CUPERTINO VISION ZERO

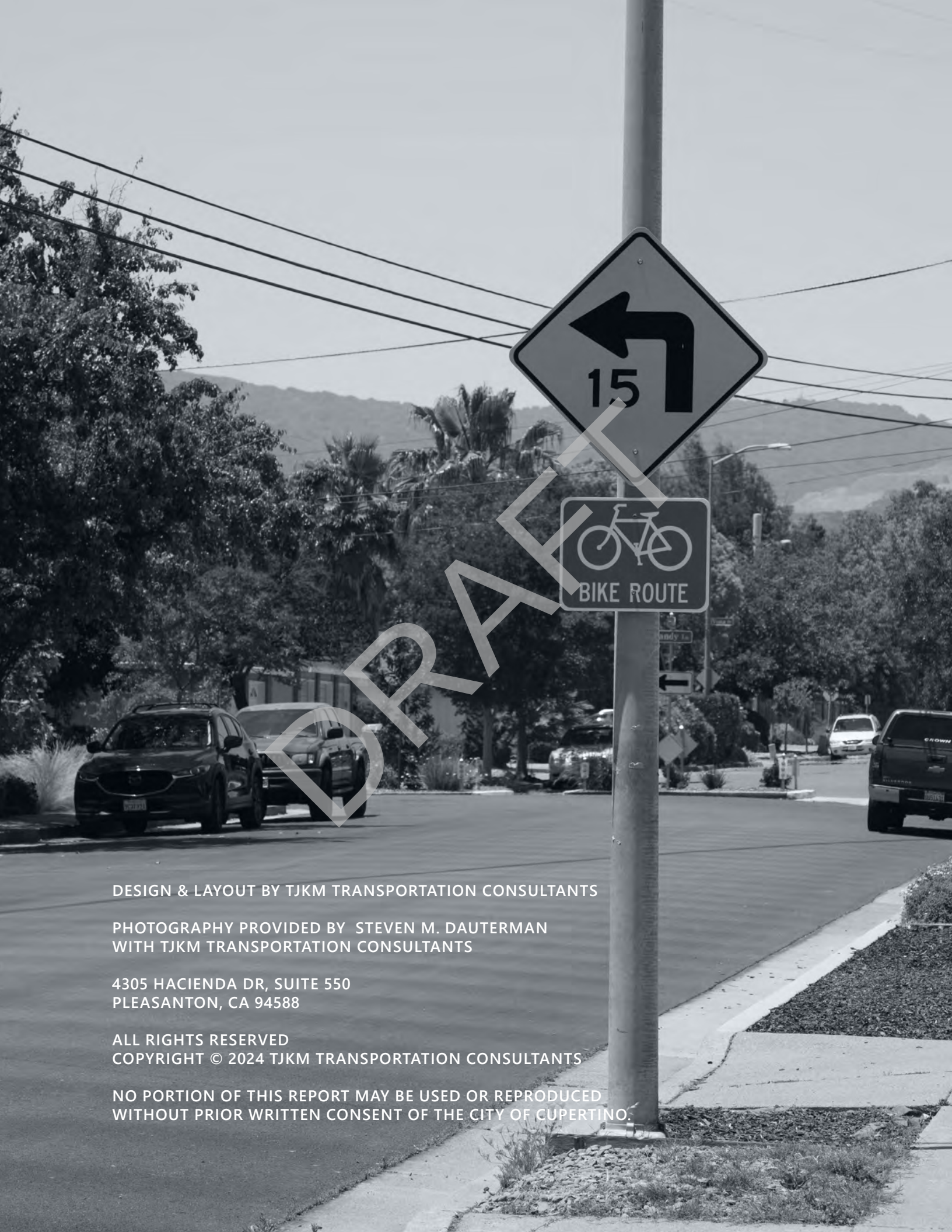
VISION ZERO ACTION PLAN

JUNE 2024

DRAFT REPORT

PREPARED BY

TJKM



DESIGN & LAYOUT BY TJKM TRANSPORTATION CONSULTANTS

PHOTOGRAPHY PROVIDED BY STEVEN M. DAUTERMAN
WITH TJKM TRANSPORTATION CONSULTANTS

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ACKNOWLEDGMENTS

The development of Cupertino's Vision Zero Action Plan has been a collaborative endeavor, greatly benefiting from the involvement of a diverse group of stakeholders. The active participation of community members in the two virtual community meetings has been crucial in ensuring the plan's comprehensiveness and responsiveness to the community's needs. We extend our heartfelt appreciation to these individuals for their invaluable input, which has played a vital role in successfully creating the City of Cupertino Vision Zero Action Plan. We would also like to express our gratitude to the elected officials, Cupertino staff, Cupertino Bicycle Pedestrian Commission, Santa Clara County Fire Department and Sheriff Department, and school districts for their contributions throughout this process. Your feedback has been instrumental in aligning the plan with local priorities, policies, and existing programs.

Elected Officials

Sheila Mohan
Mayor

Liang Chao
Councilmember

J.R. Fruen
Vice Mayor

Kitty Moore
Councilmember

Hung Wei
Councilmember

City of Cupertino Staff

David Stillman
Transportation Manager

Prashanth Dullu
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City of Cupertino Bicycle Pedestrian Commission

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Key Stakeholders

Sheriff Department

Santa Clara County Fire Department

Fremont Union High School District (FUHSD)

Cupertino Union School District (CUSD)

Walk Bike Cupertino

City of Cupertino
Community Outreach Specialist

City of Cupertino
Community Development

City of Cupertino
Safe Routes to School

A LETTER FROM THE CITY

To the residents of Cupertino,

As we believe that one traffic death is one too many, Cupertino's Vision Zero and Action Plan is an important step towards eliminating citywide multimodal traffic fatalities and serious injuries. Through this plan, a goal is set to reduce fatalities and serious injuries to zero by 2040. The City believes that collisions can be prevented instead of just avoided and we are committed to undertaking the hard tasks and investments that must be made to make this belief a reality.

We know the path to achieving Vision Zero is not a smooth one. It requires a fundamental and widespread commitment to a culture of safety that implements safer infrastructure and influences good behaviors in a way that speaks to every person, every time they move throughout the city. Our robust Vision Zero Action Plan sets us on a course to achieve our shared goals, including safe streets for all.

Ensuring all users of Cupertino roads – motorists, pedestrians, cyclists, schoolchildren, the elderly, and those with mobile impairments – have safe, comfortable, and easy access to their destinations is key to a successful Action Plan, and the City is dedicated to providing this to all Cupertino residents, employees, and visitors.

The goals and objectives laid out in this Action Plan, based not only on quantitative data but also on inclusive and robust community outreach, will build upon previous City commitments and investments to ensure optimal transportation safety.

This collaborative effort, with the City Council's leadership, City Staff's hard work, and the community's input and feedback, is a call to action for all who believe and want a safer Cupertino for future generations. We look forward to your participation.

Sincerely,

Sheila Mohan
Mayor

J.R. Fruen
Vice Mayor

WHAT IS A VISION ZERO ACTION PLAN

A Vision Zero document serves as a roadmap for coordinating efforts across multiple sectors and stakeholders to create safer, more sustainable transportation systems and ultimately achieve the goal of zero traffic fatalities and severe injuries.

A Vision Zero document typically encompasses a comprehensive strategy aimed at eliminating all traffic fatalities and severe injuries while promoting safe, healthy, and equitable mobility for all road users. The specific contents of a Vision Zero document can vary depending on the jurisdiction and the goals of the initiative, but here are some common elements often included:

1. **Vision Statement:** A clear and concise statement outlining the ultimate goal of achieving zero traffic fatalities and severe injuries within a specified timeframe.
2. **Policy Framework:** A set of guiding principles and policies that prioritize safety and promote a holistic approach to transportation planning, design, and operations.
3. **Data Analysis:** An analysis of crash data to identify high-risk areas, vulnerable road users, contributing factors, and trends in traffic crashes and injuries.
4. **Goals and Objectives:** Clear and measurable goals and objectives for reducing traffic fatalities and severe injuries, often broken down by target groups, such as pedestrians, bicyclists, motorists, and public transit users.
5. **Strategies and Interventions:** Identification and prioritization of specific strategies and interventions to improve safety, including engineering, enforcement, education, and evaluation measures. These may include road design improvements, speed management, targeted enforcement campaigns, public awareness campaigns, and policy changes.
6. **Action Plan:** A detailed plan outlining how each strategy and intervention will be implemented, including timelines, responsible agencies or departments, and funding sources.
7. **Performance Measurement:** Metrics and indicators to track progress towards safety goals, evaluate the effectiveness of implemented interventions, and adjust strategies as needed.
8. **Stakeholder Engagement:** Strategies for engaging with stakeholders, including government agencies, law enforcement, community organizations, advocacy groups, and the public, to ensure collaboration and support for Vision Zero initiatives.
9. **Evaluation and Continuous Improvement:** Mechanisms for evaluating the impact of Vision Zero interventions and making adjustments based on lessons learned and emerging best practices.

RESOLUTION NO. 24-XXX

A RESOLUTION OF THE CUPERTINO CITY COUNCIL DECLARING TO BECOME A VISION ZERO COMMUNITY AND ADOPTING A VISION ZERO POLICY AND ACTION PLAN WITH THE CLEAR GOAL OF ELIMINATING TRAFFIC FATALITIES AND SEVERE INJURIES ON CITY STREETS BY THE YEAR 2040

WHEREAS, according to data from the National Highway Traffic Safety Administration, each year, approximately 40,000 people are killed in traffic collisions in the United States; and

WHEREAS, in a study comparing 19 peer nations, the Center for Disease Control and Prevention found that the United States has the highest traffic death rate per person; and

WHEREAS, from 2012 to 2021, 9 people died and 74 suffered severe life changing injuries on City of Cupertino's streets; and

WHEREAS, from 2012 to 2021, 4 pedestrians died and 20 suffered severe life changing injuries on City of Cupertino's streets; and

WHEREAS, from 2012 to 2021, 4 cyclists died and 23 suffered severe life changing injuries on City of Cupertino's streets; and

WHEREAS, 81% percent of crashes where people were killed or seriously injured occurred at or near intersections and 19% percent occurred along a roadway segment; and

WHEREAS, the most common primary collision factor for crashes where people were killed or seriously injured was traveling at an unsafe speed followed by failure of motorist to yield the right of way; and

WHEREAS, the inappropriate actions of motorists were cited as the cause of 72% percent of crashes involving pedestrians as compared to 14% percent of these crashes being caused by the actions of pedestrians and 14% caused by party at fault that could not be determined; and

WHEREAS, the public has stated that their primary concern related to traffic safety is pedestrian safety and bicyclist safety followed by speeding; and

WHEREAS, the Fourth Guiding Principle of the City's General Plan: Community Vision 2015-2040, Enhance Mobility, states that Cupertino will ensure the efficient and safe movement of cars, trucks, transit, pedestrians, bicyclists and disabled persons throughout Cupertino to fully accommodate Cupertino's residents, workers, visitors, and students of all ages and abilities; and

WHEREAS, in Chapter 5 Mobility of the City's General Plan: Community Vision 2015-2040, Goal M-2 is the implementation of improvements to city streets that safely accommodate all transportation modes and persons of all abilities; and

WHEREAS, in the introduction of Chapter 7 Health and Safety of the City's General Plan: Community Vision 2015-2040, Cupertino commits to the protection of the community from risks to life associated with human-caused hazards; and

WHEREAS, Vision Zero is a public health-based traffic safety strategy to reduce and eventually eliminate traffic deaths and serious injuries using a data driven multi-disciplinary and safe systems approach that also increases safe, healthy equitable mobility for all; and

WHEREAS, Vision Zero recognizes that while human error will always occur, a combination of engineering, education and enforcement measures can reduce collisions and can prevent collisions from causing death or severe injuries; and

WHEREAS, one death or serious injury on City streets is one too many and City and departmental leadership are dedicated to strategies that aim to reduce and eliminate deaths and serious injuries on City streets; and

WHEREAS, increasing real and perceived safety for people walking and bicycling is a key step in enabling more people to choose these clean air-modes of transportation that will support the City's goal of promoting policies to help achieve state, regional and local air quality and greenhouse gas emission reduction targets; and

WHEREAS, the Federal Highway Administration has committed to eliminating fatalities and serious injuries on the nation's roadways using a data-driven interdisciplinary approach modeled after Vision Zero; and

WHEREAS, the California Department of Transportation (Caltrans) has adopted the goal of moving toward zero deaths with a focus on using proven effective strategies and countermeasures; and

WHEREAS, the Federal Highway Administration identifies six principles that form the basis of the Safe System approach: deaths and serious injuries are unacceptable, humans make mistakes, humans are vulnerable, responsibility is shared, safety is proactive, and redundancy is crucial; and

WHEREAS, Vision Zero aims to design and operate roads to create a Safe System by implementing features appropriate for the intended and actual road use and speed environment, by reducing the likelihood of human error and reducing the consequences of error.

NOW, THEREFORE, BE IT RESOLVED that the City Council does hereby:

1. Adopts as policy direction the tenants of Vision Zero with the expressed goal of reducing the number of fatal and serious injury crashes along all roadways under the jurisdiction of the City to zero by the year 2040; and

2. Encourage all City Departments, leadership, and staff to proactively encourage and support Vision Zero in all facets and aspects of their mission, administration, and service delivery.

3. Direct the City Manager to:
   i) Develop procedures and programs to further the goals and objectives of Vision Zero and take data-driven actions to achieve zero fatal and serious injury crashes based on available crash data and community input and includes the "seven E's" of engagement, equity, engineering, encouragement, education, enforcement, and evaluation; and
   ii) Propose as part of the annual budget process to prioritize funding and availability of staff resources for implementing Vision Zero projects and programs; and
   iii) Adopt and proactively encourage the application of the Federal Highway Administration's list of Proven Safety Countermeasures; and
   iv) Revise design criteria for new roadways and existing roadways to achieve a Desired Operating Speed appropriate for the context, that are sustainable and self-enforcing or self-encouraging, that are reflective of

the current state of the practice for context-sensitive, people-centric designs that are to human scale and recognizes desire lines between people-centric origins and destinations, and assert context-sensitive, people-centric judgement over numerical warrants; and

v) Review laws, ordinances, rules, policies, procedures, and regulations for conflictive or contrary language and provide remedy through administrative, collaborative, or legislative action; and

vi) Develop and maintain effective partnerships with other agencies, entities, organizations, community groups, and stakeholders to further the goals of and support for Vision Zero; and

vii) Provide for ongoing evaluation and performance measurements and present to Council on a regular basis a report on the initial and ongoing status of achieving the goal of zero fatal and serious injury crashes by the year 2040.

BE IT FURTHER RESOLVED that this Resolution is not a project under the requirements of the California Environmental Quality Act, together with related State CEQA Guidelines (collectively, "CEQA") because it has no potential for resulting in physical change in the environment. In the event that this Resolution is found to be a project under CEQA, it is subject to the CEQA exemption contained in CEQA Guidelines section 15061(b)(3) because it can be seen with certainty to have no possibility that the action approved may have a significant effect on the environment. CEQA applies only to actions which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. In this circumstance, the proposed action of adopting a Vision Zero Policy and Action Plan would have no or only a de minimis effect on the environment. The foregoing determination is made by the City Council in its independent judgment.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Cupertino this 9th day of July, 2024, by the following vote:

Members of the City Council

AYES:
NOES:
ABSENT:
ABSTAIN:

SIGNED: _____ Sheila Mohan, Mayor City of Cupertino	_____ Date
ATTEST: _____ Kirsten Squarcia, City Clerk	_____ Date

RELEVANCE

For cities seeking funding to improve road safety through the Safe Streets and Roads for All (SS4A) grant program, developing a Vision Zero Action Plan is a critical first step. This plan serves two key purposes. First, it aligns the city's goals with the SS4A program's core objective of achieving zero roadway deaths and serious injuries. Second, the Action Plan outlines a comprehensive strategy for achieving these goals, demonstrating to SS4A a clear and well-defined path for utilizing grant funding. This not only strengthens a city's grant application but also ensures resources are targeted towards the most critical safety needs within the community. Establishing a data-driven Vision Zero Action Plan, cities can significantly increase their chances of securing SS4A grant funding and ultimately creating safer streets for all residents.

ACTION PLAN COMPONENTS	SECTION
Leadership Commitment & Goal Setting	• Vision Statement • Setting up a Task Force Team
Planning Structure	• Introduction • Community Engagement • Partnership • Continuous Data Collection & Analysis
Safety Analysis	• Data Driven Approach • Collision Profiles
Engagement and Collaboration	• Community Engagement • Partnership • How to Get Involved
Policy and Process Changes	• Action Plan • Transportation Technology • Educational Programs • Traffic Enforcement Programs • Vision Zero and General Plan Update
Strategy and Project Selections	• Action Plan • Partnership • Recommended Projects
Progress and Transparency	• Project Website and Updates • Regular Task Force Meetings • Monitoring Implementation
Action Plan Adoption Date	• XX-XX-XXXX

VISION STATEMENT

INTRODUCTION

It is unacceptable for people to be killed or seriously injured while traveling along or across Cupertino's streets. Through a holistic and proactive approach, the City of Cupertino commits to eliminating all fatal and serious injury traffic crashes by 2040.

GUIDING PRINCIPLES

1. Safety is our highest priority. Human life is more important than speed, convenience, or property. We will evaluate trade-offs and make both proactive and reactive engineering decisions about street design based on this value.
2. Traffic deaths and severe injuries are a preventable public health issue. We will treat fatal and severe collisions as preventable and unacceptable incidents that can and must be addressed.
3. People make mistakes. We will design our streets so that mistakes do not result in death or severe injury. We will not victim-blame but seek to understand and respond compassionately and objectively.
4. Slower streets are safer streets. Mobility is the safe and efficient movement of people and goods through a transportation system. We will design, construct, and operate our streets for slower speeds to eliminate all fatal and severe collisions, and protect our most vulnerable street users.
5. We will create safer transportation options for people to travel. Creating safer and more comfortable transportation options for pedestrians, cyclists, and transit riders can make these modes more attractive and reduce the number of vehicle miles traveled and the risk of fatal and serious injury crashes.
6. Street safety must be achieved equitably. This plan emphasizes data-driven engineering and education actions first, supported by equity and data-driven enforcement and in an effort to conduct equitable traffic enforcement.
7. Vision Zero will be both reactive to crash data and proactive to crash risk. Crash data reveals where the risk of fatal and serious injury crashes has manifested. A proactive crash risk assessment identifies and prioritizes those locations where risk exists but crash experience has yet to materialize.
8. Vision Zero requires a holistic approach to land use and transportation to include policy analysis and changes at the local and regional levels.
9. Cupertino's response will utilize proven safety countermeasures coupled with innovative strategies. We will perform annual monitoring, reporting, and evaluation through an equity lens. We will communicate clearly what resources are necessary to achieve Vision Zero, why street design modifications are proposed, and the basis for prioritizing competing improvements.

SAFE SYSTEM APPROACH

Reaching zero deaths requires the implementation of a Safe System approach, which was founded on the principles that humans make mistakes and that human bodies have limited ability to tolerate crash impacts. In a Safe System, those mistakes should never lead to death. Applying the Safe System approach involves anticipating human mistakes by designing and managing road infrastructure to keep the risk of a mistake low; and when a mistake leads to a crash, the impact on the human body doesn't result in a fatality or serious injury. Road design and management should encourage safe speeds and manipulate appropriate crash angles to reduce injury severity.

Six principles form the basis of the Safe System approach:

- Deaths and serious injuries are unacceptable
- Humans make mistakes
- Humans are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is crucial

Committing zero traffic deaths means addressing all aspects of safety through the following five Safe System elements that, together, create a holistic approach with layers of protection for road users:

SAFE ROAD USERS - The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.

SAFE VEHICLES - Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.

SAFE SPEEDS - Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.

SAFE ROADS - Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.

POST-CRASH CARE - When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities. It can also include healthcare providers sharing anonymized ER data about crash victims that may not have been reported to law enforcement with local agencies that can help better identify crash trends, audiences for focused community engagement, or social needs like car seats and bicycle helmets.

The Safe System approach requires a ***supporting safety culture*** that places safety first and foremost in road system investment decisions. To achieve our **zero deaths vision**, everyone must accept that ***fatalities and serious injuries are unacceptable and preventable***.[1]

[1] U. S. Department of Transportation – Zero Deaths and Safe System. Retrieved on June 30, 2023 from link: *https://highways.dot.gov/safety/zero-deaths*

CHAPTER 1
BACKGROUND & POLICIES

Vision Zero is Twofold:
A Way of Believing and a Way of Action

INTRODUCTION

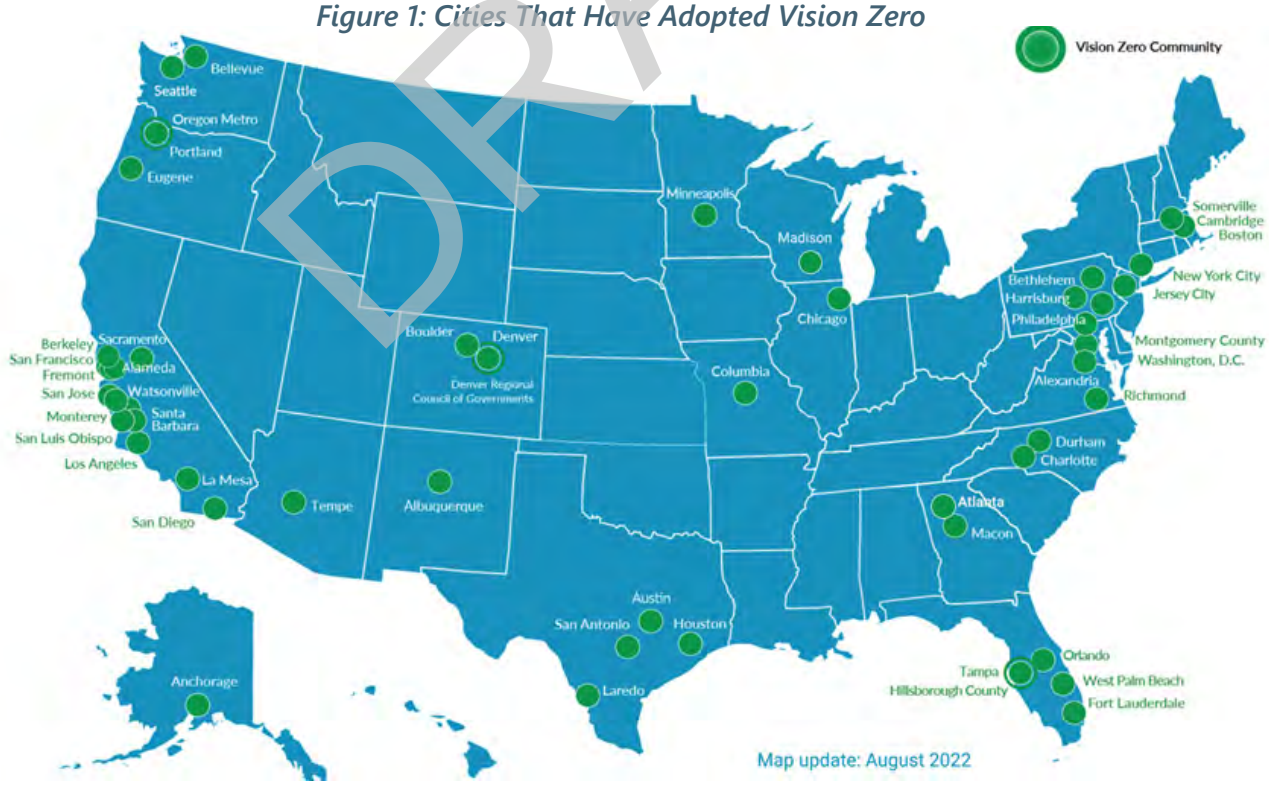
WHAT IS VISION ZERO?

Vision Zero is a heartfelt belief that no one should be killed or seriously injured while traveling along, across, or around our streets and roadways. Thinking of our own family and circle of friends, which of them would we be willing to experience their death or being seriously injured and perhaps forever maimed in a traffic crash? We would not want any of them to be seriously injured or killed, thus, for us, the only acceptable value is zero.

Recognizing that anyone is someone's friend or family member, the idea that no one should be seriously injured or killed can, and should, be extended to everyone who travels.

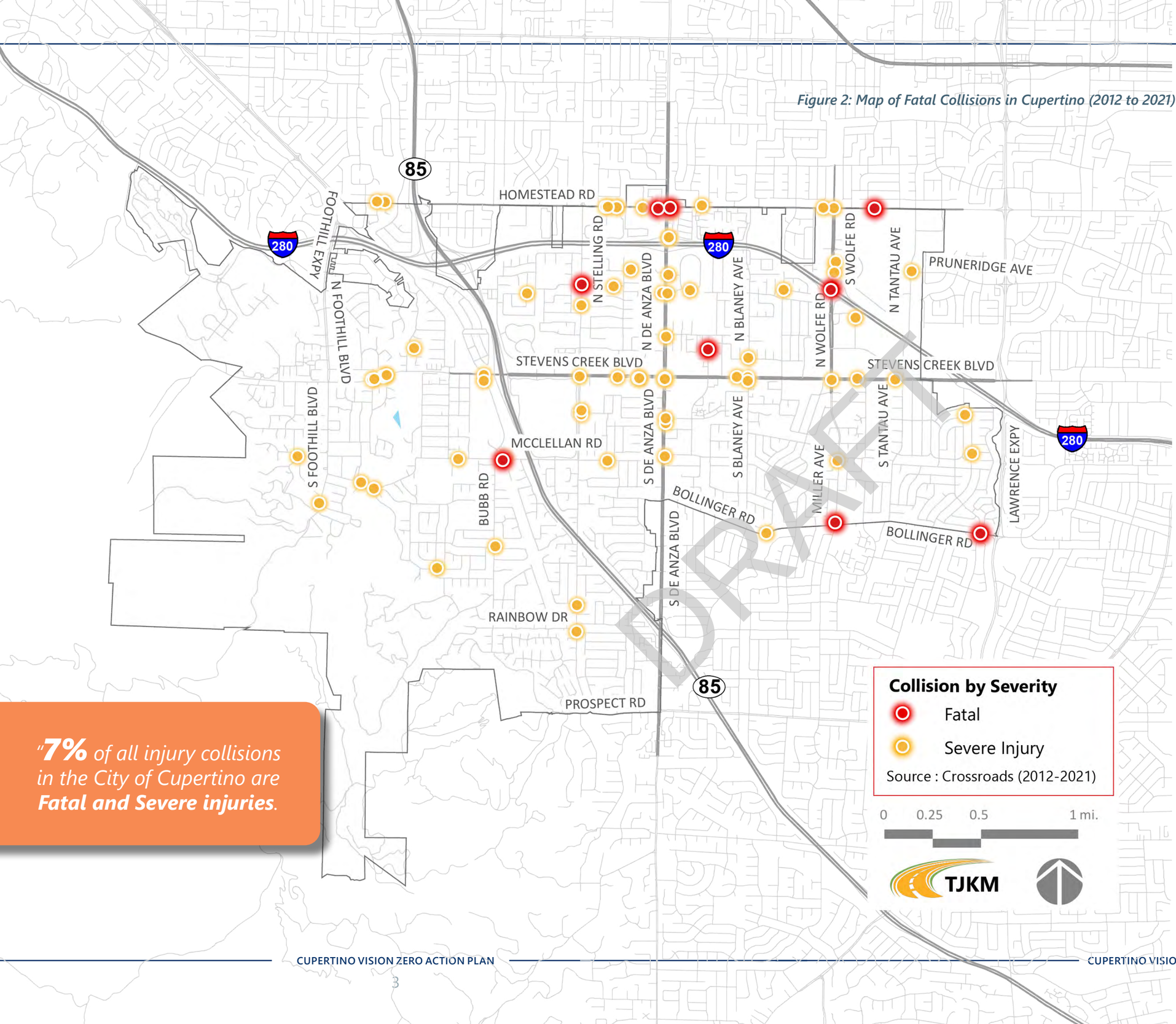
Vision Zero is also a strategy to eliminate all fatal and severe injury traffic crashes while increasing safe, healthy, and equitable mobility for all. We plan, design, operate, and maintain our roadway networks to be as safe as possible for all users regardless of age, ability, identity, or mode of travel. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe and is being adopted by many jurisdictions across the United States. **Figure 1** shows a map of Vision Zero Communities in the country that have adopted Vision Zero.

Figure 1: Cities That Have Adopted Vision Zero



Source: Vision Zero Network

Figure 2: Map of Fatal Collisions in Cupertino (2012 to 2021)



*"**7%** of all injury collisions in the City of Cupertino are **Fatal and Severe injuries**.*

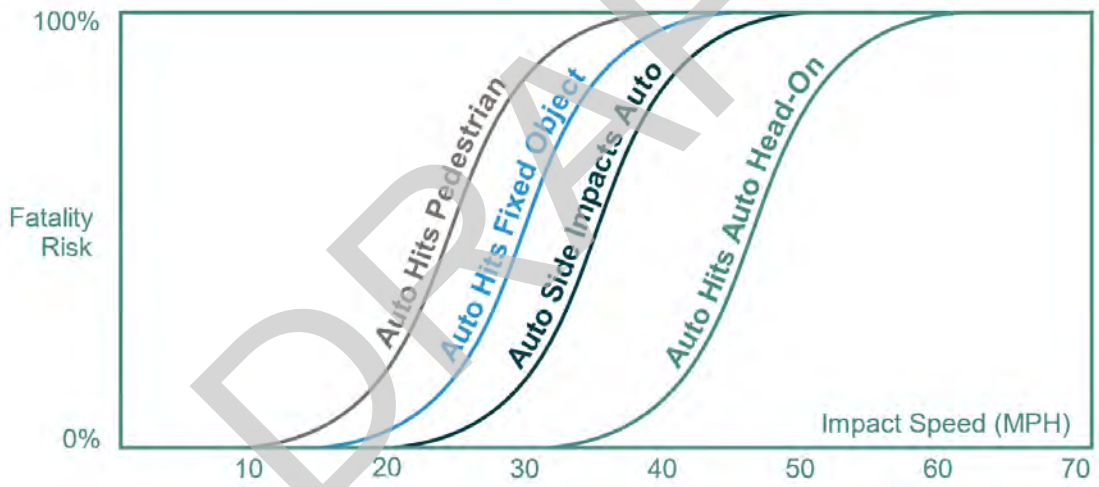
WHY DO WE NEED VISION ZERO?

In 2021, the estimated population of Cupertino was 58,622[2]. Over 38,000 Americans die on roadways in the U.S. each year, equivalent to 65% of Cupertino's population, needlessly die every year while traveling along America's streets. **Figure 2** shows the locations in the City of Cupertino where fatalities have occurred between 2012 and 2021. 7 percent of the collisions in the City resulted in fatal and severe injuries over the 10 year study period. This is particularly important for Cupertino, which ranked 28th out of 105 cities in the OTS ratings for Bicycle-related fatalities and injury collisions in 2021, highlighting a specific area of concern for cyclists. Additionally, Cupertino ranked 79th out of 105 for Speed-Related fatal and injury collisions, indicating a need for strategies to address speeding on Cupertino's roadways. But, we as a society have become accustomed to this tragedy. We consider these horrific events to be inevitable side effects of our modern life. We call them "accidents", which is defined as "an unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury" or, "an event that happens by chance or that is without apparent or deliberate cause." The term also implies that no one is at fault or is to blame, but in fact, the event may have been caused by unrecognized or unaddressed risks.

[2] US Census Quick Facts – Cupertino city, California. Retrieved on June 30, 2023 from link: *https://www.census.gov/quickfacts/fact/table/cupertinocitycalifornia/PST045221*

The more appropriate term is "crash" or "collision", which is the physical and violent interaction between an object moving at speed and another object, whether moving or stationary. It is an event of the laws of physics, and the human body is not designed to withstand the forces of crashes. We have very good data from emergency rooms regarding the trauma that crash victims suffer and the likelihood of a person surviving the crash given the speed of the collision. **Figure 3** shows a speed-versus-probability chart for fatal crashes, sourced from FHWA and adapted from a graphic created by the Australian Roads and Traffic Authority of New South Wales.

