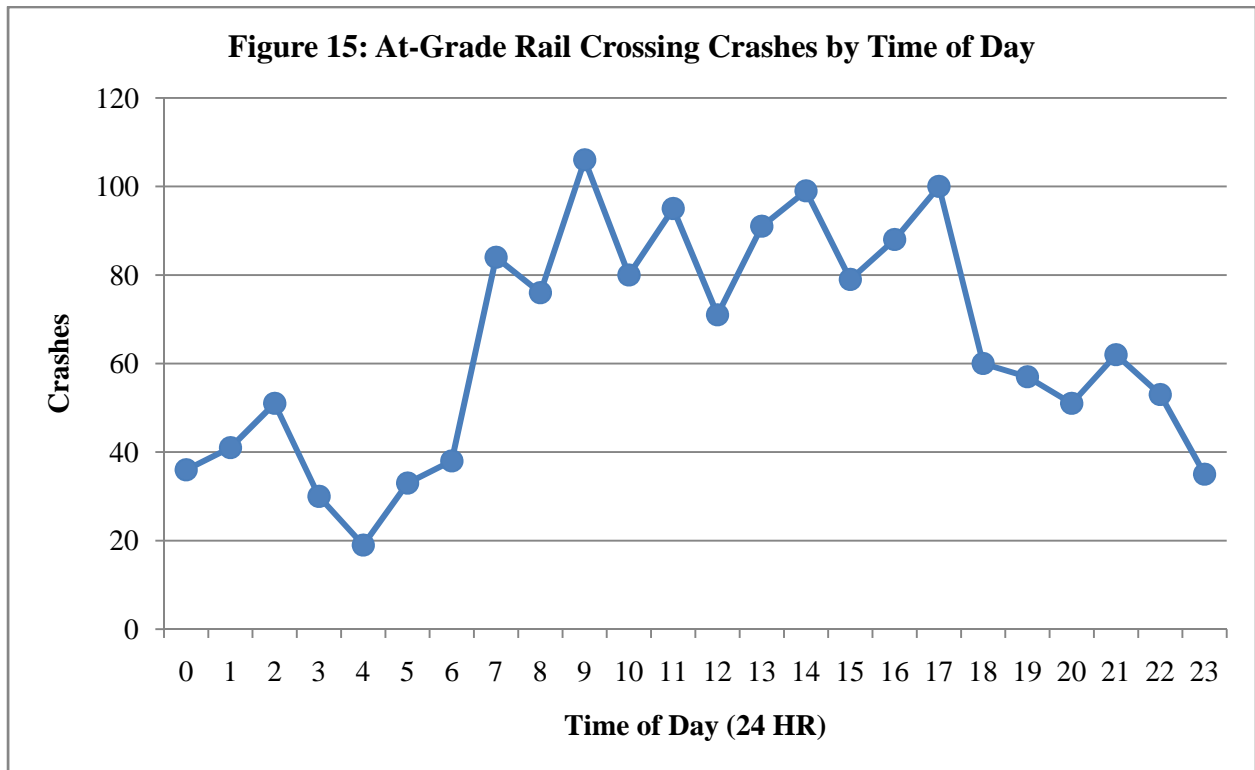
County Name	2003	2004	2005	2006	2007	Total
Brazoria	5	6	6	4	4	25
Chambers	0	1	1	3	0	5
Fort Bend	5	4	2	6	10	27
Galveston	1	1	1	6	3	12
Harris	37	37	54	34	45	207
Liberty	4	1	2	2	2	11
Montgomery	5	6	7	4	3	25
Waller	0	0	0	0	3	3
Region Total	57	56	73	59	70	315

TABLE 73: Total Fatalities at Rail-Grade Crossings

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1	0	0	0	0	1
Chambers	0	0	0	0	0	0
Fort Bend	0	0	0	0	0	0
Galveston	0	0	0	0	0	0
Harris	1	1	3	0	11	16
Liberty	1	0	0	0	2	3
Montgomery	2	1	1	0	0	4
Waller	0	0	0	0	0	0
Region Total	5	2	4	0	13	24

TABLE 74: Total Injuries at Rail Grade Crossings (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	2	0	1	2	2	7
Chambers	0	1	1	0	0	2
Fort Bend	2	2	1	2	3	10
Galveston	1	0	0	3	1	5
Harris	12	12	19	13	49	105
Liberty	1	0	1	0	2	4
Montgomery	1	4	1	1	1	8
Waller	0	0	0	0	0	0
Region Total	19	19	24	21	58	141



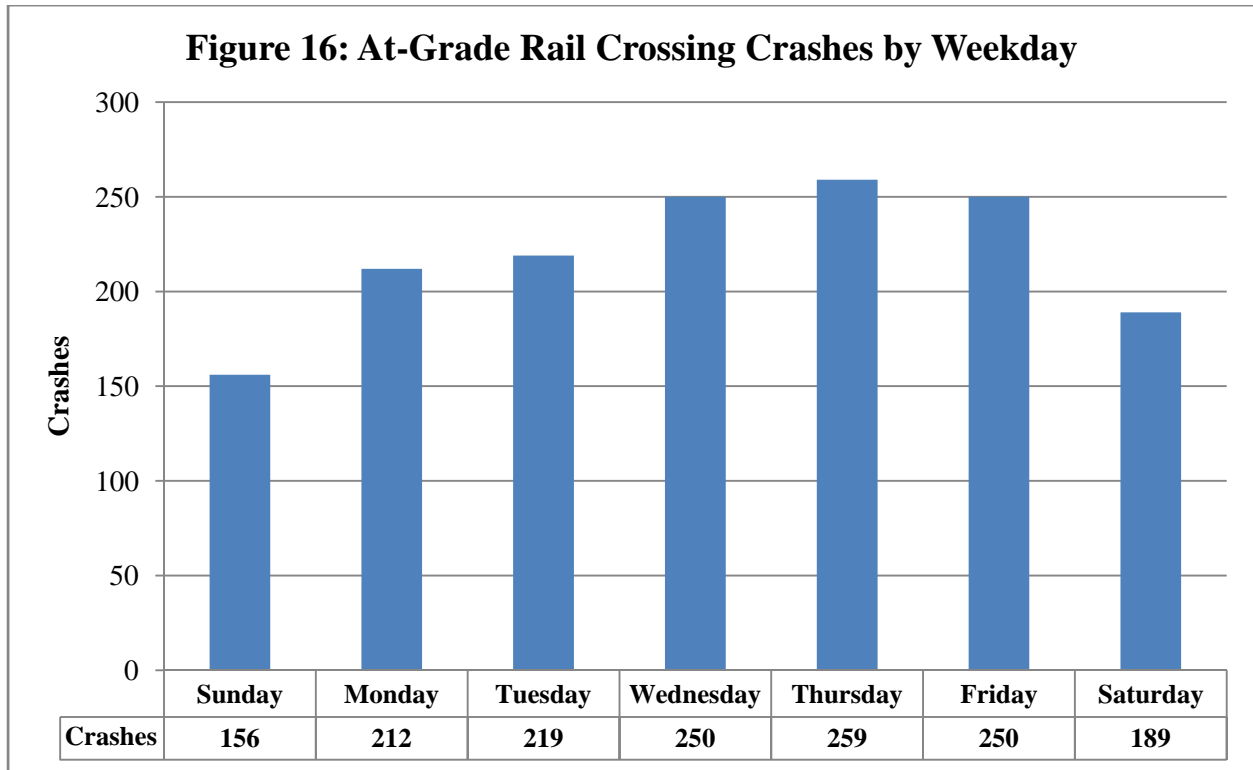


TABLE 75: Regional Rail Crossings with Multiple Crashes

County Name	Crossing Number	City	Crossing Street	Crashes
Brazoria	023204B	PEARLAND	FM 518	3
	448606J	ANGLETON	SH 228B	3
	023201F	PEARLAND	COUNTY RD	2
	448637H	LIVERPOOL	PRIVATE	2
	448649C	ANGLETON	YANCY RD (CR 706)	2
	448675S	FREEPORT	FM 523	2
Chambers	762810V	BAYTOWN	FM 565	2
Fort Bend	743692U	STAFFORD	FM 1092	5
	743691M	STAFFORD	STAFFORD-BELLAIR	4
	745044J	SUGAR LAND	DAIRY ASHFORD WAY	3
	906647D	ARCOLA	MASTERSON LN	2
	743689L	MISSOURI CITY	S. GESSNER	2
Galveston	859509K	LA MARQUE	ROSS AVE	2
Harris	755621G	HOUSTON	CHIMNEY ROCK RD	7
	447977R	HOUSTON	ALMEDA GENOA RD	5
	023214G	HOUSTON	LONG DR	5
	743633S	CYPRESS	CYPRESS DR	5
	755622N	HOUSTON	HILLCROFT STREET	5
	023228P	HOUSTON	AIRPORT BLVD	4
	023215N	HOUSTON	GRIGGS RD	4
	755627X	HOUSTON	MYKAWA RD	4
	762904W	HOUSTON	CR 3477	4

