



### **Profile of Rail-Related Injuries for Greater Houston**

A pedestrian or other road user is involved in a collision with a train every three hours in the U.S., and 1 in 10 of these involves children ages 19 and under. These incidents are often deadly, and, most importantly, are preventable. They are primarily the result of two types of incidents:

- Trespassing injuries occur when a person is injured while on private railroad property without permission. They are most often pedestrians taking a shortcut across or along tracks, but also include loiterers and those engaging in recreational activities such as hunting or jogging.<sup>1</sup>
- Railroad crossing injuries are when a person or highway user is struck by a train while
  attempting to cross at a designated crossing where tracks intersect a roadway or walkway at the
  same level.

This profile describes data reported to the Federal Railroad Administration (FRA) on rail-related injuries occurring in the Greater Houston area. Data are for years 2011 to 2020 and are combined for the Texas counties of Harris, Fort Bend, Montgomery, Brazoria, Liberty, Galveston, Austin, Chambers, and Waller. Injuries are divided into trespassing injuries and railroad crossing injuries. Data include both fatal and nonfatal rail-related injuries. Excluded from this profile are injuries to rail passengers and rail workers, as well as cases of suicides and attempted suicide.

This report and other rail safety resources for families, educators and community partners can be downloaded from the **Safe Kids Rail Safety Station** online hub at <a href="mailto:safetyStation">safekids.org/RailSafetyStation</a>.

#### **Summary**

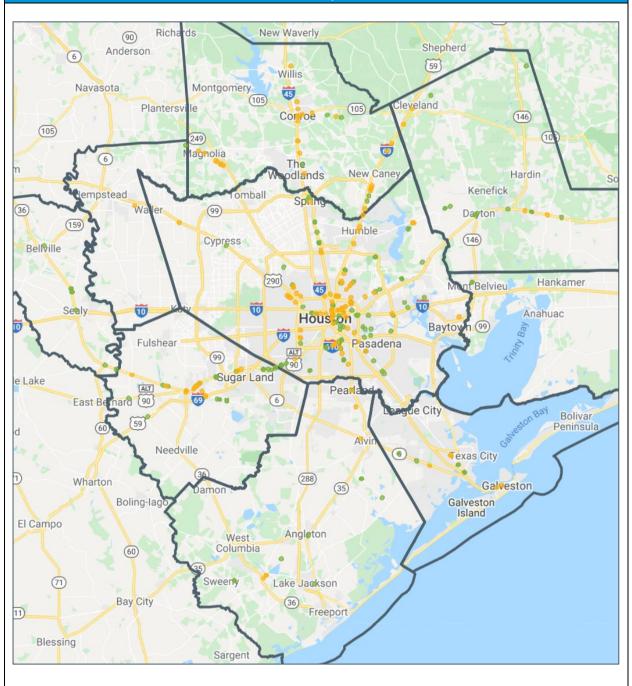
- There were 337 rail-related injuries in the Greater Houston area from 2011 to 2020, most of which occurred in Harris County.
- Of those who were injured, about 1 in 10 were children ages 19 and under.
- Rail-related injuries were more often the results of railroad crossing incidents, but trespassing injuries were more often fatal.
- Nearly all injuries involved on-track equipment, the majority of which were freight trains.
- Railroad crossing injuries were most frequent on Friday, while trespassing injuries were most frequent on Saturday.
- Trespassing injuries were most frequent between 9 PM and 2:59 AM, while railroad crossing injuries were most frequent between 3 PM and 5:59 PM.
- Nine in 10 of those injured at railroad crossings were motor vehicle occupants.
- Half of railroad crossing injuries occurred during dark or low-light hours; of those, about 4 in 10 occurred at railroad crossings that weren't illuminated.
- The majority of incidents at railroad crossings involved a highway user going through or around crossing gates meant to block traffic.
- Nearly 8 in 10 trespassers who were injured had been struck by on-track equipment, most of whom were on the tracks when they were struck.







Map 1. Rail-Related Injuries by Incident Type;
Harris, Fort Bend, Montgomery, Brazoria, Liberty, Galveston, Austin, Chambers and Waller
Counties, TX



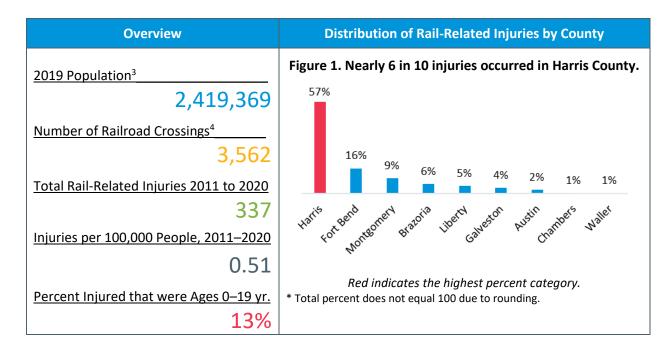
■Railroad crossing injury ■ Trespassing injury

See pages 9–28 for county-level maps by incident type and for children versus adults.









