Maude Avenue
Roadway Allocation Study

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Community Meeting
March 8, 2015

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Agenda

- Presentation
  - Project Overview
  - Existing Conditions
  - Improvement Alternatives
- Open House

Maude Avenue
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Project Corridor

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Existing Corridor

- Heavy traffic volumes during peak periods, particularly near Mathilda Avenue
- Designated as bike route
- Provides access to Bishop Elementary School, Columbia Middle School (via Morse Avenue), King's Academy (east of Wolfe Road)
- VTA Bus Route 55 between Sunnyvale Avenue and North Fair Oaks Avenue

Project Objectives

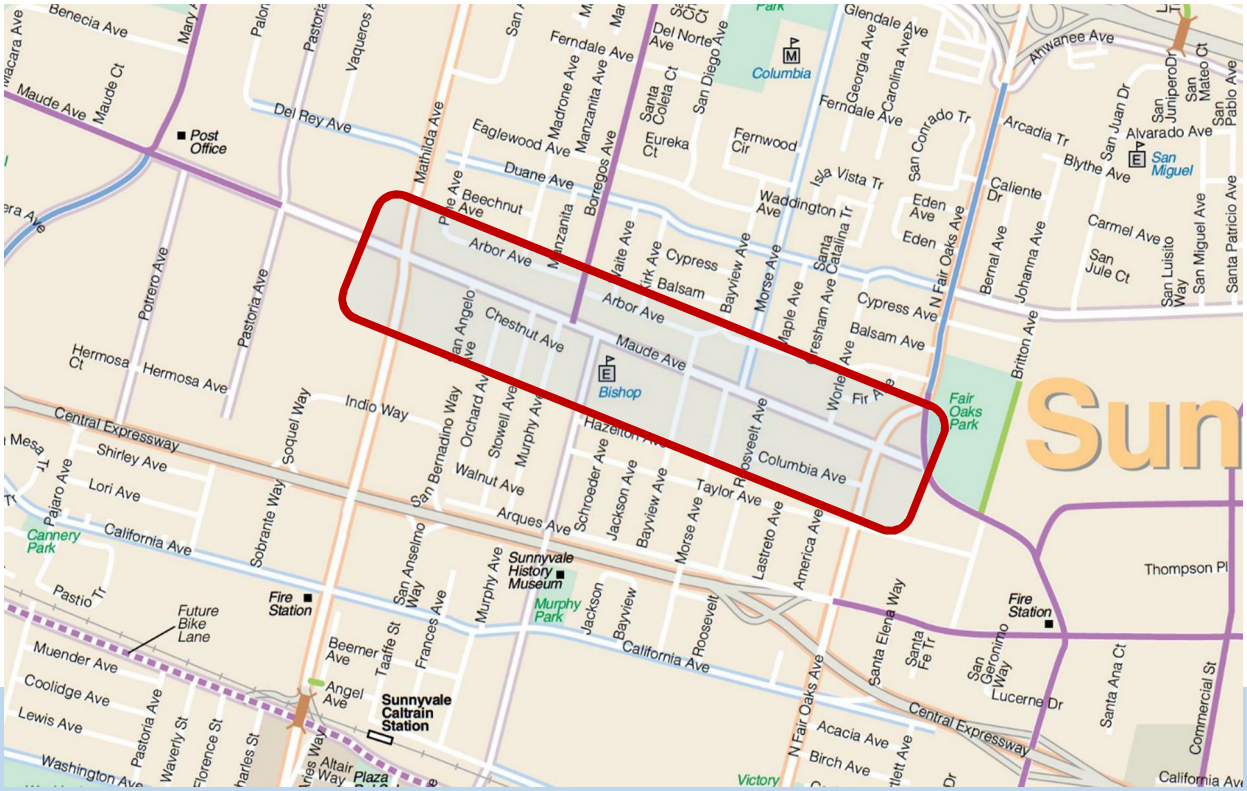
- Provide bicycle lanes along corridor
- Support safe and efficient bicycle, pedestrian, and transit facilities
- Minimize effects on congestion

