

Profile of Rail-Related Injuries for San Joaquin County, CA

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.^{1,2} 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.¹
- **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 San Joaquin County, CA for years 2011 to 2020. 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.

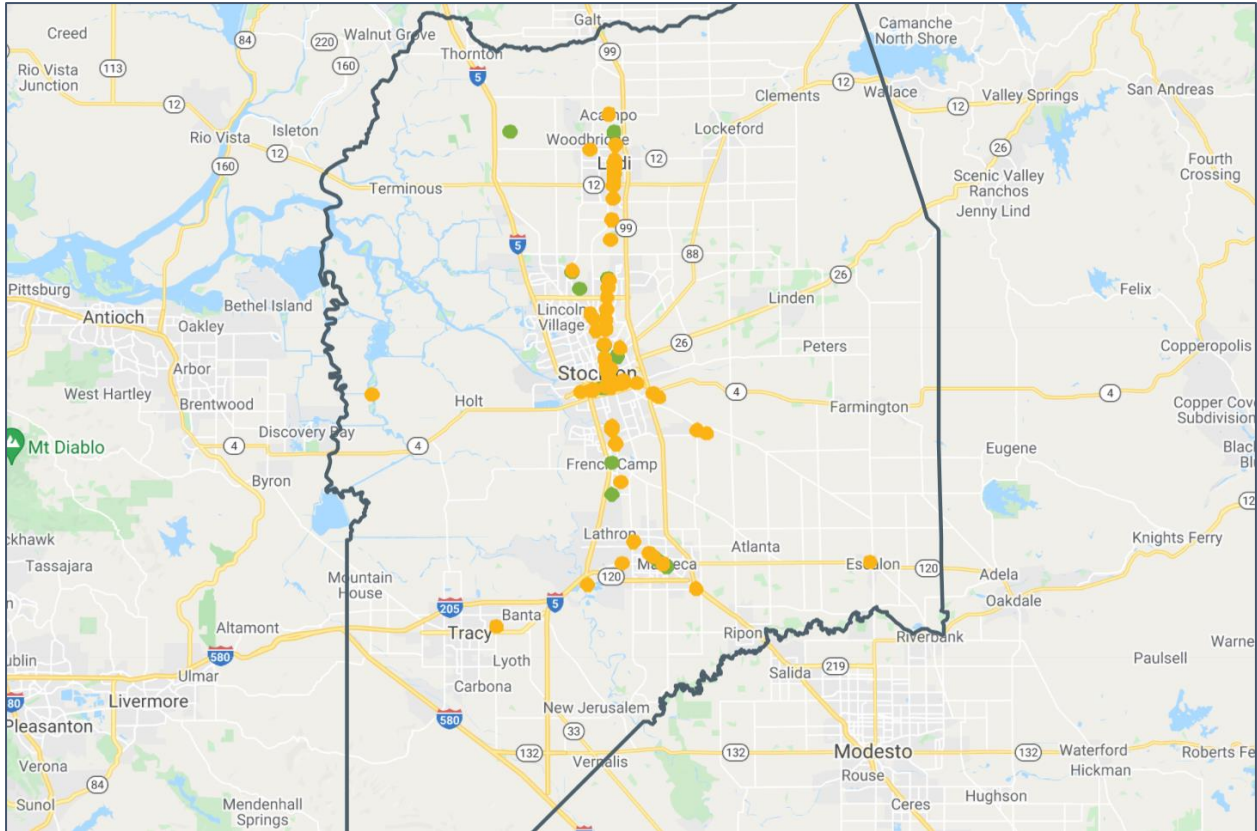
This report and other rail safety resources for families, educators and community partners can be downloaded from the **Safe Kids Rail Safety Station** online hub at safekids.org/RailSafetyStation.

Summary

- There were 124 rail-related injuries in the San Joaquin, CA area from 2011–2020.
- More than 1 in 10 of those injured were children ages 19 and under and nearly 3 in 10 were between the ages of 30 and 39 years old.
- Rail-related injuries were more often the results of trespassing incidents, but railroad crossing injuries were more often fatal.
- Nine in 10 injuries involved on-track equipment, most of which were freight trains.
- The number of injuries varied little by season.
- Trespassing injuries were most frequent on Thursday and Friday, while railroad crossing injuries were relatively evenly distributed by day of week.
- Overall, injuries were least frequent between 12:00 AM and 5:59 PM.
- Six in 10 of those injured at railroad crossings were pedestrians and 1 in 3 were motor vehicle occupants.
- Four in 10 railroad crossing injuries occurred during dark or low-light hours. Of those crossings, most were illuminated by streetlights or special lights.
- Going through or around the gates was the activity most associated with injury at railroad crossings.
- Of the 7 in 10 trespassers who were injured had been struck by on-track equipment, a little more than half of whom were on the tracks at the time of impact.



Map 1. Rail-Related Injuries by Incident Type; San Joaquin County, CA



● Railroad crossing injury ● Trespassing injury

See pages 9–16 for additional maps by incident type and for children versus adults.



Overview	Distribution of Rail-Related Injuries by County
<p>2019 Population³</p> <p>762,148</p> <p>Number of Railroad Crossings⁴</p> <p>935</p> <p>Total Rail-Related Injuries, 2011–2020</p> <p>124</p> <p>Injuries per 100,000 People, 2011–2020</p> <p>1.70</p> <p>Percent Injured that were Ages 0–19 yr.</p> <p>12%</p>	<p>Figure 1. Nearly half of rail-related injuries were fatal.</p> <p>■ Nonfatal ■ Fatal</p>

Overall Injuries

Figure 2. On average, there were 12 injuries per year in the decade from 2011 to 2020. The number of injuries during that period was highest in 2018.