#### **Overall Injuries**

Figure 2. On average, there were 34 injuries per year in the decade from 2011 to 2020. During that period, injuries were most frequent in 2014 and 2016.

Number of Rail-Related Injuries by Year (N=337)

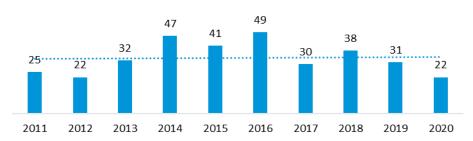


Figure 3. Three in 10 of those injured were between the ages of 30 and 44 years old.\*

Rail-Related Injuries by 5-Year Age Groups (N=337)

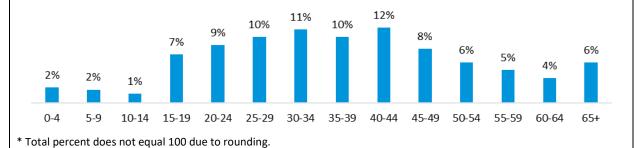








Figure 4. Rail-related injuries were more often the result of railroad crossing incidents. However, trespassing injuries were more often fatal than railroad crossing injuries.

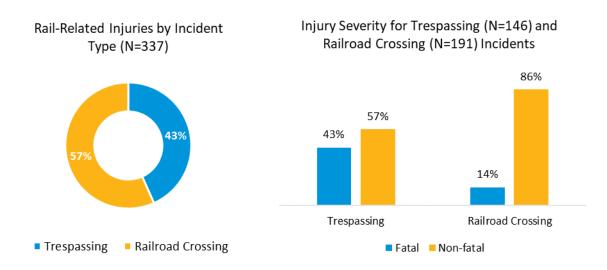
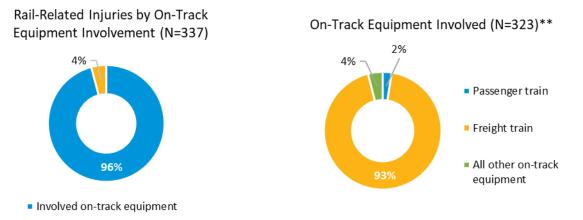


Figure 5. Nearly all injuries involved on-track equipment,\* the majority of which were freight trains.



Not involving on-track equipment

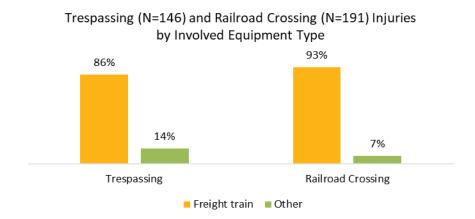
<sup>\*</sup> On-track equipment includes freight cars and trains, passenger trains and cars, locomotives, inspection vehicles, maintenance of way equipment and other on-track equipment.

<sup>\*\*</sup> Total percent does not equal 100 due to rounding.





Figure 6. Freight trains were involved in the vast majority of both railroad crossing and trespassing injuries. \*



<sup>\*</sup> Other includes on-track and not on-track equipment. On-track equipment includes freight cars and trains, passenger trains and cars, locomotives, inspection vehicles, maintenance of way equipment and other on-track equipment

Figure 7. Both trespassing and railroad crossing injuries were slightly more frequent during summer months.

Rail-Related Injuries by Season and Incident Type (N=337)



Figure 8. Railroad crossing injuries were most frequent on Friday, while trespassing injuries were most frequent on Saturday.

Number of Rail-Related Injuries by Weekday and Incident Type (N=337)

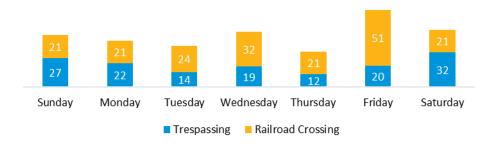


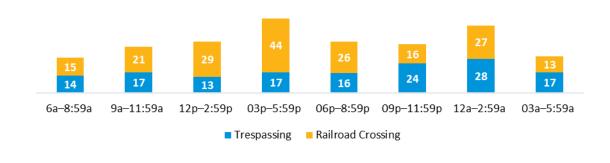






Figure 9. Trespassing injuries were most frequent between 9 PM and 2:59 AM, while railroad crossing injuries were most frequent between 3 PM and 5:59 PM.

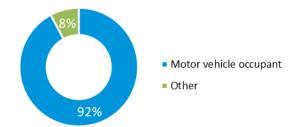
Number of Rail-Related Injuries by Time of Day and Incident Type (N=337)



#### **Railroad Crossing Circumstances**

Figure 10. Nine in 10 of those injured at railroad crossings were motor vehicle occupants.\*

Railroad Crossing Injuries by Highway User Type (N=191)



\* Other includes pedestrian and other unspecified highway users.