TABLE 75: Regional Rail Crossings with Multiple Crashes

County Name	Crossing Number	City	Crossing Street	Crashes
	755624C	MISSOURI CITY	FONDREN RD	3
	762907S	HOUSTON	RALSTON RD	3
	869795V	GALENA PARK	FEDERAL RD	3
	755628E	HOUSTON	LONG DR	3
	023210E	HOUSTON	BELLFORT	2
	288259W	HOUSTON	BROOKS ST	2
	597084X	HOUSTON	ANTOINE DR	2
	023226B	HOUSTON	KOPMAN DR	2
	288050B	HOUSTON	LAWNDALE	2
	758421H	HOUSTON	MISSISSIPPI RD	2
	869748M	DEER PARK	SH 134	2
	859518J	HOUSTON	MILBY ST	2
	758743W	HOUSTON	MELBOURNE	2
	450650W	HOUSTON	PRIVATE	2
	758434J	GALENA PARK	CLINTON DR	2
	430066L	SPRING	PRIVATE	2
	755626R	HOUSTON	SOUTH WAYSIDE DR	2
	755373K	HOUSTON	SH 225 S FRNTG RD	2
	745046X	HOUSTON	S. 75TH ST	2
	743120T	HOUSTON	MAURY ST	2
	450654Y	HUFFMAN	FM 2100	2
	448400J	SPRING	RICHIE RD	2
	447989K	HOUSTON	MOWERY RD	2
	758731C	HOUSTON	LORRAINE ST	2
Liberty	762758T	RAYWOOD	FM 2830	2
Montgomery	755901J	SPLENDORA	KINGPORT RD	2
	430086X	PINEHURST	PRIVATE	2
	430090M	MAGNOLIA	MISTY MEADOW	2
	755876D	HUMBLE	KINGWOOD DR	2

Distracted Driver Crashes

Distracted driving is becoming more of a factor in motor vehicle crashes due to an increase in portable communication devices and other distractions while driving. Examples of distracted driving include talking on a cell phone, texting, changing radio stations, putting on makeup, smoking, dealing with kids, or anything that diverts a driver's complete attention from the roadway. This has been noted in the Texas Legislature as a record number of bills regarding the use of cell phones and texting while driving have been submitted for consideration.

Regionally, the number of crashes resulting from distracted driving has fluctuated between 2003 and 2007. However, compared to total crashes, the percentage of crashes resulting from distracted driving has increased slightly from 17.1 percent in 2003 to 18.3 percent in 2007 (Table 76). Fatalities during this period have declined slightly from 401 deaths in 2003 to 363 deaths in 2006, but registered a slight increase to 387 in 2007 (Table 77). Injuries from these crashes, however, declined 20.9 percent from 10,182 in 2003 to 8,058 in 2007 (Table 78).

TABLE 76: Total Distracted Driving Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	856	811	910	789	1,050	4,416
Chambers	47	52	70	56	58	283
Fort Bend	1,082	1,050	1,038	1,152	1,299	5,621
Galveston	2,279	1,891	2,083	1,558	1,851	9,662
Harris	14,120	11,533	13,126	12,793	13,048	64,620
Liberty	178	157	161	152	152	800
Montgomery	1,734	1,525	1,546	1,790	1,768	8,363
Waller	198	172	189	133	134	826
Region Total	20,494	17,191	19,123	18,423	19,360	94,591

TABLE 77: Total Distracted Driving Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	23	23	34	25	26	131
Chambers	14	16	7	7	13	57
Fort Bend	36	23	26	26	25	136
Galveston	30	24	31	25	25	135
Harris	212	225	227	198	213	1,075
Liberty	19	18	11	22	23	93
Montgomery	48	48	38	50	47	231
Waller	19	19	6	10	15	69
Region Total	401	396	380	363	387	1,927

TABLE 78: Total Distracted Driving Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	427	309	409	328	330	1,803
Chambers	30	37	38	23	32	160
Fort Bend	531	548	447	495	514	2,535
Galveston	1,223	986	945	681	661	4,496
Harris	6,914	5,912	6,721	5,969	5,658	31,174
Liberty	51	58	79	91	84	363
Montgomery	898	709	646	812	736	3,801
Waller	108	115	149	77	43	492
Region Total	10,182	8,674	9,434	8,476	8,058	44,824

TABLE 79: Total Distracted Driving Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	28	32	26	24	31	141
Chambers	5	9	3	2	3	22
Fort Bend	26	26	23	33	20	128
Galveston	66	82	66	54	48	316
Harris	267	225	262	224	256	1,234
Liberty	5	4	4	29	7	49
Montgomery	64	72	57	72	64	329
Waller	10	15	20	4	3	52
Region Total	471	465	461	442	432	2,271

TABLE 80: Total Distracted Driving Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	101	78	104	70	89	442
Chambers	5	15	18	11	9	58
Fort Bend	157	174	106	167	148	752
Galveston	278	260	254	213	212	1,217
Harris	1,420	1,075	1,321	1,204	1,173	6,193
Liberty	6	19	27	16	30	98
Montgomery	314	276	241	312	278	1,421
Waller	36	35	44	19	14	148
Region Total	2,317	1,932	2,115	2,012	1,953	10,329

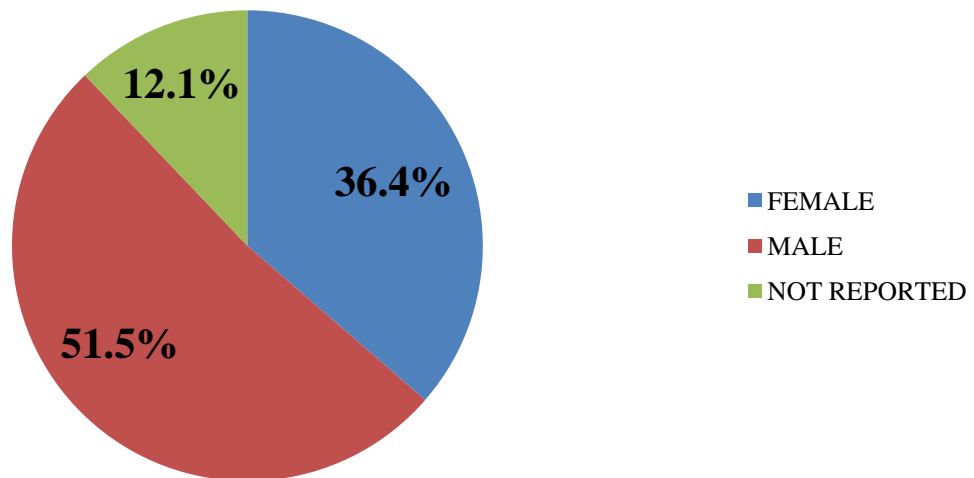
TABLE 81: Total Distracted Driving Possible Injuries (Type C)

