EL CAJON BOULEVARD COMMUNITY WORKSHOP

ALTERNATIVES DISCUSSION

Highland Avenue to 50th Street

The City of SAN DIEGO

ELEMENTS TO KNOW

Bicycle Facilities

Share the Road

Inexpensive and generally requires no capital improvements to the road width. Typically reserved for streets with low traffic volumes and slower speeds as the travel lanes are shared by both vehicles and bicycles. El Cajon Boulevard is currently a "sharrow".

Bus/Bike Shared Lane

Dedicated lane solely for buses and bikes. Accommodate both modes at low speeds, moderate bus headways where buses are discouraged from passing, and bicyclists pass buses only at stops.

Bicycle Lane

Relatively inexpensive bicycle treatment that helps increase safe and convenient cycling. Given roadway conditions, particularly geometry, roadway width, traffic volume, and number of travel lanes, bicycle lanes can be installed economically. Bicycle lanes require 4' of unobstructed space not including the gutter pan.

Cycle Track

Utilizes similar applications as bicycle lanes but include a physical buffer and can facilitate two-way movement within the traveled area. Cycle tracks are often utilized for highly trafficked roads and are good for riders of all comfort levels.

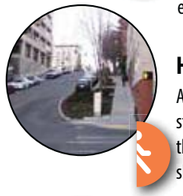
Bicycle Boulevard

Similar to share the road but includes traffic calming devices that help lower the speed of vehicles and increase safety for bicyclists. Bicycle boulevards are being examined for Orange Avenue, Monroe Avenue, and Meade Avenue.

Urban Design Treatments

Full Bulb-Out

Decreases the overall crossing width of a roadway and increases the overall visibility of pedestrians by aligning them with the parking lane. This increases the safety of pedestrians entering the intersections as well as encourages slower turning corridor speeds.



Half Bulb-Out

Aligns pedestrians with the parking lane on the side street. This increases the safety of pedestrians entering the intersection on the side street as well as encourages slower turning speeds.

Parklet

Expansion of the sidewalk into one or more on-street parking spaces to create people-oriented places. Parklets introduce new streetscape features such as seating, planting, bicycle parking, or elements of play.

Monument

An artistic element that can represent the cultural heritage of an area. They can be developed in succession to create a trail. Monuments also help give a sense of place to pedestrians and can serve as wayfiding tools.

Banner

Useful tool in place-making and defining cultural districts. Cost efficient method to inform individuals of their location and helps to visually convey the cultural and historical presence of an area.

Furniture Zone

Section of the sidewalk between the curb and the pedestrian zone in which the street furniture and amenities, such as lighting, benches, newspaper kiosks, utility poles, tree pits, and bicycle parking are provided. The furniture zone may also consist of green infrastructure elements, such as rain gardens.

Stormwater / BMP

Located at bulb-outs to take advantage of rainfall and stormwater runoff in its design and plant selection.

Median Treatments

Center Planted Median

Provides a raised 10' buffer that separates traffic in opposing directions. Plantings, monuments, branding elements are suitable for center planted medians.

Narrow Paved Median

Provides a 4' minimum raised buffer that separates traffic in opposing directions. Typically plantings are not effective in narrow medians.

Two Way Left Turn Lane

Provides shared space for opposing directions of traffic to take left turns. This allows through traffic to continue unobstructed. This application works best in areas with few conflicting driveways.

Double-Double Yellow Stripe

Indicates areas where it is illegal to cross or take left turns, much like a median.

Dedicated Turn Lane

Allows through traffic to continue unobstructed while left turners take advantage of median space.

Parking Accommodations

Angle Parking

Uses slightly more width of the road but allows for more parking per mile. Cars park diagonally to the curb. Typically, angle parking is found on slower-speed and lower-volume streets.

