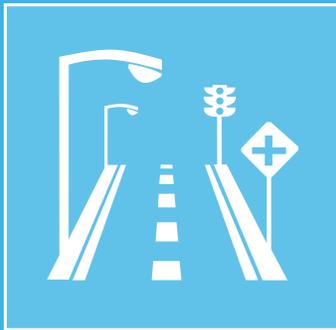
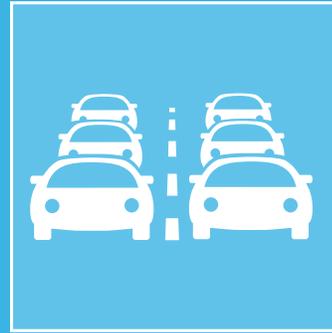


Annual FY 2021 Transportation Systems Monitoring Program (TSMP) Report



February 2022

Table of Contents

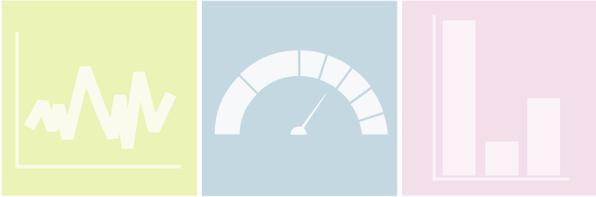
Executive Summary	2
Introduction	10
Street Pavement	11
Highway Litter, Illegal Encampments, and Graffiti Maintenance	15
Roadway Safety.....	21
COVID-19 Impacts.....	28
Bicycle and Pedestrian Infrastructure.....	33
Highlights of Other Transportation Systems	38
References	41
Acknowledgements	43



Executive Summary

Santa Clara County residents and businesses have made significant investments in its transportation infrastructure. The Transportation Systems Monitoring Program (TSMP) was initiated by VTA's Technical Advisory Committee and approved by the Board of Directors in 2008 to monitor the conditions and performance of selected transportation system networks and assets. The TSMP and annual reports were developed in response to concerns raised by local jurisdictions on the ability and resources needed to maintain the County's transportation infrastructure to acceptable standards.

The primary purpose of this report is to serve as an asset management tool by providing an inventory and general assessment on the conditions and performance of selected key transportation systems on an annual basis.

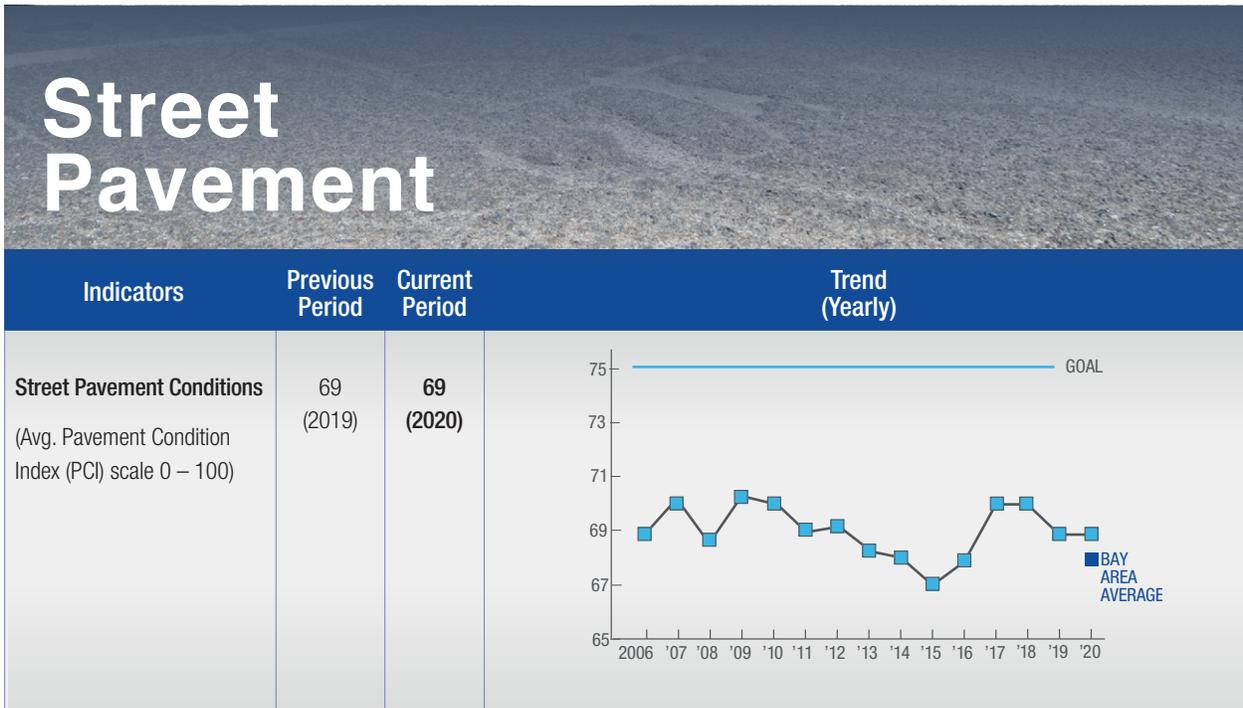


Other benefits include:

- Enable the County and external stakeholders to better understand the performance of the County's transportation system and effectiveness of the investments;
- Communicate progress towards stated transportation system goals and objectives;
- Provide additional context for future funding and policy decisions.

The TSMP follows the asset management principles of Fixing America's Surface Transportation Act, the federal reauthorization transportation funding program that emphasizes performance-based management of transportation infrastructure assets at the state and local levels.

The 2021 TSMP report builds on the data research presented in the 2020 Report with a focus on the following areas: **1) Pavement, 2) Freeway Litter and Graffiti Maintenance, 3) Roadway Safety (Collisions), 4) COVID-19 Impact Observations, and 5) Bicycle & Pedestrian Infrastructure.** In addition, underserved communities were also included in the mapping of these areas.



Source: Metropolitan Transportation Commission Vital Sign

There are nearly **10,200 lane-miles of roadway pavement in Santa Clara County** maintained by local jurisdictions. This is the most number of pavement miles of the nine counties in the Bay Area. **The average Pavement Condition Index (PCI) remained at 69** since the previous reporting period. The areas of the county showing the most needs were in the east, west, and south sections of San Jose, and central section of Gilroy.

A PCI of 69 indicates that the pavement is generally in Fair Condition, slightly below Good, with asphalt exhibiting slightly or moderate distress, requiring primarily preventative maintenance to stop further deterioration. **The overall average PCI for the Bay Area was 67 compared with the region-wide goal of 75.** Roadways that are not maintained to a PCI score of 70 or higher cost more to repair in the future if rehabilitation maintenance is deferred over time.

The unchanged PCI was likely due to the unforeseen COVID-19 impacts and work restrictions affecting public works and general construction projects. Local agency staff have commented that the proposals from vendors in general have been steadily increasing in the last couple years, and in some instances, the bids came in higher than the independent cost estimates where staff had to rebid the projects.

Solutions

To supplement funding for maintaining the local roadways in Santa Clara County, voters approved a \$10 Vehicle Registration Fee in 2010. In FY 2019/20, **\$14.4 million** was distributed to VTA's Member Agency jurisdictions from the Local Road and Repair Program for maintenance like repairing potholes, repaving, upgrading traffic signal controllers, and making safety improvements.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

Indicators	Previous Period	Current Period	Trend (Yearly)
Litter collected by Caltrans clean-ups (Cubic yards)	23,906 (2020)	16,572 (2021)	
Litter collected at Illegal Encampments by Caltrans clean-ups (Cubic yards)	1,571 (2020)	2,219 (2021)	
Graffiti removed by Caltrans clean-ups (Square feet)	427,068 (2020)	830,885 (2021)	

Source: Caltrans District 4 Maintenance staff



With less traffic activity during the pandemic, the amount of litter collected along the **307 highway shoulder miles in Santa Clara County decreased by nearly 31%** compared to the previous reporting period in FY 2020. In FY 2021, Caltrans maintenance crews picked up an estimated **16,572 cubic yards or 116,004 30-gallon sized trash bags**. The “hot spot” locations with the most trash were located along US 101 (near SR 85 and I-280 interchanges), I-680 (Hostetter/Berryessa and North Milpitas areas), I-280 (Hwy 17 to Lawrence Expy), and SR 85/SR 87 interchanges, and I-880/I-280. On a positive note, the amount of litter collected along SR 87, SR 237, and I-880 have decreased over the past two years.

The amount of litter collected at illegal encampment sites, typically near the interchanges and on/off ramp locations, increased by 648 cubic yards or 4,280 trash bags from the previous year. The improvements can be attributed to an aggressive, coordinated multi-jurisdictional clean-up effort between Caltrans, California Highway Patrol, City of San Jose Homeless Response Team, and San Jose Conservation Corps.

Graffiti along the freeways continues to be a challenge as the problem it is a moving target. In

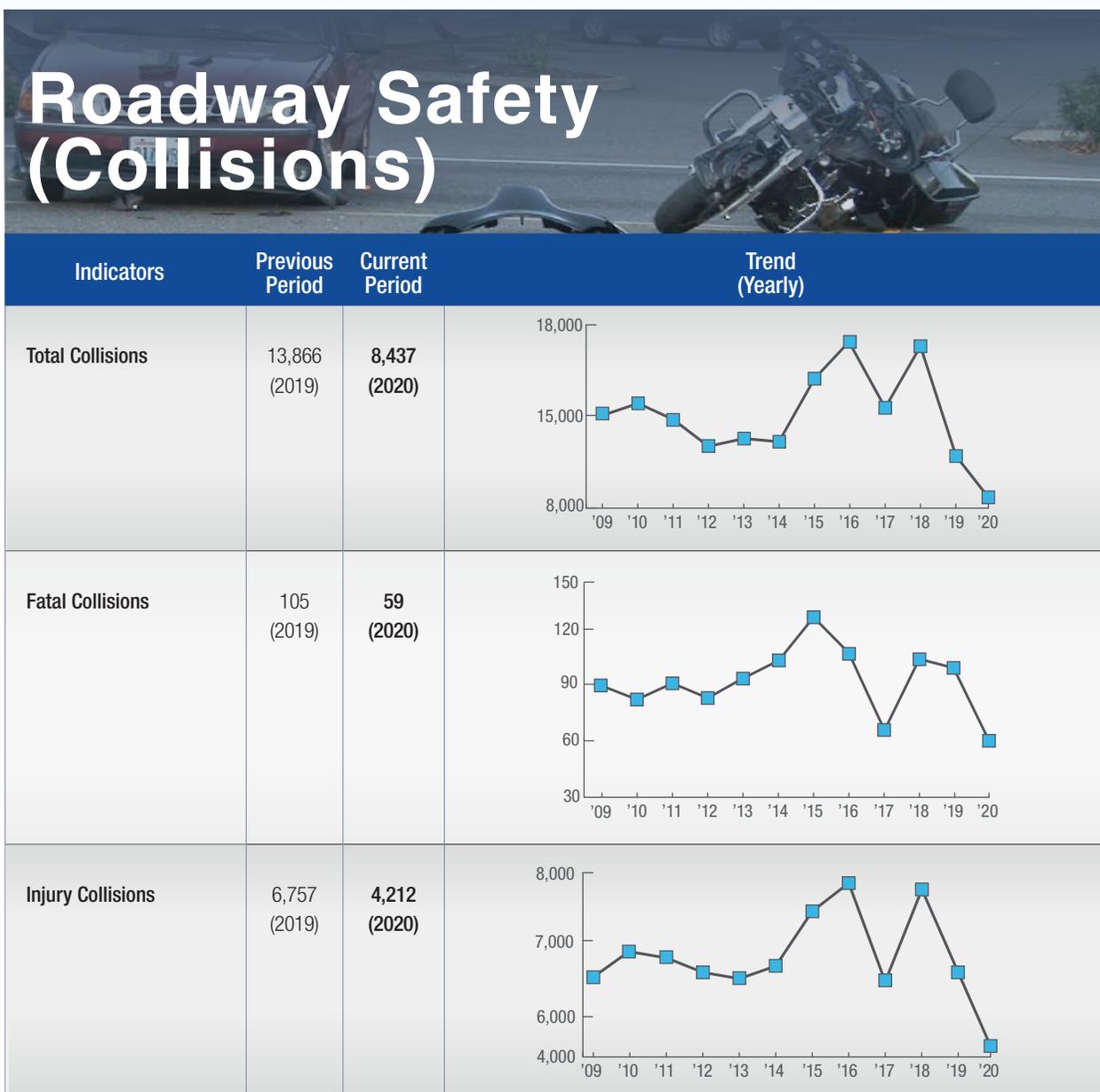
FY 2021, the square footage of graffiti removed nearly doubled from 427,068 sqft in FY 2020 to 830,885 sqft. The highway segments with the most graffiti were along SR 87 and I-280 (US 101 to Meridian Ave), and US 101 (Old Oakland Rd to Story Rd.)

Solutions

VTA, in partnership with Caltrans, Keep America Beautiful, Santa Clara Valley Basin Watershed Management’s Zero Litter Initiative, and Valley Water are collaborating to develop a countywide highway litter prevention program called Keep Santa Clara Valley Beautiful. The program includes a community change behavior campaign, installation of illegal litter and encampment enforcement signs at problematic locations, and sponsoring of community clean-up events, including an anti-litter summit, over the next two years.

In addition, VTA is also working with Caltrans and local jurisdictions to encourage sponsorship through Caltrans’ Adopt-A-Highway program to supplement current litter clean-up and graffiti removal efforts.





Sources: Santa Clara County's Crossroads Collision Database and City of San Jose's Vision Zero Crash Data

The total number of reported collisions in Santa Clara County, including fatalities and serious injuries, significantly increased since the previous reporting period covering 2018 calendar year. In 2019, there were **13,866** total collisions. Of these collisions, there were 105 fatalities and 6,757 injury involved collisions. **In 2020, there were 8,437 total collisions with 59 fatalities and 4,212 injuries.** The total number of collisions decreased

by 5,429 collisions, 46 fatalities, and 2,545 injuries. The decrease in number of county-wide collisions was likely attributed to less traffic on the roadways from the pandemic shelter-in-place measures.

The most common types of collisions were **Rear-End (32%) and Sideswipe (21%) collisions.** The Primary Collision Factor (PCF) for the causes of

these collisions were **Unsafe Speed (36%), Improper Turning (20%), and Unsafe Lane Changes (8%).**

There were **612 collisions involving bicyclists and pedestrians.** Of these collisions, 52% were vehicle-pedestrian, 48% involved bicyclists. The main PCF causes were **Pedestrian Right of Way violations (vehicle driver at fault) 18%, Vehicle Right of Way violations (pedestrian at fault) 14%, and Improper Turning 11%.**

Although the overall number of collisions involving pedestrian and bicyclist represents only 7% of the total number of collisions in the County, these collisions account for 27% of all fatalities. The locations with the highest number of collisions are shown below.

Table 1

2020 Top Vehicle, Bicycle, and Pedestrian Collisions Interchange and Intersection Locations

Vehicle/Vehicle (Segment)	SR 17 from Summit Rd, Los Gatos	60 collisions
Vehicle/Vehicle (Interchange)	US 101 and I-880, San Jose	13 collisions
Vehicle/Pedestrian (Segment)	Renova Dr from Turner Dr to Bascom Ave, San Jose	2 collisions
Vehicle/Pedestrian (Intersection)	Campus Dr and Mayfield Ave, Palo Alto	2 collisions
Vehicle/Bicyclist (Intersection)	Story Rd and King Rd, San Jose	3 collisions

All jurisdictions in Santa Clara County have been taking incremental steps, like adopting Vision Zero Initiative policies, incorporating Complete Streets designs, and investing in Crossroads Countywide Traffic Collision Database, to make the roadway network safer for all modes.

Solutions

VTA was recently awarded a grant from Caltrans to develop a Countywide Local Roads Safety Plan to reduce traffic related fatal and serious injuries in Santa Clara County. This plan will be developed in collaboration with local agencies through the Systems Operations and Management Working Group over the next 6-9 months.

