



Memorandum

TO: TRANSPORTATION AND
ENVIRONMENT COMMITTEE

SUBJECT: ANNUAL TRANSPORTATION
SYSTEM SAFETY REPORT AND
VISION ZERO UPDATE

FROM: John Ristow

DATE: April 14, 2021

Approved

Date

04/20/21

RECOMMENDATION

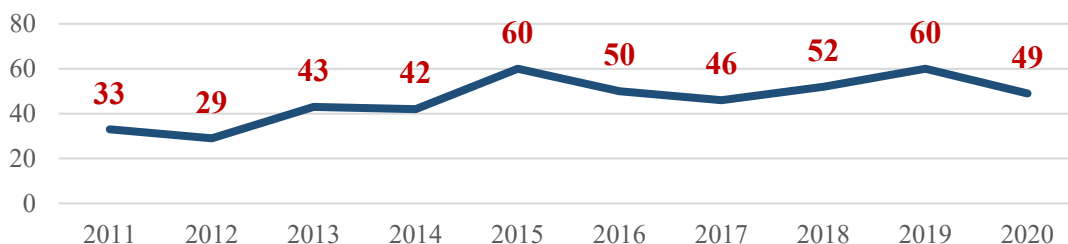
Accept the Annual Transportation System Safety Report and Vision Zero Update, and the update on the Council Policy Priority for Council Policy 5-6, Traffic Calming Policy for Residential Neighborhoods.

BACKGROUND

While San José's injury crash rate has declined in the last 30 years, the city's traffic fatalities nearly doubled from 33 in 2011 to 60 in 2015 and 2019. In 2020, traffic fatalities dropped 18% to 49, which is within the range of recent annual totals. In the last five years (Figure 1), 257 people have died in traffic in San José, with pedestrian fatalities (110) representing the highest number by mode.

On February 11, 2020, City Council adopted the 2020 Vision Zero Action Plan, and committed an initial investment of \$6.8 million to provide for more rigorous and systematic data analytics, delivery of more and substantial corridor based safety projects to reduce traffic fatalities and severe injuries, and engagement and education of the community to move towards a safety first culture. Vision Zero Traffic Safety was also identified as an enterprise priority on the San Jose City Roadmap for FY21-22, approved by Council on March 16, 2021.

Figure 1 – San José Traffic Fatalities (2011-2020)

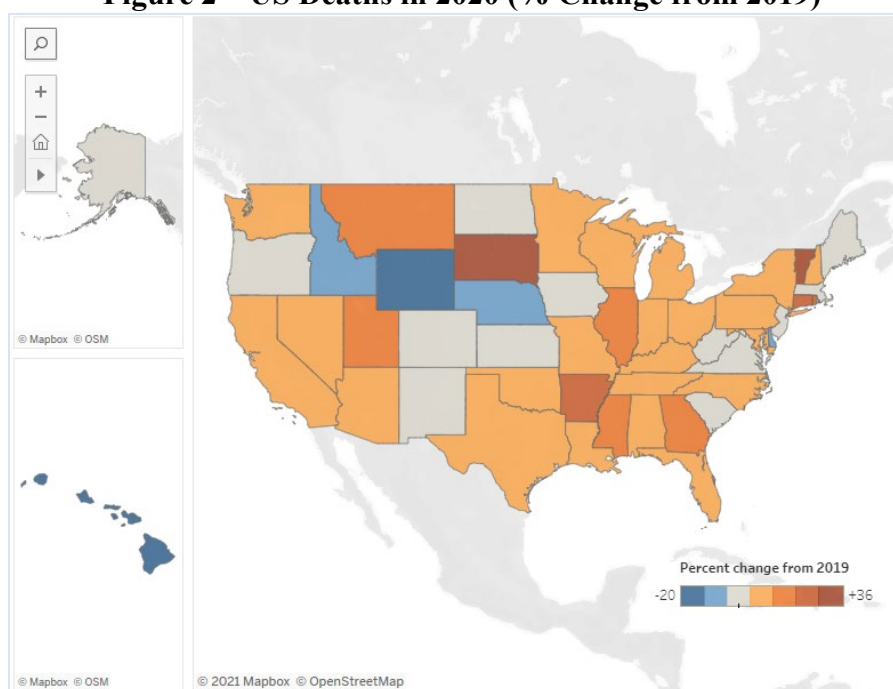


ANALYSIS

A. Traffic Fatalities: 2020 National Data Analysis

The COVID-19 pandemic had a significant impact on travel patterns and vehicle volumes nationally. A recent report from the National Safety Council shows that traffic fatalities are up by 8% even when mileage traveled dropped 13%¹. Figure 2 shows that most states (in orange) saw traffic fatalities increase in 2020, including California (+5%). Early data from the National Highway Traffic Safety Administration show speed to be the top factor.