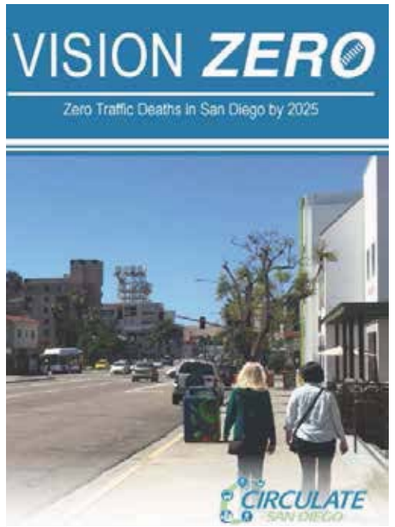
Reverse Angle Parking

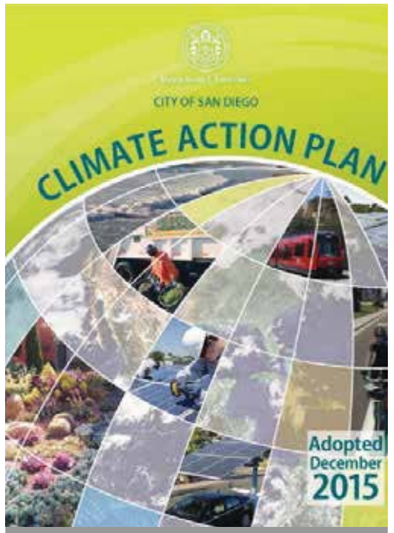
Reverse angle parking can provide additional parking efficiency. Reverse angle parking has been found safer when cyclists are present.

Peak-Hour Travel/Park Lane

A peak-hour only drive lane can operate as a dedicated bus/vehicle lane during high-volume periods and provide general curbside uses at other times. The peak-hour time period for El Cajon Boulevard is 7-9am and 4-6pm.

RELEVANT PROJECT GOALS FROM PREVIOUS PLANS





The City of SAN DIEGO

Vision Zero San Diego Goals

- Reduce all traffic fatalities to zero by 2025;
- Reduce dangerous speeding by building traffic calming projects; and
- Simplify the process to implement neighborhood initiated projects.

City of San Diego Climate Action Plan (CAP) Goals

- Increase the use of mass transit;
- Increase commuter walking opportunities;
- Increase commuter bicycling opportunities; and
- Increase urban tree canopy coverage.

City of San Diego General Plan Goals

Land Use and Community Planning Element

- Ensure environmental justice in the planning process through meaningful public involvement.
- Balance individual needs and wants with the public good.
- Implement development policies to protect the public health, safety, and welfare equitably among all segments of the population. Address the needs of those who are disenfranchised in the process.
- Expand public outreach on transportation policy, projects, and operations in order to get input from ethnic minorities, low-income residents, persons with disabilities, the elderly and other under-represented communities. Ensure that people who are directly affected by a proposed action are given opportunities to provide input.