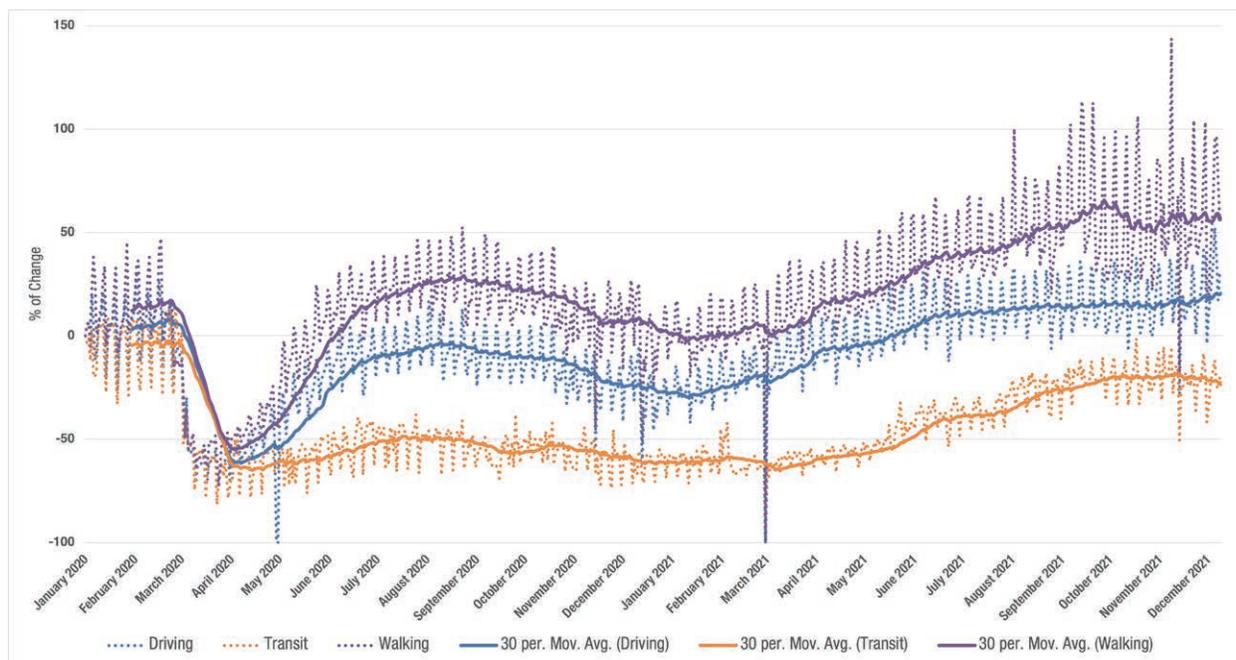
The screenshot displays the website for the Countywide Local Roads Safety Plan. At the top, there is a navigation menu with links: Project Overview, Report Concern, Collision History, Project Updates, Provide Feedback, and Subscribe & Contact. The main header features the Valley Transportation Authority logo and the title 'COUNTYWIDE LOCAL ROADS SAFETY PLAN'. Below this, a 'Project Overview' section explains that the Santa Clara Valley Transportation Authority (VTA) is developing a countywide Local Roads Safety Plan (LRSP) for all local jurisdictions. It states that the LRSP provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. The goal is to develop a successful LRSP by analyzing historic collision databases and creating a decision-making process that includes public outreach and stakeholder participation using the five 'E's' of traffic safety: Engineering, Enforcement, Education, Emergency Response Services, and Emerging Technologies. A 'Report Your Area of Concern' form is also visible, with a heading 'Report Your Area of Concern' and a sub-heading 'Report Your Area of Concern'. The form includes a text area for reporting concerns and a list of sample comments: 'This roadway segment is unsafe for walking and biking.', 'Cars don't stop at this stop-controlled intersection.', and 'Speeding on this roadway segment.' There is a 'Report Your Area of Concern' button and a note: 'For further updates, check Project Updates or Subscribe to receive notifications.'

COVID-19 Impacts Observations

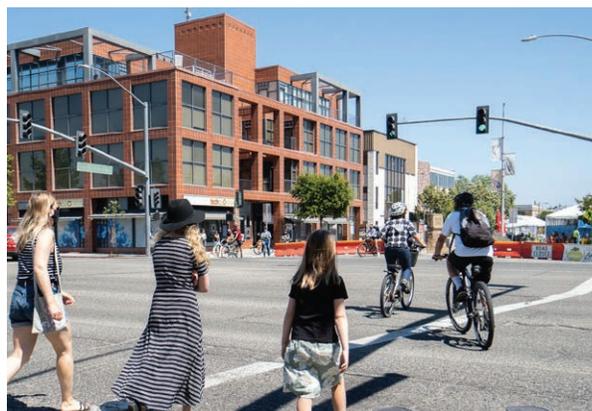
COVID-19 and the pandemic has brought about unforeseen changes to all aspects of daily life, including but not limited to travel behavior and traffic patterns, workflow and work schedules, and adoptions of new ordinances and adaptations to changing environments, presenting new trends in people mobility.

From January 2020 to December 2021, big data from sources like Apple Maps showed the following observed changes from pre-pandemic conditions: vehicle traffic increased by 20%, walking increased by 60%, and transit use decreased by 25%.

Apple Maps© Mobility Trends Reports January 2020 – December 2021 for Santa Clara County



In addition, there were changes in travel speed and travel patterns. Local agencies took action to accommodate social distancing requirements and reduce speeding on the local streets by implementing slow/open streets programs, reprogramming signals to recall mode, and collaborating with the private sector to develop bicycle detection phone apps and touchless accessible pedestrian buttons.



Bicycle and Pedestrian Infrastructure

As part of the Regional Active Transportation Network efforts, local agencies are including best practices to incorporate Complete Streets designs and Vision Zero collision reduction projects into their roadway network. This means ensuring that the infrastructures are safe and comfortable for use by everyone of all ages and abilities.

As a first step to managing the conditions of these infrastructures, the TSMP now includes tracking the inventory of bikeway mileage in Santa Clara County. Below is a table that shows estimates of bikeway miles by classification for each jurisdiction.

2020 Bikeway Mileage by Jurisdiction

JURISDICTION	Class I	Class II	Class III	Class IV
Campbell	10.35	15.12	10.24	-
Cupertino	9.01	23.32	11.57	-
Gilroy	6.67	21.36	19.36	-
Los Altos	2.05	11.57	11.61	-
Los Altos Hills	0.41	1.26	6.18	-
Los Gatos	13.77	7.05	3.52	-
Milpitas	7.41	26.94	10.46	-
Monte Sereno	-	-	1.59	-
Morgan Hill	5.32	22.37	-	-
Mountain View	16.95	25.96	10.44	5.67
Palo Alto	16.78	35.43	10.40	7.51
San Jose	101.95	317.02	54.96	3.90
Santa Clara	9.63	34.07	10.22	-
Saratoga	2.27	12.96	9.59	-
Sunnyvale	14.49	55.24	12.05	0.24
Unincorporated SCC	61.78	23.61	7.00	3.45
Total	278.83	633.28	189.21	20.75



Introduction

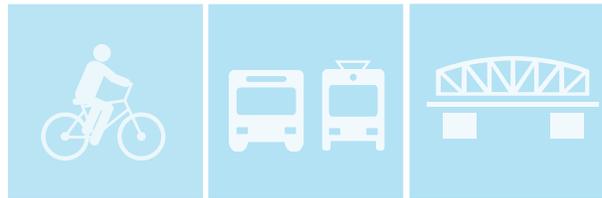


The 2021 Transportation Systems Monitoring Program Report is the 11th edition since the first report was released in 2010. Since then, the reports have expanded to include new data as it became available:

- 2010 (1st edition) – Introduced basic performance measures for consideration.
- 2011 (2nd edition) – Introduced monitoring of litter and landscape conditions on the highways.
- 2013 (3rd edition) – Featured an inventory of traffic signal systems and introduced monitoring of express lanes.
- 2014 (4th edition) – Featured a new dashboard report format, key performance measures table, pavement, bridge, and litter and landscape monitoring sections, new safety section and revised air quality section.
- 2015 (5th edition) – Featured an expanded litter and landscape section.
- 2016 (6th edition) – Added ramp metering inventory and featured green bike lanes materials and applications.
- 2017 (7th edition) – Added a section to track the most frequently reported problems from local jurisdictions.
- 2018 (8th edition) – Added *Commute and Time Spent in Congestion* section to track performance of major corridors in the County, and new performance metrics for monitoring litter and graffiti along the freeways.
- 2019 (9th edition) – Reformatted to a more data driven report with graphic information representation over text. The report was also condensed to focus on areas of public importance: 1) *Pavement*, 2) *Freeway Litter*,

About the Data

The data presented in the TSMP Reports are extracted from a variety of transportation resources from local, state, regional, and federal agencies. The performance measures and sources used for this report are listed in the References Section.



Landscape, and Graffiti Maintenance, and 3) Roadway Safety (Collisions).

- 2020 (10th edition) – Added a new section on COVID-19 Impacts observations from the pandemic shelter-in-place order, and another section on bicycle infrastructure.
- *2021 (11th edition) – Includes additional data collected on COVID-19 Impact observations and bicycle and pedestrian infrastructure.*

About the Data

The data presented in the TSMP Reports leverages data extracted from a variety of transportation references and from local, state, regional, and federal agencies, as well as non-profit organizations. The performance measures and sources used for this report are listed in the Notes Section.

OVERVIEW

Inventory

10,179

Lane Miles

Conditions

69

PCI (Fair)



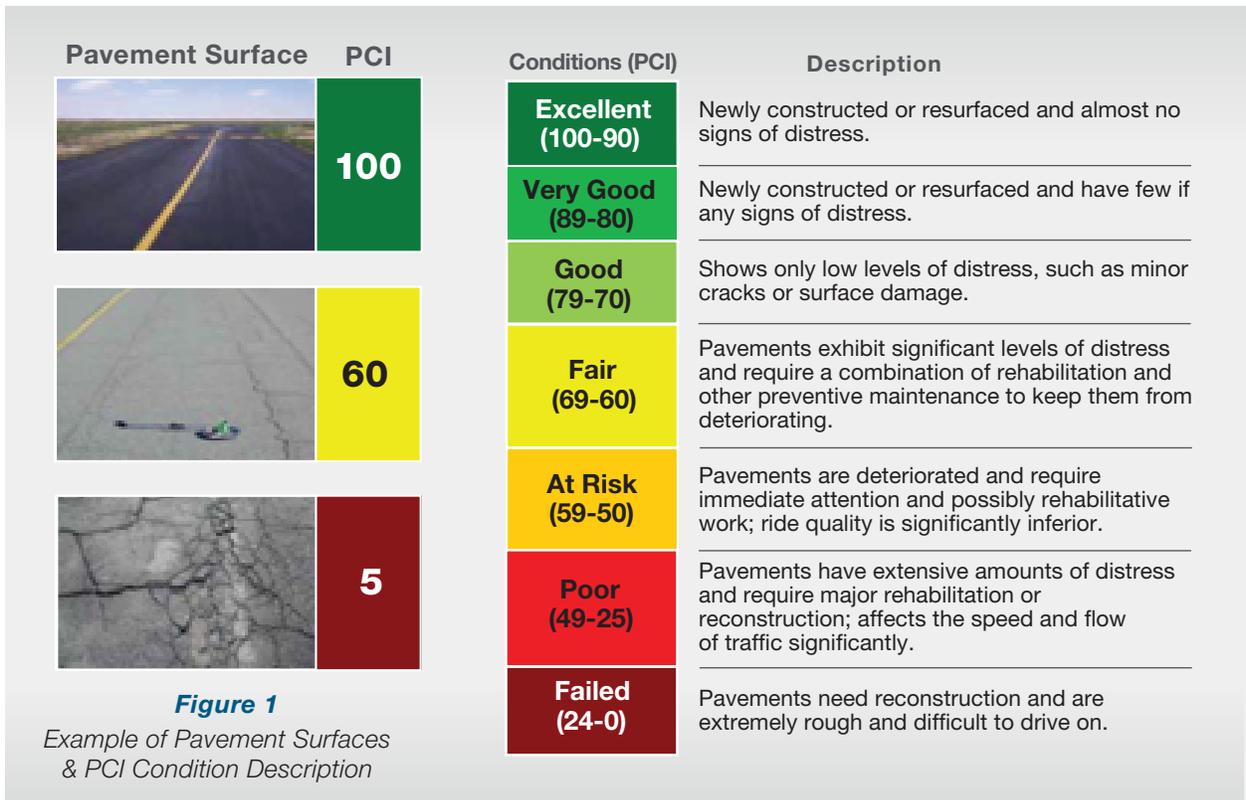
Inventory

There are approximately **10,000 lane miles** of pavement in Santa Clara County maintained by local agencies. The term “lane miles” is a measure of road length which represents the number of miles of every driving lane. This measure is used to better reflect the total amount of pavement that needs to be maintained.

Conditions

PCI Definition

PCI is based on the number and severity of pavement distresses observed during a visual inspection of a roadway which is expressed in numerical index between 0 and 100. Zero is the worst or failed condition and 100 represents a roadway that is in excellent or new condition. Visual examples of the PCI index scale are shown below.

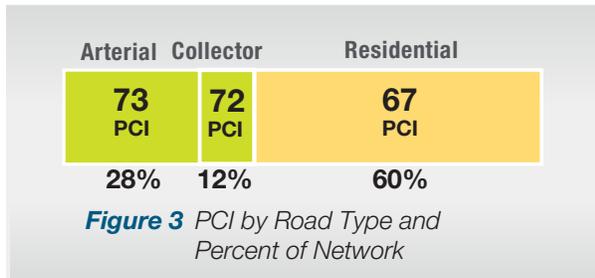
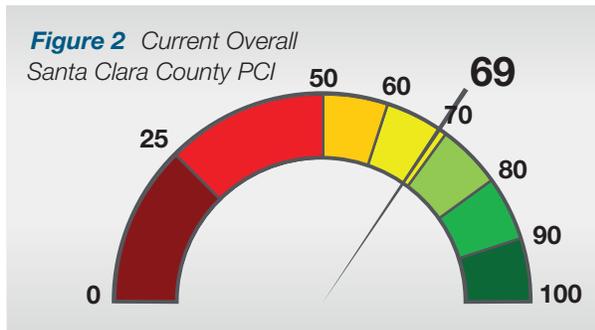


Street Pavement

Pavement Condition Index (PCI)

The average PCI score for Santa Clara County's roadways is **69 (Fair)**, compared with the Bay Area's regional PCI of 67 (Fair) and the regional goal of 75 (Good).

The PCI score represents a weighted average based on a percentage of the roadway network by category (e.g. arterial, collector and residential). This measurement accounts for incremental wear of roadways over time.



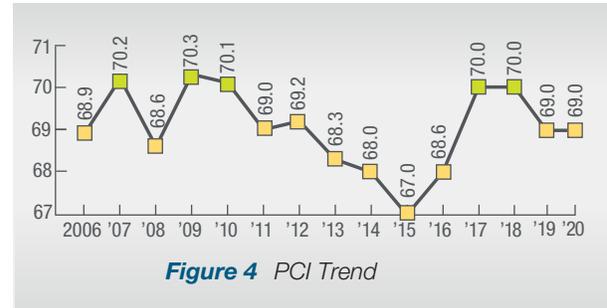
Condition and Pavement Evaluation

PCI is based on a visual assessment of the roadways' top surface layer. Pavement deterioration that originates below the surface are not typically noticed until they "make their way up" to the surface appearing in the form of cracks or depressions. These distressed conditions are caused by deteriorating pavement beneath the surface, including the base, sub-base, and sub-grade layers.

In addition to PCI, there are other methods of determining pavement conditions. However, many of these methods are too detailed and expensive for frequent reporting purposes.

PCI Trend

An annual overall PCI trend for Santa Clara County is shown in the figure below.