Auto Activity

- Approximately 1,320 vehicles/hour near Mathilda Avenue during PM peak
- Approximately 750 vehicles/hour near North Fair Oaks Avenue during PM peak

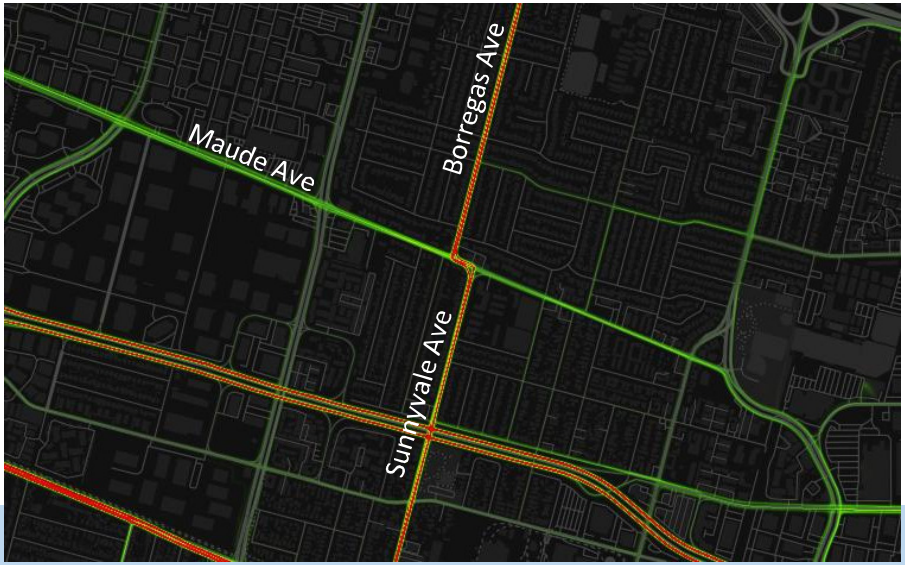
Bike Network

- Currently designated as a bike route
- Gap in bike lanes between Pastoria Ave and Wolfe Road



Bike Activity

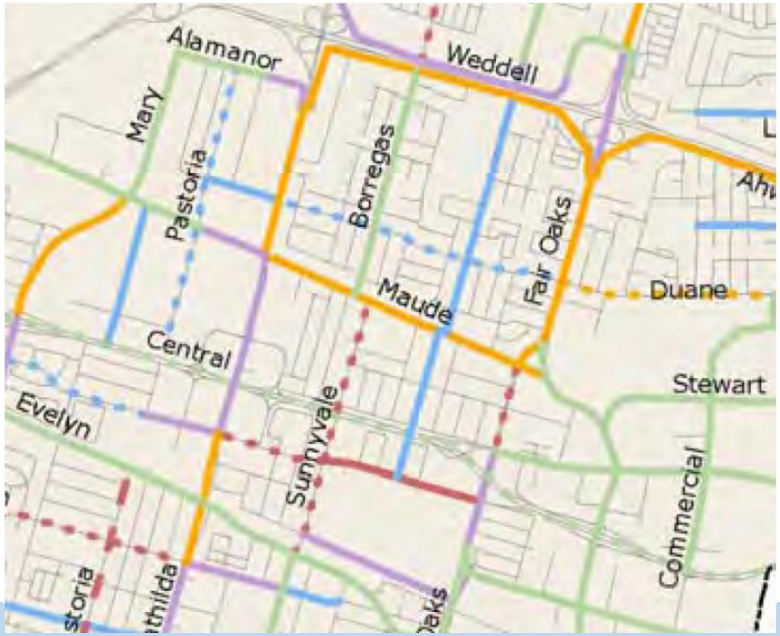
- Maude Avenue is used by approximately 40 cyclists during weekday PM peak hour at its busiest point
- Borregas – North Sunnyvale is a north-south bike corridor that connects with Maude Avenue



Heat map of current bicycle activity

Sunnyvale Bike Plan

- 2006 Sunnyvale Bike Plan included a project to install bike lanes on Maude Avenue by removing on-street parking and minor widening