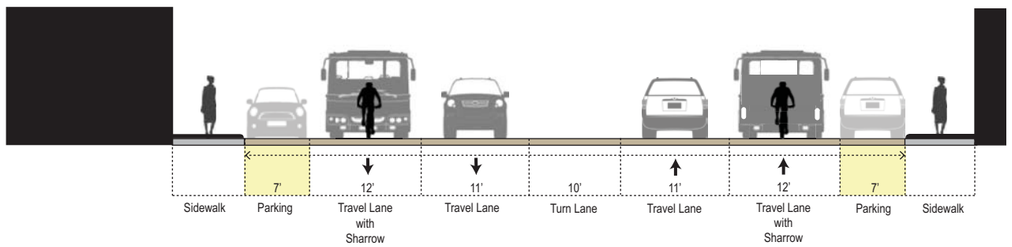
Mobility Element

- Design and operate sidewalks, streets, and intersections to emphasize pedestrian safety and comfort through a variety of street design and traffic management solutions.
- Make sidewalks and street crossings accessible to pedestrians of all abilities.
- Improve walkability through the pedestrian-oriented design of public and private projects in areas where higher levels of pedestrian activity are present or desired.
- Work closely with regional agencies and others to increase transit ridership and mode share through increased transit service accessibility, frequency, connectivity, and availability.
- Make transit planning an integral component of long range planning documents and the development review process.
- Provide adequate capacity and reduce congestion for all modes of transportation on the street and freeway system.
- Design an interconnected street network within and between communities, which includes pedestrian and bicycle access, while minimizing landform and community character impacts.
- Improve operations and maintenance on City streets and sidewalks.
- Implement best practices for multi-modal quality/level of service analysis guidelines to evaluate potential transportation improvements from a multimodal perspective in order to determine optimal improvements that balance the needs of all users of the right of way.
- Emphasize the movement of people rather than vehicles.
- Promote the most efficient use of the City's existing transportation network.
- Identify and implement a network of bikeways that are feasible, fundable, and serve bicyclists' needs, especially for travel to employment centers, village centers, schools, commercial districts, transit stations, and institutions.
- Maintain and improve the quality, operation, and integrity of the bikeway network and roadways regularly used by bicyclists.
- Provide safe, convenient, and adequate short and long-term bicycle parking facilities and other bicycle amenities for employment, retail, multifamily housing, schools and colleges, and transit facility uses.
- Provide and manage parking so that it is reasonably available when and where it is needed.
- Implement innovative and up-to-date parking regulations that address the vehicular and bicycle parking needs generated by development.
- Support innovative programs and strategies that help to reduce the space required for, and the demand for parking.

Urban Design Element

- Landscape materials and design should enhance structures, create and define public and private spaces, and provide shade, aesthetic appeal, and environmental benefits.
- Design or retrofit streets to improve walkability, bicycling, and transit integration; to strengthen connectivity; and to enhance community identity.
- Minimize the visual and functional impact of utility systems and equipment on streets, sidewalks, and the public realm.
- Design or retrofit streets to improve walkability, strengthen connectivity, and enhance community identity.
- Enhance the public streetscape for greater walkability and neighborhood aesthetics.
- Include public plazas, squares or other gathering spaces in each neighborhood and village center
- Integrate public art and cultural amenities that respond to the nature and context of their surroundings. Consider the unique qualities of the community and the special character of the area in the development of public art and programming for cultural amenities
- Use public art and cultural amenities to celebrate San Diego's diversity, history, and unique character.

EXISTING CONDITIONS

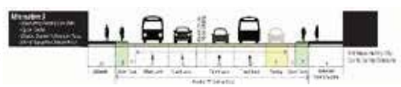
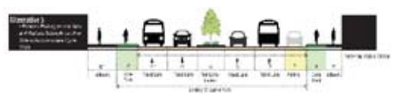
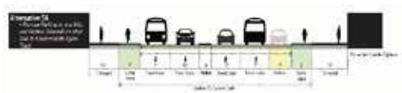


CONDITIONS	Performance	Benefits	Drawbacks
Pedestrian crossing El Cajon Boulevard (ECB)	POOR		• Wide crossing distances. • No pedestrian refuge areas. • Spacing between controlled crossings (in some areas).
Pedestrian Mobility along ECB	FAIR	• Protected by signals or stop signs at side streets. • Parked vehicles act as buffer between pedestrians and traffic.	• Sidewalk conditions are poor in parts of the corridor (too narrow, cracked, uneven.) • Wide side-street crossing distances. • Unrestricted left turn movements create additional conflicts for autos, bikes, and pedestrians.
Bike Mobility	POOR		• Bikes were observed on the sidewalk. • High "Level of Stress" rating. • Limited spaces creates conflict with traffic, transit, and parked vehicles. • Signed Sharrow.
Transit Mobility	FAIR	• Bus Rapid Transit (BRT) RAPID route. • High use local transit service.	• Poor transit stop connectivity. • Stop amenities only include signed bus stop and bench in some locations.
Vehicle Mobility	FAIR	• Four lanes of traffic. • Center turning lane accommodates traffic.	• High traffic volume with unrestricted access reduces capacity and safety for all road users (bicycles, pedestrians and autos).
Safety	POOR	• Traffic signals are generally equally spaced.	• Bicycles operate in mixed traffic. • Pedestrian fatality crashes high on roadway.
Urban Design Conditions	GOOD	• Some space is available for street furniture and plantings.	• Some constrained locations. • Space is underutilized. • Limited vegetation / trees in the corridor.
Constructability	N/A	N/A	N/A
Parking	FAIR	• Both sides of street accommodate on-street parallel parking.	• Little Saigon District has identified desire for more parking.

