



Sunnyvale

## Hollenbeck Avenue Bike Lane Study

**Bicycle and Pedestrian Advisory Commission  
Meeting #2**  
March 20, 2025



# Purpose of Today's Meeting

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- Project Description
- Recap of Public Outreach Round 1
- Data Analysis Summary
- Preliminary Alternatives
- Next Steps
- Online Survey



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# Project Description

# Project Goal

Evaluate the feasibility to close the bike lane gap on Hollenbeck Ave., between Alberta Ave. and Danforth Dr.



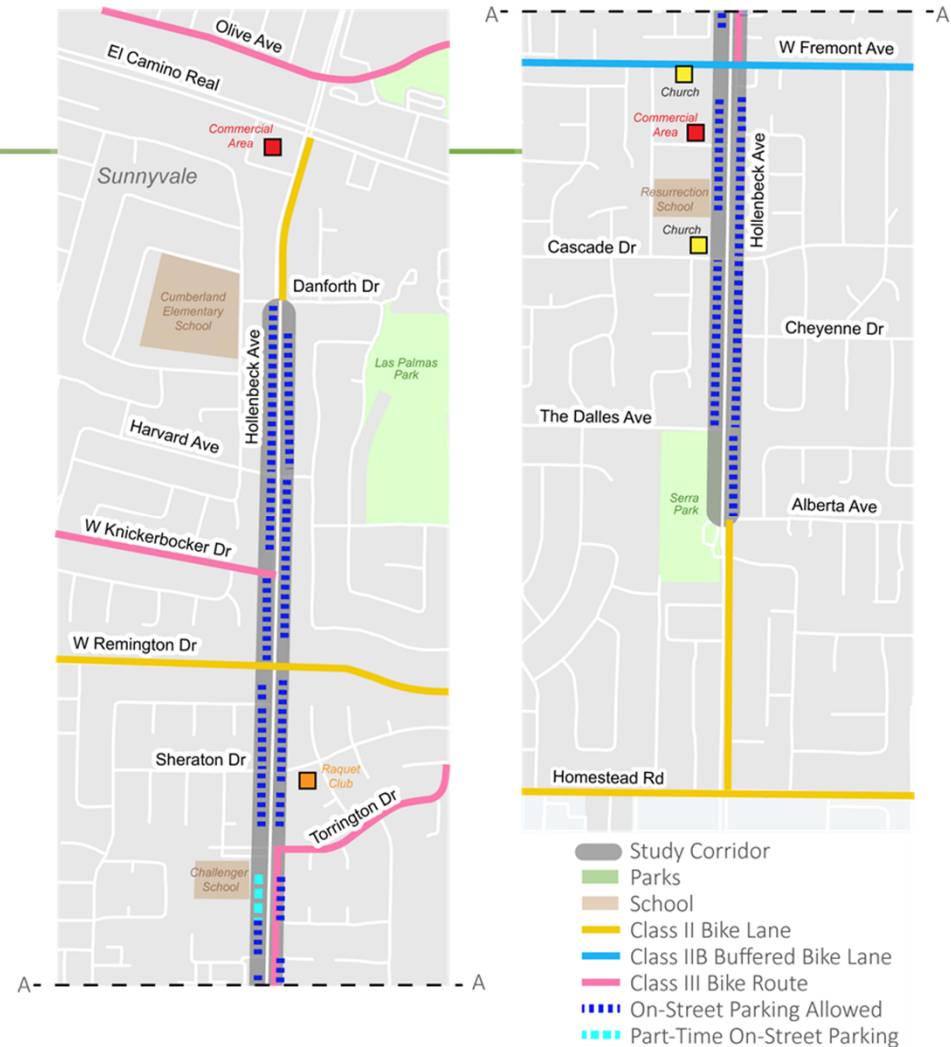
Existing Class III Bike Route on Dunford Way at Quail Ave



Existing Class II Bike lane on Hollenbeck north of Danforth Dr.



Existing Class IIB Buffered Bike lane along Sunnyvale Ave.



# Overview of Existing Conditions

- Residential Collector Street
- 40-foot curb to curb width
- One travel lane in each direction
- On-street parking is **generally** allowed on both sides of the street
- Existing uses along corridor: Single-family homes, schools, churches, park, racquet club, commercial uses





# Recap of Public Outreach Round 1

# Recap of Public Outreach Round 1

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- Input received from BPAC, Institutional/Commercial Properties, Community meeting
- Things We Heard
  - ◆ Safety-related concerns for biking
  - ◆ Needs for on-street parking
  - ◆ Additional hours/locations of data collection for bicycles and on-street parking
- Other Concerns
  - ◆ Operations issues around schools during pick-up/drop-off times and safe routes to schools



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# Data Analysis Summary



## Data Analysis Scope

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- Safety Analysis
  - ◆ Reported collisions
- Biking Patterns
  - ◆ Bike volumes
- Peak Parking Usage
  - ◆ On-street on Hollenbeck and side streets
  - ◆ Off-street on driveways

# Bike Volumes

	14-Hr Bike Volume	Bike Lane Width	Roadway Classification	Speed Limit	Vehicle Lanes Per Direction	On-Street Parking
Hollenbeck Avenue	105	None	Residential Collector	30 mph	1	Both sides
Mary Avenue	374	6 ft	Class II Arterial	35 mph	1	Both sides
Sunnyvale-Saratoga Road	162	6 ft	Class I Arterial (Regionally Significant)	40 mph	3	None

- Hollenbeck has lowest roadway classification, lowest speed limit, and lowest bike volumes
- Hollenbeck has favorable conditions for bike travel making it a good candidate for a feasibility study