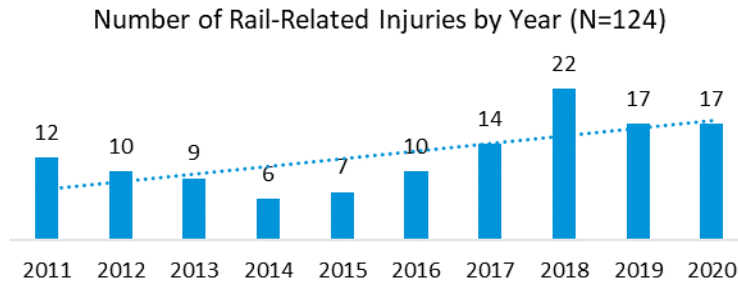
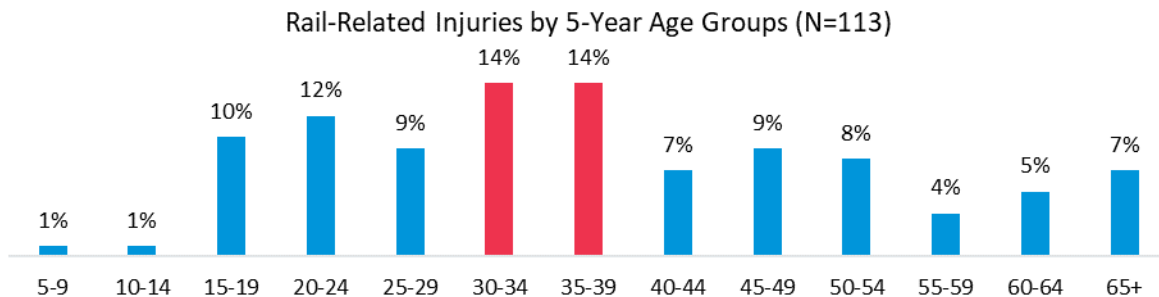


Figure 3. Of those who were injured, more than 1 in 10 were children ages 19 and under. Nearly 3 in 10 of those injured were between the ages of 30 and 39 years old.*



Red indicates the categories with the highest percents.

* Age data missing for 11 cases. | Total percent does not equal 100 due to rounding.



Figure 4. Trespassing incidents accounted for 2 in 3 injuries and railroad crossing incidents for 1 in 3 injuries. Trespassing injuries were more often fatal than were railroad crossing injuries.

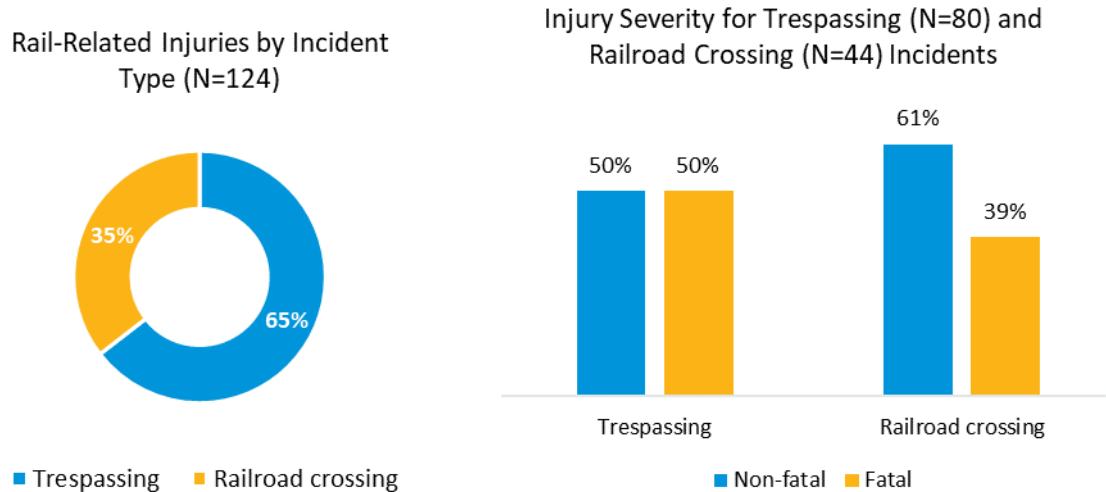
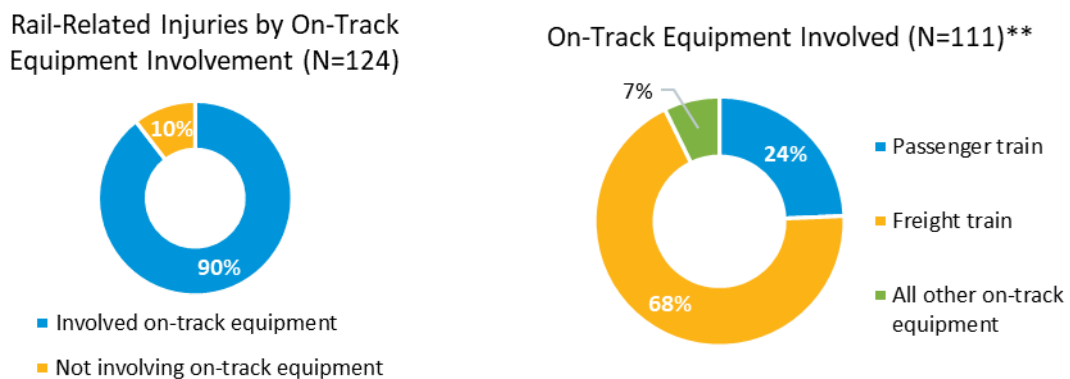


Figure 5. Nine in 10 injuries involved on-track equipment,* most of which were freight trains.

