ANNUAL FY 2023

Transportation Systems Monitoring Program (TSMP) Report

SEPTEMBER 2024 (Final Draft)

Valley Transportation Authority

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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 as a tool 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 in a single report.

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 (2015) and the Infrastructure Investment and Jobs Act (2021), the federal reauthorization transportation funding programs that emphasizes performance-based management of transportation infrastructure assets at the state and local levels.

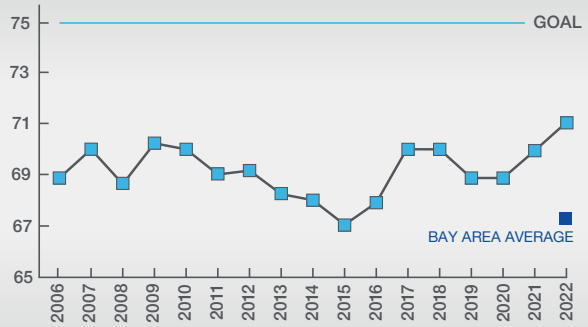
The 2023 TSMP report builds on the data research presented in previous reports with a focus on the following areas:

- **Local Street Pavement Conditions Freeway Litter and Graffiti Maintenance**
- **Roadway Safety (Collisions) Conditions**
- **Clean Energy Station Inventory** ***(New)***
- **Highlights of Other Transportation System**

This year's report also includes overlay mapping of Equitable Priority Communities.

Transportation Asset Management Process

Local Street Pavement Conditions

Indicators	Previous Period	Current Period	Trend (Yearly)
Street Pavement Conditions (Avg. Pavement Condition Index (PCI) scale 0–100)	70 (2021)	71 (2022)	

Source: Metropolitan Transportation Commission Vital Sign

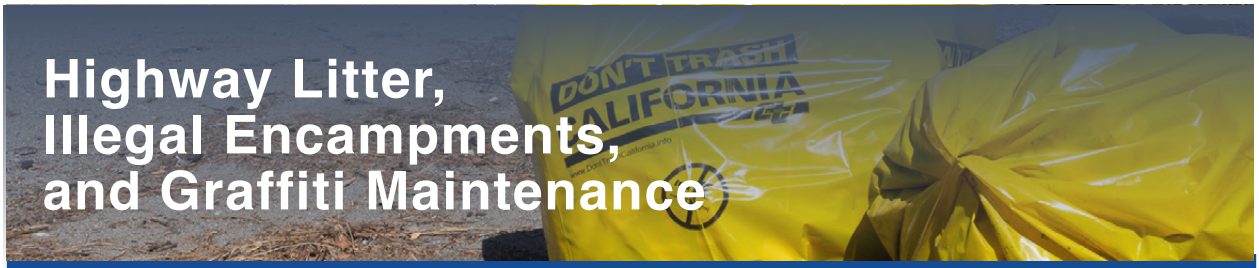
- Santa Clara County local jurisdictions maintain nearly **10,000 lane-miles of roadway pavement**. This is the greatest number of pavement miles of the nine counties in the Bay Area.
- **The average Pavement Condition Index (PCI) improved by one point to a score of 71** since the previous reporting period. This represents an incremental positive trend since 2015. 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.
- **The overall Pavement Condition Index for the Bay Area was 67, compared with the region-wide goal of 75.** Roadways not maintained PCI score of 70 or higher will cost more to repair in the future if rehabilitation maintenance is deferred over time.

In the Equity Priority Communities, the areas with Poor/Failed and At-Risk pavement conditions improved by 23% and 17%, respectively. The areas with **Very Good/Excellent pavement conditions increased by 23%**, indicating continued investments in maintenance of the local streets.

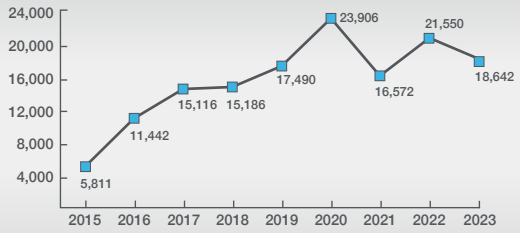
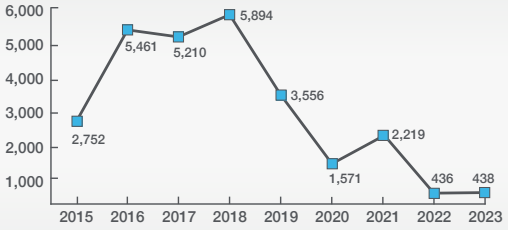
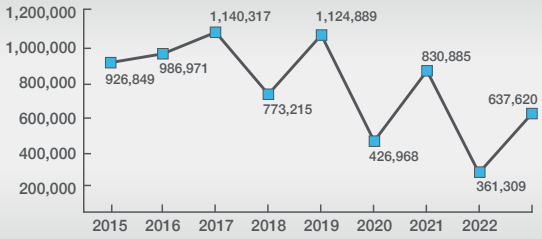
Based on general comments from the local agency self-assessment surveys, the positive trend can be attributed to the increased number of roadway lane miles repaired and rehabilitated and post COVID-19 work restrictions.

Solutions

- $10 Vehicle Registration Fee (VRF) and 2016 Measure B Local Streets & Roads Program Funding – Approximately $65 million was collected from both these funding programs in FY 2022 and 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)
Highway Litter Removal (Cubic yards)	21,550 (2022)	**18,642 (2023)**	
Illegal Encampment Site Litter Removal (Cubic yards)	436 (2022)	**438 (2023)**	
Graffiti Removal (Square footage)	361,309 (2022)	**637,620 (2023)**	

Source: Caltrans District 4 Division of Maintenance

- **Highway Litter** - Caltrans maintenance crews picked up an estimated **18,642 cubic yards of trash or 130,494 30-gallon sized trash bags last year** along the 307 highway shoulder miles in Santa Clara County. This represents an improvement of approximately 13% or 2,908 cubic yards of trash collected compared to the previous year in FY 2021. The frequently littered "hot spot" locations were along the southern end of I-280 and I-680, and the most littered corridor was along US 101 (Palo Alto to Gilroy).
- **Illegal Encampments** - The amount of litter collected at illegal encampment sites, typically near the interchanges and on/off ramp locations, **increased slightly to 438 cubic yards or 3,066 trash bags compared to the previous year**. This can be credited to a multi-jurisdictional, coordination efforts with Caltrans Clean CA funding program and local agencies in providing additional resources to address the illegal encampments.
- **Graffiti** - Graffiti along the freeways continues to be a challenge as it is a moving target. In FY 2023, the square footage of graffiti removed **increased from 361,309 square feet in FY 2022 to 637,620 square feet**. The highway segments with the most graffiti removal was along I-280, SR 85, and US 101.

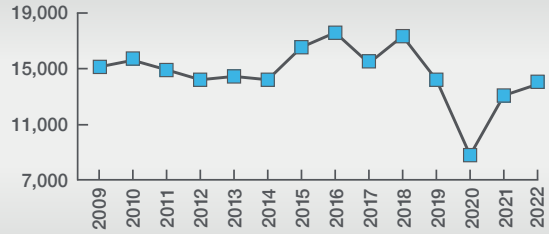
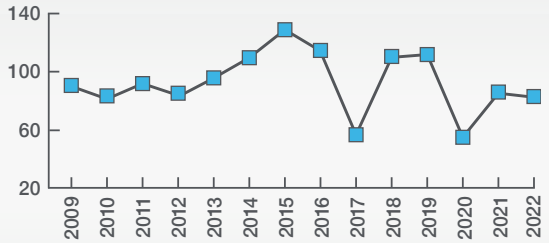
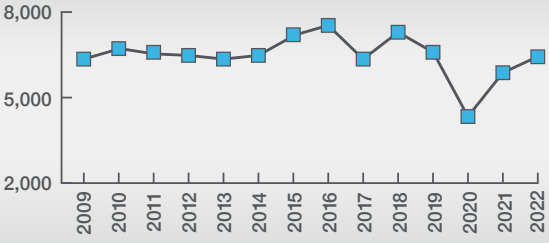
Solutions

Keep Santa Clara Valley Beautiful Highway Litter Abatement Program (KSCVB) - KSCVB is countywide, multi-agency initiative to clean and prevent littering on the highways in Santa Clara County. The project includes the following:

- Organizing popup cleanup events in cities and towns throughout Santa Clara County
- Installing No Dumping enforcement signs at frequently littered locations.
- Forming local volunteer groups to help clean the highways through Caltrans Adopt-A-Highway Progam.

In 2023, VTA, in partnersip with Caltrans, Valley Water, California Highway Patrol, and local jurisdictions, organized **9 volunteer cleanup events throughout the county, collected 400 30-gallon bags of trash, and rallied over 230 volunteers.**

Roadway Safety (Collisions)

Indicators	Previous Period	Current Period	Trend (Yearly)
Total Collisions	13,049 (2021)	**14,373 (2022)**	
Fatal Collisions	85 (2021)	**81 (2022)**	
Injury Collisions	5,883 (2021)	**6,470 (2022)**	

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

- **Total Collisions** - There were **14,373 reported total collisions**in Santa Clara County including fatalities and serious injuries, a **10% or 1,324 increase in the number of collisions** compared to the previous year.
- **Fatal Collisions** - Of the total number of collisions, there were **81 fatalities**, a 5% decrease compared to the previous year.
- **Injury collisions** - In 2022, there were **6,470 injury involved collisions**, 10% or 587 injury-involved collisions increase compared to 2021.

The increase in the number of county-wide collisions could be correlated to the increased traffic volumes.

- **Common Collision Types** - Rear-End (36.3%) and Sideswipe (19.9%)
- **Primary Collision Factors (PCF)** - Unsafe Speed (36.8%), Improper Turning (19.2%), and DUI (7.1%)

- **Collision Involving Bicyclists and Pedestrians:** Of the 999 collisions, 54% were vehicle-pedestrian, and 46% involved bicyclists. The main causes were Pedestrian Right of Way Violation (vehicle driver at fault) 17%, Pedestrian Violation (13.8%), and Auto Right of Way Violation (12.6%).

The overall number of collisions involving pedestrian and bicyclist represents approximately 7% of the total number of collisions in the County, but accounts for 37% of all fatalities, a 7% increase compared to the previous year.