# Maximum On-Street Parking Demand

- Data collection on
  - ◆ Tuesday – Thursday
    - 10/1/2024 – 10/3/2024
    - 2-6 PM, 11 PM-1AM
  - ◆ Saturday – Sunday
    - 10/5/2024 – 10/6/2024
    - 10AM – 12PM, 11 PM-1AM
    - Also 12PM – 2PM near Serra Park





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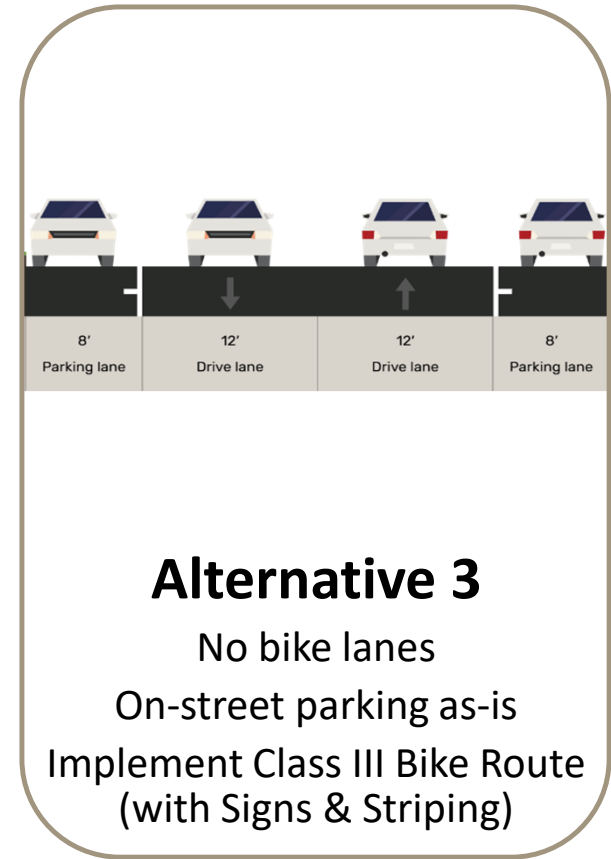
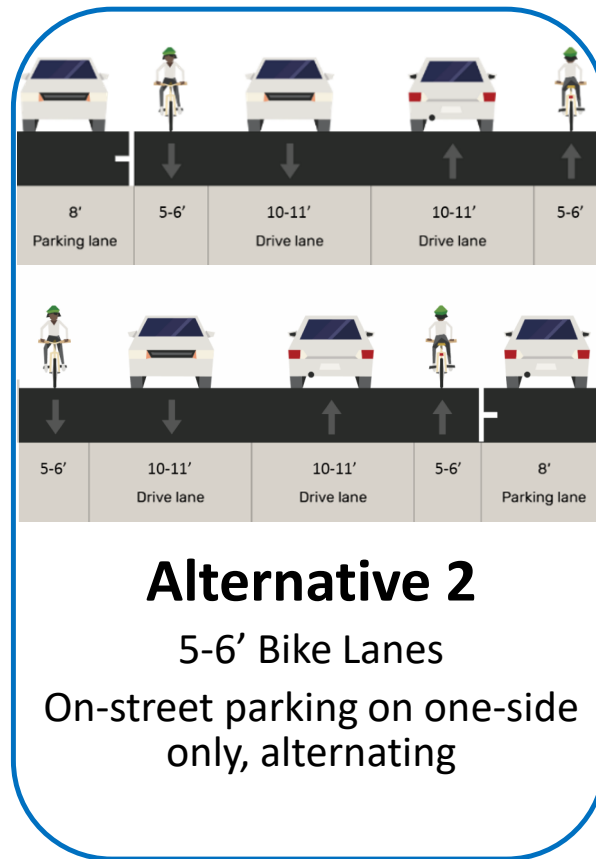
# Preliminary Alternatives

