

CC 07-09-2024

#3

Vision Zero Action Plan

Presentation

CITY OF CUPERTINO

Vision Zero Action Plan

Cupertino City Council
July 9, 2024



What is Vision Zero?

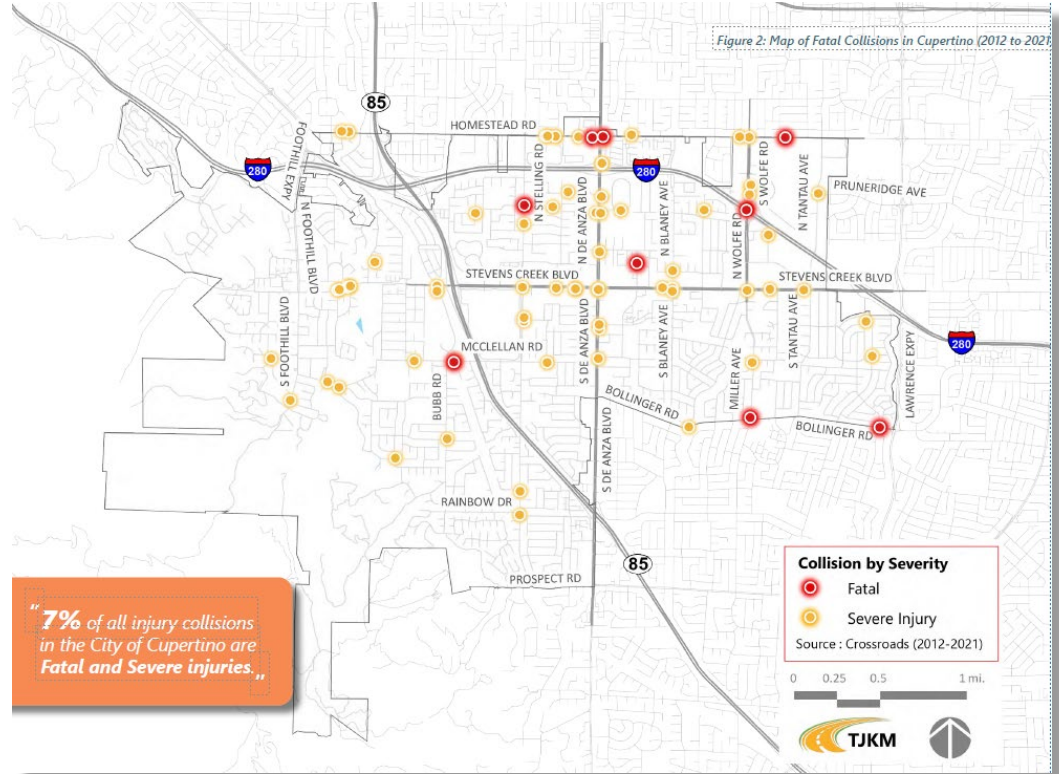
- Vision Zero combines a belief in zero fatal or severe injury crashes, with proactive strategies for safer roads.
 - Aims to eliminate fatal and severe injury crashes, promoting safe, equitable mobility for everyone through prioritizing safety and inclusivity in road planning and design.
- Data driven approach to identify, analyze, and prioritize roadway safety improvements
 - Considers stakeholder and community feedback to identify additional traffic safety related concerns
 - Allows the City to implement a systemic approach to address collisions
- Enhances City's eligibility for grants

Principles of Vision Zero

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

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

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



Development of Vision Zero

- Identification of High-Injury Network
 - 10 years of collision data
 - Public outreach (community and stakeholder meetings; BPC, online dashboard and website)
- Toolbox of countermeasures
 - Roadway design
 - Bicycle and pedestrian safety
 - Speed management
 - Operations and signal timing
 - Signage and markings
 - Transit safety
 - Education, public awareness and enforcement



SPEED MANAGEMENT



VEHICLE SPEED FEEDBACK SIGN

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☒ ☐
 COMPLEXITY: ☐ ☐ ☐



AUTOMATED SPEED ENFORCEMENT (WHERE PERMITTED)

