



2018 Annual Traffic Safety Report

City of Santa Cruz
Public Works Department

I. Introduction

The purpose of the 2018 City of Santa Cruz Traffic Safety Report is to provide an overview of traffic safety trends to help guide future enforcement and engineering efforts. Collisions form a significant portion of the Police Department's workload, and create substantial costs for the City and society as a whole. In 2018 there were 171 reported injury collisions in Santa Cruz, causing 209 injuries and 2 fatalities. According to estimates from the American Association of State Highway Transportation Officials' *Highway Safety Manual*, these collisions resulted in more than \$70M in societal costs in the City of Santa Cruz. Property damage only collisions are not included in these figures, making the costs likely to be even higher.

This report focuses on collision data of reported traffic collisions for the full calendar year (covering January 1, 2018 through December 31, 2018) that resulted in an injury or fatality. *The majority of collision data for this report is accessed through the Statewide Integrated Traffic Records System (SWITRS), due to the superior analysis and mapping features of the system. SWITRS data adoption is delayed, so the annual report for a given year will be submitted approximately one year later, and 2018-2019 data is still provisional. Property damage only collisions are not included in SWITRS, and therefore are not included in this report. Although not all collisions are reported, use of the reported collisions provides a consistent measure of collision rates, and focusing on injury collisions allows for analysis of the most serious incidents.*

This report examines travel mode split, current traffic safety campaigns, and high collision streets. Collision trends over the past 10 years are analyzed, including bike, pedestrian, motorcycle, and youth collisions, as well as key factors in collisions. Overall, collision trends were positive. Total injury collisions are down 33% (86) from 2017 to 2018. In a very encouraging trend, bicycle injury collisions are down 41% (33) from 2017, and have decreased 56% since 2015. Injury collisions involving motorcycles decreased by 10% (3) from 2017 to 2018, and injury collisions involving pedestrians decreased by 5% (2). The number of felony hit-and-run collisions decreased 39% (11) from 2017 to 2018, while alcohol-involved collisions decreased by 3% (1).

The number of collisions involving youth going to or from school increased slightly from 2017 to 2018, and Section V includes an analysis of each 2018 incident. While the total number of collisions is small, continued work will be done to direct enforcement, education, and engineering efforts towards improving safe routes to schools.

II. Travel Modality

An understanding of the different ways people travel within the city is useful when analyzing collision data. Below is a table of ‘mode splits’ — the breakdown by percentage of the ways people travel to work in Santa Cruz. During the latest five years reported (2014-2018), 58.2% of commuters drove alone, 10.6% walked, 9.1% bicycled, 7.3% carpooled, 6.8% took the bus, 1.6% used other modes such as taxi, motorcycle, etc., and 6.4% worked at home. This data marks significant progress towards the City’s Climate Action Plan goals to increase biking and walking and decrease single-occupancy vehicle use. Santa Cruz has one of the highest bicycle mode splits in the country, and a significantly lower ‘Drive Alone’ mode split than most California cities.

City of Santa Cruz Mode Split

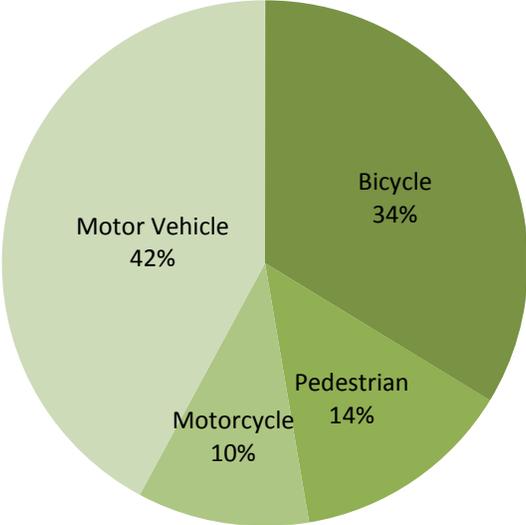
	Drove Alone	Carpool	Public transit	Walked	Bicycle	Taxi/ Other	Worked at home
USA	76.4	9.1	5.0	2.7	0.6	1.2	4.9
California	73.7	10.3	5.1	2.7	1.0	1.6	5.7
Santa Cruz County	69.0	8.9	2.9	4.7	3.6	3.2	7.7
Santa Cruz City	58.2	7.3	6.8	10.6	9.1	1.6	6.4

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

When mode split is compared with collisions by travel mode, the data shows that cyclists are disproportionately involved in injury collisions. Bicyclists account for about 9% of work trips, but are involved in 34% of injury collisions (includes all trips). The California Office of Traffic Safety (OTS) collision rankings for cities of similar population size (50,000-100,000) consistently rank Santa Cruz among the highest for bicyclist collisions. However, an important caveat to note that OTS data is not adjusted for mode split — our collision numbers are higher than other cities in part due to our high rates of bicycle trips.

Pedestrians are also involved in a slightly higher rate of injury collisions (14%), and motorcyclists are also overrepresented in collision data (10%). Focusing enforcement, education, and engineering efforts on cyclist, pedestrian, and motorcyclist collisions could help address this disparity.

Collisions by Mode 2009-2018



Source: SWITRS

III. Current Traffic Safety Campaigns

The City of Santa Cruz and partner agencies are currently involved in the following traffic safety campaigns, designed to improve safety and reduce collisions on our roadways.

In 2019, the Santa Cruz City Council adopted a Vision Zero resolution, joining the ranks of other cities worldwide in a commitment to make our streets safer. In early 2020, the City had taken the first step of implementing Vision Zero through beginning work on a Local Roadway Safety Plan, a data driven analysis of roadway safety with specific recommendations. At the time of the 2018 Annual Traffic Safety Report, this work was underway.

Santa Cruz Public Works Department

The majority of Transportation Engineering activities are geared towards improving safety. These activities include:

- Securing grant funding for a wide variety of projects, including safety improvements near schools and operational improvements. Most recently, this work included a \$1 million Highway Safety Improvement Program (HSIP) grant to fund pedestrian infrastructure improvements at unsignalized intersections, a \$950,000 Active Transportation Program grant for Riverwalk Lighting, and a \$4.6 million Active Transportation Program grant to design and permit Segments 8 and 9 of the Rail Trail.
- Maintaining infrastructure and addressing traffic safety issues, such as potholes
- The Street Smarts campaign raises awareness of common traffic safety issues, and encourages safe behavior among drivers, bicyclists, and pedestrians
- Responding to pedestrian and bicyclist hazard reports filed by the community
- Responding to requests for neighborhood safety improvements
- Reviewing traffic safety plans for projects in the public right-of-way
- The GO Santa Cruz program for downtown employees promotes sustainable transportation modes such as biking and walking and hosts safe bicycling workshops by Ecology Action staff with bike helmet and light giveaways.

Santa Cruz Police Department

- Office of Traffic Safety grant-funded program to increase enforcement surrounding schools during bell times

- Traffic safety tips shared via Police Department blog and social media
- Back to school bicyclist and pedestrian safety videos
- School crossing guard program at all City of Santa Cruz elementary schools
- In-school safety presentations at elementary schools
- Officer attendance at neighborhood meetings
- Targeted neighborhood speed enforcement
- Multi-jurisdictional speed enforcement efforts
- Online form available to residents to register traffic safety concerns
- Traffic safety plans for special events

Non-Profit Sector Traffic Safety Partners:

Community Traffic Safety Coalition (sponsored by County of Santa Cruz Public Health)

- Vision Zero campaign raises awareness of traffic injuries and fatalities as preventable, and focuses the conversation around proven strategies
- Ride 'n' Stride program provides bicyclist and pedestrian safety education at elementary schools throughout the county
- Neighborhood Pace Car program encourages people to set an example by driving slowly in their neighborhoods
- Traffic Calming Trash Can Sticker program provides free "Please Slow Down" stickers to City of Santa Cruz residents
- Bike Traffic School provides a bike safety class to people who receive a traffic ticket while bicycling. Classes are open to the public.