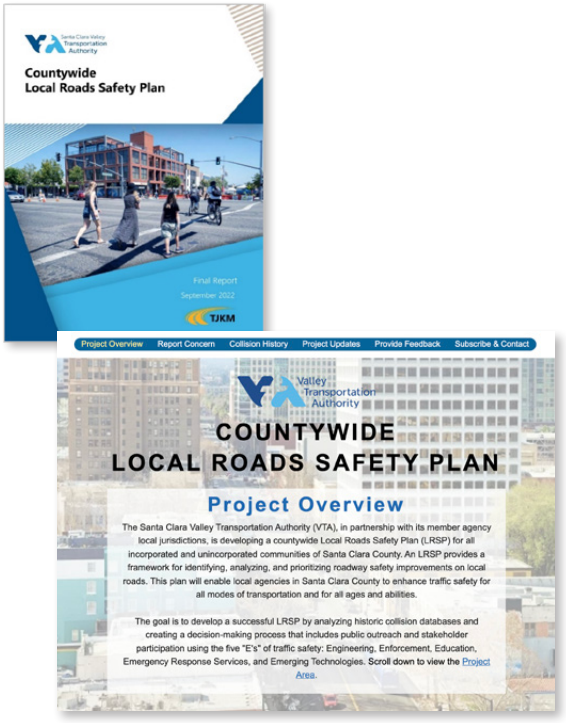
Table 1. *2022 Top Vehicle and Pedestrian Collisions Interchange and Intersection Locations*

Vehicle/Vehicle (Segment)	US 101 from Oregon Expy to Embarcadero Rd, Palo Alto	167 collisions
Vehicle/Vehicle (Interchange)	US 101 and I-880, San Jose	21 collisions
Vehicle/Pedestrian (Segment)	US 101 from Story Rd to Moffet Blvd, San Jose El Camino Real from Sunnyvale St to Cezanne Dr, State Wren Ave from 1st St to El Cerrito Way, Gilroy	3 collisions
Vehicle/Pedestrian (Intersection)	10th St and Chestnut St, Gilroy Almaden Expy and Cherry Ave, County of Santa Clara Dorcich St and Winchester Blvd, Santa Clara	3 collisions

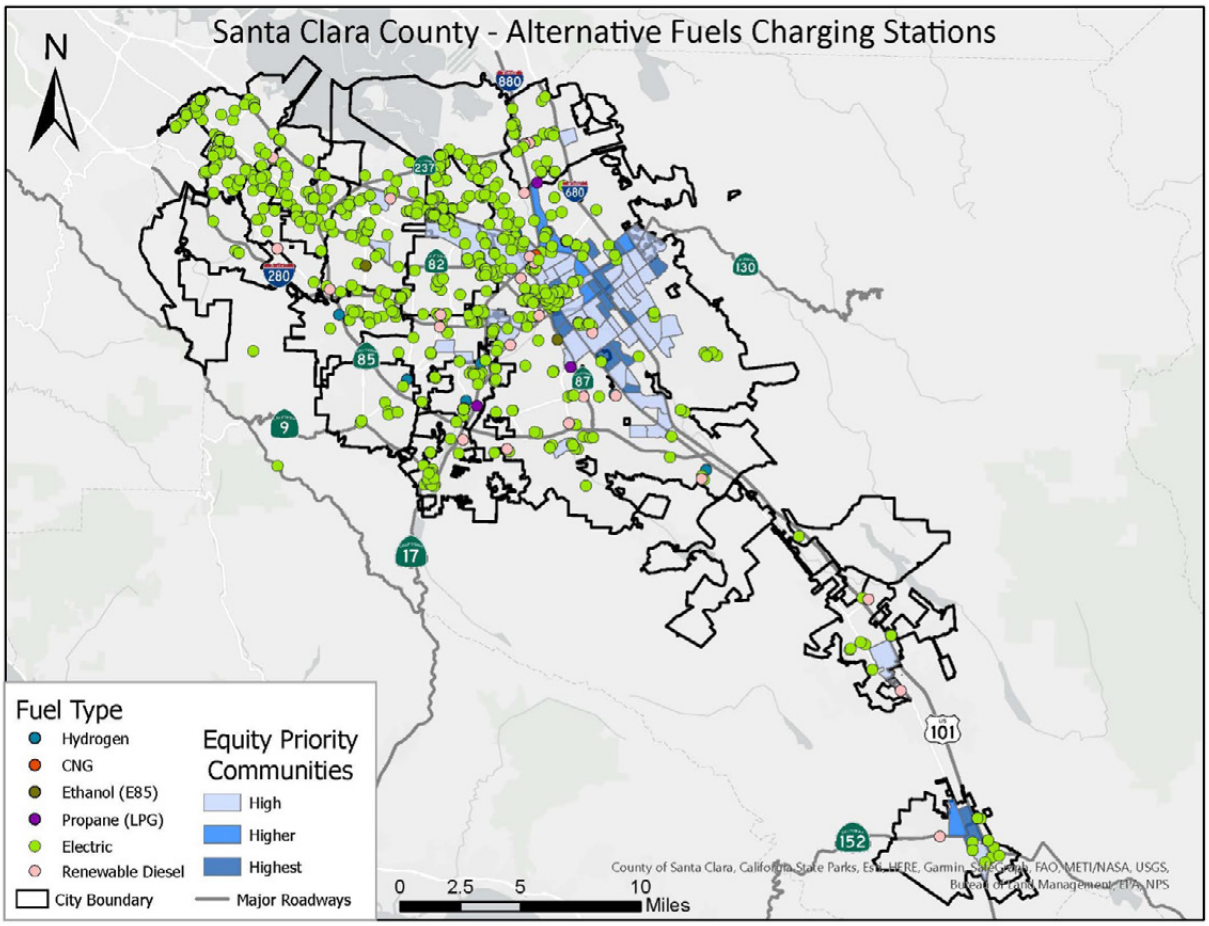
There were also 14 intersections in the cities of Gilroy, Los Altos, San Jose, Saratoga, and Sunnyvale, and the County of Santa Clara where there were two bicyclist-involved collisions.
All jurisdictions in Santa Clara County have been taking incremental steps, like developing roadway safety plans, adopting Vision Zero Initiative policies, incorporating Complete Streets designs, and applying for safety grants from Caltrans Local Highway Safety Improvement Program and Department of Transportation Safe Streets for Road for All (SS4A) Grant Program, to make the roadway network safer for all modes.

Solutions

- **Countywide Local Roads Safety Plan (CLRSP)** - VTA, in a collaborative effort through the Systems Operations and Management Working Group, comprised of local agency transportation engineers and planners, and input from local communities, developed a plan for identifying, analyzing, and prioritizing roadway safety improvements on local roads with the goal of reducing fatal and serious traffic injuries. This plan was completed and adopted by the VTA Board of Directors in October 2022, and anticipated to be updated about every 3 to 5 years to monitor the effects of the safety improvements over time.
- **Community Engagement** - Efforts included encouraging public participation to identify dangerous, high risk collision locations on the project website using an interactive mapping tool through local agencies and VTA's social media platforms.



The following map shows the locations and geographic distribution of clean fuel stations by fuel type, which can be used as a monitor and guide for future clean fuel station investments.



The following table presents the number of alternative fuel charging stations by city and fuel type. There are currently 1,627 alternative fuel/charging public-use stations in operation. 1,583 or nearly 97% of these stations are electric charging stations and the remaining 44 or 3% of these stations support Compressed Natural Gas (2 locations), Ethanol (6 locations), Hydrogen (8 locations), Propane (4 locations), and Renewable Diesel (24 locations) fueled vehicles.

Table 2. *Status of Alternative Fuels Charging Stations in Santa Clara County by Jurisdiction, 2023*

City/Town	Total No. of Alternative Fuels Charging Stations	Fuel Type				
		CNG	E85	ELEC	HY	LPG
Campbell	48	-	-	45	2	-
Cupertino	95	1	-	92	1	1
Gilroy	31	-	-	30	-	1
Los Altos	13	-	-	12	-	1
Los Altos Hills	9	-	-	9	-	-
Los Gatos	20	-	-	18	-	2
Milpitas	70	-	-	68	-	2
Monte Sereno	4	-	-	4	-	-
Morgan Hill	14	-	-	12	-	2
Mountain View	72	-	-	72	-	-
Palo Alto	208	-	-	207	-	1
San Jose	583	1	5	559	3	12
Santa Clara	346	-	-	345	-	1
Saratoga	10	-	-	9	1	-
Sunnyvale	104	-	1	101	1	1
	1627	**2**	**6**	**1583**	**8**	**24**

Legend:
CNG *– Compressed Natural Gas,* ***E85*** *– Ethanol,* ***ELEC*** *– Electric, HY – Hydrogen,*
LPG *– Propane,* ***RD*** *– Renewable Diesel*

Below are photos of three clean fuel station types:

Electric Station
West Park Plaza, San Jose

Hydrogen Station
N. First Street, San Jose

Compressed Natural Gas Station
Junction Ave, San Jose

INTRODUCTION

The 2023 Transportation Systems Monitoring Report is the 13th 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

About the Data
The data presented in the TSMP reports uses data extracted from existing local, state, regional, and federal transportation sources. The performance measures and ref used for this report are listed in the References Section.

importance: *1) Pavement, 2) Freeway Litter, 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.
- 2022 (12th edition) – Added new sections on Intelligent Transportation Systems, Glossary, and Acronym
- *2023 (13th edition) – Added new section on Clean Energy and transition to online report format.*

About the Data
The information 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 like the Joint Venture Silicon Valley Institute for Regional Studies who produces the annual Silicon Valley Index Reports. In addition, a self-assessment survey was used to gain insight from local agencies on their ability to maintain roadside assets within their jurisdictions. The performance measures and sources used for this report are listed in the Notes Section.

OVERVIEW

Inventory

9,969 Lane Miles

Conditions

71 PCI (Fair)

Inventory

There are nearly **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.

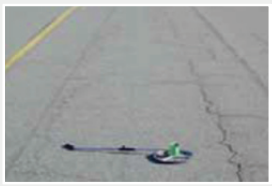
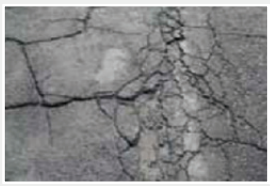
Pavement Surface	PCI	Conditions (PCI)	Description
	100	Excellent (100-90)	Newly constructed or resurfaced and almost no signs of distress.
		Very Good (89-80)	Newly constructed or resurfaced and have few if any signs of distress.
	60	Good (79-70)	Shows only low levels of distress, such as minor cracks or surface damage.
		Fair (69-60)	Pavements exhibit significant levels of distress and require a combination of rehabilitation and other preventive maintenance to keep them from deteriorating.
	5	At Risk (59-50)	Pavements are deteriorated and require immediate attention and possibly rehabilitative work; ride quality is significantly inferior.
		Poor (49-25)	Pavements have extensive amounts of distress and require major rehabilitation or reconstruction; affects the speed and flow of traffic significantly.
		Failed (24-0)	Pavements need reconstruction and are extremely rough and difficult to drive on.

Figure 1

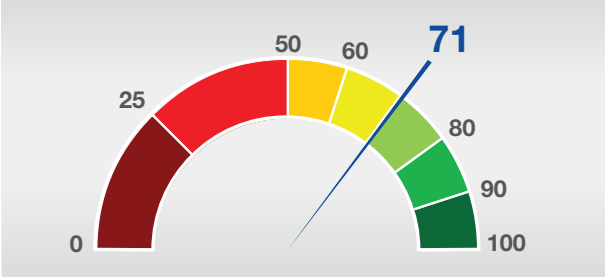
Example of Pavement Surfaces & PCI Condition Description Guideline

Pavement Condition Index (PCI)

The average PCI score for Santa Clara County's roadways is **71 (Good)**, 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.

Figure 2. *Current Overall Santa Clara County PCI*



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 can originate from deteriorating underlying pavement, base, sub-base, and subgrade 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 below.

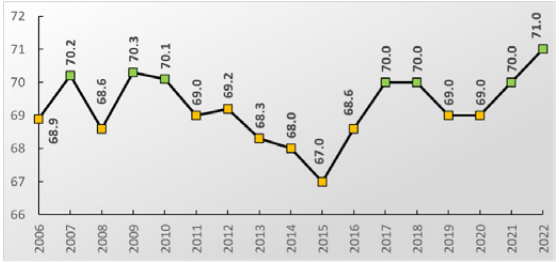


Figure 3. *PCI Trend*

Life Cycle

Pavement tends to deteriorate at an increasing rate over time. In 2022, the PCI for Santa Clara County maintained the overall "Good" condition. The current condition is within the area on the Pavement Life Cycle curve where only low levels of distress are shown. Preventative and restorative measures are necessary to minimize the further decline in PCI below 70.

Figure 4. *SPCI Threshold and Treatments Assigned for Asphalt Pavements*

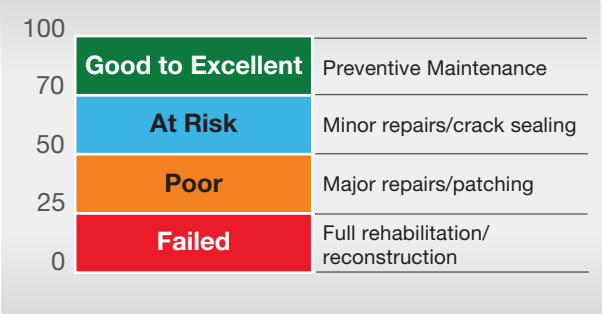


Table 3. *Pavement Estimated Repair Costs*

Unit Costs ($/sy)	Classification: Major Roads	Classification: Local Roads
Preventative Maintenance	$6.86	$6.41
Thin HMA Overlays	$26.86	$26.02
Thick HMA Overlays	$43.61	$41.61
Reconstruction	$99.04	$84.39

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 the weighted average is used to determine the overall PCI.