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☒ ☒
 COMPLEXITY: ☒ ☒ ☒



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

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☒ ☒
 COMPLEXITY: ☒ ☒ ☒



IMPROVE HIGH FRICTION SURFACE TREATMENT

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☒ ☐
 COMPLEXITY: ☒ ☒ ☐



REDUCED SPEED SCHOOL ZONE

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☐ ☐
 COMPLEXITY: ☒ ☐ ☐



SPEED CUSHIONS, SPEED HUMPS AND SPEED TABLES

EFFICACY: ☒ ☒ ☒
 COST: ☒ ☒ ☐
 COMPLEXITY: ☒ ☒ ☐



TURN CALMING PROGRAM

EFFICACY: ☒ ☐ ☐
 COST: ☒ ☐ ☐
 COMPLEXITY: ☒ ☐ ☐



SPEED LIMIT REDUCTION - AB 43

EFFICACY: ☒ ☒ ☐
 COST: ☒ ☐ ☐
 COMPLEXITY: ☒ ☐ ☐

Development of Vision Zero

- Identification of nine primary collision profiles
 - Developed through analysis of collision data
 - Each identifies a collision type that is of primary concern
 - Each accompanied by appropriate toolbox countermeasures



PROFILE 1:
Pedestrian &
bicyclist are most
vulnerable



PROFILE 2:
Unsafe speeds



PROFILE 3:
Improve intersection
safety for all



PROFILE 4:
Pedestrian code
violation



PROFILE 5:
Majority of bicycle
collisions are
broadside collisions



PROFILE 6:
Teenagers biking
near schools and
parks



PROFILE 7:
Driving under
influence



PROFILE 8:
Bicycle collisions and
automobile
right-of-way violation



PROFILE 9:
Collisions near
transit stops

Development of Vision Zero

Identification of Primary Corridors to focus investments, each including specific countermeasures:

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

ONGOING CITY EFFORTS AND RECOMMENDATIONS

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. Bantley 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.

The City of Cupertino is currently involved in a multi-jurisdictional study to create a shared vision for the future of the Stevens Creek Boulevard Corridor.

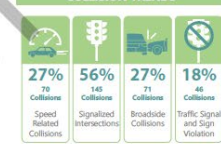
STEVENS CREEK BOULEVARD



COLLISION STATISTICS (2012 - 2021)



COLLISION TRENDS



RECOMMENDATIONS

INTERSECTION IMPROVEMENTS

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

SIGNAGE IMPROVEMENTS

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

BICYCLE SAFETY IMPROVEMENTS

- Class IV Separated Bicycle Facility
- Bike Boxes
- Bicycle Signal
- Green 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)
- Speed Limit Reduction-AB43
- Turn Calming Program
- Automated Speed Enforcement (where permitted)
- Reduced Speed School Zones

- 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

Implementable Actions

List of steps to achieving Vision Zero. Each includes:

- Timeframe to achieve (short-, medium-, or long-term)
- Performance measures
- Necessary partners

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

Critical Action: Task Force

- Stakeholder group
- Utilize collaboration, community outreach, and data collection to ensure Vision Zero goals are achieved
- Regular reporting and will inform future Plan updates

Bicycle Pedestrian Commission

- Presented Initial Draft on March 28
 - BPC Provided Input and Requested Revisions
 - Staff Addressed the Input
- Presented Second Draft on June 13
 - BPC Unanimously Recommended Council adopt the Vision Zero Report with minor modifications
 - Staff Incorporated Requests
- The Final Draft Plan incorporates BPC recommendations

Recommended Action

Adopt Resolution 24-XXX, “A RESOLUTION OF THE CUPERTINO CITY COUNCIL DECLARING TO BECOME A VISION ZERO COMMUNITY AND ADOPTING A VISION ZERO ACTION PLAN WITH THE CLEAR GOAL OF ELIMINATING TRAFFIC FATALITIES AND SEVERE INJURIES ON CITY STREETS BY THE YEAR 2040”

Questions?

