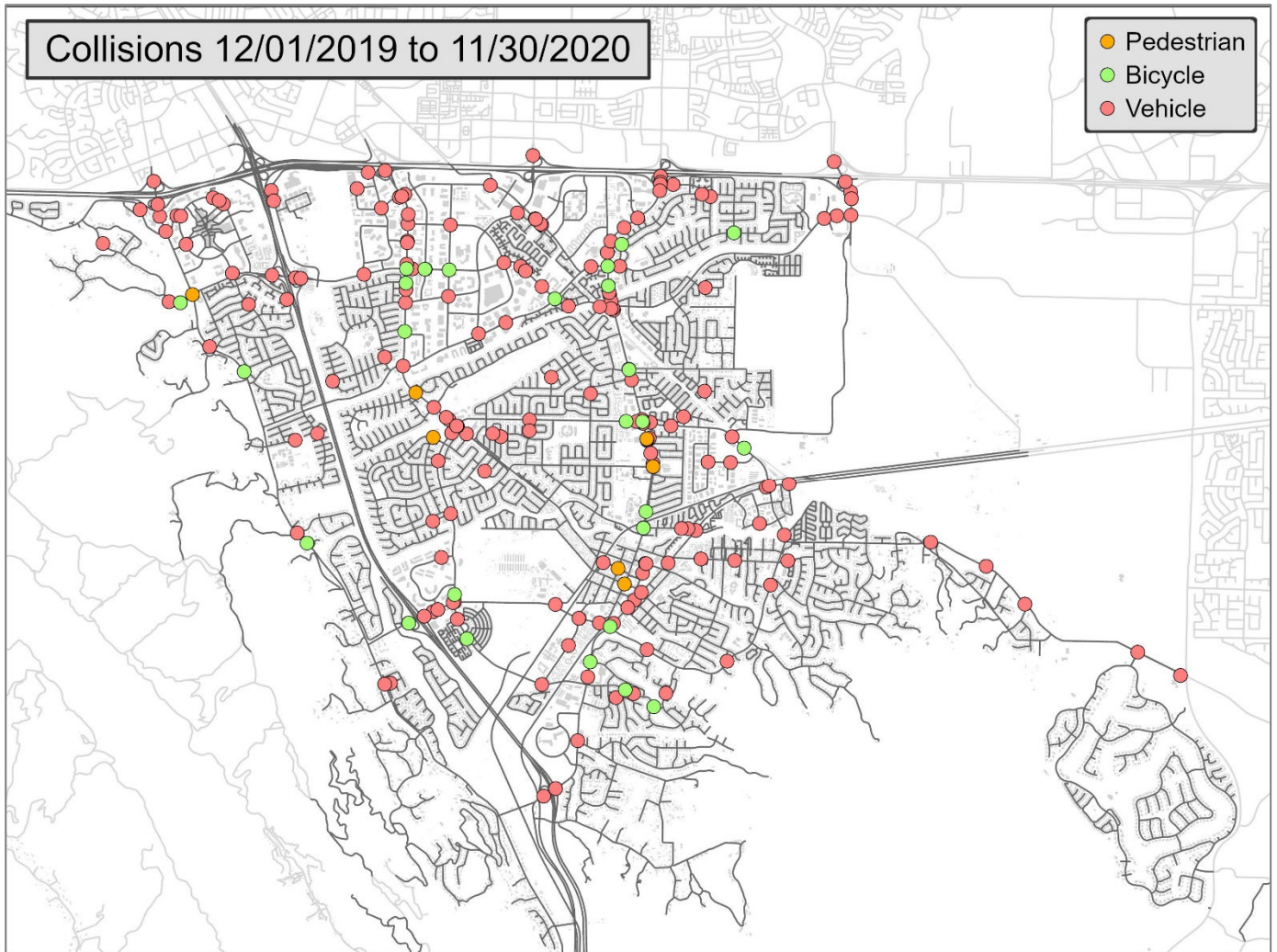


Annual Collision Analysis 2021



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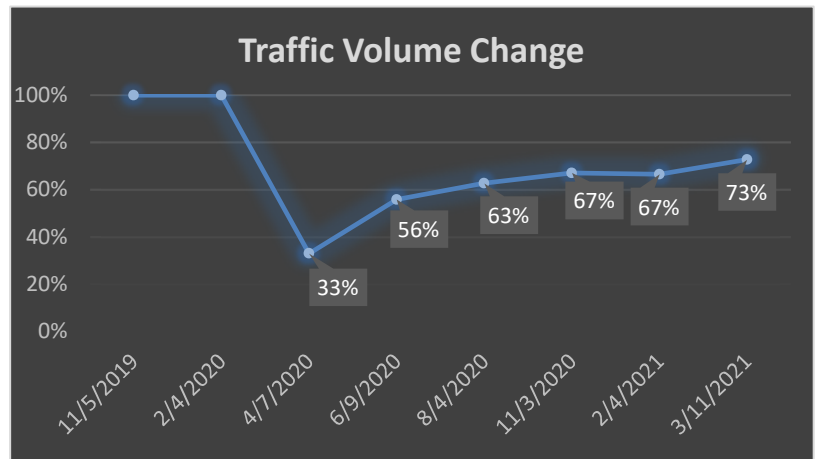


Summary

This report summarizes the collisions within the City in 2020 and analyzes trends and patterns to identify changes that can be made to reduce the number of collisions. Reported traffic collisions involving vehicles, bicyclists and pedestrians are reviewed on a weekly basis by Traffic Engineering. The weekly review looks at individual collisions to determine if improvements can be made to improve safety. This report takes a comprehensive look at the one-year and three-year trends to identify larger patterns and improvements that can improve safety.