Table 3 above shows the PCI scores for each of Santa Clara County's 16 local jurisdictions, ranked from Very Good to At Risk condition and the change in PCI from 2021 to 2022. Three of fifteen jurisdictions experienced decrease in PCI from 2021 to 2022, four had no change in PCI, and nine jurisdictions showed improvements in their pavement conditions.

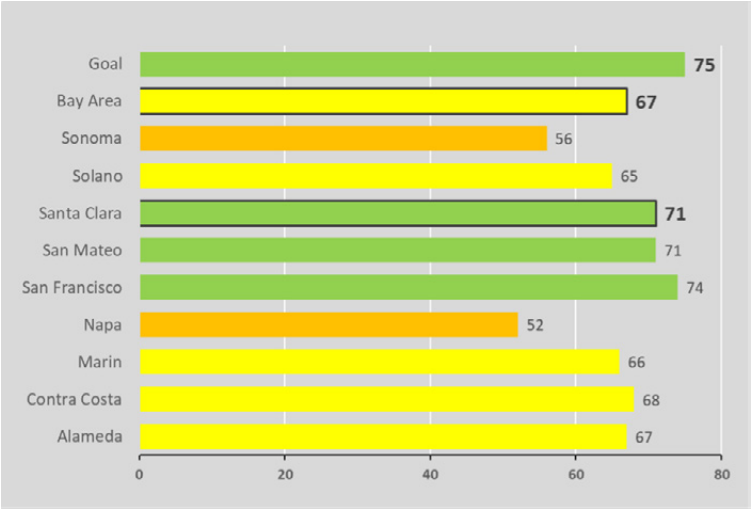
Table 4. *2022 Pavement Condition Index Scores by Jurisdiction in Santa Clara County*

Jurisdiction per Category	Annual Network PCI Scores 2021	Annual Network PCI Scores 2022	Change 2021 to 2022
VERY GOOD (PCI = 80-89)			
Palo Alto	83	83	0
Cupertino	81	82	1
GOOD (PCI = 70-79)			
Los Altos Hills	80	79	-1
Sunnyvale	77	77	0
Morgan Hill	72	75	3
Los Altos	65	75	10
Santa Clara	73	73	0
Los Gatos	68	73	5
Monte Sereno	69	72	3
San Jose	69	71	2
FAIR (PCI = 60-69)			
Campbell	69	69	0
Saratoga	65	69	4
Milpitas	70	68	-2
Mountain View	70	68	-2
Santa Clara County	63	66	3
Gilroy	58	61	3

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 71 (Good) is slightly better than the Bay Area's PCI Average of 67 (Fair).**

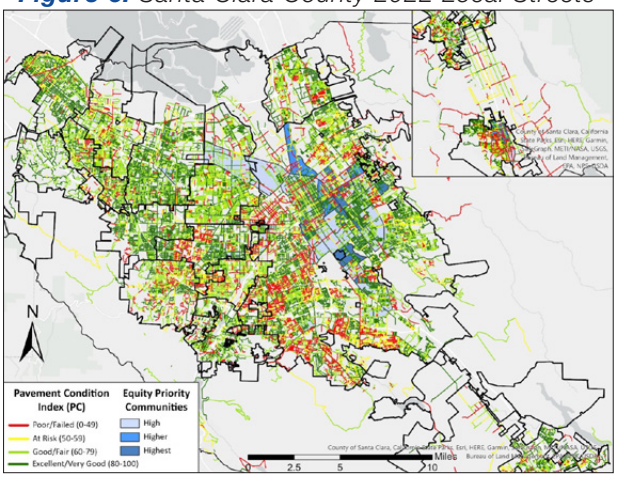
Figure 5. *Bay Area 2022 Average PCI*



2022 Local Streets PCI Map

"Vital Signs," a website managed by the Bay Area's metropolitan planning organization, Metropolitan Transportation Organization (MTC), that 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 2022 Local Street Pavement Condition Index map for Santa Clara County.

Figure 6. *Santa Clara County 2022 Local Streets*



The average PCI score for Santa Clara County has been stable for the last 5 years, 69 to 71 at the borderline between Fair to Good condition. General comments from the local agencies suggest the recent upward trend can be attributed to increase in the number of roadway lane miles repaired/ repaved during fiscal year 2022 and less COVID-19 restrictions affecting public works and general construction projects.

Based on the 2023 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 **$2.5 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 10,000 lane miles.

Solutions

2010 $10 Vehicle Registration Fee -

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 2022-2023, nearly $65.0 million was distributed to VTA's Member Agency jurisdictions through the VRF's Local Road and Repair Program. Some agencies are 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 at vta.org.

HIGHWAY LITTER, ILLEGAL ENCAMPMENTS, & 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.

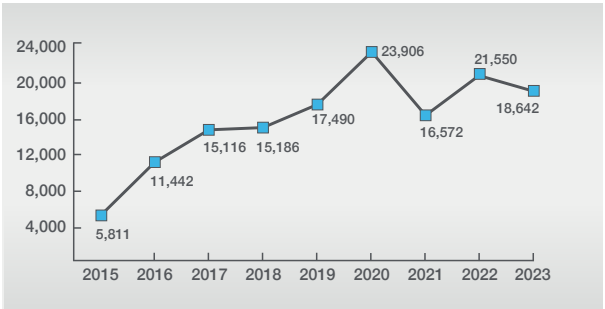
Conditions

Monitoring 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 littler 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 records of 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 2023, an estimated **18,642 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 130,494 trash bags (1 cubic yard = 7 of 30-gallon sized trash bags) or approximately 11 football fields (300 ft. length x 160 ft. width).

Figure 7. *9-Year Total Litter Collection Trend*

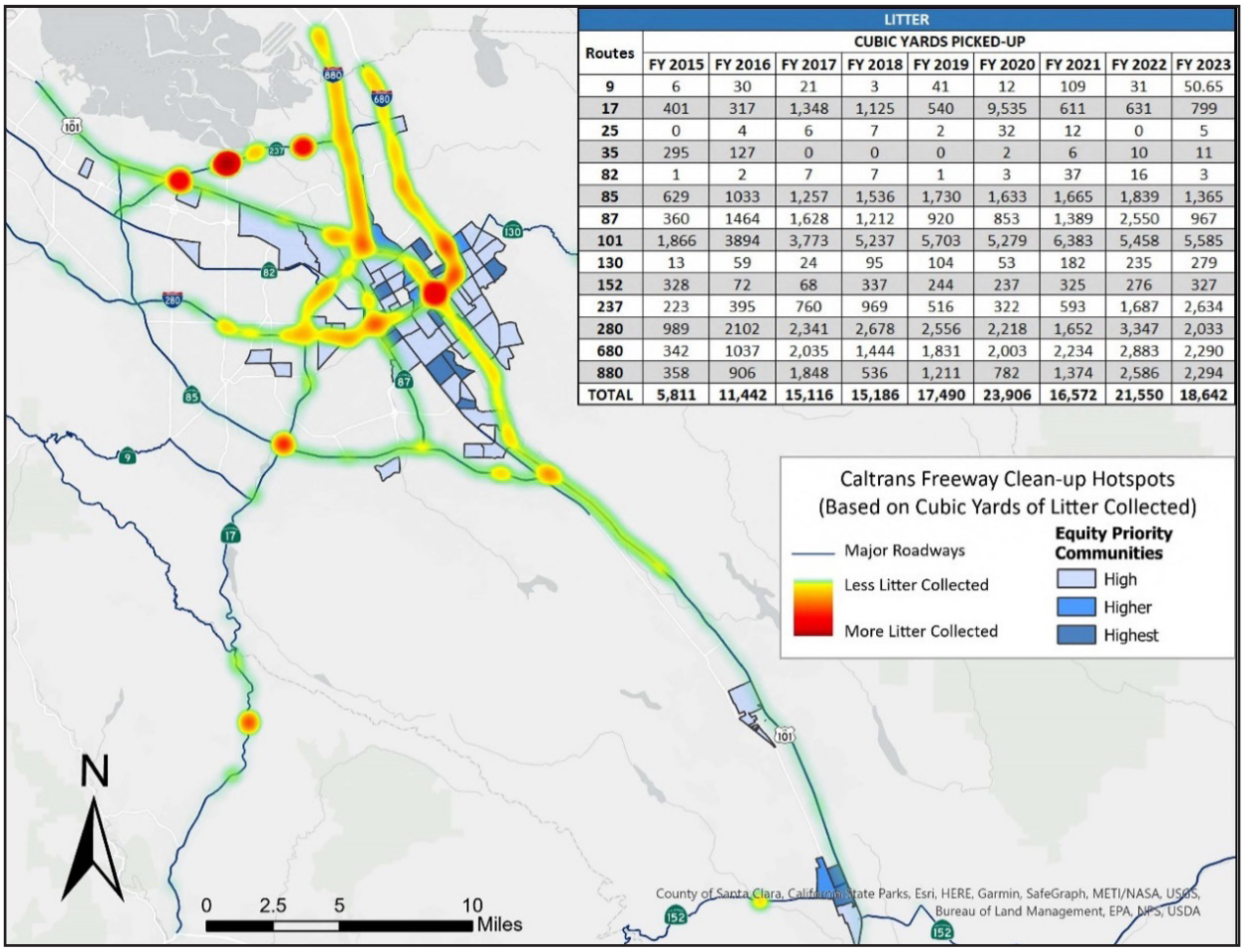


Compared to FY 2022, the amount of litter picked up decreased by approximately 13% or 2,908 cubic yards (20,356 30-gallon trash bags).

The heatmap below depicts the locations and amount of litter collected in FY 2023. Caltrans maintenance crews typically clean each highway corridor two times a 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 9-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 8. *Hotspot Map of Litter in Cubic Yards Picked-up along Highways in Santa Clara County, FY 2023*

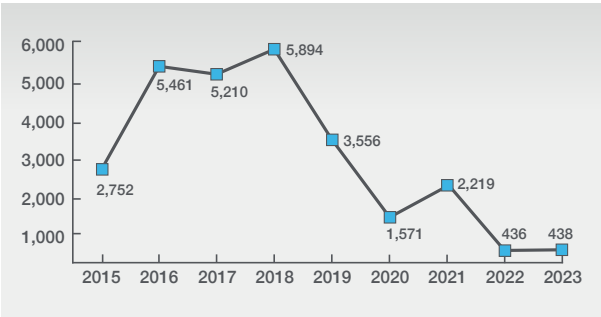


Routes	LITTER CUBIC YARDS PICKED-UP								
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
9	6	30	21	3	41	12	109	31	50.65
17	401	317	1,348	1,125	540	9,535	611	631	799
25	0	4	6	7	2	32	12	0	5
35	295	127	0	0	0	2	6	10	11
82	1	2	7	7	1	3	37	16	3
85	629	1033	1,257	1,536	1,730	1,633	1,665	1,839	1,365
87	360	1464	1,628	1,212	920	853	1,389	2,550	967
101	1,866	3894	3,773	5,237	5,703	5,279	6,383	5,458	5,585
130	13	59	24	95	104	53	182	235	279
152	328	72	68	337	244	237	325	276	327
237	223	395	760	969	516	322	593	1,687	2,634
280	989	2102	2,341	2,678	2,556	2,218	1,652	3,347	2,033
680	342	1037	2,035	1,444	1,831	2,003	2,234	2,883	2,290
880	358	906	1,848	536	1,211	782	1,374	2,586	2,294
TOTAL	5,811	11,442	15,116	15,186	17,490	23,906	16,572	21,550	18,642

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 2022, an estimated 436 cubic yards of litter were removed from illegal encampments along the highways in Santa Clara County.