# General Constraints in Developing the Alternatives

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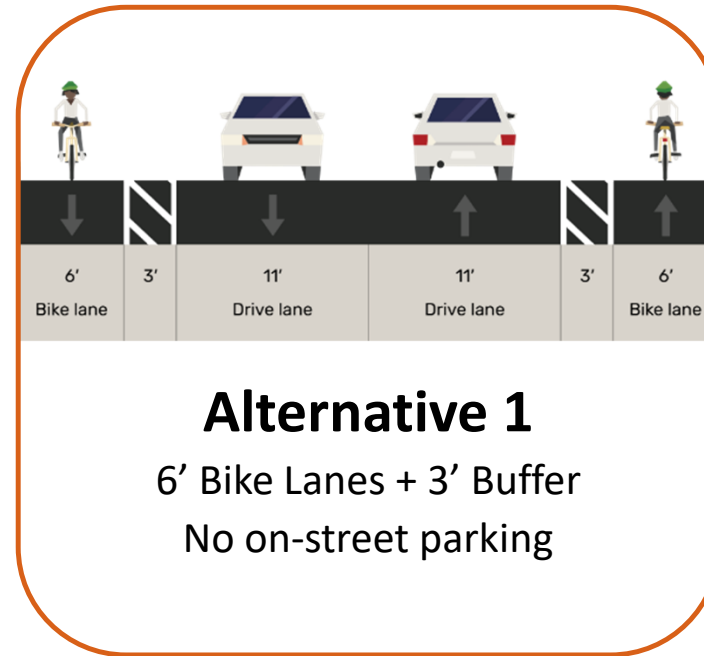
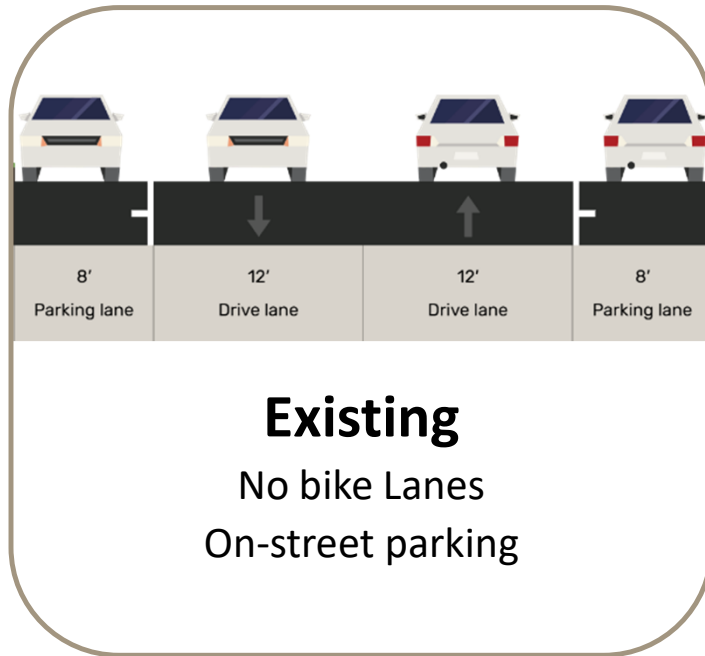
- **Right-of-Way Constraint**
  - ◆ Only considering improvements fitting within existing curb-to-curb space
  - ◆ Generally 40' width curb-to-curb
- **Lane Width Requirements**
  - ◆ Vehicle Lane – 10' minimum width
  - ◆ Vehicle Lane on Bus Route – 11' minimum width
    - Northbound Hollenbeck from Fremont to Remington
  - ◆ Bike Lane – 5' minimum width
  - ◆ Parking Lane – 8' minimum width
- **Planned Improvements**
  - ◆ Hollenbeck @ Remington - Future northbound and southbound left-turn lanes

# Alternatives Overview



# Alternative 1 – Buffered Bike Lanes

- ◆ Greatest physical separation between bikes and vehicles

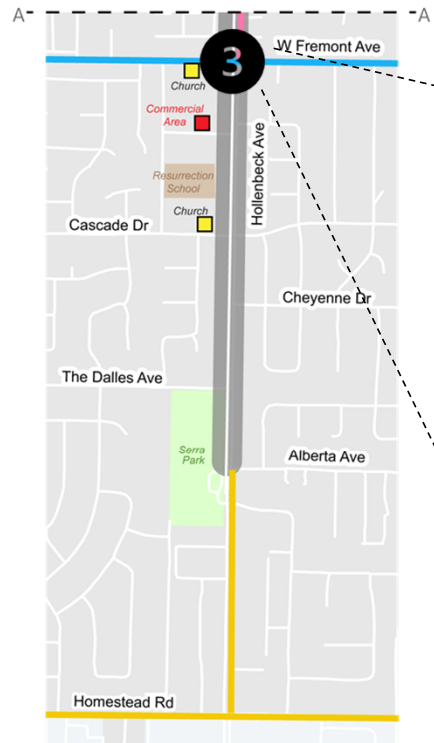


# Alternative 1 – Buffered Bike Lanes (Special Design Considerations)

Planned addition of left-turns



Proposed removal of left-turns



Proposed removal of pork-chop islands



- Study Corridor
- Parks
- School
- Class II Bike Lane
- Class IIB Buffered Bike Lane
- Class III Bike Route