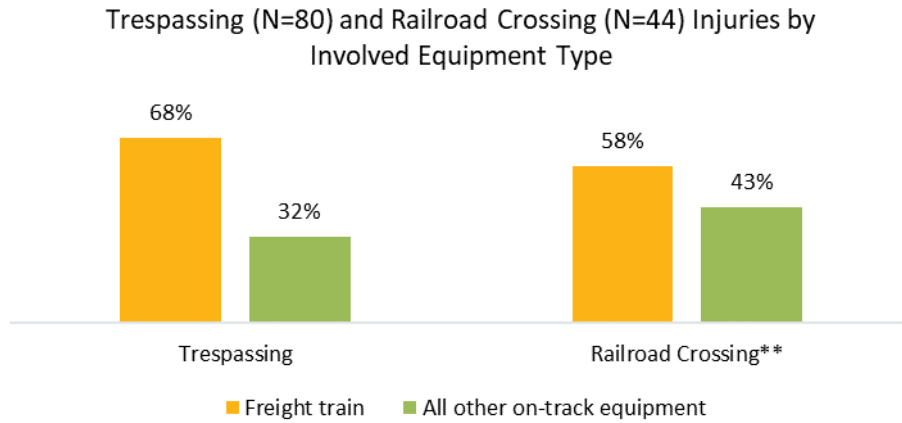


* On-track equipment includes freight cars and trains, passenger trains and cars, locomotives, inspection vehicles, maintenance of way equipment, and other on-track equipment.

** Total percent does not equal 100 due to rounding.



Figure 6. Freight trains were involved in nearly 7 in 10 trespassing injuries and nearly 6 in 10 railroad crossing injuries. *



* 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.
 ** Total percent does not equal 100 due to rounding.

Figure 7. The number of injuries varied little by season.

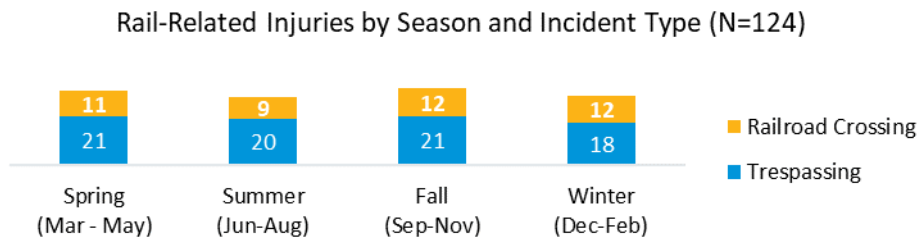


Figure 8. Trespassing injuries were most frequent on Thursday and Friday, while railroad crossing injuries were relatively evenly distributed by day of week.

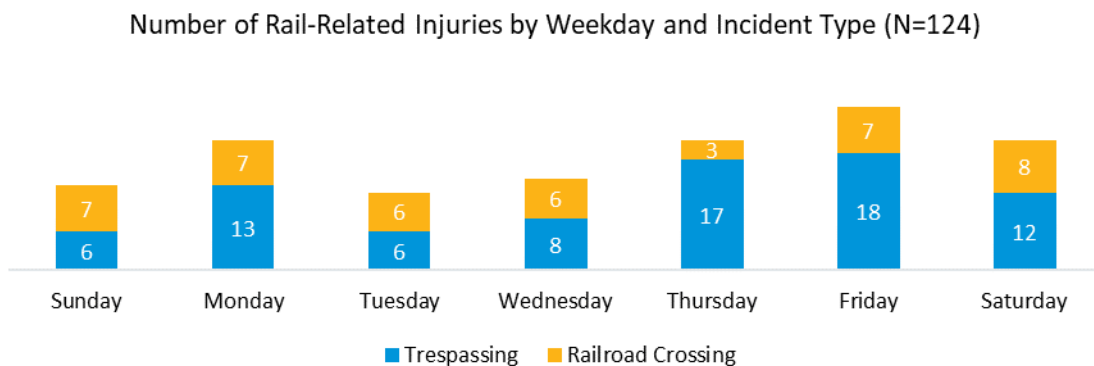
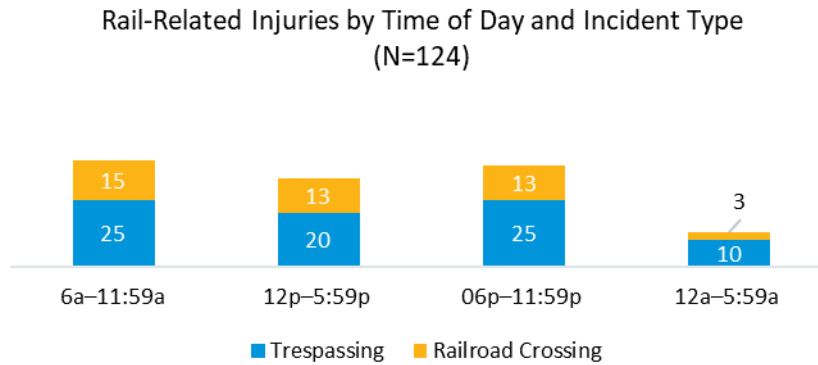


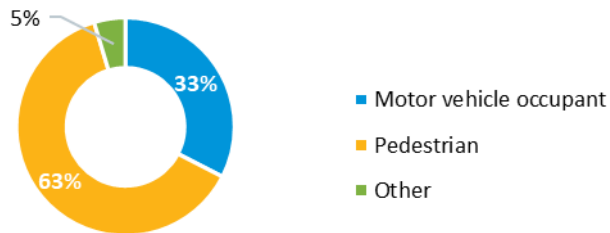
Figure 9. Overall, injuries were less frequent from 12 AM to 5:59 AM.



Railroad Crossing Circumstances

Figure 10. Six in 10 of those injured at railroad crossings were pedestrians and 1 in 3 were motor vehicle occupants.*

Railroad Crossing Injuries by Highway User Type (N=43)**

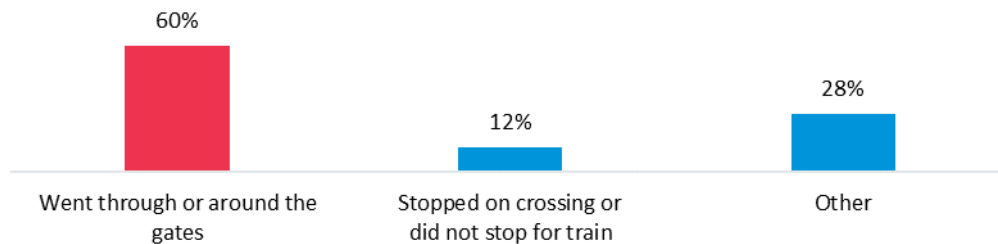


* Total percent does not equal 100 due to rounding.