Volume Trends

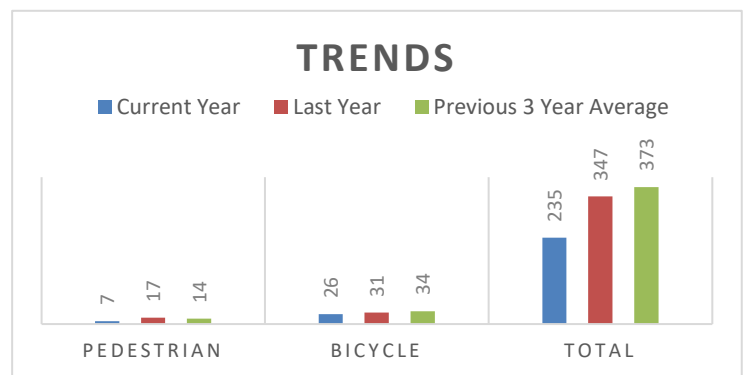
The pandemic caused a significant decrease in vehicle traffic volumes¹ and a corresponding decrease in overall collisions. This reduction in traffic volumes was most notable with the first stay at home order. However, this trend continued with traffic remaining at reduced levels as some workers continued to work from home, schools continued remote learning, and there was less ability/desire to travel for leisure. This trend has been reported by



multiple transportation agencies and a sampling of key Pleasanton intersections showed the trend locally. While vehicle volumes have decreased, both bicycle and pedestrian activity increased. Our current infrastructure does not allow for a quantitative measure of the change in bicycle and pedestrian activity.

Collision Trends

The total number of collisions for the current year² was approximately 63% of the prior year's number of collisions (235 compared to 375) and less than the previous three-year average³ of 373. There were fewer bicyclist collisions this year (26 compared to 31 last year and 34 for the three-year average). Pedestrian collisions decreased as well, with only seven compared to 17 last year and 14 for the three-year average.



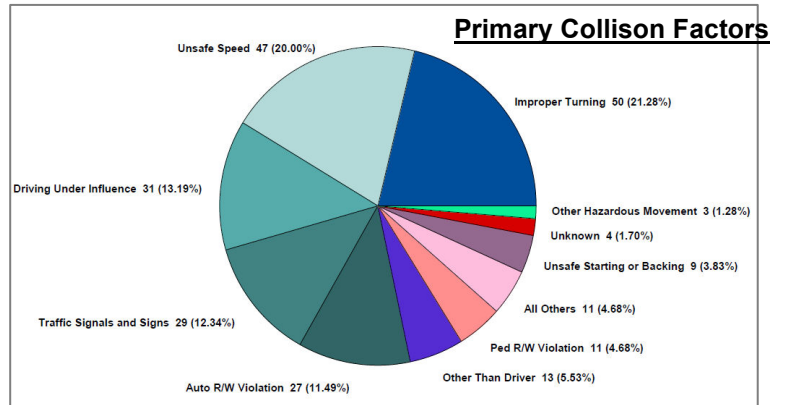
¹ Averaging the volume reduction for the entire year showed an annual vehicle volume approximately 70% of normal.

² Reported traffic collisions that occurred between 12/01/2019 and 11/30/2020 are included in the "current year"

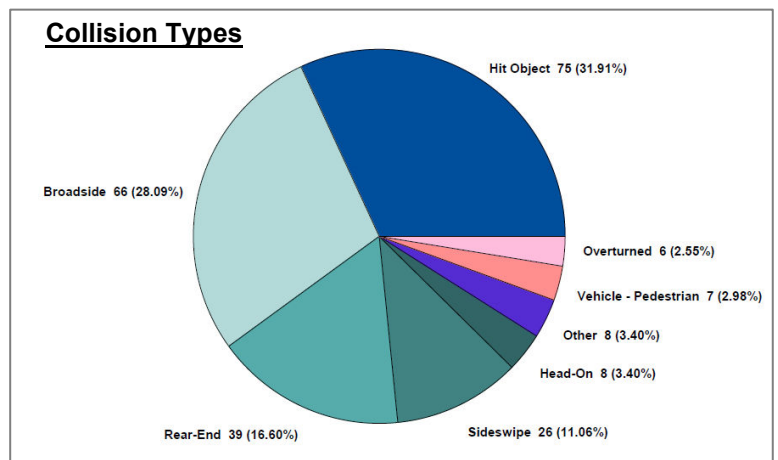
³ The previous three-year period is 12/01/2016 to 11/30/2019

The dramatic decrease in collisions can be largely attributed to the decrease in traffic volumes stated above.

Primary collision factors (by percentage) remained relatively consistent to previous years. Unsafe speed and improper turning are the most common reasons for collisions. The two combine to account for 41% of all collisions with auto right-of-way, traffic signals/signs and DUI rounding out the top five. The percent of collisions involving a driver under the influence increased this year to 13% compared to 10% last year and 7.75% two years ago.

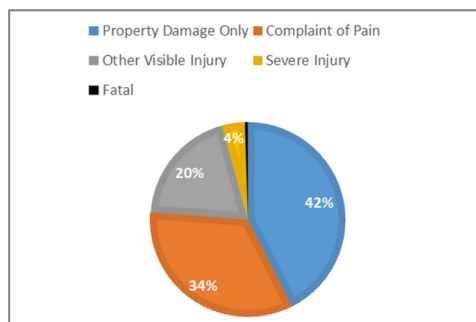


Collision types (by percentage) showed a six percent increase in collisions where vehicles hit objects and decreases in both rear-end (five percent decrease) and vehicle-pedestrian (two percent decrease) collisions compared to last year.