Ecology Action

- Bike Smart program provides bike safety training for all fifth graders at Santa Cruz City elementary schools (funded via grants awarded to City of Santa Cruz and Measure D)
- Walk Smart provides pedestrian safety training for all second grade elementary school students at Santa Cruz City Schools (funded via grants awarded to City of Santa Cruz and Measure D)
- UCSC bike safety classes and bike light giveaways
- Biannual Bike to Work/School Days celebrate cycling and provide data on local bike commuting habits as well as opportunities for bike safety education
- Santa Cruz City Schools Complete Streets Master Plan provides recommendations for improvements to improve safe routes to schools (partnership with City of

Santa Cruz and Santa Cruz City Schools). The recommendations from this Plan were then rolled in to the City Active Transportation Plan (ATP).

- Bike safety trainings at local employers through Employer Membership Program

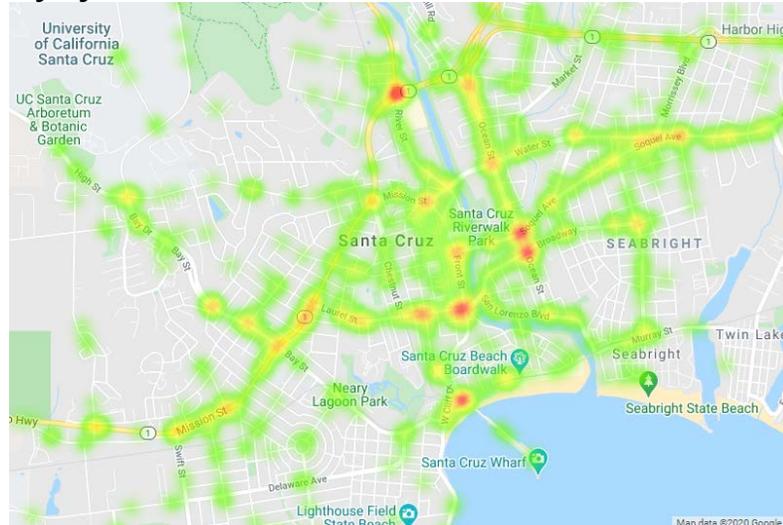
Bike Santa Cruz County

- Middle school Bike Clubs at Mission Hill and Branciforte Middle Schools teach bike safety skills to students through on-bike field trips

IV. Highest Collision Locations

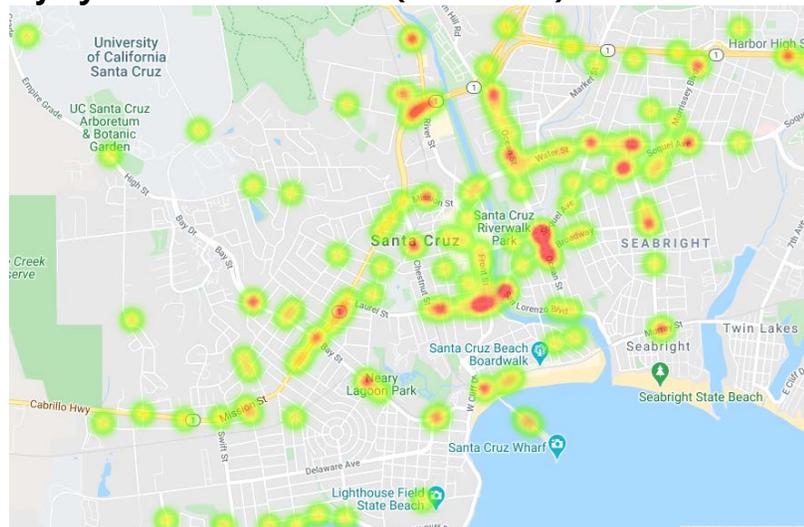
As shown below in the heat map of injury collision locations from 2014-2018, the majority of collisions in the City of Santa Cruz occur along our major transportation corridors and other high-traffic areas, particularly at intersections. Looking at the heat map for 2018, you can see that injury collisions have decreased overall and are more concentrated in specific locations. Included in this section are rankings of the top injury collision locations for the five year period from 2014 to 2018. Data is divided into intersection and mid-block locations.

Injury Collision Locations (All Modes) 2014-2018



Source: SWITRS

Injury Collision Locations (All Modes) 2018



Source: SWITRS

Highest Injury Collision Intersection Locations 2014-2018 (All Modes)

1. Laurel at Washington – 9 collisions (1.8 per year)
2. Mission St at Bay St – 8 collisions (1.6 per year)
3. State Hwy 1 at River St – 8 collisions (1.6 per year)
4. Pacific Ave at Laurel St – 6 collisions (1.2 per year)
5. Plymouth St at Ocean St – 6 collisions (1.2 per year)
6. Seabright Ave at Broadway – 6 collisions (1.2 per year)
7. Escalona Dr at Bay St – 5 collisions (1 per year)
8. Walti St at Laurel St – 5 collisions (1 per year)

*Eleven intersections tied for 9th with 4 collisions (0.8 per year) each:

- King St at Bay St
- Mission St at King St
- Ocean St at Broadway
- Soquel Ave at Dakota Ave
- Soquel Ave at Forest Ave
- South Branciforte at Broadway
- Hwy 1 at Mission St
- Swift St at Hwy 1
- Van Ness Ave at Mission St
- Washington St at Pacific Ave
- Water St at Mission St

For the top intersection collision locations of Laurel at Washington, Mission at Bay, State Hwy 1 at River, and Pacific at Laurel, the top primary collision factors were:

1. Unsafe speed – 17% or 2.6 collisions per year
2. Traffic signals or signs – 10% or 0.8 collision per year
3. Unsafe starting or backing – 7% or 0.6 collision per year
4. Improper turning – 7% or 0.6 collision per year

The remaining primary collision factors were DUI, other than driver or pedestrian, pedestrian right of way, automobile right of way, and pedestrian violation, with 17% of collisions with an unknown primary collision factor (the majority of these were hit and run collisions). Primary collision factors across the board vary, which necessitates looking at each location for context sensitive solutions.

The top injury collision location was Laurel at Washington. Of the eight collisions that occurred there between 2014 and 2018, three collisions involved two vehicles only and one collision involved a solo vehicle hitting an object. There were two collisions involving a vehicle and a bicyclist, one collision involving a vehicle and pedestrian, and one collision involving a vehicle and a motorcycle. Three collisions were rear-end

collisions and one was a head-on collision. The primary collision factor for these collisions varied, with only two involving the same factor of unsafe speed. Other primary collision factors included auto right-of-way violation, improper turning, unsafe starting or backing, pedestrian violation, other hazardous violation, and one unknown cause.

Corridor improvements on Laurel Street were installed in late 2011, including pedestrian median islands, dedicated left-turned lane pockets, parking removal, and relocated bus stops. While collisions along this corridor remain high, there has been a reduction since improvements were installed. Between 2008 and 2011, there were 18 injury collisions on Laurel Street between California and Chestnut. In the 4 years (2012-2015) after improvements were installed, that number went down to 13 (28% reduction). Green bike lane treatments were also installed in conflict zones along the Laurel Street corridor in early 2015, as well as a left-turn pocket at Walti, new pavement markings, and visibility improvements at intersections.

The bicycle collision reduction at Laurel and Walti has been significant. **In the three years since the 2015 improvements there has been an 80% reduction in bike collisions at Laurel and Walti, compared to the three years prior.** In 2018, there were no bicycle collisions in this location, a promising sign that the infrastructure improvements are working. We will continue to monitor the data to see if these promising trends continue.

The #3 collision location, Hwy 1 at River Street, is scheduled for improvements in the next few years, including new lanes and assignments designed to reduce rear-end and sideswipe collisions. The intersection of Seabright and Broadway received new green bike lane treatments in 2016, and the intersection of Bay and King has a new left turn pocket, dedicated signal phase, and new sidewalk.