Figure 2 – US Deaths in 2020 (% Change from 2019)



The San Francisco Bay Area Toll Authority reported a 56% decrease in traffic volume in April 2020 and a 22% decrease in traffic volume in August 2020 to the same time periods in 2019. In San José, traffic volumes dropped along with overall crashes and injuries, but traffic fatalities and fatal and severe injuries (KSI) remained within the previous five years (2015-2019) level. Table 1 looks at San José's traffic fatality trend in 2020 compared to other Vision Zero cities.²

¹ National Safety Council: <https://injuryfacts.nsc.org/motor-vehicle/overview/preliminary-estimates/>

² Statistics from other cities are sourced from recent news stories and city websites. LA Times 3/13/21 (<https://www.latimes.com/california/story/2021-03-13/pandemic-speeding-cars-lost-lives>); NY Times 1/1/21 (<https://www.nytimes.com/2021/01/01/nyregion/nyc-traffic-deaths.html>); City of Portland (<https://pdx.maps.arcgis.com/apps/MapSeries/index.html?appid=5385b143768c445db915a9c7fad32ebe>); SF Chronicle 1/24/21 (<https://www.sfchronicle.com/bayarea/article/S-F-has-seen-more-than-200-killed-20-000-hurt-15892033.php>); City of Austin (<http://www.visionzeroatx.org/2020-fatalities/>)

Table 1: 2020 Traffic Fatality Trends by US City

City	Traffic fatalities ▲▼ (2019 → 2020)
San José, CA	▼ -18% (60 → 49)
Los Angeles, CA	▼ -3% (246 → 238)
San Francisco, CA	No change (29)
Austin, TX	▲ +2% (86 → 88)
Portland, OR	▲ +8% (50 → 54)
New York, NY	▲ +12% (218 → 243)

B. Traffic Fatalities: 2020 San José Data Analysis

The COVID-19 pandemic led to a countywide shelter-in-place order effective March 17, 2020, and social distancing practices that impacted travel and street users' behaviors on our roadways. In San José, there were 49 fatalities and 207 severe injuries. Traffic fatalities were down 18%, severe injuries were down 2%, and all injuries were down 31%. Table 2 outlines KSI data for the past five years.

Table 2: San José Traffic Fatalities and Injuries (2016-2020)

	2016	2017	2018	2019	2020	5 Year Total
Fatalities	50	46	52	60	49	257
Severe Injuries	192	169	195	212	207	975
All Injuries	3,599	2,970	3,204	3,420	2,355	15,548

As shown in Figures 3A and 3B, the total number of injuries dropped significantly, however, fatal and severe injuries remained in the higher range of the previous five years (2015-2019), with March 2020 an inflection point when Shelter-in-Place orders began. Figure 3C shows the fatalities by month.

2020 Traffic Injuries: Cumulative by Month

Figure 3A
All Injuries (2020)

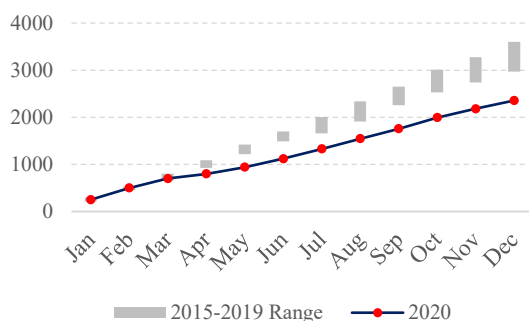


Figure 3B
Fatal and Severe Injuries (2020)