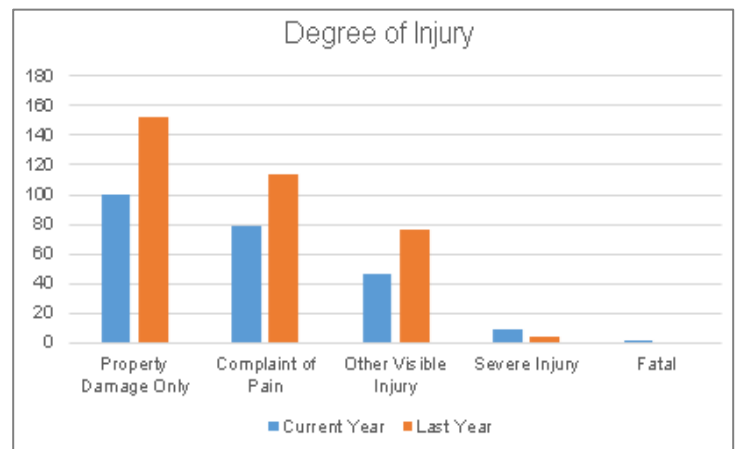


The percentage of vehicle collisions occurring at night versus day are the same as last year (33 percent of all collisions occurring at night and 66 percent during the day). The historical average has fewer nighttime collisions (28 percent) and more daytime collisions (70 percent).

The highest degree of injury reported in each collision is categorized by five levels (fatal, severe, visible injury, complaint of pain and property damage only). The percent of each of the injury types remained essentially the same when comparing this year to last year. The

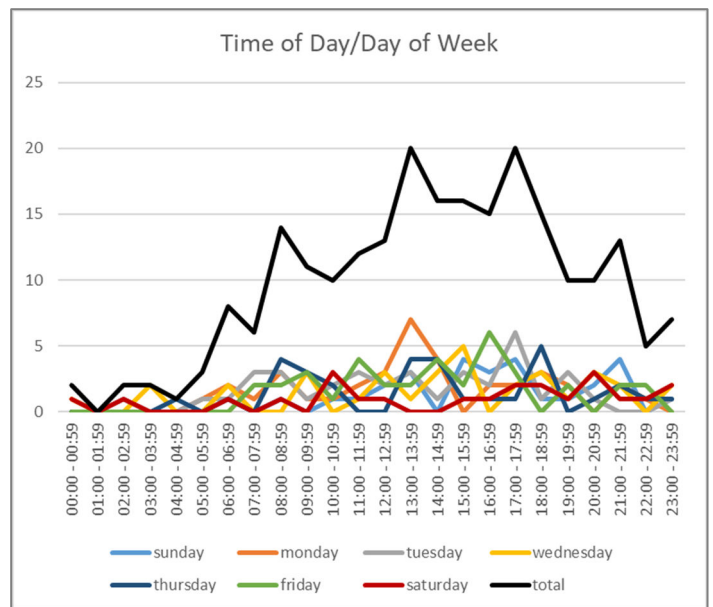
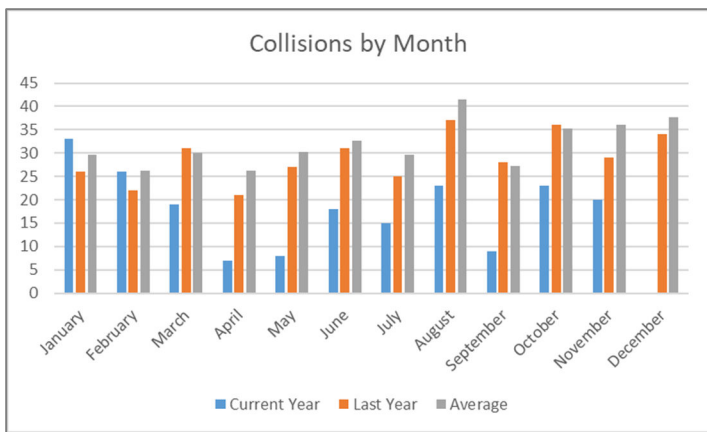
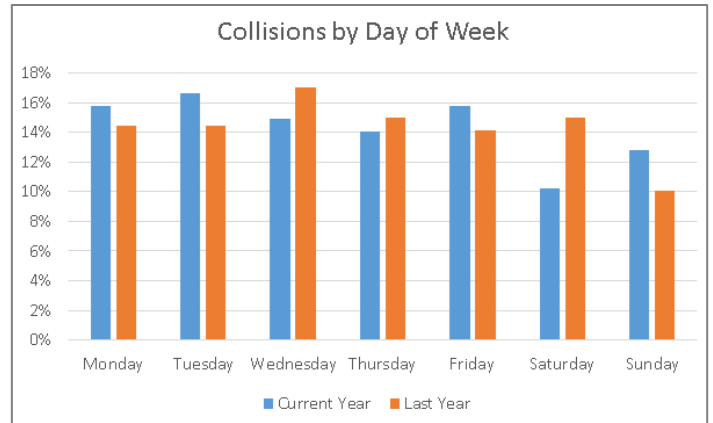
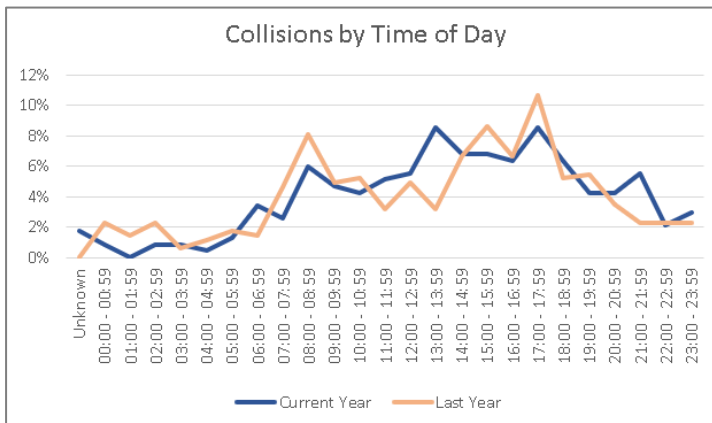


severe injury category is the notable exception with more this year than last year and a corresponding higher percentage of total collisions.