Highest Injury Collision Mid-block Locations 2014 – 2018 (All Modes)

1. Murray St from Lake Ave to Seabright Ave – 6 collisions (1.2 per year)
2. Laurel St from San Lorenzo Blvd to Front St – 6 collisions (1.2 per year)
3. Beach St from Riverside Ave to Cliff St – 6 collisions (1.2 per year)
4. Mission St from Van Ness Ave to Laurent St – 6 collisions (1.2 per year)
5. Municipal Wharf from End to Beach St – 6 collisions (1.2 per year)
6. State Hwy 1 from River St to Chestnut St Extension – 5 collisions (1 per year)

Twelve locations tied for 7th with 4 collisions (0.7 per year) each:

- Washington St from Center St to Laurel St
- Chestnut St Extension from Mission St to State Hwy 1
- Front St from Cathcart St to Soquel Ave

- Front St from Laurel St to Cathcart St
- Ocean St from Leonard St to Water St
- San Lorenzo Blvd from Broadway to Laurel St
- Soquel Ave from North Branciforte Ave to Ocean View Ave
- Soquel Ave from Ocean St to Dakota Ave
- State Hwy 1 Southbound Off-ramp to River St
- Water St from Ocean St to River St
- West Cliff from Beach St to Bay St
- West Cliff from Pelton Ave to Columbia St

Source: Crossroads

For the top midblock intersection collision locations of Murray St from Lake Ave to Seabright Ave, Laurel St from San Lorenzo Blvd to Front St, Beach St from Riverside Ave to Cliff St, and Mission St from Van Ness Ave to Laurent St, the top 2 primary collision factors made up nearly 50% of the collisions:

1. Unsafe Speed – 25% or 1.4 collisions per year
2. Improper Turning – 21% or 1.2 collisions per year

Unfortunately, 25% of collisions in these locations had an unknown or unstated primary collision factor (many being hit and runs). The remaining 29% of collisions had the following primary collision factors: pedestrian right of way, automobile right of way, pedestrian violation, driving under the influence, and unsafe lane change.

Bicycle & Pedestrian Top Collision Locations

People biking and walking are disproportionately involved in collisions, and the top bike and pedestrian collision locations were analyzed separately to guide future improvements. In the previous Traffic Safety Report, Bay and Escalona had tracked as the highest bicycle injury collision intersection location. Since that time, the City of Santa Cruz has completed a project to improve bicyclist and pedestrian safety, and the Bay and Escalona location dropped to the second highest collision intersection location. The completed improvements included widening the downhill bike lane, adding green lane treatments, installation of a Rectangular Rapid Flashing Beacon (RRFB), and an improved pedestrian crossing.

Highest Collision Intersection Locations 2014 – 2018 (Bicycles)

1. Walti St at Laurel St – 4 collisions (0.8 per year)
 2. Escalona Dr at Bay St – 4 collisions (0.8 per year)
 3. Union St at Cedar St – 3 collisions (0.6 per year)
 4. Washington St at Laurel St – 3 collisions (0.6 per year)
- Five locations tied for 5th with 2 collisions (0.4 per year) each:
- Laurel St at California St

- Plymouth St at Ocean St
- Soquel Ave at Forest Ave
- Soquel Ave at Front St
- Water St at Mission St

Source: Crossroads

Laurel and Walti, the #1 location of bicycle collisions, as mentioned above, has seen a significant reduction in these collisions following improvements installed in 2015. While this location is still the top bicycle collision location, the number of collisions has decreased significantly, with only two bicycle collisions from 2016-2017 and no bicycle collisions at this location in 2018.

Highest Collision Intersection Locations 2014 – 2018 (Pedestrians)

1. Laurel St. at Pacific Ave – 6 collisions (1.2 per year)
2. State Hwy 1 at River St – 4 collisions (0.8 per year)
3. Plymouth St at Ocean St – 3 collisions (0.6 per year)
4. Soquel Ave at Dakota Ave – 2 collisions (0.4 per year)
5. Van Ness Ave at Mission St – 2 collisions (0.4 per year)
6. Water St at May Ave – 2 collisions (0.4 per year)
7. Water St at Ocean St – 2 collisions (0.4 per year)
8. Church St at Chestnut St – 1 collisions (0.2 per year)
9. Church St at Cedar St – 1 collisions (0.2 per year)

33 intersections tied for 10th place with 1 pedestrian collision each (0.2 per year)

Public Works will continue to investigate possible improvements at Laurel and Pacific, the top pedestrian collision intersection. Of the three injury collisions at this location in 2018, one involved a vehicle that hit a pedestrian crossing in the crosswalk (driver at fault, daytime), one involved a vehicle that hit a pedestrian who was not in the crosswalk (pedestrian at fault, nighttime), and one was a DUI head-on collision involving two vehicles (DUI driver at fault, late-night/early morning).

Pedestrian countdown signals were installed in late 2015, which provide more warning to pedestrians on when it is safe to cross. While this change is too recent to provide conclusive data, early results are positive – in the first three years since the new signals were installed there have been two pedestrian collisions, compared to four collisions in the three years prior to improvements.

The improvements planned for Highway 1 at River Street include new bike lanes on River Street, which may help reduce bike collisions. The City has also constructed a bike

and pedestrian path under Highway 1, as well as a bike and pedestrian bridge at Felker, to provide a safe alternative to this high-traffic intersection.

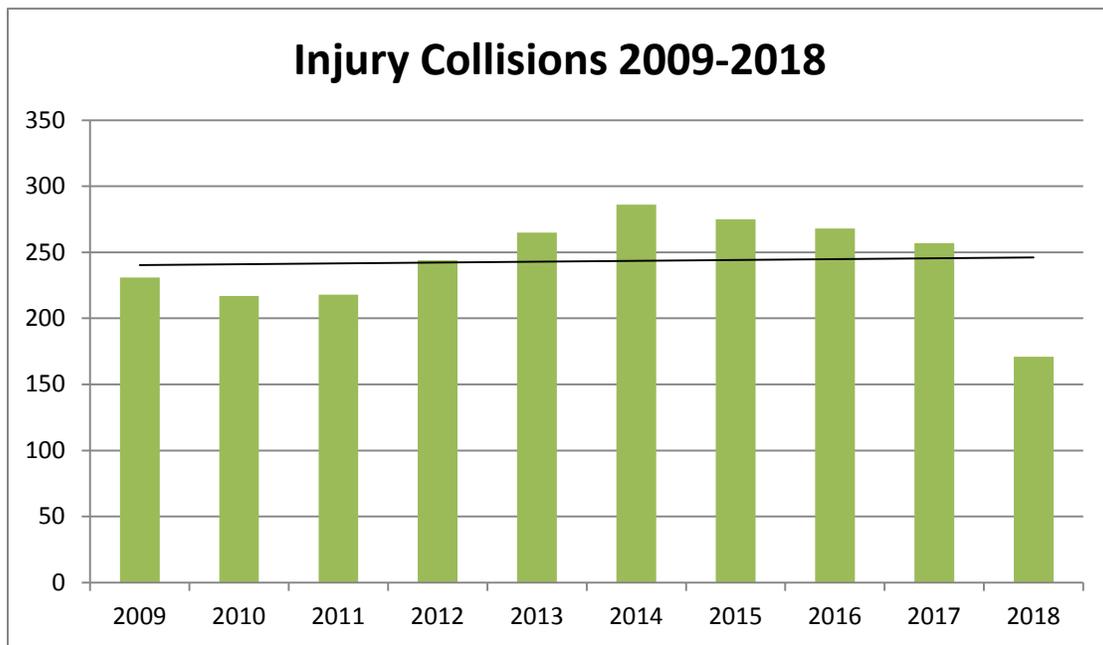
Plymouth and Ocean, the #3 pedestrian collision intersection, moved from 4th to 3rd top pedestrian collision locations this year. The one pedestrian collision at this location in 2018 involved a truck failing to yield to a pedestrian in a crosswalk at an intersection and occurred at 8:34 pm (dark with street lights) on a Sunday evening. The other pedestrian collisions that occurred in this location from 2014-2018 were hit and run with an unknown cause or the same vehicle code violation of failing to yield to a pedestrian in a crosswalk. All of the collisions involved a pedestrian crossing within a crosswalk at an intersection, with functioning control devices, and during the evening hours between 6 pm and 9 pm.