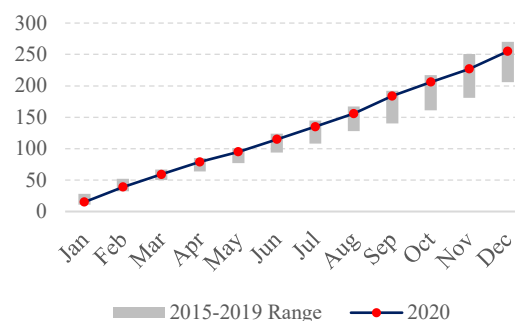
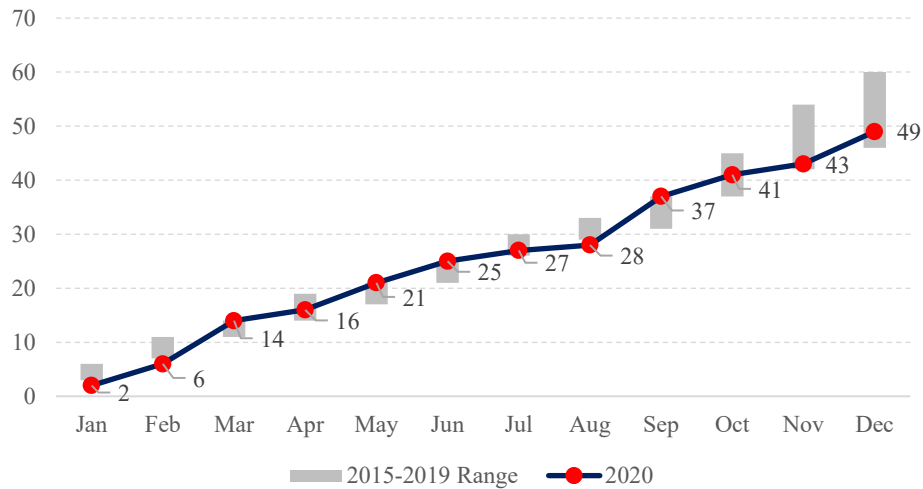


Figure 3C – 2020 Traffic Fatalities: Cumulative Fatalities by Month



Although the shelter-in-place orders kept many people at home in 2020, emptier streets made it more attractive for drivers to exceed the posted speed limit. Based on data sampling collected in December 2020 and January 2021 along King Road and Story Road, two Priority Safety Corridors (PSC), data shows an average 31% decrease in volume and 6% increase in 85th percentile speed from prior years. The 85th percentile speed is the speed at or below which 85% of all vehicles are observed to travel. Higher speeds increase the risk of a crash occurring and significantly increase the risk of severe injury or fatality. Fatalities as a result of speeding rose by 117% in 2020.

Speeding is the top known violation contributing to fatal and severe injuries in San José. Figure 4 shows the growth in fatalities and severe injuries with a primary factor of speeding in the last five years. In 2020, speeding was the primary cause of 27% of the City's traffic fatalities (13 of 49), more than double from 2019 (6 to 13). In addition, there were three fatalities due to reckless driving, up from zero in 2019. Figure 5 shows that fatalities and severe injuries resulting from speeding (25%) is almost three times as many as red light running (9%) in the last five years. Other factors, such as driving under the influence, each account for less than 8% of KSI.

Figure 4. Speeding as Primary Factor in Fatality or fatal and severe injuries (KSI) (2016-2020)

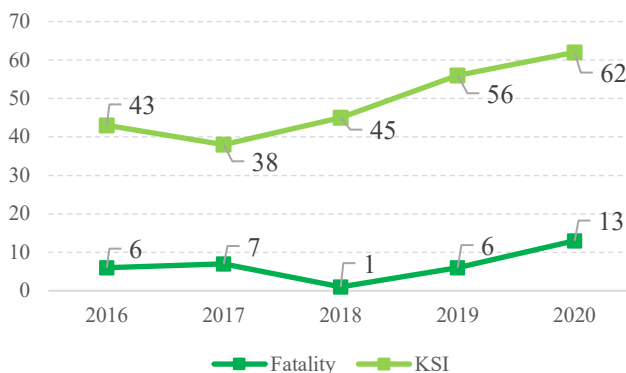
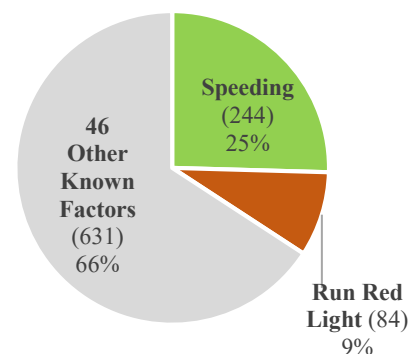