Maude Avenue
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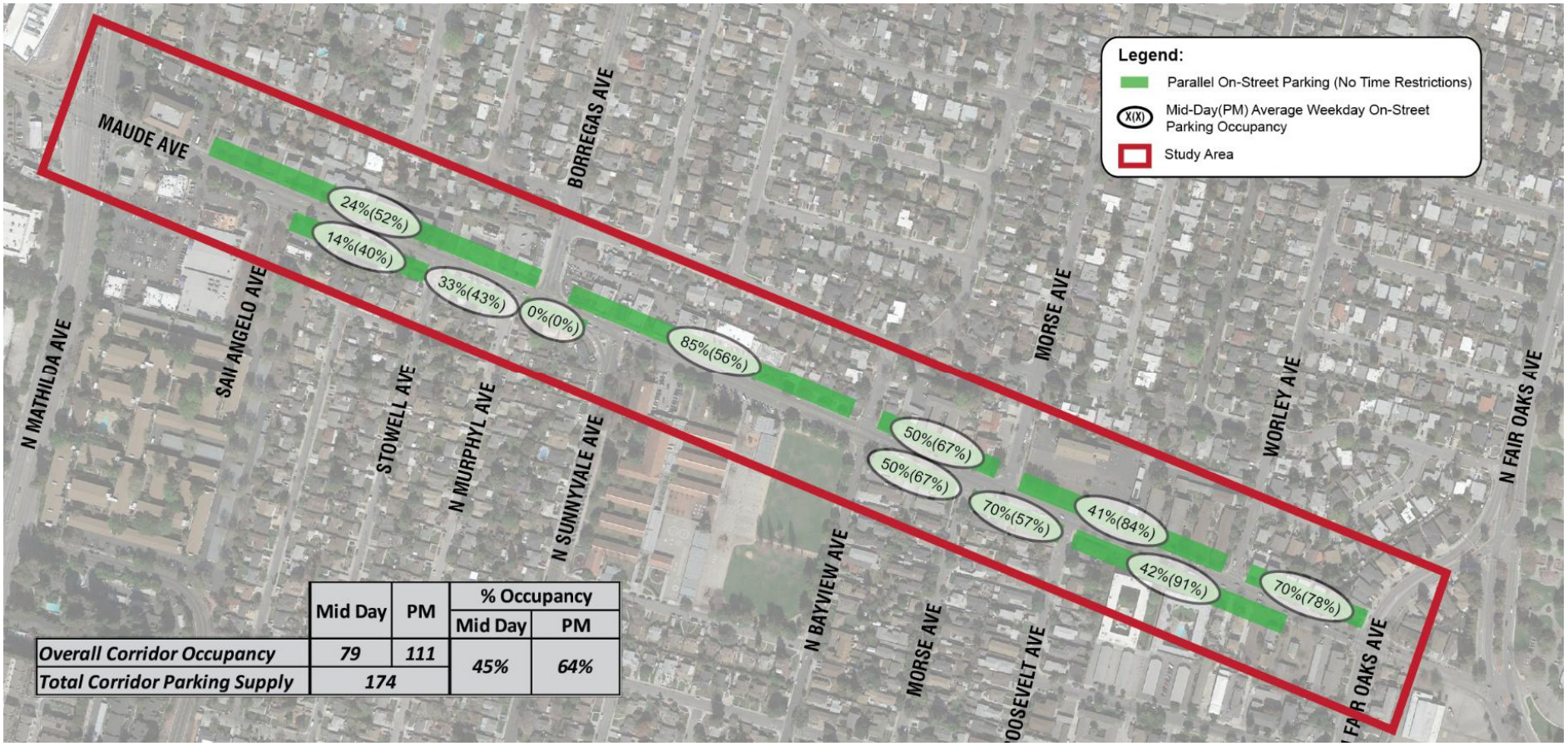
On-Street Parking Utilization



	Mid Day	PM	% Occupancy Mid Day	% Occupancy PM
Overall Corridor Occupancy	79	111	45%	64%
Total Corridor Parking Supply	174			

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Collision History (2012 to 2014)