** Highway user data missing for 1 railroad crossing case.

Figure 11. Going through or around the gates was the activity most associated with injury at railroad crossings.

Railroad Crossing Injuries by Action of Highways Users (N=43)*

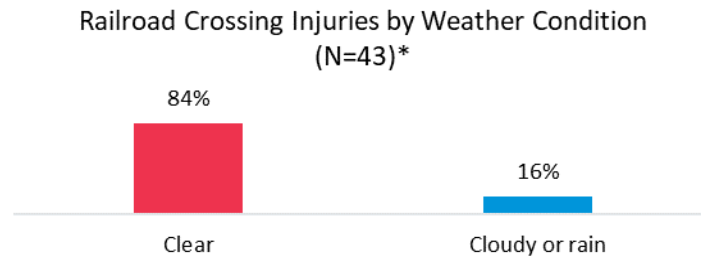


Red indicates the category with the highest percent.

* Action of highway user data missing for railroad crossing 1 case.



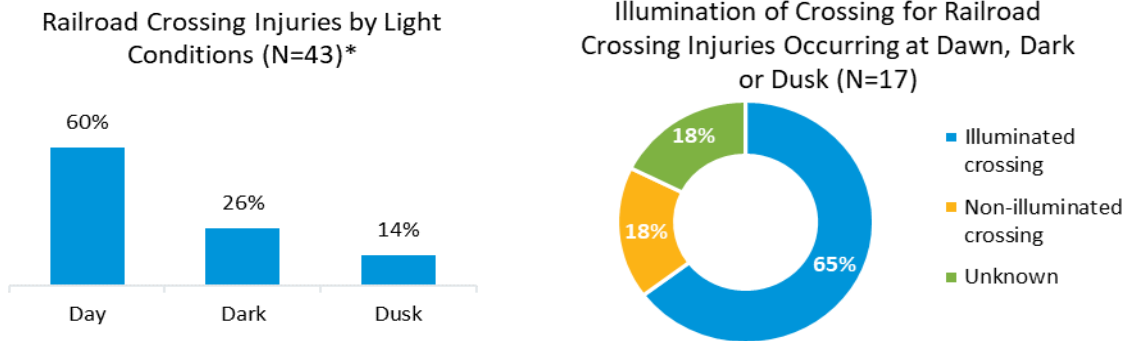
Figure 12. Most railroad crossing injuries occurred when the weather was clear.



Red indicates the category with the highest percent.

* Weather condition data missing for 1 railroad crossing case.

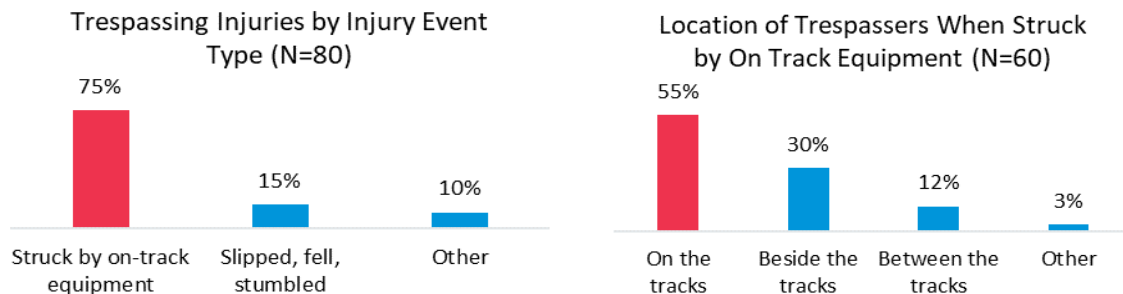
Figure 13. Four in 10 railroad crossing injuries occurred during dark or low-light hours. Of those, most occurred at crossings that were illuminated by streetlights or special lights.



* Light condition data missing for 1 railroad crossing case.

Trespassing Circumstances

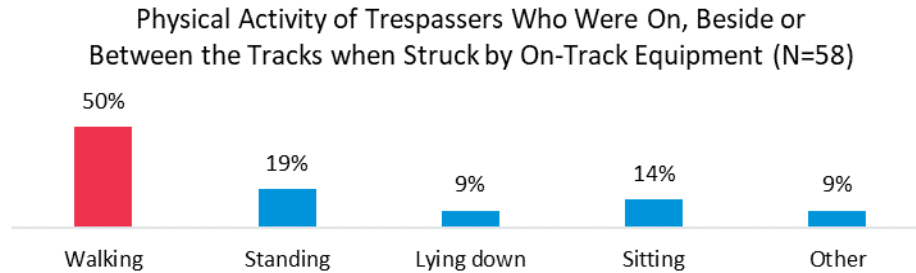
Figure 14. More than 7 in 10 trespassers who were injured had been struck by on-track equipment. Of those, a little more than half were on the tracks at the time of impact.



Red indicates the categories with the highest percents.