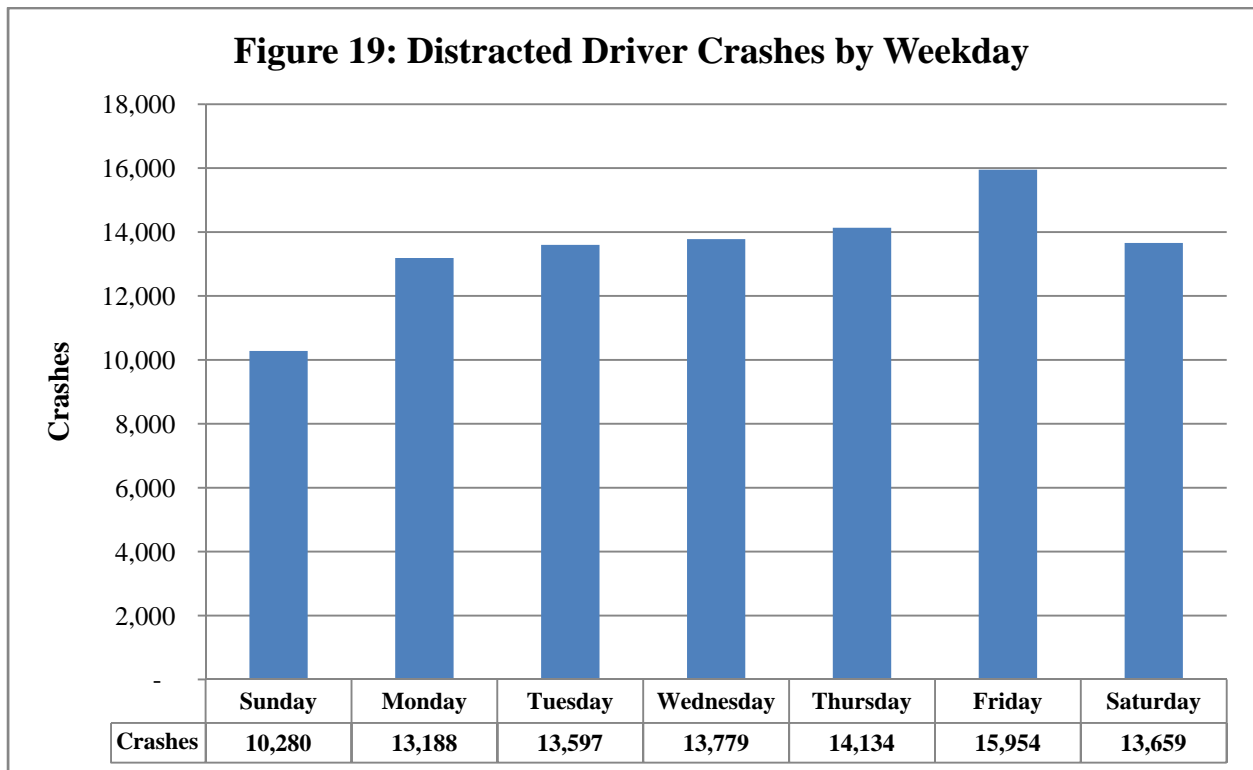
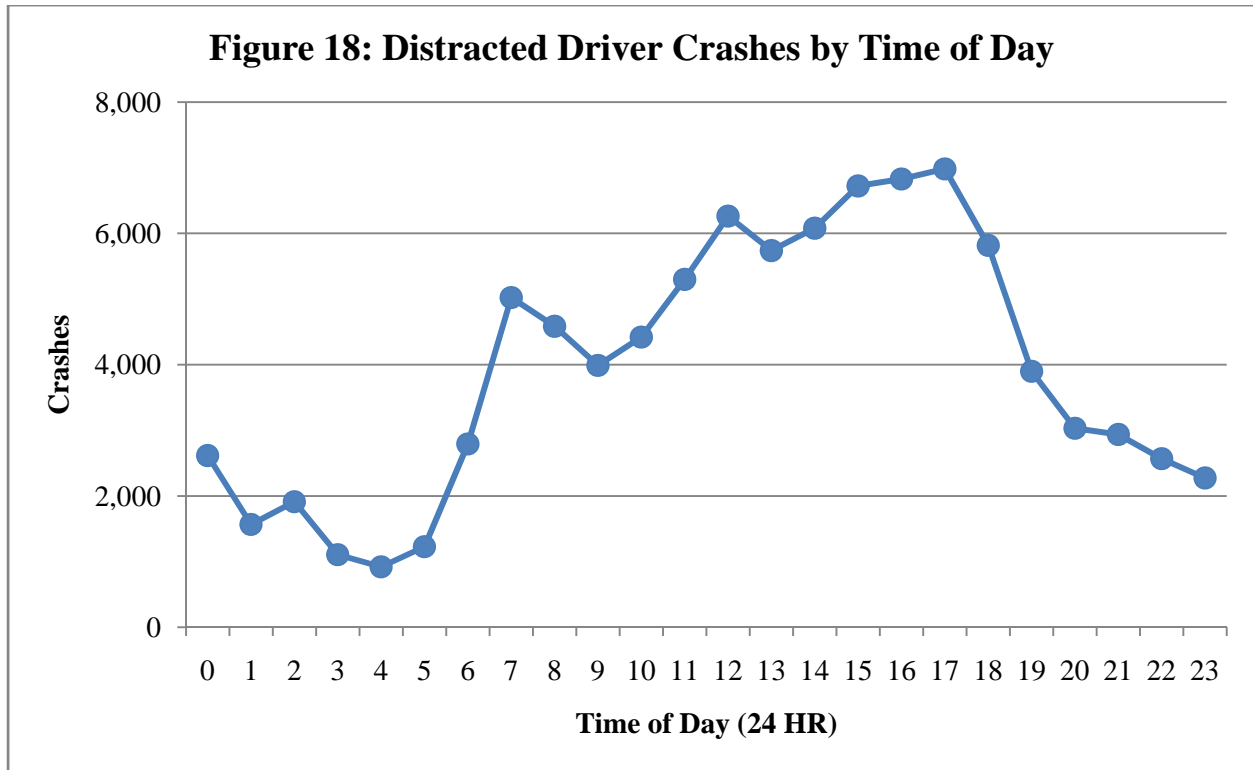
County Name	2003	2004	2005	2006	2007	Total
Brazoria	298	199	279	234	210	1,220
Chambers	20	13	17	10	20	80
Fort Bend	348	348	318	295	346	1,655
Galveston	879	644	625	414	401	2,963
Harris	5,227	4,612	5,138	4,541	4,229	23,747
Liberty	40	35	48	46	47	216
Montgomery	520	361	348	428	394	2,051
Waller	62	65	85	54	26	292
Region Total	7,394	6,277	6,858	6,022	5,673	32,224

TABLE 82: Crashes by Age of Distracted Driver

Age Group	Crashes
Under 15 years	290
15 to 20 years	15,987
21 to 39 years	35,229
40 to 64 years	23,102
65+ years	4,560
Unknown	15,420

Figure 17: Distracted Drivers Crashes by Gender





Work Zone Crashes

Work zones create a unique situation for drivers because they disrupt the standard pattern of the roadways on which they are implemented. While work zones have signage identifying an impending zone and display cautions such as to “reduce speed” or “workers present,” some drivers fail to heed these warnings and operate unsafely in these zones. This puts workers in these zones at risk of injury or death. When not present, the state of the road due to the construction work can contribute to drivers losing control of their vehicles.

Regionally, work zone crashes experienced a drastic jump in 2006, increasing from 1,409 crashes in 2005 to 4,245 in 2006 and 4,170 in 2007 (Table 83). Despite the enormous increase in crashes, the number of fatalities remained relatively constant (Table 84). There was, however, a corresponding increase in injuries stemming from these crashes (Table 85). A majority of these crashes occurred on interstates, U.S., and state highways, which have higher speeds and require a greater change of habit in terms of how these roads are traversed. This is reflected in 38 percent of crashes stemming from a failure to control speed (Table 91). A factor that may have influenced the data was the reconstruction of the Katy Freeway, which created a 23-mile work zone out of one of the country’s busiest roadways.

TABLE 83: Total Work Zone Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	42	38	47	160	123	410
Chambers	8	39	17	230	263	557
Fort Bend	139	106	92	530	690	1,557
Galveston	31	45	26	122	126	350
Harris	1,053	1,082	1,139	2,725	2,358	8,357
Liberty	11	4	3	14	8	40
Montgomery	28	75	84	461	598	1,246
Waller	5	0	1	3	4	13
Region Total	1,317	1,389	1,409	4,245	4,170	12,530

TABLE 84: Total Work Zone Crash Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	2	0	1	2	1	6
Chambers	0	0	0	1	3	4
Fort Bend	2	3	2	6	4	17
Galveston	0	0	2	1	2	5
Harris	26	23	23	14	8	94
Liberty	1	0	0	0	1	2
Montgomery	2	2	3	0	10	17
Waller	0	1	0	0	0	1
Region Total	33	29	31	24	29	146

TABLE 85: Total Work Zone Crash Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	29	15	34	87	92	257
Chambers	4	18	8	145	80	255
Fort Bend	69	60	51	234	289	703
Galveston	20	23	18	67	65	193
Harris	764	830	926	1,924	1,494	5,938
Liberty	7	1	0	11	2	21
Montgomery	25	42	40	276	330	713
Waller	5	0	0	0	1	6
Region Total	923	989	1,077	2,744	2,353	8,086

TABLE 86: Total Work Zone Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	2	0	3	3	6	14
Chambers	0	2	0	7	1	10
Fort Bend	2	11	2	19	13	47
Galveston	2	4	0	2	6	14
Harris	22	32	29	82	56	221
Liberty	1	0	0	4	0	5
Montgomery	2	7	1	21	16	47
Waller	1	0	0	0	0	1
Region Total	32	56	35	138	98	359

TABLE 87: Total Work Zone Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	15	4	18	23	40	100
Chambers	1	7	4	52	25	89
Fort Bend	20	17	8	65	100	210
Galveston	2	3	9	24	19	57
Harris	138	172	173	387	274	1,144
Liberty	0	0	0	1	1	2
Montgomery	4	10	7	83	80	184
Waller	1	0	0	0	0	1
Region Total	181	213	219	635	539	1,787

TABLE 88: Total Work Zone Possible Injuries (Type C)

