Council Transportation Committee (CTC) Meeting
May 15, 2023

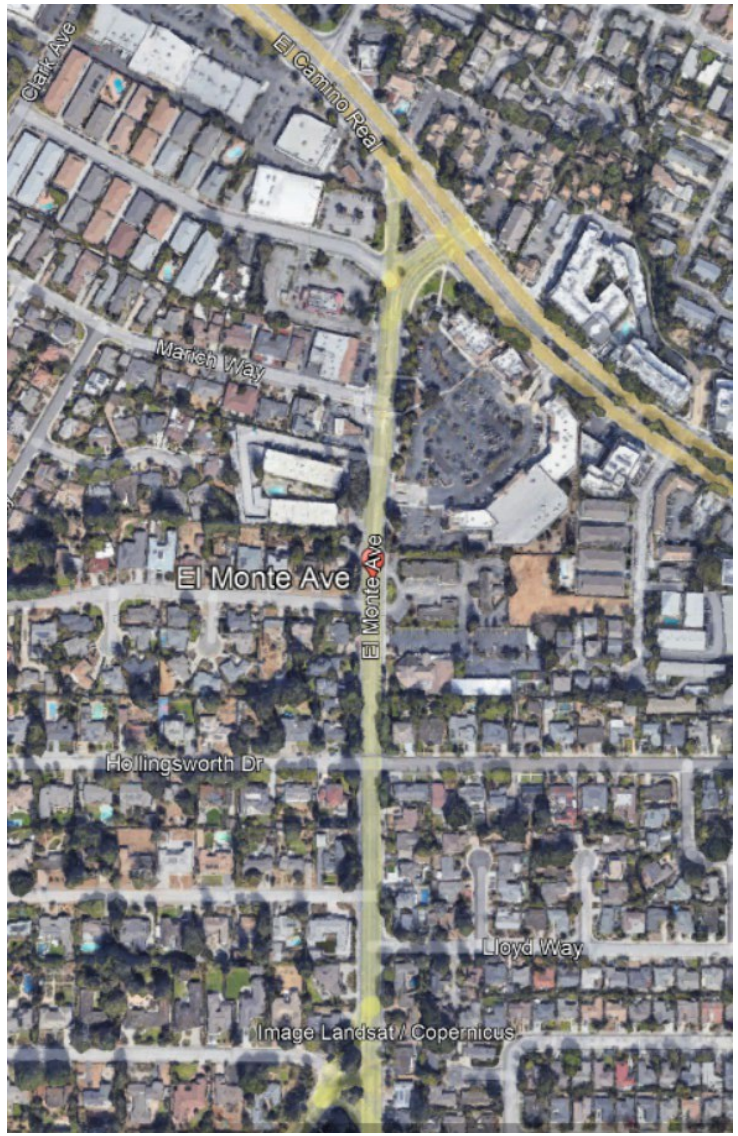
City of Mountain View

El Monte Avenue Corridor Study

Presented by Darwin Galang
Senior Traffic Engineer

Overview

- Study Goals
- Background
- Road Diet Concept
- Project Schedule



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Overview

Study Goals

- <u>Study Goals</u>
  - Develop a multimodal transportation conceptual plan
  - Improve traffic operations along the corridor
  - Evaluate corridor to determine space allocation

Previous Meetings/Outreach Efforts:

Public Outreach Meeting 1	(35 attendees)	January 15, 2020
Public Outreach Meeting 2 (Virtual)	(25 attendees)	August 18, 2020
BPAC Meeting		December 2, 2020
Public Outreach Meeting 3	(30 attendees)	July 1, 2022

Background

Previous Meetings/Outreach Efforts:

Online Survey Dec 2022-Feb 2023

- Sent postcards to 10,000 households within 0.5 mile
- Posted on the City's Facebook page and website
- 448 total responses

BPAC Meeting April 26, 2023

Background

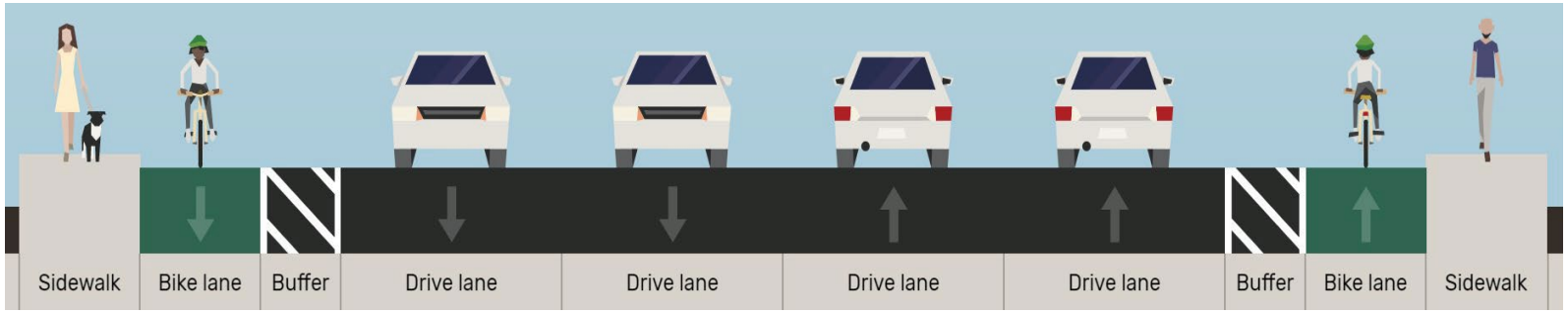
Top Six Challenges (Community Feedback):