Life Cycle

Pavement tends to deteriorate at an increasing rate over time. In 2020, the PCI for Santa Clara County maintained the overall "Fair" condition. The current condition is within the area on the Pavement Life Cycle curve where the need for rehabilitation and repair cost starts to significantly increase. Preventative and restorative measures are necessary to minimize the further decline in PCI below 70.

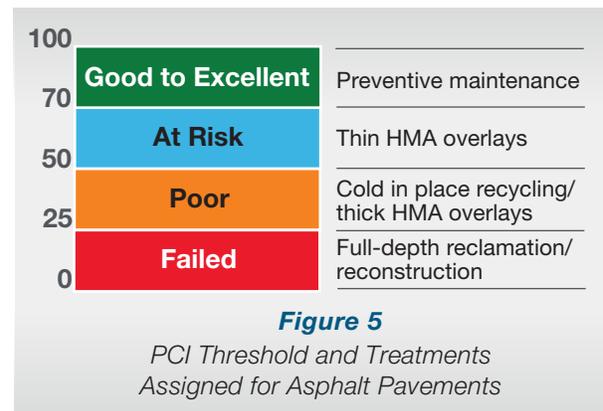


Table 2
Pavement Estimated Repair Costs

Classification	Unit Costs (\$/sy)			
	Preventative Maintenance	Thin HMA Overlays	Thick HMA Overlays	Reconstruction
Major Roads	\$6.60	\$26.06	\$41.07	\$92.96
Local Roads	\$6.06	\$24.92	\$38.42	\$78.22

PCI Scores by Jurisdiction in Santa Clara County

The Pavement Condition in Santa Clara County varies by local jurisdiction. Each jurisdiction’s PCI is evaluated separately, and a weighted average is used to determine the overall PCI.

Table 2 below shows the PCI scores for each of Santa Clara County’s 15 local jurisdictions, ranked from Very Good to Fair condition and the change in PCI from 2019 to 2020. Nine of fifteen jurisdictions experienced decrease in PCI from 2019 to 2020, three had no change in PCI, and four jurisdiction showed improvements in their pavement conditions. The City of Mountain View showed the biggest improvement with +9 points from 2019 from 62 (Fair) in 2019 to 71 (Good) in 2020.

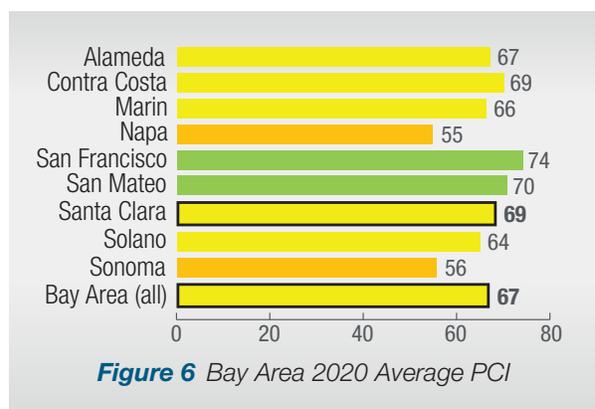
Table 3

2020 Pavement Condition Index Scores by Jurisdiction in Santa Clara County

Jurisdiction per Category	Annual Network PCI Scores 2020	Annual Network PCI Scores 2019	Change 2019 to 2020
VERY GOOD (PCI = 80-89)			
Palo Alto	84	82	2
Cupertino	84	85	-1
GOOD (PCI = 70-79)			
Los Altos Hills	78	80	-2
Sunnyvale	76	77	-1
Santa Clara	75	74	1
Morgan Hill	73	74	-1
Mountain View	71	62	9
Milpitas	71	73	-2
FAIR (PCI = 60-69)			
Los Gatos	69	69	0
Monte Sereno	69	69	0
Campbell	69	70	-1
San Jose	67	66	1
Saratoga	66	66	0
Los Altos	66	68	-2
Santa Clara County	64	66	-2

Peer County Comparison

The PCI goal established for the Bay Area’s local roadways is 75. **Santa Clara County’s roadways with a PCI score of 69, is slightly better than the Bay Area’s PCI average of 67 (Fair).**



2020 Local Streets PCI Map

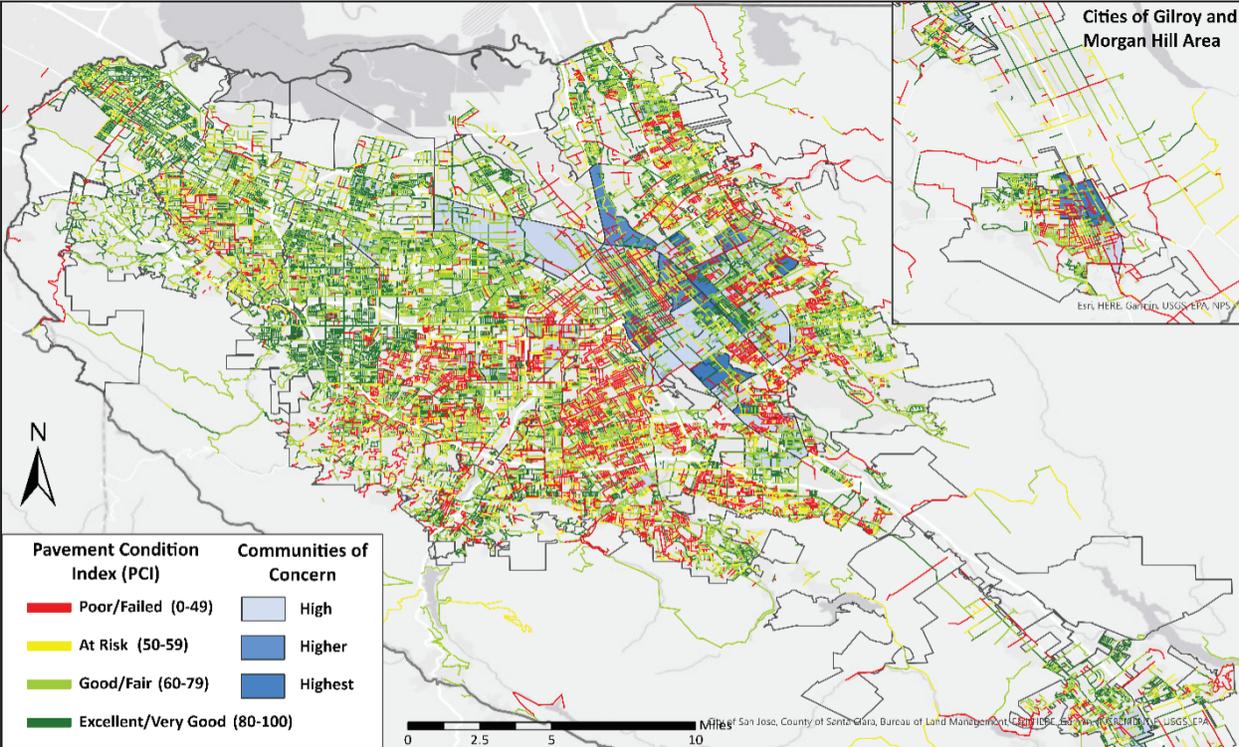
“Vital Signs,” a website managed by the Bay Area’s



metropolitan planning organization, Metropolitan Transportation Organization (MTC), tracks transportation, economic and housing trends in the Bay Area region, and provides an interactive portal to historical pavement data by jurisdiction. This web-based tool was used to generate the 2020 Local Street Pavement Condition Index map for Santa Clara County on the following page.

Figure 7

Santa Clara County 2020 Local Streets PCI map



The average PCI score for Santa Clara County has been stable for the past 5 years, 70 to 69 at the borderline between Fair to Good condition. General comments from the local agencies suggest the recent downward trend was attributed to a combination of unplanned budgets for the sudden increase in cost of materials and labor, and delays related to COVID-19 restrictions.

Based on the 2021 California Statewide Local Streets and Roads Needs Assessment annual report by the California State Association of Counties and League of California of Cities, Santa Clara County’s needs is estimated at **\$3.2 Billion over the next 10 years** to eliminate the back log of maintenance repairs to achieve a best management practice PCI score of 80 or better, or Very Good condition. This cost is based on Santa Clara County’s 10,200 lane miles.

Solutions

To help address the funding needs to maintain Santa Clara County’s roadways to a state of good repair, Santa Clara County voters approved a \$10 Vehicle Registration Fee (VRF) in November 2010. The funds are used to pay for local transportation improvements, including pothole repair, paving, traffic control signals, and safety improvements. The VRF Program generates approximately \$14 million annually and is distributed to cities to help fund their highest priority roadway improvements.

In FY 2019/20, nearly \$14.4 million was distributed to VTA’s Member Agency jurisdictions through the VRF’s Local Road and Repair Program. Some agencies have been combining funds over multiple years and/or combining them with other funding sources to finance, large multi-year projects. More detailed information on the distribution of funds to the individual jurisdictions and their projects can be found on VTA’s 2010 \$10 Vehicle Registration Fee webpage.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

OVERVIEW

Inventory

128 Interchanges

307 Highway Roadside Miles

1,193 Acres of Landscape Area

Source: 2008 Litter Control Pilot Program, VTA.



Background

VTA Technical Advisory Committee identified highway litter, landscape, and graffiti maintenance as major roadway maintenance issues. The accumulation of litter and graffiti are viewed as driver distractions and potential hazards, as well as having negative impacts on the environment. The cleanliness of the highways can also be perceived as a quality of life indicator representing the level of community civic pride to residents, regional travelers, and tourists.

Inventory

There are approximately **307 roadside miles (shoulder length miles)**, **128 interchanges**, and **1,193 acres of landscaped area** on the State's highway system in Santa Clara County requiring regular maintenance.

Conditions

Monitoring of litter and graffiti on roadways is a challenging task, as conditions are constantly changing throughout the year and any single day "snapshot" would not be an accurate data source. Prior to 2019, a subjective drive-by approach using a visual assessment scale was used as a performance metric to assess litter and graffiti conditions. This methodology was

changed to a new data source and performance metric provided by Caltrans to cubic yards of litter collected and square feet of graffiti removed. Caltrans maintenance crews now keep record their maintenance work including an estimated amount of litter, graffiti, and illegal encampments removed by freeway segment locations. This data has been translated into visual graphs, tables, and heat maps.

Litter

In FY 2021, an estimated **16,572 cubic yards of litter were picked-up** along the 307 highway shoulder miles in Santa Clara County. To provide some visual perspective, this equates to approximately 116,004 trash bags (1 cubic yard = 7 of 30-gallon sized trash bags) or approximately 9 football fields (300 ft. length x 160 ft. width).

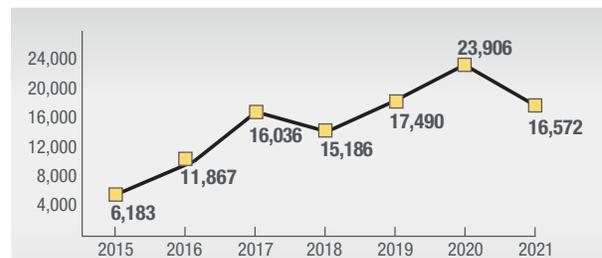


Figure 8 7-Year Total Litter Collection Trend

Compared to FY 2020, the amount of litter picked up decreased by approximately 30.7% or 7,334 cubic yards (51,338 trash bags).

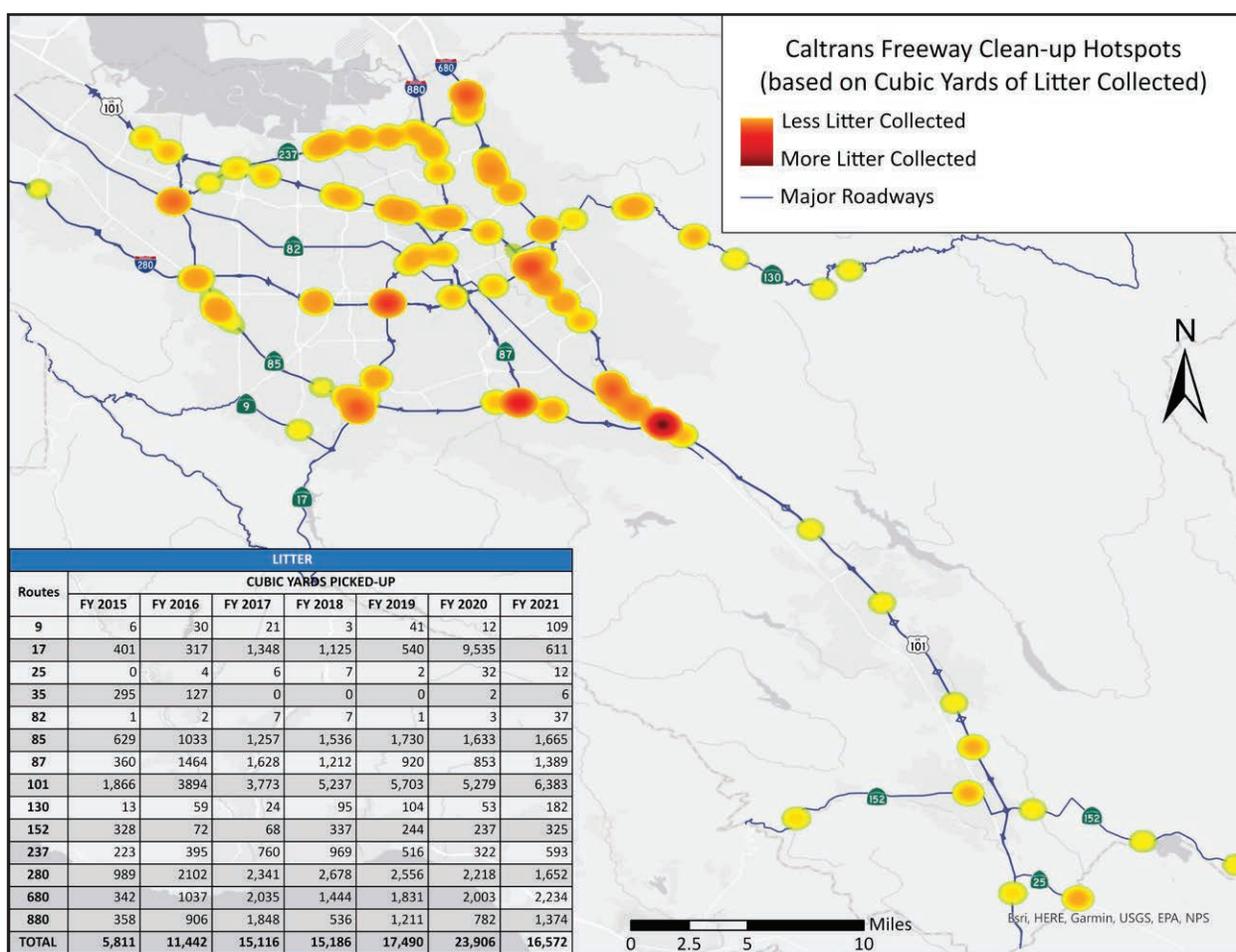
Highway Litter, Illegal Encampments, and Graffiti Maintenance

The hotspot map below shows the location and amount of litter collected in FY 2021. Each highway corridor is scheduled to be cleaned at least two times per month throughout the year. The dark orange-reddish spots represent the areas with the most amounts of litter collected. The table shows the changes in amount of litter collected over a 7-year period by corridor routes.

Identifying and tracking high-density littered locations are important for identifying anti-litter strategies. These locations require additional monitoring and possibly a more in-depth investigation study to determine the primary sources of litter and appropriate mitigation measures.

Figure 9

Hotspot Map of Litter in Cubic Yards Picked-up along Highways in Santa Clara County, FY 2021



Illegal Encampments

In addition to scheduled cleaning of the highway shoulders, Caltrans also recently started to record the location of illegal encampments and amount of litter collected at these sites. The encampments clean-up event requires a 72-hour notice for the residents and are often repetitive. In FY 2021, an estimated 2,219 cubic yards of litter were removed from illegal encampments along the highways in Santa Clara County.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

Compared to the previous year, the amount of litter picked-up at illegal encampments during FY 2020 increased by approximately 41.2% or 648 cubic yards (19,951 trash bags). Caltrans maintenance crews increased their efforts from moving illegal encampments to picking-up litter around these areas. The hotspot map below depicts the areas along highways with the largest amount of litter collected at the identified illegal encampments. The data in the table also shows the illegal encampments litter collection changes over a 7-year period by highway and highway routes.