There was one fatal collision this year and zero fatal collisions last year (1/18/2020 - West Las Positas Boulevard at Hacienda – Solo driver under the influence hit object). Historically Pleasanton averages one fatality per year.

Time of day analysis typically shows the majority of the collisions in the morning, school pick-up, and afternoon commute periods. This is not surprising as there is an increase in vehicle trips during these times. This year there were similar peaks in the morning and afternoon commutes and an increase in the early afternoon not seen before. In looking at the different days of week Mondays between 1 p.m. and 2 p.m. had the highest number of collisions. Collisions by month analysis identified those months prior to the pandemic with the highest percentage of collisions. Historically August has the most collisions, with the rest of the months being more variable.



Current Year Analysis

Intersection

The intersections with the most collisions (vehicle, bicyclist and pedestrian combined) were identified for

the current year and compared to both last year and the previous three-year period. The intersections of **Santa Rita Road at Valley Avenue, Hopyard Road at Owens Drive, and Hopyard Road at Stoneridge Drive** appear on all three lists. There are often year-to-year fluctuations in collision locations, which is why the three-year trend is included in the analysis. Traffic engineering staff analyzed each intersection in detail to identify correctable patterns.

Current Year (12/1/19 - 11/30/20)			Last Year (12/1/18 - 11/30/19)			Previous 3 Years (12/1/16 - 11/30/19)		
Rank	Intersection	Collisions	Rank	Intersection	Collisions	Rank	Intersection	Collisions
1	Santa Rita Rd at Valley Av	8	1	Willow Rd at Gibraltar Dr (N)	7	1	Hopyard Rd at Stoneridge Dr	19
2	Hopyard Rd at Stoneridge Dr	6	2	Stoneridge Dr at Off Ramp SB I680 to	7	2	Santa Rita Rd at Valley Av	17
3	Sunol Bl at On Ramp NB I680 From EB	6	3	Hopyard Rd at Owens Dr	6	3	Hopyard Rd at Owens Dr	16
4	Bernal Ave at Case Av	3	4	First St at Vineyard Av	5	4	Sunol Bl at On Ramp NB I680 From EB	16
5	Hopyard Rd at Owens Dr	3	5	Hacienda Dr at Off Ramp WB I680 to	5	5	Hopyard Rd at W Las Positas Bl	15
6	Foothill Rd at I-580 WB Off Ramp	3	6	Hopyard Rd at Stoneridge Dr	5	6	Santa Rita Rd at W Las Positas Bl	14
7	Santa Rita Rd at Pimlico Dr/I-580 EB	3	7	Stoneridge Dr at Stoneridge Mall Rd	5	7	Willow Rd at Gibraltar Dr (N)	14
8	Santa Rita Rd at Francisco St (W)	3	8	Santa Rita Rd at Valley Av	5	8	Hacienda at WB I-580 Off Ramp	12
9	Santa Rita Rd at Black Av (W)	3	9	Bernal Av at Valley Av (W)	5	9	Santa Rita Rd at Stoneridge Dr	12
10	Stoneridge Dr at Chabot Dr	3				10	Bernal Av at Valley Av (W)	12
11	Santa Rita Rd at Stoneridge Dr	3				11	First St at Vineyard Av/Ray St	12
12	Stoneridge Mall Rd at Canyon Wy	3						
13	Stoneridge Dr at Willow Rd	3						

The top three intersections are described below as well as any intersections where staff identified patterns/improvements.

Santa Rita Road at Valley Avenue

Three of the eight collisions were sideswipes, two of them involved the southbound double left turn. One of those collisions was a hit and run.

No further patterns were identified, and no changes are recommended to this intersection at this time.

Hopyard Road at Stoneridge Drive

No patterns were identified, and no changes are recommended to this intersection at this time.

Sunol Boulevard at I-680 NB On Ramp from EB Sunol Boulevard

Four of the six collisions involved an eastbound left turning vehicle and a westbound through vehicle with the left turning vehicle found at fault. This pattern has been noted through this corridor in the past. This intersection will be signalized as part of the Sunol Boulevard I680 capital improvement project (currently in the design phase with Caltrans). NOTE: Sunol boulevard at the I-680 SB ramp had two collisions in this period and sixteen over the previous three-year period making the Sunol Boulevard/I-680 ramps the highest collision location. The installation of traffic signals at these ramps will improve access and reduce the broadside collisions.

No correctable patterns were identified at the remaining intersections.

Midblock

High Incidence Midblock Collisions were analyzed over a three-year period. A three-year time frame is used because a one-year analysis does not typically have enough collisions to identify patterns. A midblock collision is defined as a collision that occurred greater than 200 feet from an intersection (or 250 feet if it is a rear-end collision). There were nine segments that had four or more midblock collisions (the four-collision threshold was chosen to analyze locations that may have more than one collision per year over the three-year period). Each of the segments was reviewed in detail to identify correctable patterns and found the following:

Johnson Drive from Owens Drive to Commerce Drive

A pattern of single vehicle collisions at the two curves along the northwest section of the segment was identified in a previous year's annual reports. Chevron signs were replaced with larger signs and additional chevron signs are installed at both curves in July of 2017. In addition to this improvement, staff requested the property owner trim landscaping at the three driveways to the Bay Club/Marriott Hotel parking lot to increase available sight distance. Since the installation of the additional signs and landscape changes, two single vehicle collisions have occurred at the southern curve and no further collisions at the northern curve or the middle /north Clubsport driveways. Both of the collisions that have recently occurred at the southern curve listed DUI as the primary collision factor.