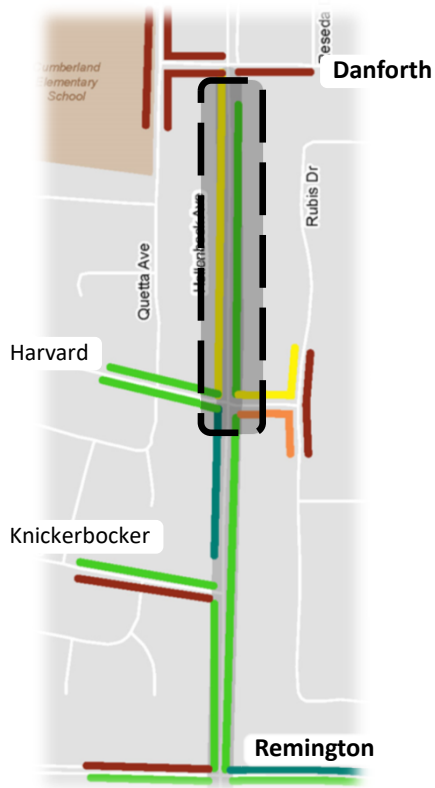
Legend

- Proposed removal
- Planned addition
- No bike lane

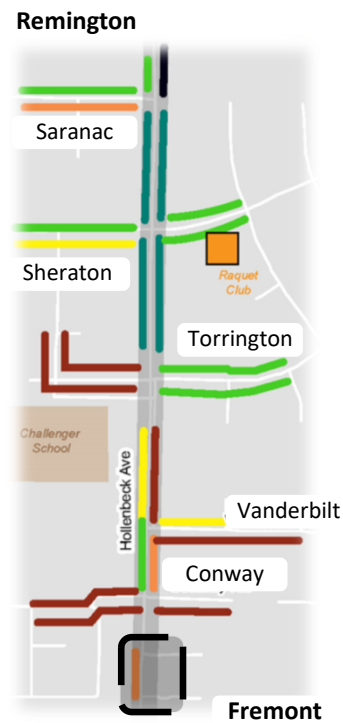


# Alternative 1 – Buffered Bike Lanes (Parking Implications)

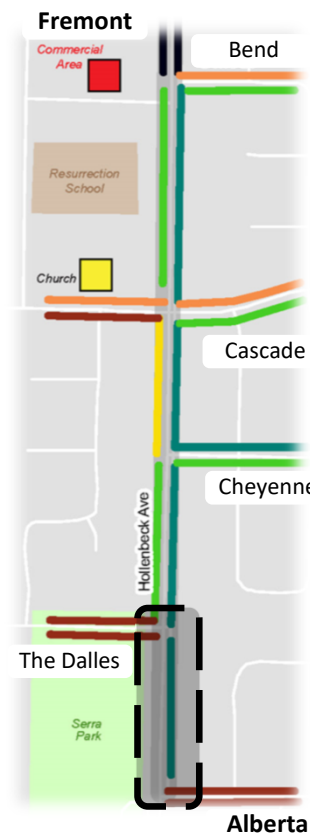
Danforth <-> Remington



Remington <-> Fremont



Fremont <-> Alberta



## Assumptions:

- All parking demand **shifts to side-streets**
- Demand **not relocated to driveways**
- Utilized **peak demand** for each block segment for analysis

Study Corridor

### Max On-street Parking Occupancy (%)

- No Parked Cars Observed
- < 20%
- 20% - 40%
- 40% - 60%
- 60% - 80%
- > 80%

Walk time to available parking = **6-7** minutes

Otherwise, walk time to available parking = **2-4** minutes

May include pedestrian crossing improvements

# Alternative 1 – Buffered Bike Lanes (Safety Benefits)

- Summary of 5-Year Collision Data:

- ◆ 23% of vehicle collisions were speed related
- ◆ 2 collisions at intersection (right-of-way yielding)
- ◆ 3 midblock collisions (collision with parked vehicle, unsafe lane change)

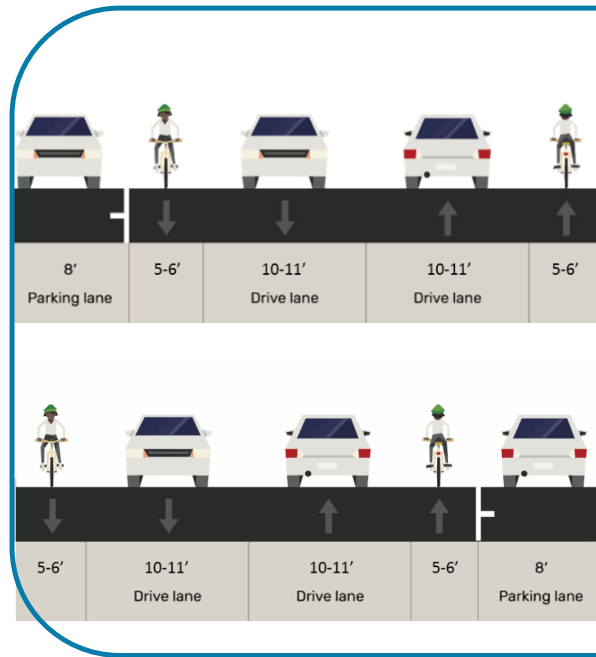
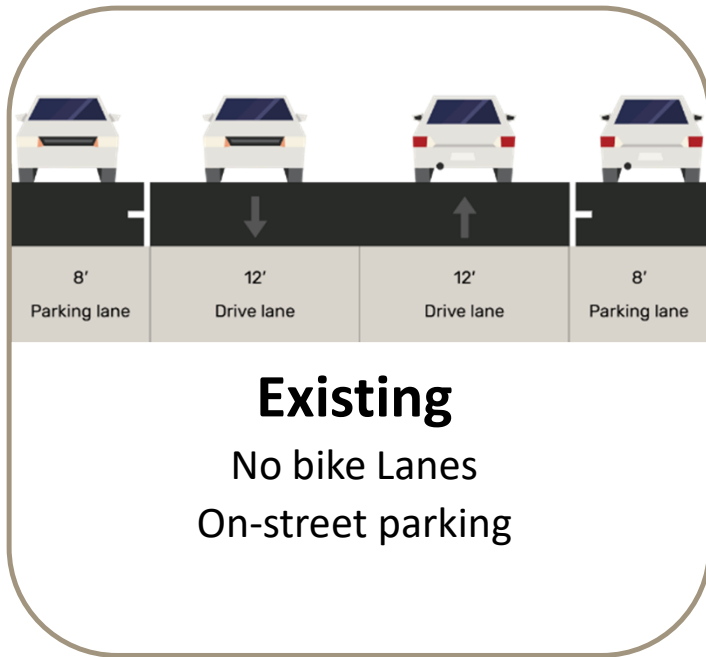
- Alternative's Safety Benefits

- ◆ Speed Reduction Potential
  - Lane width narrowed from 12+ feet to 10-11 feet
- ◆ Bicycle Safety:
  - Physical separation and buffer from vehicles
  - No parking interference