Figure 11. Going through or around the gates was the activity most often associated with injury among those injured at railroad crossings.\*

Railroad Crossing Injuries by Action of Highway Users (N=188)\*\*

41%

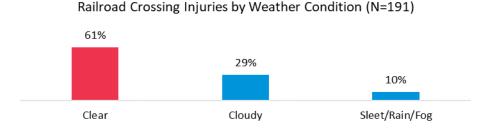
12%

Went through or Stopped on crossing Did not stop Stopped and then around gates

Other proceeded

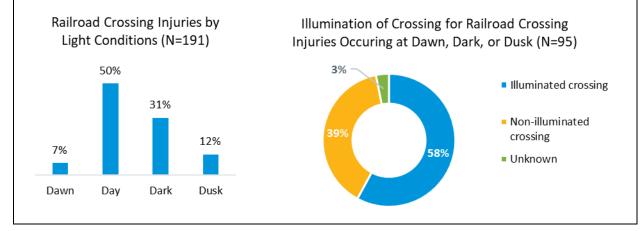
Red indicates the category with the highest percent.

Figure 12. Most railroad crossing injuries occurred when the weather was clear.



Red indicates the category with the highest percent.

Figure 13. Half of railroad crossing injuries occurred during dark or low-light hours. Of those, about 4 in 10 occurred at railroad crossings that were not illuminated by streetlights or special lights.



<sup>\*</sup> Total percent does not equal 100 due to rounding.

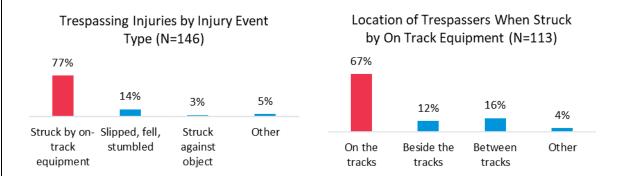
<sup>\*\*</sup> Highway user action data missing for 3 railroad crossing cases.





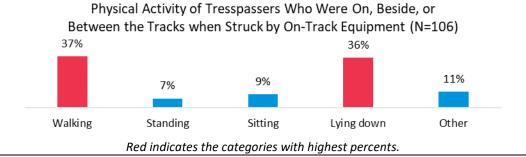
#### **Trespassing Circumstances**

Figure 14. Nearly 8 in 10 trespassers who were injured had been struck by on-track equipment. Of those, most were on the tracks at the time of impact.\*



Red indicates the categories with the highest percents.

Figure 15. Of trespassers who were struck by on-track equipment while either on, beside, or between the tracks, 1 in 3 were walking and 1 in 3 were lying down at the time of impact.



<sup>\*</sup> Total percent does not equal 100 due to rounding.





#### Map 2. Harris County – Injuries by Age Group (336) Cleveland Cut and Shoot 105 Plantersville 105 (321) Conroe Maced **Todd Mission** Wigginsville 45 Splendora Egypt Plum Grove 242) Magnolia (242) Patton Village 249 The Woodlands Pinehurst (321) Porter Eastgate Day Stilson Kohrville Atascocita (249) (146) Jersey Village Hedwig (330) Baytown hear Mission Pecan Grove Missour Sugar Land Richmond Pearlan Rosenberg Greatwood 6 Fresno 10 Sienna Plantation (146) San Leon 35) Dickinson 6 Fairchilds Alvin 3 (197) Hillcrest Algoa Needville 45 Sandy Point Texas C Santa Fe ● Adult injury ● Child injury (ages 0-19 years)