No further patterns were identified and no changes are recommended to this segment at this time.

Owens Drive from Rosewood Drive to Hacienda Drive

This location was reviewed previously with a pattern of collisions involving an eastbound left turn and westbound through vehicles. In 2019 there were no collisions along this segment.

In 2020 there was one collision involving an eastbound left turn and a westbound through vehicle traveling at 50 – 80 MPH. The other collision in 2020 was a SB vehicle exiting the Walmart driveway and being struck by a WBT.

While sight distance was not reported in the most recent collisions sight distance will be examined at the left turn location.

Santa Rita Road from Stoneridge Drive to Navajo Court

A pattern of solo vehicle collisions hitting a fixed object was identified. Three of the four collisions occurred during the recent bridge construction.

This area of Santa Rita Road recently had maintenance performed on the bridge over the arroyo. The repair of the bridge deck necessitated several lane closures. Once the maintenance was completed no further collisions along this segment were identified. No further patterns were identified and no changes are recommended to this segment at this time.

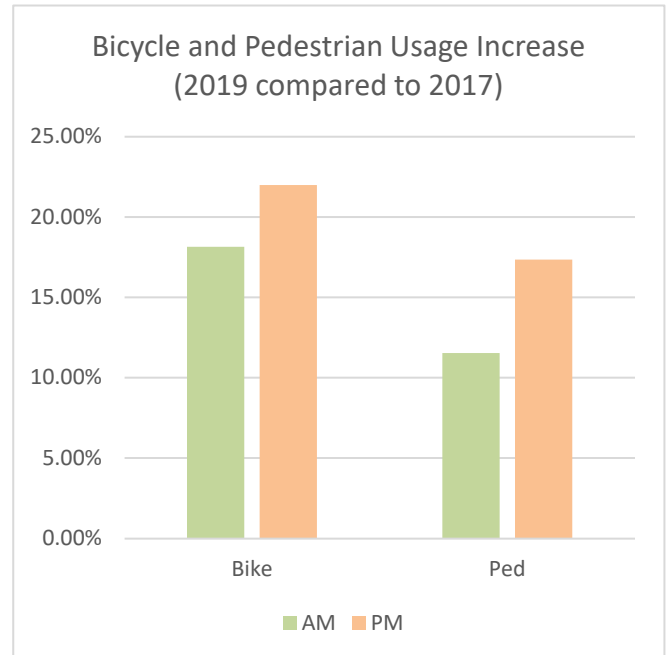
No correctable patterns were identified at the remaining roadway segments.

Pedestrian & Bicycle Analysis

Collisions involving pedestrians and bicyclists are examined separately from vehicle collisions as these are the most vulnerable users of the transportation network. Due to the low number of pedestrians and bicycle collisions, the collision analysis spans a three-year period⁴. There were 40 collisions involving pedestrians and 95 bicycle collisions over the three-year period (there were 41 pedestrian and 102 bicycle collisions in the previous three-year period⁵).

Eighteen of the 95 bicycle collisions were “solo” bicycle collisions (a bicyclist crashing without another party involved)⁶. The percentage of “solo” bike collisions increased compared to the previous three-year period (19% this period compared to 15% the previous period).

While the number of collisions has remained relatively constant, the City has recorded an increase in both bicycle usage and in pedestrian activity. Citywide traffic counts were conducted at 153 intersections in both 2017 and 2019. Vehicle, bicycle and pedestrian volumes were recorded during the morning and evening peak travel times. This data was used to calculate changes from 2017 to 2019 in bicycle use (18% increase in the morning and 22% increase in the evening) and changes in pedestrian activity (12% increase in the morning and 17% increase in the evening). While no significant pattern was identified in the bicycle volume increase, the majority of the pedestrian volume increase was located at the intersection of Stoneridge Mall Road and the Bart Station, likely due to Workday employees. Pedestrian volumes increased at this intersection from 199 to 597 during the peak two hours counted. Total vehicles only slightly increased from 1,920 to 1,996 during the same time period.



Bicycle volumes compared to total vehicle volumes showed an increase from 0.48% to 0.58% in the morning and 0.30% to 0.36% in the evening⁷. This increase is on top of the previous increases in bicyclist usage seen when we compared 2015 to 2017.

The next city-wide traffic counts are scheduled for spring 2022.

Pedestrian Collision Statistics

While numerous data points are collected regarding collision details, the pedestrian’s location, party at fault and age were analyzed to determine if trends exist.

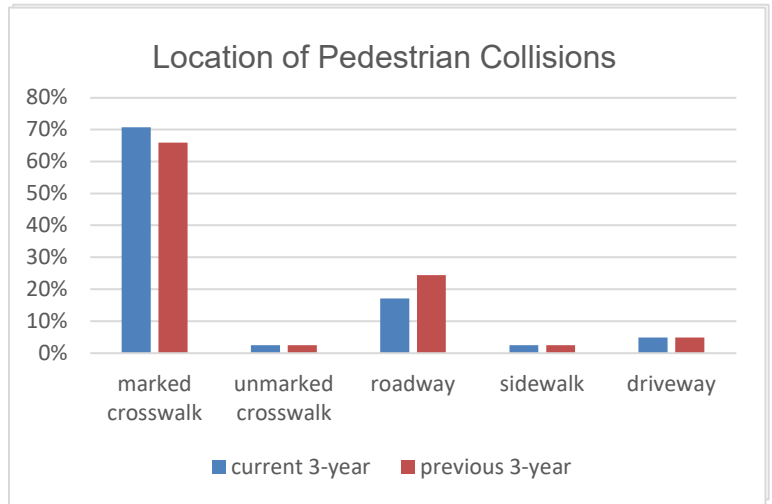
⁴ The current three-year period is 12/1/2017 to 11/30/2020