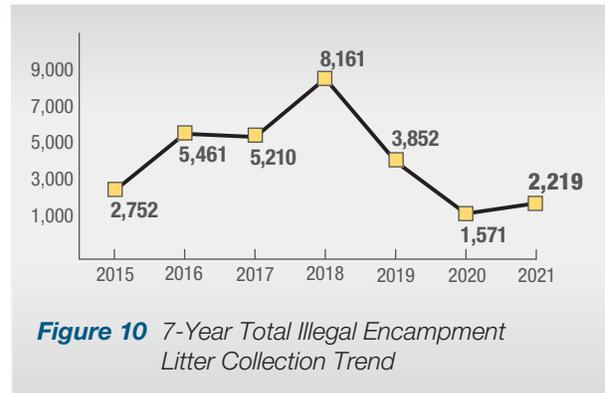
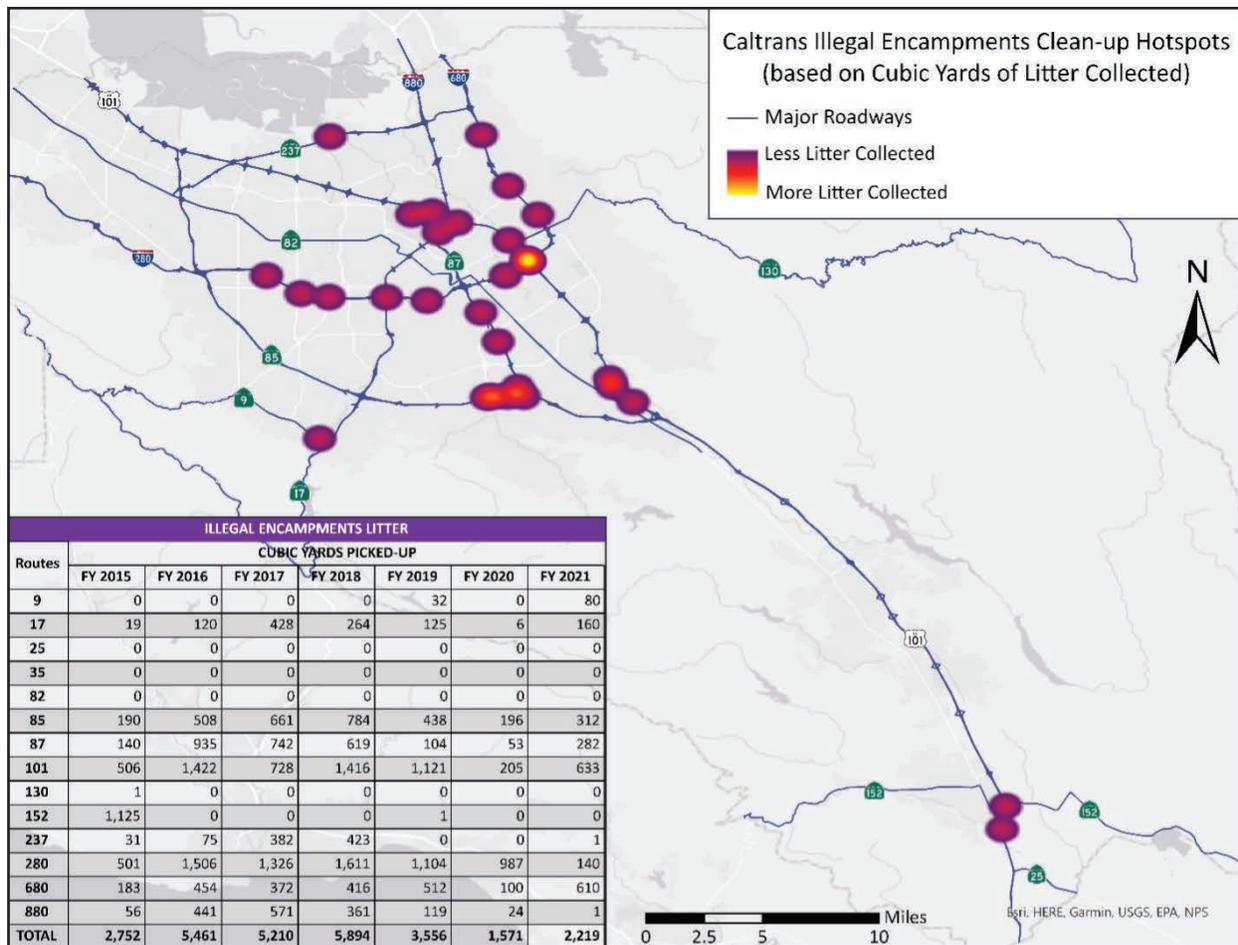


Figure 10 7-Year Total Illegal Encampment Litter Collection Trend

Figure 11

Hotspot Map of Illegal Encampments Litter in Cubic Yards Picked-up along Highways in Santa Clara County, FY 2021

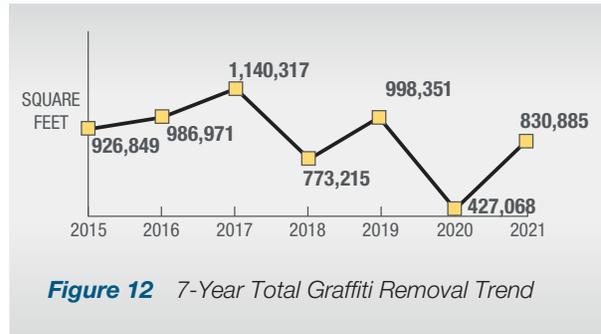


Highway Litter, Illegal Encampments, and Graffiti Maintenance

The locations with the most amount of litter collected can also indicate the size of the illegal encampments. For locations that were frequently occupied, preventive measures such as restrictive signs, fencing, installation of trash containers, and social service outreach can be implemented.

Graffiti

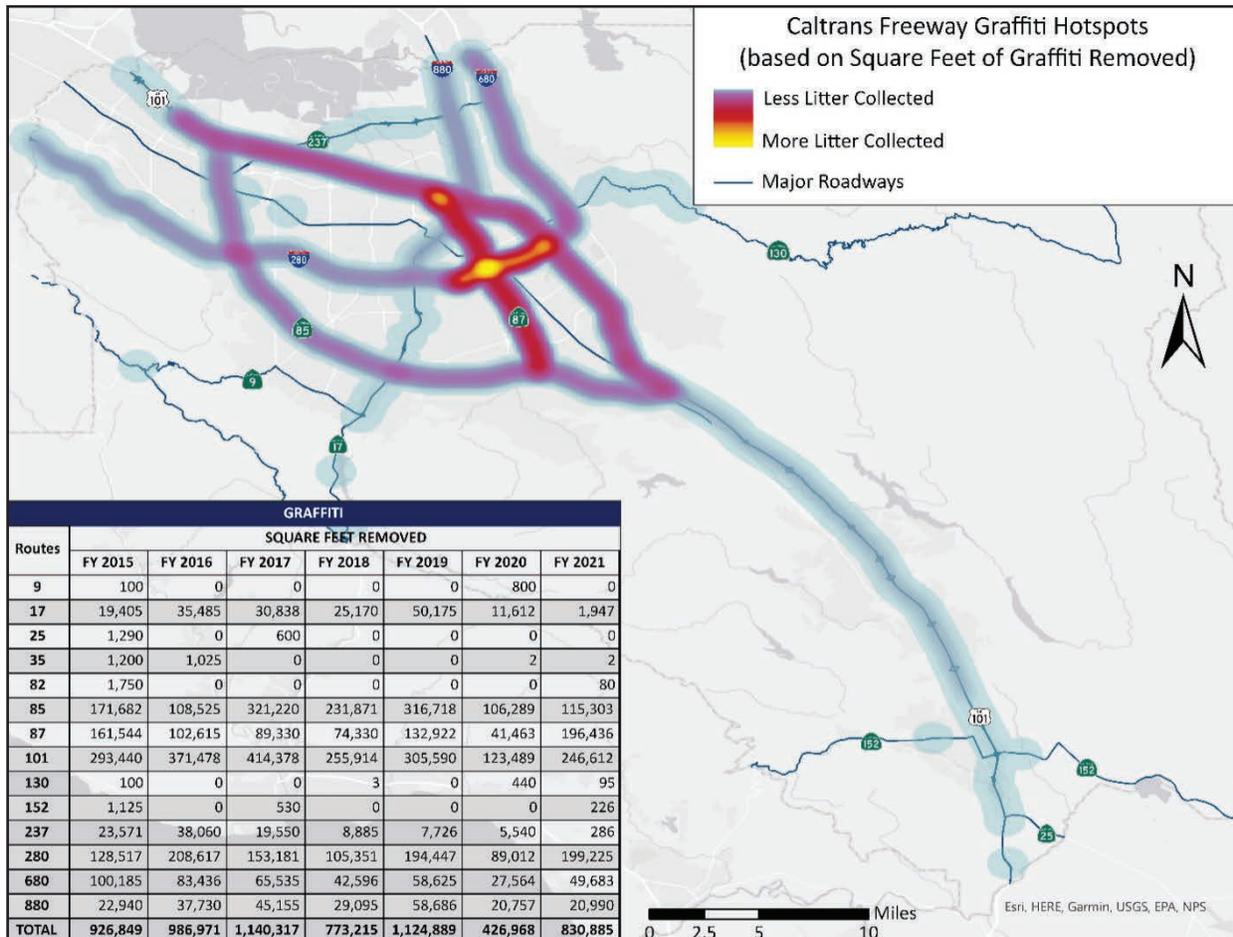
Graffiti and tagging on the highway system continues to be a problem in Santa Clara County. These incidents are typically seen on overcrossings, soundwalls, and signages. Caltrans maintenance crews and their contractors routinely patrol the highway corridors and either remove or paint-over the graffiti. In FY 2021, an estimated 830,885 square feet of graffiti were removed along the highways in Santa Clara County. Compared to FY 2020, the amount of graffiti



removed in FY 2021 increased by approximately 48.6% or 403,817 square feet of graffiti.

The sharp decrease of graffiti incidents in FY 2020 was likely due to the COVID-19 Shelter-in-Place ordinances, while the sharp increase in FY 2021 was likely due to lifting or easing of the COVID-19 restrictions.

Figure 13
Surface Area of Graffiti per Mile Removed along Highways in Santa Clara County, FY 2021



Caltrans graffiti removal efforts are conducted in partial segments of the highway, depending on the size and scale of the graffiti tags. The hotspot map identifies the areas with the largest number of square feet of graffiti removed. The data in the table also shows the changes in square footage of graffiti removed over a 7-year period by highway routes.

Maintenance

Caltrans may have up to 13 maintenance crews at any given time that cover three counties: Santa Clara, San Mateo, and San Francisco. The crews consist of the following teams: 1-Bridge crew, 1-Vegetation Control (weed abatement) crew, 1-Special Programs crew, 5-Road Maintenance crews, and 5-Landscape Maintenance crews.

In addition to Caltrans staff, litter and graffiti maintenance is supplemented by other resources like local agency anti-litter and graffiti initiatives, Adopt-A-Highway vendors, and other organizations.

Solutions

In past years, the resources allocated from the State's annual budget for cleaning the highways varied from year to year, resulting in inconsistent funding levels. However, with the increasing levels of litter, graffiti, and more recently, illegal encampments along the highways, the State and local agencies are attempting to address these issues recognizing the negative impacts to quality of life and the environment.



Clean California - In July 2021, the State approved a \$1.5 Billion 3-Year statewide transformation initiative to remove litter on the roadways, create jobs, and

beautify California. VTA and local agencies in Santa Clara County are working with the Bay Area Local Caltrans District 4 Clean CA team to plan community volunteer clean-up event and free dump days in Santa Clara County.



KEEP AMERICA BEAUTIFUL AFFILIATE



Keep Santa Clara Valley Beautiful – VTA, in partnership with Caltrans, California Highway Patrol, Valley Water, and Keep America Beautiful, are developing a countywide highway litter abatement program that includes education awareness, enforcement signage at frequently littered locations, and eradication of trash by sponsoring community clean-up events.



Adopt-A-Highway (AAH) –

This is a Caltrans program that allows community volunteers and organizations to help maintain sections of the highways by either sponsoring

clean-up events or hiring Caltrans approved maintenance vendors to perform the work on their behalf. Adoptions typically span over two-mile sections with permits issued up to five-year periods.

VTA is working with its member agency local jurisdictions to sponsor all adoptable highway segments by their respective communities. The sponsorship includes a AAH sign with the sponsor logo or name displayed along the adopted segment. The table on the next page shows an estimate of the available segments by jurisdiction using Caltrans District 4 Adopt-A-Highway Status Map.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

NO.	Agency/City	Adopted Shoulder Miles ¹	Available Shoulder Miles	Estimated Cost (\$375/Month) ²	Highway/Freeway Locations	No of Available Interchange Sites ⁶	Estimated Cost (\$275/Month) ³
1	Campbell	6.0	0.0	-	17	1	\$275
2	Cupertino	6.0	2.0	\$375	85	1	\$275
3	Gilroy	5.4	3.6	\$675	101	1	\$275
4	Los Altos	0.0	0.0	-	-	0	-
5	Los Altos Hills	12.0	0.0	-	-	0	-
6	Los Gatos	16.9	0.0	-	-	0	-
7	Milpitas	7.8	5.2	\$975	680, 880	3	\$825
8	Monte Sereno	0.0	0.0	-	-	0	-
9	Morgan Hill	8.0	0.0	-	-	0	-
10	Mountain View	12.5	3.7	\$694	85, 237	0	-
11	Palo Alto	5.1	0.0	-	-	0	-
12	San Jose	90.7	13.3	\$2,494	85, 101, 237, 280, 680	6	\$1,650
13	Santa Clara	8.0	0.0	-	101	1	\$275
14	Saratoga	4.0	0.0	-	-	0	-
15	Sunnyvale	10.0	6.0	\$1,125	85, 101, 237	1	\$275
16	Unincorporated/ Unclassified	31.4	4.0	\$750	25, 101, 152, 156, 280, 880	0	-

NOTES:

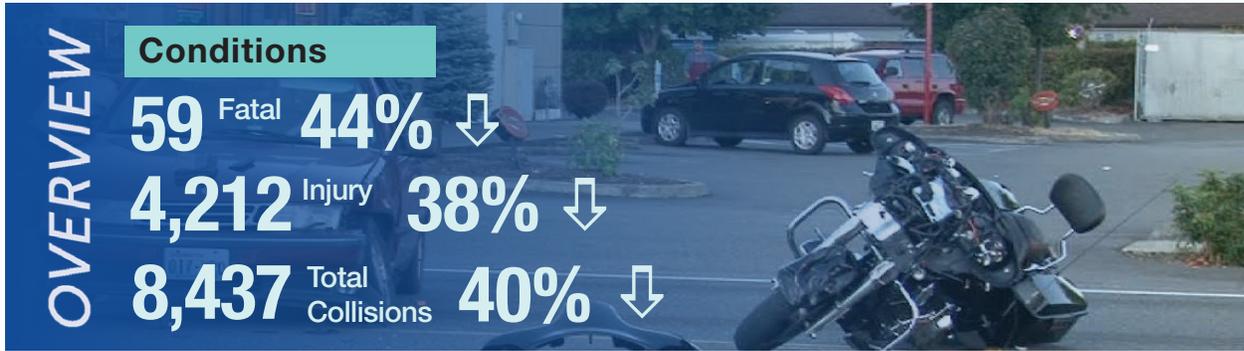
1. There are sections of the freeways that are not adoptable so miles in the Adopt-A-Highway Program will not match the total Post Miles.
2. Cost reflects two clean-ups per month per each approximate 2 mile segment.
3. Cost reflects one clean-up per month per quadrant. Some sites may be required to be cleaned more than once per month.
4. Caltrans dictates the frequency of clean-ups based on location so costs will vary. Costs provided in this table are intended to give rough estimates.
5. Caltrans District 4 Adopt-A-Highway website: <http://www.dot.ca.gov/d4/adoptahighway/>
6. The definition of interchanges includes on-off ramps and are typically divided into individual quadrants for adoption purposes.