Figure 3: Chart of Speed vs. Probability of the Crash Being Fatal



(Source: FHWA. Adapted from a graphic created by the Australian Roads and Traffic Authority of New South Wales.)

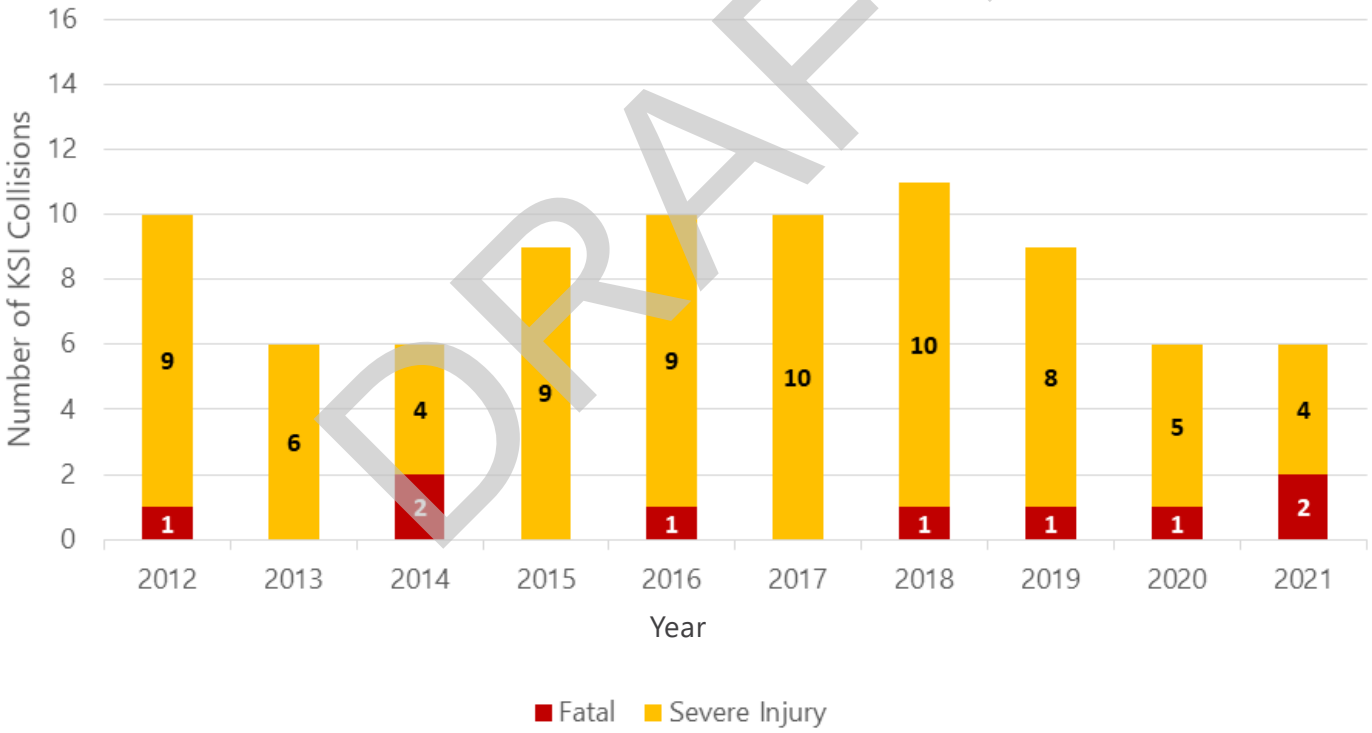
The significant loss of life exacts a tragic toll, extending beyond personal loss to deep community impacts, including personal economic costs and emotional trauma to those suffering; and significant taxpayer spending on emergency response and long-term healthcare costs. Because so many fear for their safety on our streets, there is no true freedom of mobility, and, as a result, we compromise our public health with increasing rates of sedentary diseases and higher carbon emissions.

In recent years, there has been a growing recognition that traffic fatalities and severe injuries are not just accidents, but preventable incidents. The occurrence of one crash every three days in Cupertino is a significant concern for the safety of all roadway users, with vulnerable users such as pedestrians and cyclists representing 60 percent of the fatal and severe injury crashes (also known as "KSI" — killed or severely injured).

Despite the presence of traffic signals, the risk of fatal or serious injury crashes at intersections is significantly higher, underscoring the need for a comprehensive strategy to address safety issues.

Furthermore, while the total number of crashes in Cupertino is decreasing, the number of fatal and severe injury crashes remains steady, as seen in Figure 4, making it crucial to implement a Vision Zero plan to reduce the risk of such crashes. This approach will prioritize the safety of all roadway users by creating safe and livable streets, improving infrastructure, reducing speed limits, increasing public education and awareness, and better enforcing traffic laws. By adopting a Vision Zero Policy, Cupertino can create safer streets for everyone, reducing preventable incidents that cause unacceptable fatalities and injuries.

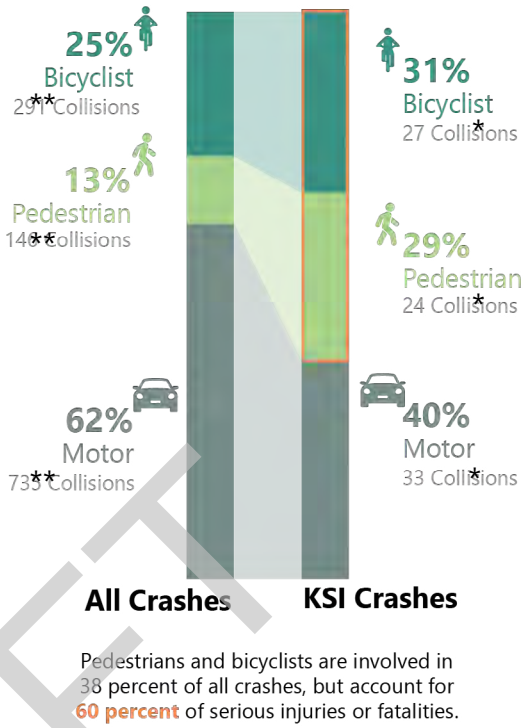
Figure 4: KSI Collisions by Year



Between 2012 and 2021 there were **nine fatalities and 74 severe injuries** *reported in Cupertino.*

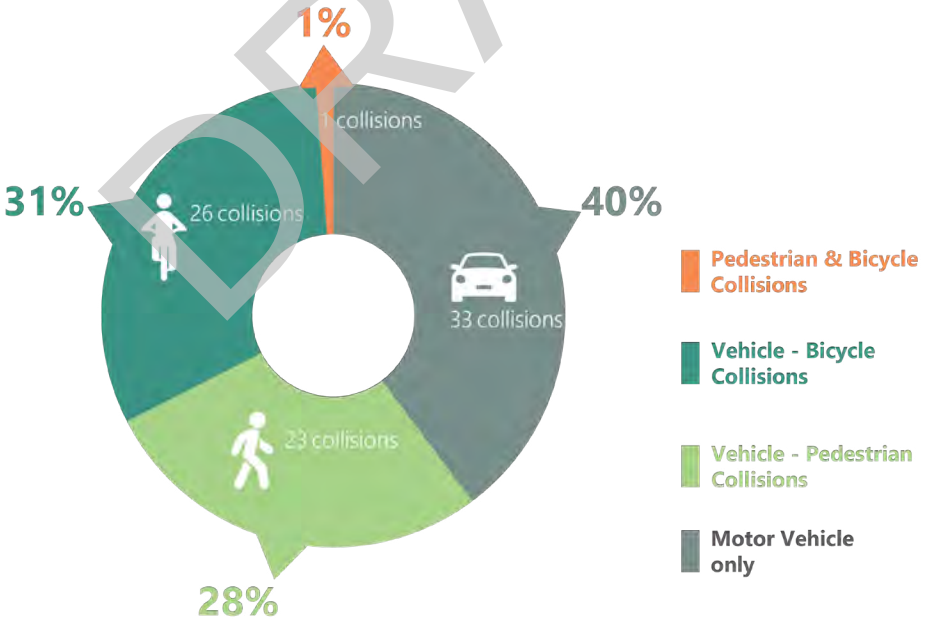
Figure 5 and **Figure 6** show that pedestrian and cyclist collisions account for about 60 percent of all fatal and serious injury crashes. While crashes involving vulnerable roadway users hold the strong majority, those in motor vehicles are victims as well. Even a crash between a cyclist and pedestrian can result in a fatality or severe injury. The human body is not designed to withstand the forces of any crash, further affirming the need for improved road safety.

Figure 5: Most Vulnerable Travelers



Pedestrians and bicyclists are involved in 38 percent of all crashes, but account for **60 percent** of serious injuries or fatalities.

Figure 6: Percentage of Collisions by Mode



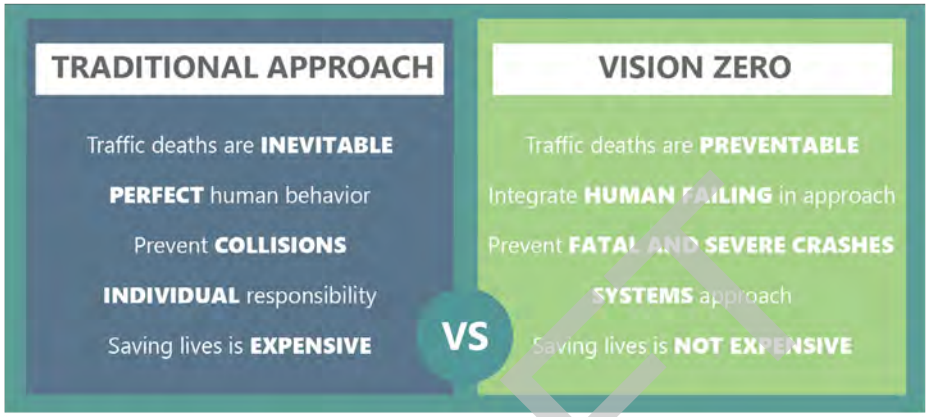
**The occurrence of one KSI collision which involved a pedestrian and a bicyclist, was included in the vehicle-pedestrian and vehicle-bicyclist categories as it fits into both. Note in Figure 5 that the number of bicycle and pedestrian collisions is 27 (26 +1) and 24 (23 +1) , respectively, while in Figure 6 the number of bicycle and pedestrian collisions is 26 and 23, respectively.*

***The occurrence of collisions which involved a bicyclist and a pedestrian, was included in the vehicle-bicyclist and vehicle-pedestrian categories as it fits into both. Note in Figure 5 that the number of all bicycle and pedestrian collisions is 291 and 146, respectively.*

A NEW VISION FOR SAFETY

Vision Zero is a significant departure from the status quo in two major ways:

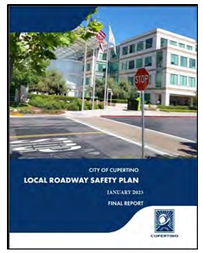
1. Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management), and other related systems to lessen the severity of crashes.



2. Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local traffic planners and engineers, policymakers, and public health professionals has not been the norm. Vision Zero acknowledges that many factors contribute to safe mobility — including roadway design, speeds, behaviors, technology, and policies — and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

PLANS AND POLICIES

The Cupertino Vision Zero Action Plan is a high-level document focused on broad strategies and impactful actions to eliminate major crashes. It builds upon the City's existing street safety efforts, which are supported by detailed transportation plans, design guidelines, and area plans. These comprehensive resources complement county and state safety initiatives, such as the Santa Clara County Valley Transportation Plan 2040, and the City's Safe Routes to School Program. Specific recommendations and priority projects are outlined in detailed plans including the Local Road Safety Plan, Climate Action Plan 2.0, City of Cupertino Transportation Study Guidelines, Park and Recreation System Master Plan, Pedestrian Transportation Plan, Bicycle Transportation Plan, and the Safe Routes to School Program. The City will continue to develop and update these and future plans with a focus on safety and Vision Zero principles. The various plans and policies are listed below:

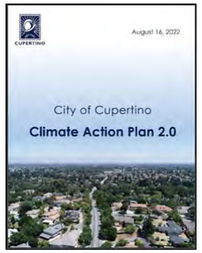


CITY OF CUPERTINO'S LOCAL ROADWAY SAFETY PLAN (LRSP) (2023)

Cupertino's Local Roadway Safety Plan (LRSP) identifies transportation safety improvement needs throughout the City for all modes of transportation and for all ages with the goal of reducing fatal and severe injury collisions. The LRSP, funded by the Federal Highway Administration (FHWA) and Caltrans, was achieved through a decision-making process that relied on a data-driven collision analysis of local roadways, partnership with stakeholders, and public outreach.

Goals of the LRSP:

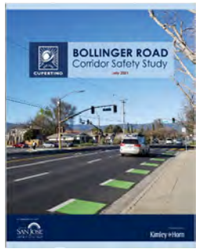
1. Identify and analyze road safety issues systemically and recommend improvements.
2. Improve pedestrian and bicyclist safety through proven effective countermeasures.
3. Coordinate with stakeholders to implement road safety improvements and improve emergency response in Cupertino.
4. Continually seek funding for safety improvements.
5. Ensure fair and equitable implementation of all safety improvements for all residents of Cupertino.



CITY OF CUPERTINO'S CLIMATE ACTION PLAN 2.0 (2022)

Cupertino envisions a future with cleaner air, resilient and renewable energy sources, livable communities, an equitable distribution of resources, and opportunities to build and maintain resilient homes and businesses. Climate change poses a challenge to that vision and the effects of climate change are already impacting California communities on the local level. This plan recognizes that transportation alone contributes more CO_2e per capita than the sectors of solid waste, wastewater, commercial/industrial, and residential combined. Specific goals of the Climate Action Plan 2.0 that can be leveraged and supported by a Vision Zero Action Plan include:

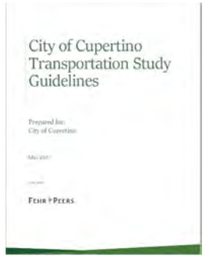
1. Develop and implement an Active Transportation Plan to achieve 15% of active transportation mode share by 2030 and 23% by 2040
2. Implement public and shared transit programs to achieve 29% of public transit mode share by 2030 and maintain through 2040
3. Increase zero-emission vehicle (ZEV) adoption to 35% for passenger vehicles and 20% for commercial vehicles by 2030 and 100% for all vehicles by 2040
4. Re-focus transportation infrastructure away from single occupancy gasoline vehicles to support the bicycle/pedestrian cycling and walking, public transit, and ZEV goals stated above.



CITY OF CUPERTINO BOLLINGER ROAD CORRIDOR SAFETY STUDY (2021)

Bollinger Road is a two-mile long east-west major collector street that connects Lawrence Expressway and De Anza Boulevard, two major north-south arterials. The road lies along the border of Cupertino and San Jose, with Cupertino to the north and San Jose to the south. The road traverses through a residential neighborhood, which is home to four nearby elementary schools, Hyde Middle School, and Cupertino High School.

The City of Cupertino commissioned the Bollinger Road Corridor Safety Study ("Study") to identify improvements to create a safer and more accessible corridor for pedestrians, bicyclists, transit riders, and motorists. As part of the Study, an analysis of existing conditions and a summary of past collisions along the corridor was conducted. This was followed by an online public survey that gathered public input on location-specific improvement needs along the corridor. The feedback from the community was evaluated and used to create two conceptual corridor alternatives. These proposed alternatives were then presented to the community in a neighborhood meeting. Feedback was collected during the meeting as well as through a summarized online survey. The efforts performed for the study are summarized in this report.



CITY OF CUPERTINO TRANSPORTATION STUDY GUIDELINES (2021)

The Transportation Study Guidelines provide a clear and consistent technical approach for evaluating the transportation effects (adverse or beneficial) of projects on the City's transportation system and services. A transportation study provides essential information for decision-makers and the public when evaluating individual development projects, small- and large-scale area plans, and transportation infrastructure projects.

The Mobility Element of the Cupertino General Plan seeks to "implement strategies that make alternative modes of transportation attractive choices, help reduce the strain on the automobile network, and improve health and quality of life for Cupertino residents and businesses." The Transportation Study Guidelines support this goal by evaluating new projects against the policies of the General Plan and other relevant documents. In addition, these Guidelines fulfill Goal M-7 of the Cupertino General Plan, which requires that the City "review and update Transportation Impact Analysis (TIA) policies and guidelines that allow for adequate consideration for all modes of transportation including automobiles, walking bicycles, and transit."

CITY OF CUPERTINO 2020 PARKS AND RECREATION SYSTEM MASTER PLAN (2020)

The Parks and Recreation System Master Plan (Master Plan) integrates the City's long-term vision and aspirations into a cohesive strategy to guide the future development, renovation, management, and programming of city parks and recreation facilities. The Master Plan will provide direction for the City and Parks and Recreation Department as it improves and enhances parks and recreation through the year 2040.

The community identified 12 primary themes to address through new policies and projects. These include improving park and facility access and trail connectivity, as well as integrating nature, the arts, and extraordinary play opportunities. Residents want a greater variety of recreation options, plus welcoming customer-friendly parks, and services that reflect the community's diverse culture and unique characteristics. Empowering youth and teens, supporting social gatherings, and collaborating with partners and stakeholders round out the priorities noted through community feedback. From this community input, the Master Plan's vision, mission, and goals were defined to guide the City in enhancing recreation opportunities for all Cupertino residents.

CITY OF CUPERTINO PEDESTRIAN TRANSPORTATION PLAN (2018)

The City of Cupertino is undertaking several ambitious initiatives to improve pedestrian and bicycling conditions throughout the city. This Pedestrian Transportation Plan is the blueprint for Cupertino to achieve its vision of an inviting, safe, and connected pedestrian network that enhances the quality of life for all community members and visitors. The purpose of this Pedestrian Transportation Plan is to establish a guiding framework for the development and maintenance of pedestrian facilities throughout Cupertino and recommend policies, programs, and messaging to support and promote walking.

The Pedestrian Transportation Plan builds upon the City's comprehensive strategies to create a connected, multimodal transportation network, and enhance quality of life throughout Cupertino. For example, the Cupertino Bicycle Transportation Plan (adopted in 2016) envisions a citywide multimodal bicycle network, and this document complements the proposed bicycle network to create comprehensive active transportation options of safe routes for pedestrians and bicyclists.

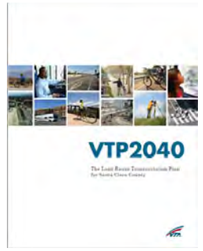
CITY OF CUPERTINO 2016 BICYCLE TRANSPORTATION PLAN (2016)

Riding a bicycle is a great way to stay fit, and reduce air pollution, and traffic congestion. The City of Cupertino, through the implementation of projects recommended in the Cupertino Bicycle Transportation Plan, is working toward establishing a comprehensive network of bicycle facilities throughout the City to encourage cycling by providing safe and convenient routes for doing so. The Plan is a long-range planning document designed to encourage bicycling as a safe, practical, and healthy alternative to the motor vehicle. It addresses present and future needs of the bicycling community, lays the groundwork for grant funding eligibility for bicycle projects, and is in close alignment with the goals set by the Cupertino Bicycle Pedestrian Commission to significantly increase the attractiveness and safety of bicycling throughout the City, with a particular focus on safe connectivity to schools.

CITY OF CUPERTINO GENERAL PLAN 2040 CHAPTER 5: MOBILITY ELEMENT (2015)

Cupertino's transportation system is multi-faceted. It integrates walkways, sidewalks, bicycle routes, bus transit facilities, local streets, major roadways, and freeways into a single, integrated system that supports the city's high quality of life. At the local level, this includes facilities that connect neighborhoods with pedestrian, bicycle, and automobile routes. Longer distance connections include links to major boulevards, expressways, commuter rail, and the regional freeway system.

This Element includes goals, policies, and strategies that the City will use in making decisions regarding transportation network improvements needed to accommodate Cupertino's anticipated growth. The purpose of this Element is to implement strategies that make alternative modes of transportation attractive choices. This will help reduce strain on the automobile network and improve health and quality of life for Cupertino residents and businesses.



VTP 2040: THE LONG-RANGE TRANSPORTATION PLAN FOR SANTA CLARA COUNTY

The Valley Transportation Plan 2040 (VTP 2040) provides a long-range vision for the transportation system in Santa Clara County. VTP 2040 identifies programs, projects, and policies that Santa Clara Valley Transportation Authority's (VTA) Board of Directors is going to pursue over the lifetime of the plan. It connects projects and programs with anticipated funds and provides a framework for the development and maintenance of transportation over the next 25 years. It considers all travel modes and addresses the links between transportation, land use, air quality, energy use, and community livability.

VTA, as the Congestion Management Agency for Santa Clara County, is responsible for preparing and updating the VTP on a four-year cycle coinciding with the update of the Bay Area's Regional Transportation Plan. The 2040 update to the Regional Transportation Plan, called the Plan Bay Area, produced by the Metropolitan Transportation Commission (MTC), guides transportation funding and helps to inform planning throughout the nine-county Bay Area through the year 2040.

CUPERTINO SAFE ROUTES TO SCHOOL PROGRAM

Cupertino Safe Routes to School (SRTS) is a partnership between local schools, school districts, parent organizations, community groups, and the Santa Clara County Sheriff's Office with the mission of creating a safer environment for students and families in Cupertino to travel to and from school safely and reducing single occupancy vehicle travel to and from school to reduce carbon emission. In pursuit of these goals, the City is actively working toward expanding beyond the traditional infrastructure and enforcement approach to traffic safety, by incorporating education, encouragement, engagement, evaluation, and equity into the program. This unique approach has led to the creation of an effective and powerful Cupertino SRTS program.

CITY OF CUPERTINO SCHOOL WALK AUDIT REPORT (2016/17)

In 2016/17, Cupertino SRTS worked with each public school in Cupertino to develop a list of infrastructure improvements that would make walking and biking safer, and the student drop-off and pick-up operations smoother. This effort, which focused on the public roadway network within a few blocks of the schools, culminated in 14 Walk Audit Reports, one specific for each public school in the City. In 2019/20, Cupertino SRTS worked with each school to update the reports, which together contribute towards the SRTS program goals of enhancing safety, reducing congestion, and encouraging active transportation to and from Cupertino's public schools.

CUPERTINO COMPLETE STREETS POLICY

City of Cupertino's Complete Street Policy furthers the City's goals of meeting the safety, access, and mobility needs of all users, including pedestrians, bicyclists, motorists, public transportation users, and people with disabilities. This policy aims to create an integrated transportation network that promotes safe and convenient travel for all. The policy acknowledges the public health and welfare benefits of reducing vehicle miles traveled and increasing transportation by walking, bicycling, and public transit. It aligns with the California Complete Streets Act of 2008 (AB 1358) and related directives, which mandate that cities incorporate the mobility needs of all roadway users into their general planning processes. Furthermore, the policy supports the goals of the California Global Warming Solutions Act of 2006 (AB 32) and the Sustainable Communities and Climate Protection Act of 2008 (SB 375), which require significant increases in public transit, bicycling, and walking to reduce greenhouse gas emissions. Numerous California jurisdictions have adopted similar policies to enhance their communities' health, safety, economic vitality, and environmental sustainability. By adopting this resolution, Cupertino also ensures its eligibility for regional funding programs, such as the One Bay Area Grant (OBAG) and 2016 Measure B, which require adherence to Complete Streets principles. The policy is consistent with Cupertino's 2015 Mobility Element update of the General Plan, emphasizing multimodal transportation and infrastructure development.

ALIGNING EXISTING IMPROVEMENTS WITH VISION ZERO

Capital Improvement Program (CIP) roadway and intersection projects should be planned and designed with Vision Zero in mind. Traditionally, roadway design has been based on the tenets of highway design developed in the 1950s and 1960s, which focused on moving cars at highway speeds. While important for rural and interstate highways, this approach does not align with urban and suburban streets in multimodal contexts. Traditionally, a "design speed" is chosen that is higher than the anticipated speed limit to create a "factor of safety" for the motorist. What results in practice is the measured vehicular operating speed, typically expressed as the 85th percentile speed, is higher than the posted speed limit. Furthermore, the operating speed exceeds what the community deems appropriate for the given context, which is referred to as the "desired operating speed".

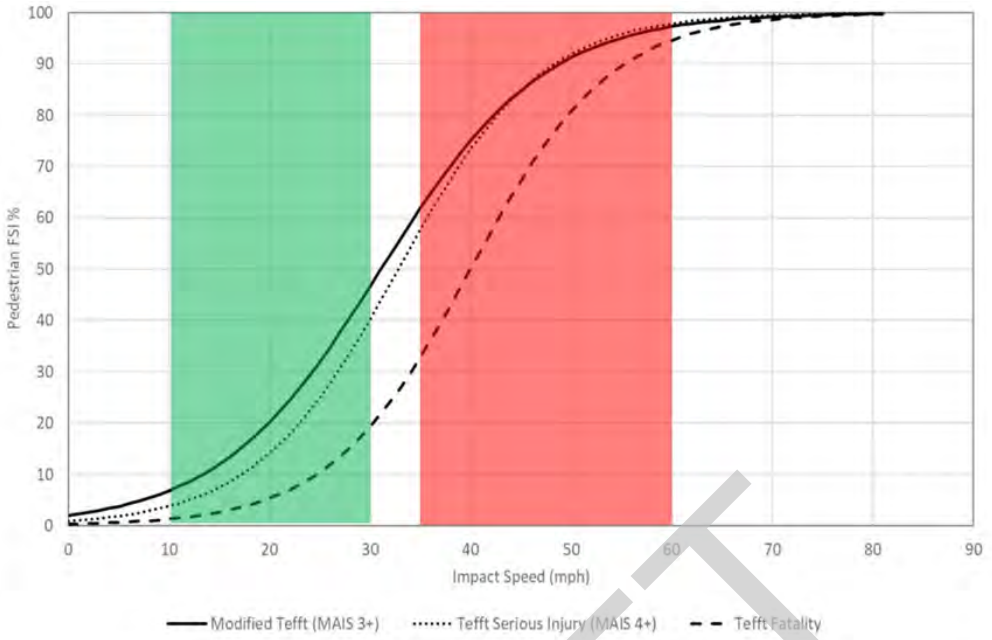
This situation creates a perception of the street or intersection as unsafe, particularly for vulnerable users inclusive of individuals with disabilities. These speeds also create higher risks of fatal and severe injury crashes, violating the tenants of Vision Zero.

Instead, the "design speed" of our streets and intersections should be equivalent to the "desired operating speed". Such designs produce lower operating speeds that align with the expectations of the community, as determined through engagement and acknowledgment of the context. Instead, our streets should be designed to result in travel at the "desired operating speed." Lower operating speeds should align with the expectation of the community, as determined through engagement and acknowledgment of the context.

Adequate design and appropriate speed limits that produce desired operating speeds supports Vision Zero, better meets community expectations, and allows valuable law enforcement resources to be deployed elsewhere. On the following page, **Figure 7** showcases this paradigm shift.

Prioritize multimodal safety and quality of service over motor vehicle level of service and on-street parking. Consider providing signal prioritization and perhaps preemption for pedestrians, cyclists, and transit. Focus especially on the needs of people with disabilities. Prioritize protected and buffered bike lanes over on-street parking where right-of-way is limited.

Figure 7: Probability of Pedestrian Suffering KSI Contrasted with Speed



KEY POLICY GUIDANCE INCLUDES:

- Follow nationally vetted complete streets planning and design guidance documents.
- Create safer connections for vulnerable roadway users along, across, and around corridors. Add additional protected crossings based on engineering judgement to support desired lines between logical origins and destinations. Do not rely solely on numerical values of warrants to install such traffic control devices as traffic signals, pedestrian hybrid beacons, and other proven safety countermeasures.
- Determine the desired operating speed through effective community engagement before beginning any design efforts, then adopt that desired operating speed as the design speed of the project.
- Prioritize multimodal safety and quality of service over motor vehicle level of service and on-street parking. Consider providing signal prioritization and perhaps preemption for pedestrians, cyclists, and transit. Focus especially on the needs of people with disabilities. Prioritize protected and buffered bike lanes over on-street parking where right-of-way is limited.
- Once the project is completed and open to traffic, determine if the actual operating speeds are equivalent to the desired operating speeds. If not, explore possible modifications and retrofits to the built environment to lower measured speeds. Do not rely solely on enforcement.

BUILDING BLOCKS OF VISION ZERO

The Cupertino Vision Zero Action Plan builds upon existing street safety efforts in the City of Cupertino. These efforts are supported by various transportation plans, design guidelines, and area plans. These resources complement safety initiatives of the County and State, including the Santa Clara County Valley Transportation Plan 2040, and the City's Safe Routes to School Program.

The City of Cupertino recognizes the importance of safe streets for all residents and has implemented various plans and programs to enhance traffic safety and accessibility. The Local Roadway Safety Plan (LRSP) analyzed collision data and collaborated with stakeholders to identify and address safety issues systematically, while also seeking funding for improvements. The Bollinger Road Corridor Safety Study focuses specifically on improving safety and accessibility for pedestrians, bicyclists, transit riders, and motorists along a major collector street.

The Pedestrian Transportation Plan and the Bicycle Transportation Plan aim to improve pedestrian and bicycling conditions by creating safe and connected networks, improving safety measures, and enhancing mobility. These plans include goals such as reducing collisions, improving access to community destinations, and increasing awareness and value of active transportation.

In addition to these specific plans, Cupertino's Transportation Study Guidelines and the 2015 General Plan's Mobility Element promote alternative transportation modes, reduce reliance on automobiles, and prioritize the health and quality of life for residents.

The Safe Routes to School (SRTS) program encourages students to walk and bike to school through a comprehensive approach that includes encouragement, education, evaluation, enforcement, and engineering interventions.

Overall, these initiatives underscore the need for safe streets for all residents of Cupertino, ensuring fairness, equity, and accessibility, while promoting sustainable transportation options, reducing congestion, and enhancing the overall quality of life in the city.

COMMUNITY ENGAGEMENT

Community input is vital to the development and implementation of the Vision Zero Action Plan. The City led a robust engagement effort to obtain input from community members and stakeholders. The community engagement effort for the Action Plan also took into account the feedback and community input received by the City during the LRSP process.

STAKEHOLDER ENGAGEMENT

Project stakeholders included City Department Staff from Public Works and Community Development, the City's Public Outreach Representatives, Santa Clara County Sheriff's Department, Santa Clara County Fire Department, Cupertino Union School District, Fremont Union High School District, Walk Bike Cupertino, and the Cupertino Bicycle Pedestrian Commission. These stakeholders attended a virtual stakeholder meeting, which was held on September 28, 2023.

Stakeholder concerns were primarily focused on the following themes:

- ***Data-Driven Decision Making:*** Continuous data collection and analysis, including near-misses detection, are critical for identifying hazards and informing targeted interventions.
- ***Infrastructure and Safety Enhancements:*** Ensuring infrastructure safety with specific countermeasures such as build-outs, curb extensions, ITS components, and treating trail intersections as regular intersections are essential for protecting all road users.
- ***Effectiveness and Evaluation:*** Establishing clear metrics and methods to measure the effectiveness of the Vision Zero Action Plan ensures that the implemented strategies achieve their intended outcomes.
- ***Comprehensive Safety Strategies:*** Incorporating educational and enforcement strategies, along with quick build projects for immediate improvements, complements infrastructure enhancements.
- ***Policy and Planning:*** Reviewing and updating policies to align with Vision Zero goals ensures that the plan is supported by the latest safety standards and best practices.