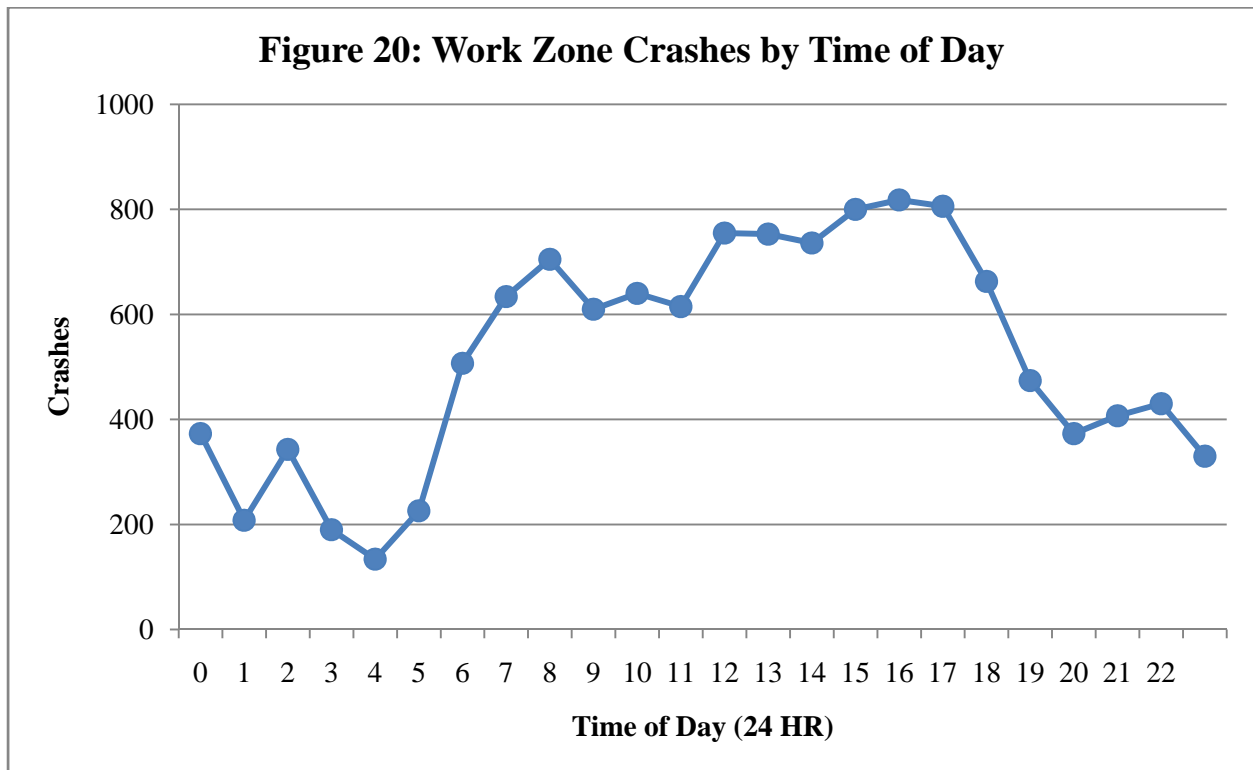
County Name	2003	2004	2005	2006	2007	Total
Brazoria	12	11	13	61	46	143
Chambers	3	9	4	86	54	156
Fort Bend	47	32	41	150	176	446
Galveston	16	16	9	41	40	122
Harris	604	626	724	1,455	1,164	4,573
Liberty	6	1	0	6	1	14
Montgomery	19	25	32	172	234	482
Waller	3	0	0	0	1	4
Region Total	710	720	823	1,971	1,716	5,940

TABLE 89: Work Zone Crashes Where Workers Were Present

County Name	Year	Crashes	Pct/Annual Crashes
Brazoria	2006	38	24%
Brazoria	2007	39	32%
Chambers	2006	45	20%
Chambers	2007	41	16%
Fort Bend	2006	147	28%
Fort Bend	2007	163	24%
Galveston	2006	30	25%
Galveston	2007	24	19%
Harris	2004	2	0.18%
Harris	2005	2	0.18%
Harris	2006	666	24%
Harris	2007	668	28%
Liberty	2006	7	50%
Liberty	2007	2	25%
Montgomery	2006	169	37%
Montgomery	2007	287	48%
Waller	2006	2	67%
Waller	2007	1	25%

TABLE 90: Work Zone Crashes by Road Class & Road Part

Road Class	Crashes
INTERSTATE	4,805
US & STATE HIGHWAYS	3,033
FARM TO MARKET	990
COUNTY ROAD	546
CITY STREET	3,083
TOLLWAY	70
OTHER ROADS	2
TOLL BRIDGES	1
Road Part	Crashes
MAIN LANE	11,187
SERVICE ROAD	967
ENTRANCE RAMP	173
EXIT RAMP	139
CONNECTOR	46
DETOUR	18



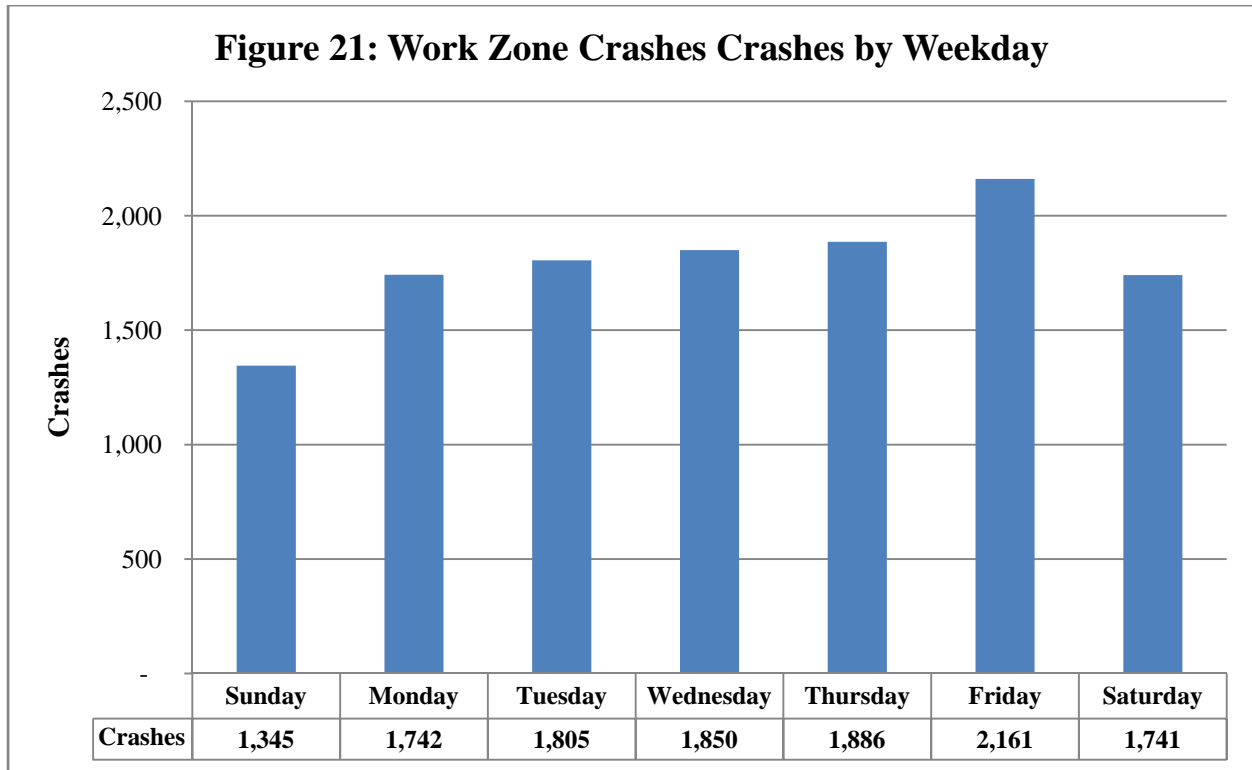


TABLE 91: Top Ten Work Zone Crash Primary Contributing Factors

Contributing Factor	Crashes	Percent
FAILED TO CONTROL SPEED	4,803	37.65%
FAILED TO DRIVE IN SINGLE LANE	1,274	9.99%
CHANGED LANE WHEN UNSAFE	1,196	9.37%
DRIVER INATTENTION	670	5.25%
DISREGARD STOP AND GO SIGNAL	539	4.22%
FAILED TO YIELD ROW - TURNING LEFT	420	3.29%
FAILED TO YIELD ROW - STOP SIGN	313	2.45%
FAILED TO YIELD ROW - PRIVATE DRIVE	308	2.41%
DISREGARD STOP SIGN OR LIGHT	278	2.18%
FOLLOWED TOO CLOSELY	275	2.16%
OTHER FACTOR	2,682	21.02%

Motorcycle Crashes

Motorcycle crashes, while only a small fraction of all crashes occurring in the region, are notable because of the severity of such crashes. Compared to motor vehicles, which provide a steel cage for protection, motorcyclists only have the clothes on their backs and occasionally a helmet on their heads. The problem becomes compounded as more interest in motorcycles has arisen due to higher gas prices. Drivers 18 years of age and older are not required to take a motorcycle safety course, which could provide proper instruction on how to handle a motorcycle in difficult situations. Finally, current law makes helmet use an option in Texas with the requirement that additional insurance be carried by drivers that do not wear them. The extra insurance, while potentially covering costs resulting from injuries, do not provide the protection that a helmet provides.

Regionally, motorcycle crashes have increased 24.1 percent from 1,426 crashes in 2003 to 1,769 crashes in 2007 (Table 92). From the following data, which reflects fatalities and injuries of motorcyclists, fatalities during this period have fluctuated annually (Table 93). Motorcyclist injury figures suggest that the vast majority of crashes result in some level of injury (Table 94). Of these crashes, only slightly more than half of motorcyclists involved wore helmets (Table 100). In addition, where the motorcyclist was at fault, the predominant cause was failure to control speed (Table 102).