ZERO LITTER INITIATIVE

Zero Litter Initiative (ZLI) – ZLI is a voluntary group comprised of cities, water agencies, and conservation organizations including VTA, dedicated to developing and implementing anti-litter programs that focusses on preventing pollution from entering waterways leading to the San Francisco Bay.

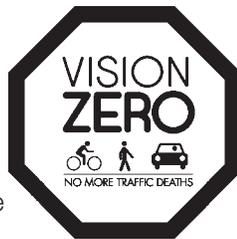
Other volunteer organizations include California Highway Patrol, Beautiful Day, San Jose Downtown Streets Team, and San Jose Conservation corps.





Background

Transportation has a significant effect on public health and safety, specifically collisions which are considered to be preventable. Santa Clara County has joined a nationwide effort to reduce and eventually eliminate all fatal and serious injury collisions on our roadways, while increasing safe, healthy, and equitable mobility for all users. The first step to achieving this goal is monitoring the collision rates, locations, and types.



decrease in the number and types of collisions between 2019 and 2020:

- -5,449 (-40%) Total Collisions
- - 91 (-38%) Fatal Collisions
- -2,545 (-38%) Injury Collisions

The following graphs show the historical Fatal and Injury Collision trends from 2009 to 2020. The maps on the following pages display “hot spots” of frequent locations by type.

Data Source

VTA and its Member Agencies have invested in the County’s Crossroads Collision software data base as a primary source for tracking and analyzing collisions.

Crossroads includes data from the



Statewide Integrated Traffic Records System (SWITRS) in addition to the non-serious collisions collected by the local police departments that might not be reported to the State. This provides a more comprehensive database tool for use by local transportation engineers, planners, and public health department staff.

Conditions (from 2020 TSMP Report)

The COVID-19 Pandemic in 2020 brought about changes in work schedule, mode choices, and travel patterns, which changed past years collision trend patterns. In general, there was a 40%

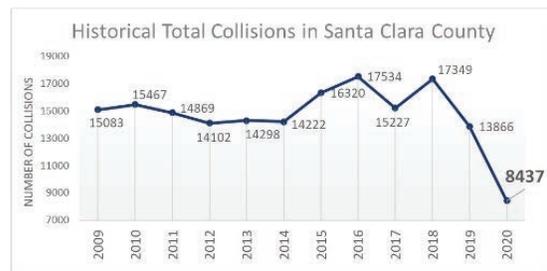


Figure 14
2019 All Collisions "Hot Spots" Map, Santa Clara County

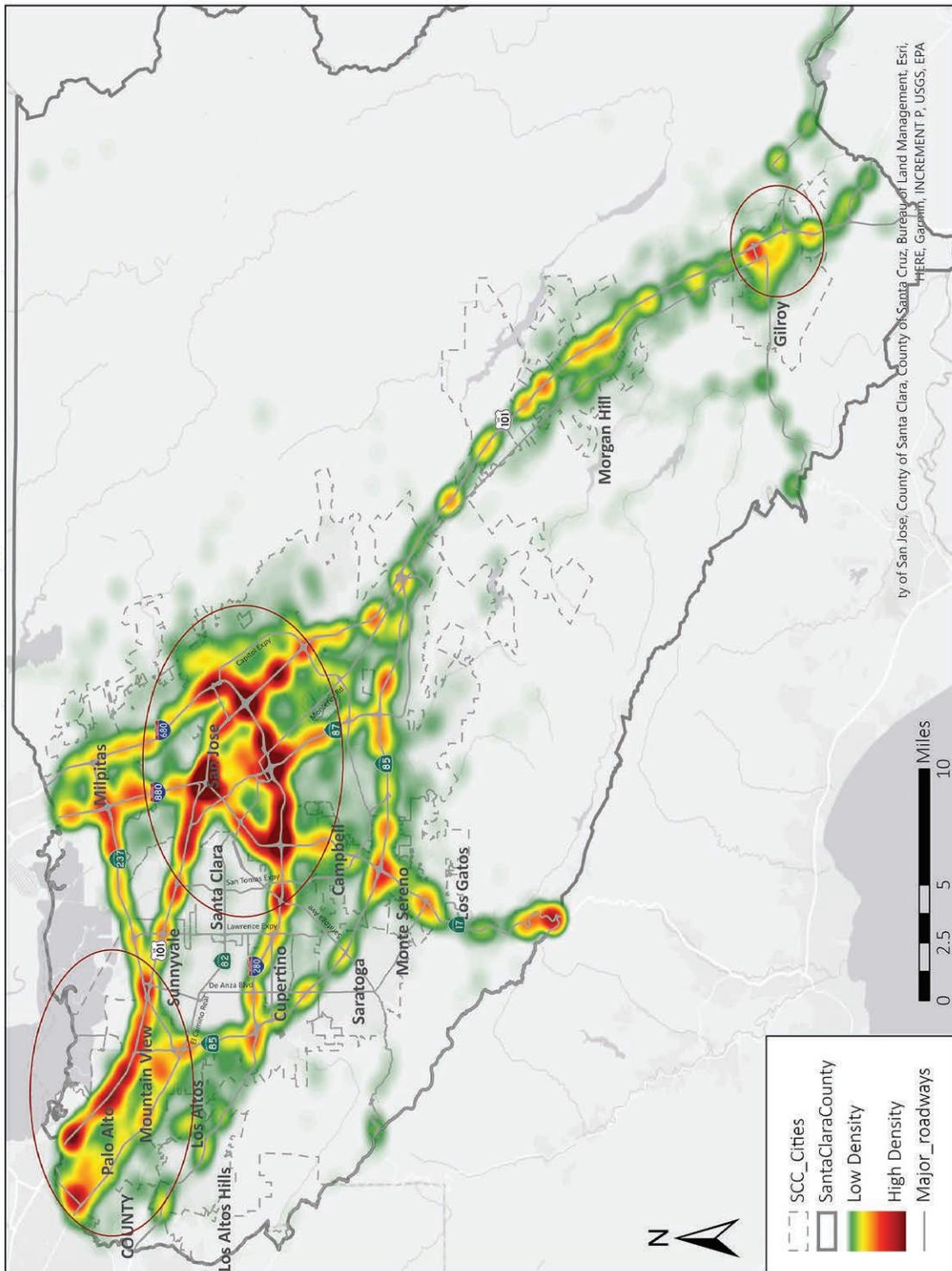
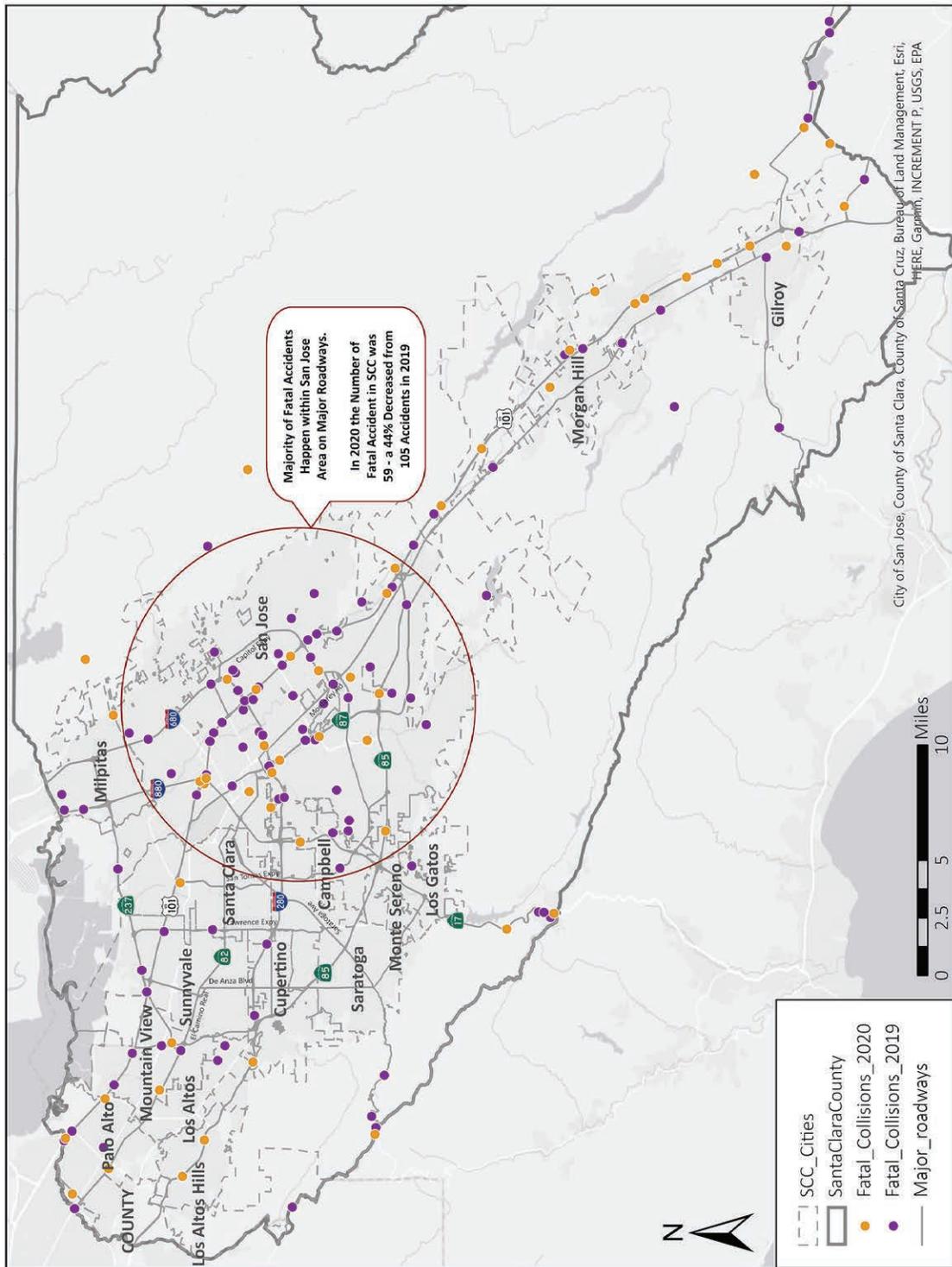


Figure 16
2019 vs 2020 Fatal Collisions “Hot Spots” Map, Santa Clara County



The overall number of 2019 and 2020 major collision types, factors and involved parties by agency are presented in the following tables:

Table 3
2019 Major Collision Types, Factors, and Involved Parties per Agency

Agency	Total Collisions	Fatal Collisions	Injury Collisions	Hit & Run	DUI*	Speed	Auto RW**	Ped	Bike	Hit Object
Campbell	94	1	80	13	18	12	8	14	12	10
Cupertino	509	1	128	103	16	100	62	15	35	53
Gilroy	182	1	87	38	25	33	37	7	7	14
Los Altos	120	2	51	52	23	6	29	19	3	11
Los Altos Hills	45	0	15	5	2	13	2	0	5	18
Los Gatos	246	1	79	51	31	58	24	11	12	40
Milpitas	336	2	165	60	33	80	38	15	12	43
Monte Sereno	3	0	1	0	0	0	0	0	0	1
Morgan Hill	95	0	47	20	13	19	8	3	2	28
Mountain View	300	0	182	58	36	42	37	24	57	62
Palo Alto	499	2	246	98	26	103	67	26	66	39
San Jose	2186	25	2051	294	30	580	323	320	191	82
Santa Clara	1200	4	358	394	75	238	180	44	39	135
Santa Clara County	1684	22	1009	276	110	496	200	81	87	351
Saratoga	164	1	55	20	10	42	22	2	6	48
State	8120	49	2758	1432	466	4538	63	37	25	1394
Sunnyvale	1330	0	472	401	72	282	239	47	71	128

*DUI - Driving Under the Influence

** Auto R/W - vehicle's Right-Of-Way violation

Table 4
2020 Major Collision Types, Factors, and Involved Parties per Agency

Agency	Total Collisions	Fatal Collisions	Injury Collisions	Hit & Run	DUI*	Speed	Auto RW**	Ped	Bike	Hit Object
Campbell	148	0	42	64	19	20	7	4	8	30
Cupertino	279	1	91	56	9	48	26	7	18	35
Gilroy	281	0	90	87	7	69	47	8	12	29
Los Altos	53	0	26	11	2	12	6	2	7	5
Los Altos Hills	29	0	14	4	0	10	4	1	4	11
Los Gatos	79	0	35	13	4	20	12	4	4	13
Milpitas	244	1	114	50	28	37	29	8	9	33
Monte Sereno	1	0	1	0	0	0	0	0	1	0
Morgan Hill	0	0	0	0	0	0	0	0	0	0
Mountain View	160	1	98	23	22	25	22	7	19	44
Palo Alto	267	1	131	46	17	52	34	9	35	30
San Jose	1435	6	1391	207	29	348	179	192	138	64
Santa Clara	687	4	258	220	39	120	71	34	30	104
Santa Clara County	1136	9	659	185	85	312	122	54	49	279
Saratoga	127	1	47	18	4	35	13	2	11	36
State	4807	39	1660	940	380	2219	58	28	20	1270
Sunnyvale	616	5	201	209	41	131	65	32	31	116

Collision Types and Primary Collision Factors (PCF)

Every collision record identifies the type of collision and a primary collision factor. This information is used to develop counter measures and strategies to mitigate these types of collisions. The following tables show the percentages of collision by type and primary factors or causes.