COMMUNITY MEETINGS

This stakeholder outreach was supplemented by two community workshops, held on October 4, 2023, and January 23, 2024. The first community workshop introduced the project to the community, as well as collected feedback on traffic safety concerns. Community concerns were primarily focused on the following themes:

- ***Pedestrian and Bicyclist Safety*:** Residents express concerns about the safety of pedestrians and bicyclists, particularly about motor vehicle collisions.
- ***Traffic Priorities*:** Questions were raised about the city's traffic priorities, with residents seeking a balance between commuter efficiency and local safety.
- ***Intersection Safety*:** The issue of "right on red" at intersections is a notable concern, with suggestions for safer intersection design.
- ***Speed Limits and Infrastructure*:** Residents advocate for measures to reduce vehicle speeds, such as lowering speed limits and redesigning infrastructure for safety.

- ***Proactive Safety Measures*:** There is a clear call for proactive measures to enhance road safety and avoid waiting for accidents or fatalities to trigger action.

The second community workshop centered on key aspects outlined in the plan, including countermeasures, Vision Zero programs, partnerships, and the data collection plan. Additionally, it presented an overview of the Draft Report, with a public review opportunity announced. Primary community concerns revolved around the following themes:

- ***Enhancing Pedestrian and Bicyclist Safety:*** Recognizing the heightened vulnerability of pedestrians and bicyclists, there was an emphasis on the imperative prioritization of their safety.
- ***Implementing Pedestrian and Bicyclist Programs:*** Addressing concerns about visibility during nighttime activities for pedestrians and bicyclists, suggestions were made for a city-wide program, potentially involving the distribution of armbands or the provision of strobe lights for bicyclists.
- ***Clarifying Countermeasure Prioritization:*** The community sought more explicit information on the city's leadership approach to reducing collisions. There was a call for greater clarity regarding the specific countermeasures the city plans to employ to effectively minimize these incidents.

WEBSITE & INTERACTIVE MAP INPUT PLATFORM

The project included a website hosted by the City, which was continuously maintained with project updates.

This plan also took into consideration the comments and input received by the City through the interactive map tool platform that was posted to the City's Engage Cupertino website as part of the LRSP process in 2022. The interactive map was used to solicit input from Cupertino residents and stakeholders outside the confines of traditional meetings.

Community members and stakeholders shared their observations and concerns regarding locations and situations where collisions are occurring but are not necessarily being reported. They shared their knowledge and experiences of locations where "near-miss" collisions were occurring. They also indicated those locations that did not "feel safe" and that, despite a lack of documented crash data, a heightened risk of collisions existed.

In total, 387 comments were received through the interactive map input platform. The most comments received were about Stevens Creek Boulevard and McClellan Road, and the most common concerns involved pedestrian safety and bicycle safety.

The results of the interactive map are shown below in **Figure 8** and summarized in **Figure 9** on the following page. In **Figure 8**, each dot and line represents the intersection or corridor of concern mapped by a community member. Comments received from the community are attached in **Appendix A.**

Figure 8: Interactive Map Comment Responses

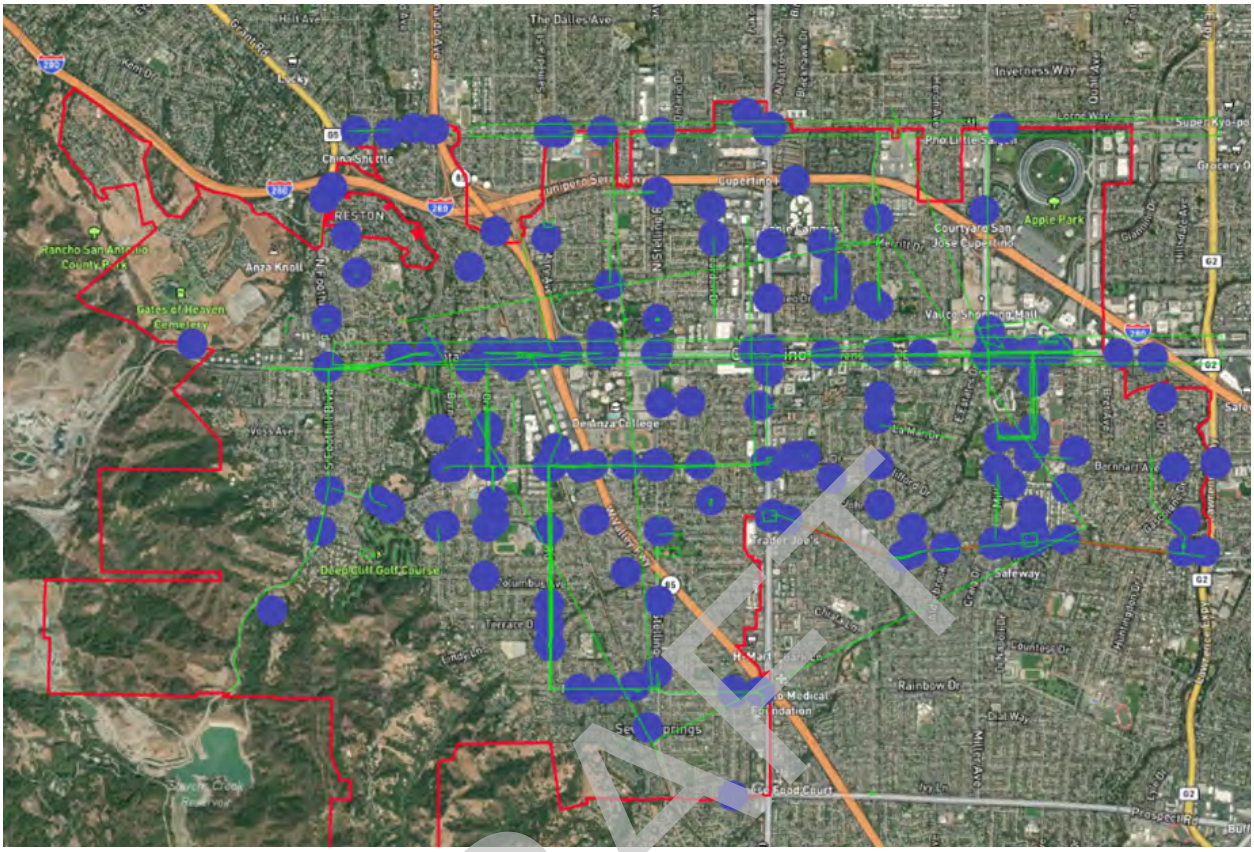
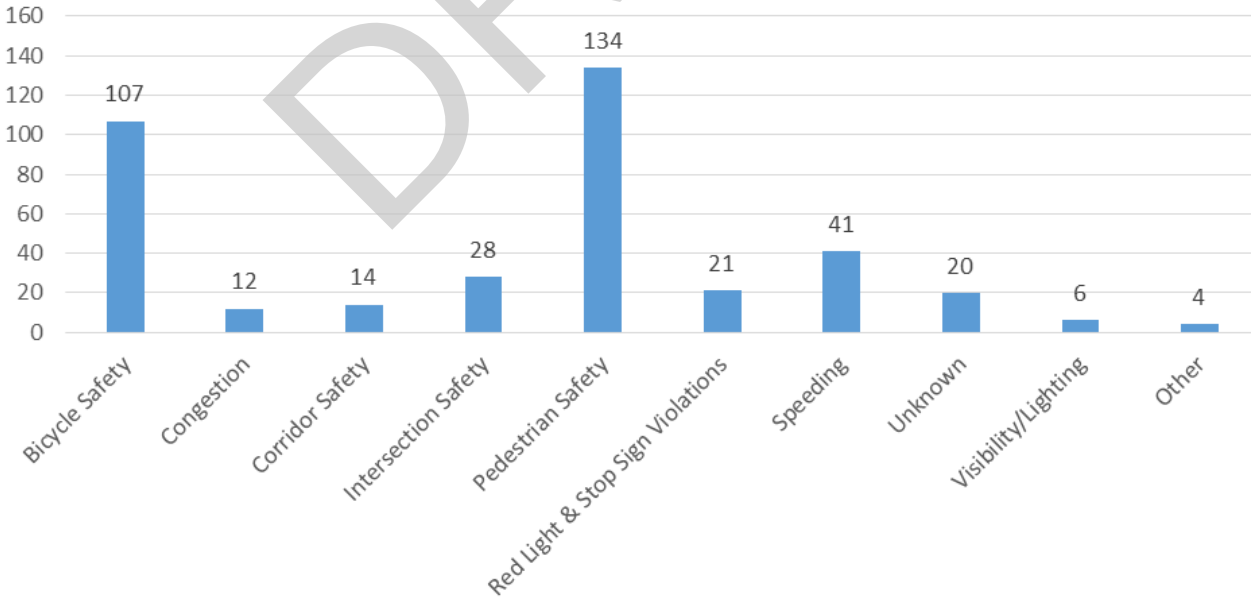
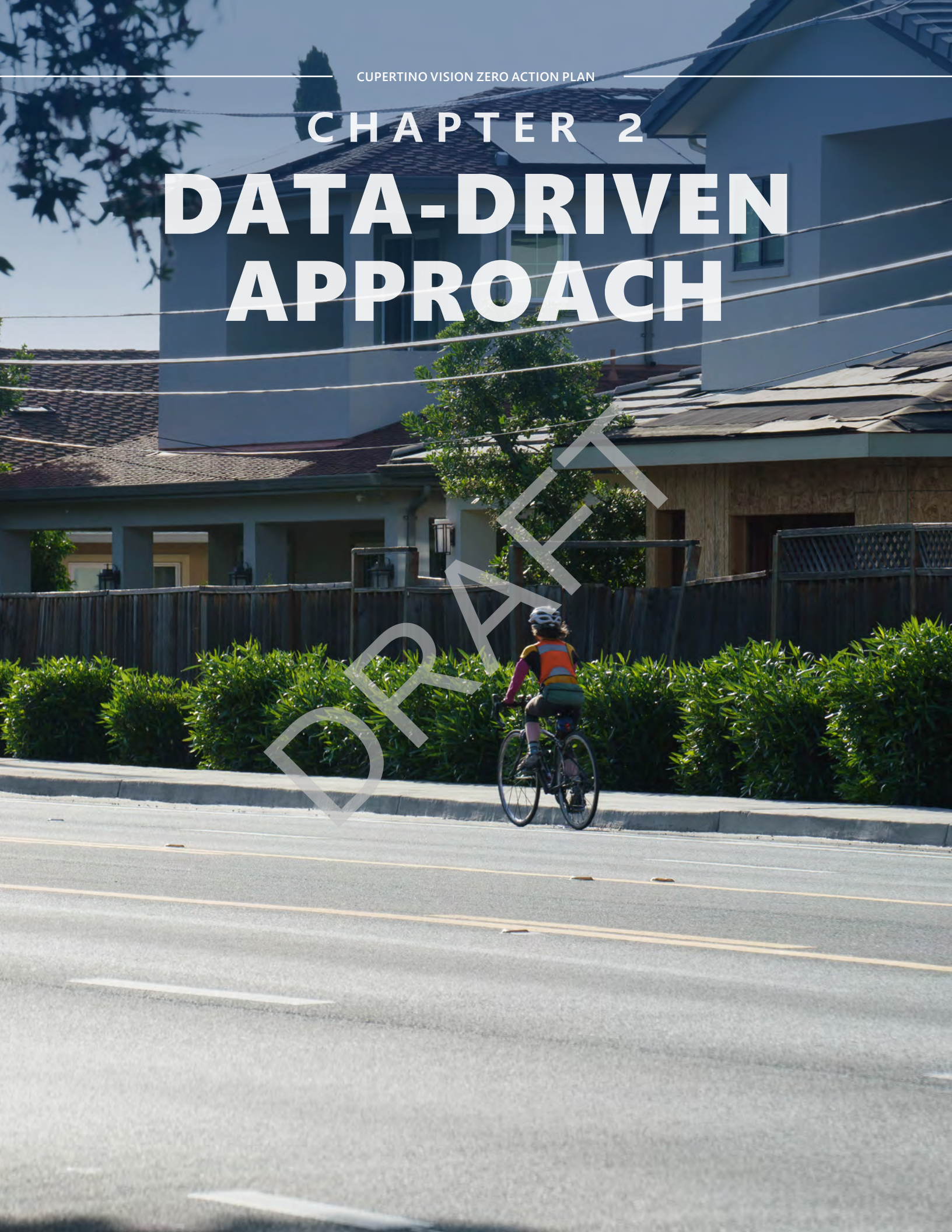


Figure 9: Locations of Traffic Safety Concerns as Identified by Public Comments



CHAPTER 2
DATA-DRIVEN APPROACH



DATA-DRIVEN APPROACH

The stories and perceptions shared by others are important to a successful discussion and consideration of Vision Zero. While traffic safety is frequently couched in terms of data analysis, we know that no one wants to be viewed as data, and that no one wants their neighborhood to be viewed as data. However, data does give us a place from which to start an objective conversation about roadway safety in Cupertino. The City of Cupertino analyzed collision data recorded from 2012 to 2022 that was retrieved from their collision database system called CROSSROADS.

This information is used to describe historic collision trends and identify high-risk locations within the city. This data acts as a primary resource for the Cupertino Vision Zero Action Plan. Vision Zero is a data-driven strategy intended to eliminate fatalities and severe injuries on all roadways, bikeways and sidewalks. The data driven process includes:

1. ***Identifying Collision Trends:*** Examination of collision data to assess patterns and trends related to the timing, locations, causes, and parties involved in crashes.

2. ***Identifying High Injury Corridors:*** Identification of specific routes where a significant number of fatal and severe injury collisions frequently occur.

3. ***Identifying High Injury Intersections:*** Identification of specific intersections where a significant number of fatal and severe injury collisions frequently occur.

4. ***Identifying Collision Profiles:*** Integration of various collision factors to recognize the most common types of crashes, and categorize into nine collision profiles

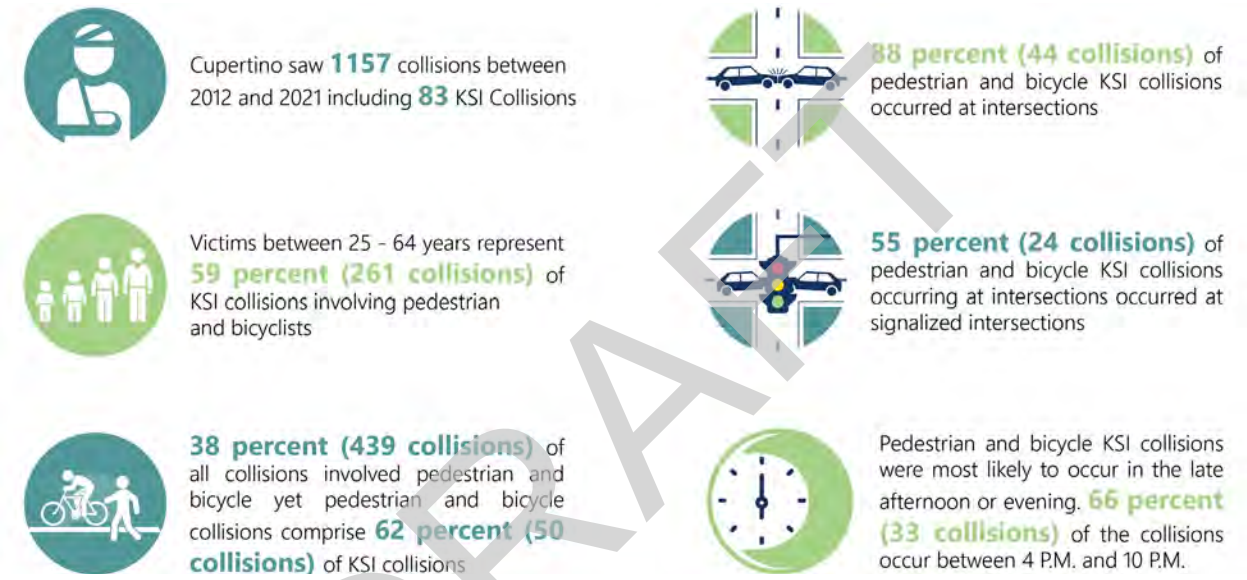
5. ***Listing Countermeasure Toolbox:*** Compilation of successful countermeasures based on nationwide research and best practice, aligning them with corresponding collision profiles.

6. ***Identifying Priority Project Locations:*** The selection of seven corridors with high collision frequency, determined by collision density and confirmed by input from the local community.

COLLISION TRENDS

By analyzing collision records, the City gained insights into the individuals involved, the factors contributing to the collisions, the timing, locations, and the reasons behind collisions – especially those leading to fatalities or serious injuries. Throughout the Action Plan, the abbreviation KSI is used to denote collisions resulting in either fatalities (K) or serious injuries (SI). **Figure 9** shows the collision trends observed in Cupertino during the period from 2012 to 2021:

Figure 9: Collisions Trends in City of Cupertino (2012 to 2021)



On average, a crash occurs every three days in Cupertino. Although pedestrians and bicyclists are involved in just over a third of all crashes, they make up 62 percent (50 collisions) of the crashes resulting in fatalities or severe injuries. This underscores their susceptibility as road users, thus they are referred to as vulnerable roadway users. Intersections pose the greatest risk of a fatal or serious injury crash to vulnerable roadway users, with the majority (88 percent/44 collisions) of fatal and severe injury collisions occurring at intersections. The presence of a traffic signal does not guarantee safety, as more than half (55 percent/24 collisions) of the intersection collisions involving pedestrians and cyclists happen at signalized intersections. A significant portion (58 percent) of those who suffer fatal or severe injuries in such collisions fall within the age range of 24 to 64 years. Furthermore, the majority (56 percent/261 collisions) of pedestrian and bicycle fatalities and severe injuries take place during the late afternoon or evening, specifically between 4 p.m. and 10 p.m.

FOCUSING ON FATALITIES AND SEVERE INJURIES

Vision Zero is an approach aimed at eradicating all fatal and severe injury traffic crashes while simultaneously promoting safe, equitable, and healthy mobility for everyone. **Figure 10** illustrates the fatalities and severe injuries that have occurred in the City of Cupertino between 2012 and 2021. **Figure 11** shows the fatalities and severe injuries that occurred in the City by year. By prioritizing the prevention of fatal and severe injury crashes, Vision Zero recognizes the significant impact of such tragic events. Initiatives and enhancements directed at preventing these types of collisions yield substantial advantages, aligning with the City of Cupertino's pledge to eliminate all fatal and serious injury traffic crashes by 2040. A detailed collision analysis is available in **Appendix 1**.

Figure 10: Map of Fatalities and Severe Injuries (2012-2021)

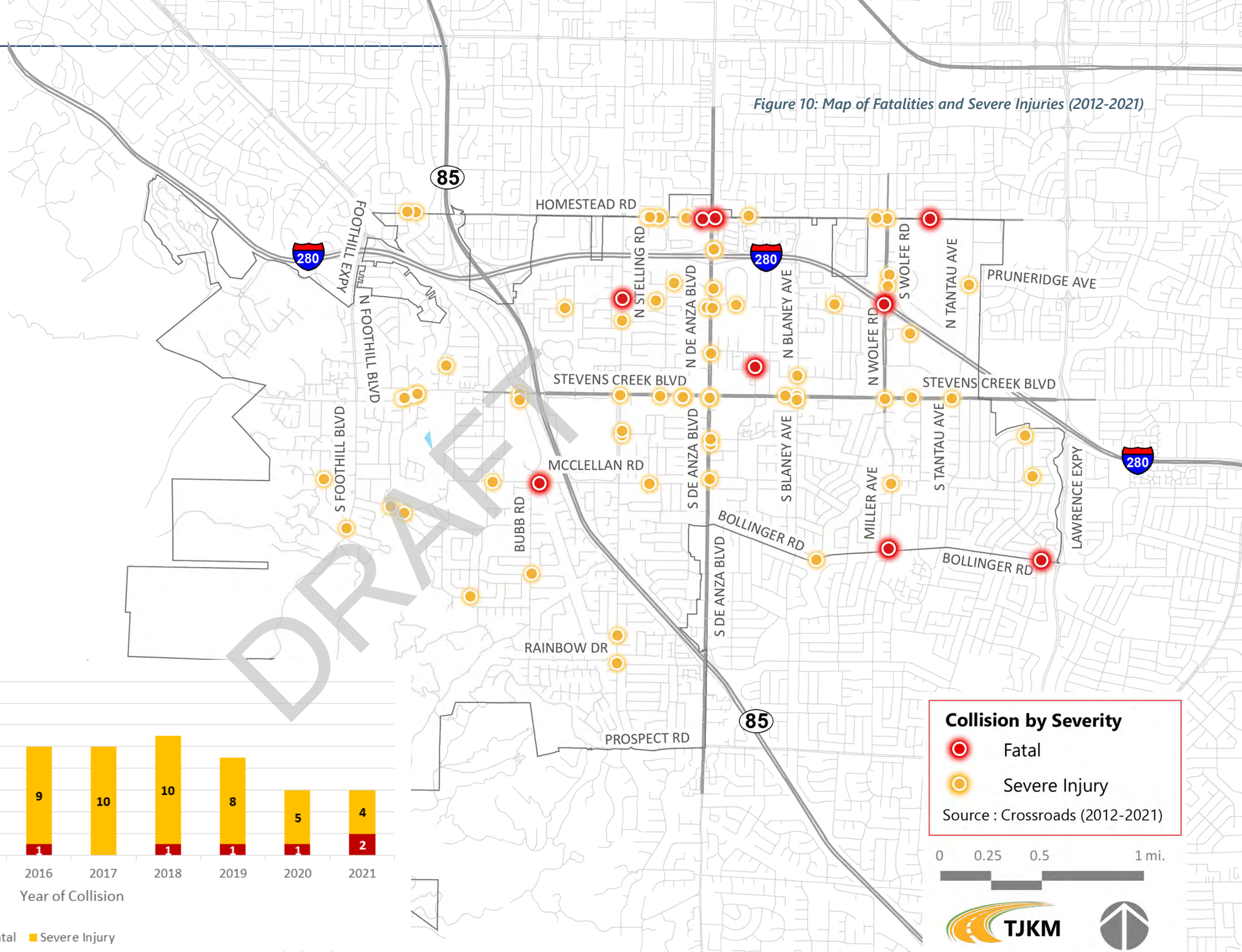


Figure 11: Fatalities and Severe Injuries by Year

HIGH INJURY NETWORK

The City conducted an additional spatial examination of collision data to pinpoint the corridors and intersections with the highest level of fatal and serious injuries for pedestrians, bicyclists, and motorists. This network of high-injury corridors and intersections was determined by selecting those with the highest crash densities and considering the severity of the crashes. Incidents resulting in fatal or life-altering injuries were given greater weight than other injury-related crashes. The analysis encompasses crashes involving all road users.

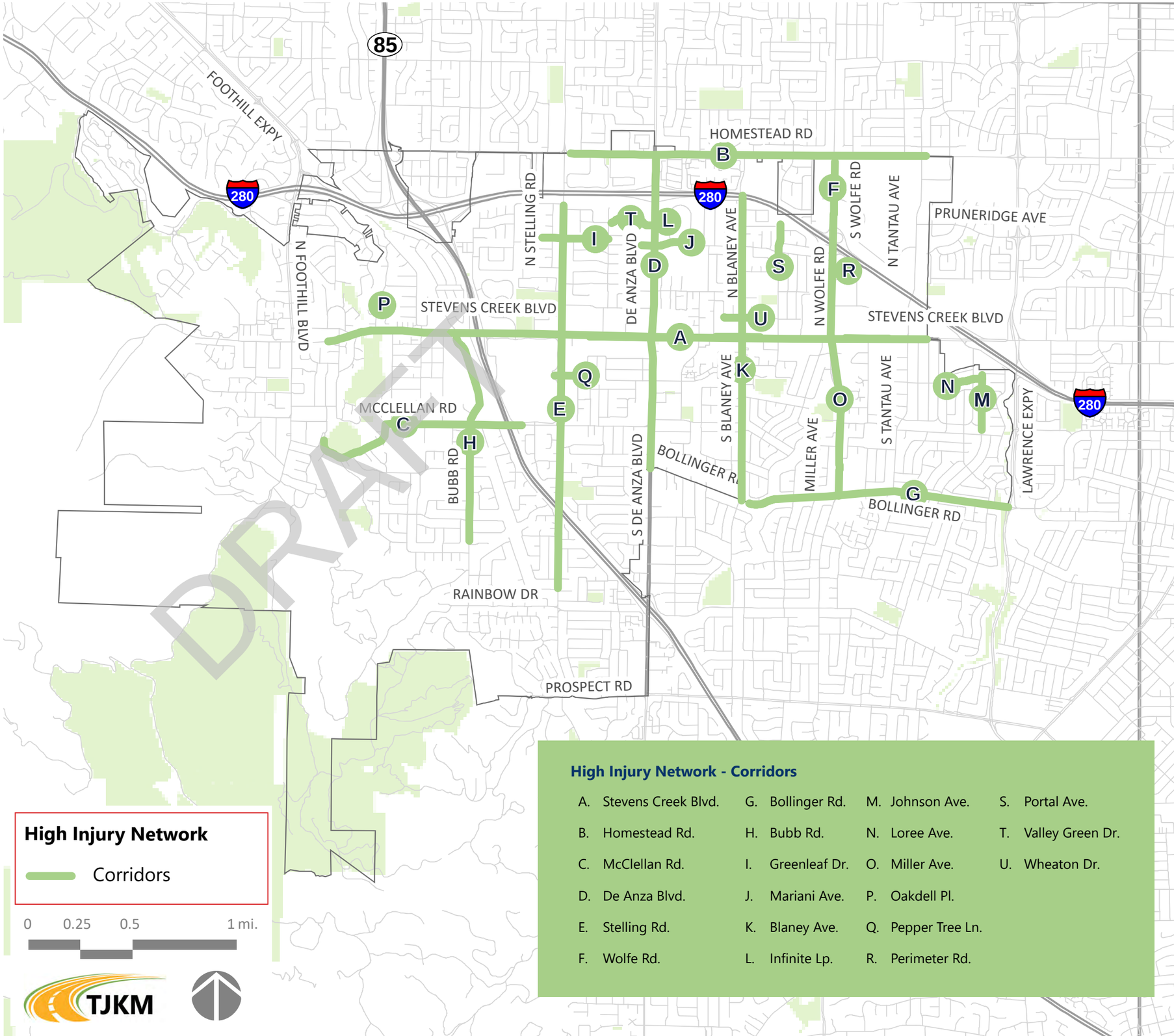
To optimize the allocation of funds for capital improvement projects and prioritize traffic safety efforts, the City of Cupertino will utilize the identified high-injury network of corridors and intersections. This Vision Zero Action Plan incorporates several measures derived from the high injury network analysis. By concentrating on these high-priority streets, the City can efficiently allocate limited resources, such as funding and staff time, where they can have the most significant impact on enhancing traffic safety.

CORRIDORS OF CONCERN

Between 2012 and 2021, seven specific roadways in Cupertino accounted for the majority (72%) of severe injuries and fatal crashes. These particular corridors witnessed at least three crashes per block between 2012 and 2021. **Figure 12** lists the high-injury corridors of concern. The roadways that had the highest number of accidents include:

1. Stevens Creek Boulevard
2. Homestead Road
3. McClellan Road
4. De Anza Boulevard
5. Stelling Road
6. Wolfe Road
7. Bollinger Road

Figure 12: City of Cupertino - High Injury Network - Corridors (2012-2021)

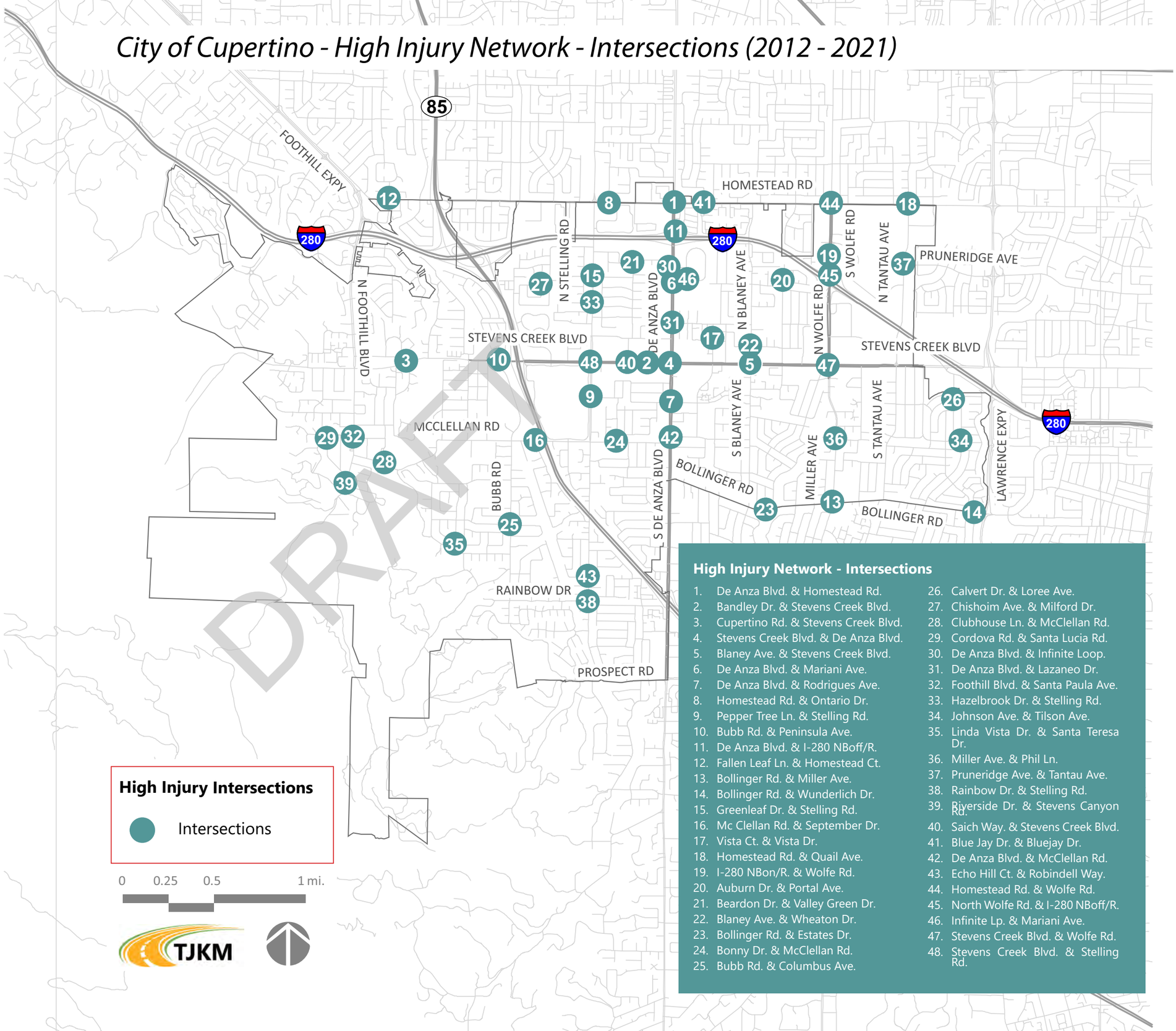


INTERSECTIONS OF CONCERN

Out of the 48 intersections in Cupertino where fatal or injury crashes occurred between 2012 and 2021, seven of them witnessed two or more crashes resulting in someone being killed or seriously injured. **Figure 13** shows the high-injury intersections. The intersections that had multiple KSI crashes are:

1. De Anza Boulevard & Homestead Road
2. Bandley Drive & Stevens Creek Boulevard
3. Cupertino Road & Stevens Creek Boulevard
4. Stevens Creek Boulevard & De Anza Boulevard
5. Blaney Avenue & Stevens Creek Boulevard
6. De Anza Boulevard & Mariani Avenue
7. De Anza Boulevard & Rodrigues Avenue

Figure 13: City of Cupertino - High Injury Network - Intersections (2012-2021)



COUNTERMEASURE TOOLBOX

The City has developed a comprehensive set of countermeasures for the implementation of safety projects. These countermeasures encompass strategies in the fields of engineering, education, and enforcement. The toolbox consists of over 50 countermeasures, covering aspects of roadway design, pedestrian safety, bicyclist safety, operations and signal timing, speed management, signage and marking, and even includes elements of education, public awareness, and enforcement. This toolbox is intended to assist the City in identifying the most suitable countermeasure for specific safety measures, recognizing that not all treatments are appropriate for all roadway types. This toolbox can be considered a roster of countermeasures the City has at its disposal to address safety-related concerns along the roadway network. Detailed definition of each of the countermeasure is given in **Appendix 2**.