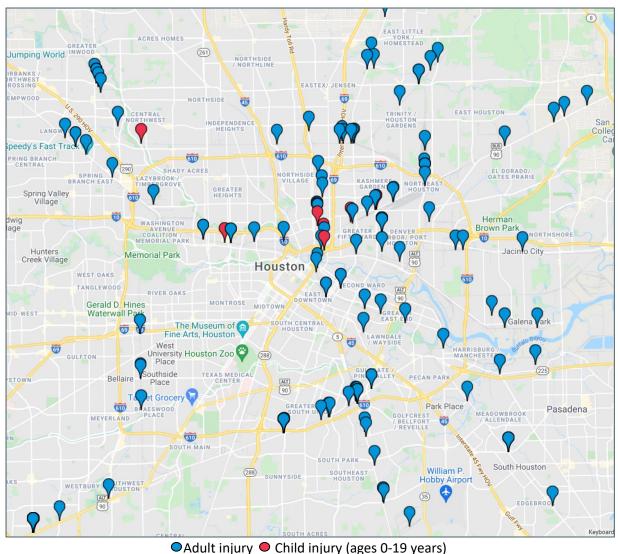






## Map 3. Harris County - Injuries by Age Group - Central

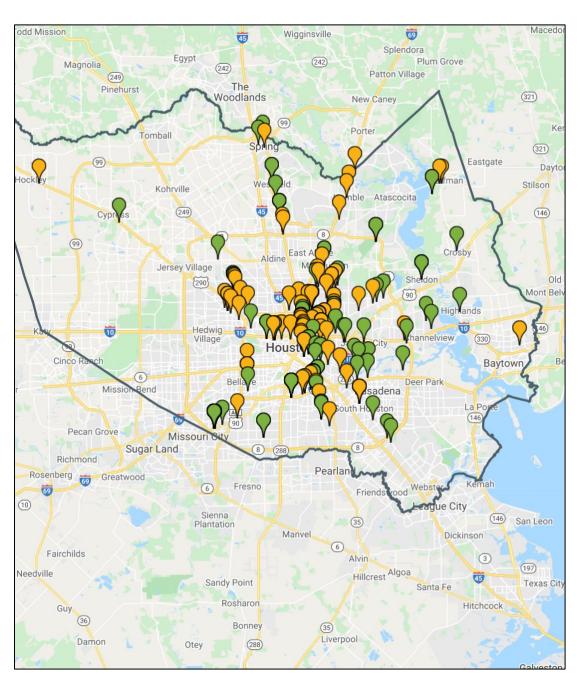








## Map 4. Harris County – Injuries by Incident Type



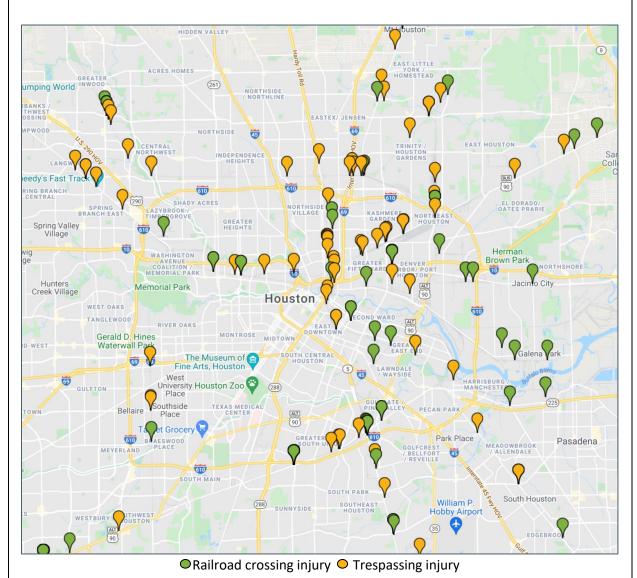
■ Railroad crossing injury ■ Trespassing injury





## Map 5. Harris County - Injuries by Incident Type - Central







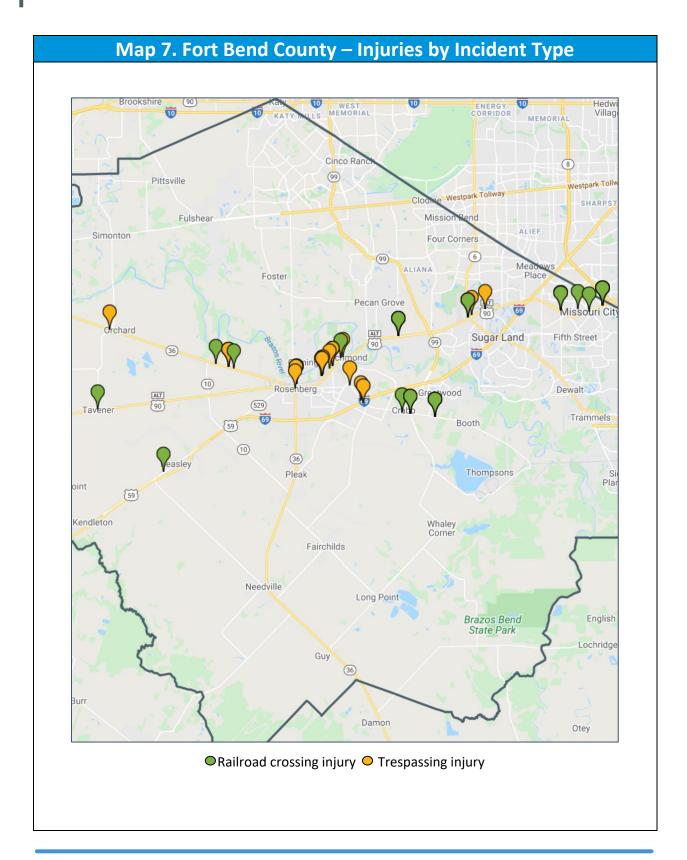


### **Map 6. Fort Bend County – Injuries by Age Group** Cinco Ran 8 99 Pittsville Westpark Tollway SHARPSTOW Fulshear ALIEF Simonton Four Corners 99 Meado ALIANA Foster Pecan Grove Sugar Land Fifth Street 99 (36) 10 Rosenberg Dewalt ALT 90 (529) 69 Trammels [59] Booth 10 36) Thompsons Pleak Sienna 59 dleton Whaley Corner Fairchilds Needville Long Point English Brazos Bend State Park Lochridge Guy (36) Damon Otey ● Adult injury ● Child injury (ages 0-19 years)