V. Collision Trends

To establish collision trends, injury collisions for the 10-year period from 2009-2018 were analyzed. This is enough time to adjust for changes in population, economic variations, and transportation mode shifts and infrastructure improvements.

The decline in collisions from 2009-2010 was likely due to the economic recession, which resulted in higher unemployment and fewer car trips nationwide. Statewide collision data has followed a similar trend, with collisions decreasing significantly from 2005-2010, and rising steadily from 2011-2014. Therefore, the rise in collisions between 2012 and 2014 should be viewed in the context of increased overall trips resulting from economic recovery.

In 2018, collisions were down sharply from 2017. Overall, we saw a 33% decrease in collisions. While too soon to know if this trend will continue, this reduction is a huge victory for roadway safety for all modes.



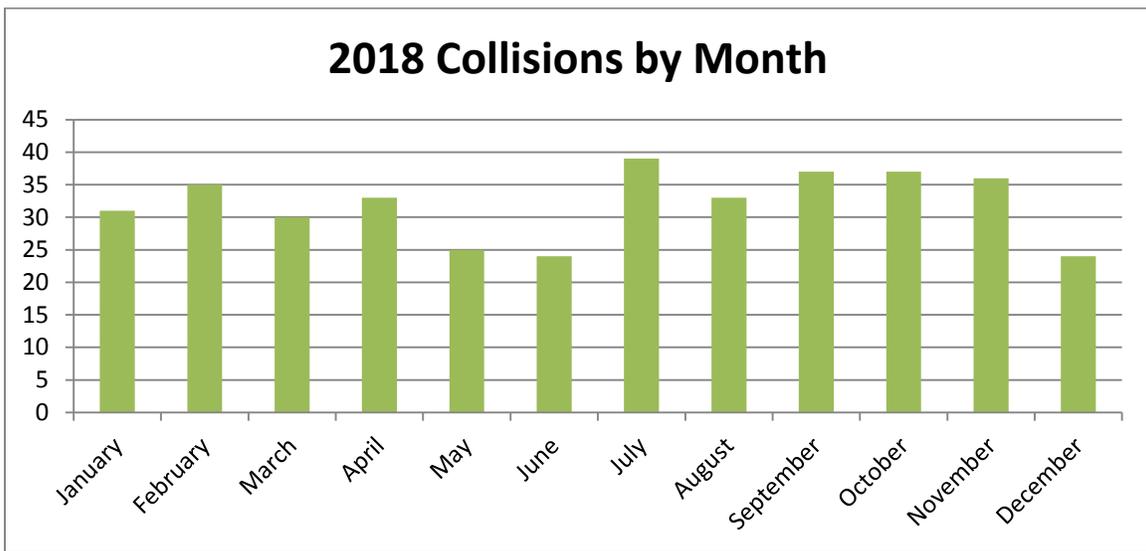
Source: SWITRS

Of these total collisions, a very small percentage cause fatalities (2 in 2018, or 1% of injury collisions). Enforcement and engineering are the primary tools in the work required to eliminate fatal collisions. The City of Santa Cruz has adopted a Vision Zero resolution, and work on the Local Roadway Safety Plan is underway. This data driven

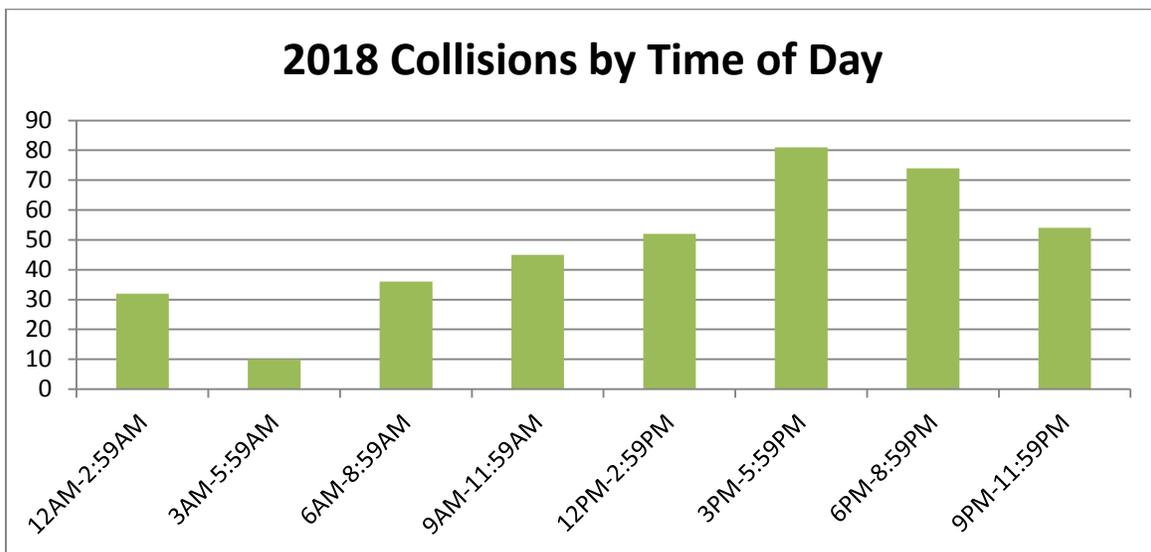
work will further assist in identifying correctable collision patterns and tools to address them, continuing the effort towards eliminating fatal collisions.

Collision Date and Time Data

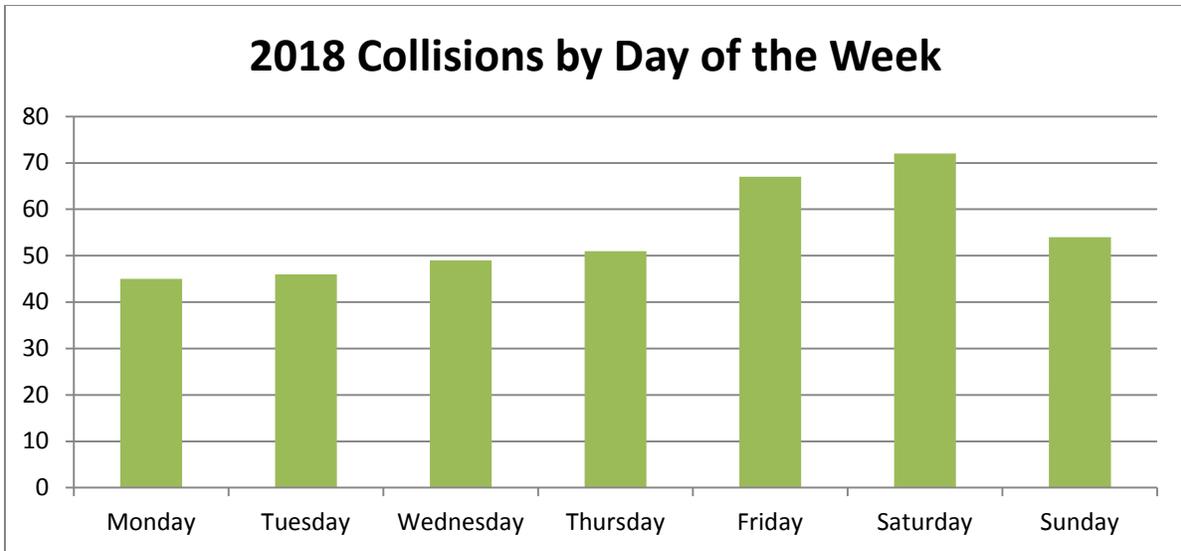
Looking at all 2018 collisions by month, day of the week, and time of day, the trends are as expected. Collisions are higher in the summer when traffic volumes are higher. Collisions are also highest during the peak commute time, 3:00pm-6:00pm. Collisions peaked on Fridays and Saturdays and the midweek period had a much lower rate of collisions in 2018.