The countermeasures have been evaluated using three criteria: Efficacy, Cost, and Complexity, and assigned each criterion a score:

HIGH: ■■■
MEDIUM: ■■□
LOW: ■□□
UNKNOWN: □□□

- **Efficacy:** This refers to the expected safety benefit, determined through academic research and industry standards.
- **Cost:** The overall expense involved in designing and implementing the countermeasure.
- **Complexity:** The anticipated level of difficulty the City may encounter when implementing the countermeasure.

ROADWAY DESIGN

ROAD DIETS AND LANE REDUCTION

EFFICACY:
COST:
COMPLEXITY:

LANE RECONFIGURATION

EFFICACY:
COST:
COMPLEXITY:

CURB EXTENSIONS & BULB OUTS

EFFICACY:
COST:
COMPLEXITY:

CONSOLIDATING DRIVEWAYS

EFFICACY:
COST:
COMPLEXITY:

ROADWAY AND INTERSECTION SAFETY LIGHTING

EFFICACY:
COST:
COMPLEXITY:

INTERSECTION TIGHTENING

EFFICACY:
COST:
COMPLEXITY:

RAISED INTERSECTIONS

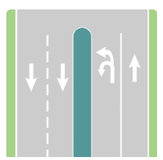
EFFICACY:
COST:
COMPLEXITY:

RAISED CROSSWALK

EFFICACY:
COST:
COMPLEXITY:

SLIP LANE CLOSURES

EFFICACY:
COST:
COMPLEXITY:



RAISED MEDIANS

EFFICACY:
COST:
COMPLEXITY:

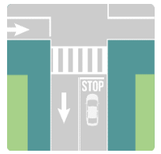
CLOSING SIDEWALK GAPS

EFFICACY:
COST:
COMPLEXITY:

PEDESTRIAN SAFETY

MARKED CROSSWALKS

EFFICACY:
COST:
COMPLEXITY:



HIGH-VISIBILITY CROSSWALKS WITH ADVANCED STOP OR YIELD SIGNS

EFFICACY:
COST:
COMPLEXITY:

PEDESTRIAN REFUGE ISLANDS AND MEDIAN

EFFICACY:
COST:
COMPLEXITY:

RECTANGULAR RAPID FLASHING BEACON (RRFB)

EFFICACY:
COST:
COMPLEXITY:

PEDESTRIAN SCRAMBLE

EFFICACY:
COST:
COMPLEXITY:

ACCESSIBLE PEDESTRIAN SIGNAL (APS)

EFFICACY:
COST:
COMPLEXITY:

MIDBLOCK CROSSWALKS

EFFICACY:
COST:
COMPLEXITY:

PEDESTRIAN HYBRID BEACON

EFFICACY:
COST:
COMPLEXITY:

NO RIGHT ON RED

EFFICACY:
COST:
COMPLEXITY:

BICYCLIST SAFETY

BIKE INTERSECTION MARKING

EFFICACY:
COST:
COMPLEXITY:

SIGNAL DETECTION AND ACTUATION

EFFICACY:
COST:
COMPLEXITY:

BICYCLE SIGNAL

EFFICACY:
COST:
COMPLEXITY:

BIKE BOX

EFFICACY:
COST:
COMPLEXITY:

TWO-STAGE BICYCLE TURN BOX

EFFICACY:
COST:
COMPLEXITY:

GREEN PAVEMENT

EFFICACY:
COST:
COMPLEXITY:

PROTECTED BIKEWAYS

EFFICACY:
COST:
COMPLEXITY:

BUFFERED BIKE LANES

EFFICACY:
COST:
COMPLEXITY:

SHARED USE TRAIL & BICYCLE PATH

EFFICACY:
COST:
COMPLEXITY:

PRIORITIZE BIKE LANES OVER ON-STREET PARKING

EFFICACY:
COST:
COMPLEXITY:

PROTECTED BIKEWAYS - LOW COST OPTION (WITH PLASTIC STUBS OR STRIPING)

EFFICACY:
COST:
COMPLEXITY:

SPEED MANAGEMENT

VEHICLE SPEED FEEDBACK SIGN

EFFICACY:
COST:
COMPLEXITY:

REDUCED SPEED SCHOOL ZONE

EFFICACY:
COST:
COMPLEXITY:

AUTOMATED SPEED ENFORCEMENT

EFFICACY:
COST:
COMPLEXITY:

SPEED CUSHIONS, SPEED HUMPS AND SPEED TABLES

EFFICACY:
COST:
COMPLEXITY:

CHOKERS, CHICANES, BULB OUTS, SPLITTER ISLANDS, AND ROUNDABOUTS

EFFICACY:
COST:
COMPLEXITY:

TURN CALMING PROGRAM

EFFICACY:
COST:
COMPLEXITY:

IMPPROVE HIGH FRICTION SURFACE TREATMENT

EFFICACY:
COST:
COMPLEXITY:

SPEED LIMIT REDUCTION - AB 43

EFFICACY:
COST:
COMPLEXITY:

OPERATIONS AND SIGNAL TIMING

ADAPTIVE PEDESTRIAN SIGNAL TIMING

EFFICACY:
COST:
COMPLEXITY:

SIGNAL DETECTION & ACTUATION PEDESTRIAN COUNTDOWN SIGNAL HEAD

EFFICACY:
COST:
COMPLEXITY:

LEADING PEDESTRIAN INTERVALS

EFFICACY:
COST:
COMPLEXITY:

MODIFIED INTERSECTION STOP-CONTROL

EFFICACY:
COST:
COMPLEXITY:

PROTECTED LEFT TURN SIGNAL

EFFICACY:
COST:
COMPLEXITY:

ADVANCED DILEMMA ZONE DETECTION

EFFICACY:
COST:
COMPLEXITY:

SIGNAL SYNC SLOW GREEN WAVE

EFFICACY:
COST:
COMPLEXITY:

SIGNAL TIMING AND PHASING IMPROVEMENTS

EFFICACY:
COST:
COMPLEXITY:

FLASHING YELLOW RIGHT TURN SIGNAL

EFFICACY:
COST:
COMPLEXITY:

HYBRID LEFT TURN SIGNAL

EFFICACY:
COST:
COMPLEXITY:

SIGNAGE AND MARKING

BACK-PLATES WITH RETROREFLECTIVE BORDERS

EFFICACY:
COST:
COMPLEXITY:

PEDESTRIAN PADDLE SIGNS

EFFICACY:
COST:
COMPLEXITY:

EDGE LINE

EFFICACY:
COST:
COMPLEXITY:

PARKING RESTRICTION AT INTERSECTION

EFFICACY:
COST:
COMPLEXITY:

CONVERT SIGNAL TO MAST ARM

EFFICACY:
COST:
COMPLEXITY:

ENFORCEMENT

HIGH VISIBILITY ENFORCEMENT

EFFICACY:
COST:
COMPLEXITY:

EDUCATIONAL INITIATIVES OVER CITATIONS

EFFICACY:
COST:
COMPLEXITY:

TRAFFIC SAFETY DIVERSION PROGRAM

EFFICACY:
COST:
COMPLEXITY:

RED LIGHT VIOLATION CAMERAS

EFFICACY:
COST:
COMPLEXITY:

TRANSIT SAFETY

TRANSIT ISLANDS

EFFICACY:
COST:
COMPLEXITY:

FLOATING TRANSIT STOPS

EFFICACY:
COST:
COMPLEXITY:

BUS BULB OUTS

EFFICACY:
COST:
COMPLEXITY:

YIELD TO BUSSES - ORDINANCES

EFFICACY:
COST:
COMPLEXITY:

TRANSIT STOP PLACEMENT

EFFICACY:
COST:
COMPLEXITY:

EDUCATION AND PUBLIC AWARENESS

EDUCATIONAL CAMPAIGN

EFFICACY:
COST:
COMPLEXITY:

RAPID RESPONSE SAFETY COMMUNICATION PROTOCOL

EFFICACY:
COST:
COMPLEXITY:

SAFE ROUTES TO SCHOOL PROGRAM

EFFICACY:
COST:
COMPLEXITY:

SAFE ROUTES PROGRAMS

EFFICACY:
COST:
COMPLEXITY:

COMMUNITY PARTNERSHIP

EFFICACY:
COST:
COMPLEXITY:

SHARE THE ROAD AWARENESS PROGRAM

EFFICACY:
COST:
COMPLEXITY:

VISION ZERO TRAINING MANUAL

EFFICACY:
COST:
COMPLEXITY:

ALCOHOL USE DISORDER (AUD) ASSESSMENT & TREATMENT PROGRAMS

EFFICACY:
COST:
COMPLEXITY:

NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP)

EFFICACY:
COST:
COMPLEXITY:

COMPLETE STREETS POLICY

EFFICACY:
COST:
COMPLEXITY:

ACTIVE TRANSPORTATION PLAN

EFFICACY:
COST:
COMPLEXITY:

COLLISION PROFILES

The City of Cupertino has identified the top nine collision profiles that emphasize the trends observed in crashes resulting in people being killed or seriously injured (KSI). These profiles are developed through the analysis of collision data and relevant environmental factors. Each profile identifies a collision type that is considered a priority concern. Accompanying each profile are safety countermeasures drawn from the previous section that is most applicable to the specific crash and location context.

Summarized in **Figure 14** and **Figure 15**, the subsequent pages identify the nine collision profiles and their respective countermeasures.

The collision profiles encompass diverse collision attributes, such as speeding vehicles or red light violations (as documented in the collision reports), alongside contextual factors like the collision's location on a corridor, at an intersection, or in proximity to a school, park, or transit stop. Notably, individual collisions could align with multiple profiles. To illustrate, a collision might simultaneously fall under both a speed-related incident and involve a driver under the influence of drugs or alcohol.

Figure 14: Top Nine Collision Profiles

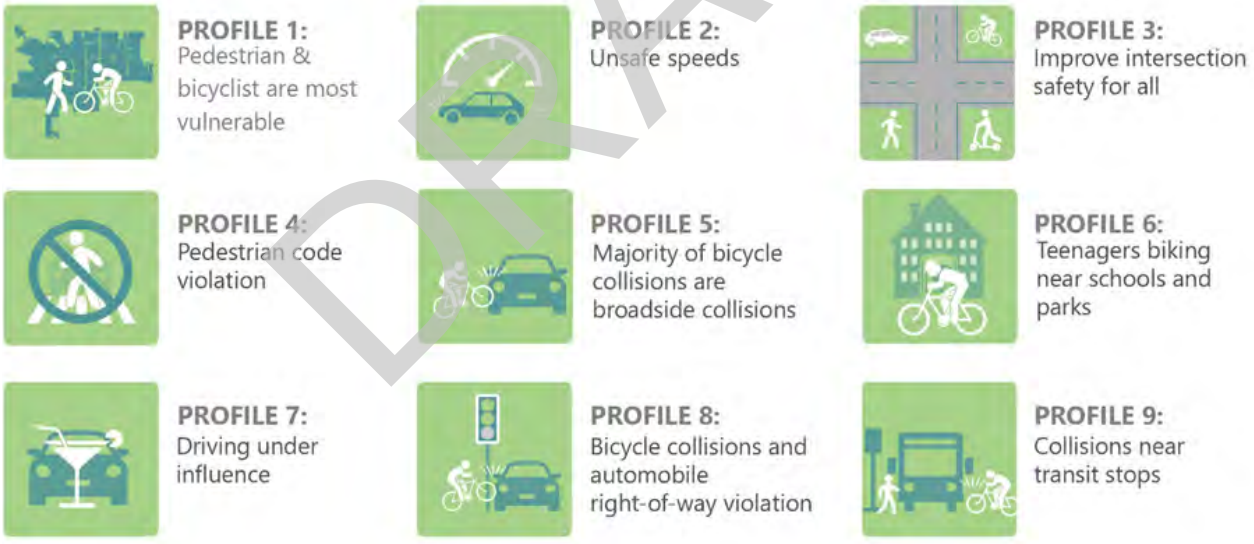


Figure 15: Collision Profile Stats

COLLISION PROFILE	% OF ALL KSI (# OF ALL KSI)	% OF AUTO TO AUTO KSI (# OF AUTO KSI)	% OF BICYCLE KSI (# OF BICYCLE KSI)	% OF ALL PEDESTRIAN (# OF PEDESTRIAN KSI)
1. **Pedestrian & bicyclist are most vulnerable**	60% (50)		100% (27)	100% (24)
2. **Unsafe Speeds**	10% (8)	19% (6)	7% (2)	
3. **Improve Intersection Safety for All**	88% (73)	47% (15)	85% (22)	100% (24)
4. **Pedestrian Code Violation**	10% (8)			33% (8)
5. **Majority of bicycle collisions are broadside collisions**	11% (9)		33% (9)	
6. **Teenagers biking and walking near schools and parks**	10% (8)		19% (5)	13% (3)
7. **Driving under influence**	5% (4)			
8. **Bicycle Collisions and Automobile ROW Violation**	7% (6)		22% (6)	
9. **Collisions near transit stops**	13% (12)	9% (3)	15% (4)	

Please Note: *Due to the possibility of a single collision being classified under multiple profiles, the figures in the table do not total up to 100%. In cases where a cell lacks a KSI percentage, it signifies that there were zero KSI collisions recorded for the indicated mode within that particular profile.*

PROFILE 1

PEDESTRIAN & BICYCLIST ARE MOST VULNERABLE

MARKED CROSSWALKS

Effectively decrease the occurrence of collisions along high risk corridors

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

PEDESTRIAN REFUGE ISLANDS

Provide a safe space for pedestrians to pause between traffic

EFFICACY: ■■■
COST: ■■□
COMPLEXITY: ■■□

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

RECTANGULAR RAPID FLASHING BEACON

Offers pedestrians and bicyclists a clear path to cross the street more safely.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

SHARE THE ROAD AWARENESS PROGRAM

Create a Share the Road Awareness Program for motorist, bicyclist and pedestrians that is easily accessible.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

TRAFFIC SAFETY DIVERSION PROGRAM

For bicycle and pedestrian traffic violations providing access to safety courses and programs centered on biking and walking

EFFICACY: ■■□
COST: ■□□
COMPLEXITY: ■■□

Pedestrians and bicyclists do not have the protection of a "steel box" as they travel along our roadways. Weather conditions, pavement deficiencies, and lack of safe and useable facilities adds to the risks pedestrians and bicyclists face every day.

FACTORS

- **22%** of the Pedestrian collisions occurred due to **Pedestrian Violation** (crossing outside the crosswalk)
- **5** Pedestrian KSI collisions occurred as a result of **crossing outside designated crosswalk areas**
- **50%** of pedestrian and bicyclist KSI collisions occurred on Stevens Canyon Road, Homestead Road and De Anza Boulevard, which are **corridors of concern**

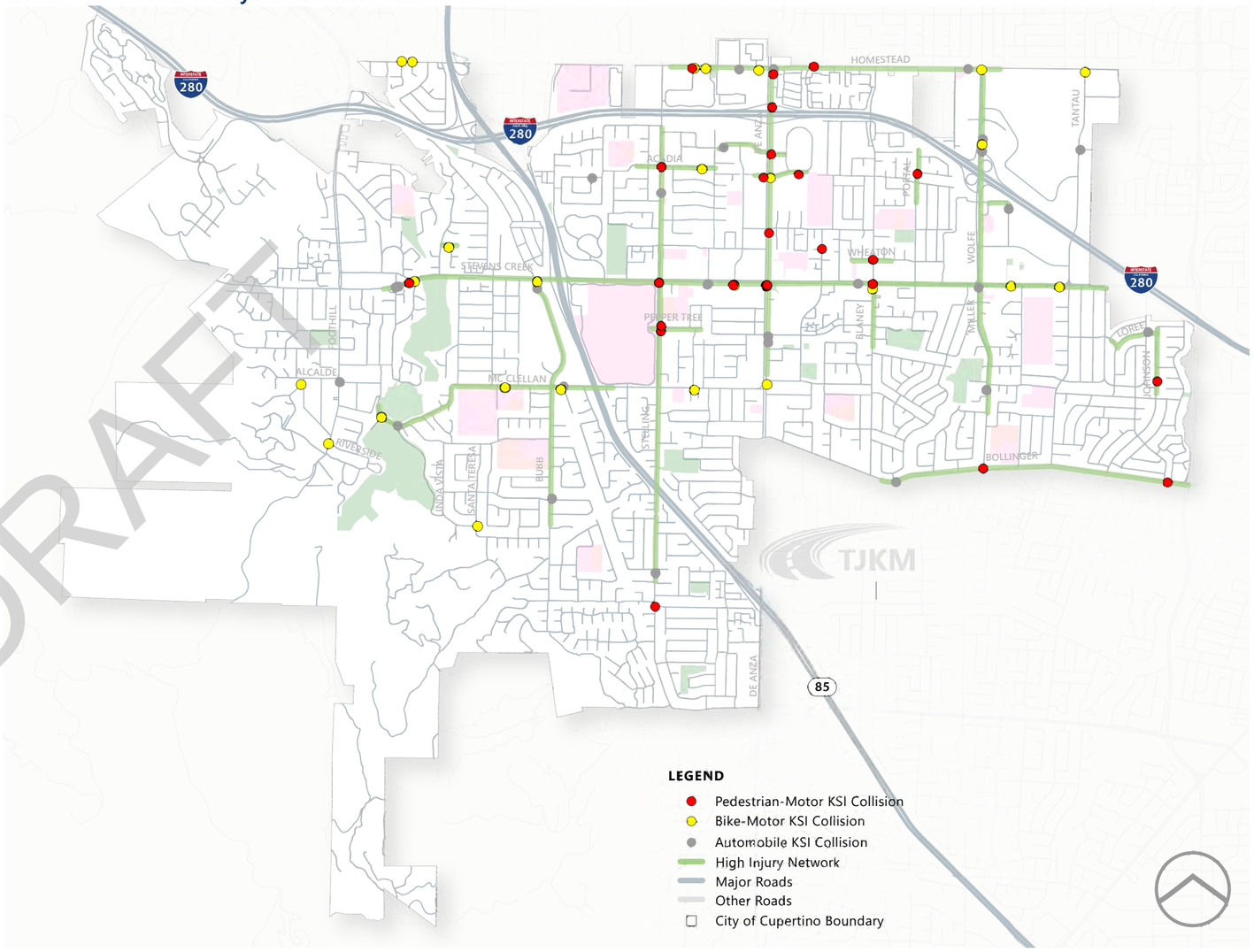
MODES

STATS

50 KSI CRASHES

- Accounts for **62%** (50 collisions) of all KSI collision
- **33%** (27 collisions) of KSI collisions involving bicyclists
- **29%** (24 collisions)of KSI collisions involving pedestrian

Profile 1: Pedestrian & Bicyclist Are Most Vulnerable



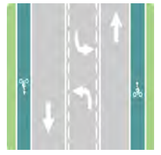
PROFILE 2

UNSAFE SPEEDS

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■



LANE RECONFIGURATION

Reapportion the street to reduce excessive speeding and better serve all road users.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

VEHICLE SPEED FEEDBACK SIGN

Radar-based vehicle speed feedback signs promote safer streets by improving drivers' speed compliance through LED displays.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

SPEED CUSHIONS, HUMP AND TABLE

Traffic calming devices that reduce vehicle speeds

EFFICACY: ■■■
COST: ■■□
COMPLEXITY: ■■□

REDUCED SPEED SCHOOL ZONE

Reduction in speed limits in school zones reduces vehicular speeds and fatal and injury collisions

EFFICACY: ■■□
COST: ■□□
COMPLEXITY: ■□□

AUTOMATED SPEED ENFORCEMENT

Automated sensors linked to cameras detect red-light running and speeding, resulting in mailed citations to violators.

EFFICACY: ■■□
COST: ■■■
COMPLEXITY: ■■■

The primary collision factor of "unsafe speed" indicates that one of the parties involved was driving at a speed greater than was reasonable or prudent. Reducing vehicle speed can give drivers additional time to respond to potentially dangerous situations. Lower speeds decrease the severity of injuries by lessening the impact of the crash. The subsequent countermeasures suggest potential strategies for reducing travel speeds on our roads, discourage unsafe driving, and encouraging better compliance with posted speed limits.

FACTORS

- Primary Collision Factor is **UNSAFE SPEED**
- **88%** of collisions caused by speeding occurred on arterial streets

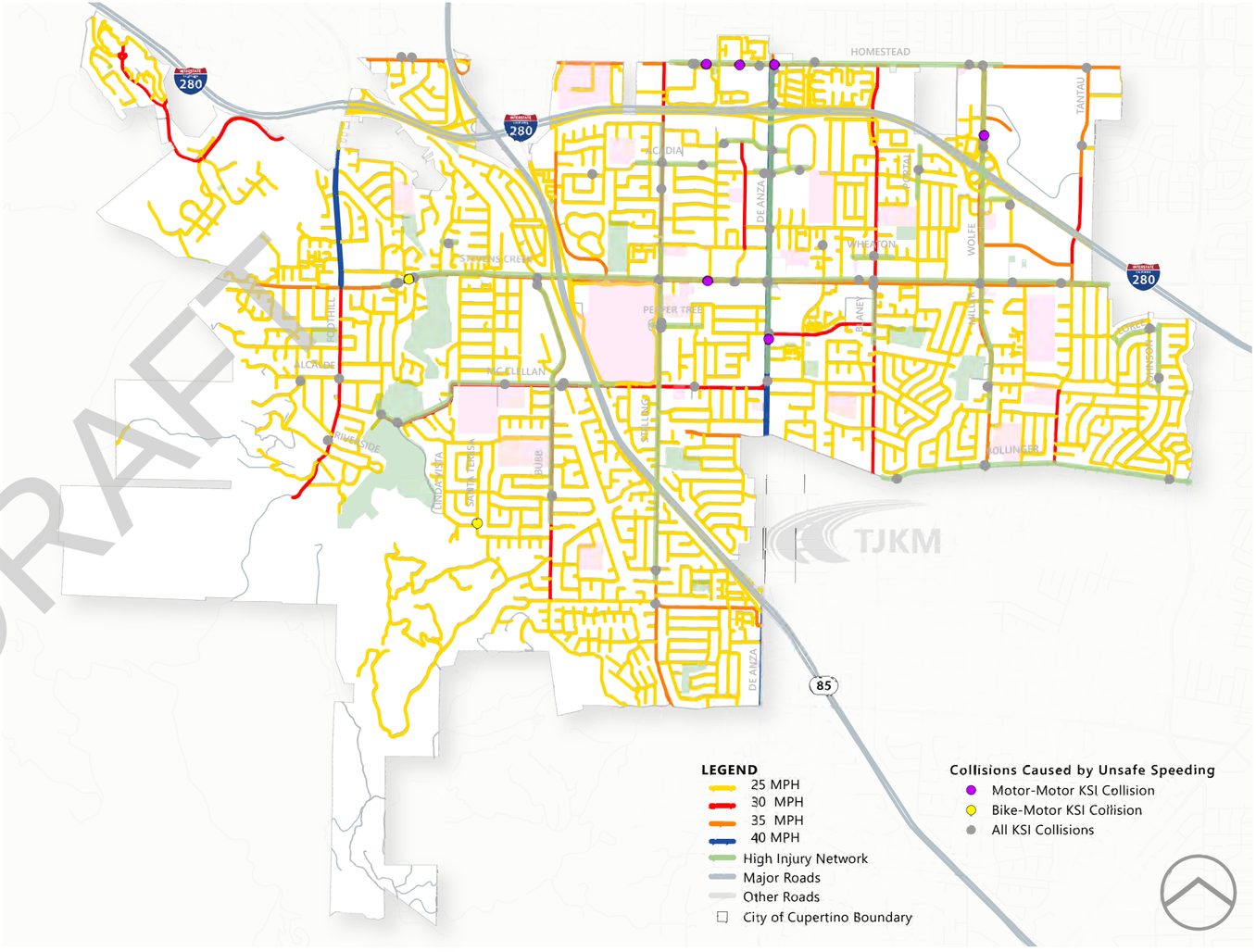
MODES

STATS

8 KSI CRASHES

- Accounts for **10%** (8 collisions) of all KSI
- **7%** (2 collisions) of KSI collisions involving pedestrian and bicyclists

Profile 2: Unsafe Speeds



PROFILE 3

IMPROVE INTERSECTION SAFETY FOR ALL

BIKE INTERSECTION MARKING

Emphasizes the priority of cyclists over turning vehicles and enhancing visibility.

EFFICACY: ■■□
COST: ■□□
COMPLEXITY: ■□□

MARKED CROSSWALKS

Effectively decrease the occurrence of collisions along high risk corridors

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

ADAPTIVE PEDESTRIAN SIGNAL TIMING

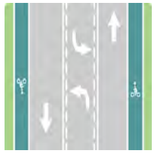
Sensor detects when pedestrian are present in a crossing and automatically increases crossing time when necessary

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

RAISED CROSSWALK

Reduce vehicle speeds and enhance the pedestrian crossing environment.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■



LANE RECONFIGURATION

Reapportion the street to reduce excessive speeding and better serve all road users.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

ROUNDABOUTS

Proven safety countermeasure that reduces speeds and crash potential while better serving all roadway users

EFFICACY: ■■□
COST: ■■■
COMPLEXITY: ■■■

Intersections represent the greatest threat to safety due to the number of conflict points and opportunities for travelers to misjudge speeds and gaps to safely turn or cross another person's travel path. Also, the design and operation of intersections does not always align with the needs of all persons, particularly vulnerable roadway users.

FACTORS

- **88%** of KSI collisions occurred within the functional area (250 ft.) of an **intersection**
- **9 Fatalities** occurred within the functional area of intersections
- Majority of collisions occurred due to **unsafe speeding, pedestrian violation** and **automobile right of way violation**

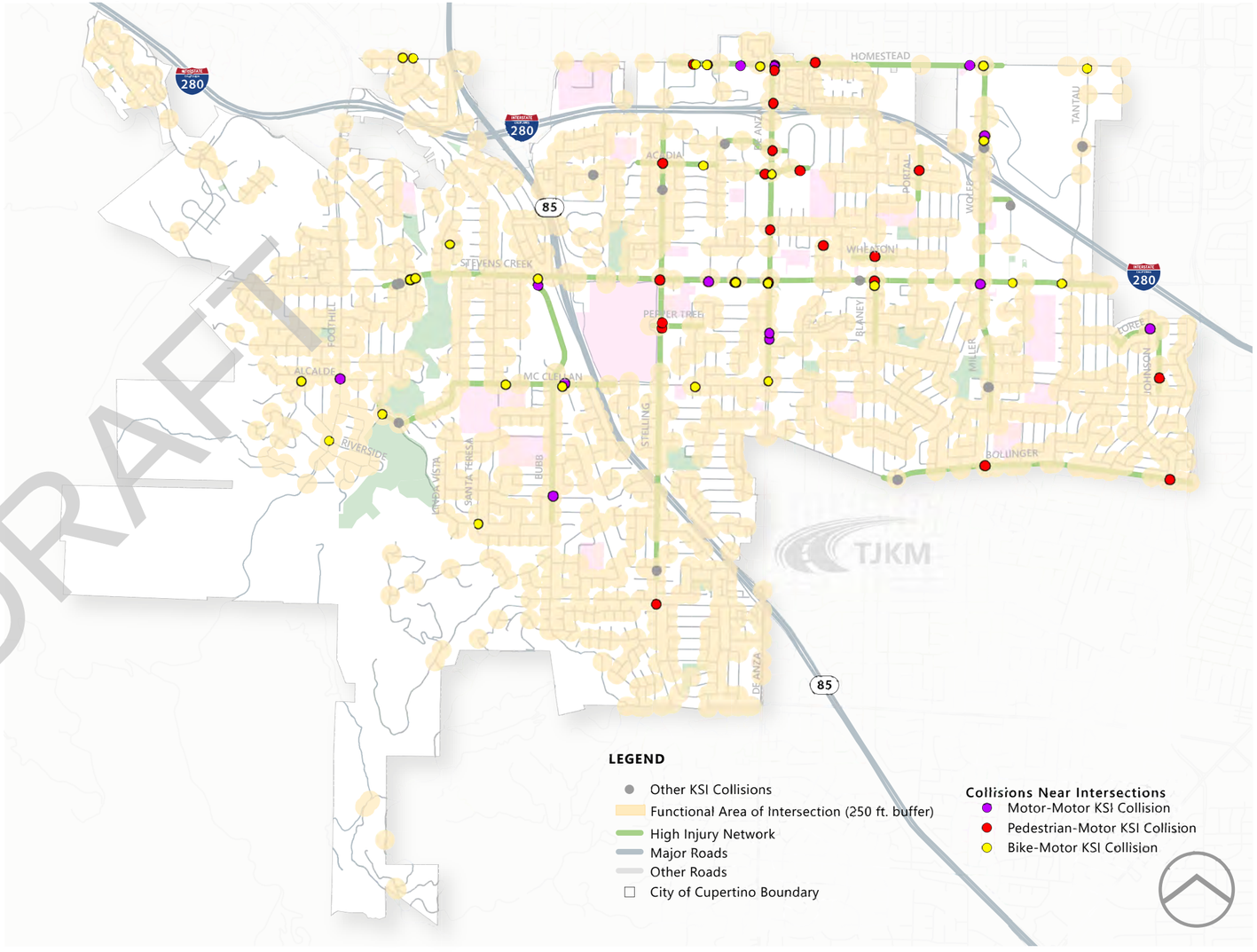
MODES

STATS

73 KSI CRASHES

- Accounts for **88%** (73 collisions) of all KSI collisions
- **100%** (24 collisions) of KSI collisions involving pedestrian and **85%** (22 collisions) of colliisions involving bicyclists

Profile 3: Improve Intersection Safety for All



PROFILE 4

PEDESTRIAN CODE VIOLATION

MARKED CROSSWALKS

Effectively decrease the occurrence of collisions along high risk corridors

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

INTERSECTION SAFETY LIGHTING

Decreases accidents involving them during nighttime and increases awareness and response time.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■□

ADAPTIVE PEDESTRIAN SIGNAL TIMING

Sensor detects when pedestrian are present in a crossing and automatically increases crossing time when necessary

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

SHARE THE ROAD AWARENESS PROGRAM

Create a Share the Road Awareness Program for motorist, bicyclist and pedestrians that is easily accessible.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

FLASHING YELLOW RIGHT TURN

Indicate that drivers may turn after yielding to oncoming traffic. These turns are considered "permissive."

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■■□

MIDBLOCK CROSSWALKS

Increases safety by decreasing random and unexpected pedestrian crossings

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

Pedestrians can become impatient when their ability to travel safely is impeded by a lack of safe crossings or traffic signals timed for the convenience of motorists and not for all roadway users. Distracted travel while using a hand-held device also increases the risk of mistakes.

FACTORS

- **2 Pedestrian Fatalities** occurred due to pedestrian violating traffic code
- At least half of these collisions occurred as a result of **crossing outside designated crosswalk areas.**
- **5 Collisions** occurred during hours of darkness on streets illuminated by streetlights.