1. High Vehicle Volumes
2. High Vehicle Speeds
3. Unclear Signage
4. Inadequate Street Lighting
5. Crosswalk Visibility
6. Lack of Protected Bicycle Infrastructure

Background

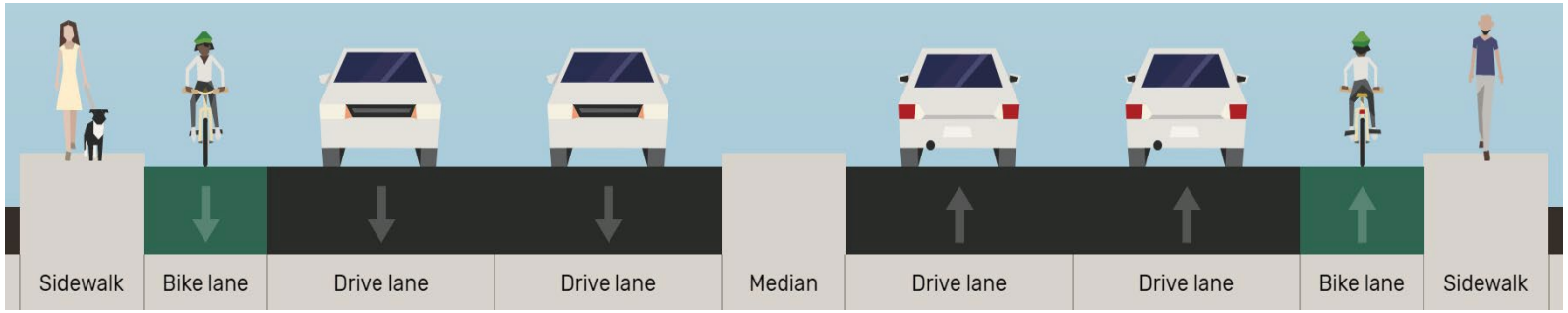
Alternative 1:

- Four-lane section
- Buffered bike lanes
- ***No side street restrictions***



Alternative 2:

- Four-lane section
- Buffered bike lanes
- **Some side street restrictions**



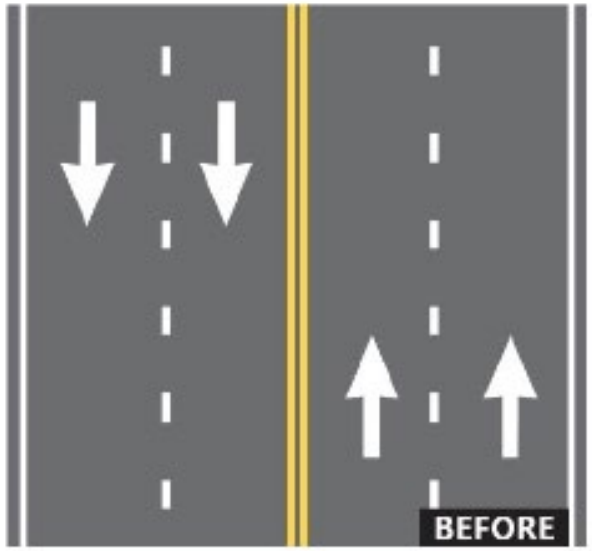
Background

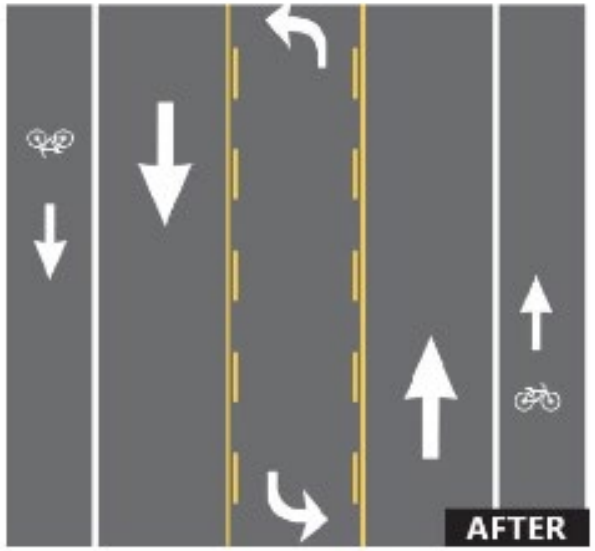
Escuela Ave
Caltrans R/W
El Camino Real
El Camino Real
Caltrans R/W
Caltrans R/W
Future Project
Ednamary Ave
El Monte Avenue

Background

Corridor-wide Improvements	
High visibility crosswalk	Green bike lanes at conflict areas
Enhanced street lighting	Striping and signage
ADA compliant curb ramps	Green street elements

What is a “road diet”?





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Road Diet Analysis

Benefits	Potential Impacts
• Increased mobility, safety, and comfort level for bicyclists and pedestrians • Reallocated space for other uses • Reduced traffic volume, speed, and frequency of traffic collisions	• Traffic diverted to other local streets • Turning movements may be more difficult due to fewer breaks in traffic • Reduces roadway capacity