Figure 15. Half of the trespassers who were either on, beside, or between the tracks when struck by on-track equipment were walking at the time of impact.*

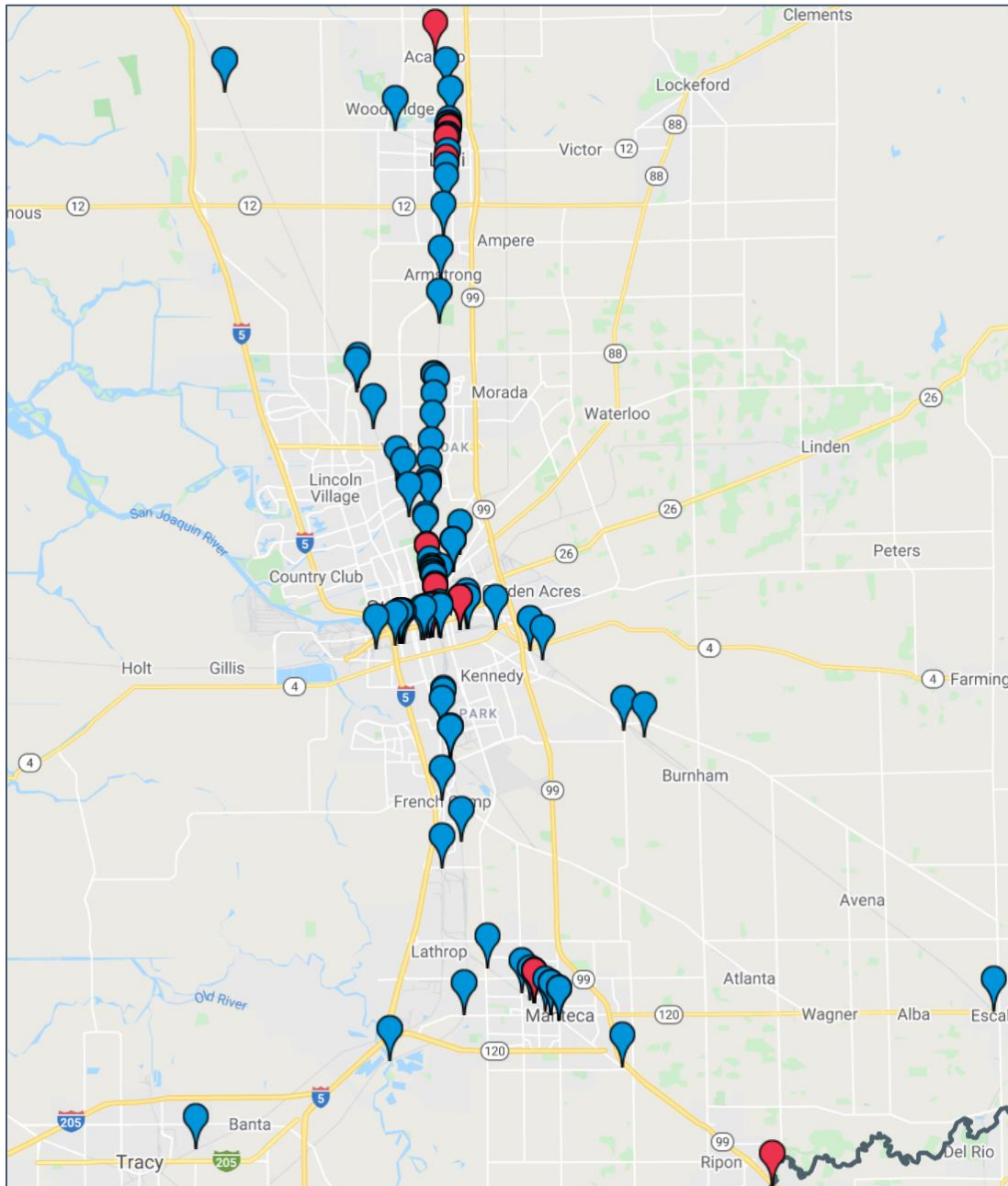


Red indicates the category with the highest percent.

*Total percent does not equal 100 due to rounding



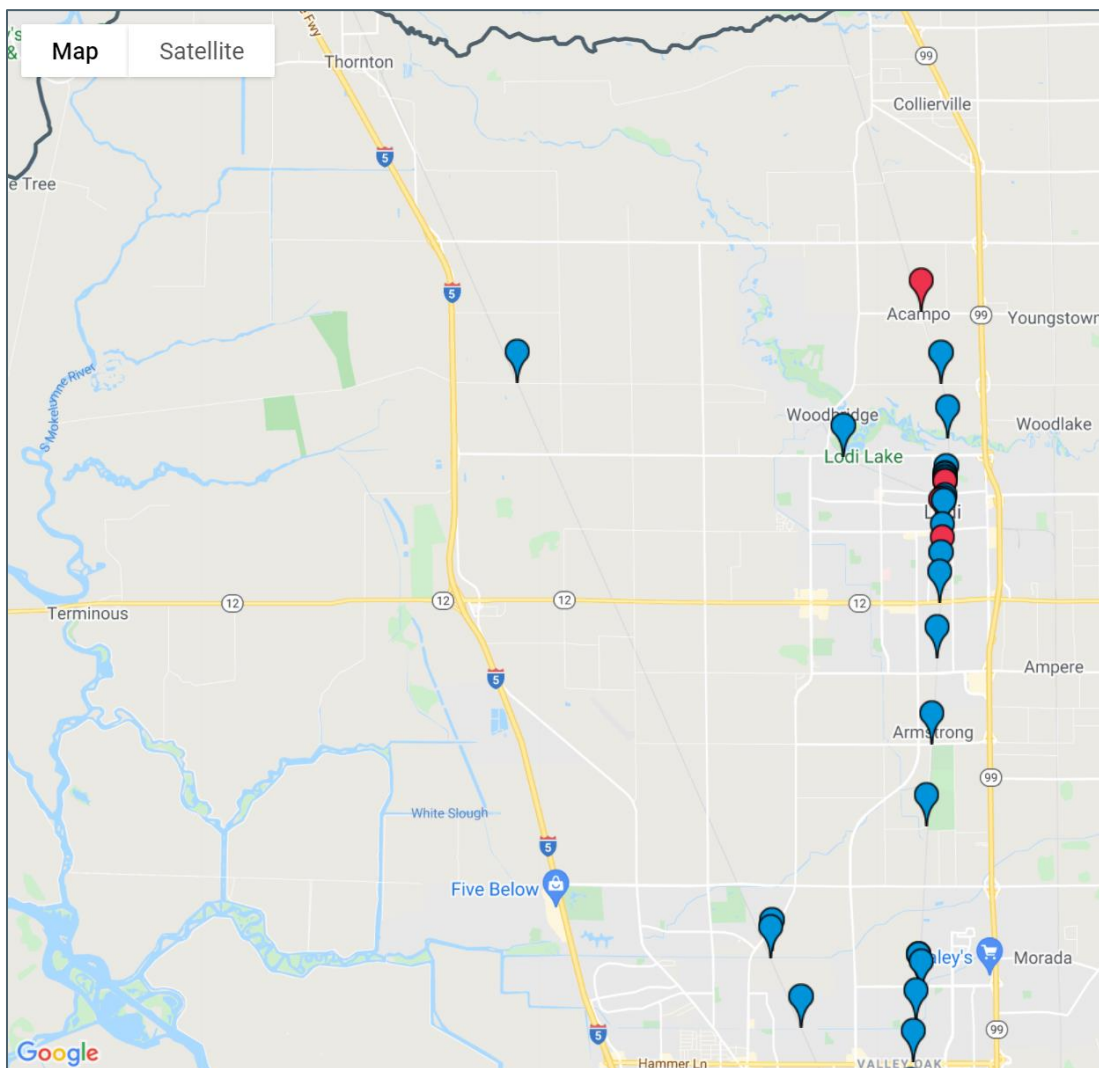
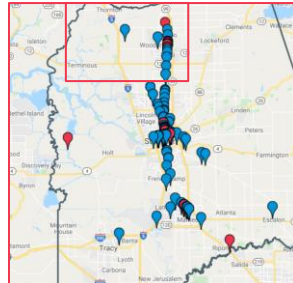
Map 2. San Joaquin County – Injuries by Age Group - Overall