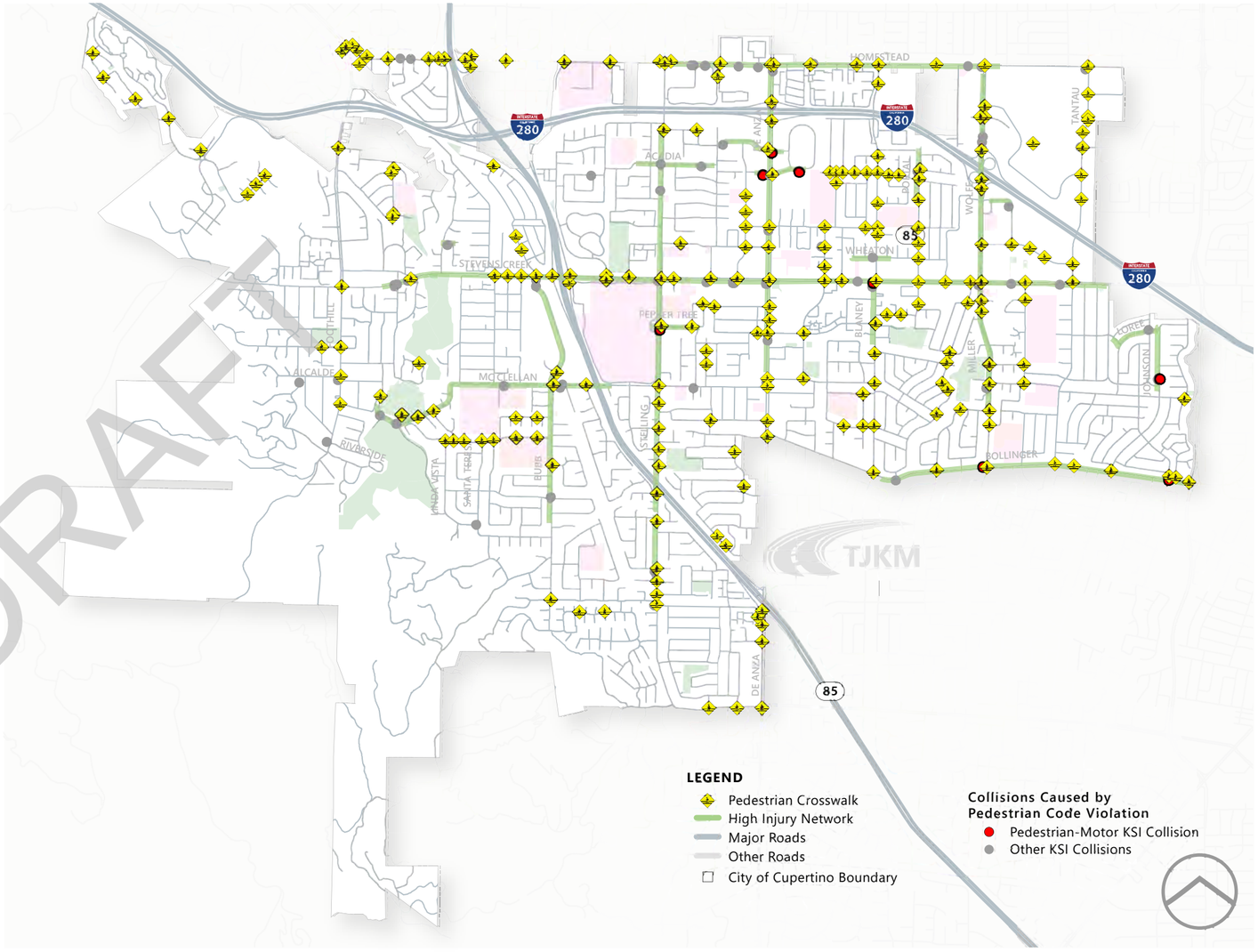
MODES

STATS

8 KSI CRASHES

- Accounts for **10%** of all KSI collisions
- **33%** of KSI involving pedestrians

Profile 4: Pedestrian Code Violation



PROFILE 5

MAJORITY OF BIKE COLLISIONS ARE BROADSIDE COLLISIONS

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

TWO-STAGE BICYCLE TURN BOX

Offers bicyclists a multi-stage process to safely and more visibly make a left turn

EFFICACY: ■■■
COST: ■■□
COMPLEXITY: ■■□

BICYCLE SIGNAL

Prioritizes bicycle movements at intersections, separating them from conflicting motor vehicles

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

TURN CALMING PROGRAM

Basic or complete hardened centerlines for left turns and Slow Turn Wedges enforces safe turning practices

EFFICACY: ■□□
COST: ■□□
COMPLEXITY: ■□□

BIKE BOX

Safe and visible way to get ahead of queuing traffic during the red signal phase.

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■□□

FLASHING YELLOW RIGHT TURN

Indicate that drivers may turn after yielding to oncoming traffic. These turns are considered "permissive."

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■■□

Right turning vehicles cutting off the travel of bicyclists traveling parallel to them results in "right hook" crashes, one of the most common and most dangerous bicyclist crash types.

FACTORS

- **1 Bicyclist Fatality** occurred due a broadside collision
- **2 out of 9** KSI broadside bicycle collisions were due to traveling wrong-way
- **2 out of 9** KSI broadside bicycle collisions occurred while making a left turn

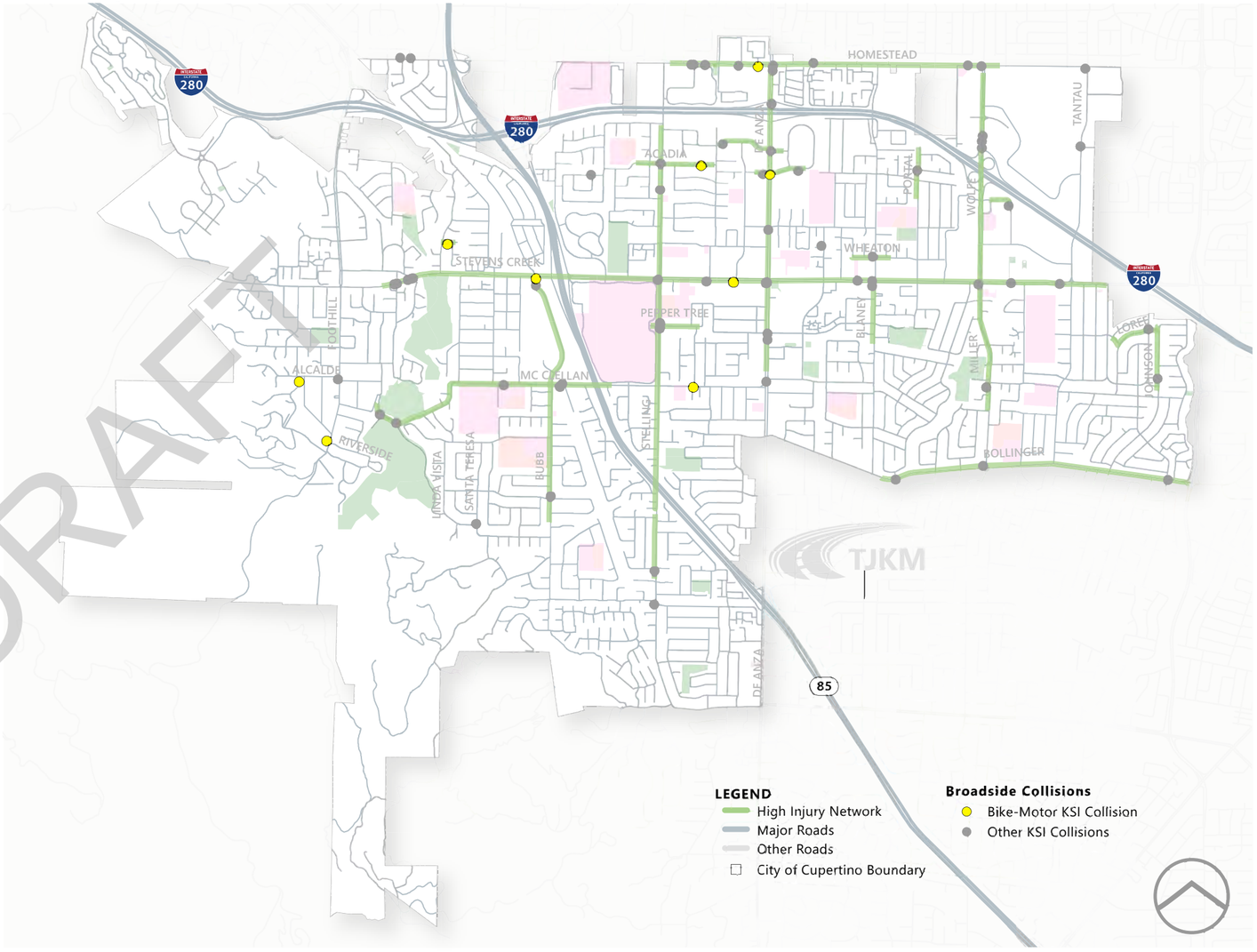
MODES

STATS

9 KSI CRASHES

- Accounts for **35%** (9 collisions) of all KSI collisions involving bicyclists
- **11%** (9 collisions) of all KSI collisions

Profile 5: Majority of Bike Collisions Are Broadside Collisions



PROFILE 6

TEENAGERS BIKING/WALKING NEAR SCHOOL AND PARKS

SAFE ROUTES TO SCHOOL PROGRAM

Expand the Cupertino Safe Routes to School Program to include Vision Zero Training material for students, parents and teachers.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

REDUCED SPEED SCHOOL ZONE

Reduction in speed limits in school zones reduces vehicular speeds and fatal and injury collisions

EFFICACY: ■■□
COST: ■□□
COMPLEXITY: ■□□

BICYCLE SIGNAL

Prioritizes bicycle movements at intersections, separating them from conflicting motor vehicles

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■□

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

FLASHING YELLOW RIGHT TURN

Indicate that drivers may turn after yielding to oncoming traffic. These turns are considered "permissive."

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■■□

HIGH VISIBILITY ENFORCEMENT

Concentrate enforcement activities in areas of Cupertino where engineering and educational initiatives have already been implemented.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■■

A lack of bicycle and pedestrian facilities or higher than appropriate vehicle speeds contribute to increased risk in areas where there are concentrations of younger travelers. Additionally, a less emotional and mental maturity as compared to an adult may result in younger people making crossing decisions when it is not safe to do so.

FACTORS

- **82%** (68 collisions) of all KSI collisions occurred with a quarter mile of a school or a park
- **56% of fatalities** (5 collisions) occurred within a quarter mile radius of schools and parks
- **All collisions** in this quarter-mile radius were either pedestrian or bicycle related
- At least **8** of these collisions involved teenagers aged 15-20 years.

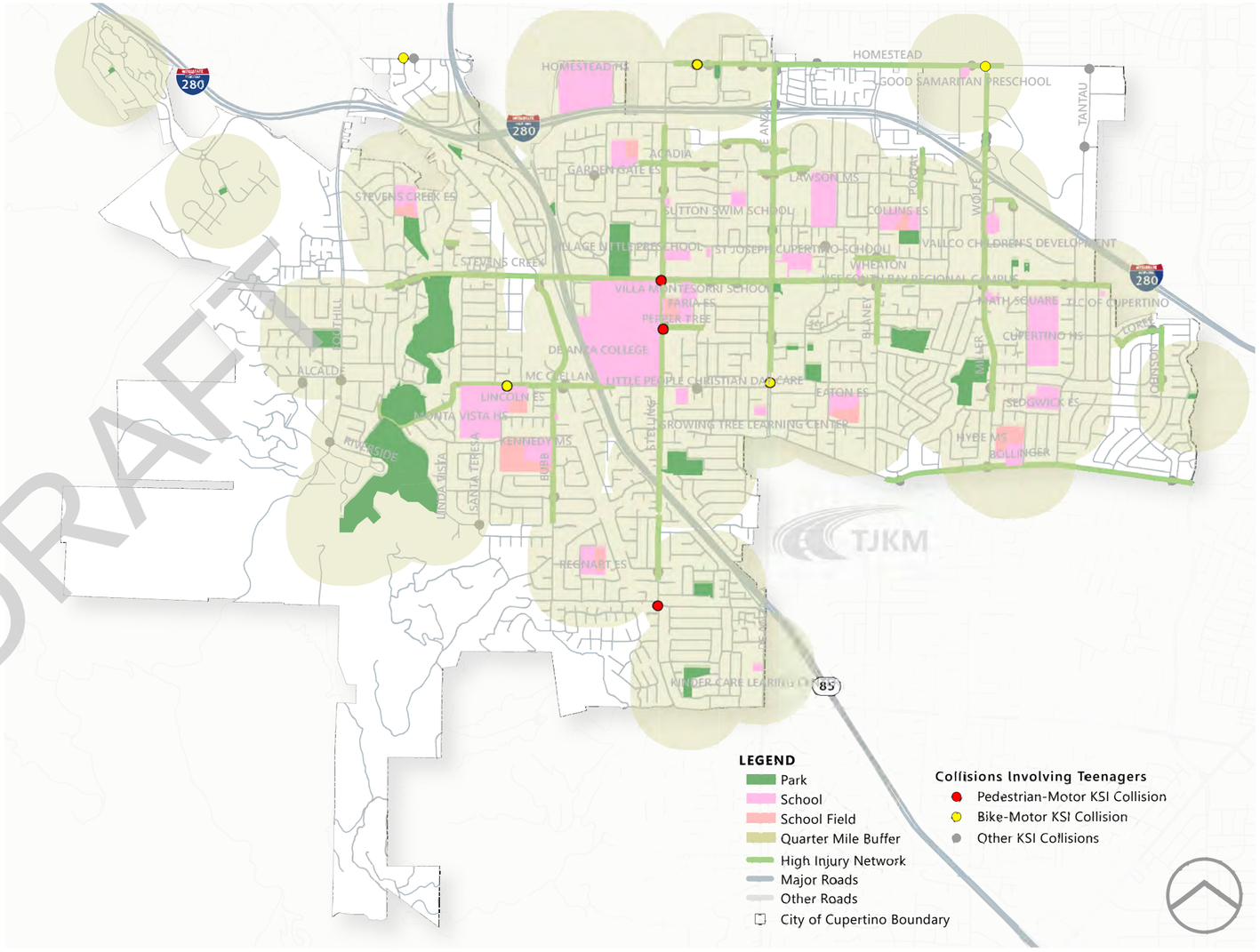
MODES

STATS

8 KSI CRASHES

- Accounts for **10%** (8 collision) of KSI collisions
- Unsafe speeding caused **22%** (2 collisions) of teen biking collisions near schools and parks, with an additional **22%** (2 collisions) due to automobile ROW violations.

Profile 6: Teenagers Biking/Walking Near School and Parks



PROFILE 7

DRIVING UNDER INFLUENCE

ALCOHOL USE DISORDER (AUD) ASSESSMENT & TREATMENT PROGRAMS

Long-term, tailored, and specialized treatment programs can serve as an intervention

EFFICACY: ■□□
COST: ■■■
COMPLEXITY: ■■■

HIGH VISIBILITY ENFORCEMENT

Concentrate enforcement activities in areas of Cupertino where engineering and educational initiatives have already been implemented.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■■■

EDUCATIONAL CAMPAIGN

Work together with community organizations to distribute materials to promote

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■■□

VEHICLE SPEED FEEDBACK SIGN

Radar-based vehicle speed feedback signs promote safer streets by improving drivers' speed compliance through LED displays.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

EDUCATIONAL INITIATIVES OVER CITATIONS

Prioritize educational initiatives while issuing citations during traffic enforcement

EFFICACY: ■□□
COST: ■■□
COMPLEXITY: ■■□

Drinking alcohol or using drugs while driving is a dangerous epidemic. The ability to safely operate a motor vehicle is impaired by alcohol and drugs. Unfortunately, the decision making process to not drive after drinking alcohol or using drugs is also impaired.

FACTORS

- **3%** of all collisions in the City of Cupertino
- **Alcohol and drug related KSI** collisions occurred due to **hitting fixed objects or were head on collisions.**
- **All** of the collisions occurred along the roadway
- Primary collision factor was either vehicle code violation or falling asleep while driving

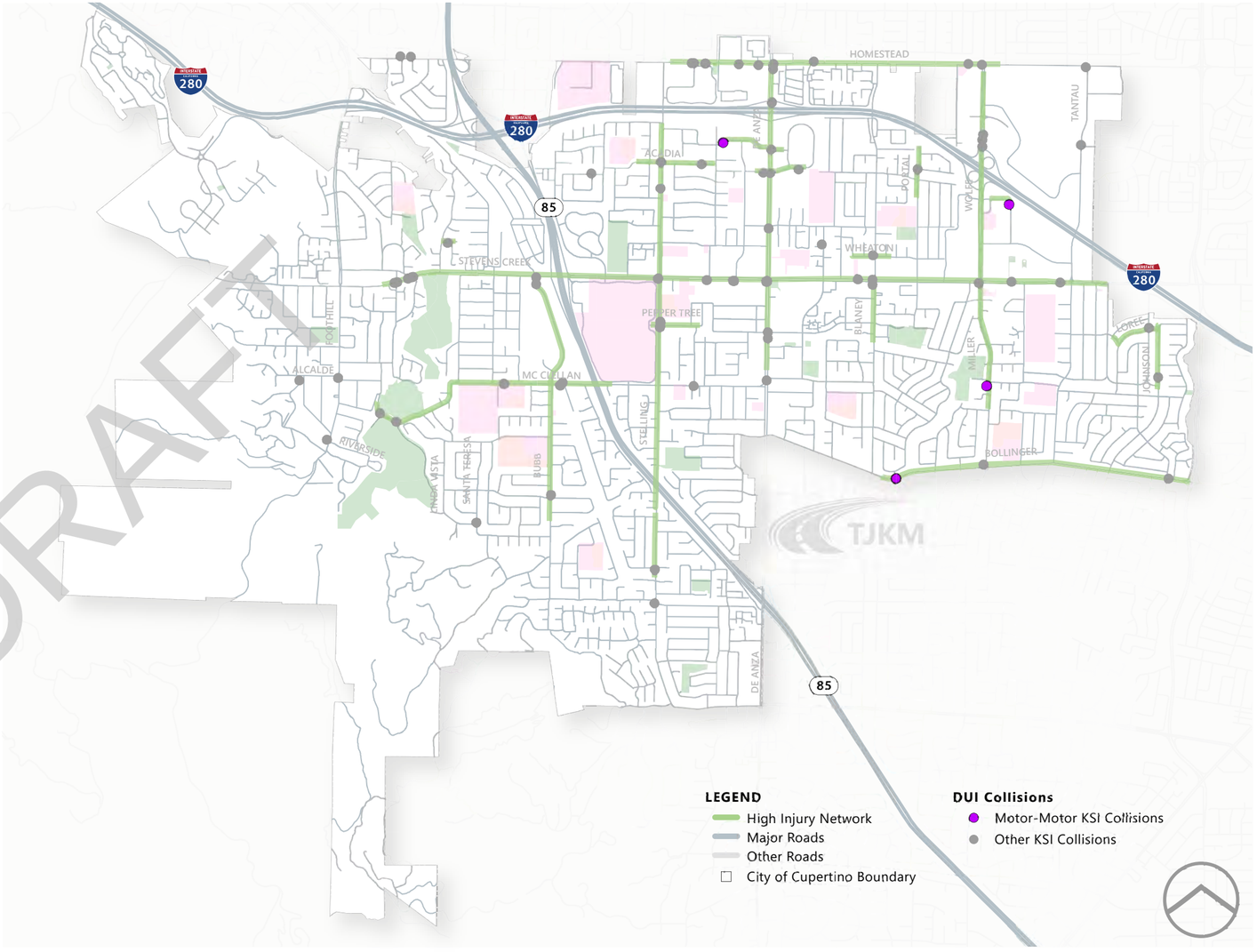
MODES

STATS

4 KSI CRASHES

- Accounts for **5%** (4 collisions) of all KSI collisions
- **All** individuals responsible for the incident fell within the age range of 20 to 29 years

Profile 7: Driving Under Influence



PROFILE 8

BICYCLE COLLISION & AUTOMOBILE ROW VIOLATION

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

TWO-STAGE BICYCLE TURN BOX

Offers bicyclists a multi-stage process to safely and more visibly make a left turn

EFFICACY: ■■■
COST: ■■□
COMPLEXITY: ■■□

ROUNDABOUTS

Proven safety countermeasure that reduces speeds and crash potential while better serving all roadway users

EFFICACY: ■■□
COST: ■■■
COMPLEXITY: ■■■

RED LIGHT VIOLATION CAMERAS

Used to automate enforcement efforts in locations where traffic stops violations occur

EFFICACY: ■■□
COST: ■■■
COMPLEXITY: ■■□

RAISED MEDIANS

Provides a physical barrier between opposing traffic lanes and restricts illegal turns and helps reduce collisions

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

Motorists do not always see bicyclists, even when the bicyclists is "doing all the right things". Reducing vehicular speeds, minimizing conflict points, and providing physical changes to the roadway to promote safer choices can reduce right of way violations.

FACTORS

- **Half** of the collisions occurred due to vehicle intending to **turn left** or complete a **U-turn** on a roadway
- Another half of the collisions occurred due to **running a red light** or **failing to stop at the limit line**

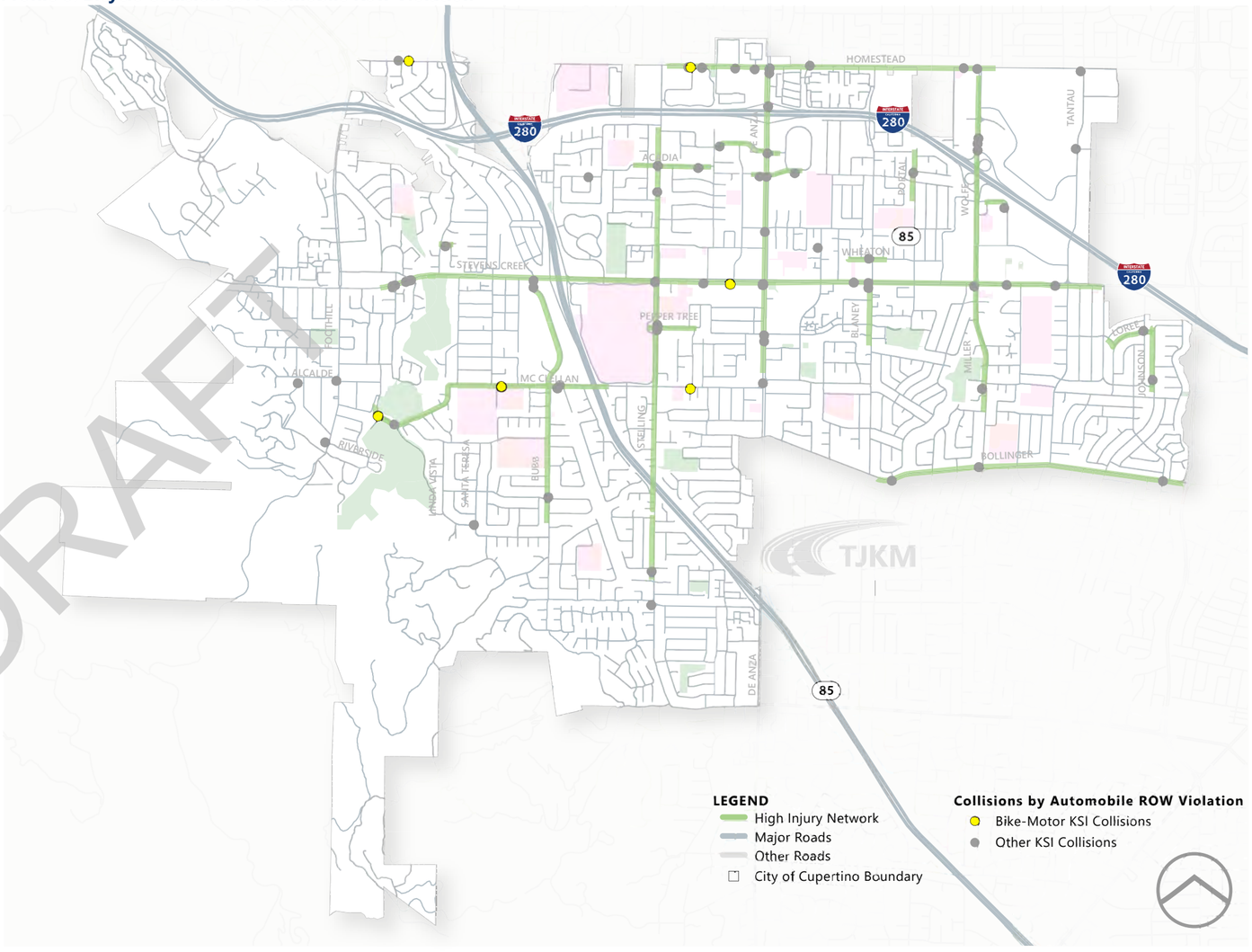
MODES

STATS

6 KSI CRASHES

- Accounts for **7%** (6 collisions) of all KSI collisions
- 22% (6 collisions) of KSI collisions involving bicyclists

Profile 8: Bicycle Collision & Automobile Row Violation



PROFILE 9

COLLISIONS NEAR TRANSIT STOPS

PROTECTED BIKEWAYS

Segregated lanes shielded by flexible posts, parked cars, and planters for safe bicycle travel separate from vehicle traffic.

EFFICACY: ■■■
COST: ■■■
COMPLEXITY: ■■■

MARKED CROSSWALKS

Effectively decrease the occurrence of collisions along high risk corridors

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

PEDESTRIAN HYBRID BEACON

Warn and control traffic at unsignalized intersections while providing instantaneous service with less delay

EFFICACY: ■■□
COST: ■■■
COMPLEXITY: ■■□

RECTANGULAR RAPID FLASHING BEACON

Offers pedestrians and bicyclists a clear path to cross the street more safely.

EFFICACY: ■■□
COST: ■■□
COMPLEXITY: ■□□

The layout of sidewalks, and transit stops impacts how passengers and pedestrians perceive safety while accessing transit. Well-connected sidewalks should be a standard feature in areas with regular transit service, preventing travelers from needing to walk on roads to reach stops. Transit stops should be designed to make boarding and alighting easy and safe for passengers of all abilities. Transit agencies could consider transitioning to far-side bus stops to improve safety at street crossings for pedestrians accessing transit at each stop.

FACTORS

- **65%** of all KSI collisions occurred within a quarter mile of a bus stop
- **35%** of all KSI collisions within the quarter mile buffer were vehicle-pedestrian collisions
- **67% of fatalities** occurred within a quarter mile buffer of a bus stop
- **2 Collisions** involving buses lead to serious injuries
- **9%** of the collisions occurred due to pedestrian crossing not in crosswalk
- **15%** of the collisions occurred due to speeding

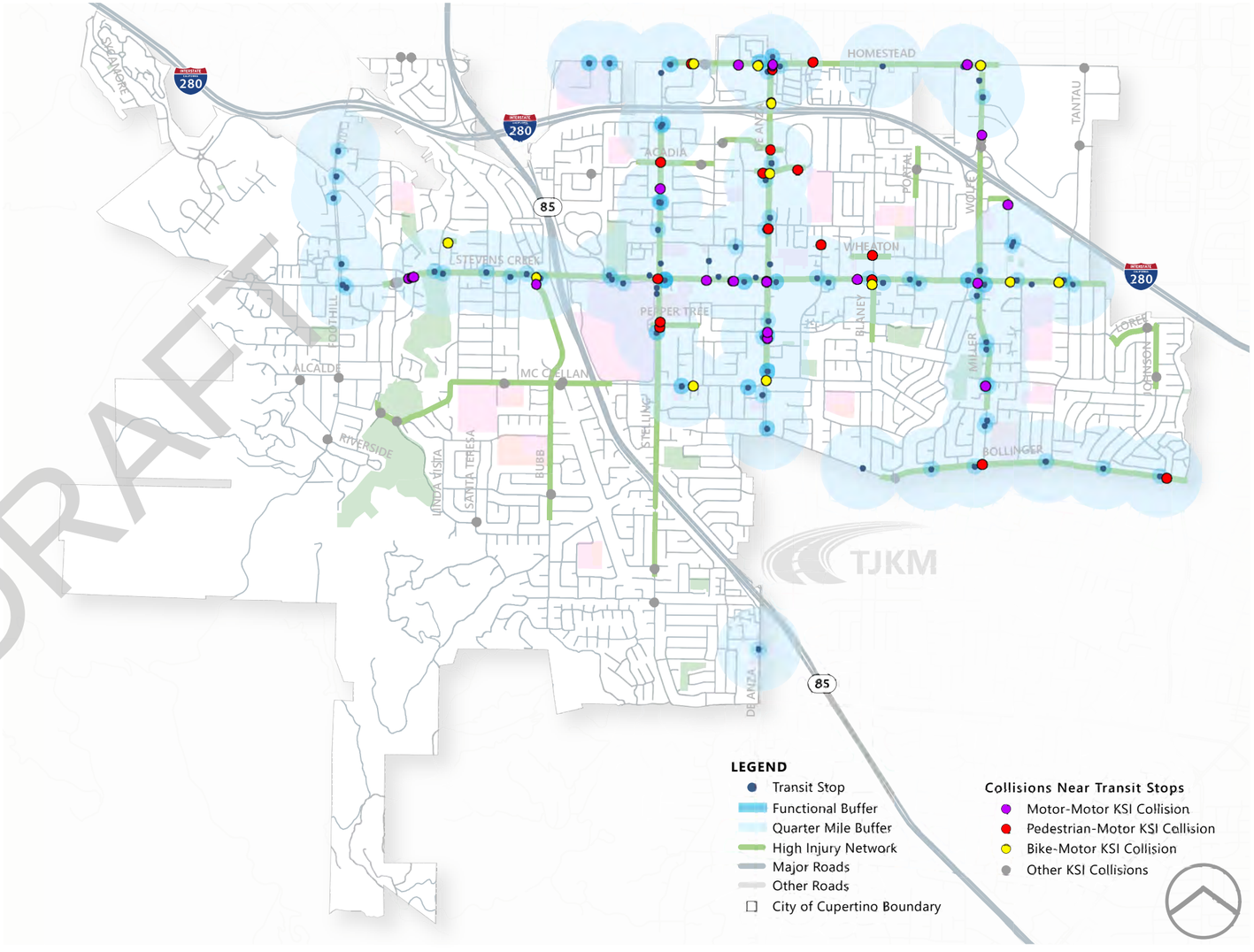
MODES

STATS

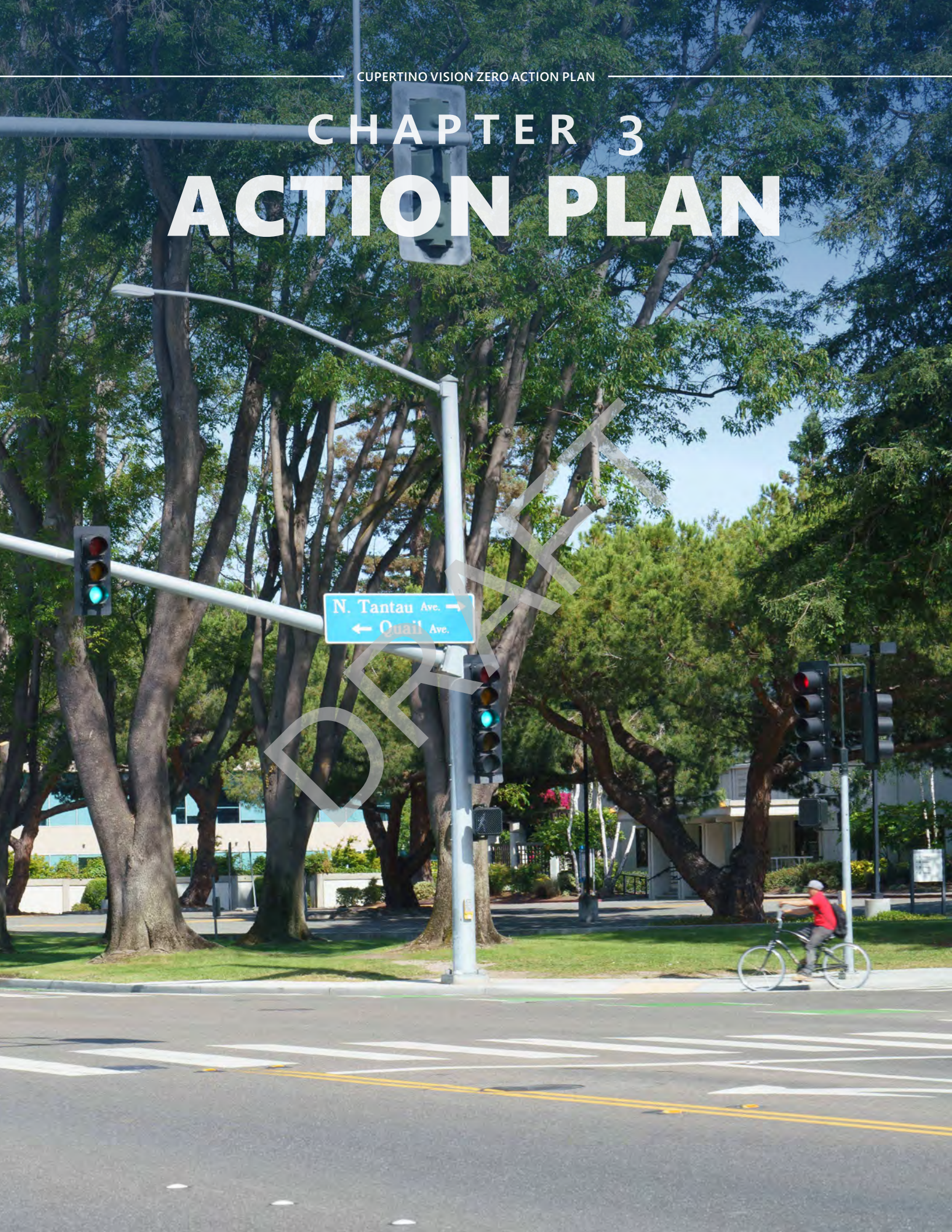
12 KSI CRASHES

- **13%** of KSI collisions occur within 250 ft. of transit stops

Profile 9: Collisions Near Transit Stops



CHAPTER 3
ACTION PLAN



ACTION PLAN

Leveraging the comprehensive framework of its Vision Zero Action Plan, the City of Cupertino is strategically positioning itself to synchronize future initiatives, including the Active Transportation Plan, Bicycle Plan, Safe Routes to School Plan and other planning documents. By identifying key corridors as high priority within the Vision Zero framework, Cupertino ensures that these vital thoroughfares serve as focal points for cohesive and synergistic safety enhancements across various planning documents. This approach not only streamlines efforts but also maximizes resources, enabling the city to address safety concerns systematically and comprehensively. As Cupertino commits to reducing fatalities and severe injuries, Vision Zero emerges as the guiding compass, steering the collective efforts of multiple plans towards a shared vision of safer streets and enhanced mobility for all.