# Alternative 2 – Bike Lanes with Parking on One-Side

- ◆ Provide designated bike facility
- ◆ Maintain some parking

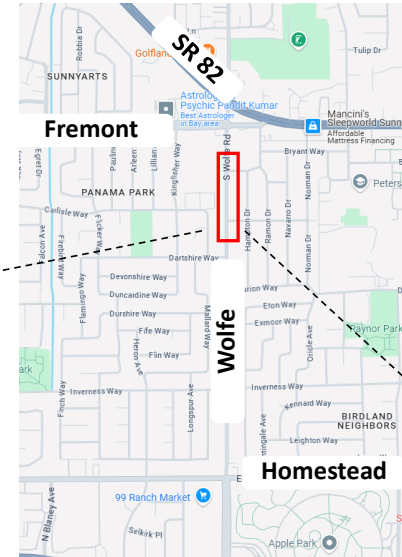


**Alternative 2**  
 6' Bike Lanes\*  
 On-street parking on one-side only, alternating

\*5' bike lane in NB direction between Fremont and Remington (VTA bus route) and at intersection of Hollenbeck/Fremont and Hollenbeck/Remington

# Alternative 2 – Bike Lanes with Parking on One-Side

- Example Implementation
  - ◆ Wolfe Road, south of Fremont Avenue



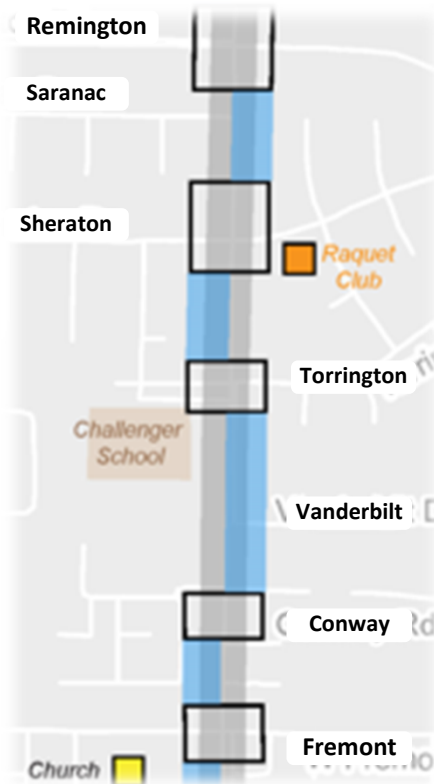
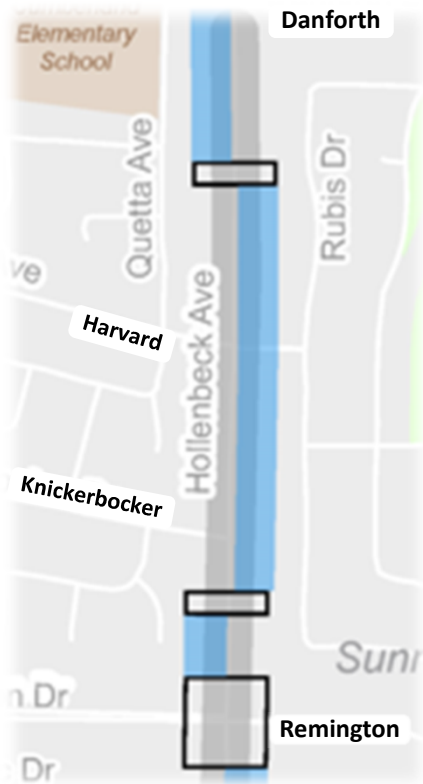
 = on-street parking

# Alternative 2 – Bike Lanes with Parking on One-Side

Danforth <-> Remington

Remington <-> Fremont

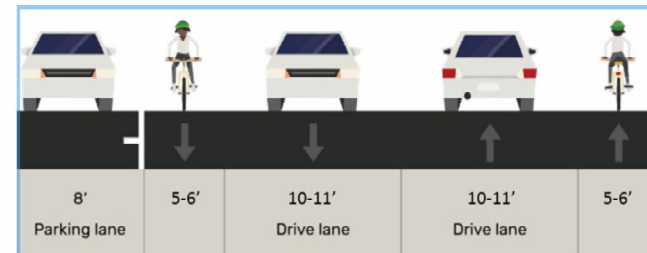
Fremont <-> Alberta



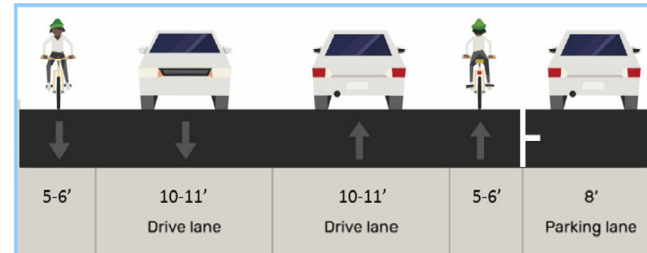
## LEGEND

- Study Corridor
- Parks
- School
- Transition Zone Where Parking Shifts Sides
- On-Street Parking

### Parking on the Left Only



### Parking on the Right Only



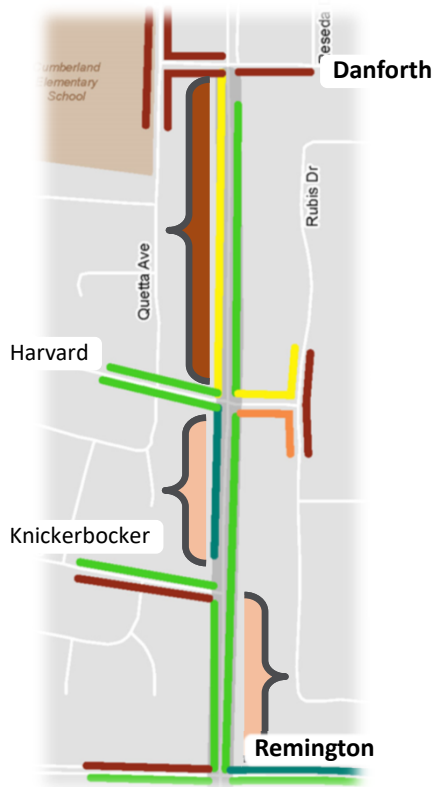
## Alternative 2 – Bike Lanes with Parking on One-Side (Design Considerations)