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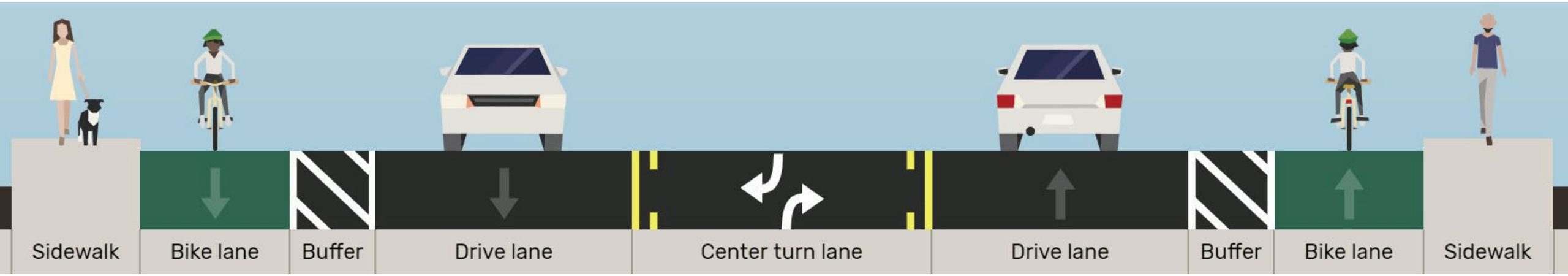
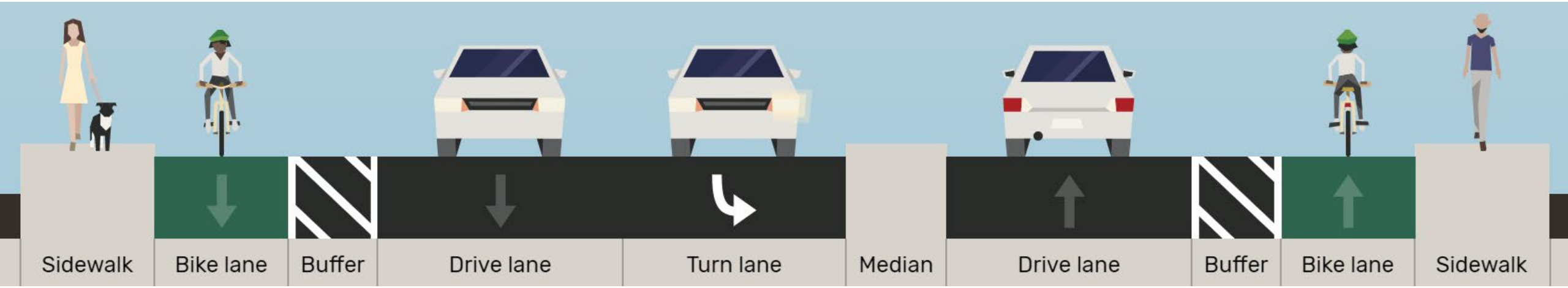
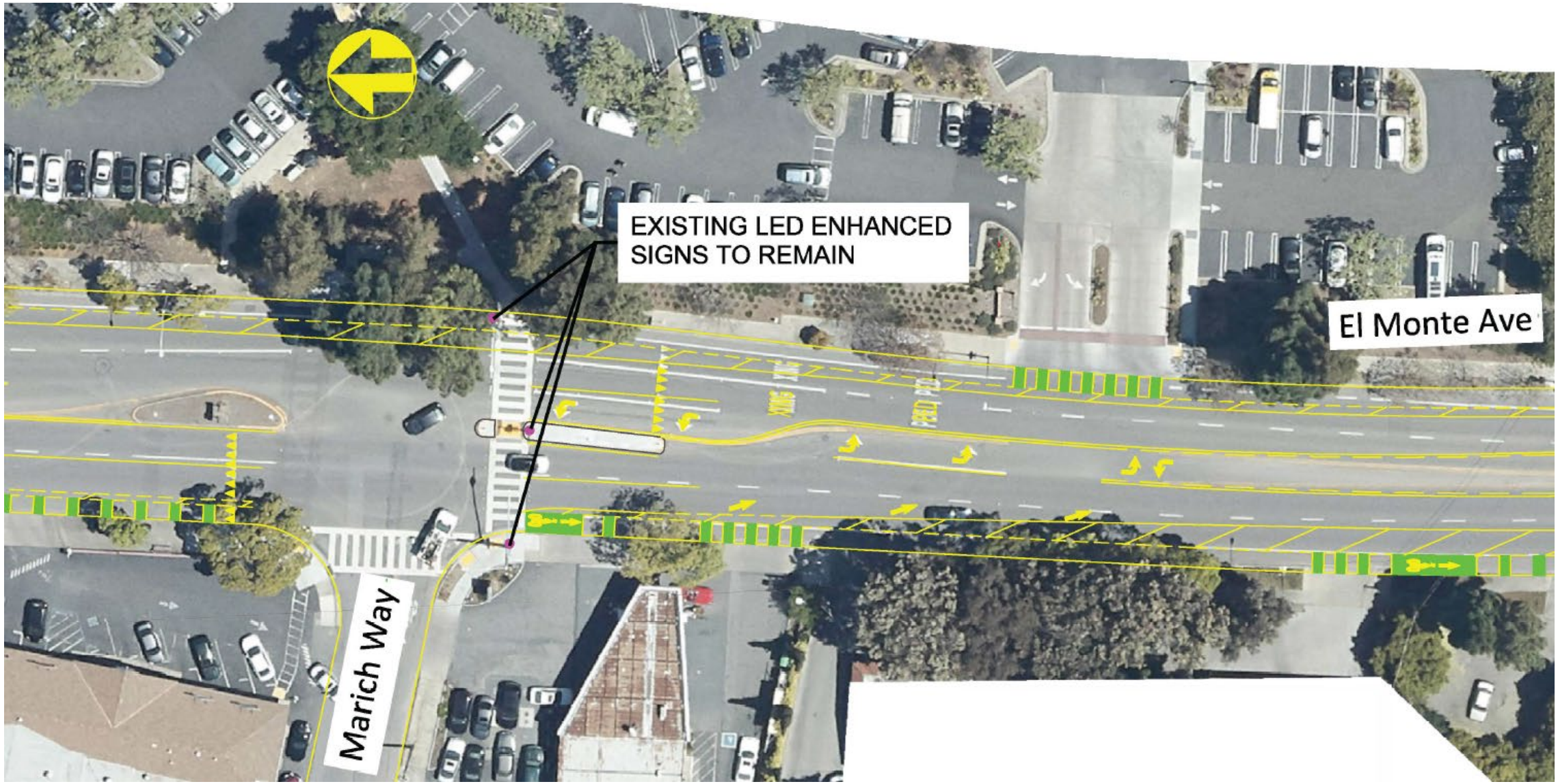
Road Diet Cross Sections