Source: Crossroads



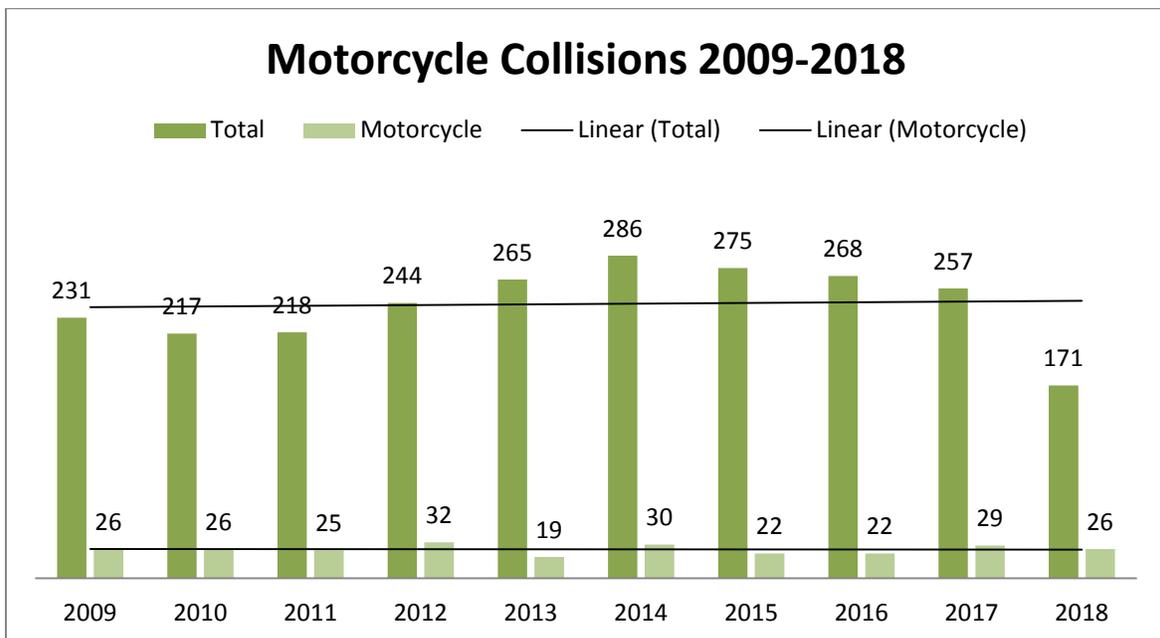
Source: Crossroads



Source: Crossroads

Motorcycle Collisions

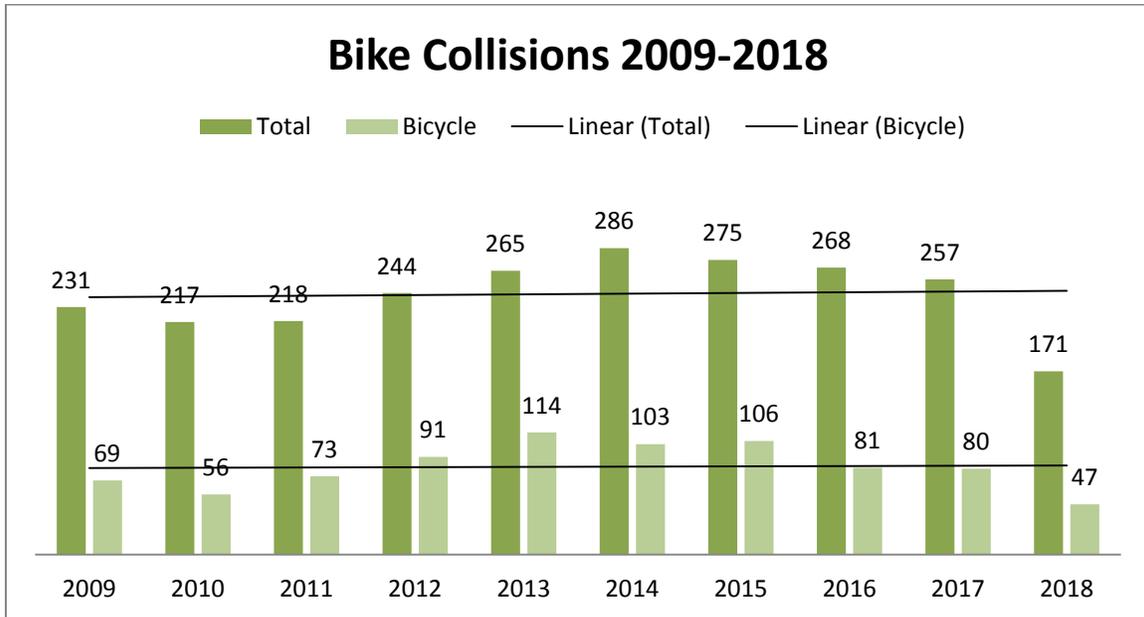
Motorcycle collisions are consistently high for our jurisdiction. In 2017, the most recent year available, the Office of Traffic Safety ranked Santa Cruz #1 out of 105 cities of similar size for motorcycle collisions. With this, from 2017 to 2018, the total number of collisions involving motorcycles dropped by 10%. Comparing motorcyclist injury collisions to total injury collisions for the 10 year period, the trend line is consistent for motorcyclist collisions while overall collisions show a slight upward trend.



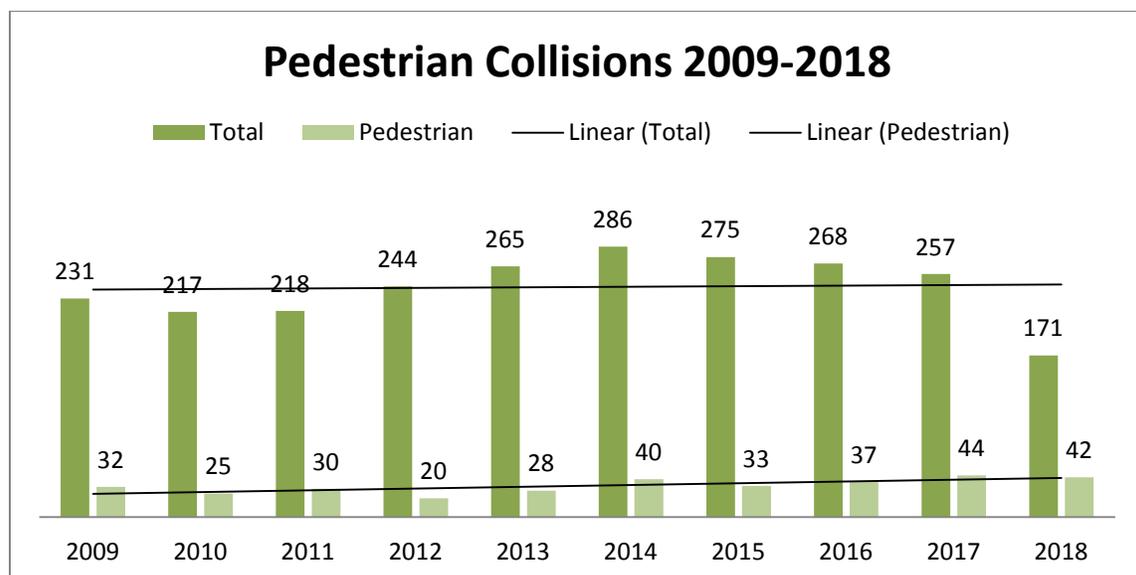
Source: SWITRS

Bike and Pedestrian Collisions

Santa Cruz has a high bike and pedestrian mode split, and a correspondingly high number of collisions involving people biking and walking. Over a 10 year period, the trend for bicyclist collisions has been relatively flat, but decreasing 59% from a peak in 2013. Over this same time period, there has been an upward trend in pedestrian collisions, though pedestrian collisions decreased slightly from 2017 to 2018.