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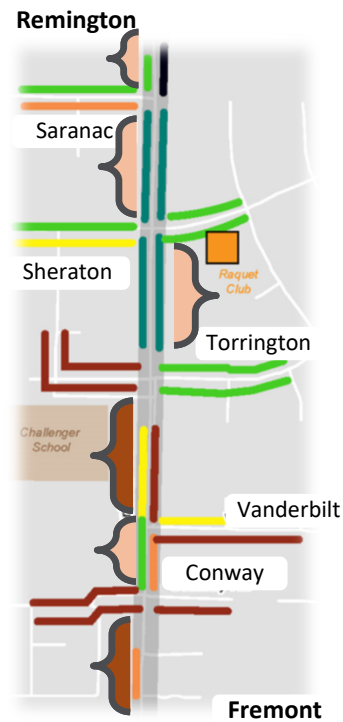
- Special Design Considerations
  - ◆ Same as Alternative 1 for Remington, Torrington, Fremont
  - ◆ At least 120' transition zone each time parking switches sides (4-12 spaces lost)
- Design Tradeoffs
  - ◆ Maximize on-street parking spaces with the proposed bike lanes
  - ◆ Minimize parking spillover to side streets
  - ◆ Incorporate alternating on-street parking to traffic calm the street

# Alternative 2 – Bike Lanes with Parking on One-Side (Parking Implications)

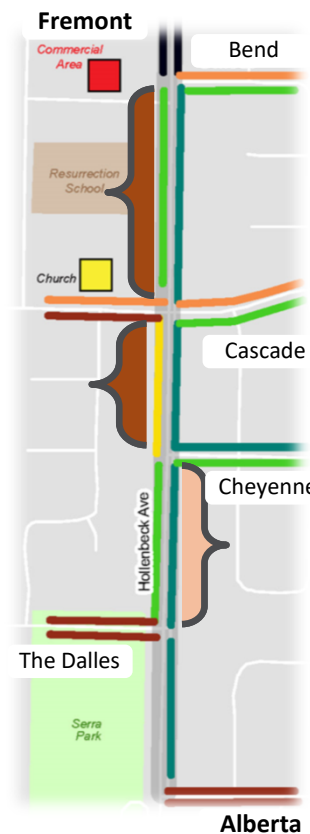
Danforth <-> Remington



Remington <-> Fremont



Fremont <-> Alberta



## Assumptions:

- Displaced parking relocates within the same side of the street (on Hollenbeck or on side street)
- Demand **not relocated to driveways**
- Utilized **peak demand** for each block segment for analysis

Study Corridor

### Max On-street Parking Occupancy (%)

- No Parked Cars Observed
- < 20%
- 20% - 40%
- 40% - 60%
- 60% - 80%
- > 80%

{ } = 1-5 maximum parking displaced

{ } = 5-7 maximum parking displaced

Walk time to available parking between **2 to 4** mins

May include pedestrian crossing improvements

## Alternative 2 – Bike Lanes with Parking on One-Side (Safety Benefits)

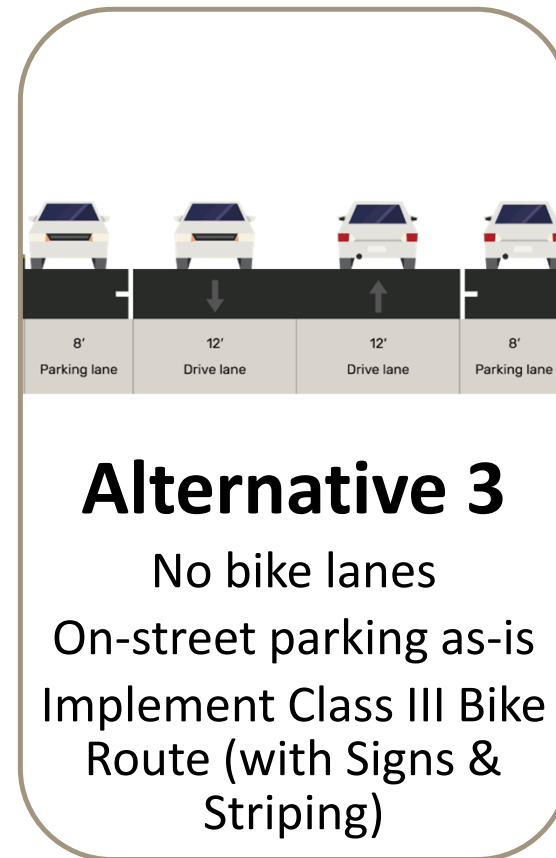
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- Summary of 5-Year Collision Data
  - ◆ 23% of vehicle collisions were speed related
  - ◆ 2 collisions at intersection (right-of-way yielding)
  - ◆ 3 midblock collisions (collision with parked vehicle, unsafe lane change)
- Alternative's Safety Benefits
  - ◆ Speed Reduction Potential
    - Lane width narrowed from 12+ feet to 10-11 feet
    - Traffic calming due to lateral shifts
  - ◆ Bicycle Safety
    - Physical separation from vehicles
    - Reduce parking interference