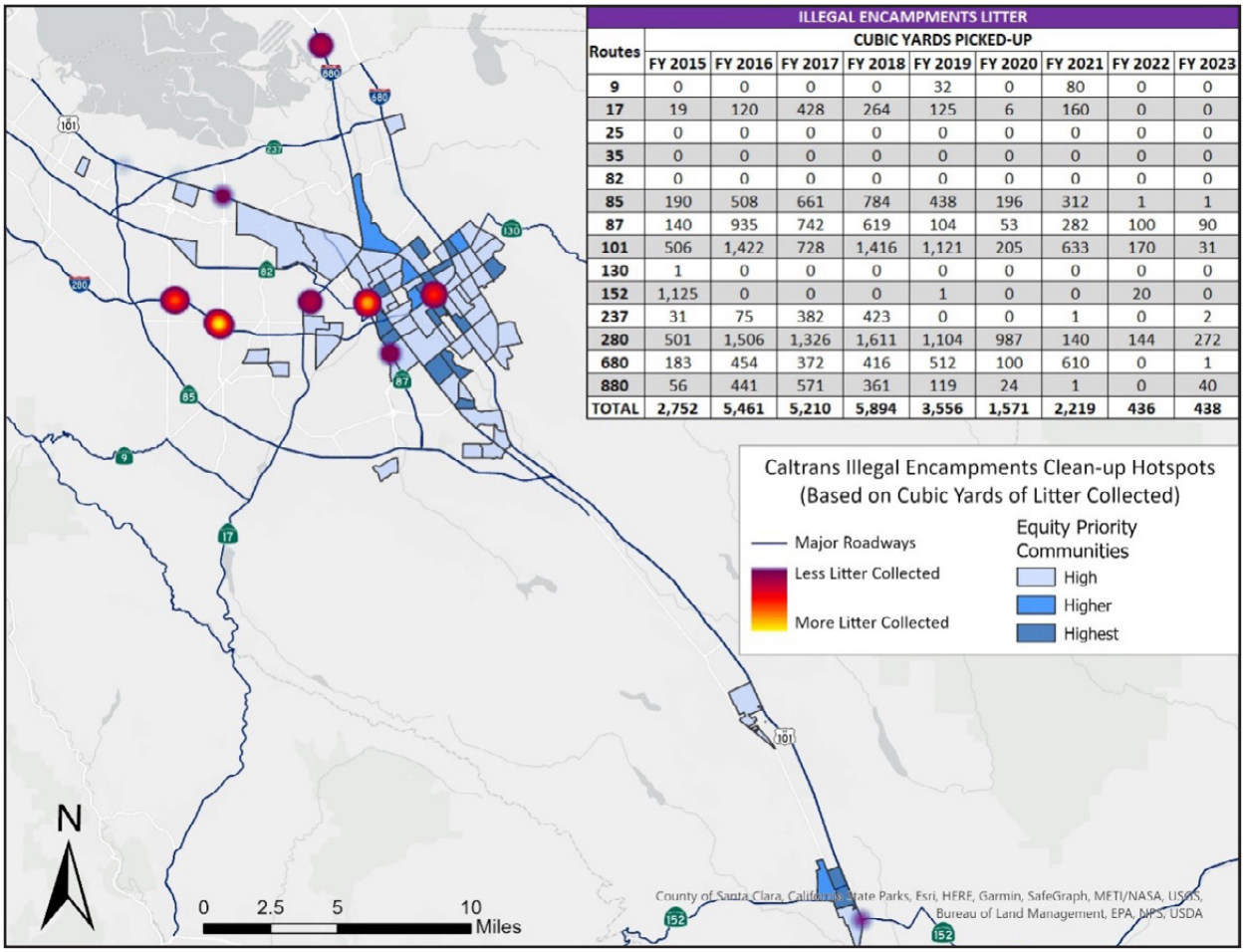
Figure 9. *9-Year Total Illegal Encampement Litter Collection Trend*



Compared to FY 2021, the amount of litter picked-up at illegal encampments during FY 2022 decreased by approximately 80% or 1783 cubic yards (12,481 trash bags). Assessing the amount of litter picked up along the highways and at illegal encampments, shows that Caltrans maintenance crew increased their efforts in highway curbside litter pick up.

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 an 8-year period by highway and highway routes.

Figure 10. *Hotspot Map of Illegal Encampments Litter in Cubic Yards Picked-up along Highways in Santa Clara County, FY 2023*



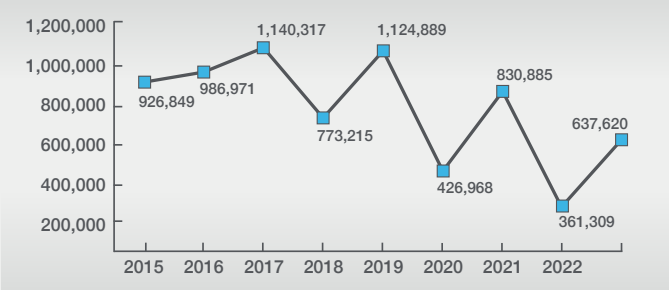
ILLEGAL ENCAMPMENTS LITTER									
Routes	CUBIC YARDS PICKED-UP								
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
9	0	0	0	0	32	0	80	0	0
17	19	120	428	264	125	6	160	0	0
25	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0
85	190	508	661	784	438	196	312	1	1
87	140	935	742	619	104	53	282	100	90
101	506	1,422	728	1,416	1,121	205	633	170	31
130	1	0	0	0	0	0	0	0	0
152	1,125	0	0	0	1	0	0	20	0
237	31	75	382	423	0	0	1	0	2
280	501	1,506	1,326	1,611	1,104	987	140	144	272
680	183	454	372	416	512	100	610	0	1
880	56	441	571	361	119	24	1	0	40
TOTAL	2,752	5,461	5,210	5,894	3,556	1,571	2,219	436	438

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

Graffiti

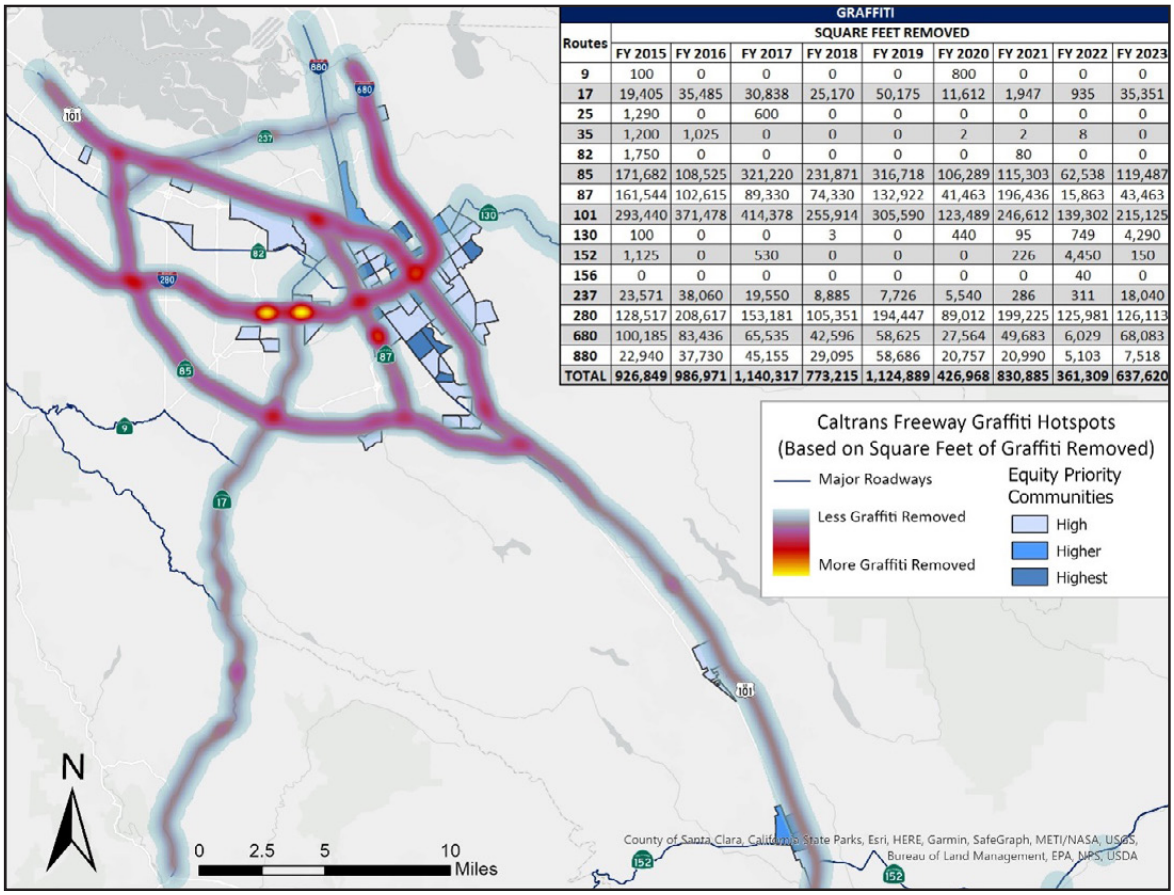
Graffiti and tagging on the highway system continues to be a problem in Santa Clara County. These incidents are typically seen on overcrossings, soundwalls, and signages. Caltrans maintenance crews and their contractors routinely patrol the highway corridors and either remove or paint-over the graffiti. In FY 2023, an estimated 637,620 square feet of graffiti were removed along the highways in Santa Clara County. Compared to FY 2022, the amount of graffiti removed in FY 2023 increased by approximately 76.5% or 276,311 square feet of graffiti.

Figure 11. *9-Year Total Graffiti Removal Trend*



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 below identifies the areas along highways 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 9-year period by highway and freeway routes.

Figure 12. *Surface Area of Graffiti per Mile Removed along Highways in Santa Clara County, FY 2023*



Routes	GRAFFITI SQUARE FEET REMOVED								
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
9	100	0	0	0	0	800	0	0	0
17	19,405	35,485	30,838	25,170	50,175	11,612	1,947	935	35,351
25	1,290	0	600	0	0	0	0	0	0
35	1,200	1,025	0	0	0	2	2	8	0
82	1,750	0	0	0	0	0	80	0	0
85	171,682	108,525	321,220	231,871	316,718	106,289	115,303	62,538	119,487
87	161,544	102,615	89,330	74,330	132,922	41,463	196,436	15,863	43,463
101	293,440	371,478	414,378	255,914	305,590	123,489	246,612	139,302	215,125
130	100	0	0	3	0	440	95	749	4,290
152	1,125	0	530	0	0	0	226	4,450	150
156	0	0	0	0	0	0	0	40	0
237	23,571	38,060	19,550	8,885	7,726	5,540	286	311	18,040
280	128,517	208,617	153,181	105,351	194,447	89,012	199,225	125,981	126,113
680	100,185	83,436	65,535	42,596	58,625	27,564	49,683	6,029	68,083
880	22,940	37,730	45,155	29,095	58,686	20,757	20,990	5,103	7,518
TOTAL	926,849	986,971	1,140,317	773,215	1,124,889	426,968	830,885	361,309	637,620

The litter, illegal encampments, and graffiti removal data collection could be improved by more precisely reporting on the amounts cleaned-up per post mile. It is also important to leverage the data from the clean-up crews besides Caltrans to obtain the complete picture of the state of highway shoulders and surrounding areas year-round.

Maintenance

Depending on available resources allocated from the State's annual budget, which varies from year to year, Caltrans may have up to 13 maintenance crews at any given time that cover several counties. The crews consist of the following teams: 1 bridge crew, 1 vegetation spray 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

Keep Santa Clara Valley Beautiful is a countywide, multi-agency initiative to clean and prevent littering on the highways in Santa Clara County. Trash on the highways is hazardous to drivers, the environment, and residents. VTA is working together with several partners to develop a program to change people's attitudes and behaviors towards throwing litter on the highways instead of in garbage cans or recycling containers.

The project includes organizing popup cleanup events in cities and towns throughout Santa Clara County, placing No Dumping enforcement signs at frequently littered locations, and forming local volunteer groups to help keep the community highways clean. In 2023, VTA, in partnersip with Caltrans, Valley Water, CHP, and local jurisdictions, organized 9 volunteer cleanup events throughout the county, collected 400 30-gallon bags of trash, and rallied over 230 volunteers. More information about the cleanup events can be found on the project website at *https://www.kscvb.com/*.