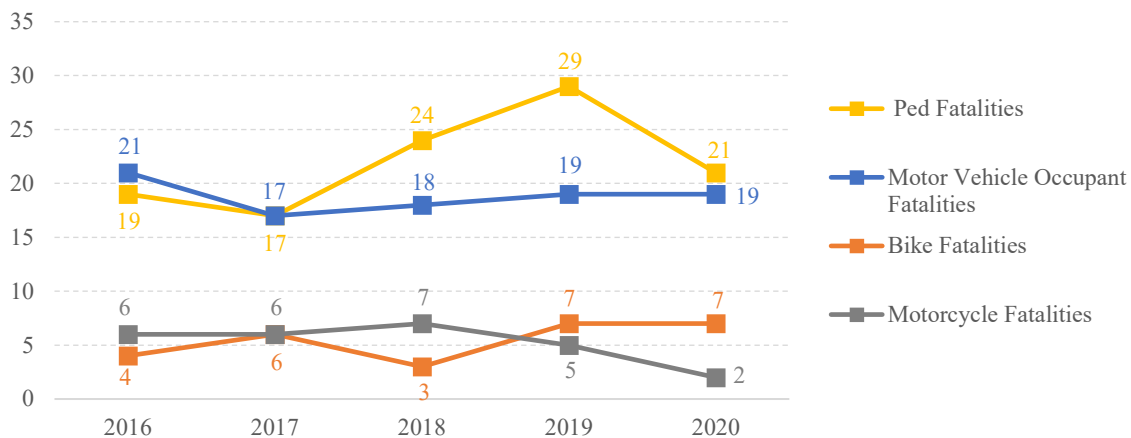
Figure 5. Top 2 Known factors leading to fatal and severe injuries (2016-2020)



In the last five years (2016-2020), people killed while walking represent 110 of 257 (43%) fatalities. As shown in Figure 6, pedestrians have been the largest group since 2017 and their numbers were increasing in 2018 and 2019. Although pedestrian fatalities decreased significantly in 2020, they remained the largest group by mode. Motor vehicle occupant fatalities have remained relatively constant, totaling 94 of 257 (37%). Seven cyclists died in 2020, a peak number similar to 2019, while motorcyclist fatalities dropped to their lowest point in the last five years in 2020.

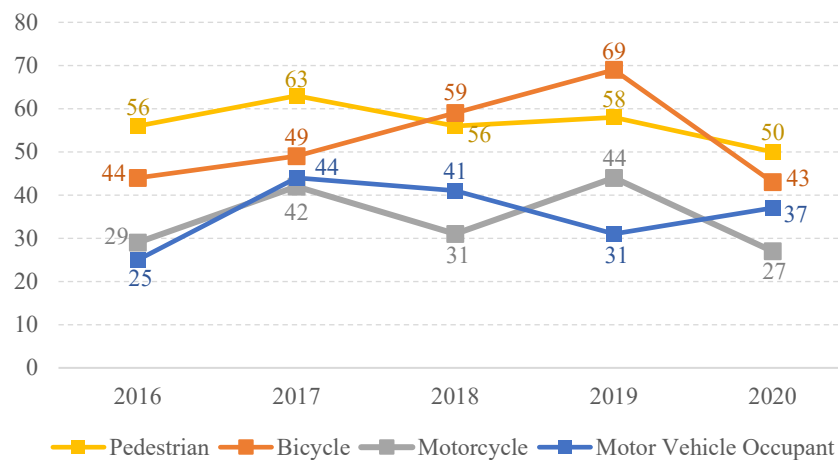
There were also four uncommon traffic fatalities in 2020. Two of the fatalities involved a cyclist traveling at high speed hitting another cyclist on a trail during daylight under the shadow of an underpass. The other two fatalities that happened separately involved people eating in outdoor dining areas in private parking lots.

Figure 6: Traffic Fatalities by Street User Type (2016-2020)



In the last 5 years, the median ages of the 110 pedestrian fatalities in San José was 56 years old and of the 27 bicyclist fatalities was 51 years old. In 2020, the median ages of pedestrian fatalities in San José was 49 years old and bicyclist fatalities was 43 years old. The median age of bicyclist fatalities decreased significantly from 69 to 43 years old.