⁵ The previous three-year period is 12/1/2016 to 11/30/2019

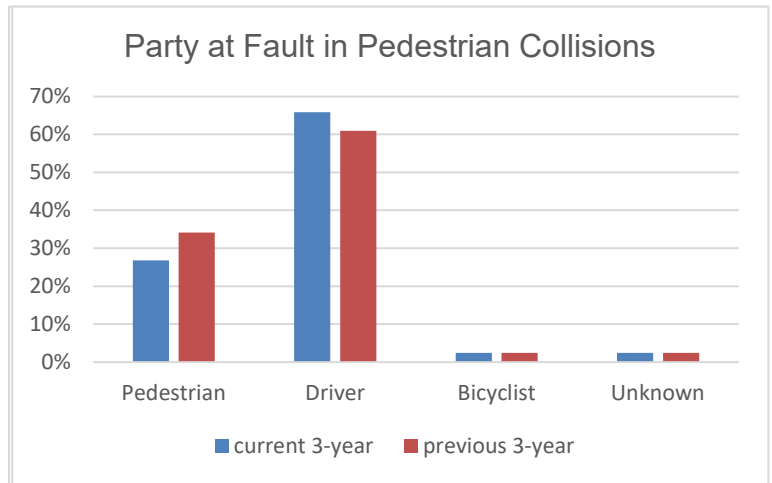
⁶ “Solo” bicycles collisions are the result of a bicyclist falling off the bicycle for various reasons (medical, roadway conditions, not paying attention, hitting an object, etc.)

⁷ Total bicyclists were divided by total of vehicles for 153 intersections to calculate bicycle usage percentages.

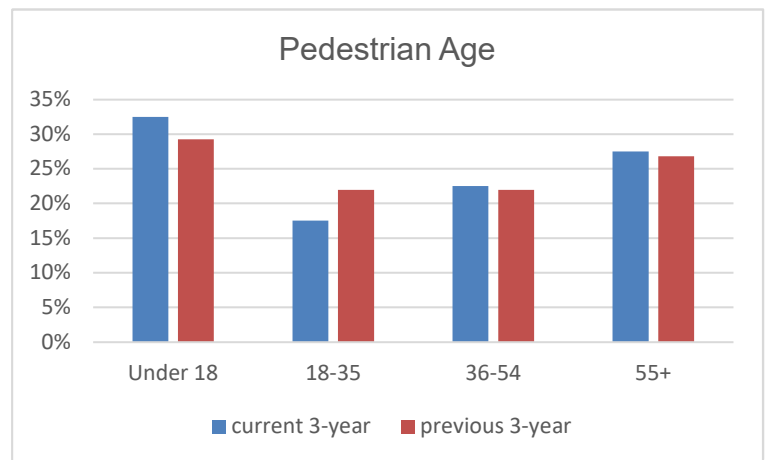
The chart to the right illustrates the percentage of collisions that occurred in marked and unmarked crosswalks, in the roadway (outside of a marked or unmarked crosswalk), on the sidewalk or at a driveway. While the number of collisions at marked crosswalks is greater than the other location types, this does not necessarily equate to relative safety as there are more pedestrians crossing at marked crosswalks than the other location types. The volume of pedestrians crossing at marked vs. unmarked crossings is difficult to quantify given the number of intersections within the City. One collision occurred on the sidewalk that is included in both the previous and current period (bicyclist struck pedestrian at a bus stop).



The Party at Fault chart shows an increase in driver at fault collisions compared to the previous period with about 2/3 of the collisions having the driver at fault. There is a corresponding decrease in the collisions with the pedestrian found at fault.

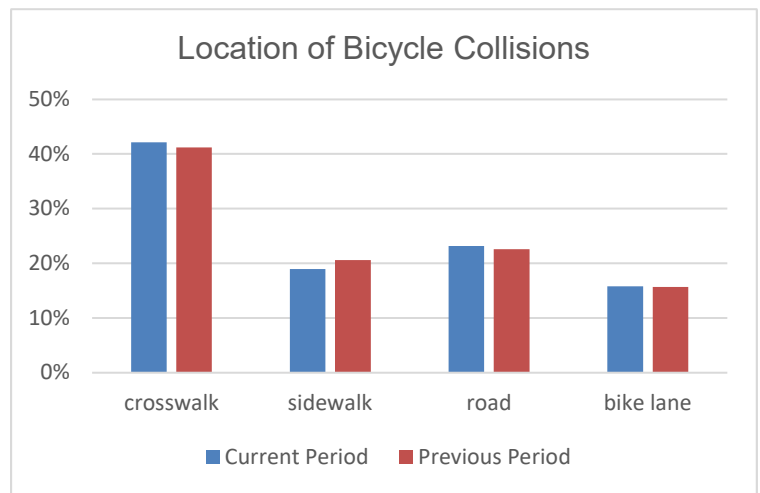


The Pedestrian Age chart shows that the distribution. The highest category this period is the under 18, with 33% of the collisions (13 of the 40). The 18-35 category decreased compared to the previous period, while the 36-54 and 55 and older categories remained the same.