Three-Lane Street on El Monte Ave (Center Lane vs Refuge Island/Median)



Road Diet Conceptual Plan



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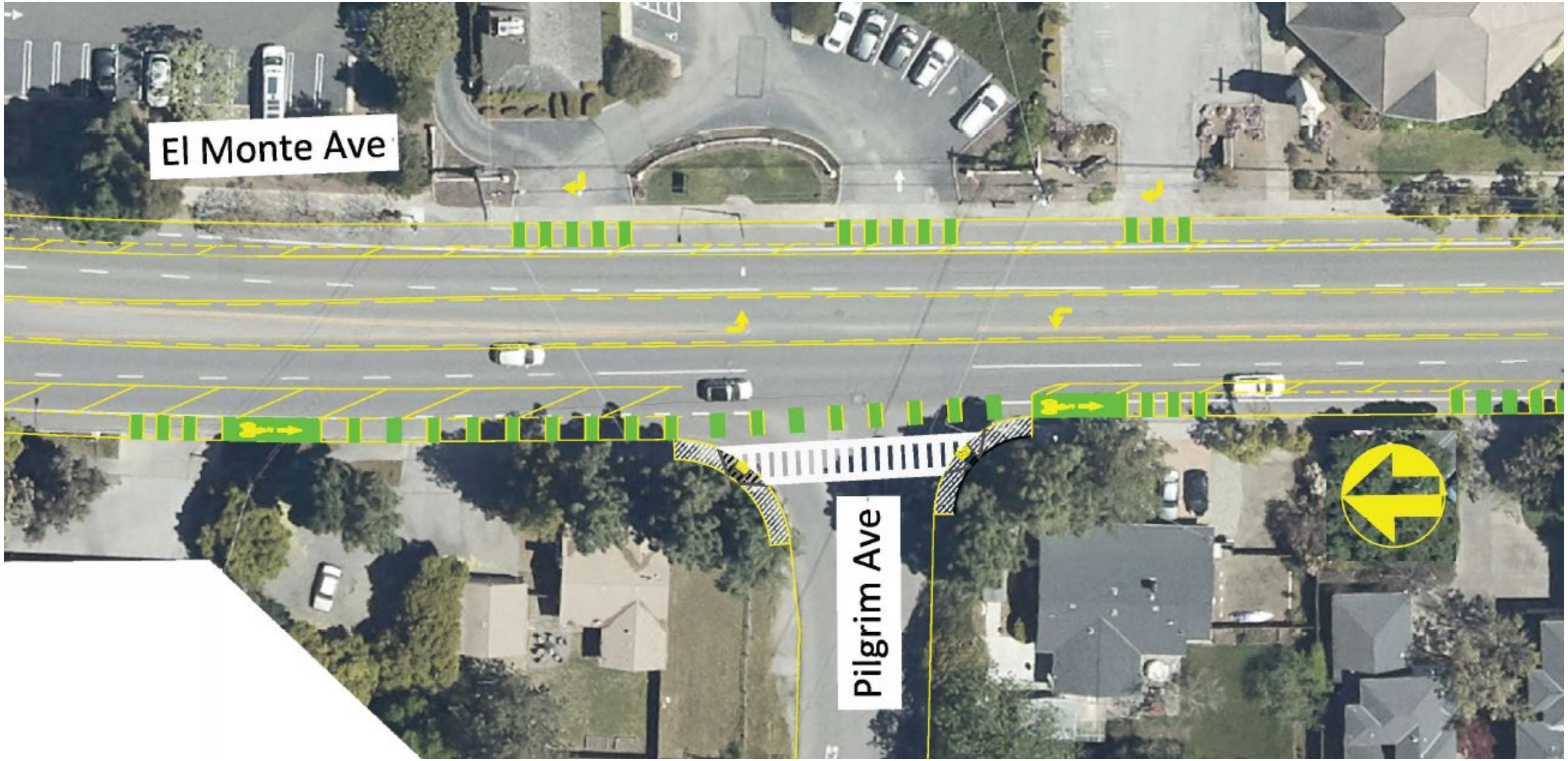
Road Diet Conceptual Plan