Figure 7: Traffic Fatalities by Median Age of Street User Type (2016-2020)



Vision Zero Initiatives and Priority Action Plan – Progress Update

In February 2020, City Council approved a renewed Vision Zero Action Plan which outlined six high priority actions to be implemented over four to six years:

1. Build Robust Data Analytics Tools
2. Form a Vision Zero Task Force
3. Traffic Enforcement and KSI-Reduction Strategies
4. Increase Community Outreach and Engagement to Build a Culture of Safety
5. Implement Quick Build Data-Driven Safety Improvements
6. Prioritize Resources on high KSI Corridors and Districts

This section of the report provides an update of staff's actions and progress made on these actions.

1. Build Robust Data Analytics Tools

Vision Zero is primarily a data driven initiative focused on understanding the fatal and severe injury (KSI) data to better target investments where data clusters or demographics are overrepresented. Investing in data analytics is a top Vision Zero priority. Efforts are underway to procure a more robust analytic tool to compile and analyze a variety of data sources and assets, including socio-economic or census data, and public health agency or public safety data. These efforts are briefly summarized below:

- Transportation Specialist to Perform Data Analysis: In Fall 2020, a full-time employee was hired to support Engineering and Traffic Surveys, data analysis and mapping tasks. This enables the Traffic Safety team to produce council district level crash maps and prioritize pedestrian and roadway projects, as well as to develop more competitive grant applications.
- Urban Logiq: San José Department of Transportation (DOT) selected Urban Logiq for a Start-up in Residency (STiR) in November 2020 to build a transportation data analytic platform that will aggregate, automate, and analyze existing and forthcoming datasets, providing San José with a unified view of urban behavior. The contract was executed in March 2021.
- Smart City/Near Miss: DOT is partnering with Verizon to pilot near-miss video analytics at three high crash locations, San Carlos/Meridian, First/Brokaw, and Brokaw/Oakland, to provide insights to driver and pedestrian behaviors that lead to collisions, where these events typically occur at the intersection, and what design treatments may mitigate or prevent such collisions from occurring. DOT is working with Verizon to refine the dashboard visualization tool and will validate the data for accuracy.
- Cloud-based Radar Speed Signs: DOT is piloting a new generation of Radar Speed Display Signs that are connected to a centralized cloud-based platform to enable easy data archive and retrieval, data analysis, and a visual dashboard for speed monitoring. Radar speed signs are used on streets with adverse speeds and to alert drivers to slow down.

- Collaboration with Partnering Agencies on Data:
 - County Medical Examiner Coroner: Since January 2020, DOT staff began verifying traffic fatalities with the Medical Examiner-Coroner that involve people believed to be unhoused. Data is mapped to better understand roadway vulnerabilities. In 2020, unhoused pedestrians were hit most frequently in Council Districts 3, 5, and 7. San José Vision Zero used the data from this collaboration to apply for planning and outreach grants, and to initiate conversation on how Vision Zero partner agencies can leverage outreach work involving the homeless population.
 - County Emergency Medical Services (EMS) Agency: Vision Zero San Francisco (VZSF) model links crashes and injury data with trauma hospital data. This approach allowed VZSF to identify discrepancies in their crash data, especially involving undocumented populations in Communities of Concern. This missing data helped VZSF redraw its Priority Corridors. To emulate this best practice, DOT is working with the Santa Clara County EMS to explore data sharing agreement opportunities that would enable linking crash data with trauma data. This approach will ensure San José's Vision Zero datasets include crashes and injuries that may not have been reported to the San José Police Department.

2. Form a Vision Zero Task Force

The Vision Zero Task Force was established in September 2020 and is comprised of 20 members: 15 decisionmakers from various City and Santa Clara County departments, Councilmember Peralez as Chair and Councilmember Foley as Vice Chair, and three local advocates (California Walks, Silicon Valley Bicycle Coalition, and AARP). The Task Force is a multi-department, multi-agency platform focused on the common goal of reducing traffic fatality and severe injury crashes. The Task Force had its inaugural meeting in September 2020 and had two subsequent quarterly public meetings to provide updates of crash data/trends and discuss outreach and data opportunities. The next meeting is scheduled for June 4, 2021. Meeting agenda and minutes are available at visionzerosj.org.

Two City and County staff level working groups (Data and Outreach) have been formed to support the Task Force. The Data Working Group focuses on harnessing available data across all member agencies to derive new insights and to support resource prioritization efforts. The Outreach Working Group explores how communications or outreach programs within the County can be effectively leveraged and applied across the county for uniform messaging.