The motorcycle safety issue, however, needs to be addressed from two sides. Motorcyclists should seriously consider taking a certified motorcycle safety course approved by the Motorcycle Safety Foundation and wear the appropriate protective gear to reduce the potential for injury. In the meantime, all road users must learn to share the road with motorcyclists, as they have the right to operate on these roads. This includes making sure that motorcyclists are not in blind spots before changing lanes and not following too closely to motorcyclists.

TABLE 92: Total Motorcycle Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	67	66	102	104	116	455
Chambers	32	19	11	31	30	123
Fort Bend	77	68	88	71	98	402
Galveston	130	150	121	162	153	716
Harris	965	832	1,110	1,129	1,120	5,156
Liberty	21	26	33	40	51	171
Montgomery	112	150	185	182	173	802
Waller	22	23	31	26	28	130
Region Total	1,426	1,334	1,681	1,745	1,769	7,955

TABLE 94: Total Motorcyclist Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	9	2	4	3	4	22
Chambers	3	2	1	0	1	7
Fort Bend	8	4	4	3	6	25
Galveston	10	10	10	6	5	41
Harris	48	42	51	37	44	222
Liberty	0	2	1	1	4	8
Montgomery	6	6	11	12	9	44
Waller	3	2	0	0	2	7
Region Total	87	70	82	62	75	376

TABLE 95: Total Motorcyclist Injuries (Types A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	55	60	92	100	97	404
Chambers	32	11	9	29	26	107
Fort Bend	60	60	74	69	78	341
Galveston	103	131	99	146	126	605
Harris	868	760	1,033	1,025	968	4,654
Liberty	17	19	27	34	44	141
Montgomery	106	143	176	166	138	729
Waller	21	21	32	26	20	120
Region Total	1,262	1,205	1,542	1,595	1,497	7,101

TABLE 96: Total Motorcyclist Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	22	14	26	25	25	112
Chambers	12	4	1	5	6	28
Fort Bend	15	19	21	18	17	90
Galveston	28	47	26	56	34	191
Harris	178	183	248	258	222	1,089
Liberty	10	4	6	11	8	39
Montgomery	34	40	51	58	35	218
Waller	5	2	8	5	2	22
Region Total	304	313	387	436	349	1,789

TABLE 97: Total Motorcyclist Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	18	31	45	50	47	191
Chambers	14	6	6	14	19	59
Fort Bend	25	24	33	31	36	149
Galveston	57	59	40	63	59	278
Harris	355	327	398	406	397	1,883
Liberty	4	8	9	10	22	53
Montgomery	45	76	89	75	74	359
Waller	14	16	14	10	11	65
Region Total	532	547	634	659	665	3,037

TABLE 98: Total Motorcyclist Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	15	15	21	25	25	101
Chambers	6	1	2	10	1	20
Fort Bend	20	17	20	20	25	102
Galveston	18	25	33	27	33	136
Harris	335	250	387	361	349	1,682
Liberty	3	7	12	13	14	49
Montgomery	27	27	36	33	29	152
Waller	2	3	10	11	7	33
Region Total	426	345	521	500	483	2,275

TABLE 99: Age of Driver Involved in Motorcycle Crashes

Age Group	Crashes
Under 15 years	95
15 to 20 years	720
21 to 39 years	3,491
40 to 64 years	3,047
65+ years	121
Unknown	481

TABLE 100: Helmet Use by Person Type

Person Type	Worn	Not Worn	Unknown	Total
DRIVER	3,645	3,355	127	7,127
PASSENGER	315	464	10	789
Region Total	3,960	3,819	137	7,916

TABLE 101: Helmet Use by Gender

Gender	Worn	Not Worn	Unknown	Total
MALE	3,446	3,214	122	6,782
FEMALE	502	532	13	1,047
NOT REPORTED	12	73	2	87
Region Total	3,960	3,819	137	7,916

Figure 22: Gender of Motorcyclists in Crashes

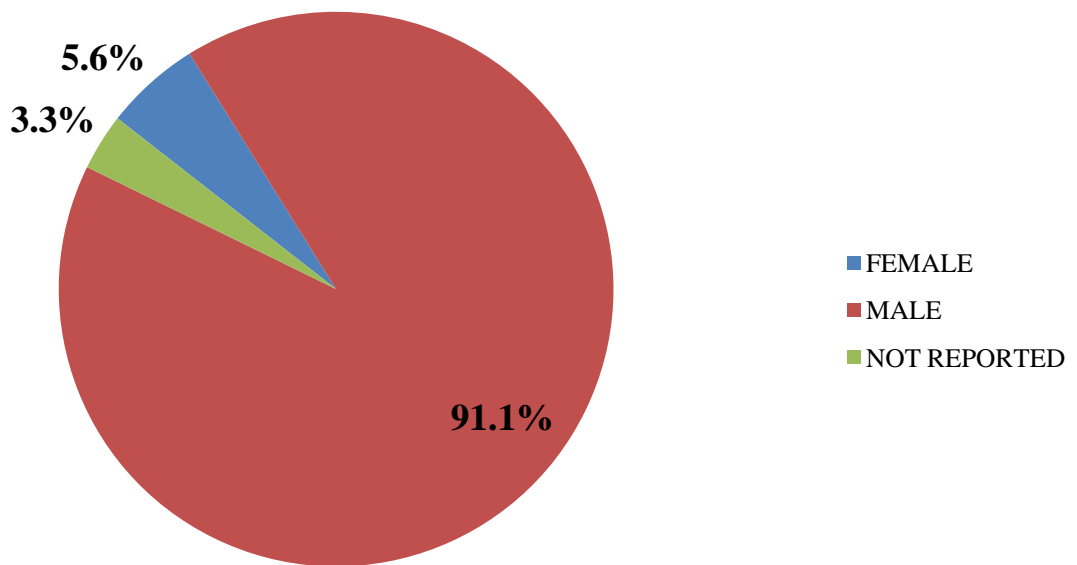


TABLE 102: Top Ten Motorcycle Crash Primary Contributing Factors

Contributing Factor	Frequency	Percent
FAILED TO CONTROL SPEED	1,482	31.91%
FAILED TO DRIVE IN SINGLE LANE	638	13.74%
DRIVER INATTENTION	344	7.41%
SPEEDING - UNSAFE (UNDER LIMIT)	278	5.99%
FAULTY EVASIVE ACTION	266	5.73%
SPEEDING - (OVERLIMIT)	157	3.38%
CHANGED LANE WHEN UNSAFE	111	2.39%
ANIMAL ON ROAD- DOMESTIC	75	1.61%
DISREGARD STOP SIGN OR LIGHT	70	1.51%
FOLLOWED TOO CLOSELY	70	1.51%
OTHER FACTORS	1,153	24.82%

Pedalcycle Crashes

Pedalcyclists, which predominantly refers to bicycle riders, have similar disadvantages on the road as motorcyclists do. Pedalcyclists have extremely limited protection compared to a motor vehicle, usually consisting of whatever clothing they are wearing and a helmet that is less-protective than a motorcyclist. Pedalcyclists, however, are even more vulnerable on the road because unlike motorcyclists, they lack the speed to avoid certain crashes. In addition, while there are age restrictions on motorcycle usage, there are no restrictions for pedalcyclists, putting children at risk.

Pedalcycle crashes regionally reflect a small percentage of crashes overall. The number of crashes, while down from 482 crashes in 2003, have been experiencing an upward trend since 2004, increasing 38.5 percent from 314 crashes to 435 crashes in 2007 (Table 103). Pedalcyclist fatalities have been relatively low due to the relatively low number of pedalcycle users (Table 104). However, most pedalcyclist crashes have resulted in injury (Table 105). In nearly 88 percent of these crashes, the pedalcyclist was not wearing a helmet (Table 109). In addition, nearly one-third of these crashes involve riders ages 11 to 20 (Table 110)

Similar to motorcyclists, the issue of pedalcyclist crashes needs to be addressed from two sides. Pedalcyclists should wear properly fitted bicycle helmets and increase their visibility to drivers by wearing fluorescent or brightly colored clothing during the day, dawn, and dusk. At night, pedalcyclists should use a front light and a red reflector or flashing rear light, and use retro-reflective tape or markings on equipment or clothing. While proper riding gear plays an important role in improving safety, bicyclists also must recognize that as users of the road, they are required to obey the same rules of the road as motor vehicles. This includes obeying traffic signs, signals, and lane markings.

While pedalcyclists need to take the appropriate precautions when operating on the road, drivers of motor vehicles must recognize that pedalcyclists have the right to use the road. Motor vehicle users need to share the road with bicyclists and should allow at least three feet clearance when passing a cyclist. They should also take the time to look for cyclists before opening a car door or pulling out from a parking space. On the road, it is important to watch for cyclists when making turns and to yield to cyclists at intersections as if they were a motor vehicle.