Figure 17
2019 vs 2020 All Collision – Collision Types

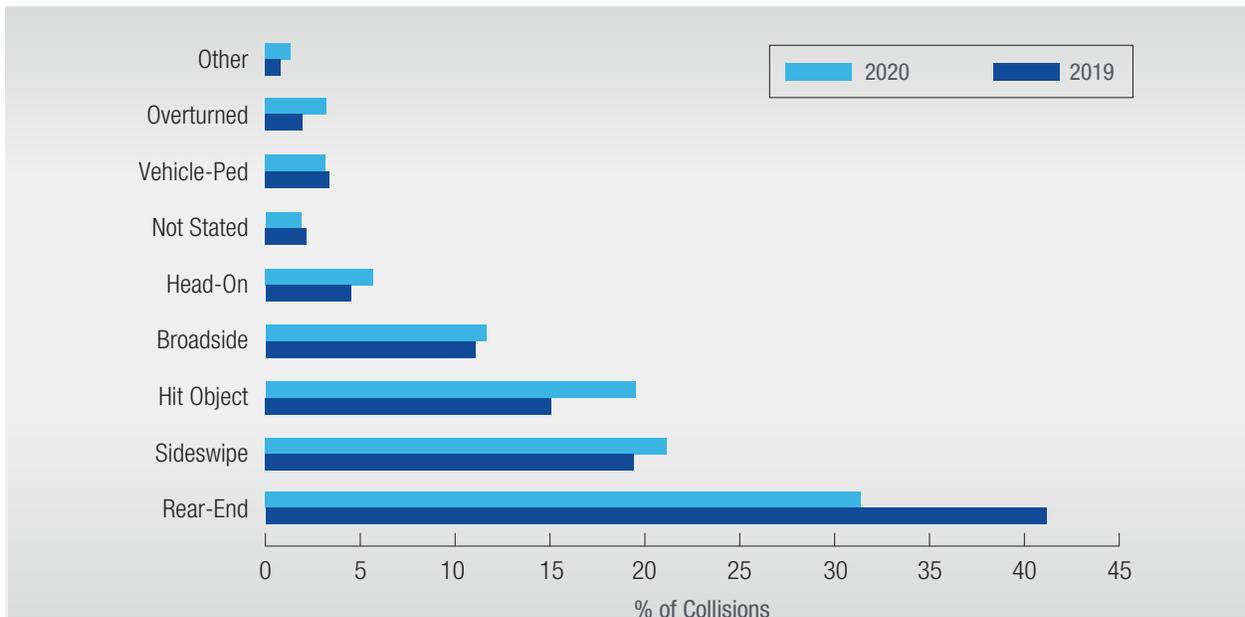
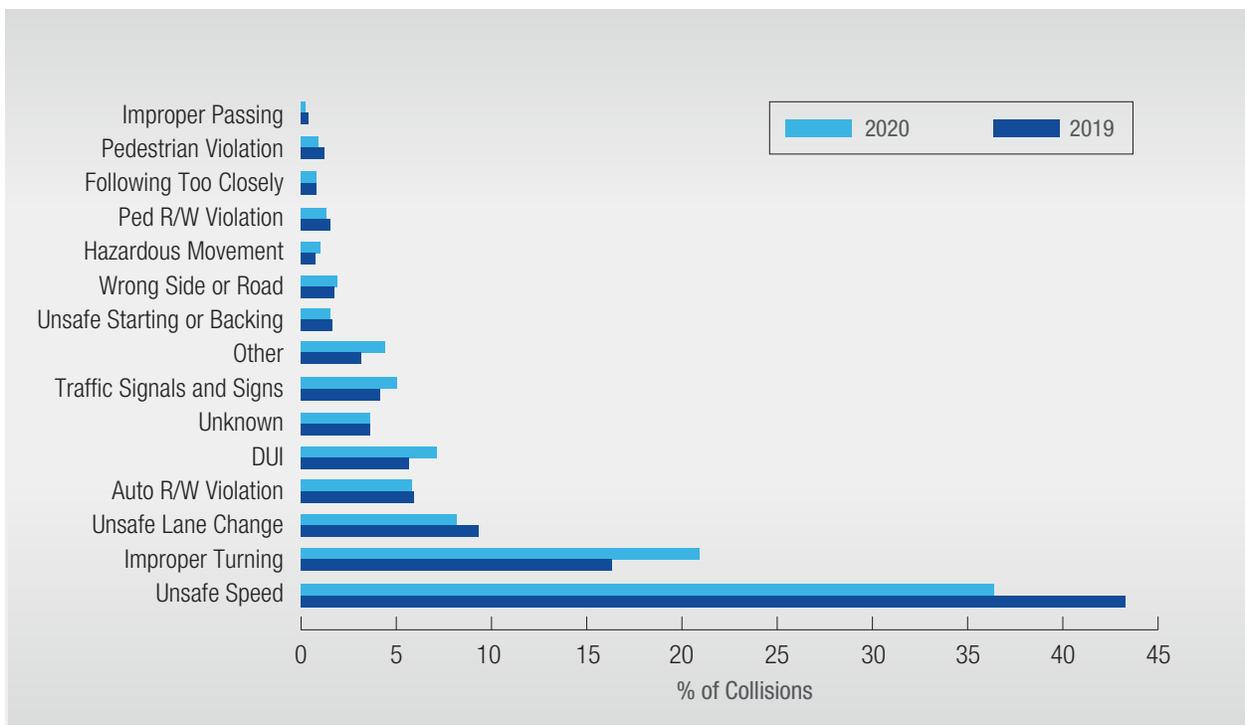


Figure 18
2019 vs 2020 All Collision – Primary Collision Factor (PCF)



COVID-19 Impacts



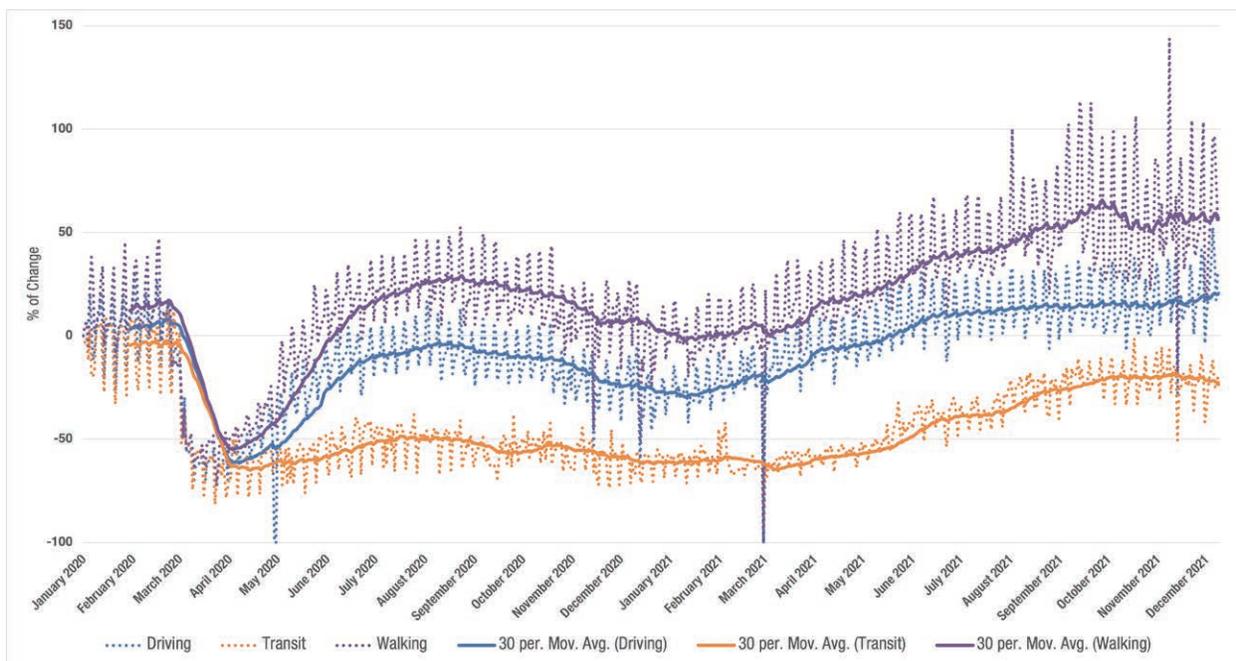
This section presents some general observations during the COVID-19 pandemic on transportation since the 2020 TSMP Report period, and social distancing guidelines issued by the State and County Public Health Departments in March 2020.

Following these orders and guidelines, many employers, schools, and other organizations transitioned their operations from onsite work to telecommuting, while adjusting their workflow processes. This resulted in changes personal transportation mode choices and commute patterns.

The graph below displays the change in patterns for vehicle, transit, and walking travel modes in Santa Clara County from January 2021 to December 2021. The data was generated based on Apple Maps© users' by mode choice.

The overall vehicular traffic in Santa Clara County has increased by an average of 20% compared to the pre-COVID-19 volumes; walking increased by 60% after dropping to under 50% after the shelter-in-place order, transit usage remained below pre-COVID-19 ridership volumes by nearly 25%.

Figure 19 Apple Maps© Mobility Trends Reports January 2020 – December 2021 for Santa Clara County



Source: <https://covid19.apple.com/mobility>

Traffic Impacts

The coronavirus pandemic and COVID-19 ordinances have affected the schedules of businesses, government, schools, and other organizations, thus changing people’s travel behaviors and mode choices, and impact on traffic congestion.

Figures 25 to 27 show observed changes in travel speeds and congestion locations for years 2019, 2020, and 2021 using 3-year averages.

The data used to generate these maps were collected from Tuesdays, Wednesdays, and Thursdays during the PM peak periods which have been days with the heaviest traffic volumes in Santa Clara County.

Travel Speed Map Legend:

- Red = Congested locations
- Yellow = Slow speed locations
- Green = Free flow speed locations

Figure 20

Pre-COVID 3-Year Average Traffic Speed
(February 2017 to February 2020)

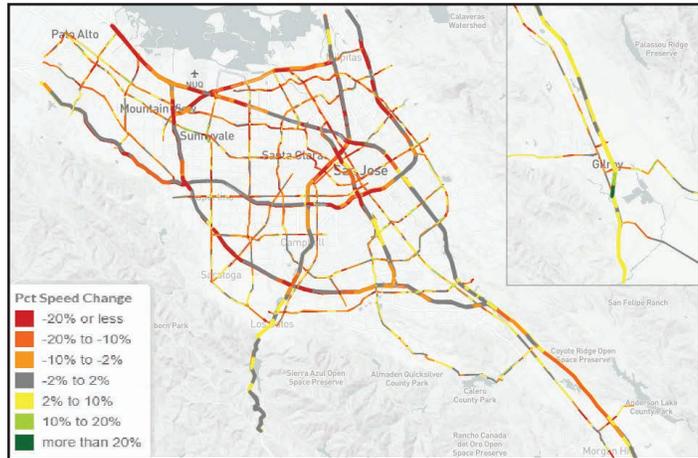


Figure 21

2020 COVID Period 3-Year Average Traffic Speed
(October 2017 to October 2020)

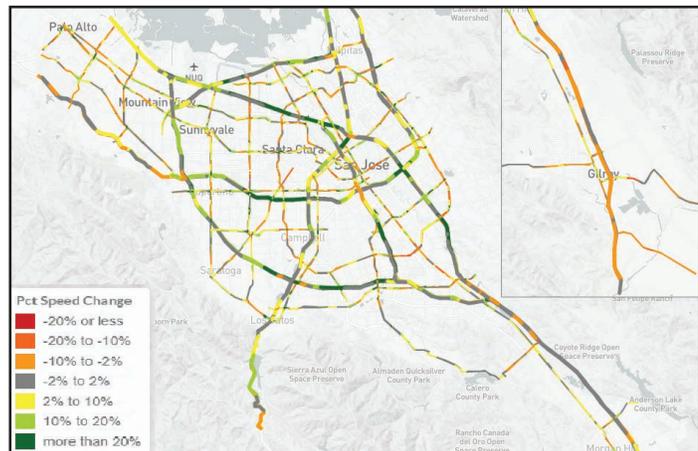
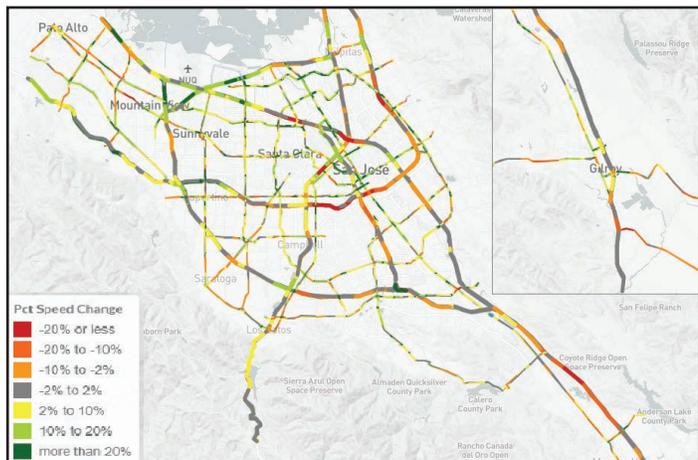


Figure 22

2021 COVID Period 3-Year Average Traffic Speed
(October 2018 to October 2021)



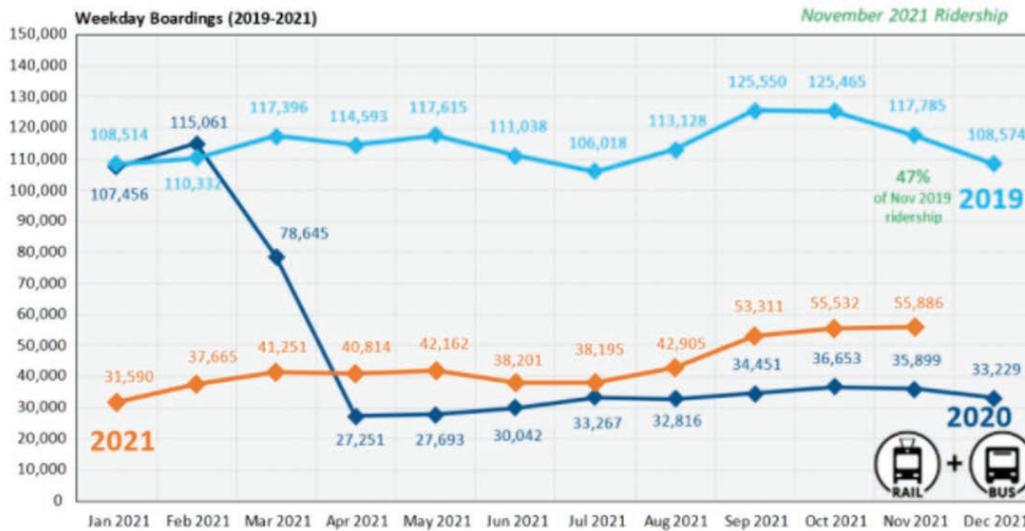
Transit Impacts

VTA's transit ridership has been incrementally increasing since the COVID-19 pandemic. In addition to implementing the Fast Program to increase transit service and frequency, VTA also implemented measures to increase public safety to reduce the risk of transmission of viruses.

From, 2020 to 2021, system-wide weekday ridership increased by 30%, representing 47% of prepandemic ridership level in 2019.

Figure 23

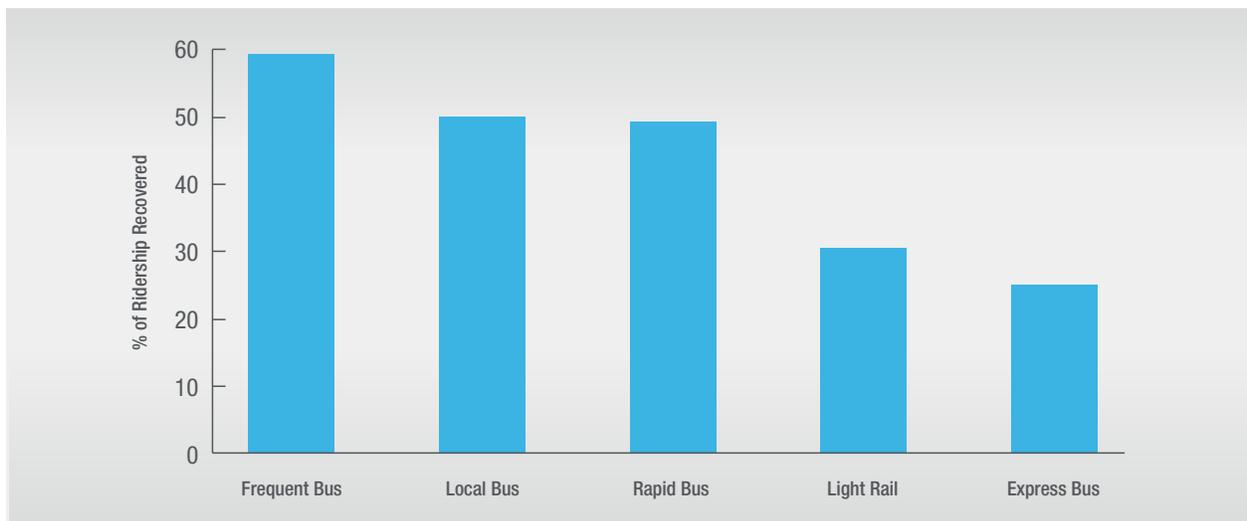
VTA Transit Ridership Between 2019 and 2021



This chart shows the percentage of recovered ridership in 2021 compared to pre-pandemic levels by type of transit service.

Figure 24

Percentage of VTA Transit Ridership Recovered in 2021 Compared to Pre-COVID-19 Values by Transit Type



Ridership Demographics

Transit service provides an alternative mode choice to single occupant vehicles and to those without any means of convenient transportation. Here are some information collected on communities using VTA's Frequent Service with 15 minute headways:

- 70% are people of color
- 32% live in households with one car
- 23% are within 200% of the Federal poverty threshold
- 12% are 65 or older
- 8% are living with a disability

Bicycle and Pedestrian Impacts

More people have continued to bicycle and walk more frequently since the start of the pandemic with stay-in-shelter order and social distancing ordinances back in March 2020. This mode shift can be attributed to employers allowing flexible work-from-home schedules.