## Alternative 3 – Maintain Existing Conditions




- Existing on-street parking maintained as-is
- Implement Class III Bike Route
  - ◆ Bikes share the lane with vehicles
    - May Use Full Lane
  - ◆ Addition of signs, pavement striping, and shoulder striping



# Alternatives Comparison

- Alternative 1: Buffered Bike Lanes
- Alternative 2: Bike Lanes with parking on one-side
- Alternative 3: Maintain existing conditions (implement Class III Bike Route)

	Alternative 1	Alternative 2	Alternative 3
Maintain on-street parking supply	Low	Moderate	High
Potential reduction in vehicle speeds	Moderate	High	Low
Improved bike safety and comfort	High	Moderate	Low
Implementation cost	\$\$\$	\$\$\$	\$

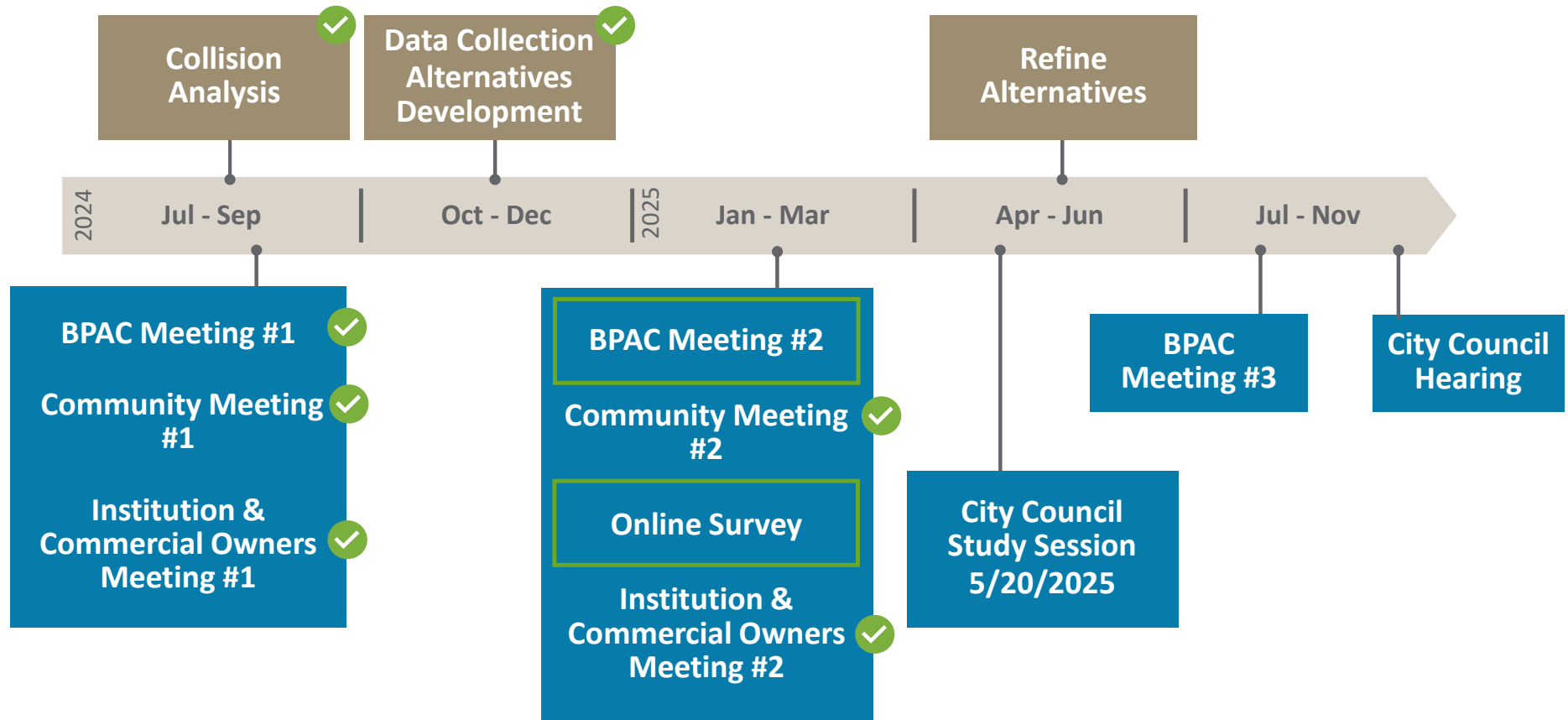
<u>Benefit</u>	<u>Cost</u>
 High	\$ = \$5K- \$500K
 Moderate	\$\$ = \$500K - \$2M
 Low	\$\$\$ = \$2M - \$4M



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# Schedule and Next Steps

# Schedule



## Next Steps

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- **Online Survey** open until March 31, 2025

- Option 1: Scan the QR code



- Option 2: Visit the Project webpage at [sunnyvale.ca.gov](http://sunnyvale.ca.gov) and search for "Transportation Projects"

Q&A

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**Thank you for your time**

Q&A

## Expanded Data Collection Scope

Original Data Collection	Expanded Scope
<u><i>Collision Analysis</i></u>	
<ul style="list-style-type: none"> <li>• 5-year collision data</li> </ul>	<ul style="list-style-type: none"> <li>• No change</li> </ul>
<u><i>Parking Occupancy Counts</i></u>	
<ul style="list-style-type: none"> <li>• 4 Hours peak period parking counts</li> </ul>	<ul style="list-style-type: none"> <li>• Additional 2 hours of peak period weekday parking counts</li> <li>• Additional 2 hours of weekend midday count near Serra Park</li> </ul>
<u><i>Vehicle and Bicycle Counts</i></u>	
<ul style="list-style-type: none"> <li>• Daily roadway volume and speed data</li> <li>• 6 Hours peak period bike counts</li> </ul>	<ul style="list-style-type: none"> <li>• 14-hour bike data on Hollenbeck and parallel north-south streets (Mary, Sunnyvale-Saratoga)</li> </ul>