TABLE 103: Total Pedalcyclist Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	28	9	19	11	11	78
Chambers	0	2	3	2	0	7
Fort Bend	29	20	18	18	20	105
Galveston	23	15	21	10	29	98
Harris	362	230	248	344	333	1,517
Liberty	4	1	2	3	1	11
Montgomery	32	36	27	35	38	168
Waller	4	1	0	2	3	10
Region Total	482	314	338	425	435	1,994

TABLE 104: Total Pedalcyclist Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	2	2	1	1	0	6
Fort Bend	1	3	0	3	0	7
Galveston	2	1	2	2	0	7
Harris	14	6	9	5	9	43
Liberty	2	1	1	1	0	5
Montgomery	1	0	0	4	1	6
Waller	1	0	0	0	0	1
Region Total	23	13	13	16	10	75

TABLE 105: Total Pedalcyclist Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	21	9	17	9	8	64
Chambers	0	2	3	1	0	6
Fort Bend	26	14	16	14	17	87
Galveston	19	13	18	7	23	80
Harris	299	203	200	289	282	1,273
Liberty	0	0	1	2	1	4
Montgomery	29	32	25	24	35	145
Waller	1	1	0	2	2	6
Region Total	395	274	280	348	368	1,665

TABLE 106: Total Pedalcyclist Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1	1	5	1	1	9
Chambers	0	2	1	1	0	4
Fort Bend	2	2	1	4	3	12
Galveston	2	3	3	2	3	13
Harris	35	26	27	42	30	160
Liberty	0	0	0	0	1	1
Montgomery	8	11	4	4	10	37
Waller	0	0	0	0	0	0
Region Total	48	45	41	54	48	236

TABLE 107: Total Pedalcyclist Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	12	2	9	5	3	31
Chambers	0	0	2	0	0	2
Fort Bend	16	8	8	5	11	48
Galveston	11	6	10	5	11	43
Harris	114	75	93	112	112	506
Liberty	0	0	0	2	0	2
Montgomery	11	14	13	16	11	65
Waller	1	1	0	2	1	5
Region Total	165	106	135	147	149	702

TABLE 108: Total Pedalcyclist Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	8	6	3	3	4	24
Fort Bend	8	4	7	5	3	27
Galveston	6	4	5	0	9	24
Harris	150	102	80	135	140	607
Liberty	0	0	1	0	0	1
Montgomery	10	7	8	4	14	43
Waller	0	0	0	0	1	1
Region Total	182	123	104	147	171	727

TABLE 109: Pedalcycle Crash Helmet Use by Gender

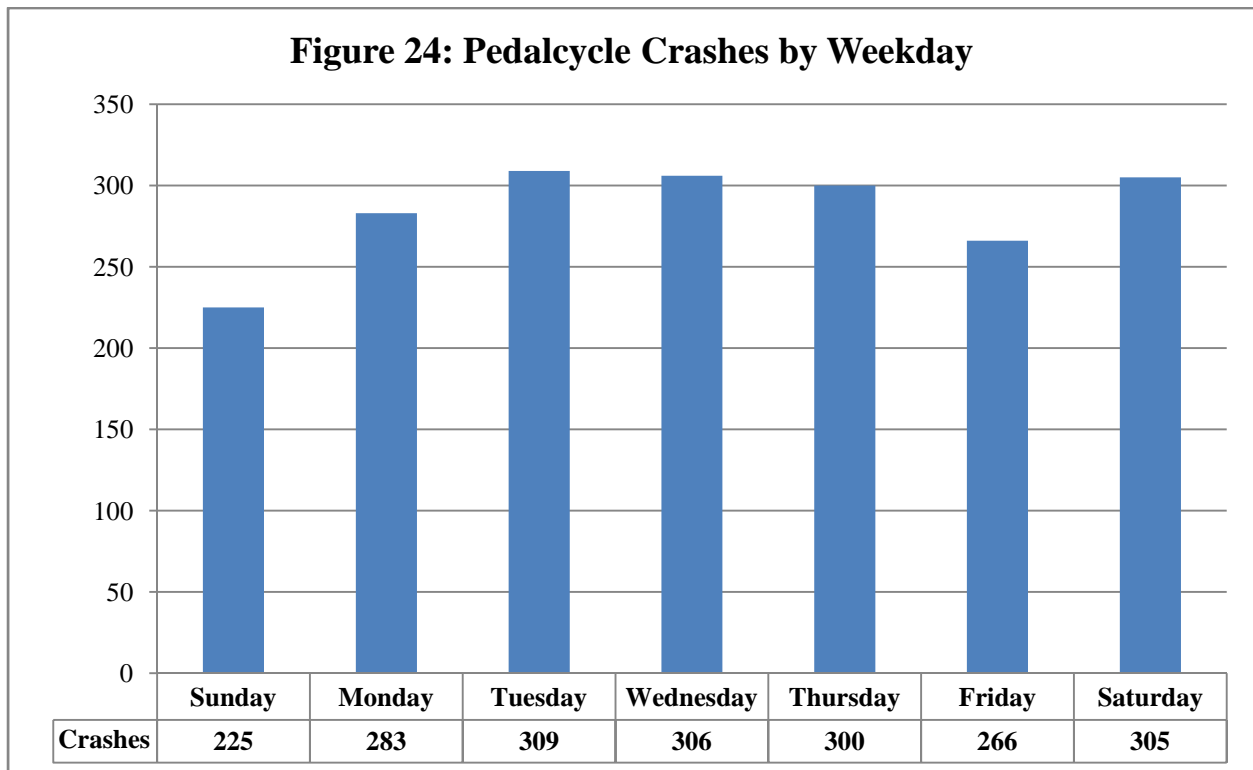
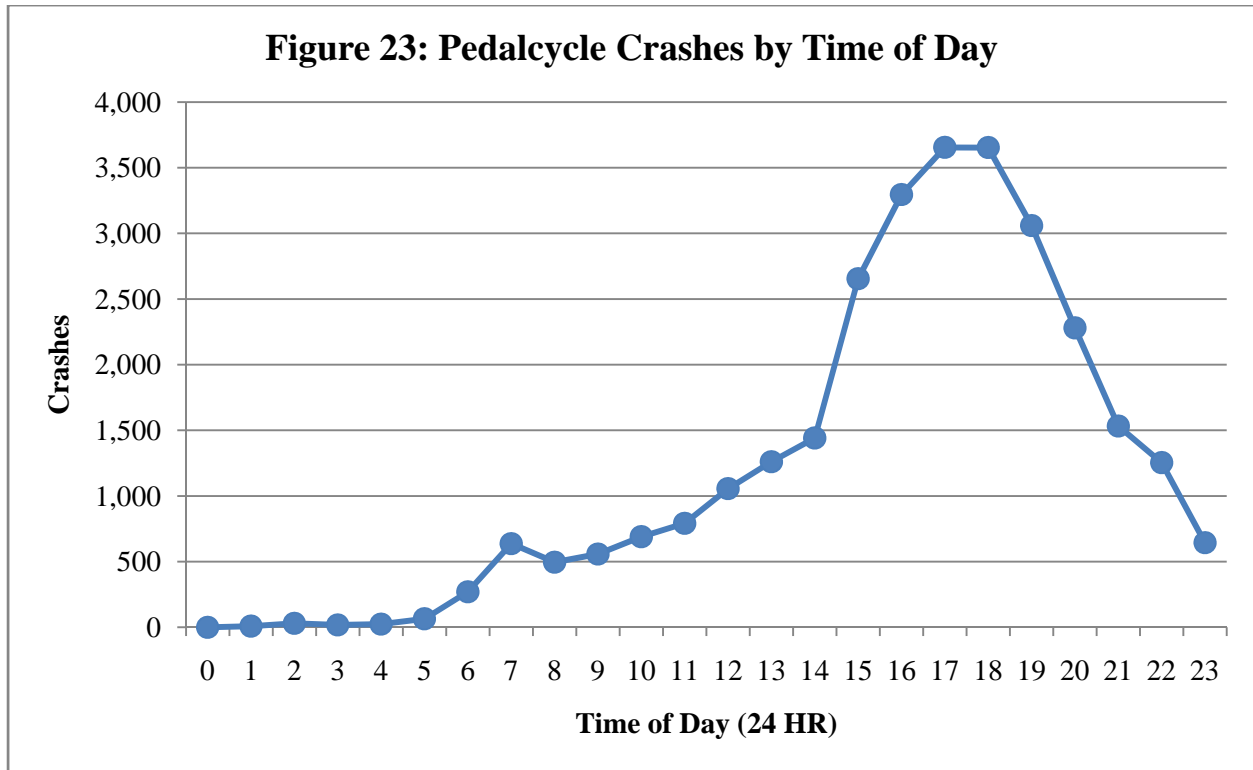
Gender	Worn	Not Worn	Unknown	Total
MALE	168	1,427	24	1,619
FEMALE	45	297	6	348
UNKNOWN	1	26	0	27
Region Total	214	1,750	30	1,994