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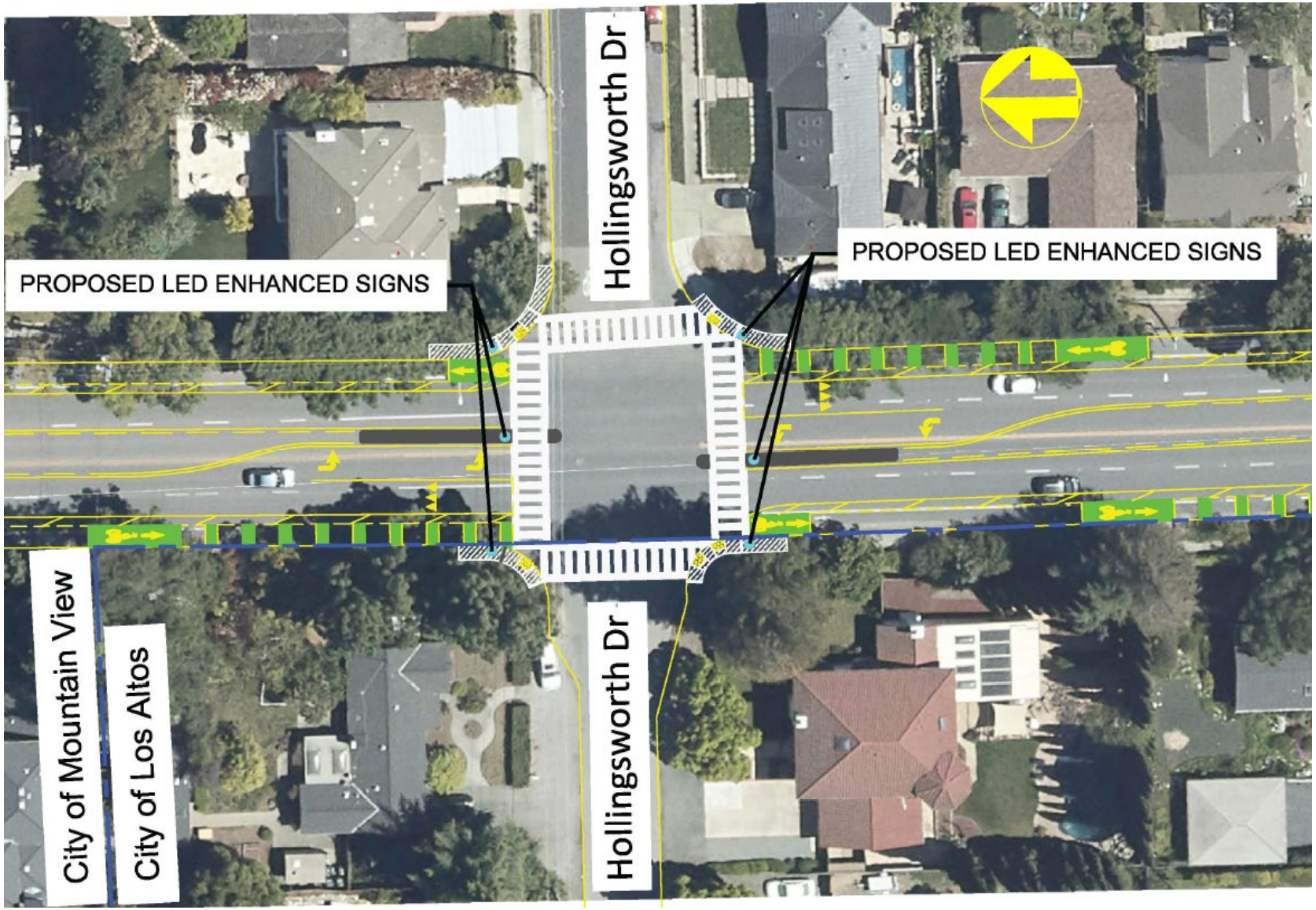


Road Diet Conceptual Plan

Community Feedback

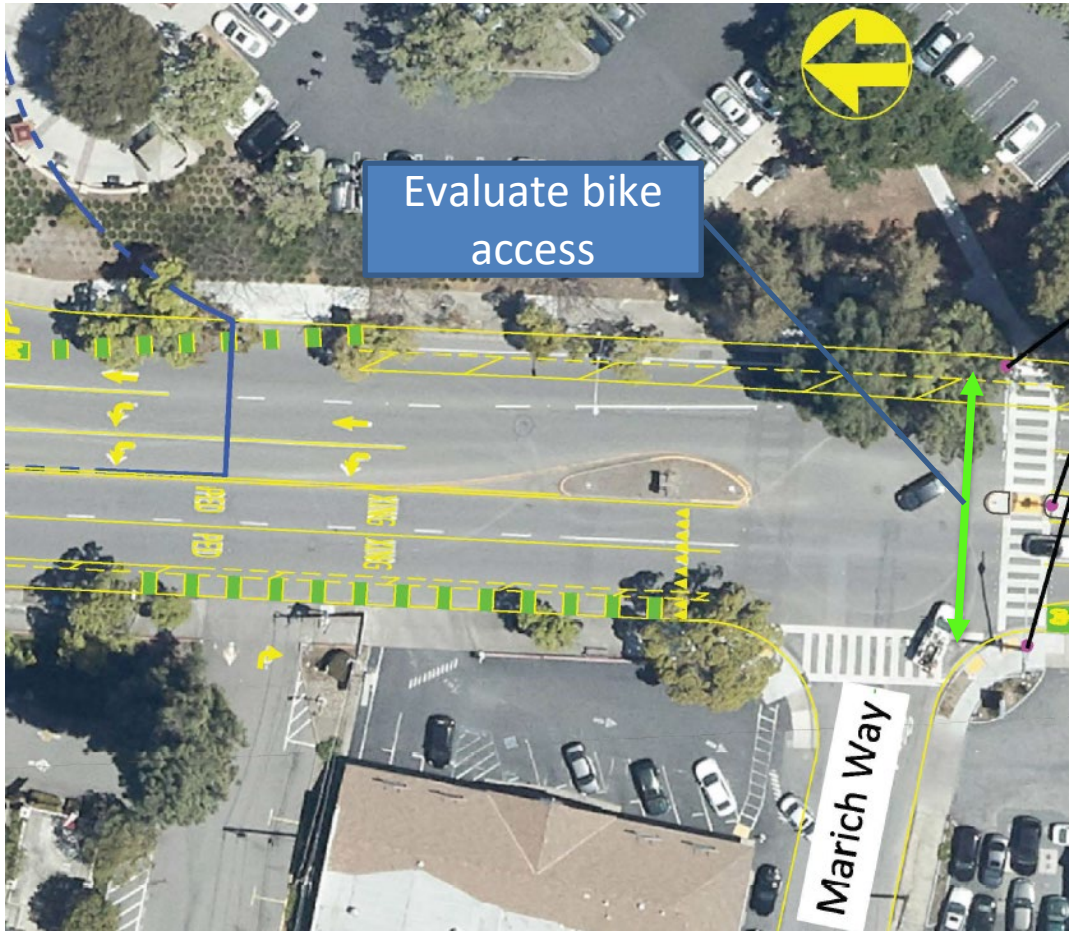
Noteworthy Feedback:

- Support of center two-way left-turn lane
- Opposition to left-turn access restriction on the side streets
- Road Diet as most preferred alternative

BPAC Feedback

<u>Recommend Alternative 3, road diet, to CTC.</u>

- Incorporate protected bicycle lanes and green street elements, where feasible.
- Evaluate bicycle access from EB Marich Way to NB El Monte Ave.



BPAC Feedback

<u>Recommend Alternative 3, road diet, to CTC.</u>

- Consider the feasibility of restricting left-turn movement from NB El Monte Ave to WB Ednamary Way.
- If possible, reduce posted speed limit prior to project construction.

Recommendation

Recommendation:

- Staff recommends Alternative 3, a road diet from four lanes to three lanes with buffered bikes lanes, as the preferred concept for the Study.

Study Schedule

- Council – June 2023
- Complete Study by summer 2023
- Design – 2024
- Construction – Late 2025

Questions

Questions?

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Conceptual Plans

Alternative 1 – No Side Street Restriction

Alternative 2 – Some Side Street Restriction

Alternative 3 – Road Diet

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FHWA Guidelines

What is the maximum traffic volume for a four-lane to three-lane Road Diet conversion?

Several agencies have developed guidelines for selecting candidate Road Diet locations to mitigate any negative effect on traffic operations. FHWA has summarized average daily traffic (ADT) volume threshold guidelines for four-lane roadways:

Less than 10,000 ADT: A great candidate for Road Diets in most instances. Capacity will most likely not be affected.

10,000-15,000 ADT: A good candidate for Road Diets in many instances. Agencies should conduct intersection analyses and consider signal retiming in conjunction with implementation.

15,000-20,000 ADT: A good candidate for Road Diets in some instances; however, capacity may be affected depending on conditions. Agencies should conduct a corridor analysis.

Greater than 20,000 ADT: Agencies should complete a feasibility study to determine whether the location is a good candidate. Some agencies have had success with Road Diets at higher traffic volumes.

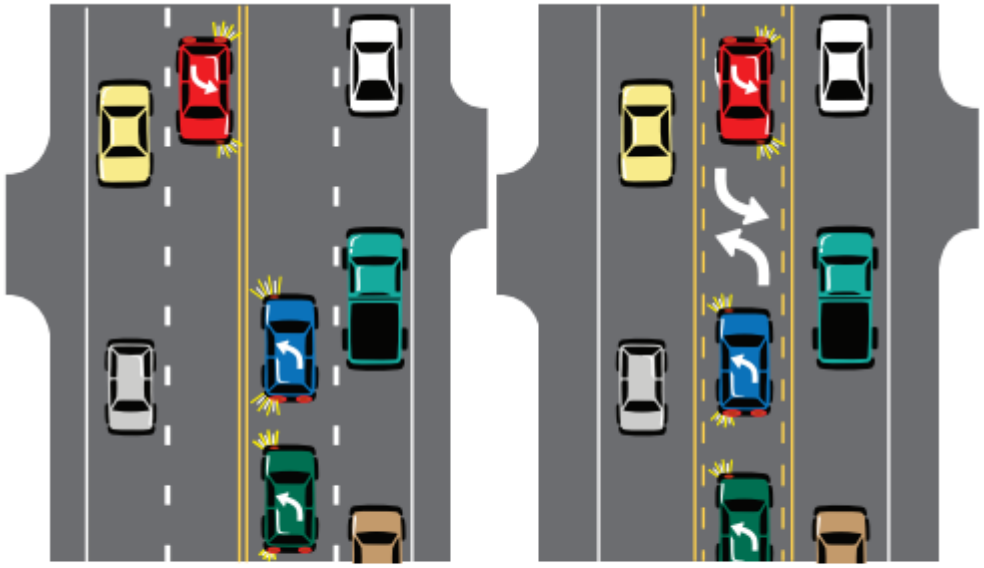
FHWA Guidelines

What metrics can I use to evaluate a Road Diet?

Effective assessment of Road Diet operational, safety, and livability success can use a mixture of quantitative and qualitative metrics. The table below outlines commonly used metrics for evaluating the performance of a Road Diet. For more information about each of these evaluation metrics, check out FHWA's *Road Diet Informational Guide*.[10] For examples of how agencies have used these metrics, see FHWA's flyer on *Road Diets Evaluation Metrics*.[11]

Operational	Safety	Livability/Economic Development
Daily traffic counts	Travel speeds	Transit ridership
Peak hour traffic counts	Percent of drivers over the speed limit	Availability of on-street parking
Turning movement traffic counts	Percent of top-end speeders (Greater than 10 mph over speed limit)	Overall public satisfaction
Intersection queue lengths (main street and side street)	Crash frequency, type, severity, and rate	Property values
Travel times (vehicles)	Perceived level of safety	Resident/public feedback
Travel time (transit)		Business feedback/sales records
Adjacent street traffic counts and speeds		Number of new businesses/ residences
Bicycle counts		
Pedestrian counts		

FHWA Guidelines



Before
A four-lane road behaving like a three-lane road.