CC 07-09-2024

#4

Lawson Middle School
Bikeway Project

Presentation

Lawson Middle School Bikeway Project

A Recommended School Walk Audit Project



**CITY OF
CUPERTINO**

Transportation Manager
David Stillman

Project Background

- **2016-2017:** A citywide school walk audit project identified possible bike-ped safety improvement projects for all fourteen Cupertino schools
- **2018-2022:** Conditions and options explored by City / School / District / PTA / Parents
- **2022:** The City contracted Hexagon Transportation Consultants to perform a feasibility study and reexamine existing conditions



Project Description

Lawson Middle School Bikeway Project

Intent: Keep all roadway users safe by providing students with a safe route to access the campus bike cages while also minimizing impacts to the neighborhood.

Project Location



Community Outreach

Multiple community meetings were held to receive feedback on three alternatives.

- **Nov '22:** Community meeting #1
- **March '23:** Community meeting #2
- **April '23:** Community meeting #3
- **May '23:** Bicycle and Pedestrian Committee

Discussion of Alternatives

Design alternatives include:

1. A bike boulevard*
2. A multi-use trail
3. An on-street two-way separated bikeway

*Concept dropped after the second community meeting

Three Alternatives

3 Alternatives Presented to Community:

- **Alternative 1** - not favored by the community
 - Removed as an option
- **Alternative 2** – Cost \$1.15M +/-
 - Keeps most On-Street Parking
 - Removes 25-30 Trees
- **Alternative 3** – Cost \$120,000 +/-
 - Removes 50 On-Street Parking Spaces
 - No Tree Removals

Alternative 2: Two-Way Mixed-Use Trail

Description:

- Construct a two-way mixed-use trail on the west side of Vista Drive (Merritt Drive to Forest Ave) and the north side of Forest Ave.
- A typical width is 10 feet with 2-foot shoulders, but due to utility constraints, the trail would be 8 feet in width (with 2-foot shoulders) from north of the Vista bike cage to Merritt Drive.

Estimated Cost:

- \$1.15 million

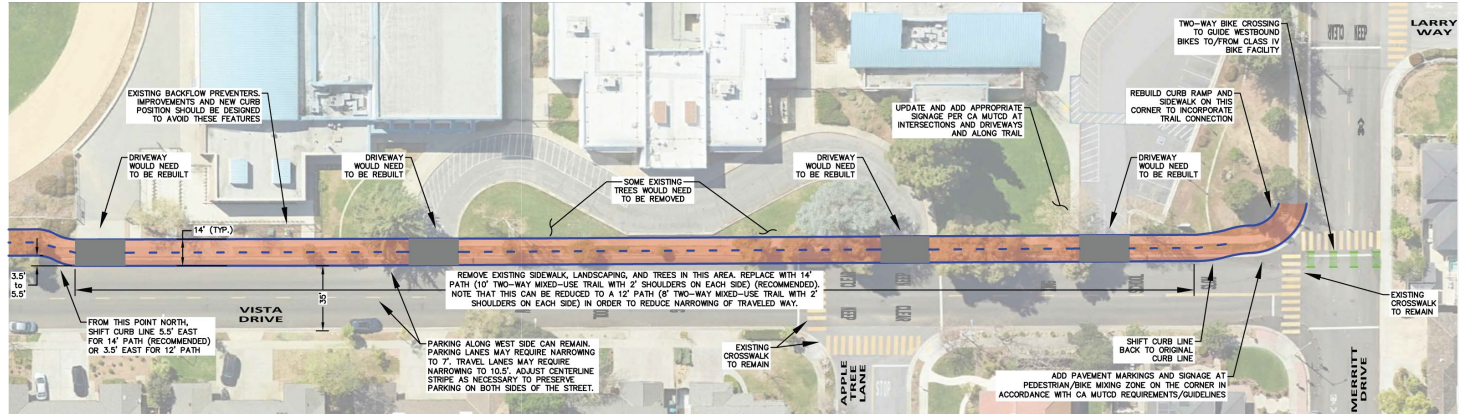
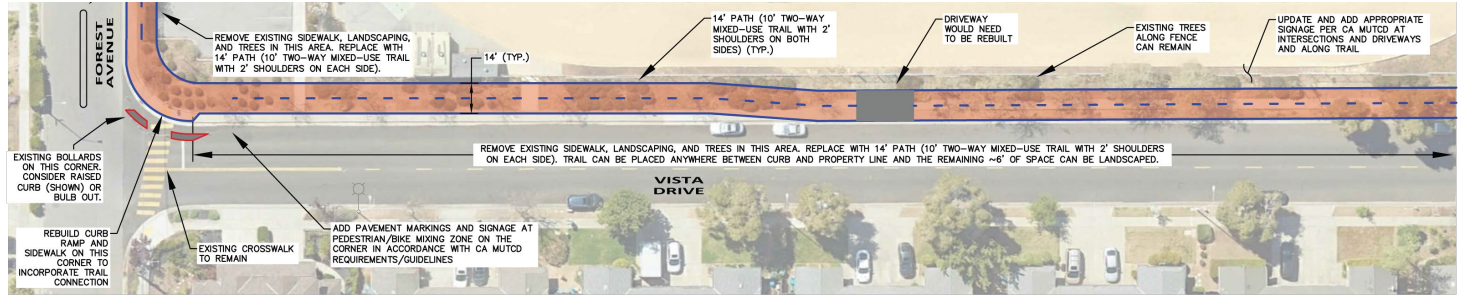
Benefits:

- Preserves on-street parking.

Impacts:

- Relocation of minor utilities
- Removal of trees (19 small, 9 mature)
- Removal and replacement of curb and gutter

Alternative 2: Two-Way Mixed-Use Trail



Alternative 3: On-Street Two-Way Class IV Bike Facility

Description:

- Construct a two-way bike facility on the west side of Vista Drive and the north side of Forest Avenue.
- 8 feet wide (4 feet in each direction) with a 3-foot buffer.

Estimated Cost:

- \$115,000

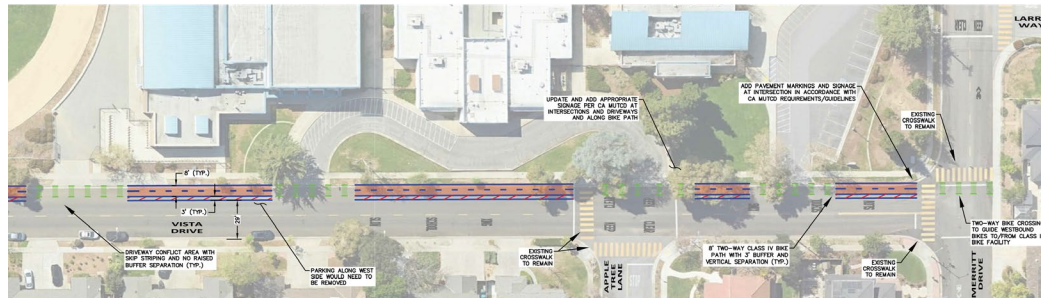
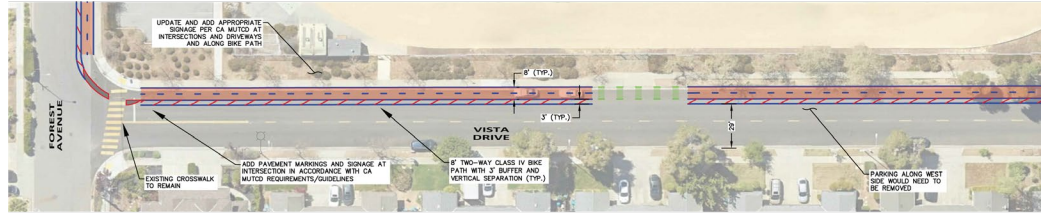
Benefits:

- No removal of trees or utility relocations are needed.

Impacts:

- Removal of ~50 on-street parking spaces Vista Drive
- Potential overflow of parking into the CUSD lot and neighboring streets during events.