- 79 total incidents along Maude Avenue between Mathilda and North Fair Oaks (inclusive)
  - One fatality in 2013 at North Fair Oaks
- 34 total incidents excluding Mathilda and North Fair Oaks
  - 12 injuries resulted
  - 3 involved pedestrians
  - 1 involved a cyclist
- North Bayview Avenue had 12 collisions with 7 injuries, including one pedestrian

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Collision Map

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Improvement Alternatives

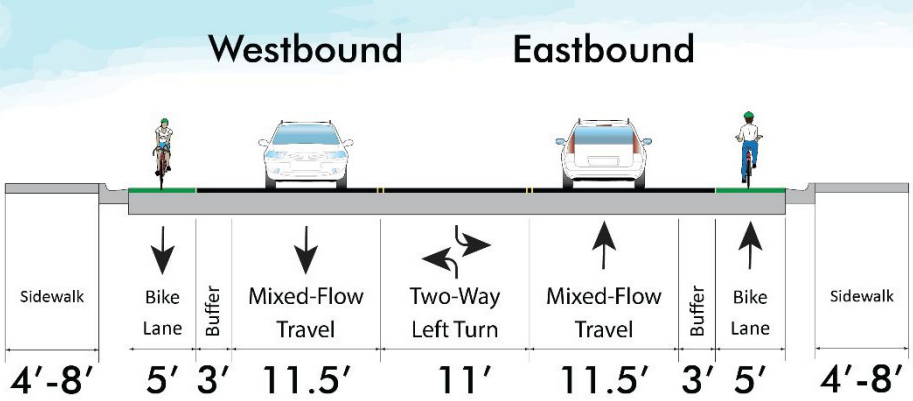
- No roadway widening
- No new signalization
- Two alternatives that provide bicycle lanes by converting on-street parking or center-turn lane and narrowing lane widths
- One alternative that does not provide bicycle lanes and maintains on-street parking and a center-turn lane

Benefits of Providing Striped Bike Lanes

- Defines roadway space for users
- Proven to reduce injury risk to cyclists
- Shown to shift bicyclists from sidewalk to bike lane, which benefits pedestrians
- Increases amount of bicycle activity

Alternative 1

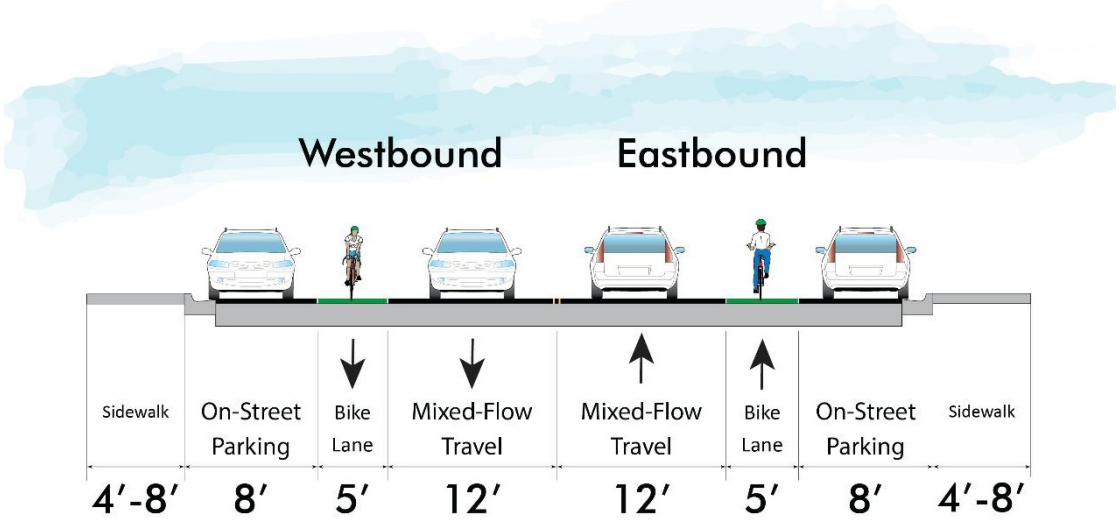
- Convert on-street parking to buffered bike lanes
  - Consistent with adopted Sunnyvale Bicycle Plan