In response to the demand and need for more public space to support social distancing regulations, many local jurisdictions implemented Slow Streets or Shared Streets type programs for pedestrians and bicyclists.



In May 2020, the City of Palo Alto initiated a Shared Streets Program. The City limited vehicle access to local traffic only on Bryant Street Park Boulevard, and Ross Road. This created more space for residents to walk, bike, and run while complying with physical distancing requirements. The program was piloted on three street segments, shown on the map above and ended on June 15, 2021.



The City of Mountain View extended its Castro StrEats Program that closed vehicular traffic in Castro Street in downtown in June 2020 to January 2023. This area was converted to an outdoor dining area to support local restaurants and retail businesses, while adhering to social distancing protocols and providing local residents with more open space for walking.



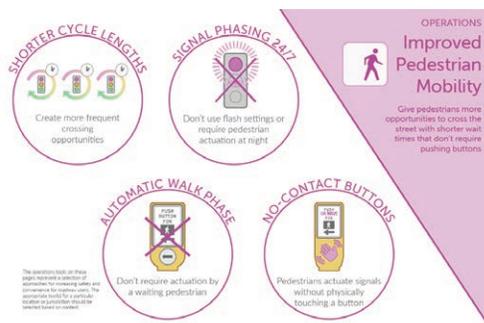
Solutions

Other COVID-19 Response Strategies by Local Agencies

Local agencies have adopted new practices, and strategies to help minimize health risks from COVID-19. Below are a few examples of these countermeasures:

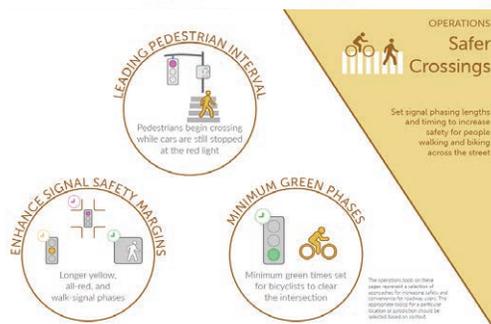
San José

- Over 100 intersections in the downtown area were reset with walking phases so pedestrians would not have to touch the pedestrian buttons.
- Signal coordination was disabled city-wide.
- Messages posted to encourage safe travel speed and awareness of an increased number of pedestrians and bicyclists.



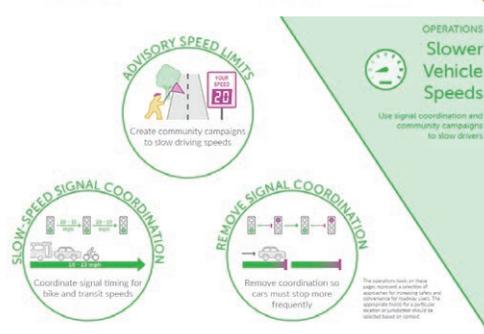
Santa Clara County (Unincorporated Areas)

- Posted messages to encourage safe travel speed.
- Adjusted signal timings along the expressway corridors after the Shelter-in-Place Order was issued in March 2020.
- Successfully installed the first touchless pedestrian signal crossing push button in Santa Clara County S. Bascom Avenue and Renova Drive intersection, in front of Valley Medical Hospital in San Jose.



Mountain View

- Turned off pedestrian recall signal phase to slow vehicular traffic at 23 high pedestrian activity intersections.



Future Mobility Challenges due to COVID-19 Impacts

The corona virus pandemic has changed many aspects of society, including work schedules, travel behaviors, mode choices, and transportation planning. This has prompted new questions:

- How to address congestion and changes in travel behaviors and patterns?
- What are the impacts of increased delivery services?
- Where does new mobility and emerging technologies and apps fit in with transportation planning?

Source: <https://bikesiliconvalley.org/2020/05/the-streets-they-are-a-changin/>

Source: https://www.cityofpal Alto.org/gov/depts/trn/shared_streets_program.asp

Bicycle and Pedestrian Infrastructure



As part of the Regional Active Transportation Network to build out a Complete Streets network and advance Vision Zero collision reduction efforts through street design and reduced speeds, improving bicycle and pedestrian networks means ensuring that the infrastructure is safe and comfortable for use by everyone. Thus, a section on Bicycle and Pedestrian Infrastructure was added to the TSMP to monitor the current and future use and needs for maintaining these new facilities.

The following descriptions summarize the most recent available bikeway data for Santa Clara County's jurisdictions by bikeway classification. There are four types:

Class I – Bicycle Path

Exclusive paths for bicyclists and pedestrians, separated from vehicle traffic.



Class II – Bicycle Lane

Established on streets defined by special pavement striping and/or colored lanes for bicyclists.



Class III – Bike Routes

Preferred route for bicyclists on streets shared with motor traffic.



Class IV – Separated Bikeways/Cycle Tracks

Bicycle facilities that are separated from traffic by parked cars, safe-hit posts, transit islands or other physical barriers.

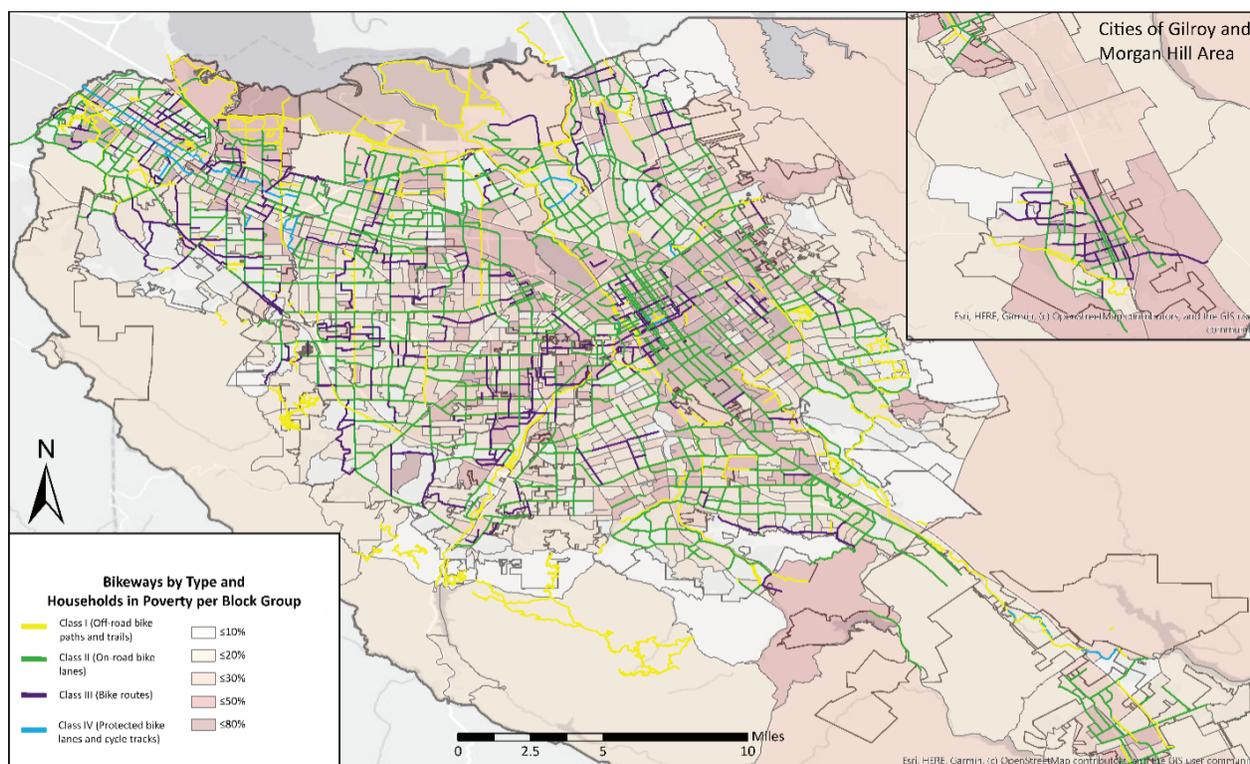


Bicycle and Pedestrian Infrastructure

Table 5
2020 Bikeway Mileage by Jurisdiction

JURISDICTION	Class I	Class II	Class III	Class IV
Campbell	10.35	15.12	10.24	-
Cupertino	9.01	23.32	11.57	-
Gilroy	6.67	21.36	19.36	-
Los Altos	2.05	11.57	11.61	-
Los Altos Hills	0.41	1.26	6.18	-
Los Gatos	13.77	7.05	3.52	-
Milpitas	7.41	26.94	10.46	-
Monte Sereno	-	-	1.59	-
Morgan Hill	5.32	22.37	-	-
Mountain View	16.95	25.96	10.44	5.67
Palo Alto	16.78	35.43	10.40	7.51
San Jose	101.95	317.02	54.96	3.90
Santa Clara	9.63	34.07	10.22	-
Saratoga	2.27	12.96	9.59	-
Sunnyvale	14.49	55.24	12.05	0.24
Unincorporated SCC	61.78	23.61	7.00	3.45
Total	278.83	633.28	189.21	20.75

Figure 25
2020 Bikeway Map of Santa Clara County by Type



Pedestrian and Bicycle Involved Collisions

In 2020, there were 612 collisions involving bicyclists and pedestrians out of a total of 8,437 reported collisions in Santa Clara County. This represents approximately 7% bicycle and pedestrian involved collisions, which is nearly the same percentage as in 2019 with 1,023 bicycle/pedestrian collision and 13,866 total collisions. However, the number of bicycle and pedestrian collisions decreased by 411 or nearly a 40% reduction in collisions compared with 2019 to 2020 data.

Figure 26
2019 vs 2020 Bike/Ped Collision – Collision Types

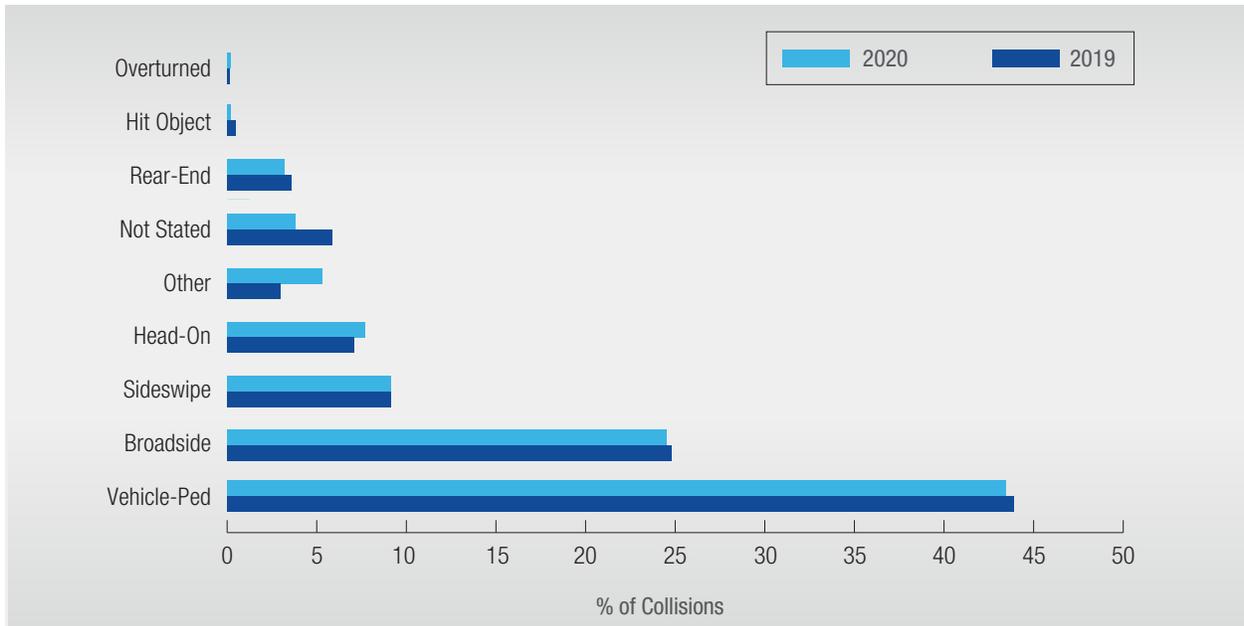


Figure 27
2019 vs 2020 Bike/Ped Collision – Primary Collision Factors (PCF)

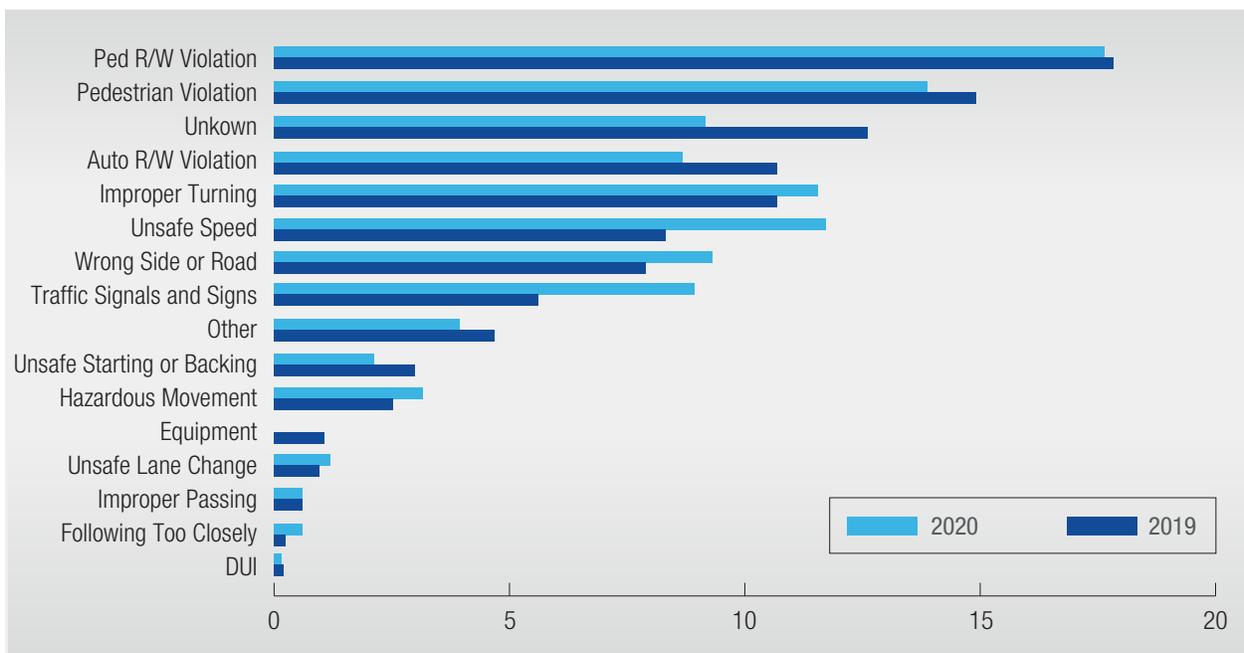


Figure 28

2019 Bike/Ped Collision – Degree of Injury

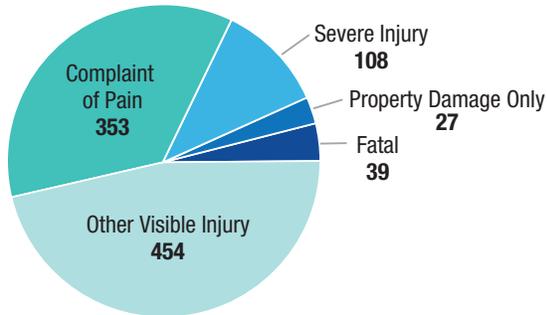
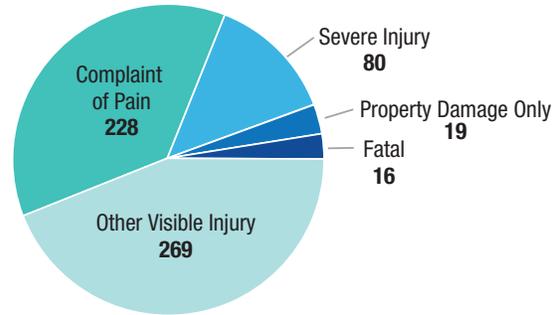