The map on the next page shows the 2023 Keep Santa Clara Valley Beautiful cleanup locations along the highways in Santa Clara County with the number of 30-gallon bags of trash removed at these locations.

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 events and free dump days in Santa Clara County. This program will sunset in December 2026.

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 for up to three-year periods.

VTA is working with its member agency local jurisdictions to sponsor all adoptable highway segments by their respective communities. The sponsorship includes an AAH sign with the sponsor logo or name displayed along the adopted segment. The following table shows an estimate of the available segments by jurisdiction using Caltrans District 4 Adopt-A-Highway Status Map. Nearly 75% of the adoptable highway segments are adopted in Santa Clara County.

Figure 13. *Keep Santa Clara Valley Beautiful Cleanup Locations, 2023*

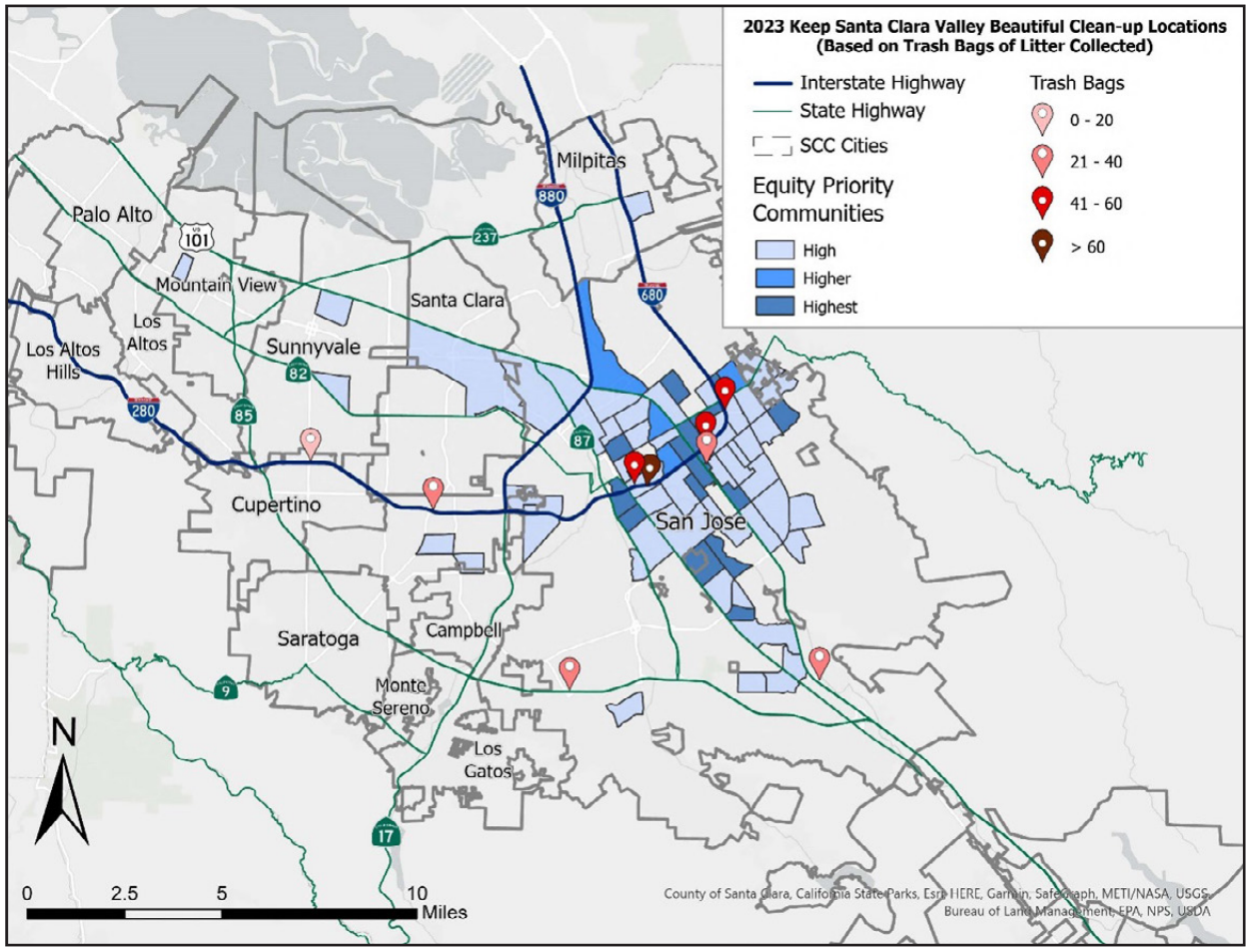


Table 5. *Adopt-A-Highway Status*

NO.	Agency/City	Adopted Shoulder Miles[1]	Available Shoulder Miles	Estimated Cost ($375/Month)[2]	Highway/Freeway Locations	No of Available Interchange Sites[6]	Esitmated Cost ($275/Month)[3]
1	Campbell	4.8	0.0	-	17	3	$825
2	Cupertino	6.8	2.4	$450	85, 280	3	$825
3	Gilroy	5.2	3.2	$600	101	2	$550
4	Los Altos	0.0	0.0	-	-	0	-
5	Los Altos Hills	8.0	0.0	-	280	2	$550
6	Los Gatos	11.5	0.0	-	9, 17, 85	0	-
7	Milpitas	11.4	0.0	-	680, 880	0	-
8	Monte Sereno	1.4	0.0	-	9	0	-
9	Morgan Hill	6.2	0.0	-	101	0	-
10	Mountain View	7.0	4.2	$788	85, 101, 237	0	-
11	Palo Alto	2.5	2.5	$469	101	1	$275
12	San Jose	65.4	42.0	$7,875	85, 87, 101, 237, 280,680, 880	15	$4,125
13	Santa Clara	3.6	1.2	$225	101	2	$550
14	Saratoga	18.6	1.0	$188	9, 85	0	-
15	Sunnyvale	14.8	0.0	-	85, 101, 237	0	-
16	Unincorporated/ Unclassified	32.2	12.6	$2,363	9, 17, 85, 87, 101, 237, 280, 680, 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 requred 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

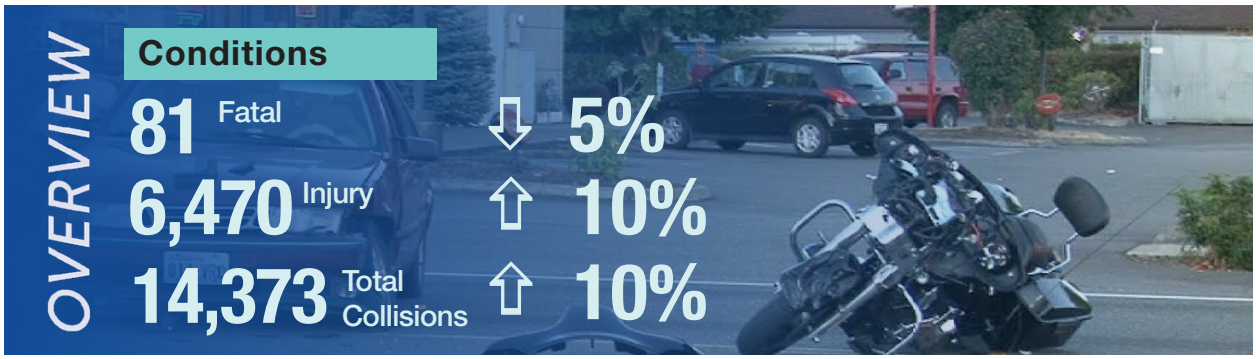
Zero Litter Initiative (ZLI) – ZLI is a voluntary group comprised of cities, water agencies, and conservation organizations including VTA, dedicated to developing and implementing anti-litter programs that focusses on preventing pollution from entering waterways leading to the San Francisco Bay.

Local Volunteer Groups – Other volunteer groups like City of San Jose's BeautifySJ, Cupertino's Keep Cupertino Community Clean, Gilroy's Love Gilroy, and Saratoga's Sustainable Saratoga programs are all working together towards a litter free county.

BeautifySJ

Sustainable Saratoga | Educate. Advocate. Act.

ROADWAY SAFETY



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.

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

After an initial decrease in traffic during the COVID-19 pandemic in 2020, which resulted in changes in work schedule, mode choices, and travel patterns, traffic is now rebounding to higher levels as employees are shifting to hybrid work schedules. In general, there was a 10% increase in the number and types of collisions between 2021 and 2022:

- +1,324 (+10%) Total Collisions
- -4 (-5%) Fatal Collisions
- +587 (+10%) Injury Collisions

The following graphs show the historical Fatal and Injury Collision trends from 2009 to 2022. The maps on the following pages display "hot spots" of frequent locations by type.

Figure 14. *Historical Injury Collisions in Santa Clara County*

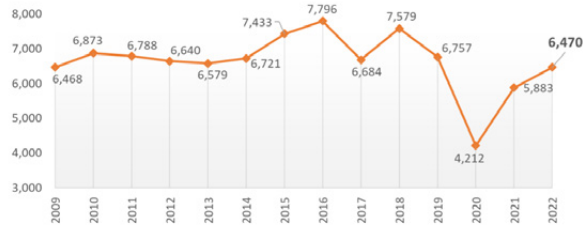


Figure 15. *Historical Fatal Collisions in Santa Clara County*

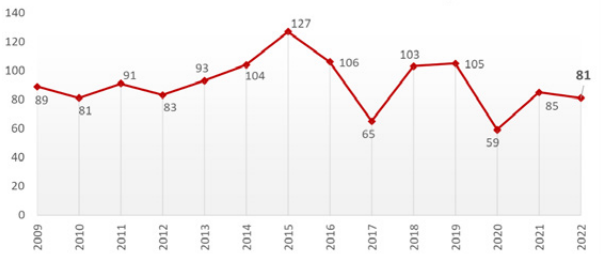
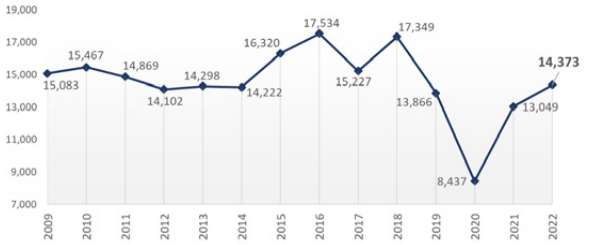