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



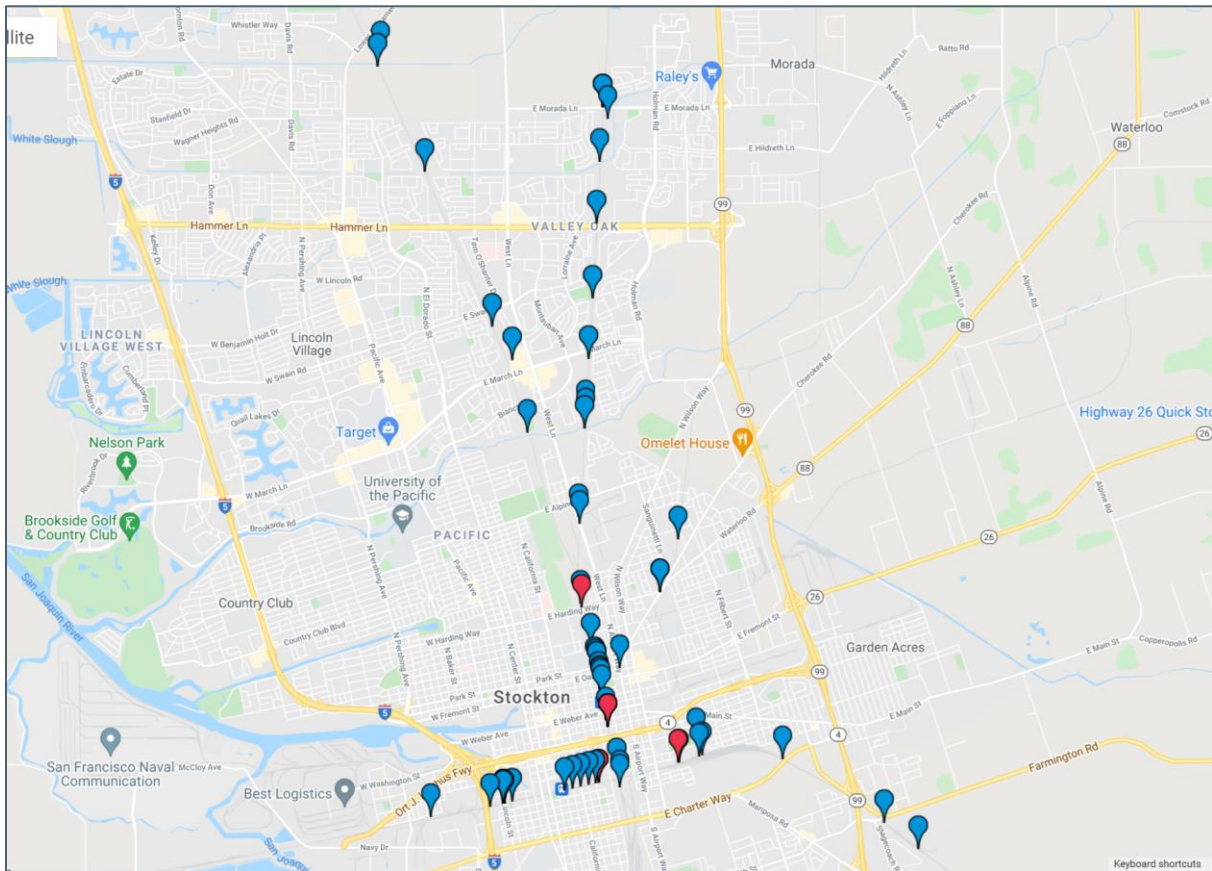
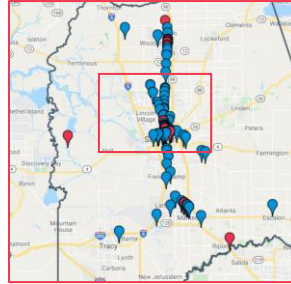
Map 3. San Joaquin County – Injuries by Age Group – North Side