TABLE 110: Pedalcycle Crashes by Age of Cyclist

Age Group	2003	2004	2005	2006	2007	Total
0-10 years	89	57	50	52	70	318
11-20 years	183	108	111	126	126	654
21-30 years	41	28	43	49	49	210
31-40 years	41	30	35	42	51	199
41-50 years	58	51	47	72	56	284
51-60 years	28	18	25	30	35	136
61-70 years	11	4	8	16	16	55
71-80 years	6	5	2	4	7	24
81-90 years	3	0	1	2	1	7
Unknown	22	13	16	32	24	107
Region Total	482	314	338	425	435	1,994

TABLE 111: Pedalcycle Crash Helmet Use by Age of Cyclist

Age Group	Worn	Not Worn	Unknown	Total
0-10 years	17	298	3	318
11-20 years	29	620	5	654
21-30 years	25	183	2	210
31-40 years	33	163	3	199
41-50 years	58	216	10	284
51-60 years	29	104	3	136
61-70 years	12	42	1	55
71-80 years	4	20	0	24
81-90 years	1	6	0	7
Unknown	6	98	3	107
Region Total	214	1,750	30	1,994



Pedestrian Crashes

Pedestrians are one of the most overlooked components of the transportation safety problem. Nearly everyone is a pedestrian at some point during the day, be it as a primary mode of transportation to and from work or just walking down the street to visit a neighbor. That being the case, pedestrian safety is often a minimal factor in comparison to addressing motor vehicle safety. This manifests itself in a lack of sidewalks, a lack of convenient crossing options, and inadequate signage and signalization to warn of pedestrians.

Pedestrian crashes, while not necessarily the most prevalent, tend to be the most severe. Regionally, while overall crashes are down from a high of 1,462 in 2003, the trend has been increasing since 2004 (Table 112). Each of these crashes resulted in injury (Table 114). Fatalities levels during this period maintained relatively constant (Table 113).

While more needs to be done to provide safer pedestrian accessibility on our roads, more education is needed for the general public to understand the dangers of being a pedestrian and how to avoid being a casualty. Pedestrians should cross busy streets at demarcated locations, preferably at signalized intersections, to take advantage of stopped traffic. Although considered reserved for children, all pedestrians should always “stop, look, and listen” before crossing the street and wait until traffic is cleared.

TABLE 112: Total Pedestrian Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	42	31	31	29	24	157
Chambers	7	4	2	8	7	28
Fort Bend	53	46	42	41	40	222
Galveston	52	35	29	24	31	171
Harris	1,237	834	879	981	1,011	4,942
Liberty	8	19	9	8	17	61
Montgomery	54	62	37	46	62	261
Waller	9	7	5	4	6	31
Region Total	1,462	1,038	1,034	1,141	1,198	5,873

TABLE 113: Total Pedestrian Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	5	3	7	2	1	18
Chambers	2		2	1	1	6
Fort Bend	4	5	2	8	3	22
Galveston	8	6	3	3	5	25
Harris	75	79	78	66	75	373
Liberty	3	4	3	2	3	15
Montgomery	7	5	3	11	12	38
Waller	0	1	2	1	1	5
Region Total	104	103	100	94	101	502

TABLE 114: Total Pedestrian Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	42	31	31	29	24	157
Chambers	7	4	2	8	7	28
Fort Bend	53	46	42	41	40	222
Galveston	52	35	29	24	31	171
Harris	1,237	834	879	981	1,011	4,942
Liberty	8	19	9	8	17	61
Montgomery	54	62	37	46	62	261
Waller	9	7	5	4	6	31
Region Total	1,462	1,038	1,034	1,141	1,198	5,873

TABLE 115: Total Pedestrian Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	3	3	8	5	6	25
Chambers	1	3	0	2	2	8
Fort Bend	9	8	10	9	5	41
Galveston	13	9	8	4	6	40
Harris	179	128	125	159	162	753
Liberty	1	4	2	1	1	9
Montgomery	14	16	10	13	10	63
Waller	6	0	1	0	0	7
Region Total	226	171	164	193	192	946

TABLE 116: Total Pedestrian Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	12	10	8	13	6	49
Chambers	2	1	0	4	4	11
Fort Bend	18	14	14	13	11	70
Galveston	23	9	13	13	14	72
Harris	399	249	268	282	309	1,507
Liberty	1	6	2	2	9	20
Montgomery	20	28	9	14	22	93
Waller	2	3	1	2	2	10
Region Total	477	320	315	343	377	1,832

TABLE 117: Total Pedestrian Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	22	10	6	9	8	55
Chambers	2	0	0	1	0	3
Fort Bend	18	16	14	8	19	75
Galveston	6	10	4	2	5	27
Harris	545	342	365	422	415	2,089
Liberty	3	4	2	3	2	14
Montgomery	11	11	12	6	14	54
Waller	1	1	0	1	3	6
Region Total	608	394	403	452	466	2,323

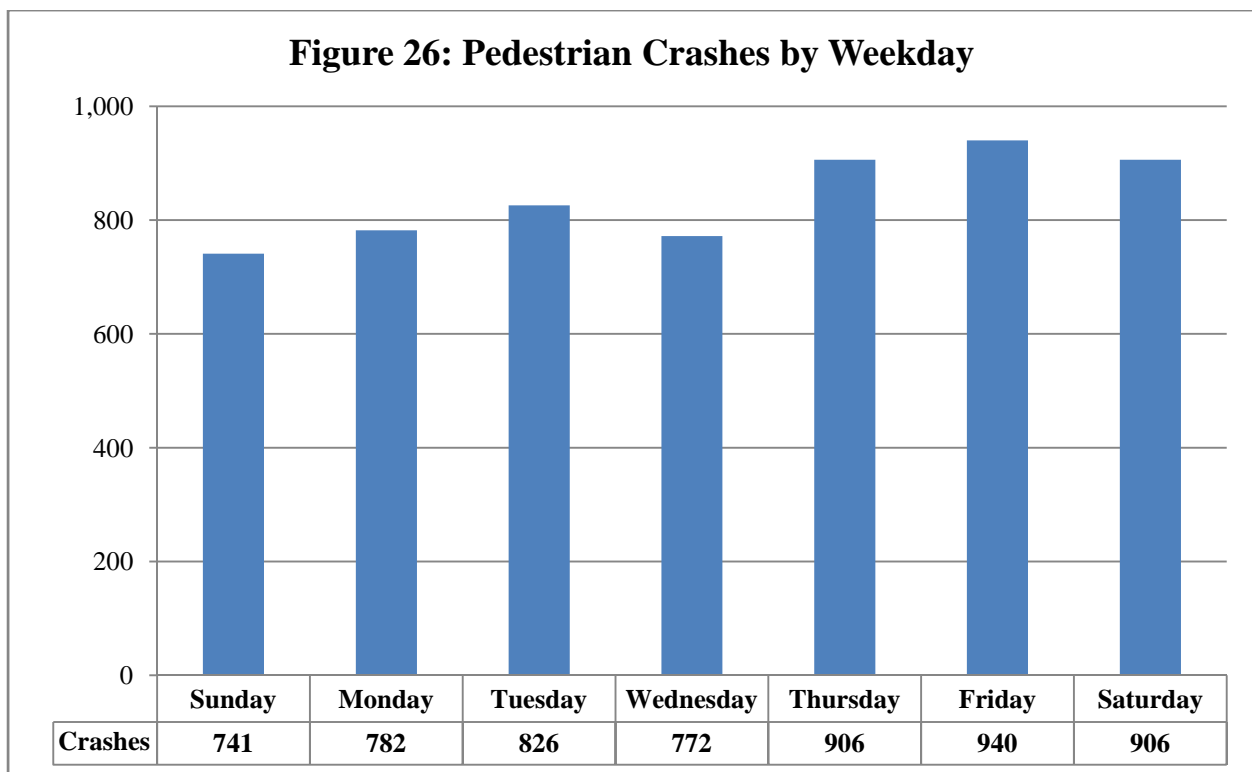
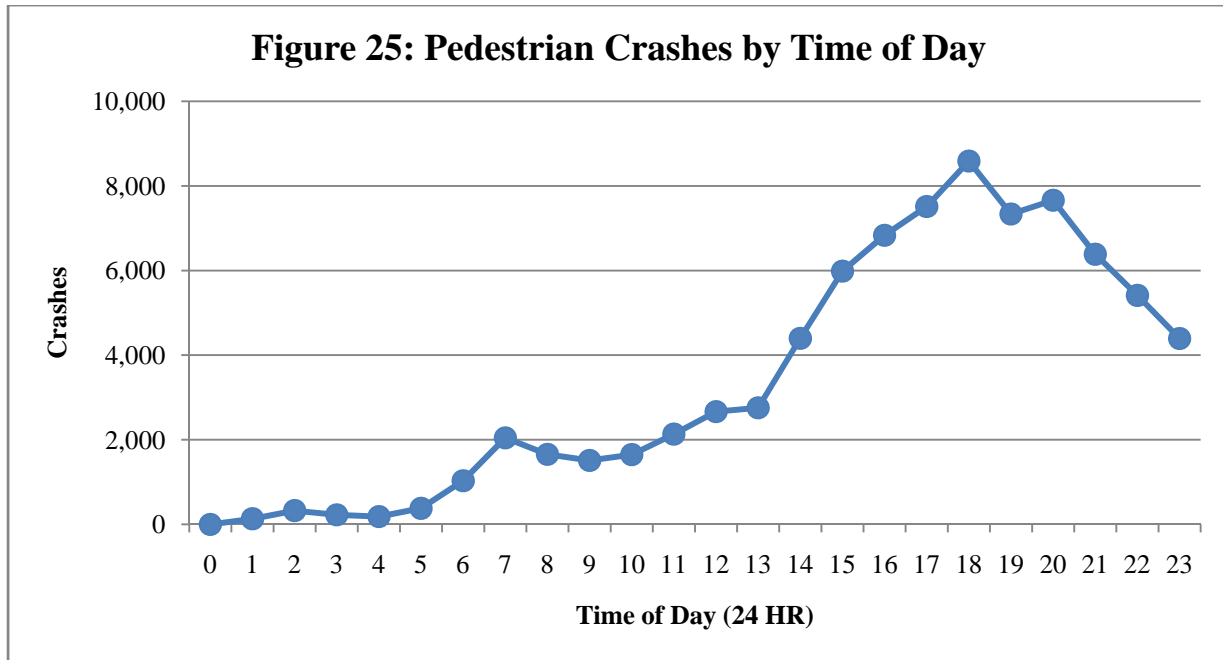
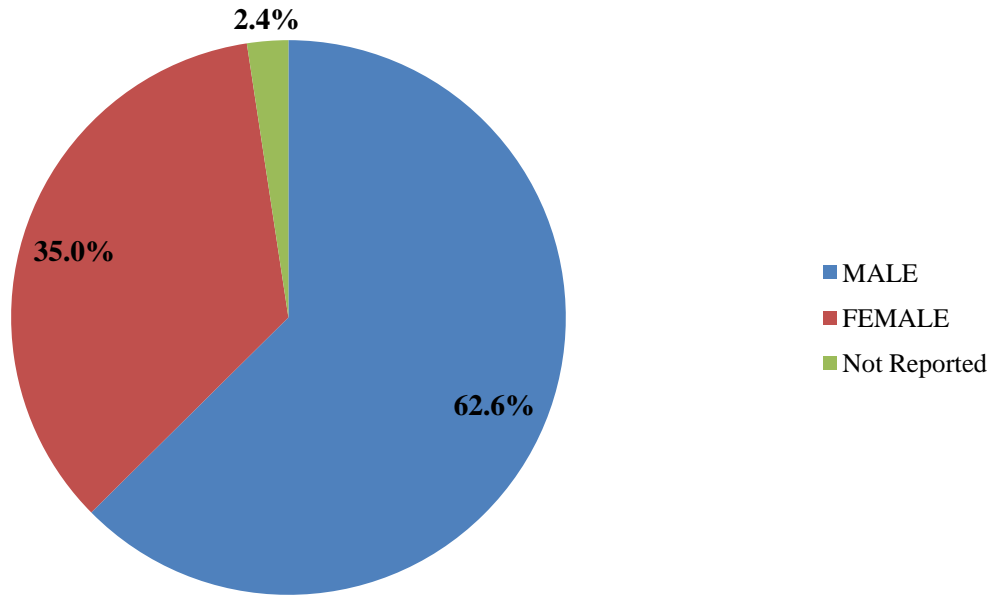