Figure 16. *Historical Total Collisions in Santa Clara County*



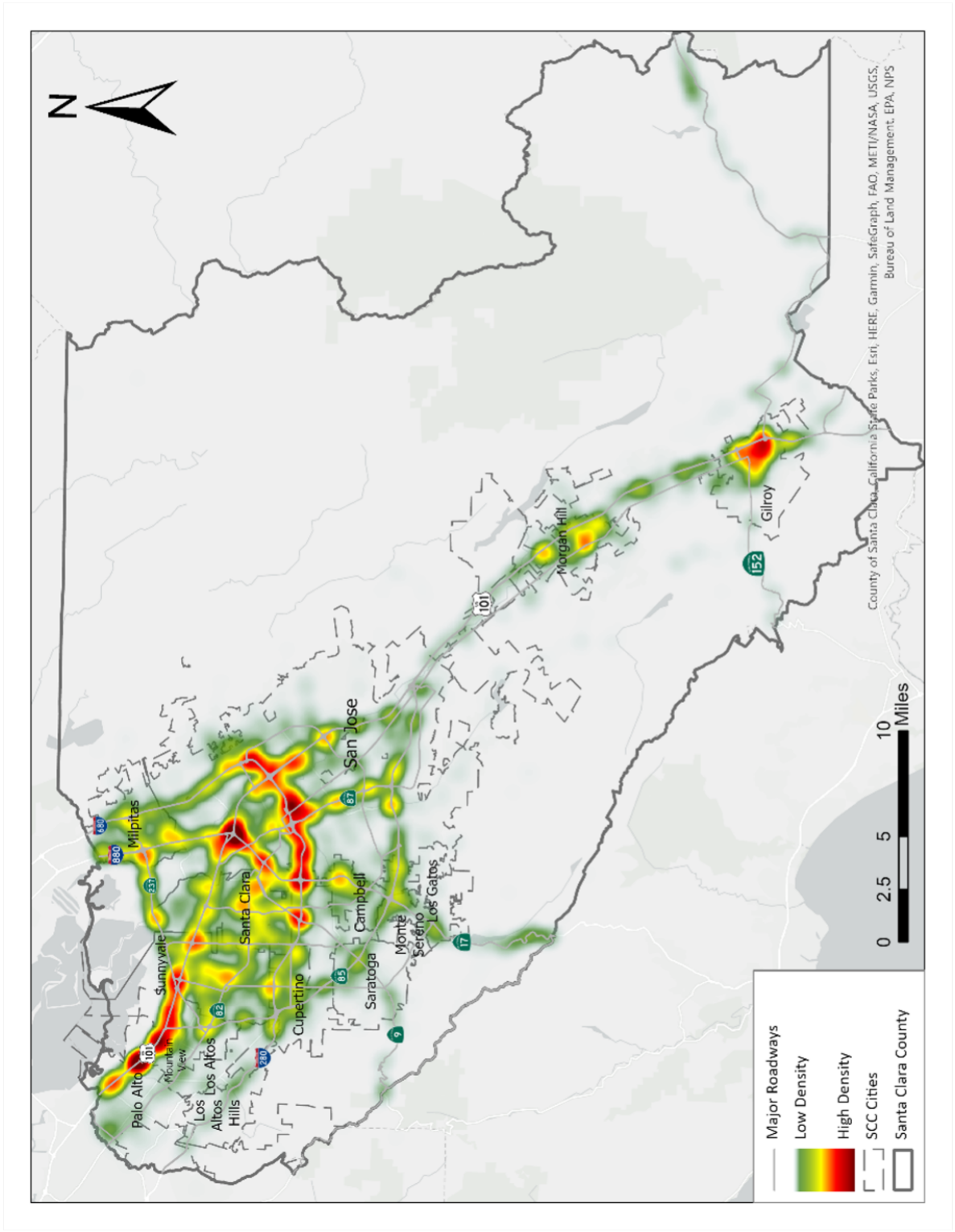


Figure 17. *2022 All Collisions "Hot Spot" Map, Santa Clara County*

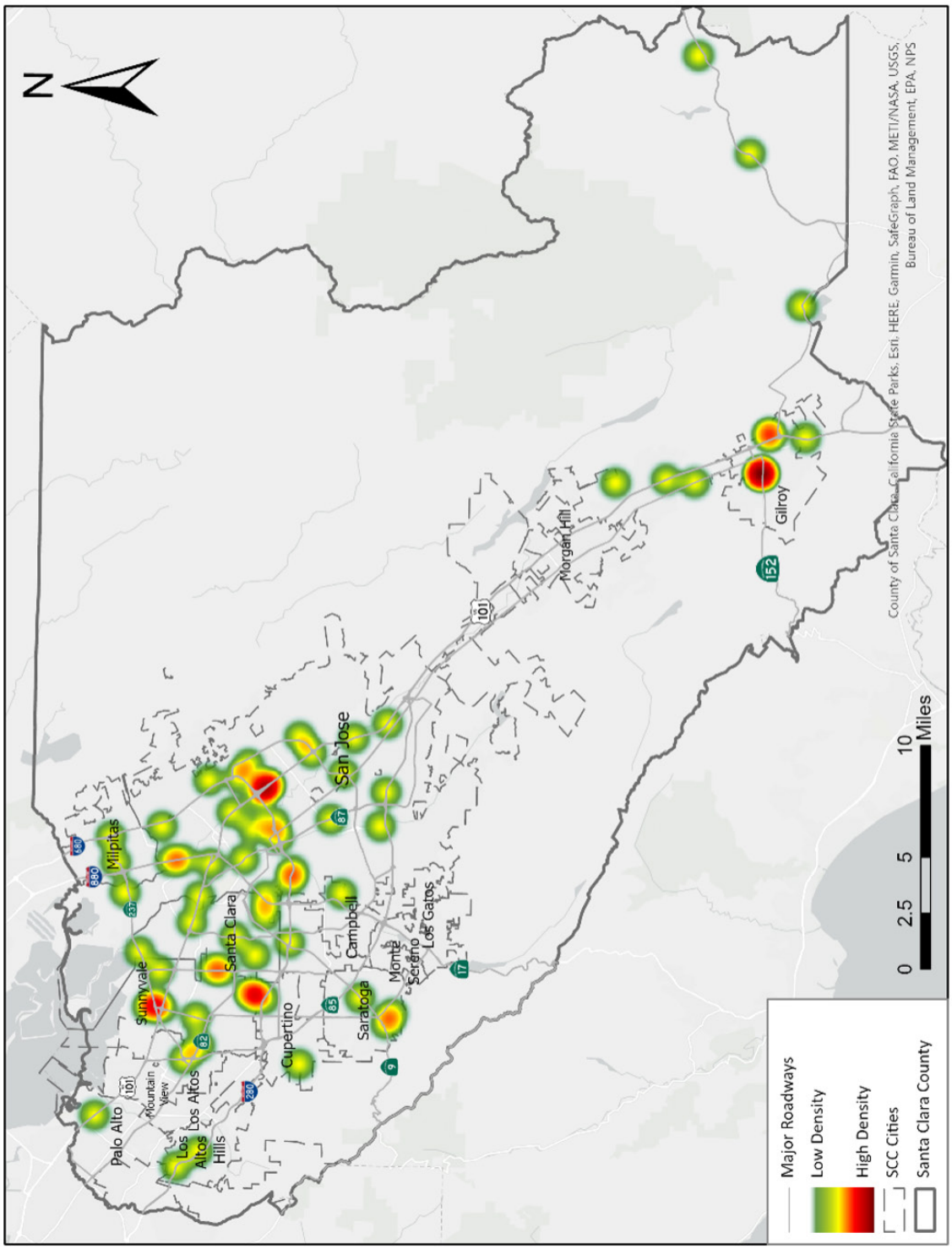


Figure 18 *2022 Fatal Collisions "Hot Spot" Map, Santa Clara County*

The overall number of 2022 major collision types, factors and involved parties by agency are presented in the following table:

Table 6. *2022 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	280	1	89	105	44	40	22	16	14	63
Cupertino	375	1	113	70	7	62	26	10	17	48
Gilroy	662	7	283	176	43	100	95	31	28	76
Los Altos	72	1	42	7	0	12	16	4	13	13
Los Altos Hills	45	0	22	7	3	11	5	0	7	21
Los Gatos	155	0	54	47	19	27	13	7	13	40
Milpitas	337	0	165	79	35	88	34	11	18	61
Monte Sereno	8	0	1	5	1	1	1	0	0	3
Morgan Hill	335	0	145	91	92	52	16	24	8	105
Mountain View	245	1	120	59	36	36	24	18	31	73
Palo Alto	127	0	63	14	1	32	21	4	9	13
San Jose	1551	7	1509	220	40	336	241	206	129	55
Santa Clara	1045	6	348	390	76	194	98	51	49	133
Santa Clara County	1211	6	887	176	65	324	146	75	62	207
Saratoga	163	3	53	24	6	42	14	7	6	45
State	6893	43	2300	1541	499	3712	52	35	14	1355
Sunnyvale	867	5	274	325	57	213	75	38	44	122

*DUI - Driving Under the Influence
** Auto R/W - vehicle's Right-Of-Way violation

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 19. *2022 All Collisions - Collision Type*

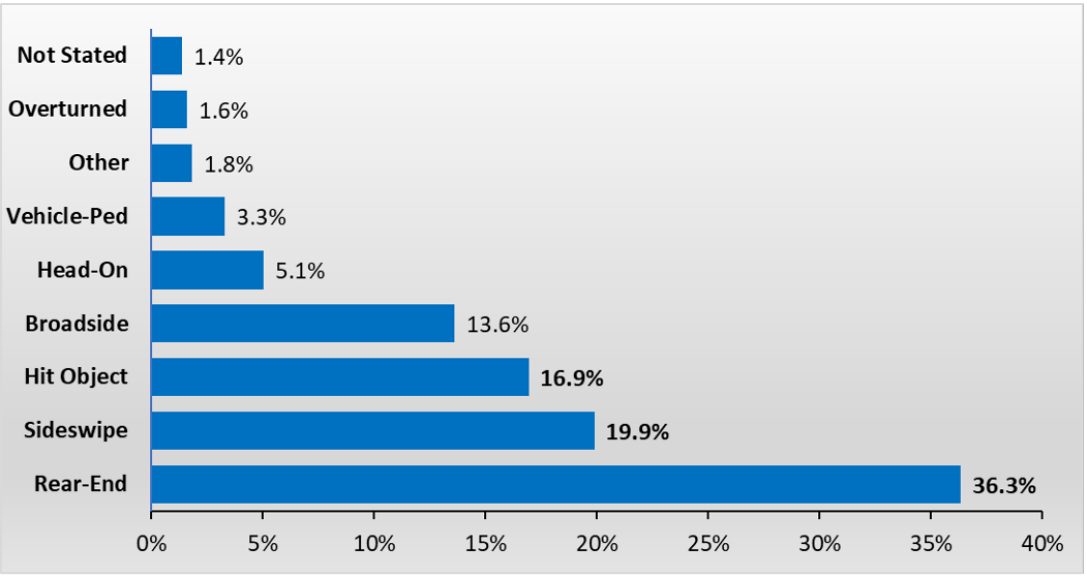
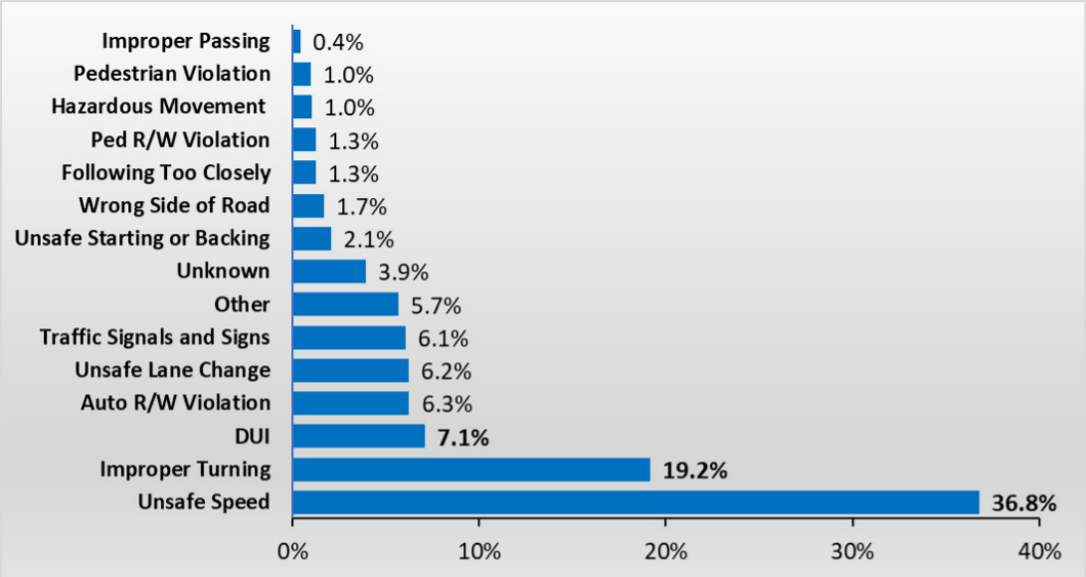


Figure 18. *2022 All Collisions - Primary Collision Factor (PCF)*



Pedestrian and Bicycle Involved Collisions

In 2022, there were **999 collisions involving bicyclists and pedestrians out of a total of 14,373 reported collisions in Santa Clara County**. This represents approximately 7% of the total collisions in the County. The number of bicycle and pedestrian collisions **increased by 134 or nearly 15% in 2022 compared to 2021 data**. This can be attributed to the increase in traffic volumes, reaching to near pre-pandemic conditions, thus increasing the number of collisions.