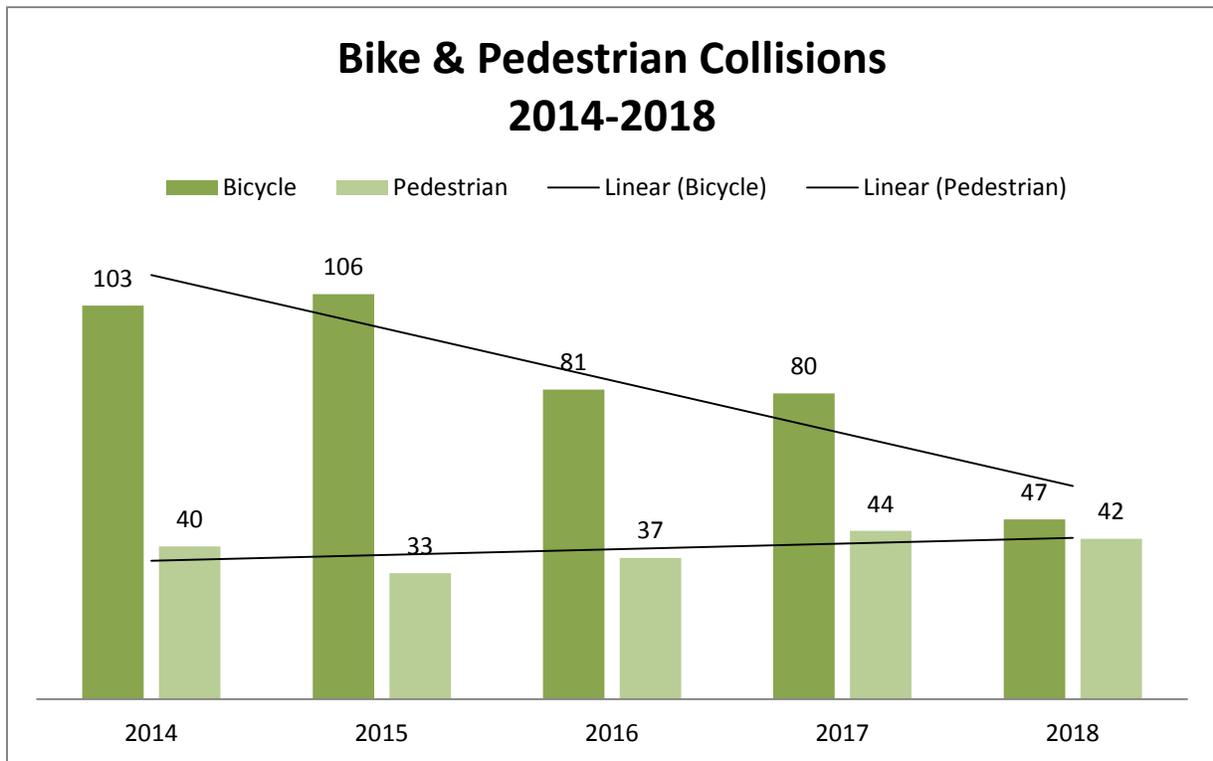


Source: SWITRS



Source: SWITRS

From 2017 to 2018 the City of Santa Cruz saw a 41% decrease in the number of bicycle collisions, which can be attributed to bicycle infrastructure improvements throughout the City, safety education, and outreach campaigns. As shown in the chart below, the number of bicycle collisions has steadily decreased over the five year period from 2014 to 2018. While pedestrian injury collisions have remained relatively flat over that same period, they decreased by 5% in 2018.



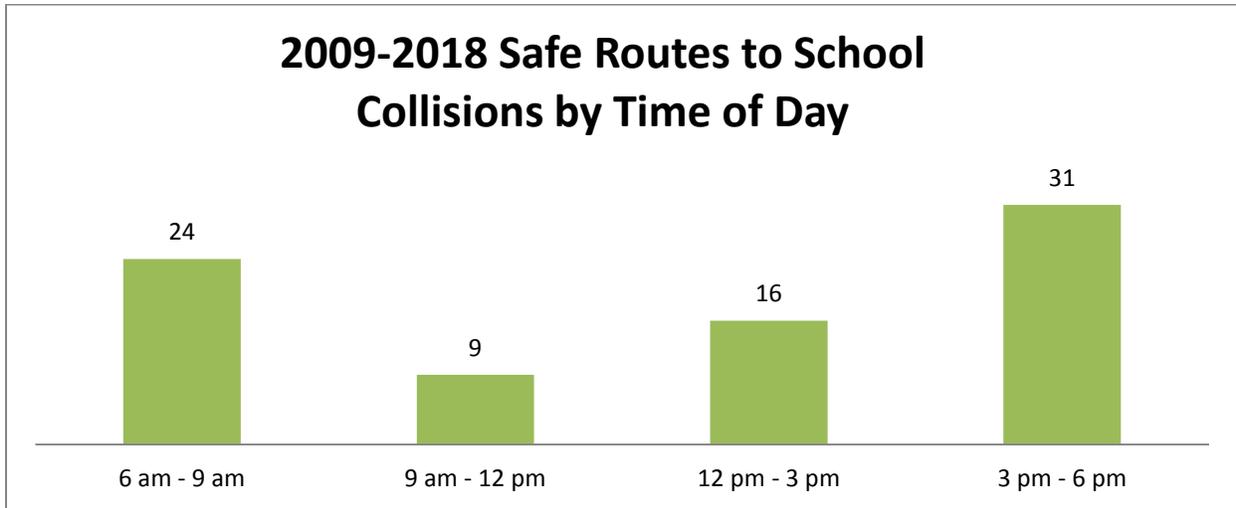
Source: SWITRS

Safe Route to Schools Data

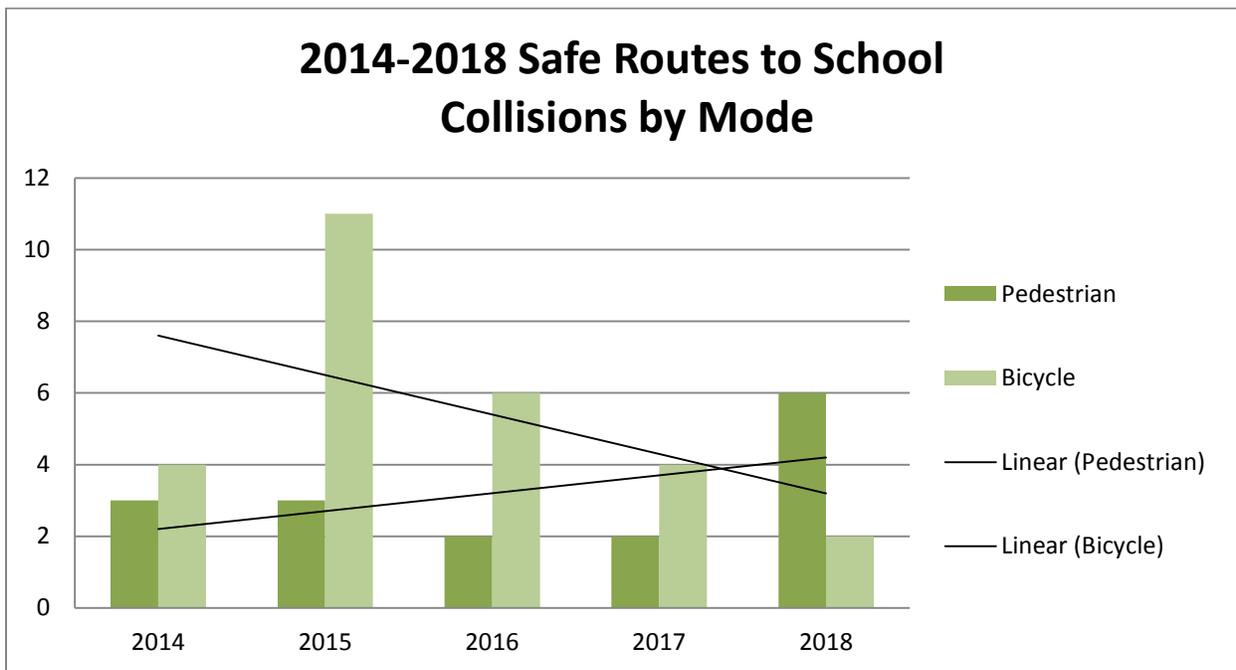
The safety of youth biking and walking to school is a frequent concern in our community. Analysis of injury collisions involving school-aged pedestrians and bicyclists for the 10-year period, focusing on trips to and from school, provides insight into the data behind the perception of safety. The following graphs represent bicycle and pedestrian collisions that occurred on weekdays from September through June, between 6:00am and 6:00pm, and involving young people aged 5-17.