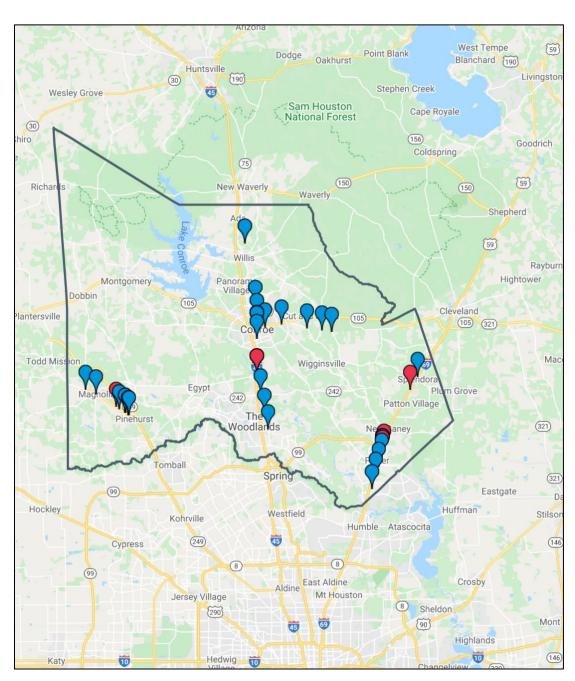








## **Map 8. Montgomery County – Injuries by Age Group**

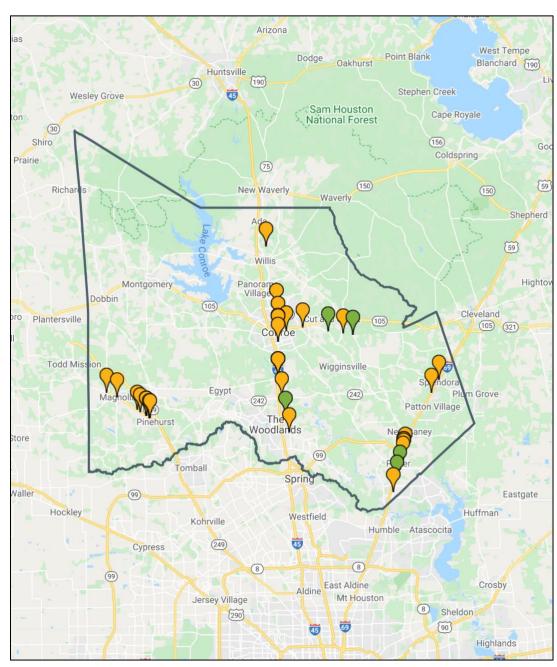


● Adult injury ● Child injury (ages 0-19 years)





## Map 9. Montgomery County - Injuries by Incident Type



■Railroad crossing injury ■ Trespassing injury





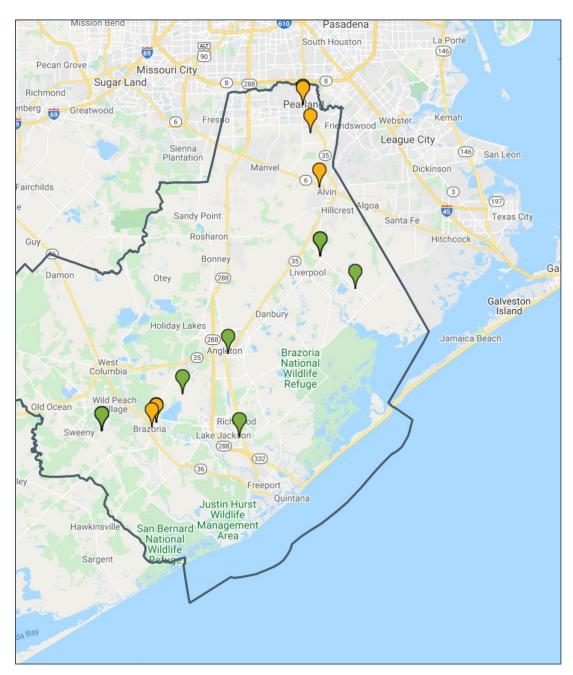
#### Map 10. Brazoria County - Injuries by Age Group Bellaire Mission Bend Pasadena South Houston La Porte 90 (146) Pecan Grove Missouri City Sugar Land Richmond Rosenberg Greatwood ndswood Webster 6 10 League City Sienna Plantation (146) San Leon Dickinson Fairchilds Needville Hillcrest 45 Sandy Point **Texas City** Santa Fe Rosharon Hitchcock Guy (35) Damon (288) Galveston Island Danbury Holiday Lakes Jamaica Beach Brazoria West National Wildlife Refuge Wild Peach llage (35) Brazoria Sweeny Lake Jackson (288) (36) Rugeley Freeport Quintana Justin Hurst Wildlife San Bernard Management Hawkinsville Area National Wildlife Sargent ● Adult injury ● Child injury (ages 0-19 years)