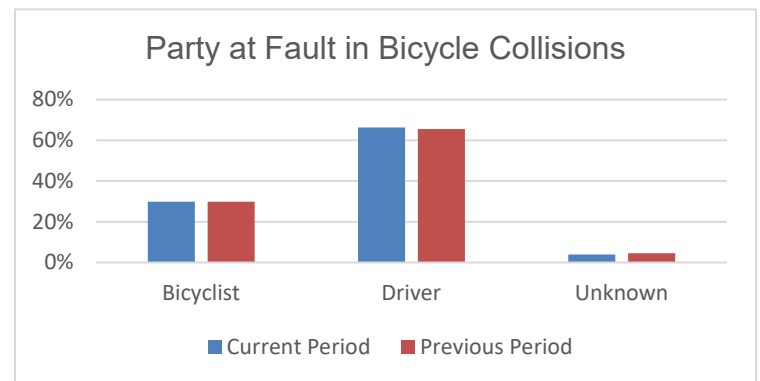


Bicycle Collision Statistics

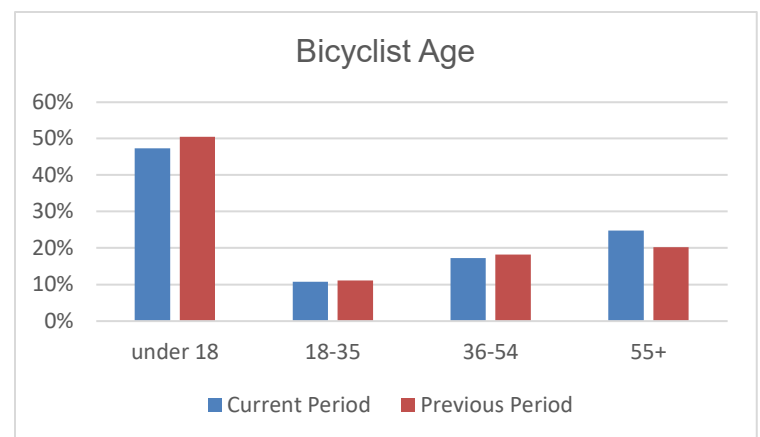
Similar to the pedestrian collision section, the location, fault and age statistics were reviewed for bicycle collisions to determine if patterns exist. The percentages of bike collisions that occurred in a crosswalk, on a sidewalk, in a bike lane, or simply on the “road” (outside of a bike lane or crosswalk) are shown on the bar graph to the right. The distribution of collision location is relatively uniform except for a higher number of collisions occurring within crosswalks. Similar to the pedestrian collisions, the greater number of collisions within a crosswalk does not necessarily indicate reduced safety. When comparing to the previous period the distribution has remained essentially unchanged.



Party at fault (bicyclist, driver or unknown) is shown on the bar graph to the right. Similar to the 27% of pedestrians found at fault, 30% of bicyclists were found at fault (excluding the solo bicycle crashes) with the driver of the vehicle at fault 66% of the time, and the remaining percentage did not have a party at fault identified. When comparing to the last period there were essentially no changes.



The Bicyclist Age chart shows the differences between age categories. The under 18 category has the largest share of bicycle collisions, 47% (44 of the 93)⁸. The under 18 category decreased compared to the previous year while the 55 and older category increased.



⁸ There are 93 collisions in the current period where age of the bicyclist was determined (there were 95 total bicyclist collisions)

Pedestrian Analysis

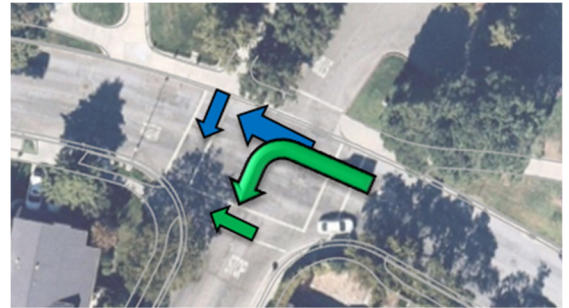
Intersection

Four intersections had more than one pedestrian collision in the current three-year period. The intersections/collisions are discussed below.

Paseo Santa Cruz at Camino Segura (2 collisions)

This intersection is all-way stop controlled and has four marked crosswalks. In the first collision a westbound vehicle struck a southbound pedestrian in the west crosswalk. The driver did not see the pedestrians and had the setting sun in her eyes. In the second collision a westbound through vehicle struck a westbound pedestrian in the south crosswalk. The driver did not see the pedestrian.

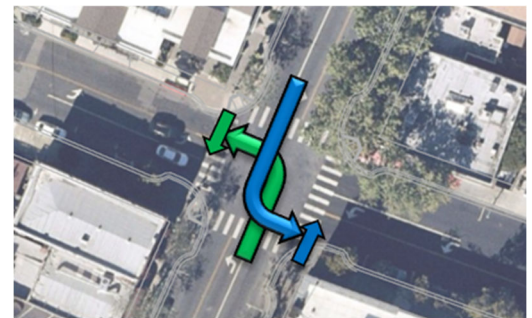
No roadway/signage changes are recommended at this time.



Main Street at Rose Avenue/Neal Street (2 collisions)

This intersection is controlled by a traffic signal and has four marked crosswalks. In the first collision a northbound left turning vehicle struck a southbound pedestrian in the west crosswalk on a “walk” pedestrian signal. The driver did not see the pedestrian prior to the collision. In the second collision a southbound left turning vehicle struck a northbound pedestrian in the east crosswalk on a “walk” pedestrian signal. The driver did not see the pedestrian.

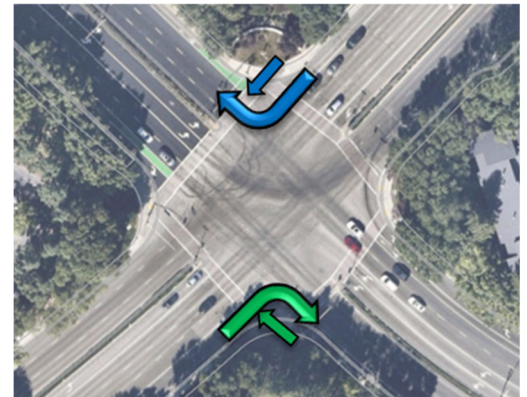
No roadway/signage changes are recommended at this time.