After
A Road Diet providing a two-way left-turn lane.

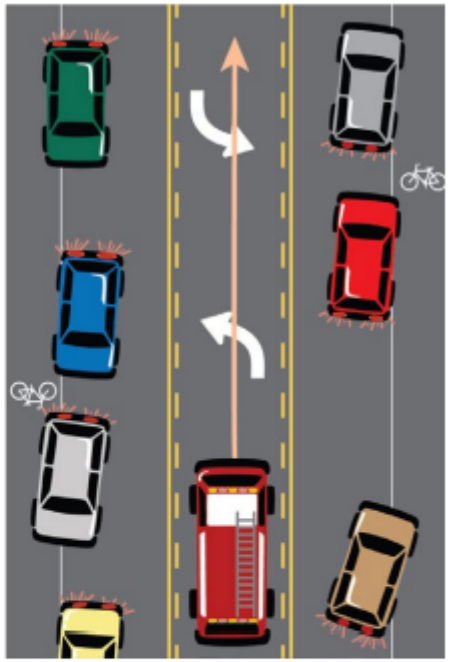
Myth: If you remove a travel lane, then traffic will backup.

This is false. Road Diets typically do not adversely affect travel times within a corridor; rather, clearing clogged travel lanes of left-turning traffic actually improves operations.

For example, when a corridor has numerous access points (driveways), the majority of through traffic tends to utilize the outside travel lanes to avoid being delayed by left-turning vehicles slowing and stopping in the inside travel lanes. These four-lane corridors essentially behave like a three-lane road (see left figure). As such, when these four-lane corridors are converted to a three-lane section, they are unlikely to increase congestion.

FHWA Guidelines

Before
A fire truck struggling to find a path.



After
An easily navigable two-way left-turn lane.

Myth: Road Diets delay emergency response times.

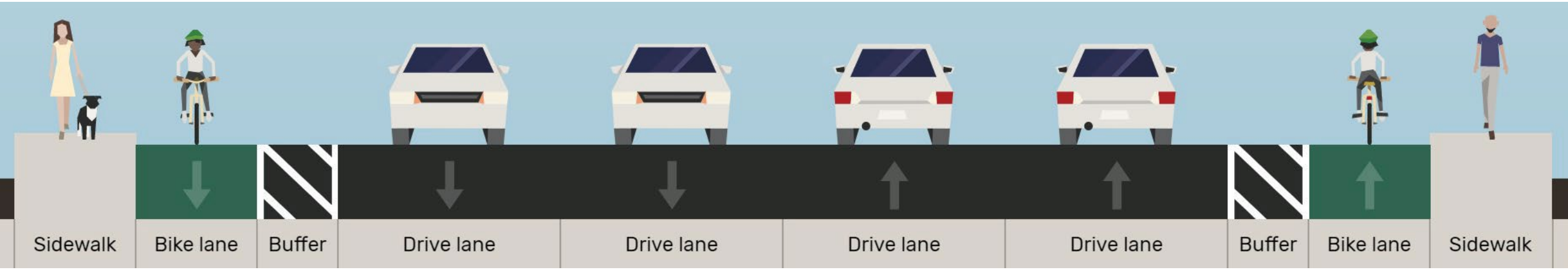
This is false. Road Diets can improve emergency response times. Multi-lane undivided roads can be awkward and unsafe for emergency responders, and can slow response times. Drivers are often uncertain about where to go to allow emergency responders to pass.

If the outside travel lane has traffic, inside-lane drivers cannot pull over until they see where space remains. Sometimes inside-lane drivers move over only slightly and stop. Emergency vehicle drivers may thread a path somewhere along the center of the roadway if they are able to move at all ("Before" side of the figure).

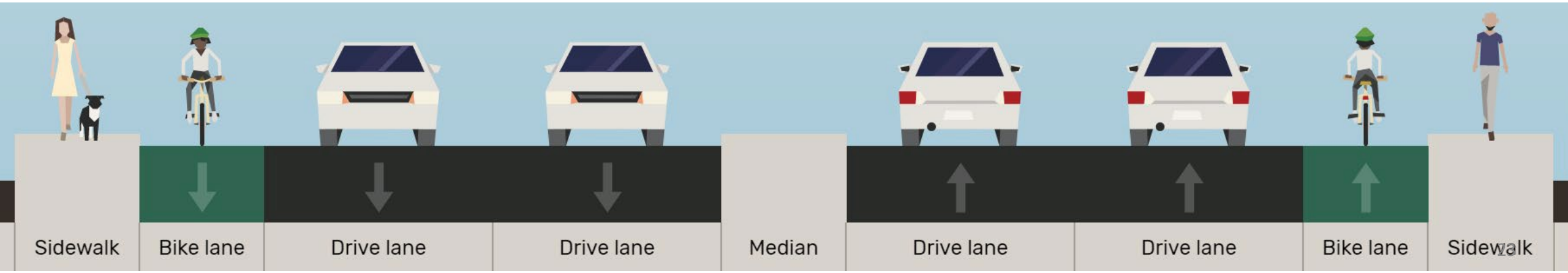
A two-way left-turn lane and wide shoulder areas allow traffic to move aside more quickly. The center turn-lane provides a predictable path for the emergency response vehicle ("After" side of the figure). Left-turning vehicles in the center lane often have the ability to clear the way, by either executing their left-turn or by moving to the right, when other vehicles have stopped. Additional "free space" provided by Road Diets in the form of wider shoulders, bicycle lanes, or parking can also accommodate vehicles yielding to emergency response vehicles.