Figure 21. *2022 Bike/Ped Collision - Collision Types*

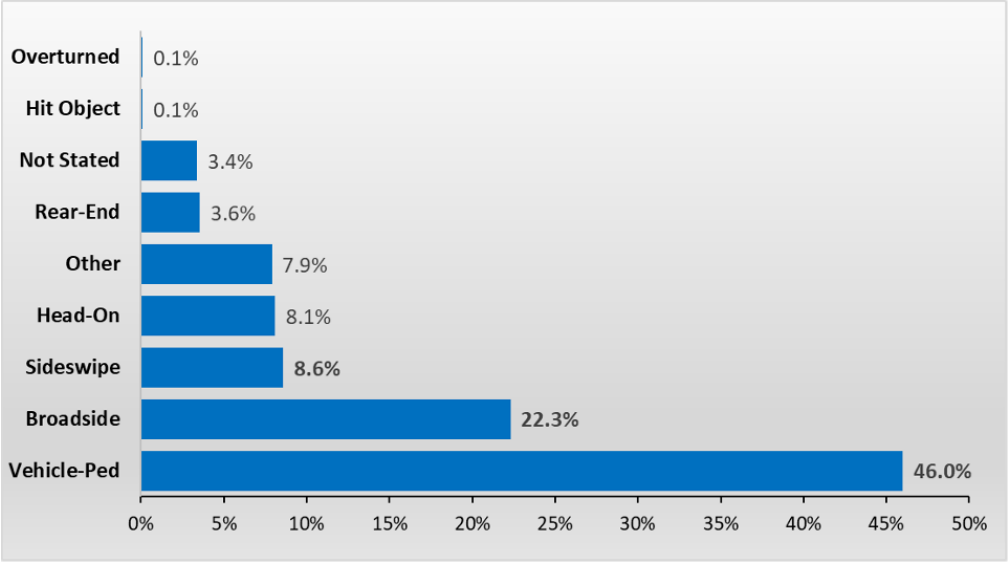


Figure 22. *2022 Bike/Ped Collision - Primary Collision Factor (PCF)*

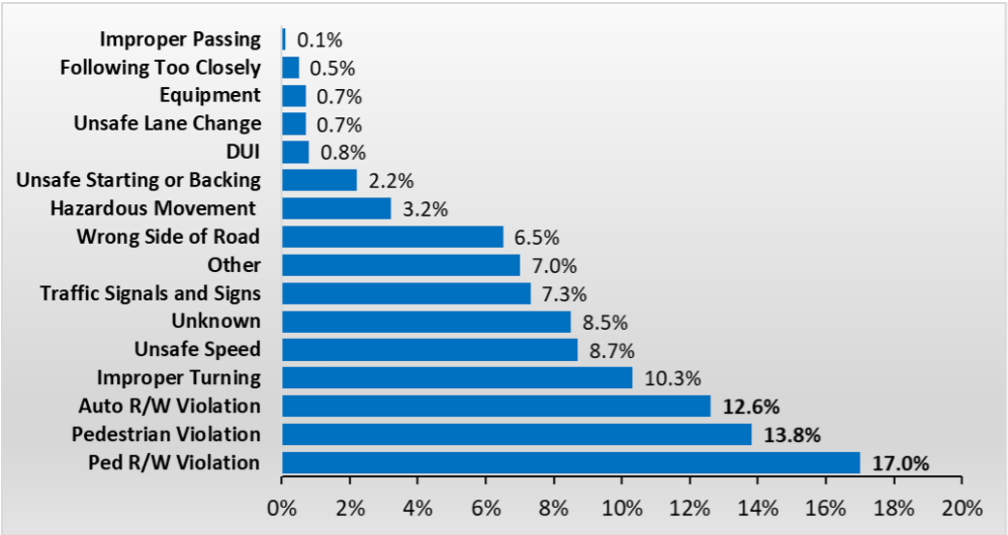
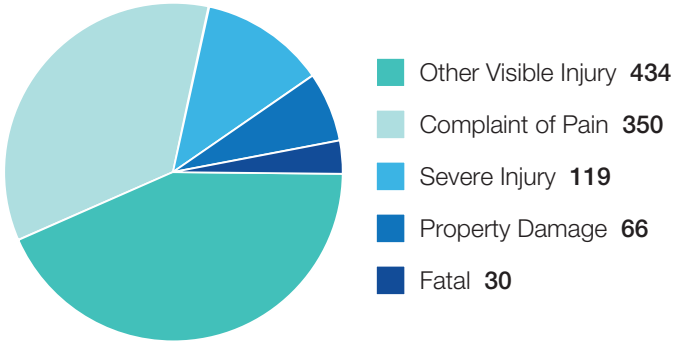


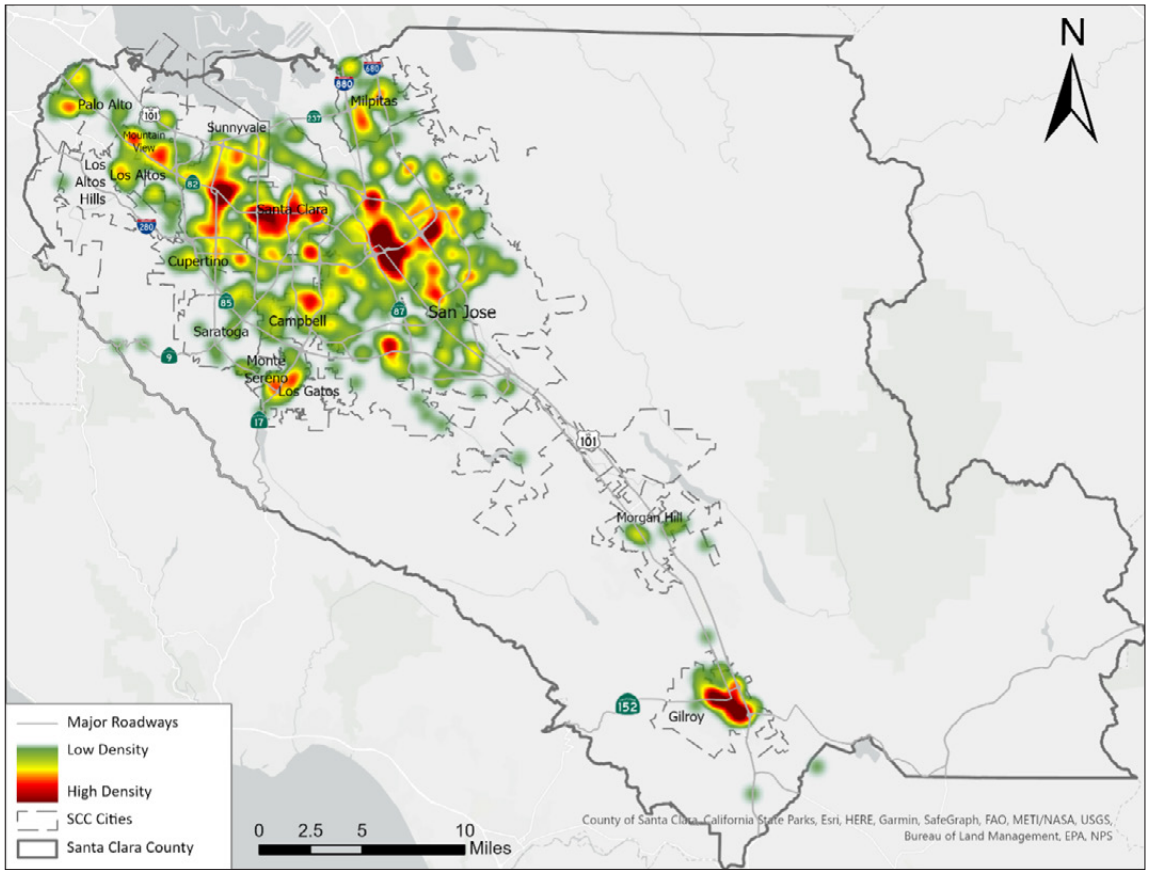
Figure 23. *2022 Bike/Ped Collision – Degree of Injury*



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 hotspot map below shows the location of bicycles and pedestrian collisions in 2022.

Figure 24. *2022 Bike and Pedestrian Collisions "Hot Spot" Map, Santa Clara County*



CLEAN ENERGY

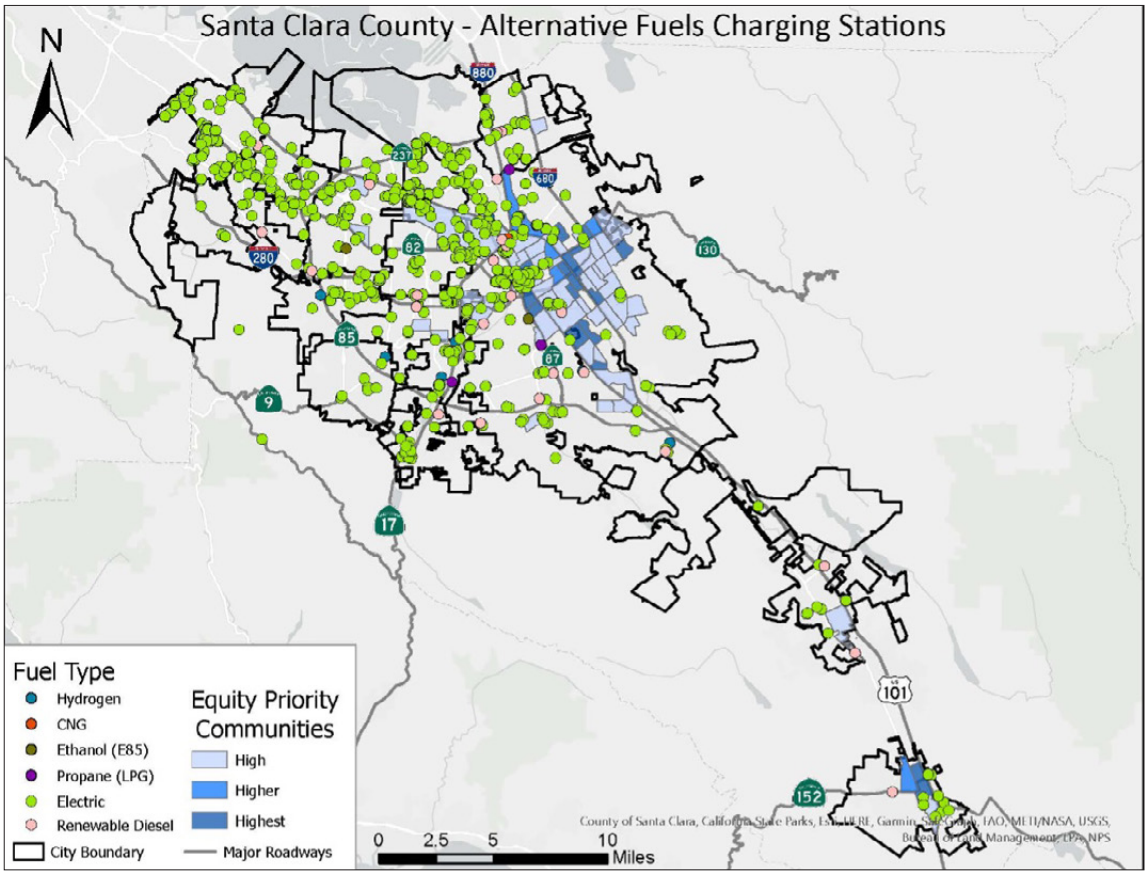
The table below shows the number of available public alternative fuels charging stations in Santa Clara County by jurisdiction using the data from the Department of Energy's alternative fuels data center. Available fuel types include CNG (Compressed Natural Gas), E85 (Ethanol), ELEC (Electric), HY (Hydrogen), LPG (Propane), and RD (Renewable Diessel). The following graph illustrates available alternative fuels charging stations (public stations) in the County, including approximately **1,627 stations, roughly 10% of all the stations in California**. The number of stations accessible to the public increased by approximately 14% compared to the last reporting cycle in 2022.