3. Traffic Enforcement and Fatal and Severe Injury (KSI) Reduction Strategies

As previously reported, San José Police Department (SJPD) transitioned to issuing warnings instead of citations during the earlier months of the pandemic in order to reduce interpersonal interaction. Late in 2020, SJPD began transitioning back to citations. Table 3 shows the number of citations and warnings issued quarterly in 2020 compared to 2019. SJPD reports enforcement activity quarterly to the Vision Zero Task Force.

Table 3: SJPD Traffic Enforcement Activity (2019-2020)

	Q1 (1/1 – 3/31)	Q2 (4/1 - 6/30)	Q3 (7/1-9/30)	Q4 (10/1-12/31)
Citations in 2020	2,394	251	414	843
Warnings in 2020	476	2,101	476	896
TOTAL in 2020	2,870	2,352	890	1,739
Citations in 2019	2,189	3,223	1,871	3,308
2020 vs 2019	▲ +681	▼ -871	▼ -981	▼ -1,569

DOT is also working in coordination with SJPD on their Electronic Citation and Traffic Collision software system upgrade. The proposed system will allow for advanced collision and enforcement analytics and query, and reporting platforms to be compatible with android OS smartphones and devices. Analytics would allow for DOT and SJPD to strategize on enforcement where there are collision and violation trends leading to fatal and severe injuries, such as Speeding and Red Light Running as discussed in the Traffic Fatalities: 2020 San José Data Analysis section.

As speeding is commonly the biggest contributing factor in traffic fatalities, California municipalities are collaborating to review existing speed limit setting laws and to support introduction of enabling legislation to curb speeding. The following two bills have been introduced for the 2021-2022 legislation sessions that would add additional street safety tools to reduce speeding.

- AB 43 (Friedman) would give municipalities more flexibility to lower the speed limit on high injury and fatality streets, as well as near vulnerable populations including children, seniors, people with disabilities, and people experiencing homelessness.
- AB 550 (Chiu) would allow Los Angeles, Oakland, San José, and the City and County of San Francisco to pilot Speed Safety Systems for speed limit enforcement on high injury network streets, and in the vicinity of schools, senior zones, public parks, and recreational centers. The bill would establish a civil penalty for an automated speed violation with varying fine amounts (\$50-\$500 depending on miles per hour above the posted speed limit), and includes equity and privacy provisions, and other program requirements. The bill also includes allowable uses of any revenue generated by the Systems and threshold metrics that would need to be met during the pilot to enable continued operation of the Systems.

SJPD has been supportive of the use of Speed Safety Systems. These Systems have been widely used in other states and have been proven successful to reduce speeding, crashes, injuries, and fatalities. Numerous empirical studies show that these systems reduce the percentage of speeding vehicles by as much as 60% and reduce serious injury and fatal crashes by as much as 55%.³

³ Speed Safety System effectiveness studies: New York City (<https://www1.nyc.gov/html/dot/downloads/pdf/speed-camera-report.pdf>); Portland, OR (<https://www.wweek.com/news/2019/08/28/speed-cameras-save-lives-so-why-does-portland-have-only-eight-of-them/>), Montgomery County, MD (<https://www.itskrs.its.dot.gov/its/benecost.nsf/ID/40b261465547d25985257ee5006a0418>), Denver, CO

- New York City, NY: Total crashes declined 15%, injuries from crashes 17%, fatalities 55%, and excessive speeding violations by 60%.
- Portland, OR: 53% reduction in speeding fatalities since program inception.
- Montgomery County, MD: Severe and fatal crashes dropped by 49% on streets with speed safety systems.
- Denver, CO: The number of drivers exceeding the speed limit by 10mph or more dropped by 21%.

4. Increase Community Outreach and Engagement to Build a Culture of Safety

Public education and engagement are recognized by the Federal Highway Administration as strategies for improving traffic safety through changing behavior. Leading Vision Zero cities invest in public education as a way to increase roadway safety and to build a culture of safety.

As part of the 2020 Vision Zero Action Plan, City Council asked DOT to retain a consultant to develop a city-wide outreach and engagement strategy that includes focused campaigns and positive reinforcements. In March 2021, DOT issued a Notice of Intent to Award the contract to MIG Consulting, with work beginning this Summer. The four-phase workplan will be performed over 24 months: 1) Create a Vision Zero strategy; 2) Design Campaign; 3) Produce and Distribute; and 4) Evaluate. The Valley Transportation Authority (VTA) may potentially partner with San José on regional outreach opportunities.