PRIORITY CORRIDORS

The City of Cupertino is focused on prioritizing the following eight corridors along the High Injury Network (HIN):

- Stevens Creek Boulevard
- Homestead Road
- McClellan Road
- De Anza Boulevard
- Stelling Road
- Wolfe Road/Miller Avenue
- Bollinger Road
- Blaney Avenue

The following sections detail the current planning efforts and additional recommendations that the City could look into for the High Injury Network corridors. While it is essential to acknowledge that all streets are significant, the City must start somewhere, and these priority corridors have been historically known for frequent collisions and heavily influenced by stakeholder and public feedback regarding safety concerns. These recommended projects were chosen based on the previously completed collision analysis, which was used to determine collision profiles that were found to be leading factors of fatal and severe collisions in Cupertino. The recommended countermeasures are for high-risk intersections and roadway segments along the priority corridors. All countermeasures were identified based on the technical teams' assessment of viability, which consisted of extensive analysis, observations, city staff input, and stakeholder/community input, and are the most applicable and appropriate countermeasures that can make high-injury locations safer. The success of these recommended projects should be evaluated after project completion by the Vision Zero Task Force with respect to the appropriate progress measures outlined in the Action Plan and according to the Task Force work plan.

1 Recommended Project
STEVENS CREEK BOULEVARD

CHARACTERISTICS

The Stevens Creek Boulevard Corridor is a major center for health, education, the tech industry, shopping, and housing, experiencing significant growth in commercial and residential land uses. The boulevard itself is primarily a six-lane divided arterial roadway with auxiliary turn lanes at major intersections, complemented by a Class IV bikeway between Wolfe Road and Tantau Road. The speed limit is 35 mph. From 2012 and 2021, the corridor reported a total of 260 injury collisions, including 16 severe injuries. Unsafe speeding was a common factor leading to these severe injuries, followed by traffic signals and sign violations.

HIGH INJURY INTERSECTIONS

1. Bandley Drive
2. Cupertino Road
3. De Anza Boulevard
4. Blaney Avenue
5. Saich Way
6. Wolfe Road
7. Stelling Road

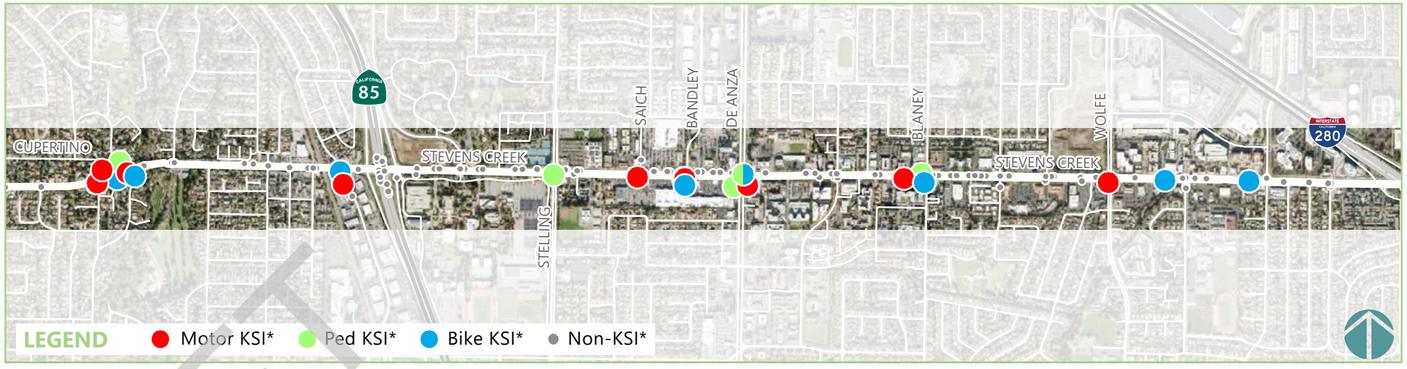
CITY OF CUPERTINO - PLANNED PROJECTS

The City of Cupertino has proactively taken measures to prioritize this corridor and has begun several improvements along this high-injury corridor.

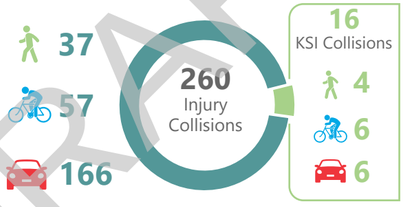
The 2016 Bicycle Transportation Plan of the City of Cupertino recognizes and prioritizes enhancements required to improve and advocate for safer bicycle transportation within the city. One of the priorities is the need for a separated Class IV bicycle lane along Stevens Creek Boulevard. Phase 1, completed in January 2021 between Wolfe Road and Tantau Avenue, marked a crucial milestone. Moving forward, Phase 2 completed design in winter 2023, covering the segment from Wolfe Road to Mary Avenue. Due to the corridor's length, the project is divided into two phases: Phase 2A, focused on creating a Class IV separated bikeway on both sides of Stevens Creek Boulevard from Wolfe Road to De Anza Boulevard, and Phase 2B, extending the bikeway from De Anza Boulevard to Mary Avenue. Notably, the Stevens Creek Boulevard Class IV Bikeway stands out as a key priority in the overall bicycle transportation plan.

The City of Cupertino is also in the design phase for intersection improvements at the northbound State Route 85 on-ramp, which includes elimination of the high speed free right turn lane and providing a protected pedestrian and bicycle crossing on the on-ramp.

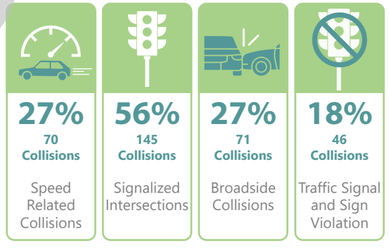
STEVENS CREEK BOULEVARD



COLLISION STATISTICS (2012 - 2021)



COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- ☑ Signal Head and Equipment Upgrades
- Improve Signal Timing
- Pedestrian Refuge Island
- No Right on Red
- Advanced Dilemma Zone for High Speed Approaches
- Convert Pedestal Mounted Signal to Mast Arm
- Install Raised Pavement Markers and Striping

SPEED SAFETY IMPROVEMENTS

- Dynamic/Variable Speed Warning Signs
- Pavement Friction Improvement using High Friction Surface Treatment (HFST)

BICYCLE SAFETY IMPROVEMENTS

- ☑ Class IV Separated Bicycle Facility
- ☑ Bike Boxes
- ☑ Bicycle Signal
- ☑ Bike Detection Systems
- ☑ Green Pavement Marking in Conflict Zone

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders

OTHER

- Median Fencing
- ☑ Transit Islands

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

2 Recommended Project
HOMESTEAD ROAD

CHARACTERISTICS

Homestead Road is an east-west arterial at the northernmost border of the city. The roadway itself is a four-lane divided and undivided roadway with auxiliary turn lanes at major intersections, complemented by a Class II bikeway on both side. The speed limit is 35 mph. From 2012 to 2021, the corridor documented a total of 107 injury collisions, including 12 KSI collisions, with two of them resulting in fatalities. Prominent factors contributing to these KSI collisions were violations of automobile right-of-way and improper turning, with unsafe speed closely following as another significant contributor.

HIGH INJURY INTERSECTIONS

1. De Anza Boulevard
2. Ontario Dr
3. Quail Ave
4. Blue Jay Dr
5. Wolfe Avenue

CITY OF CUPERTINO - PLANNED PROJECTS

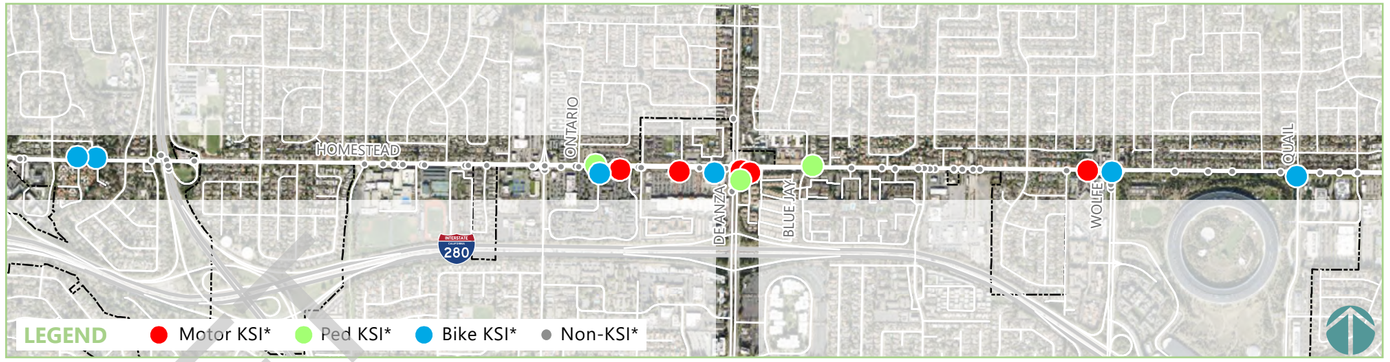
Homestead Road functions as a crucial east-west corridor, with jurisdiction shared with the cities of Sunnyvale and Los Altos. The segment between N. Stelling Road/Hollenbeck Avenue and Grant Road not only serves as a vital regional connection but also functions as a local link for three public schools: West Valley Elementary School, Cupertino Middle School, and Homestead High School. In 2019, the County of Santa Clara, in collaboration with the Cities of Los Altos, Sunnyvale, and Cupertino, along with the Santa Clara Valley Transportation Authority (VTA) and Caltrans, initiated the Homestead Road Safe Routes to School project. The goal was to identify and implement long-term enhancements within the study area to ensure secure access to schools along the corridor. These improvements primarily focus on developing infrastructure that supports multimodal access for individuals of all ages and abilities. The scope included ten intersections along the corridor. The improvements include:

1. Pedestrian Enhancements: Widening sidewalks, closing gaps, modifying on-ramp alignments, installing ADA-compliant ramps, high-visibility crosswalks, and reconfiguring intersections.
2. Bicycle Improvements: Upgrading lanes to separated bikeways, widening and extending shared-use paths, adding bike turns/waiting spaces, and modifying signals for better bicycle detection.
3. Intersection Signalization: Homestead Road and Fallen Leaf Drive intersection will be signalized for improved pedestrian and cyclist crossings.

The project is currently in the preliminary design and environmental clearance phases with field design and construction pending the identification of funding sources.

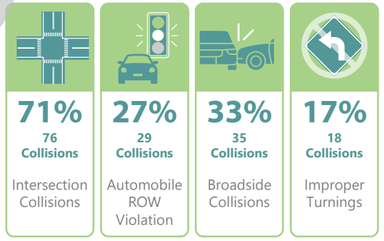
The City has also received the HSIP funding to install High Friction Surface Treatment (HFST) on Homestead road between Fallen Leaf Lane to Wolfe Road.

HOMESTEAD ROAD



COLLISION STATISTICS (2012 - 2021)

COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- Signal Head and Equipment Upgrades
- Improve Signal Timing
- No Right on Red
- ☑ Reconfiguring Intersections
- ☑ High Visibility Crosswalk
- ☑ Signalization of Intersections (Fallen Leaf Dr.)
- Advanced Dilemma Zone for High Speed Approaches
- Convert Pedestal Mounted Signal to Mast Arm
- Install Raised Pavement Markers and Striping

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

BICYCLE SAFETY IMPROVEMENTS

- ☑ Class IV Separated Bicycle Facility
- ☑ Bike Boxes
- Bicycle Signal
- ☑ Bike Detection Systems
- ☑ Green Pavement Marking in Conflict Zone

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders

OTHER

- ☑ Widening Sidewalks and Closing Gaps
- ☑ Installing ADA Compliant Ramps

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* *Killed or Severely Injured*

3 Recommended Project
MCCLELLAN ROAD

CHARACTERISTICS

McClellan Road is an east-west minor collector in central Cupertino that provides access to numerous educational institutions: Lincoln Elementary School, Monta Vista High School, Kennedy Elementary School and De Anza College. The two-lane road features a center turn lane and a Class IV bike lane, providing a physical separation between motor vehicles and bicyclists through curbs and mountable strips. The speed limit is 30 mph. Between 2012 and 2021, the corridor experienced a total of 53 reported injury collisions, including six KSI collisions, with four involving bicyclists. Primary contributors to these KSI collisions were automobile right-of-way violations, improper turning, and unsafe speeding. The City has been actively implementing safety measures, with recent improvements including Class IV bike lanes and a pedestrian scramble at the Bubb Road intersection.


McClellan Rd. & Bubb Rd. Intersection

HIGH INJURY INTERSECTIONS

1. September Drive
2. Bonny Drive
3. Clubhouse Lane
4. De Anza Boulevard

CITY OF CUPERTINO - PLANNED PROJECTS

The McClellan Road Separated Bike Lanes Project aims to enhance safety for students, families, and residents who commute by bike to school and work. The project, implemented in multiple phases, focuses on installing separated/Class IV bike lanes along McClellan Road and Pacifica Drive from Byrne to Torre Avenues. Phase 1, completed in February 2020, established separated bike lanes on McClellan Road from Imperial Avenue to Stelling Road. Phase 2, finished in April 2021, extended separated bike lanes on McClellan Road from Stelling Road to De Anza Boulevard, and on Pacifica Drive from De Anza Boulevard to Torre Avenue. Phase 3 of the McClellan Road Separated Bikeways Project was completed in June 2024.

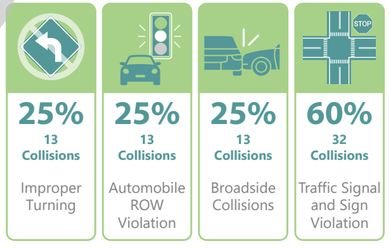
The City also introduced a pedestrian scramble at McClellan Road and Bubb Road in early 2023 to improve safety and reduce congestion. Pedestrians can cross two legs during the WALK phase, while cars cannot turn right on red. During the vehicle green phases, cars can turn right, and pedestrians cannot cross.

The City received an HSIP Cycle 11 grant for the implementation of dynamic/variable speed warning signs and High Friction Surface Treatment (HFST) on McClellan Road between Imperial Avenue to Stelling Road.

MCCLELLAN ROAD

COLLISION STATISTICS (2012 - 2021)

COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- ☑ Signal Head and Equipment Upgrades
- Pedestrian Refuge Island
- ☑ No Right on Red

BICYCLE SAFETY IMPROVEMENTS

- ☑ Class IV Separated Bicycle Facility
- ☑ Bike Boxes
- Bicycle Signal
- ☑ Bike Detection Systems
- ☑ Green Pavement Marking in Conflict Zone

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders

OTHER

- ☑ Consistently monitor the effectiveness of the implemented safety measures, serving as a model for other comparable streets within the city.

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

4 Recommended Project
DE ANZA BOULEVARD

CHARACTERISTICS

De Anza Boulevard, the primary north-south arterial in Cupertino, is a six-lane divided roadway featuring Class II bicycle facilities on both sides. Lined with commercial and retail land use, the speed limit is 40 mph. From 2012 to 2021, a total of 211 injury collisions were reported, including 11 KSI collisions. Contributing factors to these 11 incidents included violations such as traffic signal violations, pedestrian violations, and pedestrian right-of-way violation.

HIGH INJURY INTERSECTIONS

1. Homestead Road
2. Stevens Creek Boulevard
3. Mariani Avenue
4. Rodrigues Avenue
5. 1-280 North Bound Off Ramp
6. Infinite Loop
7. Lazaneo Drive
8. McClellan Road

CITY OF CUPERTINO - PLANNED PROJECTS

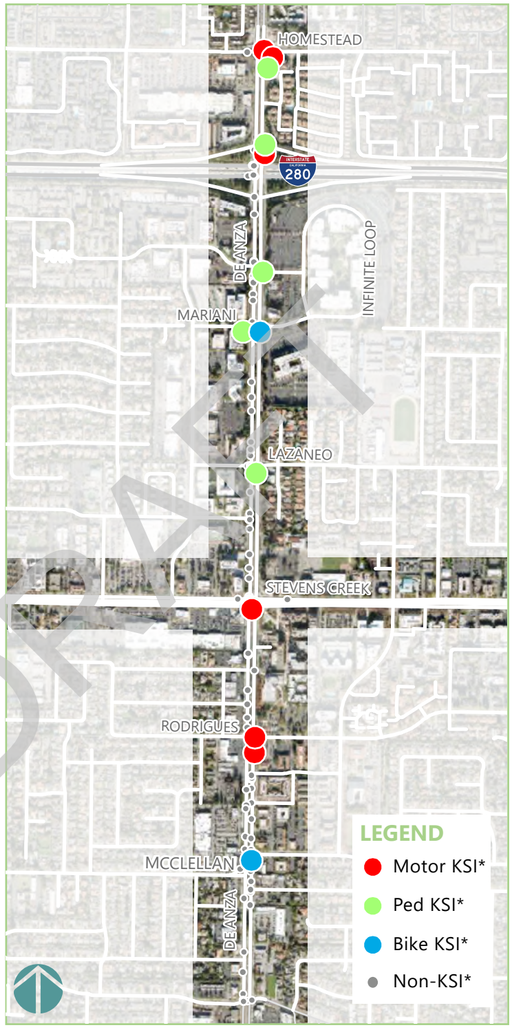
The intersection of De Anza at McClellan and Pacifica, is being upgraded as part of Phase 3 of the McClellan Road Separated Bike Lanes Project. Identified as one of the high-injury intersections, the planned changes include:

1. New pedestrian crosswalk across the south leg of the intersection
2. Signal upgrade
3. Adding signal time to facilitate bicycle crossing
4. Improving signage and striping
5. Adding concrete buffers at sections approaching the intersections

Construction began in January 2024 and is expected to be completes by summer 2024.

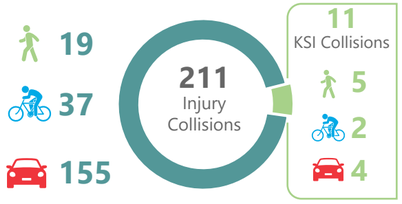
In the summer of 2024, the city will be adding a striped buffer to provide separation between the Class II bike lanes and the vehicle lanes between Bollinger Road and Homestead Road.

The City received the HSIP Cycle 11 grant to implement High Friction Surface Treatment (HFST) on De Anza Boulevard between Pacifica Road to Homestead Road.

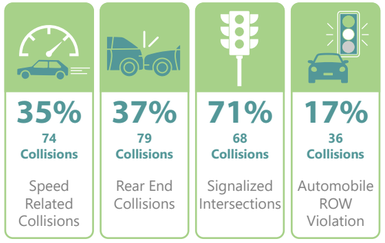


DE ANZA BOULEVARD

COLLISION STATISTICS (2012 - 2021)



COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- ☑ Signal Head and Equipment Upgrades
- Improve Signal Timing
- Reconfiguring Intersections
- High Visibility Crosswalk
- Advanced Dilemma Zone for High Speed Approaches
- Convert Pedestal Mounted Signal to Mast Arm
- Install Raised Pavement Markers and Striping

BICYCLE SAFETY IMPROVEMENTS

- Class IV Separated Bicycle Facility
- Bike Boxes
- Bicycle Signal
- Bike Detection Systems
- ☑ Green Pavement Marking in Conflict Zone

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders

OTHER

- Transit Islands
- Study Potential Lane Narrowing or Reduction

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

5 Recommended Project
STELLING ROAD

CHARACTERISTICS

Stelling Road functions as a north-south collector, with the segment between Homestead Road and Stevens Creek Boulevard serving as a two-lane and a four-lane major collector with buffered Class II bike lanes, and a speed limit of 30 mph. The southern part transforms into a minor collector, characterized by a two-lane undivided roadway with center turn lanes at major intersections and buffer-separated Class II bike lanes on both sides, maintaining a speed limit of 30 mph. Between 2012 and 2021, a total of 76 injury collisions were reported, including 7 KSI collisions. Key contributors to these KSI incidents were improper turning, pedestrian right-of-way violations, and pedestrian code violations.

HIGH INJURY INTERSECTIONS

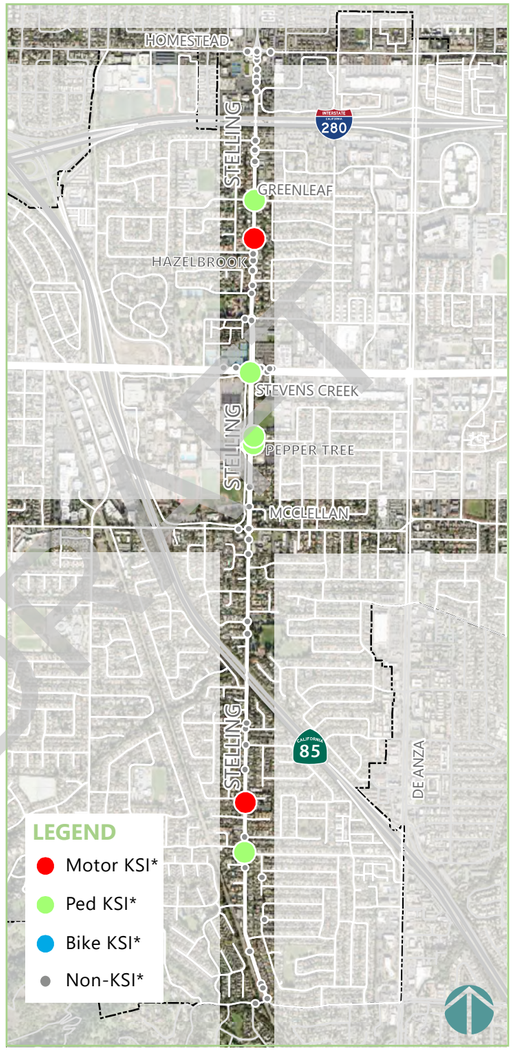
1. Pepper Tree Lane
2. Greenleaf Drive
3. Hazelbrook Drive
4. Stevens Creek Boulevard

Wolfe Rd. & Greenleaf Dr. Intersection

CITY OF CUPERTINO - PLANNED PROJECTS

Recognized as among the top three corridors with the most collisions based on the Cupertino Bicycle Transportation Plan (2016), the recommendation suggests transforming the existing bike lanes on Stelling Road into a Class IV separated bikeway. This would involve the reconfiguration of lanes, and, in certain areas, the elimination of medians.

The Stelling Road corridor has also received the HSIP (Cycle 11) funding for the installation of dynamic/variable speed warning signs along the corridor between McClellan Road to Prospect Road.



STELLING ROAD

COLLISION STATISTICS (2012 - 2021)

18
23
35

76 Injury Collisions

7 KSI Collisions
5
-
2

COLLISION TRENDS

25%	25%	21%	17%
19 Collisions	19 Collisions	16 Collisions	13 Collisions
Speed Related Collisions	Rear End Collisions	Broadside Collisions	Improper Turning

RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- Signal Head and Equipment Upgrades
- Improve Signal Timing
- Free-Right Turn Removal
- Reconfiguring Intersections
- High Visibility Crosswalk

BICYCLE SAFETY IMPROVEMENTS

- Class IV Separated Bicycle Facility
- Bike Boxes
- Bicycle Signal
- Bike Detection Systems
- Green Pavement Marking in Conflict Zone

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

6 Recommended Project
WOLFE ROAD/MILLER AVENUE

CHARACTERISTICS

Wolfe Road serves as a crucial north-south arterial. This four-lane and six-lane divided roadway, incorporates various safety measures, including green-painted bike lanes and high-visibility crosswalks at significant intersections. The speed limit on this roadway is 35 mph. From 2012 to 2021, a total of 86 collisions were reported on this corridor. Among these, 5 collisions were classified as KSI collisions. The leading causes of these fatal and severe injuries were identified as unsafe speeding, driving/riding on the wrong side of the road, improper turning, and automobile right-of-way violation. Miller Avenue is a north-south major collector. This four-lane undivided roadway has a Class II bike lane and on-street parking on both sides. The speed limit on this roadway is 30 mph. From 2012 to 2021, a total of 32 collisions were reported on this corridor. Among this, 1 collisions were classified as a KSI collision. The leading causes of this fatal and severe injuriy was identified as DUI.

HIGH INJURY INTERSECTIONS

Wolfe Road

1. I-280 North Bound Ramp
2. Homestead Road
3. I-280 North Bound Off Ramp
4. Stevens Creek Boulevard

Miller Avenue

1. Bollinger Road
2. Phil Lane

CITY OF CUPERTINO - PLANNED PROJECTS

The 2016 Cupertino Bicycle Transportation Plan suggests conducting a study on implementing a buffered bike lane along the Wolfe Road corridor from Homestead Road to Stevens Creek Boulevard. The study advocates for reconfiguring and removing medians to facilitate buffered bike lanes while minimizing lane reduction.

The I-280/Wolfe Road Interchange Improvement Project, a collaborative efforts between the Santa Clara Valley Transportation Authority (VTA), the City of Cupertino, and Caltrans, will enhance traffic operations and establish facilities that support various modes of transportation, such as bicycles, pedestrians, and high-occupancy vehicles. This undertaking aims to incorporate off-street bike lanes, on-street painted bike lanes and sidewalks, perpendicular crossings for cyclists and pedestrians at on-ramp and off-ramps, signal improvements, bike sensors, and other safety measures. Additionally, the project entails the installation of new lighting and landscaping, significantly enhancing safety for both bicyclists and pedestrians along the corridor. Construction is anticipated to begin in 2024.

The Wolfe Road corridor has been awarded the HSIP (Cycle 11) funding for the installation of High Friction Surface Treatment (HFST) on Wolfe Road between Homestead Road to Bollinger Road and installation of dynamic/variable speed warning signs on Miller Avenue between Bollinger Road and South City Boundary.

WOLFE - MILLER ROAD

COLLISION STATISTICS (2012 - 2021)

6
13
99

118 Injury Collisions

6 KSI* Collisions
-
2
4

COLLISION TRENDS

42%	47%	71%	17%
49 Collisions	56 Collisions	61 Collisions	15 Collisions
Speed Related Collisions	Rear End Collisions	Unsignalized Intersections	Traffic Signal and Sign Violation

RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- ☑ Signal Head and Equipment Upgrades
- Improve Signal Timing
- ☑ Free-Right Turn Removal
- ☑ High Visibility Crosswalk

BICYCLE SAFETY IMPROVEMENTS

- ☑ Class IV Separated Bicycle Facility
- Bike Boxes
- Bicycle Signal
- ☑ Bike Detection Systems
- ☑ Green Pavement Marking in Conflict Zone

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders
- Upgrading and Installing Additional Signage for Trap Lanes
- Consider Deliniators for Trap Lanes

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

7 Recommended Project
BOLLINGER ROAD

CHARACTERISTICS

Bollinger Road is a 2.0-mile long east-west major collector that connects Lawrence Expressway and De Anza Boulevard, two major north-south arterials. The road lies along the border of Cupertino and San Jose, with Cupertino to the north and San Jose to the south. The road frontage is primarily residential and is home to four nearby elementary schools, Hyde Middle School, and Cupertino High School. Bollinger Road is a four-lane roadway with two lanes in both the eastbound and westbound directions. The corridor has Class II bike lanes on both sides. On-street parking is available along most of the corridor in both directions. The speed limit on the roadway is 35 mph. There are a total of 42 collisions reported between 2012 and 2021 with 3 KSI collisions reported with 2 fatalities. The primary collision factor being pedestrian code violation and driving under the influence.


Bollinger Rd. & Wunderlich Dr. Intersection

HIGH INJURY INTERSECTIONS

1. Miller Avenue
2. Wunderlich Drive
3. Estates Drive

CITY OF CUPERTINO - PLANNED PROJECTS

The Cities of Cupertino and San Jose conducted a safety and operational study of the Bollinger Road Corridor in 2021. This project focused on examining Bollinger Road to identify improvements that will enhance pedestrian, bicycle, motor vehicle, and transit operations and safety. The study proposed two alternatives that reflect different priorities and strategies for improving the corridor. Alternative A involves a road diet, where the road would be reduced to one travel lane in each direction, along with the provision of a center two-way left turn lane. Alternative B maintains the existing lane configuration while implementing spot improvements, primarily at intersections. Some of the proposed improvements include:

1. Class IV Separated Bike Lanes
2. Speed Feedback Signage
3. High-Visibility Pedestrian Crossings
4. Bike Boxes
5. Two-Stage Turn Queue Boxes
6. Curb Radii and Free-Right Turn Removals
7. Leading Pedestrian Intervals (LPI)
8. Rectangular Rapid Flashing Beacons (RRFB)
9. Pedestrian Hybrid Beacon (PHB)
10. Transit Islands

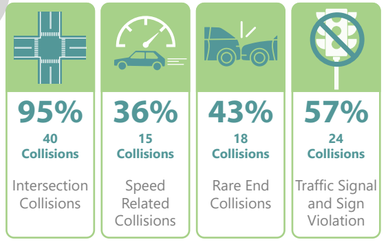
In 2023 Cupertino was successfully awarded a Safe Streets 4 All grant from the US Department of Transportation, for the purpose of performing a detailed traffic analysis of the corridor and develop conceptual plans to construct these improvements.

The City received a HSIP (Cycle 11) grant for the installation of dynamic/variable speed warning signs and High Friction Surface Treatment (HFST) on Bollinger Road between Lawrence Expressway to De Anza Boulevard.