Example of a Buffered Bike Lane (Mathilda)

Alternative 2

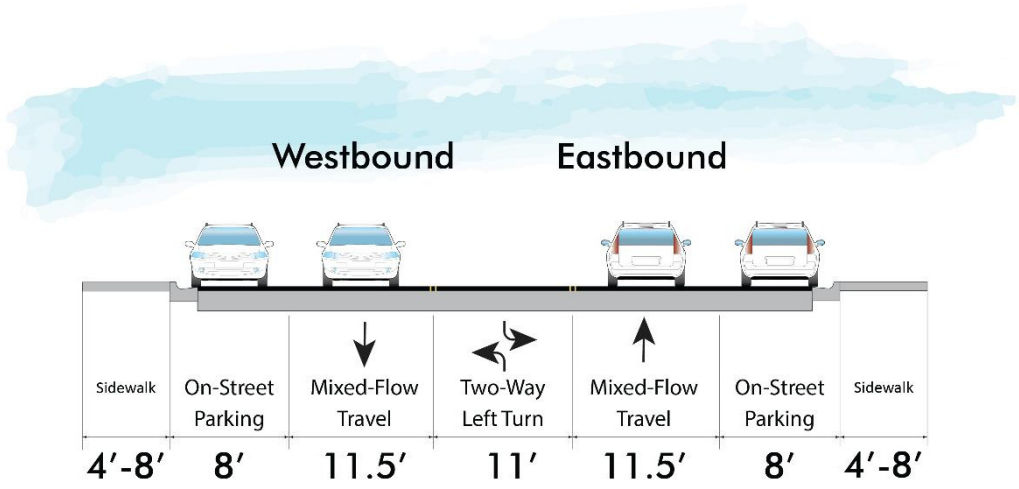
- Convert center-turn lane and left-turn lanes into bike lanes
  - Maintain left-turn lanes at higher volume intersections by losing some on-street parking

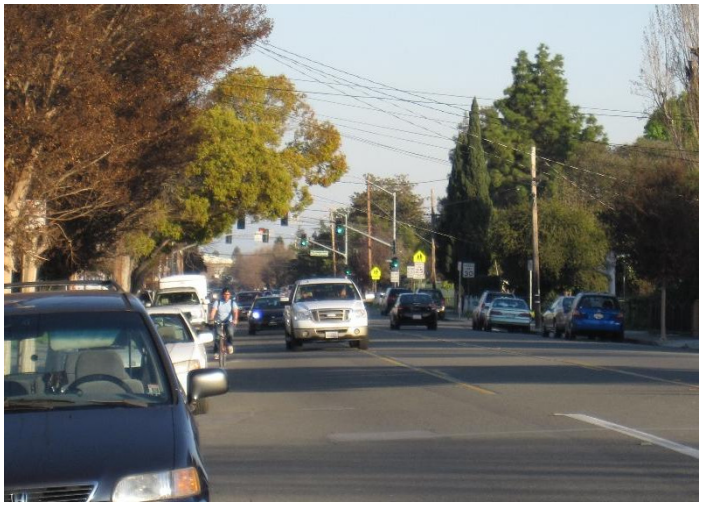


Existing Center-Turn Lane Would be Removed

Alternative 3

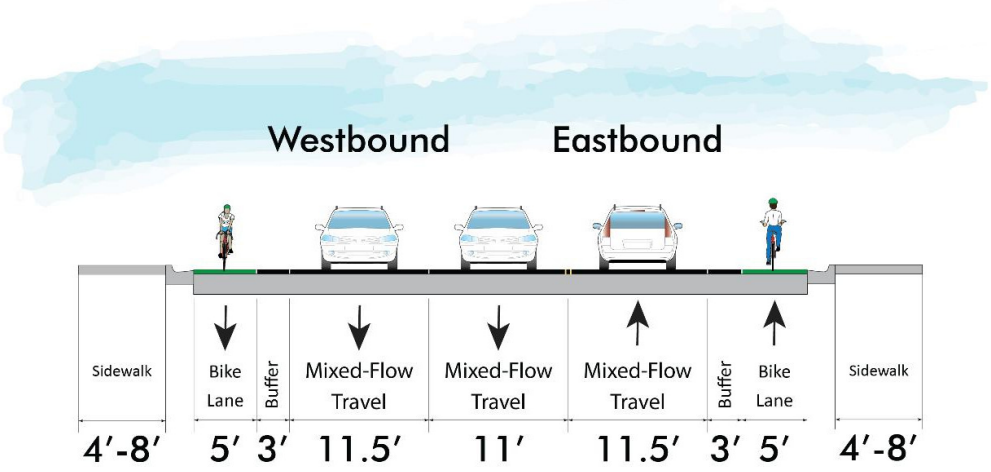
- Maintain existing geometry – do not provide bicycle lanes
  - Limited additional striping and signage