The following projects were also initiated or completed to build awareness of Vision Zero safety goals in Fiscal Year 2020-2021.

- Safety Outreach and Project Input: DOT was awarded a competitive California Office of Traffic Safety (OTS) grant for consultant services to provide safety education and outreach to older adults. Due to in-person outreach restrictions, outreach was conducted via Zoom. With older adults as the targeted audience, CalWalks experienced challenges in reaching a demographics that may be challenged or have not adapted to using video communications. Due to low attendance of older adults, outreach strategies were pivoted midway to capture an audience of adults of all ages while providing a platform for residents to share their traffic safety related concerns. The outreach efforts included 22 presentations with 154 residents, and three walk audits with 26 attendees.
- “Look Out When It’s Dark Out” Campaign: Data trends show fatalities peak during the November to March period when commute hours occur in more darkness. DOT continued its “Fight the Spike” campaign for its second year. Changeable Message Signs (49) were deployed on the 17 Priority Safety Corridors, including County Expressway PSCs, with messages including “SLOW DOWN” and “MANEJA LENTO.” DOT coordinated with the SJPD on targeted enforcement during which 155 citations were issued. DOT also posted



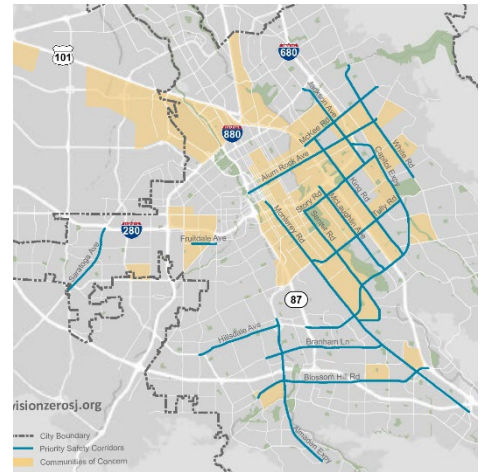
“Look Out When It’s Dark Out” posters (~900), also translated in Vietnamese and Spanish, to increase awareness about the challenge of seeing pedestrians in darker conditions.

- DOT has significantly supported regional work to grow institutional awareness of Vision Zero principles and strategies. In addition to presenting at the Transportation and Environment Committee twice per year and holding Vision Task Force meetings quarterly, San José’s Vision Zero efforts and works are shared across the region, including the new county-level Vision Zero Working Group as part of the Traffic Safe Communities Network Steering Committee, Metropolitan Transportation Commission (MTC) Bay Area Vision Zero group, North America City Transportation Official (NACTO), and the California City Transportation Initiative (CaCTI) Vision Zero Working Group.

5. Implement Quick Build Data-Driven Safety Improvements

San José’s 17 Vision Zero PSCs comprise about 70 miles of roadway, about 3% of the City’s streets. A significant number (30-40%) of fatal and severe injuries occur on these streets. The 15 PSCs within the City’s jurisdiction are the top engineering focus of the 2020 Vision Zero Action Plan.

To produce quicker safety results, Council allocated \$4.58 million to initiate quick build safety improvement projects along these corridors, leveraging pavement projects or other traffic safety improvement projects when possible. Quick build improvements primarily consist of markings, signs, bollards, and minor traffic signal improvements. Below are the anticipated completion dates of quick build projects along the PSCs:



<u>Vision Zero Priority Safety Corridor</u>
Senter Road (Spring 2021)
Fruitdale Avenue (Summer 2021)
Story Road Phase I (Summer 2021)
Hillsdale Avenue (Winter 2021)
Branham Lane (Spring 2022)
McLaughlin Avenue (Summer 2022) *

* pending post evaluation of recent CIP Project

DOT staff continues to coordinate closely with the annual pavement program and bike projects to develop quick build improvement projects along the 56 miles of PSCs. Staff also pursues grant opportunities on PSCs and in high-KSI districts. Recent grants were awarded for safety improvements along Hillsdale Avenue and in the Edenvale and Sylvandale areas. Applications were also recently submitted for Caltrans’ STPG Planning grant for Walk Safe San José in high KSI districts (CD 3, 5, 6, 7) and MTC’s Quick Strike Construction grant for McKee Road. Results of grant applications and progress on other safety projects will be discussed in the November Vision Zero update to the T&E Committee.