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



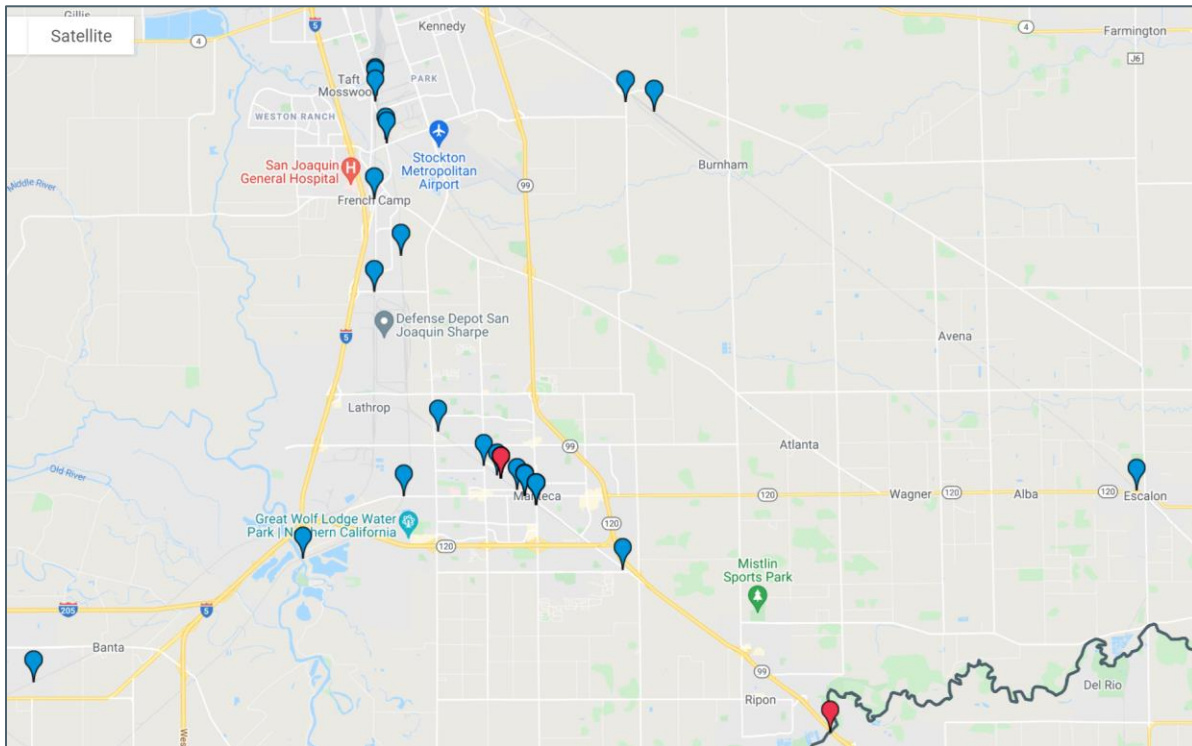
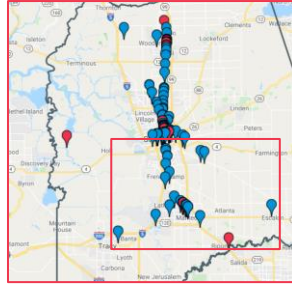
Map 4. San Joaquin County – Injuries by Age Group – Central



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



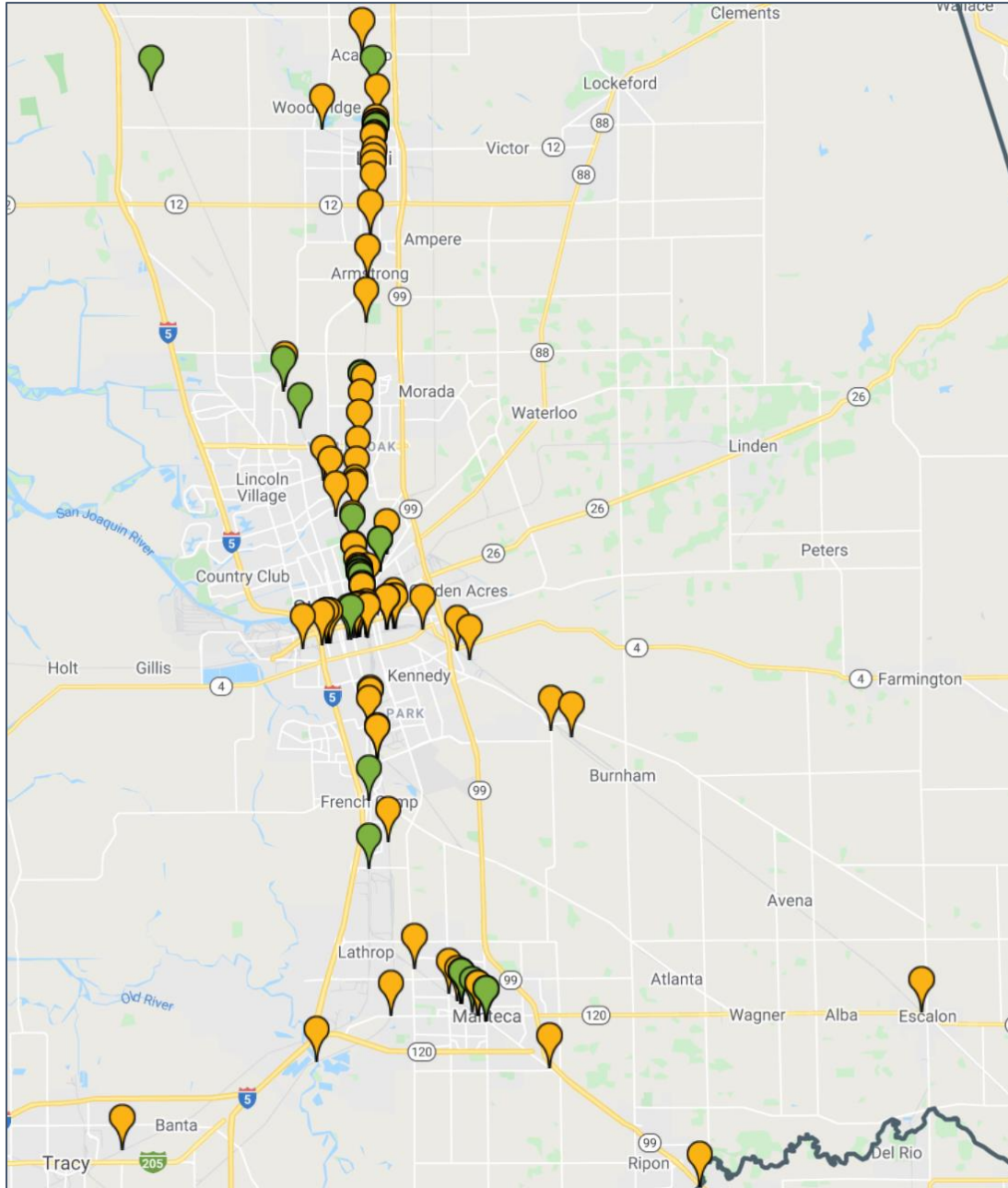
Map 5. San Joaquin County – Injuries by Age Group – South Side