Alternative 3: On-Street Two-Way Class IV Bike Facility



Feasibility Study - Parking and Traffic Analysis

Approach:

- Measured intersection volumes and on-street parking utilization to identify potential safety issues and existing parking demand.

Locations Studied:

- 5 Intersections: Including Blaney Ave, Merritt Dr, Vista Dr, and several cross streets.
- 5 School Driveways

Methodology:

- Counted vehicular, bicycle, and pedestrian movements during peak hours.
- Conducted parking utilization counts on typical weekdays and weekends.
- Field observations to understand behaviors and identify conflicts.
 - Weekday: School operations (7 AM-10 AM, 2 PM-5 PM) and residential usage (8 PM-12 AM).
 - Weekend: Residential usage (7 AM-12 AM).

Locations of Impacted Parking Spaces

Parking Removal:

- Approximately 50 spaces on Vista Drive
- Parking currently prohibited on Forest Ave



Locations of Impacted Parking Spaces

Existing On-Street Conditions Along Vista Dr:

- Parking will be preserved on the east side of the street (right side of images)
- Each Property has its own driveway and garage for off street parking



North of Forest Ave



Midblock on Vista Dr



South of Merritt Dr

Alternatives Comparison

	Alternative 2	Alternative 3
Addresses Bike/Pedestrian/Vehicle Conflicts	Yes	Yes
Remove Trees	28	None
Remove On-Street Parking Spaces	None	50
Cost to Implement	~\$1,150,000	~\$115,00
<u>Notes:</u> <ul style="list-style-type: none">Starting at the BPC Hearing, Alternative 2 is renamed to Alternative A, and Alternative 3 is renamed to Alternative B during public meetings.		

Community Survey Results

	In-Meeting Poll Results		Online Survey Results	
	Alternative 2	Alternative 3	Alternative 2	Alternative 3
Preferred Alternative	37%	63%	7%	87%
Oppose the Alternative	52%	34%	80%	7%
<u>Notes:</u> <ul style="list-style-type: none">Starting at the BPC Hearing, Alternative 2 is renamed to Alternative A, and Alternative 3 is renamed to Alternative B during public meetings.Online Survey Results also allowed participants to choose the "No Change" Alternative.				

Design Example – Palo Alto



Recommended Actions

1. Authorize the implementation of an on-street two-way Class IV bikeway on the west side of Vista Drive between Forest Avenue and Merritt Drive and the north side of Forest Avenue between Vista Drive (west) and Vista Drive (east) and proceed with preparation of final design.
2. Conduct the first reading of Ordinance 24-XXX; “An Ordinance of the City Council of the City of Cupertino amending Table 11.24.150 of the Cupertino Municipal Code Related to Prohibition of Parking Along Certain Streets.”

Questions?



CUPERTINO

Feasibility Study - Parking Utilization

Time of Day	Vista Drive Parking Utilization	Merritt Drive & Apple Tree Lane Parking Utilization
8 AM - 2:59 PM	20 to 30 vehicles parked	Similar pattern to Vista Drive
3 PM	75 vehicles parked on both sides of street (Peak)	Similar pattern to Vista Drive but peak demand did not exceed 60%
After 4 PM	10 vehicles or less	Similar pattern to Vista Drive
Weekend	Low throughout the day	Similar pattern to Vista Drive

Existing Parking Demand

Parking Utilization and Trends:

- Alternative 3 would require the removal of approximately 50 on-street parking spaces.
- On-street parking in front of the school is heavily utilized during school hours.
- There are after-school sports activities that occur 3-4 times a week, ending between 5 PM and 6 PM.
- There are approximately 12 evening school-wide events within a school year.
- These evening school-wide events, as well as some after-school sports events, could also attract a considerable amount of on-street parking demand.

Existing Parking Demand

Parking Supply Estimate:

- There are approximately 500 on-street parking spaces within a 5-minute walk of the school.
- It is anticipated that existing on-street parking demand related to the school will disperse into the CUSD parking lot as well as neighboring streets.
- While the CUSD parking lot is not a public parking lot, CUSD staff has indicated that they are willing to allow parents to park in the lot during after-school events.