BOLLINGER ROAD CORRIDOR

COLLISION STATISTICS (2012 - 2021)

COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- ☑ Leading Pedestrian Intervals (LPI)
- • Signal Head and Equipment Upgrades
- • Improve Signal Timing
- ☑ Curb Radii and Free-Right Turn Removal
- ☑ Reconfiguring Intersections
- ☑ High Visibility Crosswalk
- ☑ Rectangular Rapid Flashing Beacons (RRFB)
- • Signalization

BICYCLE SAFETY IMPROVEMENTS

- ☑ Class IV Separated Bicycle Facility
- ☑ Bike Boxes
- • Bicycle Signal
- ☑ Bike Detection Systems
- ☑ Two-Stage Turn Queue Boxes

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs
- ☑ Pavement Friction Improvement using High Friction Surface Treatment (HFST)

SIGNAGE IMPROVEMENTS

- • Increase Size and Reflectivity of Signs
- • Back-Plates With Retroreflective Borders

OTHER

- ☑ Transit Islands

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

* *Killed or Severely Injured*

8 Recommended Project
BLANEY AVENUE

CHARACTERISTICS

Blaney Avenue serves as a north-south major collector. This two-lane undivided roadway includes Class II bike lanes and high-visibility crosswalks at significant intersections. The speed limit on this roadway is 30 mph. From 2012 to 2021, a total of 16 injury collisions were reported on this corridor. Among these, 5 collisions were classified as KSI collisions. The cause of these fatal and severe injury was identified as unsafe speeding and improper turning.

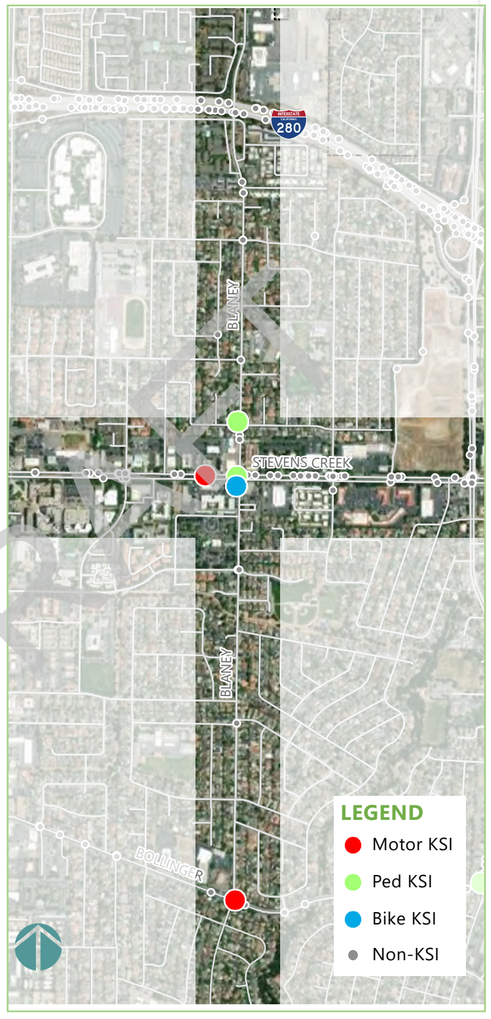
HIGH INJURY INTERSECTIONS

1. Stevens Creek Boulevard
2. Wheaton Drive

CITY OF CUPERTINO - PLANNED PROJECTS

The City of Cupertino 2016 Bicycle Implementation Plan recommends converting bike lanes on Blaney Avenue between Homestead Road and Bollinger Road into a Class IV separated bikeway to improve north/south connections. The plan also recommends reconfiguring the Blaney Avenue and Wheaton Drive intersection to enhance bicycle crossings at Wheaton.

The Blaney Avenue corridor has been awarded the HSIP (Cycle 11) funding for the installation of dynamic/variable speed warning signs on the corridor between Homestead Road to Bollinger Road.



BLANEY AVENUE

COLLISION STATISTICS (2012 - 2021)

1
6
9

16 Injury Collisions

5 KSI Collisions
2
1
2

COLLISION TRENDS

38%	25%	88%	31%
6 Collisions	4 Collisions	14 Collisions	5 Collisions
Speed Related Collisions	Rear End Collisions	Unsignalized Intersections	Nightime Collisions

RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

- Leading Pedestrian Intervals (LPI)
- Signal Head and Equipment Upgrades
- Improve Signal Timing
- Free-Right Turn Removal
- High Visibility Crosswalk

BICYCLE SAFETY IMPROVEMENTS

- Class IV Separated Bicycle Facility
- Bike Boxes
- Bicycle Signal
- Bike Detection Systems
- Green Pavement Marking in Conflict Zone

SPEED SAFETY IMPROVEMENTS

- ☑ Dynamic/Variable Speed Warning Signs

SIGNAGE IMPROVEMENTS

- Increase Size and Reflectivity of Signs
- Back-Plates With Retroreflective Borders
- Upgrading and Installing Additional Signage for Trap Lanes
- Consider Deliniators for Trap Lanes

OTHER

- Consider overhead mast arm with signs to inform drivers of what lanes they should be in ahead of approaches

☑ *City of Cupertino - Projects in Concept, Planning, Design or Construction Phase. Details of the projects and current status can be found on the City of Cupertino's website*

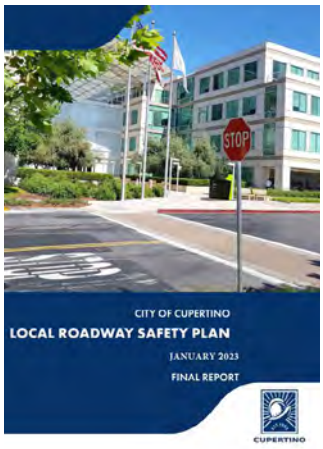
* *Killed or Severely Injured*

ONGOING/FUTURE SAFETY INITIATIVES

In the pursuit of safer streets and enhanced mobility, the City of Cupertino has undertaken a series of proactive initiatives aimed at addressing pressing safety concerns within its urban landscape. Anchored by the Vision Zero Action Plan, Cupertino's Local Road Safety Plan (LRSP) stands as a cornerstone document, guiding comprehensive efforts to mitigate collision risks, prioritize community needs, and bolster transportation infrastructure. Continually refined through collaboration with city staff and safety partners, the LRSP serves as a dynamic blueprint, facilitating access to vital grant resources such as the federal Highway Safety Improvement Program (HSIP) and the One Bay Area Grant (OBAG). Through meticulous analysis of collision data and identification of high-risk areas, Cupertino's LRSP outlines six targeted safety projects, each tailored to address specific hazards at intersections and roadway segments.

Complementing these initiatives are capital improvement programs slated for the fiscal year 2024/25, showcasing the city's commitment to sustainable transportation and infrastructure enhancement. From the Bollinger Road Corridor Design project, aimed at optimizing safety and operations along a critical thoroughfare, to the Stevens Creek Boulevard Class IV Bikeways, designed to promote safe cycling infrastructure, each endeavor aligns with master plan priorities and community-driven objectives. Moreover, the Tamien Innu Trail and Carmen Road Bike/Ped Bridge projects underscore Cupertino's dedication to fostering commuter connectivity and pedestrian-friendly environments.

In tandem with these tangible projects, Cupertino's Complete Street Resolution & Ordinance represents a paradigm shift in urban planning, emphasizing inclusivity, accessibility, and environmental sustainability. By integrating the diverse needs of pedestrians, cyclists, motorists, and public transit users into transportation planning, the city's policy framework not only enhances safety but also fosters a healthier, more vibrant community. As Cupertino continues to prioritize multimodal transportation and infrastructure development, it stands poised to realize its vision of safer, more livable streets for all residents and visitors alike.

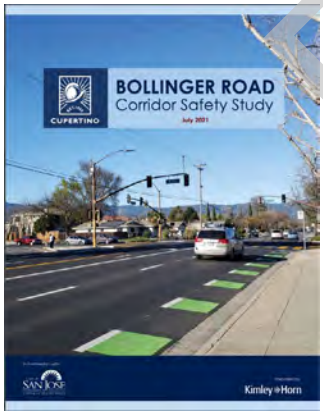


LOCAL ROAD SAFETY PLAN

The LRSP adopts a proactive approach to addressing safety needs, serving as a comprehensive guidance document that provides information and ideas. Regularly reviewed and updated by City staff and their safety partners, it reflects evolving collision trends, community needs, and priorities. Using the LRSP as a guide, the City can readily apply for grant funds such as the federal Highway Safety Improvement Program (HSIP) or the One Bay Area Grant (OBAG). This document analyzes collisions in Cupertino, identifies high-injury locations, and recommends countermeasures for these high-risk areas. The City of Cupertino's Local Road Safety Plan outlines six safety projects specifically designed for the most hazardous intersections and roadway segments.

- Project 1: Safety at Signalized Intersections - Unsafe Speed and Rear End
- Project 2: Safety at Signalized Intersections - Improper Turning, Auto Right-of-Way Violations, and Broadside
- Project 3: Safety at Signalized Intersections - Pedestrian and Bicyclist Safety
- Project 4: Safety on Roadway Segments - Unsafe Speed Violations and Rear End
- Project 5: Safety on Roadway Segments - Improve Pedestrian and Bicyclist Safety
- Project 6: Safety on Roadway Segments - Reduce Nighttime Collisions

CAPITAL IMPROVEMENTS PROGRAMS - FISCAL YEAR 2024/25

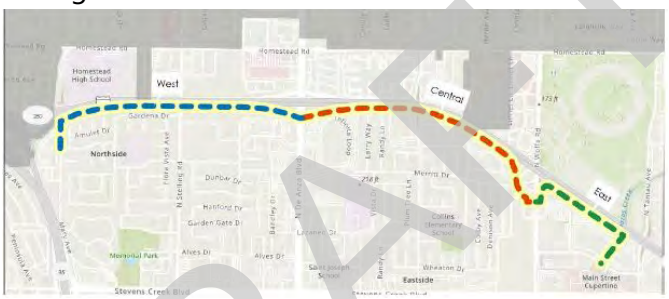


1. BOLLINGER ROAD CORRIDOR DESIGN:

In December 2020, City staff initiated the Bollinger Road Corridor Safety Study, a collaborative effort between the City of Cupertino and the City of San José. The study focuses on Bollinger Road from De Anza Boulevard to Lawrence Expressway, aiming to enhance safety and operations for pedestrians, cyclists, motorists, and transit users. The project includes a preliminary engineering, public outreach, and a traffic analysis to evaluate the impact of a potential road diet (Alternative A from the 2020 Feasibility Study) on congestion and traffic diversion. Funding has been secured, with a requirement for 20% matching funds, and additional resources are needed for construction. This initiative supports sustainable transportation and aligns with master plan priorities, with initial traffic studies and preliminary designs set to begin this fiscal year by the Public Works Department.

2. STEVENS CREEK BLVD. CLASS IV BIKEWAYS:

The Stevens Creek Boulevard Class IV Bikeway project involves the design and construction of a separated bikeway along Stevens Creek Boulevard, extending from Wolfe Road to SR-85. This initiative includes signal upgrades at Bandley Drive and is partially funded externally. The project budget covers both design and construction, with development in-lieu funding provided. The design for Phase 2A between Wolfe Rd and De Anza Blvd is complete and will be put out for public bid once additional external funding is secured. This bikeway is a top priority in the 2016 Bicycle Pedestrian Plan highlighting its importance in the city's infrastructure development goals.



3. TAMIEN INNU TRAIL (OFF-STREET BICYCLE AND PEDESTRIAN FACILITY):

The Tamien Innu project involves designing and constructing an off-street bicycle and pedestrian facility parallel to the I-280 Highway, extending from Vallco Parkway to the Don Burnett Bridge. The project is divided into three externally funded segments: East, Central, and West, each aligning with the goals of the 2016 Bicycle Pedestrian Plan and the 2018 Pedestrian Transportation Plan. The East Segment, from Wolfe Road to Vallco Parkway, awaits Valley Water's design approval, with the CEQA process completed and the budget covering both design and construction. The Central Segment, from De Anza Boulevard to Wolfe Road, has its design phase paused until the East Segment's design is finalized; its budget includes design, environmental clearance, and a portion of construction, with the CEQA process completed. The West Segment, from De Anza Boulevard to the Don Burnett Bridge, will begin its design phase after significant progress on the other segments, requiring additional funding post-design completion. Overall, the project aims to enhance commuter connectivity, ensuring a cohesive development approach across all segments.

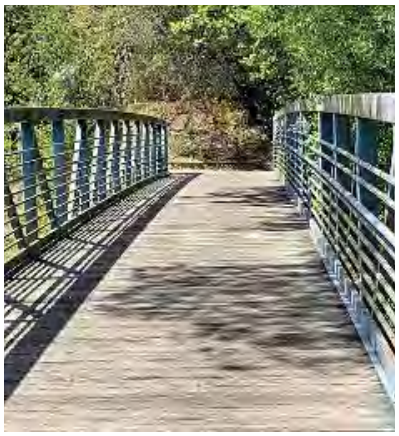
4. CARMEN ROAD BICYCLE/PEDESTRIAN BRIDGE

The Carmen Road Bike/Ped Bridge project aims to construct a bicycle and pedestrian bridge across Stevens Creek Boulevard at Carmen Road, providing a safer crossing alternative for cyclists and pedestrians. Identified as a priority in both the 2016 Bicycle Pedestrian Plan and the 2018 Pedestrian Transportation Plan, this significant project, requested by the Commission and residents, requires substantial staffing and budget resources. The design phase is proposed to begin in FY25-26, following the initiation of the Bollinger Road and Stevens Creek Boulevard projects, with the budget covering both design and construction.

5. SAN TOMAS AQUINO/SARATOGA CREEK TRAIL EXTENSION


San Tomas Aquino Creek Trail near Great America

The San Tomas Aquino/Saratoga Creek Trail Extension project involves a feasibility study to evaluate potential alignments and costs for a bicycle and pedestrian connection to the north end of Lawrence-Mitty Park. This northern extension aims to connect Sterling Barnhart Park to Stevens Creek Boulevard and is identified as a priority in both the 2016 Bicycle Pedestrian Plan and the 2018 Pedestrian Transportation Plan, as well as "Reach 5" of the 1999 San Tomas Aquino/Saratoga Creek Trail Master Plan. The project enhances sustainable transportation and aligns with master plan priorities. Requested by the Parks & Recreation Commission and the Bicycle Pedestrian Commission, the initial feasibility report can be initiated this fiscal year by Public Works staff.



6. GRADE-SEPARATED CROSSING AT HIGHWAY 85 CROSSING BETWEEN GRAND AVE. AND MARY AVE.

The Grade Separated Crossing Study for Highway 85 Crossing, spanning from Grand Avenue to Mary Avenue, is a recommended project categorized under Tier 1 in the Cupertino Bicycle Transportation Plan. This study aims to explore the feasibility and potential designs for a grade-separated crossing, ensuring safe passage for cyclists and pedestrians across Highway 85. Identified as a priority in the transportation plan. This project addresses crucial connectivity needs and enhances safety for non-motorized transportation users

7. CLASS IV SEPARATED BIKEWAY ON FINCH AVE. BETWEEN PHIL LN. AND STEVENS CREEK BLVD

The Class IV Separated Bikeway project on Finch Avenue, spanning from Phil Lane to Stevens Creek Boulevard, is a recommended Tier 1 project outlined in the Cupertino Bicycle Transportation Plan. This initiative aims to design and construct a dedicated bikeway separated from vehicular traffic, providing a safe and accessible route for cyclists along Finch Avenue. Identified as a priority in the transportation plan. This project addresses the critical need for improved cycling infrastructure and enhances connectivity for cyclists within the community.

COMPLETE STREET RESOLUTION AND ORDINANCES

Cupertino's Complete Street Policy aligns with state mandates, emphasizing safety, accessibility, and mobility for all road users. Adopted by the City Council, this policy integrates the needs of pedestrians, cyclists, motorists, public transit users, and individuals with disabilities into transportation planning. It promotes reduced vehicle miles traveled and increased walking, cycling, and public transit use, in line with state environmental goals. The policy ensures eligibility for regional funding programs like the One Bay Area Grant (OBAG) and 2016 Measure B, supporting community health, safety, economic vitality, and environmental sustainability. Consistent with Cupertino's 2015 Mobility Element update, the policy emphasizes multimodal transportation and infrastructure development.

IMPLEMENTABLE ACTIONS

The implementation of Vision Zero necessitates a dedicated collaboration between City departments, the local community, and partner organizations. The project team has outlined a set of crucial steps to act as a strategic pathway towards achieving Vision Zero. Each step is assigned a specific timeline and a performance metric to gauge progress.

Short-term actions can be executed within a two-year timeframe, while medium-term actions can be completed within a span of two to five years. The more extensive, long-term actions can be realized within a period of five to ten years. Achieving the City's Vision Zero goal demands immediate action while allowing for a practical approach with incremental improvements over time. The actions outlined in this plan should undergo ongoing evaluation and refinement, with their successful execution contingent upon the availability of funding.

The implementable actions are organized into the following four action areas:

1. ***Vision Zero Program: Strategies and Assessment***
2. ***Enhancing Street Layout and Management***
3. ***Cultivating a Positive Road User Behavior***
4. ***Vulnerable Road Users***

ACTION AREAS

VISION ZERO PROGRAMS: STRATEGIES AND ASSESSMENTS

The City of Cupertino Vision Zero Program will begin by establishing a framework for the City's approach to achieve its Vision Zero goal. Program initiatives include Vision Zero promotion, integration of Vision Zero into other planning efforts, and improved Vision Zero data collection and program evaluation. A task force is crucial for the success of Vision Zero, as it fosters essential cross-departmental collaboration to achieve the program's goal of eliminating traffic fatalities and serious injuries. Vision Zero's core principle is to break down silos and unite local stakeholders; A task force enables this by bringing together key representatives from all major city functional divisions. For example, cities like New York, Los Angeles, Washington D.C., and San Francisco have established task forces that include management-level staff from multiple city departments, ensuring comprehensive buy-in and coordinated action.

In New York City, the Vision Zero task force, led by the Mayor's Office of Operations, has been pivotal in aligning various agencies towards common goals, fostering accountability, and facilitating regular inter-agency meetings to discuss progress and address challenges. These task forces not only set shared goals but also create subcommittees to tackle specific issues, enhancing collaboration and ensuring that Vision Zero's objectives are integrated into everyday departmental operations. This structured approach, supported by regular tracking and reporting, ensures that all stakeholders remain committed and accountable to the Vision Zero goals, making the task force an indispensable element in driving the initiative's success.

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
Vision Zero Program Initiative						
A.1	Vision Zero Task Force	Establish an interdisciplinary Vision Zero Task Force responsible for supervising the execution of the plan and facilitating collaboration among various City departments for project and program coordination.	Short-Term	Task Force established and regular meetings held	Department of Public Works, Community Development Department, School Districts, County and Sheriff and Fire Department, Bicycle Pedestrian Commission	Low
A detailed Vision Zero Task Force Work Plan is provided in the 'Vision Zero Task Force Work Plan' Chapter of this Report.						
A.2	Dedicated and Permanent Funding	Identify a sustainable and dedicated funding stream for the execution and management of Vision Zero.	Short-Term	Amount of funding available for Vision Zero	City Council, City Manager's Office, Department of Public Works	Medium to High
Funding sources listed in the following section of this Chapter.						
A.3	Media Workshop	Develop a workshop aimed at the Communications Department to improve their proficiency in communicating traffic collision and roadway safety concepts.	Short-Term	Number of Media Professionals Participating	City Manager's Office	Low
Promotion and Integration						
A.4	Public Meetings	Include Vision Zero as a topic in the agendas of public, community group, stakeholder meetings and city sponsored meetings throughout 2023.	Short-Term	Number of meetings with Vision Zero on agenda	City Council, Neighborhood Associations, Department of Public Works, City Manager's Office - Communications	Low
A.5	Online Collision Map	Develop an accessible interactive online data collection app and website to report near misses and collisions for residents to report concerns.	Medium-Term	Number of website visitors	Information Technology Department, City Manager's Office - Communications, Department of Public Works, Cupertino Hackathon	Medium

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
A.6	Future Plans & Policy	Integrate Vision Zero safety principles into forthcoming City plans and design documents.	Continuous	Number of plans and policies incorporating Vision Zero	Community Development Department, Department of Public Works	Low
Data Collection & Program Evaluation						
Details on Continuous Data Collection and Analysis are listed in the following chapters of this Report.						
A.7	Program Monitoring	Issue a biannual report to assess advancements in alignment with the objectives of the Vision Zero Plan.	Medium-Term	Biannual report focusing on plan metrics and performance indicators.	Department of Public Works	Medium
A.8	Monitoring Speed Limits	Continue monitoring existing speed limits on City streets in accordance with the changes made by AB 43 to further lower speeds.	Continuous (every street is checked 7 extendible to 14 years)	Percent of roadway network designated as a Safety Corridor. Average speed limit by functional classification	Department of Public Works	Medium
A.9	Collision Report Training	Offer training to the Sheriff's Office with the goal of enhancing collision data reporting, and ensuring the preservation of collision details and site evidence.	Long-Term	Number of Sheriffs trained	Sheriff's Office	Low
A.10	Community-Based Safety Reporting System/Tool	Create an easy to use, accessible and digitally secure public reporting platform for community to report problem areas, near misses, or any safety concerns	Continuous	Number of comments addressed	Department of Public Works	Low
A.11	Data Completeness	Enhance data collection pertaining to speed, impairment, cell phone use, and distraction in KSI	Medium-Term	Proportion of Collision records including this information	Sheriff's Office	Low
A.12	Bicycle and Pedestrian Count Data	Set up periodic pedestrian and cyclist counts at standardized locations.	Medium-Term	Number of counts conducted	Department of Public Works	Medium

ENHANCING STREET LAYOUT AND MANAGEMENT

Cupertino's Vision Zero initiative places a strong emphasis on prioritizing top-notch enhancements for the High-Injury Network (HIN) as the primary approach to achieve the goal of eliminating traffic fatalities and severe injuries. Alongside these improvements, the city will also focus on optimizing signal operations and implementing more rigorous design review processes to enhance street layouts. All street improvements will adhere to the compatible General Plan Design Guidelines.

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
High Injury Network Infrastructure						
B.1	Priority Location	Create and obtain grant funding for the eight key project sites identified in the plan, with an emphasis on enhancing roadway designs to enhance safety.	Medium-Term	Number of funded projects	Department of Public Works	High
B.2	List Prioritized Project	Create a carefully ranked roster of extra safety projects	Medium-Term	List of safety projects in order of priority.	Department of Public Works	Medium
A roster of implementable Countermeasures are listed in the Countermeasure Section of this Report.						
B.3	Quick Build Demonstration Projects or Tactical Urbanism	Install quick, light, flexible and adaptable projects proven to achieve real tangible benefits. These demonstrations could stay in place indefinitely, or (more typically) form the basis of the design for a permanent project to come later.	Short	Number of locations that where quick builds have been implemented	Community Development Department; Department of Public Works	Low
B.4	Low-Cost Improvements	Implement cost-effective safety enhancements, encompassing the installation of new road markings, signage, and minor adjustments to signals.	Medium-Term	Number of locations where enhancements have been applied.	Department of Public Works	Medium

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
B.5	Stakeholder Engagement	Convene local stakeholders residing near high-collision corridors to gather their input on project design.	Medium-Term	Number of Stakeholder meetings that have been held	Department of Public Works, Sheriff's Office and School Districts	Low
Operations and Technology						
B.6	Signal Timing Updates	Updated signal timing plans to enhance safety for all modes of transportation, which may include adjustments to all-red intervals and pedestrian crossing times.	Short-Term	Percentage of signals in updated.	Department of Public Works	Medium
B.7	Intelligent Transportation Systems (ITS)	Integrate Vision Zero safety principles into forthcoming City plans and design documents.	Long-Term	Incorporation of Intelligent Transportation Systems (ITS) technologies to enhance traffic safety.	Department of Public Works	High
More details on Transportation Technology listed in the Transportation Technology Section of this Report.						
Policies and Design						
B.8	Design Review	Create an internal procedure for evaluating and, where possible, implementing Vision Zero countermeasures on projects located within HIN	Long-Term	Percentage of public and private projects that integrate Vision Zero components.	Community Development Department, Department of Public Works	Low
B.9	Complete Streets	When identifying safety enhancements, take into account all individuals using the road and ensure that countermeasures align with the City's Complete Streets Policy.	Medium-Term	Reduction in collisions	Department of Public Works	Low

CULTIVATING A POSITIVE ROAD USER BEHAVIOR

The City of Cupertino's Vision Zero initiative promotes safe travel behaviors through a combination of outreach and education efforts, enforcement measures, and the provision of alternatives to driving, especially during holidays, special events, and late evenings. This approach recognizes the collective responsibility for making safe choices and fostering a culture of safety.

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
Education and Outreach						
C.1	Education Campaign	Initiate high-impact educational campaigns targeting issues like speeding, distracted driving, impaired driving, and other high-risk behaviors. These campaigns will specifically concentrate on HIN corridors to maximize their effectiveness.	Medium-Term	Number of people reached and educated	City Manager's Office, Sheriff's Office, and School District	High
C.2	Speed Feedback Signs	Promote the utilization of speed feedback signs to deter speeding.	Medium-Term	Number of signs installed	Department of Public Works, and Sheriff's Office	Medium
C.3	Targeted Outreach	Discourage impaired driving by directing education and outreach efforts towards locations in proximity to alcohol-serving establishments.	Medium-Term	Number of establishments that have been engaged or reached through the outreach efforts.	Sheriff's Office	Medium
Enforcement						
Traffic Enforcement strategies are detailed out in the Traffic Enforcement Section of the Action Plan.						
C.4	Police Academy	Incorporate Vision Zero policies into the curriculum of the Police Academy and ongoing training for Public Safety Officers.	Long-Term	Number of officers who have received training on Vision Zero.	Sheriff's Office	Low

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
Providing Alternatives to Driving						
C.5	Subsidized Transit	Investigate possibilities for extending no-cost or reduced-rate transit fares on holidays and during special events.	Medium-Term	Number of individuals utilizing free or subsidized fares.	VTA, Department of Public Works	Medium
C.6	Incentivize & Prioritize Transit Use	Work with Transit Agencies to expand and improve transit networks while using technology to optimize transit schedules and provide real time tracking. Ensure transit stops and stations are well-lit, secure, and monitored to improve safety for all users.	Long	Number of persons taking transit (ridership data)	Department of Public Works and VTA	High
C.7	Late-Night Options	Create a public awareness campaign to promote late-night transportation options, such as transit, taxis, rideshare services, and more, as alternatives to impaired driving.	Long-Term	Number of promotional initiatives or activities organized	City Manager's Office, VTA, Rideshare providers	Medium
C.8	Curbside Management	Establish curbside management policies aimed at promoting and facilitating passenger loading.	Medium-Term	Adoption of City policy	Community Development Department, Department of Public Works	Medium

VULNERABLE ROAD USERS

The strategies of Cupertino Vision Zero acknowledge that individuals at both ends of the age spectrum, as well as those who are biking or walking, are more susceptible to severe traffic injuries and fatalities due to variations in their reaction time and agility.

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
Bicyclist and Pedestrian						
D.1	Bicycle Network	Continue the development and enhancement of the bicycle network in line with the City of Cupertino's 2016 Bicycle Transportation Plan.	Ongoing	Lane miles of low-stress bicycle facilities installed	Department of Public Works	High
D.2	Pedestrian Crossing	Install or enhance pedestrian crossing features along the High-Injury Network (HIN).	Medium-Term	Number of upgraded crossings	Department of Public Works	High
D.3	Turning Vehicles	Complete projects that enhance bicycle and pedestrian safety with regard to turning vehicles at intersections.	Long-Term	Number of projects that have been implemented	Department of Public Works	High
D.4	Develop and Maintin an Active Transportation Plan	Developing an ATP will advance Vision Zero goals by creating safer, more accessible infrastructure, thereby reducing traffic fatalities and serious injuries.	Long-Term	Reduction in the number of pedestrian and bicycle fatalities	Department of Public Works	High
Children and Seniors						
D.5	High-Visibility Crosswalk	Install high-visibility crosswalks in proximity to schools.	Medium-Term	Number of crosswalks near schools that have been designated as "high visibility."	Department of Public Works	Medium
D.6	Senior Awareness	Create an educational campaign targeting drivers to enhance safety for pedestrians aged 60 and above.	Medium-Term	Monitor collision data	City Manager's Office, AARP, Library and Community Services, Senior Center	Medium

No	Safety Strategy	Description	Timeline	Progress Measure	Key Partners	City Resources
D.7	Increasing investments in Safe Routes to School and maintain a dedicated Safe Routes to School coordinator	Utilizing the Vision Zero data on collisions and priority corridors to feed into a comprehensive citywide Safe Routes to School plan. Update Safe Routes to School maps for every school by conducting walk audits and prioritize projects on corridors that link multiple schools that are also Vision Zero priorities.	Continuous	Reduction in number of collisions around schools	School Districts, Department of Public Works	High
D.8	Reduce speeding and speed limits around schools	Partnering with other cities and jurisdictions to advocate for state legislation that would give them the authority to utilize automated speed enforcement (such as safety cameras) near school zones.	Continuous	Reduction in number of collisions around schools	Department of Public Works	Low
D.9	Offer comprehensive bicycle and pedestrian safety education to all children	Engaging elementary, middle and high school students in traffic safety through Safe Routes to School. Empowering young people as leaders to promote safe transportation in their communities. Provide universal bike skills training for all middle school graders in public school, and create a traffic safety curriculum and mandate its teaching in all elementary schools.	Continuous	Number of in-person safety trainings sessions conducted	School Districts, Department of Public Works	Medium
Details of the same can be found in the Educational Programs Section of the Action Plan in this Report						
D.10	Traffic Education for Safe Routes to School	Organize traffic safety classes for both students and parents.	Medium-Term	Number of individuals reached or impacted.	School Districts, Department of Public Works	Medium
Details of the same can be found in the Educational Programs Section of the Action Plan in this Report						

FUNDING AND IMPLEMENTATION

The City has numerous avenues through which it can finance and carry out the actions listed below. As an example, the integration of safety improvements into pavement management programs, other transportation capital projects, and new development initiatives is a viable approach. To secure dedicated funding for safety projects, the City may consider seeking support from state or regional sources such as Caltrans and MTC Active Transportation Programs, the Caltrans Highway Safety Improvement Program, the One Bay Area Grant Program, and the Transportation Development Act Article 3 (TDA3) Local Transportation Fund. Additional funding sources include Caltrans Sustainable Transportation Planning Grants, Safe Routes to School (SRTS) Funding, Transformative Climate Communities (TCC) Program and California Office of Traffic Safety (OTS) Grant Program.

VISION ZERO TASK FORCE WORK PLAN

The Vision Zero Task Force aims to eliminate all traffic fatalities and severe injuries in Cupertino while increasing safe, healthy, and easily accessible mobility for all. This work plan outlines the key actions, responsible parties, timelines, and desired outcomes to achieve these goals.

GOALS

- Eliminate traffic fatalities and severe injuries.
- Improve safety for vulnerable road users.
- Enhance crash and injury data quality.
- Strengthen local and regional partnerships.

1. ANNUAL TRAFFIC FATALITY AND SEVERE INJURY REPORTING

- Action: Collect, analyze, and report data.
- Outcome: Data-driven decision-making.

2. REVIEW ANNUAL TRAFFIC ENFORCEMENT, CITATIONS FOR TOP 5 KSI CAUSES

- Action: Analyze and adjust enforcement strategies.
- Outcome: Targeted enforcement to reduce severe incidents.

3. REACH VULNERABLE ROAD USERS VIA EXISTING EFFORTS

- Action: Integrate safety messages into city programs.
- Outcome: Increased safety awareness.

4. COLLABORATE WITH VTA FOR SAFER TRANSIT AREAS

- Action: Conduct safety audits, and implement improvements.
- Outcome: Safer transit stops.