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



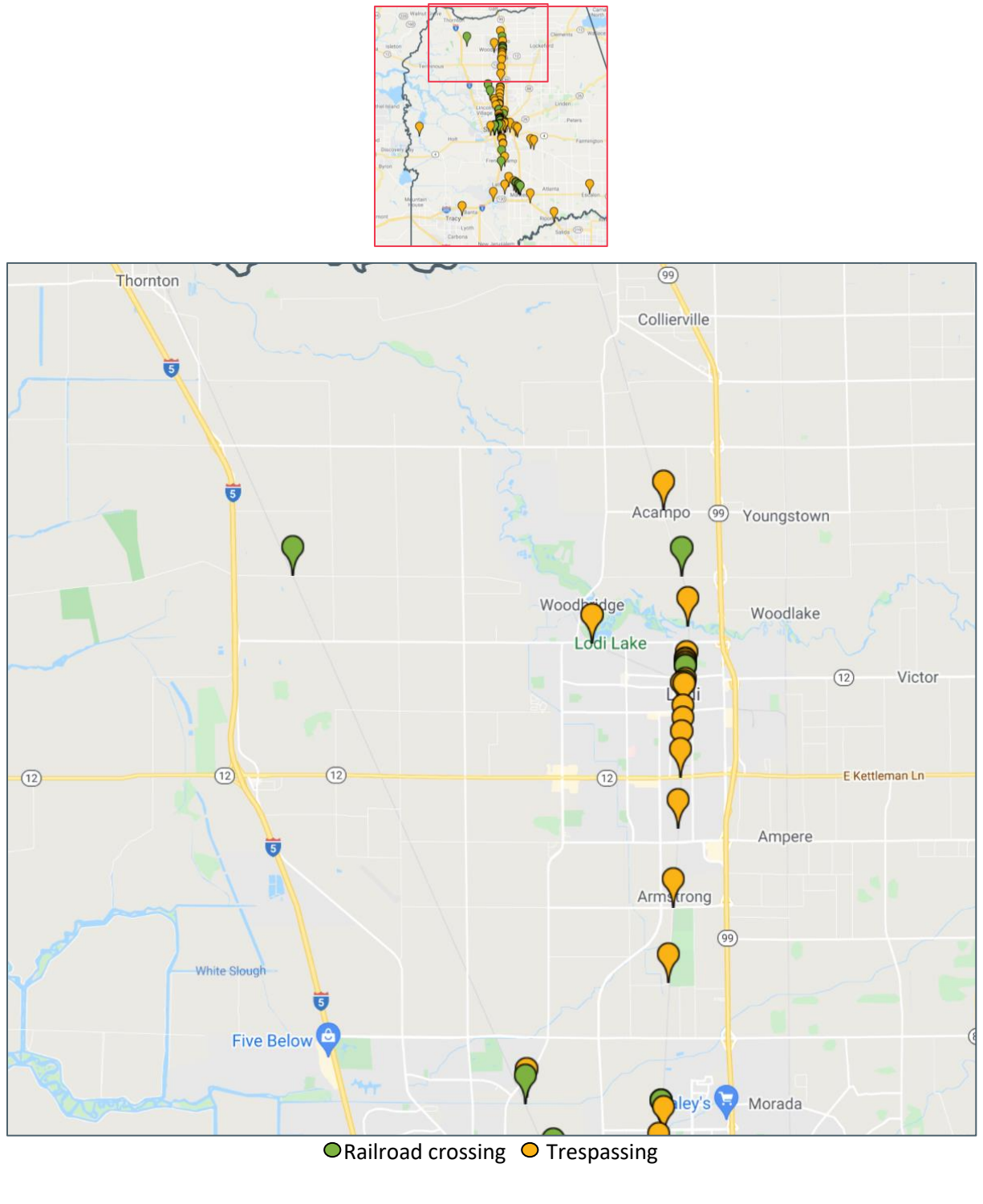
Map 6. San Joaquin County – Injuries by Incident Type - Overall



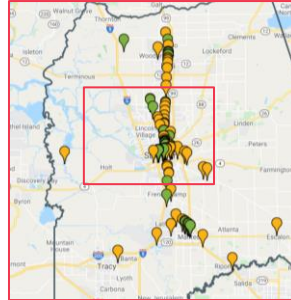
● Railroad crossing ● Trespassing



Map 7. San Joaquin County – Injuries by Incident Type – North Side



Map 8. San Joaquin County – Injuries by Incident Type – Central



● Railroad crossing ● Trespassing



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. Maps reflect locations of injuries where longitude and latitude data are provided in each case file.

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 California. 2021. Available from: <https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/DownloadCrossingInventoryData.aspx>. Accessed August 31, 2021.

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