Figure 29

2020 Bike/Ped Collision – Degree of Injury

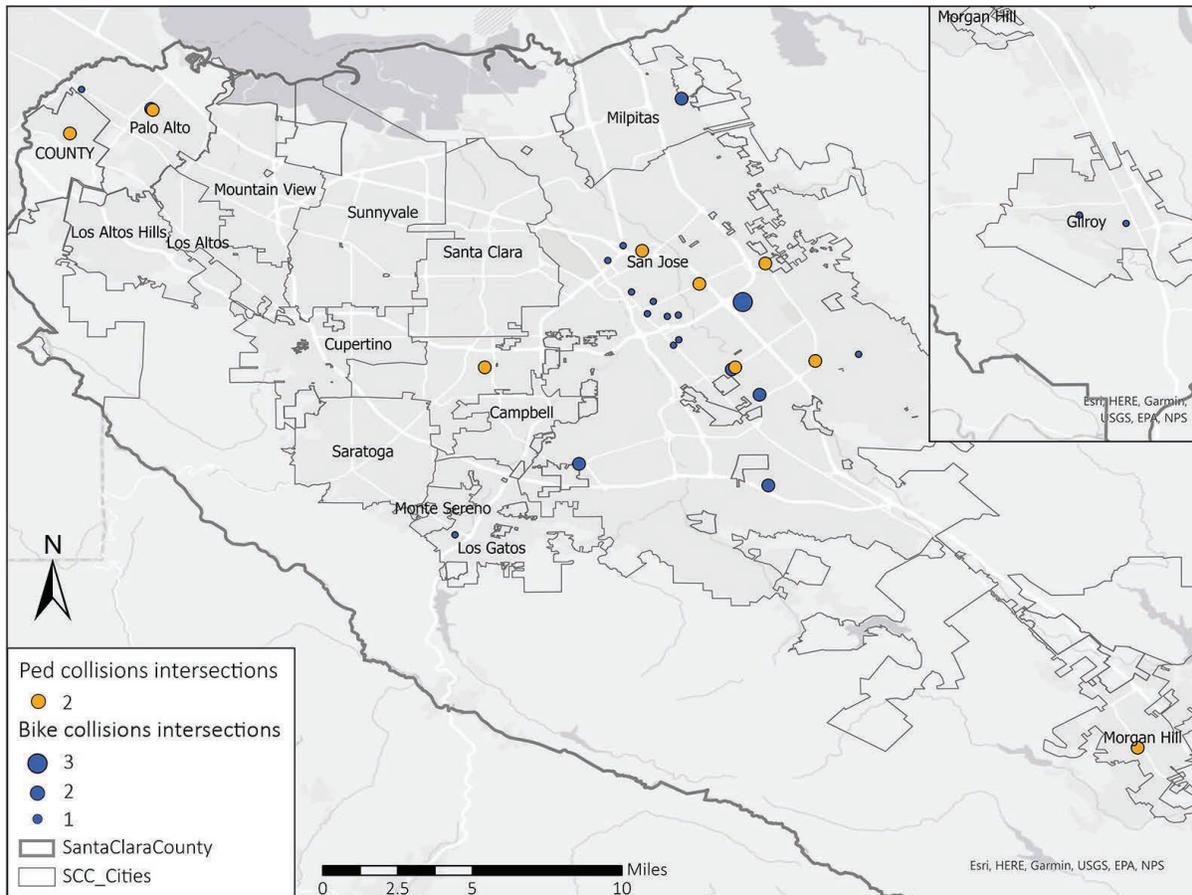


Frequent Collision Locations involving Bicyclists and Pedestrians

Monitoring and tracking locations of collisions year over year is a good performance metric for evaluating the effectiveness of collision reduction projects and strategies. The map below shows the locations of the frequent or concentration of bicycles and pedestrian collision in 2020.

Figure 30

2020 Highest Number of Pedestrian and Bicyclist Collisions Intersections



Solutions

VTA, in partnership with Caltrans and local agencies, are in the process of developing a Countywide Local Roads Safety Plan to reduce fatal and serious injury collisions in Santa Clara County. This plan is scheduled to be completed by June 2022, and will include an analysis of collisions in the county and strategies with countermeasures for making the local roadways safer for all users.

Other efforts for improving Santa Clara County's Active Transportation Networks are as follows:

- 2016 Measure B Local Streets & Roads, and Bicycle & Pedestrian improvement plans and projects
- VTA Bicycle and Pedestrian Programs
- 2021 VTA Bicycle Superhighway Implementation Plan

[Project Overview](#) [Report Concern](#) [Collision History](#) [Project Updates](#) [Provide Feedback](#) [Subscribe & Contact](#)

Valley Transportation Authority

COUNTYWIDE LOCAL ROADS SAFETY PLAN

Project Overview

The Santa Clara Valley Transportation Authority (VTA), in partnership with its member agency local jurisdictions, is developing a countywide Local Roads Safety Plan (LRSP) for all incorporated and unincorporated communities of Santa Clara County. An LRSP provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. This plan will enable local agencies in Santa Clara County to enhance traffic safety for all modes of transportation and for all ages and abilities.

The goal is to develop a successful LRSP by analyzing historic collision databases and creating a decision-making process that includes public outreach and stakeholder participation using the five "E's" of traffic safety: Engineering, Enforcement, Education, Emergency Response Services, and Emerging Technologies. Scroll down to view the [Project Area](#).

[Provide Feedback](#) [Subscribe & Contact](#)

Report Your Area of Concern

Your input is essential for the success of this Local Roads Safety Plan. Click the button below to provide us with your concerns regarding traffic and safety.

Sample comments -

- This roadway segment is unsafe for walking and biking.
- Cars don't stop at this stop-controlled intersection.
- Speeding on this roadway segment.

[Report Your Area of Concern](#)

For further updates, check [Project Updates](#) or [Subscribe](#) to receive notifications.



Highlights of Other Transportation Systems



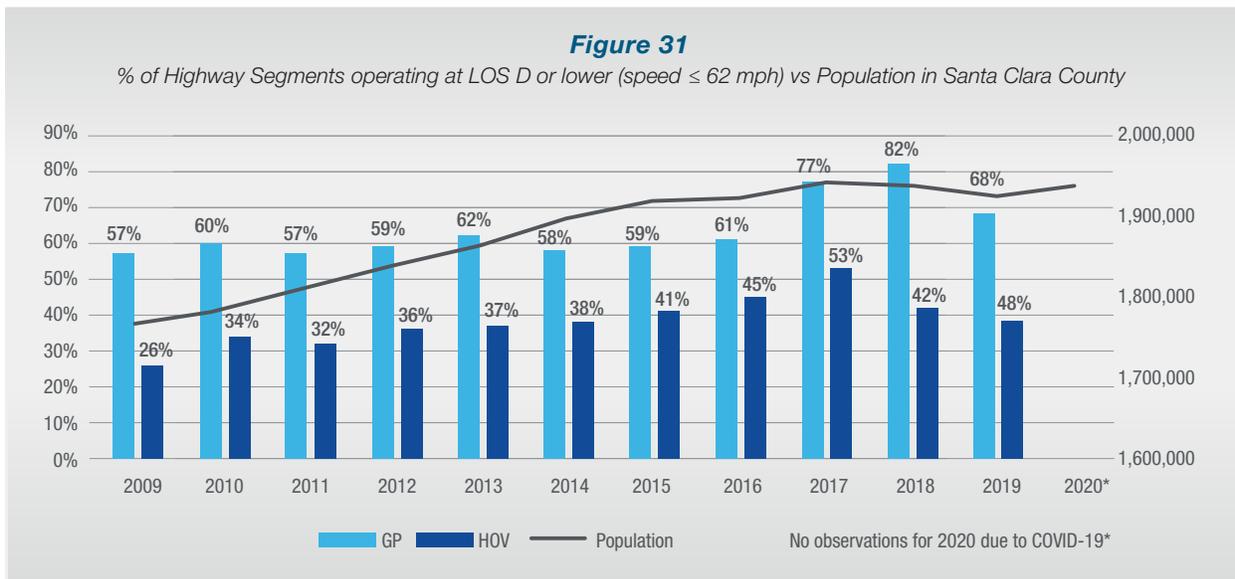
Bridges/Overcrossings

Santa Clara County	Bridge Counts				% in Condition		
	All	Good	Fair	Poor	Good	Fair	Poor
2016	952	580	311	61	61%	33%	6%
2017	954	591	280	83	62%	29%	9%
2018	955	545	329	81	57%	34%	8%
2019	961	484	374	103	50%	39%	11%
2020	963	442	448	73	46%	47%	8%



Roadside Assets

Indicators	Previous Period	Current Period	Trend (Yearly)
Traffic Signals (percentage of Assets in useful condition)	79% (2020)	77% (2021)	
Pavement Markings (percentage of Assets in useful condition)	71% (2020)	68% (2021)	
Traffic Signs (percentage of Assets in useful condition)	74% (2020)	75% (2021)	
Litter Management (percentage of Assets in useful condition)	86% (2020)	85% (2021)	



Transit

Indicators	Previous Period	Current Period	Goal	Goal Met	Trend (Yearly)
Light Rail Annual Ridership (in Millions)	8.44 (2019)	3.16 (2020)	11.60	NO	
Bus Annual Ridership (in Millions)	27.03 (2019)	12.45 (2020)	33.32	NO	

Highlights of Other Transportation Systems

Table 6
Inventory of Assets

ASSETS	QUANTITY	YEAR COLLECTED
Local Roadway Lane Miles Maintained (Total)	5,499 miles	2021
Local Roadway Lane Miles Repaired/Repaved (Total)	1,385 miles	2021
Miles Repaired/Repaved 2018	463 miles	2021
Miles Repaired/Repaved 2019	510 miles	2021
Miles Repaired/Repaved 2020	421 miles	2021
State Roadway Lane Miles Planned to be Repaired	147 miles	2021
Bus		
Fleet Age (avg.)	9.39 Years	2019
Fleet Size	453	2019
Route Mileage	1,265 mi	2019
Routes	71	2019
Stops	3,800	2019
Light Rail		
Fleet Size	98	2019
Miles of Track	81.6 Miles	2019
Route Mileage	42.2 Miles	2019
Stations	61	2019
Highway – Ramp Meter Signals	265 Operational 12 Non-operational 62 Planned 26 Part construction	2021
Traffic Signal Controllers	1,931 Local 144 State	2021
Traffic Signs	217,645	2021

Street Pavement

Local Streets Pavement Condition Index (PCI) maps were downloaded from the Metropolitan Transportation Commission's (MTC) Vital Signs website:

<http://www.vitalsigns.mtc.ca.gov/street-pavement-condition>. Additional PCI data were obtained from MTC staff.

2021 California Statewide Local Streets and Roads Needs Assessment Final Report, August 2021-
<https://www.savecaliforniastreet.org/wp-content/uploads/2021/08/Statewide-2020-Local-Streets-and-Roads-Needs-Assessment-Final-8-4-21.pdf>

VTA 2010 \$10 Vehicle Registration Fee webpage:
<https://www.vta.org/projects/funding/2010-10-vehicle-registration-fee>. This webpage includes an expenditure plan which provides details on project eligibility and how the funds are to be distributed by individual Member Agencies.

To present the change more accurately in pavement conditions, the report has moved away from 3-year rolling PCI average to showing annual PCI scores. It should be noted here that PCI is based on human observations and interpretations; therefore, the minor differences in PCI scores between years could reflect similar conditions. The intent of reporting PCI's on an annual basis is to monitor the trending conditions over time.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

The 2021 TSMP Litter, Illegal Encampments, and Graffiti Maintenance section focuses on quantitative data, representing the volume of litter and square footage of graffiti removed. The data was provided by Caltrans highway maintenance staff who record the amount of litter collected, square footage of graffiti removed, number of homeless encampments cleaned, etc. The trend line was generated based on the available data that dated back to 2015. This information was also used to generate heat maps to visually show the amount and locations of these occurrences, and changes over time.

Adopt-A-Highway – Information used to generate estimates for the table on the status of adoptable

highway segments was downloaded from Caltrans District 4 Adopt-A-Highway website: <https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-adopt-a-highway>.

Roadway Safety

The Countywide Crossroads Collision Database, maintained by Santa Clara County's Roads and Airports Department was used to generate the collision data for this section. The data includes reports from the Statewide Integrated Traffic Records System and local agency police departments. The collision maps were generated using ArcGIS Pro Esri software.

COVID-19 Impact

The information in this section was compiled from both external and internal sources. Apple Maps© Mobility Trends Report website <https://covid19.apple.com/mobility> was used generate the January 2020 – December 2021 multimode use trend map, INRIX© Traffic App online at <https://inrix.com/inrix-traffic-app/> was used to generate the traffic speed maps, and VTA's Congestion Tracker Tool was used to generate the congestion maps. Additional information on local agency responses to the pandemic was provided by VTA's member agencies.

Bicycle and Pedestrian Infrastructure

Data for this section was obtained from VTA's member agencies and Countywide Crossroads Collision Database.

Highlights of Other Transportation Systems

Bridges

The conditions of Santa Clara County bridges and overcrossings were retrieved from the Federal Highway Administration National Bridge Inventory (NBI) website at <https://www.fhwa.dot.gov/bridge/nbi.cfm>. The raw data was aggregated and summarize by "good", "fair", and "poor" condition indicators.

Roadside Assets

The data was obtained from responses to the 2021 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions.

References

Congestion vs Population in Santa Clara County

Data from VTA's 2019 Congestion Monitoring Program (CMP) Monitoring and Conformance Annual Report, <https://www.vta.org/programs/congestion-management-agency>, and US Census Bureau State & County Quick Facts webpage <https://www.census.gov/quickfacts/fact/table/US/PST045221> were used to generate the trend map. Due to the pandemic restrictions, no data was collected for congestion conditions in 2020. An update will be provided in the 2022 TSMP Report.

Transit

Statistics on transit ridership were obtained from American Public Transportation Association (APTA) Fourth Quarter 2020 Report for Santa Clara Valley Transportation Authority: <https://www.apta.com/wp-content/uploads/2020-Q4-Ridership-APTA.pdf>

Inventory of Assets

Roadway Lane Miles Maintained and Repaired/Repaved

The data was obtained from responses to the 2021 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions.

Bus

The data for VTA's bus fleet was obtained from an internal document, "VTA Facts, Current Bus System Data, 2020" produced by VTA's Transit Operations Analysis and Reporting Department. Bus fleet includes all the following bus types: articulated (58), standard (195), hybrid 40-ft (119), hybrid 30-ft (38), and Hybrid Express (50). Bus route mileage is reported as the total round trip. Additional information on VTA's transit fleets can be found on VTA's Homepage:

<https://www.vta.org>

Light Rail

The data for VTA's light rail fleet was obtained from an internal document, "VTA Facts, Current Bus System Data, 2020" produced by VTA's Transit Operations Analysis and Reporting Department. In addition to the fleet of 99 standard vehicles, there are also 4 historic trolleys that operate during the Christmas holiday season. Route miles define the extent of the operational network and represent the total extent of

routes available for trains to operate. Track miles takes into account multiple track routes (e.g. for each route mile where there is double track, there are two track miles; where there are four tracks, there are four track miles). Additional information on VTA's transit fleets can be found on VTA's Homepage

<https://www.vta.org>

Highway – Ramp Meter Signals

Data provided by Caltrans District 4 Office of Traffic Systems staff.

Traffic Signal Controllers

Data provided by Caltrans District 4 Office of Traffic Systems staff.

Traffic Signs

The data was obtained from responses to the 2021 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions.

Acknowledgements

Participating Agencies

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(Caltrans District 4)*

City of Campbell

City of Cupertino

City of Gilroy

City of Los Altos

City of Milpitas

City of Monte Sereno

City of Morgan Hill

City of Mountain View

City of Palo Alto

City of San Jose

City of Santa Clara

City of Saratoga

City of Sunnyvale

County of Santa Clara Roads & Airports

Metropolitan Transportation Commission
(StreetSaver Program) *

Town of Los Altos Hills

Town of Los Gatos

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