Corridor-Wide Proposed Improvements

Alternative 1 and 2: Typical 4-Lane Section



Alternative 2: Typical 4-Lane Section with Refuge Island (At locations with side-street access restrictions: Pilgrim Avenue and Spargur Drive)



Corridor-Wide Proposed Improvements

Alternatives	Pros	Cons
Alternative 1 – With Side Street Access	• Existing access maintained • Enhanced ped/bike access	• No reduction in conflict points between left-turning vehicles and peds/bikes • Challenge to find gap in traffic to turn left to/from El Monte Ave
Alternative 2 – No Side Street Access	• Enhanced ped/bike access • Enhanced safety for peds/bikes • Reduced conflict points between vehicles and peds/bikes • Improved traffic operations on El Monte Ave	• Restricted left-turns at Pilgrim Ave and Spargur Dr to/from El Monte Ave • Restricted left-turns from El Monte Ave to Ednamary Way • Additional side street traffic

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Study Milestones

El Monte Avenue Corridor Study (CIP 19-61)	
Public Outreach Meeting 1	January 15, 2020
Public Outreach Meeting 2 (Virtual)	August 18, 2020
B/PAC Meeting	December 2, 2020
New consultant contract for Road Diet Analysis	August 13, 2021
Road Diet Analysis Kickoff Meeting	August 24, 2021
Road Diet Analysis Data Collection	September 2021
Road Diet Analysis Draft Memo	December 9, 2021
Public Outreach Meeting	July 21, 2022
Postcard Survey	December 2022
B/PAC Meeting	April 26, 2023
CTC	May 15, 2023
Council (If necessary)	June 27, 2023
Finalize Study	Summer 2023

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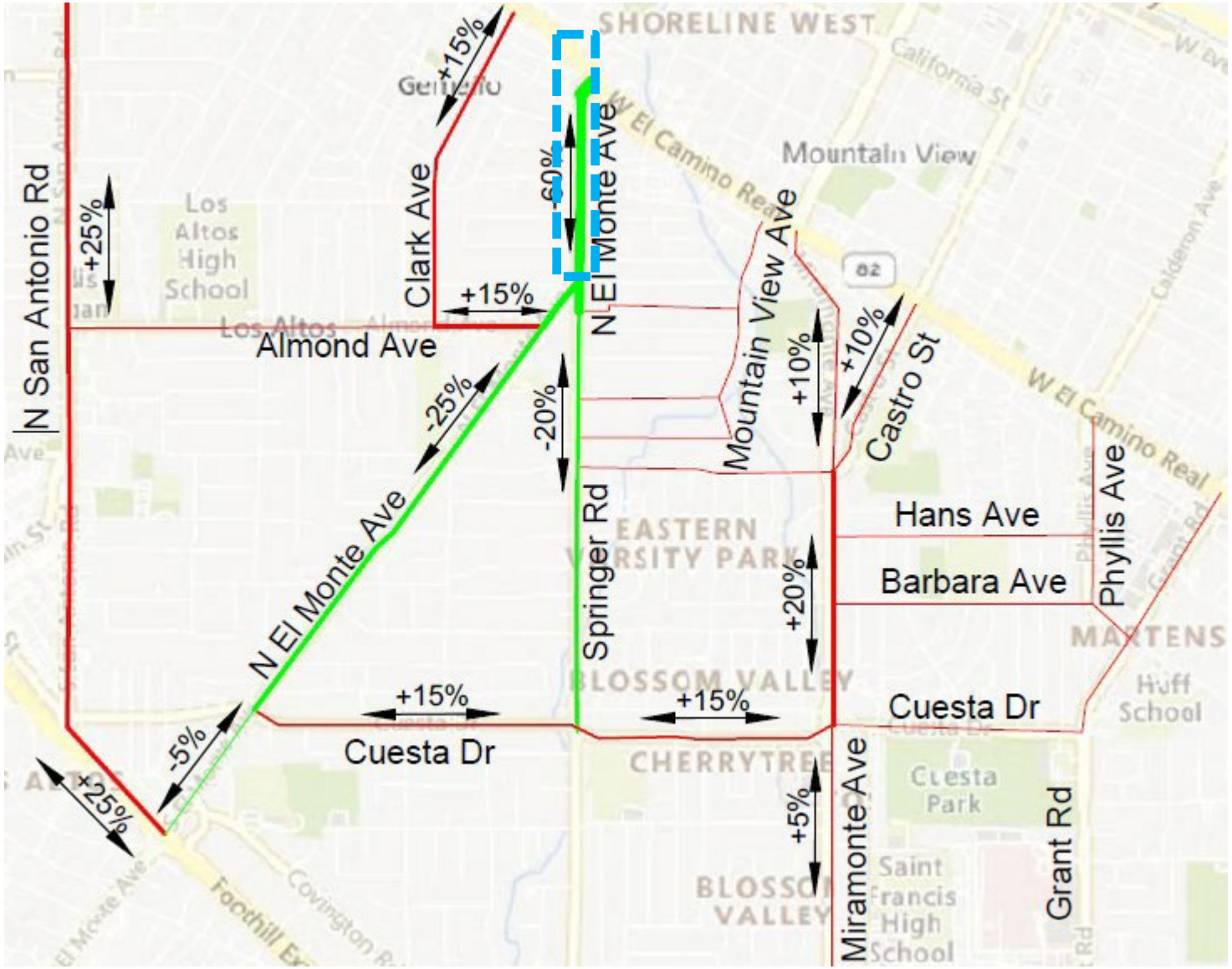
New Access Routes

Potential Traffic Impact



LEGEND

- Corridors with increase in ADT
- Corridors with decrease in ADT
- XX% Percentage Redistribution of Project Corridor Volume Traffic
- Project Limits