Stoneridge Drive at West Las Positas Boulevard (2 collisions)

This intersection is controlled by a traffic signal and has four marked crosswalks. Both collisions were analyzed last year with no new pedestrian collisions reported. Both collisions occurred with pedestrians entering the crosswalk on a green pedestrian signal. The collisions were on opposite corners, one in the northwest crosswalk and one in the southwest crosswalk. The collision in the northwest crosswalk occurred with both the pedestrian and the vehicle traveling in the same direction and both the vehicle and the pedestrian had a green light. The driver made the right turn and never saw the pedestrian. In the southwest crosswalk collision, the driver was making a right turn on red and was looking left and started to make the right turn at the same time the pedestrian received a green pedestrian indication.

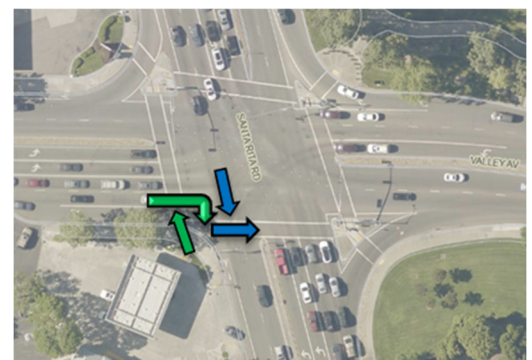
These collisions will be considered in the West Las Positas Corridor plan currently being developed.



Santa Rita Road at Valley Avenue (2 collisions)

This intersection is controlled by a traffic signal and has marked crosswalks. Both collisions were analyzed last year with no new pedestrian collisions reported. In the first collision an eastbound right turning vehicle, looking left, struck a northbound pedestrian in the west crosswalk. In the second collision a southbound through vehicle struck an eastbound pedestrian in the south crosswalk that was crossing against the pedestrian signal. The eastbound pedestrian was not paying attention and was noted as listening to headphones.

No roadway/signage changes are recommended at this time.



Midblock

There are no midblock sections identified that had more than one pedestrian collision during the three-year period.

Bicycle Analysis

Intersection (Bicycle)

Ten intersections had two or more collisions in three-year period. Patterns were identified at the following intersections:

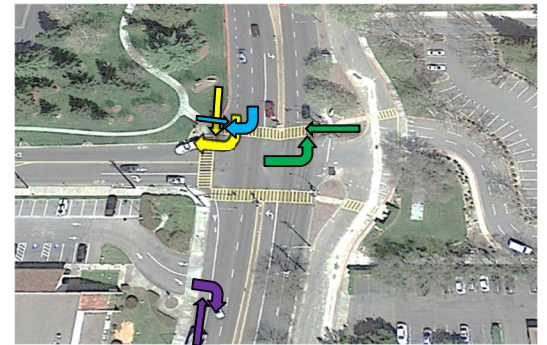
Santa Rita Road at Black Avenue

Two of the four collisions involved a southbound right turn vehicle at the northwest corner of the intersection. Three of the four collisions were in the north crosswalk and three of the collisions also involved with a bicyclist under the age of 18 (three of these collisions were during the school commutes).

Crosswalks at this intersection were converted to ladder striping in late January 2018, however these collisions occurred after the striping change was completed.

Although three of the collisions occurred in the north crosswalk, a correctable pattern has not been identified. There were two collisions at the northwest corner of the intersection. The first was a southbound bicyclist hit a southbound right turning vehicle found the bicyclist at fault (cyclist did not slow and crossed against the pedestrian signal). The second collision was a 45-year-old in the crosswalk when the southbound right turn vehicle attempted to make a right turn on red. The third collision involved a westbound bicyclist that was hit by an eastbound left turn (vehicle found at fault). The last collision was a bicyclist traveling against the flow of traffic and hit by a right turning vehicle exiting the Post Office

This intersection was analyzed last year with the same reported collisions. No additional collisions have occurred at this intersection since the last report.



Santa Rita Road at West Las Positas Boulevard

Three of the four collisions were analyzed last year with one new bicycle collision reported (the latest collision involved an eastbound right turning vehicle and a northbound bicyclist, collision type marked in green). Three of the collisions occurred in the crosswalk in the southwest corner of the intersection between the curb and the pedestrian island. All three found a right turning vehicle at fault. The fourth collision was a bicyclist who fell off his bike, the bicyclist was noted in the collision report as an inexperienced rider.

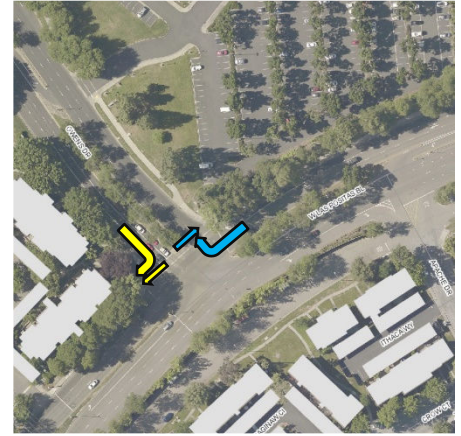
This collision pattern will be considered in the West Las Positas Corridor plan currently being developed.



West Las Positas Boulevard at Owens Drive

Two collisions were recorded at this intersection in the north crosswalk. One collision was the result of a southbound right turning vehicle that ran the red light. In the second collision, the eastbound bicyclist was struck by a westbound right turning vehicle in the shared right turn/through lane. The cyclist was found at fault for riding the wrong way.

This intersection was analyzed last year with the same reported collisions. These collisions will be considered in the West Las Positas Corridor plan currently being developed.



Midblock (Bicycle)

Two midblock segments were identified with more than one bicycle collision during the three-year period. Neither of the segments had any correctable patterns identified.