During the 10 year period from 2009 to 2018, the majority of injury collisions (70%) involved bicyclists rather than pedestrians, and high school-aged youth had the highest rate of injury collisions, averaging 5 injuries annually. Despite the ten year trend, SRTS data for bicyclists in 2018 mirrors the citywide trend, with a significant reduction in bicyclist collisions in school-aged populations. This trend has continued from 2015 to

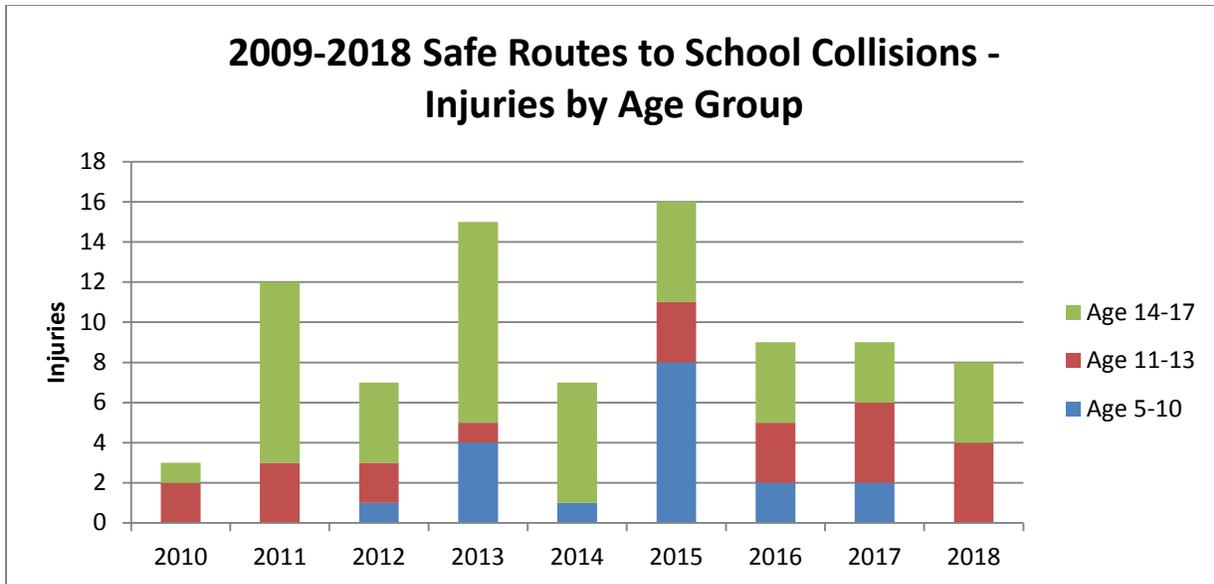
2018, with collisions reducing by 50% for school-aged bicyclists. Elementary school students were involved in collisions at the lowest rate, averaging less than two injuries per year for the entire city. There were no collisions involving elementary-aged youth in 2018. The largest percentage of youth injury collisions occurred between 3pm-6pm, when young people are sharing the roads with commute traffic. During the five year period from 2014 to 2018, there has been a significant decrease in bicycle collisions and a slight increase in pedestrian collisions.



Source: SWITRS



Source: SWITRS



Source: SWITRS

Top 5 SRTS Collision Streets 2009-2018

1. Soquel Ave – 10 collisions (1 per year)
2. Bay St/Dr – 6 collisions (0.6 per year)
3. King St – 5 collisions (0.5 per year)
4. Tie: Walnut Ave and Seabright Ave – 4 collisions (0.4 per year)
5. Tie: Laurel St and La Fonda Ave – 3 collisions (0.3 per year)

Source: SWITRS

Between 2009 and 2018, 51% of collisions occurred on five streets, with Soquel Avenue accounting for 14% (10 collisions) of all collisions in this group. Bay Street/Drive was the 2nd highest collision street, with 6 collisions in the ten year period. Soquel Ave, Bay Street/Drive, King Street, Laurel Street, and Seabright Avenue all remained on the top five streets with Safe Routes to School collisions from 2017 to 2018. That said, Walnut Avenue joined the list tied with Seabright Ave for #4 and La Fonda Avenue joined the listed tied with Laurel Street for #5.

The number of injury collisions involving youth going to or from school decreased by 43% from 2015 to 2018. Of the eight collisions involving cyclists and pedestrians aged 5-17 in 2018, two involved cyclists and six involved pedestrians. Six of the collisions were the fault of a driver and two were the fault of the pedestrian or cyclist.

Of collisions where drivers were at fault, two were pedestrian right-of-way violations, one was an auto right-of-way violation, one was a traffic signal/sign violation and a hit

and run, one was driving on the wrong side of the road, and one was passing improperly.

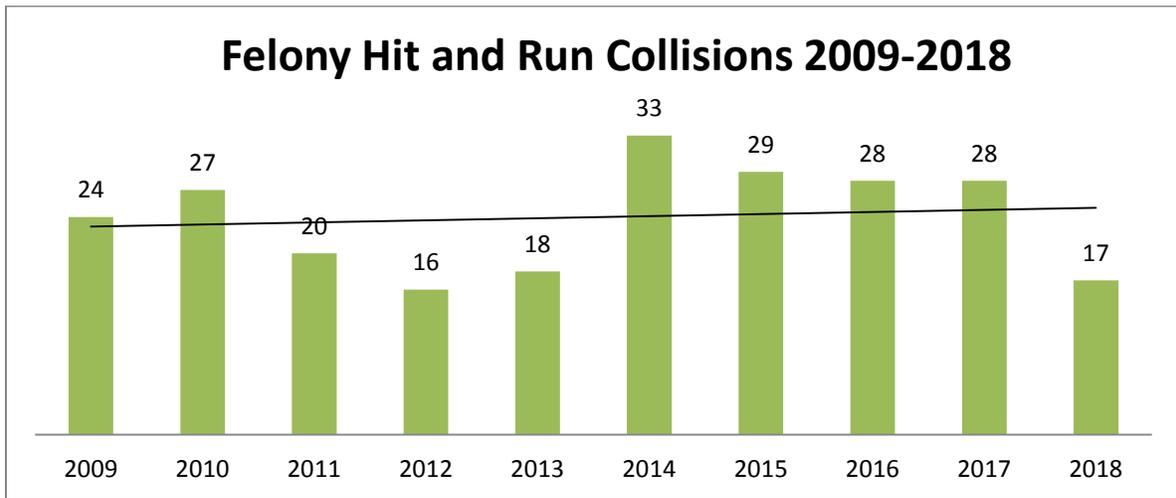
Of the two collisions where youth were at fault, both were pedestrian violations at mid-block locations, not in marked or unmarked crosswalks. One collision was a high school aged pedestrian who failed to yield to a vehicle in the roadway on Rigg St near California St. Another collision was a high school aged pedestrian who suddenly entered the roadway in the path of a vehicle on La Fonda Ave near Oak Way.