Option

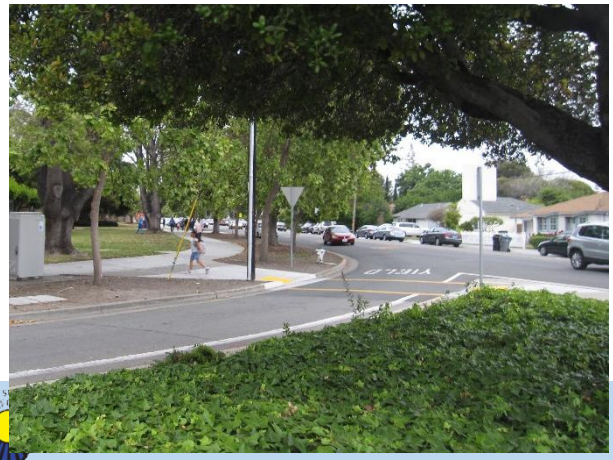
- West of Borregas Avenue:
  - Remove parking and center-turn lane and provide buffered bike lanes and an additional westbound through lane
  - Can implement either Alternative 1 or Alternative 2 treatments east of Borregas Avenue

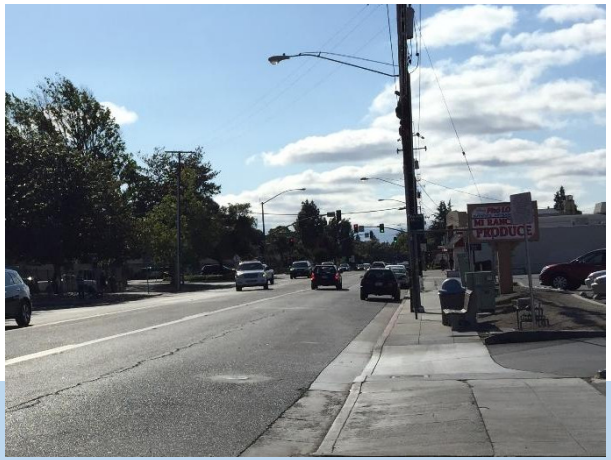


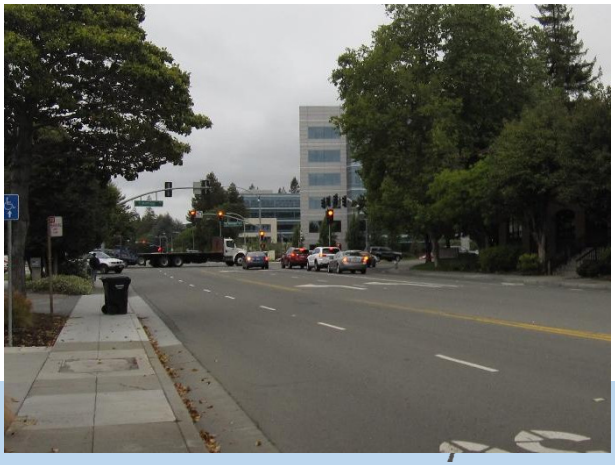
Additional Through Lane Across Mathilda

Other Modifications in All Alternatives

- Eliminate channelized right-turn movements at Sunnyvale Avenue
- Relocate VTA bus stop to reduce mid-block crossings
- Remove one westbound left-turn lane and lengthen westbound left-turn pocket approaching Mathilda Avenue (Alternatives 1, 2, and Option)