6. Prioritize Resources on high KSI Corridors and Districts

- Citywide Collision Review: DOT conducts a review of intersections with a high frequency of crashes. Multidisciplinary teams of engineers and planning staff with a wide range of expertise participate in this process. Implementation of safety improvements identified under this process will be funded by available traffic capital safety funds in targeted neighborhoods and/or major roadways identified using a data-driven approach. The team will conduct extensive traffic collision data analysis to find trends, patterns, and predominant collision factors. Using the result of the analysis, safety mitigations ranging from low to moderate cost will be considered for implementation. High cost improvements will be used as a framework for future grant funding opportunities.
- Safety Planning Grants in High KSI districts: The Vision Zero program is expanding to include review of areas where fatal and severe injuries cluster outside of Vision Zero corridors. In February 2021, DOT applied to the Caltrans Sustainable Transportation Planning Grant program for “Walk Safe San José” proposing two new deliverables: 1) delivering drawings of Quick Build designs that would assist pedestrian safety but are not on the PSCs; 2) creating thematic placemaking strategies to improve safety. This would include working in policy areas discussed in the Vision Zero Action Plan such as Safe Routes for Seniors, and Safe Routes to Transit. This application is focused on the four districts with the most fatal and severe injuries in the data years 2015-2019: 3, 5, 6, and 7.

C. Update on Traffic Calming Policy Review

In March 2019, City Council approved the FY 2020-2021 Council Policy Priority List that included an update to Council Policy 5-6, Traffic Calming Policy for Residential Neighborhoods, to provide greater opportunities for streets and intersections to qualify for traffic calming measures, particularly in areas near parks, schools, libraries and community centers. In February 2020, the City declared a public health emergency due to the COVID-19 pandemic and paused work on many council policy initiatives due to funding and staff resource limitations. On March 16, 2021, Council approved a backlog of deferred initiatives for FY 2021-2022 that included Council Policy 5-6.

For the purposes of this report, staff performed a high-level review of the policy threshold criteria and adjustment scenarios to understand the implications of proposed changes. A historical review of the policy changes is also provided for council awareness.

Council Policy 5-6 addresses traffic calming in residential neighborhoods and establishes the process and threshold criteria for review of residential traffic concerns and implementation of various measures. The policy was initially adopted in 2001, with a goal to improve traffic conditions and livability within San José neighborhoods, and to plan and build traffic calming improvements with new developments or projects. Council Policy 5-6 was subsequently modified by the City Council in 2008, after extensive community input through a series of 11 community meetings, resident surveys, benchmarking of traffic calming programs in other cities, and recommendations from a City Auditor's review.

Major changes to the policy included changing the threshold criteria for streets to be considered eligible for physical traffic calming measures, incorporating a process to prioritize projects that applied limited resources to neighborhoods with the most severe traffic conditions, and the ability for neighborhoods to self-fund eligible projects. An exemption process was added for streets which did not meet the threshold criteria to be considered for physical traffic calming measures if there were unique or unusual conditions, such as a high crash rate, excessive speeds, or significant pedestrian activity.

Due to the pandemic-induced recession and resultant budget cuts, consultant traffic studies to inform the policy update were not funded. However, based on a preliminary review of traffic data collected in 2019, a reduction in the current policy threshold criteria to address speeding concerns could result in a significant increase in the number of neighborhood streets eligible for traffic calming. For example, it is estimated that a three to five-mile reduction in the current speeding threshold criteria of 85th percentile speeds of 33 mph, to 30 mph or 28 mph, could result in over 40% - 60% of neighborhood streets eligible for traffic calming.

Ultimately, the determination of an appropriate threshold criteria is a Council decision. It is important to note though that the cost impacts of managing and implementing a program of this size would be significant. It is also important to note that although traffic calming in residential neighborhoods would help to improve quality of life and safety in neighborhoods, these streets typically have lower volumes, lower speeds, and significantly fewer fatal and severe injury crashes than major roadways. The current funding allocation for traffic safety projects, which includes traffic calming, provides for one to two projects annually in each council district.

COORDINATION

This report has been coordinated with the Police Department and the City Attorney's Office.

/s/

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