5. COORDINATE EDUCATION CAMPAIGNS WITH ENFORCEMENT

- Action: Launch campaigns timed with enforcement blitzes.
- Outcome: Increased public compliance with traffic laws

6. IMPROVE CRASH AND INJURY DATA QUALITY

- Action: Update data collection protocols and train staff.
- Outcome: Reliable data for safety initiatives.

PERFORMANCE METRICS

- Reduction in traffic fatalities and severe injuries.
- Number of citations for top 5 KSI causes.
- Safety improvements around transit stops.
- Public awareness levels.
- Quality of crash and injury data.

REPORTING

- Frequency: Annual reports to City Council and public.
- Review: Annual review meetings for effectiveness adjustments.

The Vision Zero Task Force will use collaboration, data-driven strategies, and community engagement to make Cupertino's streets safer for all.

TRANSPORTATION TECHNOLOGY

The technology related to transportation is evolving rapidly. From smart phone apps to regional infrastructure, the trend of creating "smart cities" extends strongly through this spectrum and into the realm of transportation. Some broad areas are offered:

Intersections represent the greatest challenge for vulnerable roadway users. Technology assistance can include:

- Bicycle Detection, Pedestrian Detection
- Wayfinding and Orientation assistance devices for blind and visually impaired persons
- Accessible Pedestrian Signals with custom speech messages (not tones, chirps, percussive sounds, etc.) for walk and flashing don't walk; countdown displays; leading pedestrian intervals (LPIs)

In the event of a crash, law enforcement personnel are exposed to the risks of active traffic while investigating the crash scene. A fatal crash results in crime scene protocols, which require longer and more detailed investigation, resulting itn even greater exposure to moving vehicular traffic hazards.

- Deploy next generation emergency vehicle preemption to reduce response times and increase safety.
- Provide technology and training for officers to better record and preserve crash details and site evidence.
- Employ dynamic traffic rerouting strategies to minimize exposure to moving traffic.

Analysis should not be just reactive to documented crashes. Technology can provide a proactive view.

- Deploy automated speed data collection technology to assess speeding patterns and conduct frequent road safety audits based on findings.
- Enhance signal system software and equipment to detect red light running and use data for enforcement and engineering.
- Implement Near-Miss Traffic Incident Identification Systems that monitor for patterns and frequency of near-miss collisions within signalized intersections.

The City of Cupertino should take a leadership role in changing the characteristics of the vehicles traveling along our streets.

- Require that all new vehicles added to the City fleet beginning in 2040 have the latest crash reduction technology such as lane departure warning, forward crash avoidance sensors, school zone approach warnings, and other built-in safety equipment.

The City of Cupertino should take a leadership role in changing the characteristics of the vehicles traveling along our streets.

- Require that all new vehicles added to the City fleet beginning in 2040 have the latest crash reduction technology such as lane departure warning, forward crash avoidance sensors, school zone approach warnings, and other built-in safety equipment.
- Right-size city-owned vehicles by updating vehicle purchasing standards to ensure City phases smaller vehicles with the latest crash reduction and safety technology into its fleet where possible.
- Equip all City fleet vehicles with safety related devices, designs, and technology that record and report dangerous driving behaviors.

Actively partner with VTA to improve safety for transit patrons:

- Evaluate opportunities to expand existing and/or implement new transit priority treatments.
- Implement new transit vehicle engineering principles (such as rear-of-vehicle chevrons, right-side illumination during turns, and lane departure technology) to reduce collisions.
- Provide protected crossings for transit patron to cross streets to reach transit stops. Partner for the funding of design, installation, and maintenance of such devices as RRFBs and PHBs.

Getting people and goods and services to their ultimate destination requires a fine-grained approach in the urban landscape. Where these modes and services can be automated to minimize the risk of mistakes results in a safer environment. This can be accomplished through:

- Autonomous Vehicles, Micro mobility, Drones
- Vehicle-to-Vehicle (V2V) and Vehicle-to Infrastructure (V2I) interconnection and interaction
- Continue to work with tech companies and organizations to pioneer autonomous vehicle testing and adoption to improve safety.
- Enact ordinances and enabling legislation that balance the needs of technology service providers and societal expectations.

EDUCATIONAL PROGRAMS

The establishment of a Vision Zero policy should not be the end of the discussion. Continued community focus requires ongoing education and encouragement. For some, the answer to the question of what Vision Zero means to them personally or collectively requires an ongoing discussion. These suggested events and programs can help to continue the discussion and empower people to put voice to what they may feel or are perceiving as they travel Cupertino's streets.

SAFE ROUTES TO SCHOOL

Safe Routes to School is a movement that aims to make it safer and easier for students to walk and bike to school. The first federally funded Safe Routes to School program was created in 2005. Safe Routes to School programs have benefited more than 14,000 schools in all 50 states. And the demand continues to grow, especially low-income communities, communities of color, and rural communities, where it is hard for anyone to safely and conveniently walk, bicycle, or get physical activity. The most successful Safe Routes to School programs incorporate the Six E's: evaluation, education, encouragement, engineering, engagement, and equity. At the regional and state level, Safe Routes to School practitioners work to find new funding and ensure proper spending of existing funding for Safe Routes to School. And at the federal level, the Safe Routes Partnership and its allies maintain a steady voice for policy and funding support in Washington and provide a source of expert help, ideas, and resources for leaders at all levels.

The City of Cupertino currently has a Safe Routes to School partnership between City staff and community partners, including: Cupertino Union School District, Fremont Union High School District, Walk-Bike Cupertino, and Silicon Valley Bicycle Coalition. More information can be found at *https://www.cupertino.org/our-city/departments/public-works/transportation-mobility/safe-routes-2-school*

AMERICANS WITH DISABILITIES ACT ENGAGEMENT

In Cupertino, accessibility for people with disabilities remains a significant challenge. Traveling independently is hindered by various factors like missing sidewalks, damaged routes, and confusing traffic signals. These issues often compel individuals to forgo independent travel entirely. Collaborations with national organizations like AARP, Lighthouse for the Blind, ADAPT, and others present opportunities to partner with communities, share expertise, and enhance awareness.

Events that simulate disabilities, such as blindfolded experiences or wheelchair navigation along busy streets, offer invaluable perspectives. These initiatives foster understanding and inclusivity by allowing participants to grasp the daily obstacles faced by those with disabilities. Similarly, walking with gait restraints provides insight into the needs of individuals with ambulatory disabilities.

Proactively involving marginalized groups in planning and engineering processes is crucial. Understanding the needs and perceptions of people with disabilities leads to better planning, programming, and design for ADA (Americans with Disabilities Act) improvements.

The introduction of the Public Right of Way Accessibility Guidelines (PROWAG) Final Rule in September 2023 marks a significant step. It aims to ensure that pedestrian facilities within the public right-of-way are accessible and usable for people with disabilities. Despite ongoing efforts, pedestrians with disabilities across the United States still encounter substantial challenges due to inaccessible sidewalks, crosswalks, and other pedestrian facilities.

PROWAG introduces two empowering aspects for ADA planning and design practitioners:

It allows the use of alternative designs, products, or technologies that offer equal or better accessibility than the guidelines' requirements (R102.1 ADA-Covered Facilities and Equivalent Facilitation).

It mandates compliance with requirements to the maximum extent feasible in cases where existing physical constraints make full compliance technically infeasible (R202.3 Existing Physical Constraints).

Constructive partnerships with ADA advocates and interest groups foster consensus and proactive improvements. This collaborative approach ensures that efforts align with the context and are implemented with mutual trust and belief in their effectiveness. For further information, refer to *https://www.access-board.gov/prowag/*.

WALKING/CYCLING/TRANSIT FIELD DAYS

These events take the form of activities like "Ride Your Bike to Work Day", "Walk Your Child to School Day", or "Take the Bus to Work Day". They encourage people to consider traveling by other modes than driving. What also happens is that the challenges of these other modes become apparent, especially where such travel feels uncomfortable or unsafe. Other events can include community walking or cycling assessments. Led by a knowledgeable and seasoned practitioner, groups walk or cycle around their community and identify and document deficiencies and challenges of the built environment. These events can result in written reports and presentations to owning jurisdictions and elected officials.

COMMUNITY WALKING AUDITS

A walk audit is an assessment of the pedestrian safety, accessibility, and comfort of a particular area. In addition to documenting specific issues and engaging the community in advocating for improvements, walk audits can be most effective when public officials and community members of varying backgrounds, ages and abilities are intentionally invited and welcomed along so they can experience and react to the conditions directly.

The Walk2Connect program of America Walks helps to build a more human and connected world by empowering individuals, community groups, and businesses to experience the benefits of person-to-person, shoulder-to-shoulder connection – what is called "life at 3 mph." Rooted in the simple act of walking, Walk2Connect grows the walking movement by inviting communities down pathways toward sustained communal health and stronger community relationships.

Some suggestions for success include:

- **SET SOME GOALS** - Decide what you want to accomplish
- **PICK YOUR PLACE** – Choose the route carefully, scout it ahead of time, and make sure everyone will be safe
- **GRAB A GEAR** – Bring along clipboards, printed guides, and pens, as well as a tape measure and a camera
- **BE UNIVERSAL** – Before starting, remind everyone to prioritize safety and to imagine a small child or a person with a disability on this walk (a great tool is to bring a stroller to Identify mobility)
- **TAKE PAUSE** – Stop every few blocks to analyze the conditions, make notes, and take photos
- **KEEP IT SHORT** – Don't make it too long; a one mile walk audit can easily last an hour with stops for discussion
- **CURATE YOUR CREW** – Identify participants from the neighborhood and others whom you want to recruit as advocates
- **BRING IN LOCAL LEADERS** – Invite one or two public officials such as planners, engineers or City Council members
- **USE TOOLS** - Choose a specific guide such as the AARP Walk Audit Tool Kit and send it to participants in advance
- **CHAT AND ASSESS** – At the end, ask everyone to share their "take-aways"

More information can be discovered at *https://americawalks.org/*.

MEDICAL SERVICES PROVIDERS

Communities aiming for Vision Zero policies should partner with local healthcare and emergency services. These entities witness firsthand the impact of traffic incidents and hold valuable data, such as anonymized emergency room visit records. These records reveal unreported crash locations and details that can guide community engagement and educational initiatives to enhance traffic safety.

For instance, the collaboration between Austin, Texas, and Dell Children's Hospital showcased the power of such partnerships. Dell Children's provided GIS-based crash data, including heat maps of motor vehicle, bike, and pedestrian incidents seen in their emergency room. This data uncovered unreported crashes, especially in lower socioeconomic areas and communities of color. It highlighted incidents involving intoxicated individuals and revealed details like bike helmet usage in cyclist crashes and child seat information in motor vehicle incidents involving children.

This partnership enabled targeted educational efforts, distribution of free safety gear, and improvements in traffic signal operations, sidewalks, and pedestrian facilities based on crash data. Additionally, it aided in directing traffic enforcement actions, investigating overserving in drinking establishments, and identifying areas needing better safety measures.

IMPROVING ACCESS TO TRANSIT

The Federal Transit Administration (FTA) offers programs and funding opportunities to enhance the understanding and need for effective public transit. For example, their Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310 program provides formula funding to states and designated recipients to meet the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. The program aims to improve mobility for older adults and people with disabilities by removing barriers to transportation service and expanding transportation mobility options. More information is available at *https://www.transit.dot.gov/*.

Another resource is National Alliance of Public Transportation Advocates (NAPTA), a national organization representing grassroots transit coalitions, grassroots transit rider organizations and advocates that support increasing investment in public transportation. Their objectives are:

- To create a diverse, committed, and visible national alliance of local public transit coalitions.
- To generate a heightened level of advocacy through constituent visits, calls, e-mails, and letters at necessary and appropriate times in the congressional decision-making process.
- To link local transit coalitions with new advocacy tools and resources.

NAPTA supports the Transit-Walkability Collaborative, which consists of national, state-level, and local leaders in the walkability and public transit advocacy movements who recognize the synergies between these two transportation modes and the benefits of collaboration.

Learn about NAPTA at *https://www.publictransportation.org/napta/*.

TRAFFIC ENFORCEMENT PROGRAMS

Traffic regulations are in place to establish a sense of order and guarantee the safety of all individuals navigating Cupertino. Promoting compliance with these road rules will enable law enforcement to foster secure and inviting streets within the City. These suggested traffic enforcement strategies and programs will help keep the City of Cupertino's streets safe.

HIGH VISIBILITY ENFORCEMENT

High-visibility enforcement is a multifaceted approach to law enforcement that captures the public's attention by employing highly visible patrols, such as checkpoints, saturation patrols, or message boards. The California Office of Traffic Safety (OTS) offers three grant funding sources to support the California Highway Patrol (CHP) in their efforts to enhance high-visibility enforcement. The primary objective of the Get Education and Ride Safe III (GEARS III) grant is to decrease the number of motorcycle-related collisions resulting in killed or seriously injured (KSI) individuals. The Safer Highways Statewide grant aims to reduce the number of KSI collisions involving alcohol. Lastly, the Regulate Aggressive Driving and Reduce Speed V (RADARS V) grant is targeted at lowering the number of victims killed or injured in crashes caused by factors like speeding, improper turning, driving on the wrong side of the road, or reckless driving.

The fundamental purpose of high-visibility enforcement is to encourage voluntary adherence to traffic laws, and according to research conducted by the National Highway Traffic Safety Administration (NHTSA), it stands out as one of the most effective strategies for improving safety outcomes.[6]

Important to note that traditional traffic law enforcement methods have led to concerns of racial profiling, police violence, and negative impacts on communities of color. According to the US Department of Justice, Black and Hispanic individuals face a higher likelihood of experiencing police force during stops compared to white individuals. In response, cities are transitioning to equity-focused approaches that prioritize safety for all, targeting the most dangerous reckless behaviors while addressing enforcement disparities. This shift involves various strategies, including implementing fairer fine structures and analyzing demographic data in traffic citations.

[6] Richard, C. M., Magee, K., Bacon-Abdelmoteleb, P., & Brown, J. L. (2018). Countermeasures That Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices, 2017 (No. DOT HS 812 478). United States. Department of Transportation. National Highway Traffic Safety Administration. https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/812478_countermeasures-that-work-a-highway-safety-countermeasures-guide-.pdf. Accessed February 14, 2022.

TRAFFIC VIOLATORS SCHOOL

In numerous jurisdictions, drivers who have accumulated a specific number of demerit points on their driver's licenses may be offered the opportunity to enroll in Traffic Violator School as a means to reduce their punishment. Typically, upon successful completion of Traffic Violator School, their traffic offenses are dismissed or expunged from their driving records.

Negotiated plea agreements are an indispensable component of a well-functioning and efficient court system. Nevertheless, these agreements can lead to the reduction or elimination of penalties for offenders, such as in cases where a driver is permitted to avoid a suspension of their driver's license by attending Traffic Violator School.

RED LIGHT VIOLATION CAMERAS

Cities employ red light cameras as a means of upholding traffic light regulations by identifying and penalizing drivers who disregard them. These cameras operate by capturing multiple images of motorists who disobey red signals at intersections. In coordination with the traffic signals, these cameras detect and photograph drivers who fail to come to a halt when the light turns red, subsequently issuing a ticket to the vehicle's owner through the mail. To gain a comprehensive understanding of red light cameras, it is essential to explore their purpose, the regulations governing their use, and differentiate them from other types of traffic cameras.

Red light cameras, which function as automated enforcement systems, are deployed by law enforcement to oversee intersections equipped with traffic signals. These cameras are positioned to monitor vehicles as they traverse these intersections, particularly when the traffic signal indicates a red light. According to the National Conference of State Legislatures (NCSL), nearly 350 municipalities across the United States employ red light cameras, though as of June 2023, eight states have prohibited their use.

The significance of red light cameras in enhancing road safety becomes evident when considering the statistics provided by the Insurance Institute for Highway Safety (IIHS). In 2021, there were 1,109 fatalities and 127,000 injuries resulting from crashes involving red light violations. However, the IIHS also highlights a positive impact, reporting a 21% reduction in fatal red light running crash rates in large cities where red light camera enforcement has been implemented. These cameras play a vital role in curbing dangerous driving behaviors and contributing to the overall safety of road users.

TRAFFIC SAFETY DIVERSION PROGRAM

Design a traffic safety diversion program specifically for bicycle and pedestrian traffic violations, with the primary goal of facilitating access to safety courses and programs centered on biking and walking. The program would provide a way for people who bike and walk to remove or reduce a traffic violation fine while also learning pedestrian and bicycle laws and safe walking and riding skills.

PUBLICIZED SOBRIETY CHECKPOINTS

Sobriety checkpoints are established by law enforcement officers to inspect vehicles for signs of driver impairment. These checkpoints can involve either stopping every vehicle passing through or stopping vehicles at predefined intervals, such as every third or tenth vehicle. The fundamental goal of these checkpoints is to discourage individuals from driving under the influence by heightening the perceived likelihood of encountering law enforcement and facing arrest. To achieve this objective, it is essential for sobriety checkpoints to be conspicuously positioned, widely advertised, and consistently carried out as an integral component of an ongoing sobriety checkpoint initiative.

HIGH VISIBILITY SATURATION PATROLS

A saturation patrol, which can also be referred to as a blanket patrol or a dedicated DWI patrol, involves a substantial contingent of law enforcement officers (LEOs) conducting surveillance within a designated region with the aim of identifying impaired drivers. Typically, these patrols are scheduled for periods and locations where incidents of impaired driving-related crashes frequently transpire. Similar to well-publicized sobriety checkpoint initiatives, the primary objective of widely announced saturation patrol programs is to discourage individuals from driving under the influence by elevating the perceived likelihood of being apprehended. Therefore, it is crucial to extensively promote and regularly carry out saturation patrols as part of an ongoing program dedicated to this purpose.

PARTNERSHIP

The City of Cupertino will require partnerships to increase the efficacy of the Vision Zero Action Plan. Several strategies have been identified below. As conditions and strategies evolve, the strategies and supporting elements will evolve as well.

- **COLLABORATION WITH NEARBY CITIES**
  Partner with neighboring cities to advocate and engage with the State Legislature and the Governor to pass legislation enabling the use of speed cameras throughout the State of California. This legislative change will allow Cupertino to enhance the enforcement of traffic safety laws through the use of cameras.
- **PUBLIC HEALTH AND MEDICAL INSTITUTION**
  Establish partnerships with local public health organizations, hospitals, and trauma centers to integrate crash data with health outcome information. This data linkage will provide a more comprehensive understanding of the impact of crashes and will support evidence-based solutions in Cupertino's Vision Zero initiatives.
- **PRIVATE SECTOR ENGAGEMENT**
  Collaborate with private sector entities, including businesses heavily reliant on Cupertino's streets, such as delivery companies and transportation network companies (TNCs). This partnership will ensure that private companies actively contribute to Vision Zero efforts and prioritize street safety in their operations.
- **ADVOCACY FOR SAFER DELIVERY VEHICLES**
  Collaboratively pursue local and state regulations that mandate the use of smaller, safer delivery vehicles in urban environments. Cupertino can work with partner cities and organizations to promote the adoption of these regulations where appropriate.
- **TRAFFIC SAFETY EDUCATION IN SCHOOLS**
  Work with the State Department of Education to integrate traffic safety education into school curriculums across Cupertino. This initiative aims to educate and raise awareness among students about the importance of safe road behaviors.
- **COMMUNITY AND SCHOOL AMBASSADOR PROGRAMS**
  Launch community and school-based outreach programs in Cupertino. Utilize resources available on Cupertino's Vision Zero website to create materials and activities that increase awareness and engagement in preventing future injury crashes. These programs will involve local communities and schools in promoting road safety within the city.
- **PARTNER WITH TRANSIT AGENCIES**
  Forge partnerships with regional transit agencies to implement coordinated safety measures aimed at reducing traffic fatalities and injuries. By collaborating with transit agencies, Cupertino can explore strategies such as enhanced driver training programs, implementation of advanced safety technologies in public transit vehicles—including collision avoidance systems and real-time monitoring—and the development of shared safety data systems. Additionally, joint initiatives can focus on improving infrastructure around transit hubs to enhance pedestrian and cyclist safety.

By working together, Cupertino and transit agencies can create a safer and more integrate transportation system that aligns with Vision Zero principles.

By adapting these strategies, the City of Cupertino can enhance the efficacy of its Vision Zero plan, fostering a safer and more secure environment for its residents.

CONTINUOUS DATA COLLECTION AND ANALYSIS

Achieving the goal of eradicating traffic fatalities requires a deep understanding of the locations, timing, and causes of collisions and injuries leading to deaths, along with a proactive response to the latest incidents and emerging patterns. The city will introduce tools to enhance its comprehension of road safety and embed responsiveness within the system.

1. ***Annual Collision Analysis and Reporting***
   Perform and compile an annual collision assessment report, which involves creating collision profiles and comparison of various time periods to enhance the identification of trends and progress toward Vision Zero. This analysis should incorporate accessible demographic and environmental justice data as well. Periodic updates to the High-Injury Network (HIN) and Action Plan are necessary to align with the progress achieved and to formulate new strategies and countermeasures if the existing actions fail to yield the intended outcomes.

2. ***Online Dashboard Platform***
   An online dashboard and analytical tool should be developed to collect and analyze collision data, leveraging technology to better understand core collision factors and surrogate safety measures, including collecting automated speed data and conducting near-miss analysis, identifying hard braking hotspots, and pinpointing hazard/community feedback clusters.

3. ***High Injury Network Map***
   In the City of Cupertino, more than 72% of the severe injuries and fatal crashes occur on just seven city streets. The Cupertino Vision Zero Action Plan leverages a decade's worth of collision data to pinpoint the areas where the most substantial investments in engineering, education, and enforcement can yield the most significant reductions in fatalities and severe injuries. By mapping these high-risk corridors using the most current data, the City can identify critical areas of concern and use up-to-date information to plan and prioritize projects effectively.

4. ***Complete Injury and Fatality Reporting***
   A considerable portion of pedestrian and cyclist injuries go unrecorded in police statistics, leading to an inadequate depiction of street safety. Collaborating with city partners, the local hospitals and trauma centers can establish a holistic system for the precise, well-coordinated, and prompt surveillance of injuries and fatalities. This comprehensive approach is essential for prioritizing safety projects, conducting assessments, and delivering accurate reports.

VISION ZERO AND GENERAL PLAN UPDATE

Cupertino's Community Vision 2040, which is also their state-mandated General Plan, broaches the concept of safer streets in two primary sections: Chapter 1 – Introduction and Chapter 5 – Mobility. Yet the language used is not as empowering as that of the tenants of Vision Zero. Additionally, other chapters which generally would not weigh in on the discussion of Vision Zero should be revised to add their voices to the adoption and integration of Vision Zero into all aspects of the General Plan.

CHAPTER 1 – INTRODUCTION

This chapter presents the now-dated notion that safety and mobility are exclusive and not inclusive topics. The Purpose of Community Vision 2040 states, "Due to the breadth of topics covered in Community Vision 2040, conflicts between mutually-desirable goals are inevitable. For instance, increased automobile mobility may conflict with a safe, walkable community." The last sentence is written with the premise that crashes are inevitable and thus acceptable. It also lends to the notion that mobility is defined as moving motor vehicles at speed with little or no delay and that the needs of motorists have priority over all other roadway users. It is suggested the sentence be removed from future versions of the General Plan.

The fourth guiding principle, Enhance Mobility, says, "Ensure the efficient and safe movement of cars, trucks, transit, pedestrians, bicyclists and disabled persons throughout Cupertino in order to fully accommodate Cupertino's residents, workers, visitors and students of all ages and abilities." Again, efficiency is placed ahead of safety, and the listing of the modes of travel has vulnerable roadway users at the end. If written with Vision Zero as an overarching tenant, it might instead read, "Ensure the safe and efficient movement of people and goods with the specific goal of eliminating all fatal and serious injury crashes by 2040 regardless of age, ability, identity, or mode choice. Special attention should be given to the needs of vulnerable roadway users such as pedestrians, cyclists, children and the elderly, and people with disabilities to travel safely and efficiently along and across Cupertino's streets." The term "efficiently" is used deliberately as non-motorists are susceptible to adverse impacts from weather, lack of shade and shelter, presence of barriers and obstacles, lack of accommodating travel facilities, lack of protected street crossings, presence of moderate to high volumes of vehicular traffic traveling at speed, and excessive travel distances relative to mode and ability.

On the other hand, the seventh guiding principle, Ensure Attractive Community Design, and the eighth guiding principle, Embrace Diversity, both lend themselves to supporting Vision Zero. Communities are places where people live, work, play, learn, and heal. Community planning and design follows from societal values of environment, economy, equity, and livability. Livability includes making places that fit the needs and aspirations of residents. The design of communities is influenced by the design of its streets. Streets that are planned and designed so that they feel safe and comfortable, so that they are interesting, and so that they are attractive, will be places where people want to be.

Such streets, which can be termed as "livable" or "walkable" or "people-centric", become desirable, which translates into economic benefits for the community. There is economic value in quality place making that feels safe and is safe as the design of streets directly impacts the character of the surrounding community. Vision Zero enables this to occur.

CHAPTER 3 – LAND USE AND COMMUNITY DESIGN

The introduction to this chapter identifies itself as the keystone of Community Vision 2040. It provides "an overall policy context for future physical change. It deals with the issues of future growth and helps define the desired balance among social, environmental and economic considerations, while enhancing quality of life in the community." Further, this chapter "aspires to … create a vibrant community with inviting streets and public spaces [and] preserved, connected and walkable neighborhoods…." To achieve this requires that streets are perceived to feel safe and be safe. Thus Vision Zero should be included and referenced throughout this chapter.

Figure 16: Midblock Crossing

For example, in the Looking Forward section, the third guiding principle is Integrating Community Health into Land Use Planning. The principle directs the integration of "land use and transportation networks to reduce reliance on auto usage and improving alternative choices for transportation by focusing growth and change in corridors that support all modes of transit, providing neighborhoods with easy access to schools, parks and neighborhood centers." The citywide goal LU-1 states, "Create a balanced community with a mix of land uses that supports thriving businesses, all modes of transportation, complete neighborhoods and a healthy community." This goal lends itself well to support Vision Zero and text to that effect should be included, particularly in Policy LU-1.1: Land Use and Transportation.

The nexus between public health and street safety is well documented. If a street is perceived as being unsafe, then it would not lend itself to travel by modes other than motor vehicles, which reduces physical activity, increases instances of obesity, diabetes, and cardiovascular disease. Air quality is also reduced, resulting in more respiratory illnesses particularly for children and those who have underlying medical conditions. An inability to walk or cycle to a store that offers healthy choices of foods is also curtailed, further exacerbating obesity and poor dietary habits that lead to long-term health impacts.

CHAPTER 5 – MOBILITY ELEMENT

The purpose for this chapter is to implement strategies that make alternative modes of transportation attractive choices. This will help reduce strain on the automobile network and improve health and quality of life for Cupertino residents and businesses.

Mobility is defined as the safe and efficient movement of people and goods through a transportation system; it is not simply moving cars at speed. Yet, many of our transportation decisions are made with the intent of reducing travel time for motorists, sometimes at the expense

of other roadway users. Our streets are designed to a "design speed" that in practice produces vehicular speeds that are above the posted speed limit. A better approach for Vision Zero is to adopt a methodology where a "desired operating speed" is determined given the context and the expectations of the public. Then, designers can choose geometric design parameters to achieve this speed. As a result, the desired operating speed is the design speed and is also equal to the speed limit. Speed studies conducted following completion of the project would then confirm that the vast majority of motorists are in reasonable conformance with these values. This chapter should speak to adopting designs that result in lower speeds; simply lowering the speed limit and conducting targeted enforcement does not result in a sustained change in driver behavior.

Another strategy to consider is to design our communities and their streets to be to more of a people-centric scale instead of an auto-centric scale. Typical walkable "blocks" are in the range of 250 to 300 feet in length. Superblocks, where the distance between intersections is far greater than this, curtail walking and cycling and reinforce the need to travel by motor vehicle. As opposed to following a prescriptive numerical based decision process, protected crossings should be installed based on context and the application of engineering judgement geared towards the Vision Zero tenants. It is recommended that future text strongly encourages and supports this approach.

CHAPTER 6 – ENVIRONMENTAL RESOURCES AND SUSTAINABILITY

The topic of environmental resources and sustainability may initially not seem to have a nexus to Vision Zero. However, the introduction states, "… cities need to identify ways to protect and restore natural ecosystems through land use decisions, building designs and resource conservation. This entails that community guardians and planners apply the principals of sustainability, only achieved by embedding social equity, economic and the environmental considerations throughout the development process, including mobility, infrastructure, water and energy use, buildings, streetscape and landscape, and land use planning."

Sustainability is planning and designing communities such that present needs are met without compromising the ability to meet future needs. Previously stated was the fact that community planning and design based on a desire to be sustainable follows from societal values of environment, economy, equity and livability. Thus, to plan, design, and construct streets and intersections to be people-centric places contributes to sustainability which can enhance community resiliency. A strategy for "softening" our streets is to incorporate landscaping, streetscaping, rain gardens, and bioswales. Reducing impervious cover, creating microclimates via shade, and capturing previously untreated storm water runoff and exposing it to bioremediation all can be included in geometric street features that promote Vision Zero. Language that speaks to this aspect should be included in future versions of this chapter.

CHAPTER 7 – HEALTH AND SAFETY

The introduction to this chapter states that Cupertino "is committed to maintaining a high level of preparedness to protect the community from risks to life, property and the environment associated with both natural and human-caused disasters and hazards." Yet, it is written with police, fire and EMS as the target audience. Here, the material should be expanded to include traffic crashes and the tenants of Vision Zero. As an example, in 1996 the City of Carmel, Indiana adopted the policy to replace all of its traffic signals with modern roundabouts.

Today, Carmel has over 140 roundabouts. Their crash rate is far lower than neighboring Indianapolis. As a result of not having to respond to vehicle crashes, Carmel made the business decision several years ago to eliminate the fire department's heavy rescue vehicle from the fleet. The firefighters assigned to that piece of equipment were reassigned to other areas of need. Carmel still has interjurisdictional agreements with neighboring fire and life safety agencies for heavy rescue support, but the savings to the fire department's operating budget was significant and a testament to the commitment to Vision Zero.

This chapter states, "In the future, more emphasis will be placed on sustainable approaches to community health and safety, including crime and fire prevention through design, improved use of technology, management of hazardous materials and improved disaster planning." Vision Zero and the proven safety countermeasures as listed by FHWA should be added to this list.

HOW TO GET INVOLVED

Promoting traffic safety and reducing fatalities and serious injuries is a vital goal for any community, and it requires a collective effort from both city officials and the residents. Here are some ways in which the community can contribute to achieving the stated goal of reducing traffic fatalities and injuries in the City of Cupertino:

TASK A DRIVING EDUCATION CLASS

Attending a driving education class is crucial for acquiring the knowledge and skills needed to be a responsible and safe driver.

PLEDGE TO NOT TEXT

Take a pledge to not text while driving to eliminate distractions and enhance road safety.

INSTALL ANTI-TEXTING SOFTWARE ON PHONE

Installing anti-texting software on cell phones can help ensure focus remains on the road, preventing dangerous texting and driving.

OBSERVE RULES OF ROAD WHEN DRIVING

Always observe the rules of the road when driving to promote a safer and more organized traffic environment.

BICYCLING ETIQUETTE

When cycling, practice proper bicycling etiquette by signaling turns, obeying traffic signals, and sharing the road courteously with other users.

BE AN ALERT PEDESTRIAN

Be an alert pedestrian by paying attention to surroundings, using designated crosswalks, and making eye contact with drivers before crossing streets.

SAFE ROUTES FOR ALL

Support the development of safe routes for all modes of transportation to encourage alternative means of travel and enhance overall road safety.

CHAPTER 4
TECHNICAL APPENDICES

CUPERTINO

TJKM

DRAFT

DESIGN & LAYOUT BY TJKM TRANSPORTATION CONSULTANTS

PHOTOGRAPHS PROVIDED BY TJKM TRANSPORTATION CONSULTANTS

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