Comparison of Alternatives - Bicycles

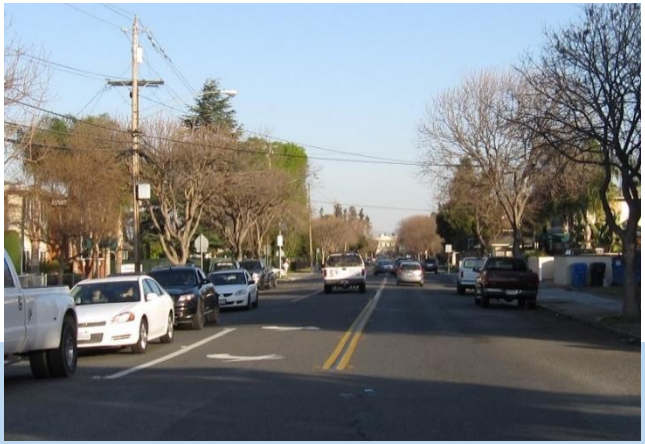
- Alternative 1 provides bike lanes with a 3-foot buffer and no on-street parking
  - Separates bicycles from vehicles
  - Eliminates door swing hazard from parked cars
  - Proven to significantly increase bicycle activity
- Alternative 2 provides bike lanes adjacent to on-street parking
- Alternative 3 does not provide bike lanes

Comparison of Alternatives - Parking

- Alternative 1 eliminates 174 on-street parking spaces
  - 111 vehicles currently parking on-street would be impacted
- Alternative 2 eliminates 48 on-street parking spaces to provide limited left-turn lanes
  - Demand would exceed supply in eastbound direction east of Bayview Avenue
- Alternative 3 would not change on-street parking
- Option would eliminate 56 on-street parking spaces west of Borregas Avenue
  - Same as Alternative 1, 45 more than Alternative 2

Comparison of Alternatives - Traffic

- Alternative 1 maintains center-turn lane and all left-turn lanes
  - Facilitates turns from Maude Avenue to side-streets and driveways
  - Maintains consistent flow of traffic on Maude Avenue
  - Maintains access from side-streets and driveways to Maude Avenue



Comparison of Alternatives - Traffic

- Alternative 2 removes center-turn lane and most left-turn lanes
  - Left-turn movements will need to occur from through lane, impacting traffic flow
  - May be more difficult to turn onto Maude Avenue
- Alternative 3 does not change traffic patterns
- Option replaces center-turn lane and left-turn lanes west of Borregas Avenue with a westbound lane
  - Provides additional capacity for westbound through movement across Mathilda Avenue

Comparison of Alternatives - Safety

- Providing buffered bicycle lanes and removing on-street parking improves bicycle safety (Alternative 1 and Option)
- Maintaining center-turn lane is best for vehicular safety by providing a left-turn refuge
- All alternatives may reduce mid-block jaywalking by relocating VTA bus stop
- All alternatives will improve pedestrian safety at Sunnyvale Avenue intersection by removing channelized right-turns

Next Steps

- Selection of Preferred Alternative
  - Bicycle and Pedestrian Advisory Committee (BPAC)
  - City Council
- Engineering Design of Preferred Alternative
- Secure Funding
- Implementation

Station #1: Existing Conditions

- Existing Information on the Corridor
- Where do you live?
- How do you utilize the corridor?

Please place a dot on the map generally where you live. Please place a dot on the matrix corresponding to the travel mode and day of the week using the corridor. This will give us a sense of how people are using the corridor.

Station #2: Alternatives

- Review configuration and comparison of alternatives

Station #3: Identify Preferences

- Identify which alternative you prefer

Place a dot under the alternative that you would like to see implemented. Please write any concerns, comments, or other improvement needs on the provided comment cards.

Other Means to Provide Input

- E-mail comments by Tuesday March 22nd
  - City Traffic and Transportation Manager SAbbas@sunnyvale.ca.gov
  - City Project Manager eraccajohnson@Sunnyvale.ca.gov