In 2019 and 2020, crosswalks improvements were completed at many Safe Routes to School locations throughout the city. This project included intersection improvements at 24 locations surrounding all eight Santa Cruz City Schools, and was driven by input from the Santa Cruz City Schools Complete Streets Master Plan. This project was completed in 2020 and the coming years of data will hopefully reflect improvements in SRTS collision data surrounding schools.

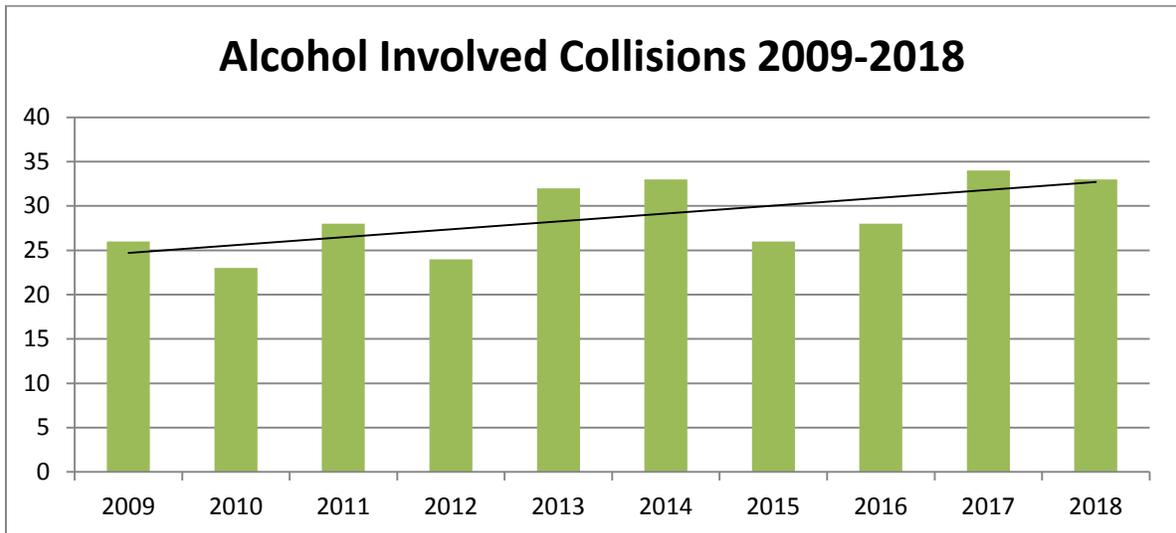
Awareness is a key factor in all of these collisions. Reminding drivers to check for bicyclists and pedestrians before all turns, and encouraging youth to check for cars before making turning movements or entering crosswalks, is an important complement to enforcement and engineering activities. The City of Santa Cruz Street Smarts campaign is aimed at increasing this awareness, and reminding all road users to follow the rules of the road. This data represents a more complete picture of the relative risk of biking or walking to school in Santa Cruz, and may suggest that additional bike and pedestrian safety education for older students is warranted.

VI. Key Collision Factors

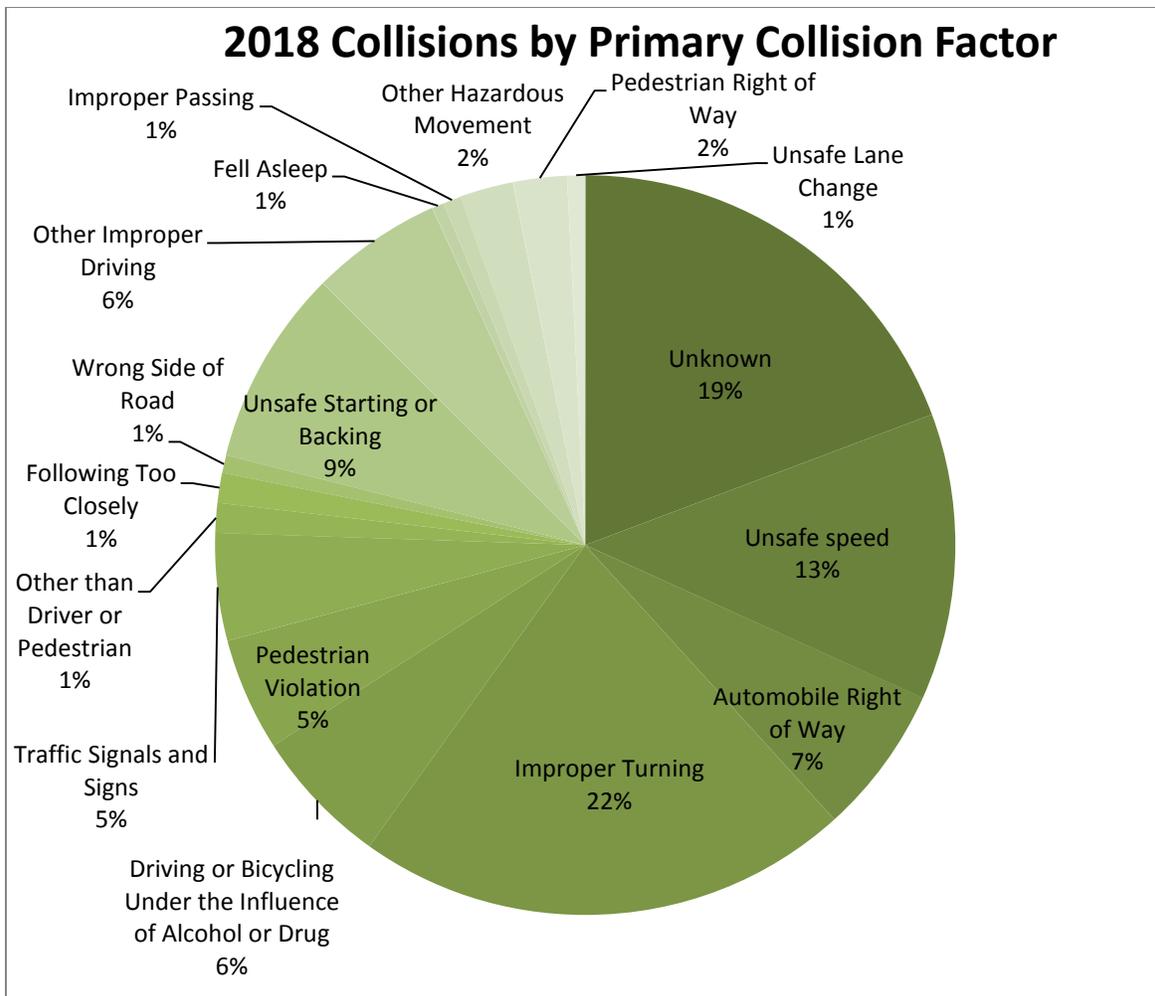
Finally, collision data was analyzed by primary collision factor, as well as for trends in hit and run and alcohol-involved collisions. After remaining the same from 2016-2017, hit and run collisions decreased by 41% from 2017 to 2018. Alcohol-involved collisions have seen an upward trend since 2015, but there was a 3% decrease from 2017 to 2018. Improper Turning was the #1 cause of collisions, followed by Unsafe Speed and Unsafe Starting or Backing.



Source: SWITRS



Source: SWITRS



Source: Crossroads

Primary Collision Factor Definitions

Unsafe speed: Driving at a speed greater than is reasonable or prudent, or without due regard for weather, visibility, traffic, etc.

Automobile Right of way: Failure to yield right of way to other roadway users.

Improper Turning: Making an unsafe turning movement, or failure to signal.

Driving or Bicycling Under the Influence of Alcohol or Drug: Operating a vehicle while under the influence.

Pedestrian Violation: Pedestrian failure to yield right of way to other vehicles while outside of a legal crosswalk.

Other than Driver (or Pedestrian): Collision caused by outside factor.

Pedestrian Right of Way: Driver failing to yield right of way to a pedestrian at a legal crosswalk.

Following Too Closely: Following another vehicle more closely than is reasonable and prudent.

Wrong Side of Road: Driving a vehicle on the wrong side of the road or against traffic.