Table 7. *Estimated Status of Traffic Signal Controllers in Santa Clara County by Jurisdiction, 2023*

City/Town	Total No. of Alternative Fuels Charging Stations	Fuel Type				
		CNG	E85	ELEC	HY	LPG
Campbell	48	-	-	45	2	-
Cupertino	95	1	-	92	1	1
Gilroy	31	-	-	30	-	1
Los Altos	13	-	-	12	-	1
Los Altos Hills	9	-	-	9	-	-
Los Gatos	20	-	-	18	-	2
Milpitas	70	-	-	68	-	2
Monte Sereno	4	-	-	4	-	-
Morgan Hill	14	-	-	12	-	2
Mountain View	72	-	-	72	-	-
Palo Alto	208	-	-	207	-	1
San Jose	583	1	5	559	3	12
Santa Clara	346	-	-	345	-	1
Saratoga	10	-	-	9	1	-
Sunnyvale	104	-	1	101	1	1
	1627	**2**	**6**	**1583**	**8**	**24**

Legend:
CNG *– Compressed Natural Gas,* ***E85*** *– Ethanol,* ***ELEC*** *– Electric, HY – Hydrogen,*
LPG *– Propane,* ***RD*** *– Renewable Diesel*

Figure 25. *Alternative Fuels Charging Stations in Santa Clara County, 2023*

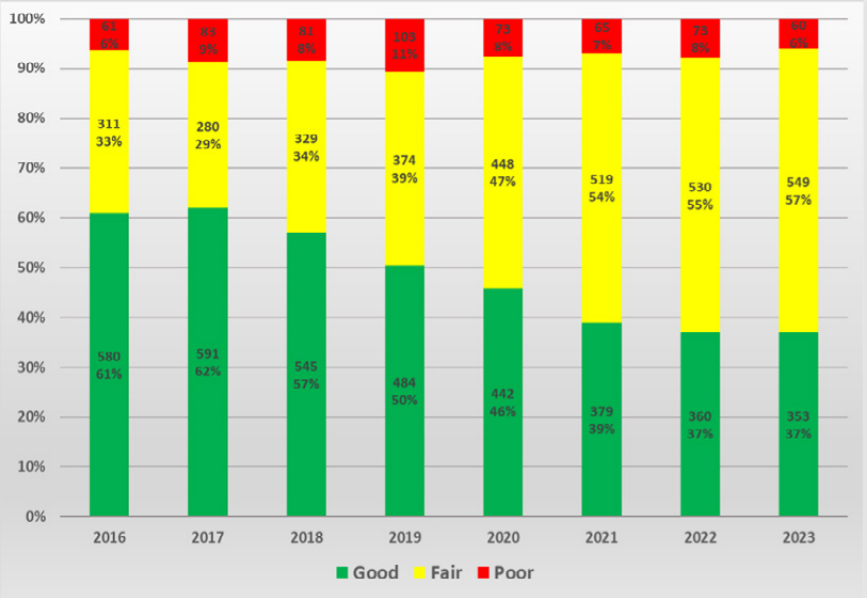


Solutions

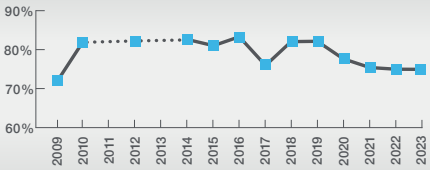
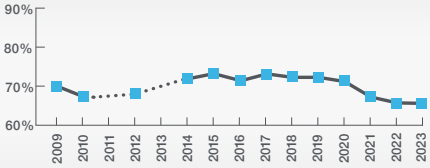
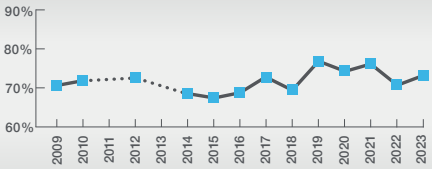
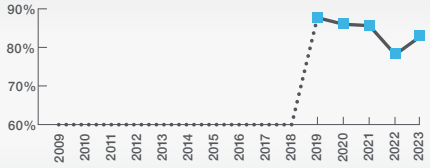
Staff is continuing to monitor the inventory of alternative fueling stations in Santa Clara County and will seek grant opportunities to conduct an in-depth study on the challenges, market demand, and feasibility for increasing the number alternative fueling station options.

HIGHLIGHTS OF OTHER TRANSPORTATION SYSTEMS

Bridges/Overcrossings



Roadside Assets

Indicators	Previous Period	Current Period	Trend (Yearly)
Traffic Signal Equipment (percentage of Assets in useful condition)	75% (2022)	**75% (2023)**	
Pavement Markings (percentage of Assets in useful condition)	66% (2022)	**66% (2023)**	
Traffic Signs (percentage of Assets in useful condition)	71% (2022)	**73% (2023)**	
Roadside Litter and Graffiti Management (percent of roadside with virtually no or some litter and graffiti)	79% (2022)	**84% (2023)**	

Transit

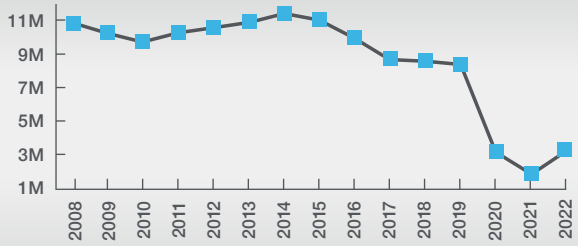
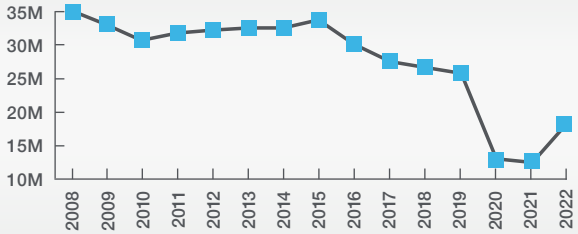
Indicators	Previous Period	Current Period	Trend (Yearly)
Light Rail Annual Ridership (in Millions)	1.8 (2021)	**3.6 (2022)**	
Bus Annual Ridership (in Millions)	12.3 (2021)	**17.5 (2022)**	

Table 8. *Inventory of Assets*

ASSETS	QUANTITY	YEAR COLLECTED
Local Roadway Lane Miles Maintained (Total)	9,775 miles	2023
Local Roadway Lane Miles Repaired/Repaved (Total)	1,929 miles	2023
Miles Repaired/Repaved 2020	541 miles	2023
Miles Repaired/Repaved 2021	702 miles	2023
Miles Repaired/Repaved 2022	691 miles	2023
Bus		
Fleet Age (avg.)	11.55 Years	2023
Fleet Size	442	2023
Route Mileage	1,265 mi	2023
Routes	58	2023
Stops	3,294	2023
Light Rail		
Fleet Size	98	2023
Miles of Track	81.6 Miles	2023
Route Mileage	42.2 Miles	2023
Stations	59	2023
Highway – Ramp Meter Signals	265 Operational 12 Non-operational 62 Planned 26 Part construction	2021
Traffic Signal Controllers	1,951 Local 145 State	2023
Traffic Signs	209,712	2023

ACRONYM & GLOSSARY

Acronym

AAH: Adopt-A-Highway
Caltrans: California Department of Transportation
CAV: Connected and Autonomous Vehicle
CHP: California Highway Patrol
CLRSP: Countywide Local Roads Safety Plan
CNG: Compressed Natural Gas
DUI: Driving Under the Influence
E85: Ethanol
ELEC: Electric
HMA: Hot Mix Asphalt
HSIP: Highway Safety Improvement Program
HY: Hydrogen
LPG: Propane
LRSP: Local Road Safety Plan
MTC: Metropolitan Transportation Commission
PCF: Primary Collision Factor
PCI: Pavement Condition Index
RD: Renewable Energy
RW: Right-Of-Way
SY: Square Yard
TSMP: Transportation Systems Monitoring Program
TTSP: Transportation Technology Strategic Plan
VRF: Vehicle Registration Fee
VTA: Santa Clara Valley Transportation Authority
ZLI: Zero Litter Initiative

Glossary

- **Average Weekday Boarding:** The average number of persons who board the transit system on a day that normal weekday revenue service is provided.
- **Complete Street:** Streets that are designed to enable safe access and support mobility for all users, such as pedestrians, motorists, and bicyclists.
- **Deadhead:** Time during movement of a transit vehicle without passengers aboard, typically from the operating division to the start of the route.
- **Passengers per Revenue Hour:** This is a productivity measure comparing the number of boardings to the number of revenue hours operated. It measures service utilization per unit of revenue service operated. The revenue hour is the time when a vehicle is available to the general public to carry passengers. This will include layover but exclude deadheads.
- **Total Boarding:** The total number of boarding riders using VTA directly operated bus service and light rail service. Riders are counted each time they board a bus or light rail vehicle.
- **Unlinked Passenger Trips:** The number of times passengers board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination and regardless of whether they pay a fare, use a pass or transfer, ride for free, or pay in some other way. A person riding only one vehicle from origin to destination takes ONE unlinked passenger trip; a person who transfers to a second vehicle takes TWO unlinked passenger trips; a person who transfers to a third vehicle takes THREE unlinked passenger trips. Also called boardings.
- **Vision Zero:** A strategy aiming to eliminate all traffic fatalities and injuries.

Street Pavement

Local Streets Pavement Condition Index (PCI) maps were downloaded from the Metropolitan Transportation Commission's (MTC) Vital Signs website: Street Pavement Condition | Vital Signs (ca.gov). Additional PCI data were obtained from MTC staff.

2023 California Statewide Local Streets and Roads Needs Assessment Final Report, April 2023 - https://savecaliforniastreets.org/wp-content/uploads/2023/05/Statewide-Needs-2022-FINAL.pdf.

VTA 2010 $10 Vehicle Registration Fee webpage: 2010 $10 Vehicle Registration Fee | VTA. 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 the 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 PCIs on an annual basis is to monitor the trending conditions over time.

Highway Litter, Illegal Encampments, and Graffiti Maintenance

The 2023 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: District 4 Adopt-a-Highway | Caltrans.

Keep Santa Clara Valley Beautiful – Information about the status of the cleanup events was obtained from the project website: https://www.kscvb.com/.

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 Esri ArcGIS Pro software.

Clean Energy

The data for the status and location of alternative fuels charging stations were downloaded from US Department of Energy's website: https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest.

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 National Bridge Inventory - Management and Preservation - Bridges & Structures - Federal Highway Administration (dot.gov). The raw data was aggregated and summarize by "good", "fair", and "poor" condition indicators.

Roadside Assets

The data was obtained from responses to the 2023 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions. It should be noted that the Cities of Los Altos and Morgan Hill did not participate in the 2023 survey and the available data from previous surveys were used.

Transit

Statistics on transit ridership were obtained from American Public Transportation Association (APTA) Fourth Quarter 2022 Report for Santa Clara Valley Transportation Authority: https://www.apta.com/wp-content/uploads/2022-Q4-Ridership-APTA.pdf

Inventory of Assets

Roadway Lane Miles Maintained and Repaired/Repaved

The data was obtained from responses to the 2022 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, 2023" produced by VTA's Transit Operations Analysis and Reporting Department. The bus fleet includes all the following bus types: 30 foot (38), 40 ft hybrid (174), 40 ft standard (105), artic 60 foot (75), express (40), and electric (10). 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, 2023" produced by VTA's Transit Operations Analysis and Reporting Department. In addition to the fleet of 98 standard vehicles, there are also 4 historic trollies 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 and responses to the 2023 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions.

Traffic Signs

The data was obtained from responses to the 2023 Roadside Assets Condition Self-Assessment Surveys completed by VTA's member agency local jurisdictions.

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Participating Agencies

California Department of Transportation (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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