Figure 27: Gender Percentage of Pedestrian Crashes



Commercial Vehicle Crashes

Commercial vehicle traffic is a critical part of the region's economy, having a significant impact on the region's transportation system. The presence of several major ports and the various manufacturing industries located here has contributed to the region's vibrant economy and a growing presence of commercial vehicles on its roadways. This creates an increased potential for conflict on the road between these vehicles and the rest of the driving public. Commercial vehicles can legally weigh up to 80,000 pounds, over 20 times the weight of an average passenger sedan. Commercial vehicles have extremely large blind spots, placing vehicles at risk if they linger in these areas while a commercial vehicle needs to switch lanes. Also, commercial vehicles require more space to stop in an emergency, placing vehicles that pull immediately in front of them at risk. The impact from such crashes, due to the weight discrepancy of the vehicles, can result in a greater chance of injury and death.

Regionally, crashes involving commercial vehicles have stayed relatively level between 2003 and 2007; however, these crashes make up 27.6 percent of all motor vehicle crashes (Table 118). Fatalities during this period have fluctuated during this period (Table 119). Injuries declined during this period 10.2 percent from 17,432 in 2003 to 15,656 in 2007 (Table 120). In terms of the timing of commercial vehicle incidents, most occur between the hours of 7am and 4pm, with less occurring during evening rush hour in comparison to most vehicle crashes (Figure 28). In contrast to most other crashes, primarily due to operations during the work week, most commercial vehicle crashes occur between Monday and Friday with a significant drop of events occurring on Saturdays and Sundays (Figure 29).

Commercial vehicle crashes need to be addressed from two angles – from the motor carrier angle and the driving public angle. Commercial motor vehicle carriers are regulated for safety by the Federal Motor Carrier Safety Administration, which has set guidelines for the operation of such vehicles. It is up to individual carriers to ensure that their vehicles operate according to these guidelines and are properly maintained. As for the rest of the driving public, it is important to understand how to appropriately drive in the vicinity of commercial vehicles. Drivers should not linger in blind spots, including immediately behind a truck. Drivers should also recognize that commercial vehicles require stopping time and distance. Cutting immediately in front of a commercial vehicle can result in a damaging crash in the event a sudden stop is needed.

TABLE 118: Total Commercial Vehicle Crashes

County Name	2003	2004	2005	2006	2007	Total
Brazoria	1,058	810	848	1,055	1,199	4,970
Chambers	551	595	648	1,095	1,148	4,037
Fort Bend	1,686	1,830	1,821	1,836	1,945	9,118
Galveston	964	687	685	865	744	3,945
Harris	23,518	19,254	24,218	22,910	22,455	112,355
Liberty	501	462	608	681	755	3,007
Montgomery	1,959	2,196	2,144	2,493	2,704	11,496
Waller	307	345	329	317	415	1,713
Region Total	30,544	26,179	31,301	31,252	31,365	150,641

TABLE 119: Total Commercial Vehicle Crash Fatalities

County Name	2003	2004	2005	2006	2007	Total
Brazoria	9	4	9	3	6	31
Chambers	7	5	1	2	2	17
Fort Bend	14	7	10	4	8	43
Galveston	15	11	12	6	6	50
Harris	69	70	81	65	84	369
Liberty	2	2	2	4	8	18
Montgomery	13	9	14	22	14	72
Waller	4	4	0	0	2	10
Region Total	133	112	129	106	130	610

TABLE 120: Total Commercial Vehicle Crash Injuries (Type A, B, & C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	346	323	399	398	518	1,984
Chambers	265	594	300	676	391	2,226
Fort Bend	606	722	690	686	723	3,427
Galveston	442	300	306	425	230	1,703
Harris	14,367	11,246	14,233	12,856	11,829	64,531
Liberty	319	250	227	337	381	1,514
Montgomery	899	1,311	914	1,162	1,373	5,659
Waller	188	168	120	95	211	782
Region Total	17,432	14,914	17,189	16,635	15,656	81,826

TABLE 121: Total Commercial Vehicle Crash Incapacitating Injuries (Type A)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	30	39	61	33	69	232
Chambers	55	107	27	33	12	234
Fort Bend	70	87	90	54	27	328
Galveston	39	32	54	27	20	172
Harris	797	572	735	823	759	3,686
Liberty	30	38	12	49	28	157
Montgomery	95	222	78	116	240	751
Waller	9	9	25	8	28	79
Region Total	1,125	1,106	1,082	1,143	1,183	5,639

TABLE 122: Total Commercial Vehicle Crash Non-Incapacitating Injuries (Type B)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	102	114	194	170	180	760
Chambers	84	346	143	267	189	1,029
Fort Bend	204	160	164	205	199	932
Galveston	121	75	118	120	75	509
Harris	2,677	2,248	3,007	2,628	2,567	13,127
Liberty	70	87	65	127	140	489
Montgomery	305	489	247	377	442	1,860
Waller	101	34	26	27	43	231
Region Total	3,664	3,553	3,964	3,921	3,835	18,937

TABLE 123: Total Commercial Vehicle Crash Possible Injuries (Type C)

County Name	2003	2004	2005	2006	2007	Total
Brazoria	214	170	144	195	269	992
Chambers	126	141	130	376	190	963
Fort Bend	332	475	436	427	497	2,167
Galveston	282	193	134	278	135	1,022
Harris	10,893	8,426	10,491	9,405	8,503	47,718
Liberty	219	125	150	161	213	868
Montgomery	499	600	589	669	691	3,048
Waller	78	125	69	60	140	472
Region Total	12,643	10,255	12,143	11,571	10,638	57,250