# Bike Volumes

- 6-Hour Data collection on:
  - ◆ Tuesday – Thursday 7-9 AM, 2:30-6:30 PM
  - ◆ Saturday – Sunday 11 AM-2 PM, 4-7 PM
  
- Weekday Volumes:
  - ◆ Segments with Bike Lanes: 75 to 87 bikes
  - ◆ Segments without Bike Lanes: 50 to 69 bikes
  
- Weekend Volumes:
  - ◆ South of Alberta Ave: 77 bikes
  - ◆ North of Alberta Ave: 26 to 59 bikes





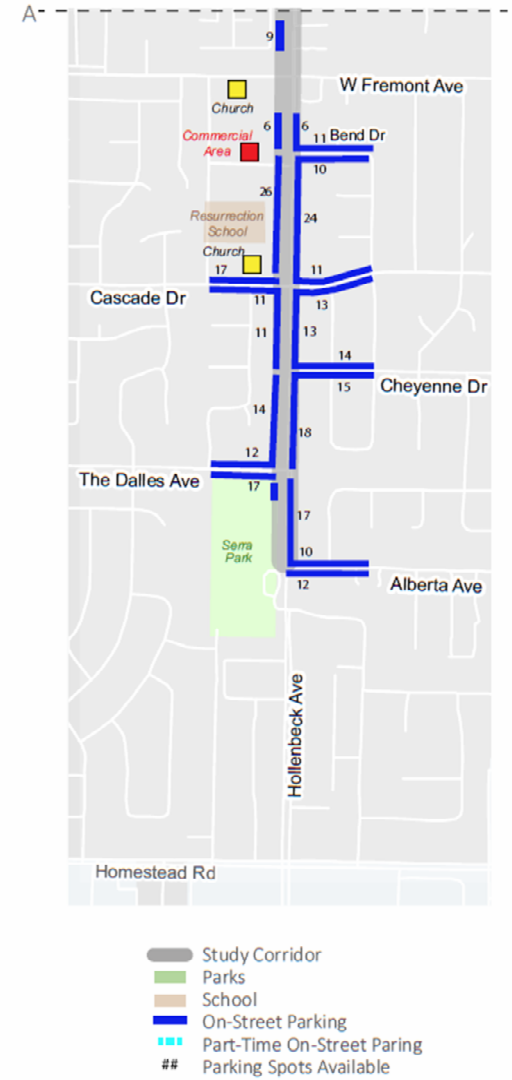
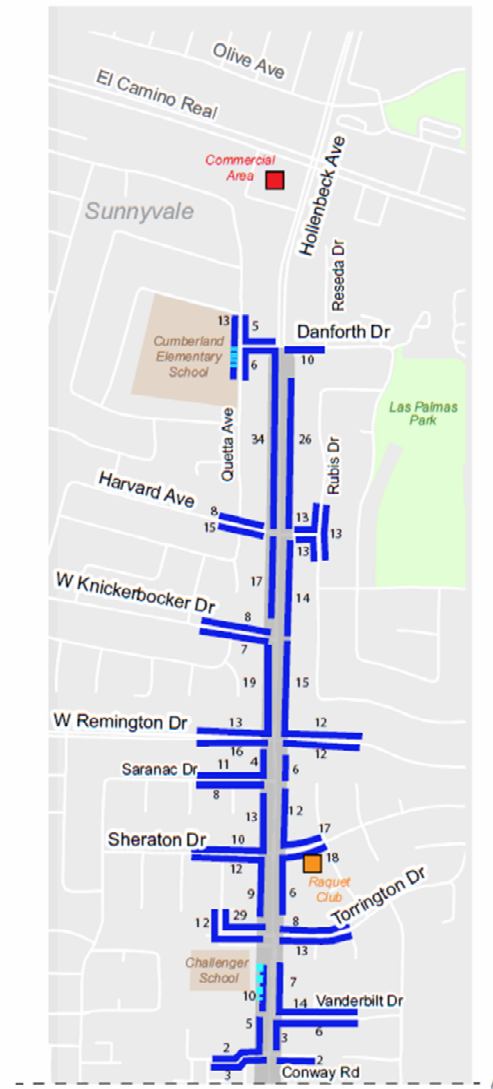
# Parallel Corridors – Major Destinations

Major Destinations	Mary	Hollenbeck	Sunnyvale-Saratoga
Moffett Park Offices			✓
Peery Park Offices	✓		✓
Sunnyvale Caltrain	✓	✓	✓
Downtown Sunnyvale	✓	✓	✓
Nearby Schools/ Parks	✓	✓	✓
Apple	✓	✓	✓
De Anza College	✓	✓	✓
Cupertino	✓	✓	✓
Saratoga			✓



# On-Street Parking Inventory

Curb Condition	Parking Allowed?
20' before/after marked/unmarked crosswalks (AB 413 Daylighting Law)	
Painted red curb	
Fire hydrants (15' each side)	
Bus stops	
Driveways	
"No Parking" signage	
Unmarked curb longer than 20'	



# Bicycle Collision Analysis

- 5 collisions along study corridor (2019 to 2023)
  - ◆ 2 collisions at intersection
    - Failure to yield right-of-way
  - ◆ 3 midblock collisions
    - Colliding with a parked vehicle (2)
    - Unsafe lane change (1)