## Map 11. Brazoria County - Injuries by Incident Type









## **Map 12. Liberty County – Injuries by Age Group** Romayor 59 Votaw Westcott Rayburn Thicket Hightower North Cleveland Ainsworth 146 Franklin Macedonia Moss Hill lum Grove (146) (321) Hardin Hull Dayton Lakes Winter Valley Estates 146 Daisetta Trinity River National Wildlife Refuge Kenefick (146) Woodson 90 Eastgate Huffman Stilson (90) ● Adult injury ● Child injury (ages 0-19 years)







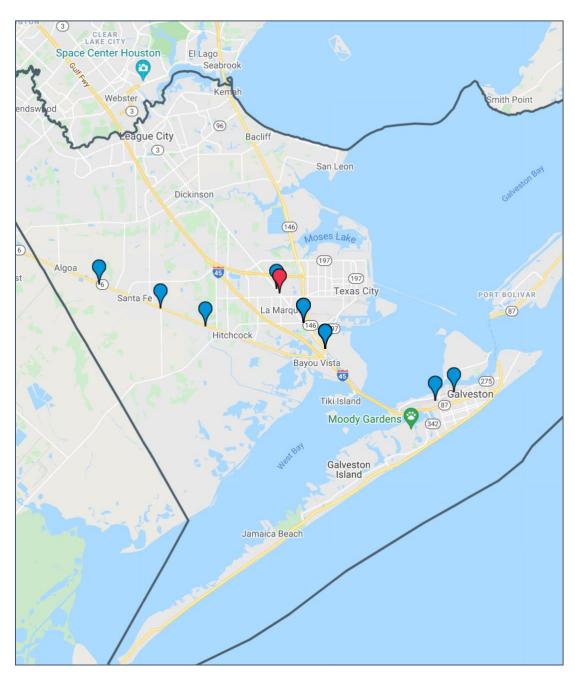
## **Map 13. Liberty County – Injuries by Incident Type** Shepherd Lake Estates Romayor 59 Votaw Westcott Rayburn Thicke Hightower North Cleveland veland 105 Ainsworth 146 (321) Franklin Macedonia Moss Hill Plum Grove (146) Hardin Dayton Lakes Winter Valley Estates 146 Daisetta Trinity River National Kenefick Wildlife Refuge Woodson 90 Eastgate Huffman Stilson 90 ■Railroad crossing injury ■ Trespassing injury







## **Map 14. Galveston County – Injuries by Age Group**





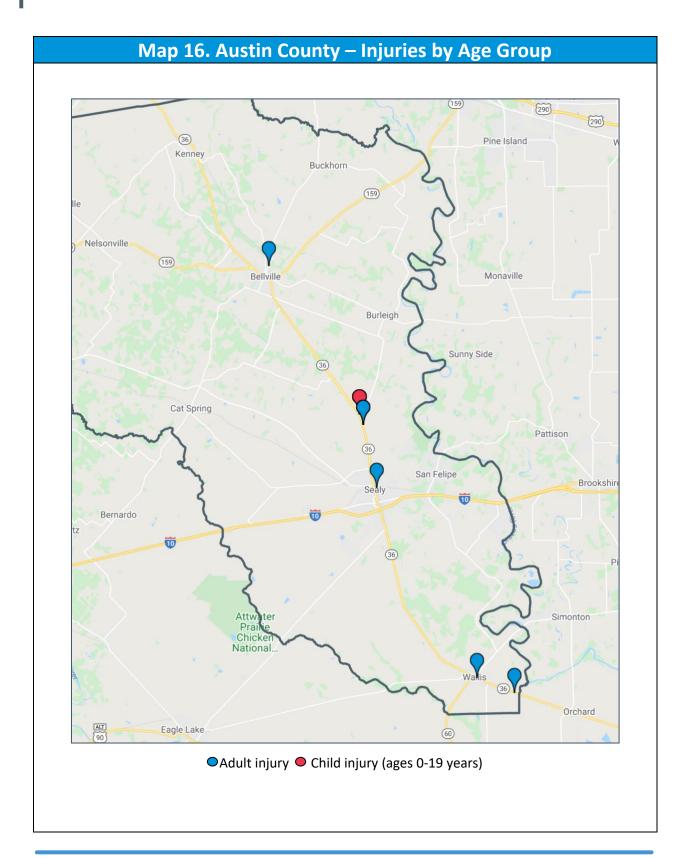


# Map 15. Galveston County – Injuries by Incident Type Space Center Houston El Lago Seabrook mith Point Webster 96) Bacliff (3) San Leon Dickinson Moses Lake (197) (197) Texas City PORT BOLIVAR Santa F 87) Hitchcock Bayou Vista Galveston Tiki Island Moody Gardens Galveston Island Jamaica Beach ■Railroad crossing injury ■ Trespassing injury



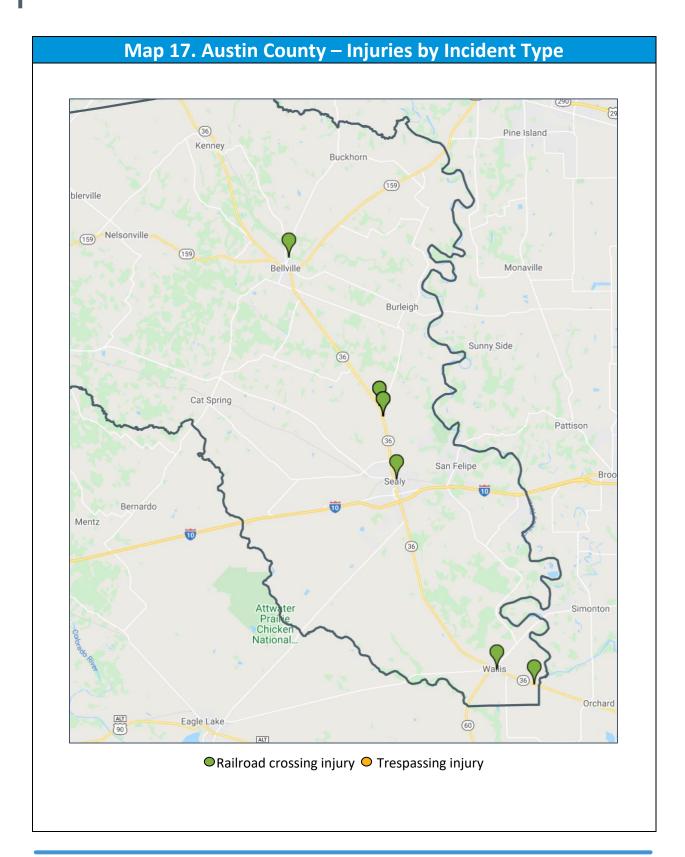






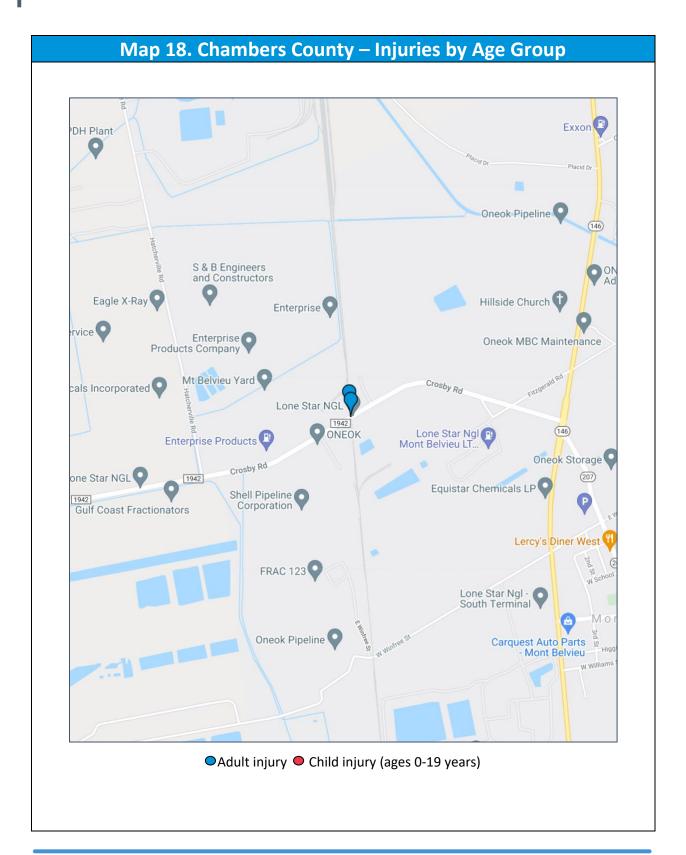






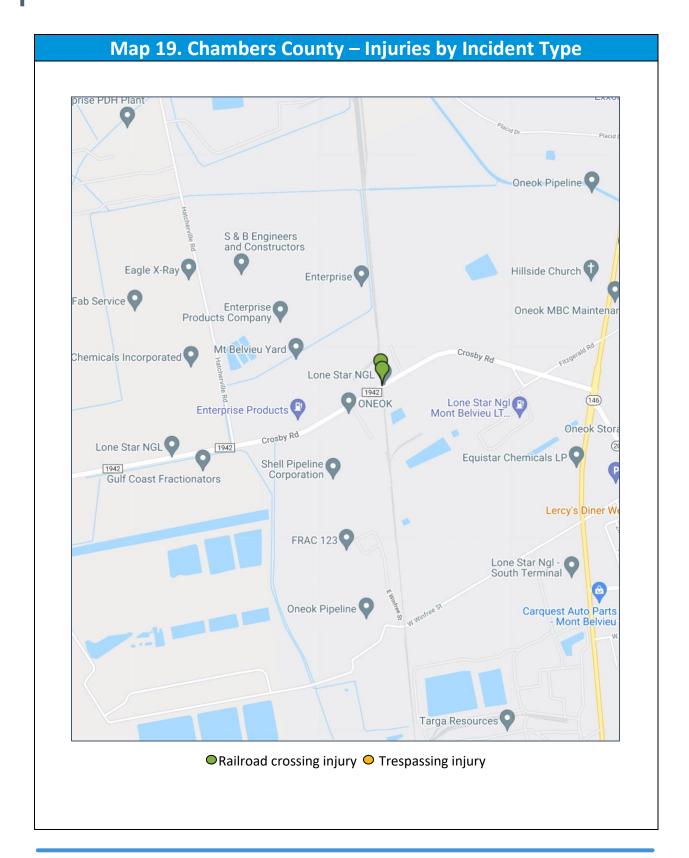
















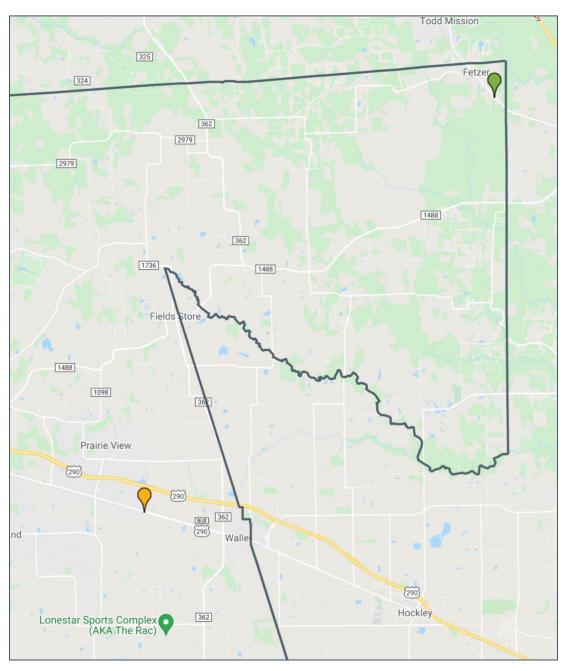
# Map 20. Waller County – Injuries by Age Group 325 324 1774 362 2979 2979 1488 362 1736 1488 Fields 1488 1098 Prairie View [290] 290 BUS 362 Walle (290) Hockley Lonestar Sports Complex (AKA The Rac) ● Adult injury ● Child injury (ages 0-19 years)







## Map 21. Waller County – Injuries by Incident Type



■Railroad crossing injury ■ Trespassing injury





#### **Notes**

#### **Data source**

Data on rail-related injuries presented in this profile were obtained from the Federal Railroad Administration's (FRA) Safety Railroad Casualties (form 6180.55A) and Highway Rail Accidents (form 6180.57) databases for years 2011–2020. Excluded were rail workers and rail passengers as well as cases of suicide or attempted suicide.

#### References

- 1. Federal Railroad Association. Fact Sheet Highway Rail Crossing & Trespassing. 2016. Available from: https://railroads.dot.gov/sites/fra.dot.gov/files/2019-10/rrx-fact-sheet-final12716.pdf. Accessed August 26, 2021.
- 2. Federal Railroad Association. Accident Data as Reported by Railroads 2009-2018. Available from: https://safetydata. fra.dot.gov/OfficeofSafety/publicsite/on\_the\_fly\_download.aspx. Accessed August 26, 2021.
- 3. U.S. Census Bureau. Quick Facts. Available from: https://www.census.gov/quickfacts. Accessed August 26, 2021.
- 4. Current Crossing Data for State of Texas. 2021. Available from: https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/DownloadCrossingInventoryData.aspx. Accessed August 31, 2021.

This profile and other rail safety resources can be downloaded via the **Safe Kids Rail Safety Station** at <a href="https://www.safekids.org/RailSafetyStation">https://www.safekids.org/RailSafetyStation</a>.

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