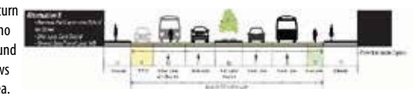
PROPOSED ALTERNATIVES STATUS

The following tables highlight the different alternatives looked at through the public involvement process and their current status on project applicability. Most alternatives did not comply with specifications and possible constraints; however, two alternatives listed below were retained as having potential applicability and therefore move forward in the process. These two alternatives, Alternative 1 and 8B, are looked at more closely in-depth in the following pages.

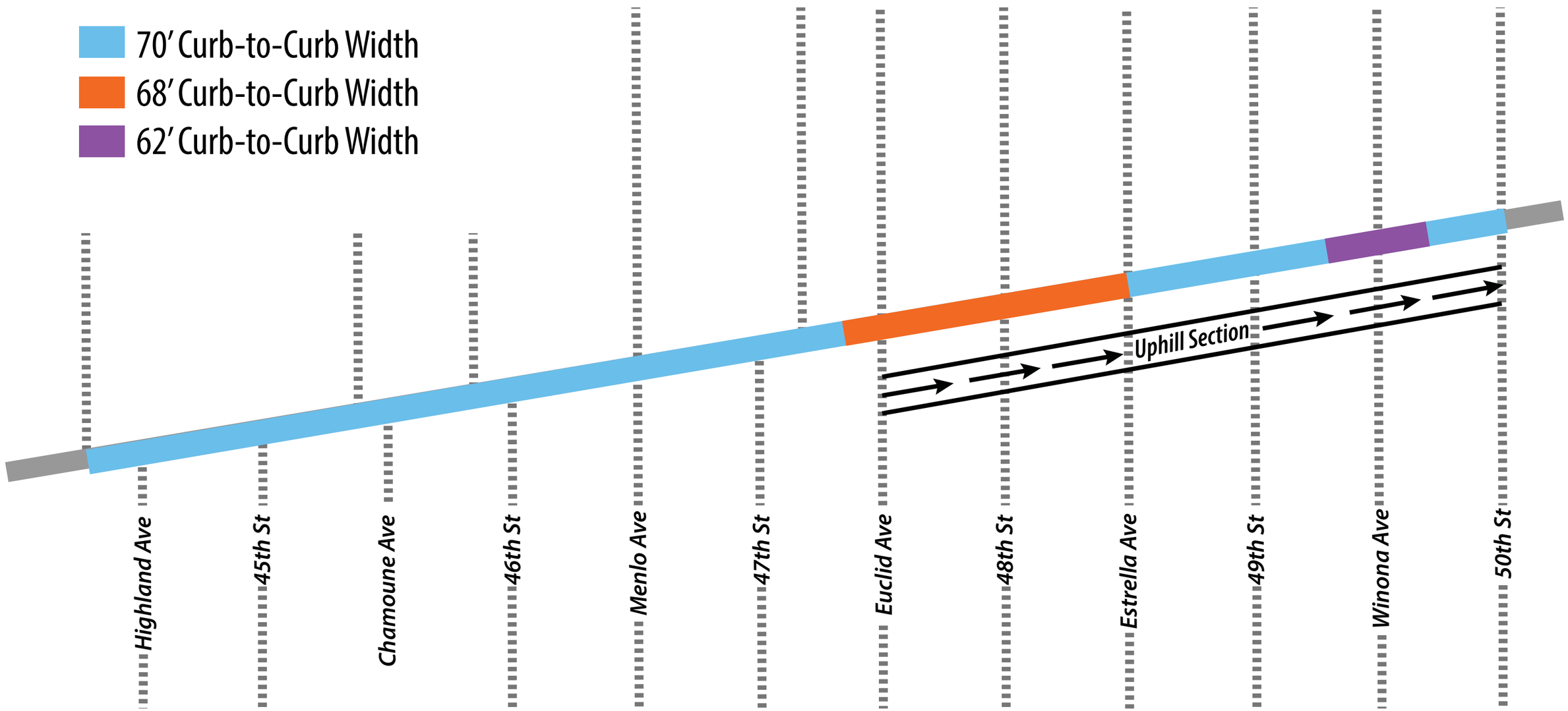
El Cajon Boulevard Alternatives

Alternative	Description	Cross-Section	Status
Alternative 1	Four travel lanes, raised median, left turn pockets at signalized intersections, sharrows for bicycles, maintains on-street parking.		RETAINED
Alternative 2	Four travel lanes, raised median, left turn pockets at signalized intersections, back in angled parking on south side of street and no parking on north side of street in Little Saigon District, sharrows for bicycles.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 3	Four travel lanes, four-foot painted median, left turns at signalized intersections, no parking on one side of street, one-way cycle track on each side of street.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 4	Four travel lanes, double yellow line, left turns at signalized intersections, no parking on one side of street, one-way cycle track on each side of street.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 5	Four travel lanes, raised median, left turn pockets at signalized intersections, no parking on one side of street and reduced sidewalk width on other side of street to provide one-way cycle tracks.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 5A	Four travel lanes, raised median, left turns at signalized intersections, no parking on one side of street.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 6	Four travel lanes, raised median, left turn pockets at signalized intersections, maintains on-street parking, additional right-of-way needed to provide cycle tracks and sidewalks outside the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS

El Cajon Boulevard Alternatives

Alternative	Description	Cross-Section	Status
Alternative 7	Four travel lanes, raised median, left turn pockets at signalized intersections, no on-street parking on El Cajon Boulevard, one-way cycle tracks within the existing curb-to-curb area		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 8	Four travel lanes, raised median, left turn pockets at signalized intersections, no parking on one side of street, eastbound bicycle lane and westbound sharrows within the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 8A	Four travel lanes, raised median, left turn pockets at signalized intersections, no parking on one side of street, bicycle lanes within the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 8B	Four travel lanes, raised median, left turn pockets at signalized intersections, no parking on one side of street, bicycle lanes within the existing curb-to-curb area, narrower travel lanes.		RETAINED
Alternative 9	Four travel lanes during peak periods, two travel lanes and parking off-peaks, raised median, left turn pockets at signalized intersections, one-way cycle tracks within the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 10	Two shared bus/bike lanes, two travel lanes, raised median, left turn pockets at signalized intersections, maintains on-street parking within the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS
Alternative 11	Reduction from four to two travel lanes, raised median, left turn pockets at signalized intersections, maintains on-street parking, one-way cycle tracks within the existing curb-to-curb area.		ALTERNATIVE DOES NOT MEET PROJECT GOALS

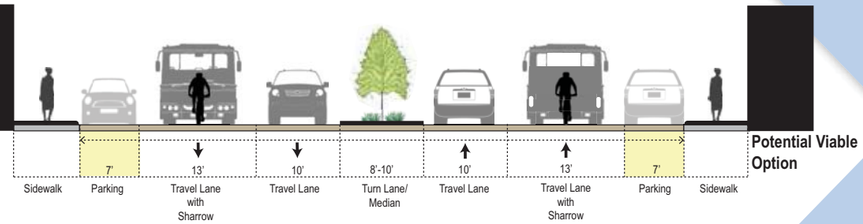
APPLICATION OF ALTERNATIVES



RETAINED ALTERNATIVE

1

• *Urban Design/ Pedestrian Emphasis with median and bulb-out treatments, reduced conflicts*



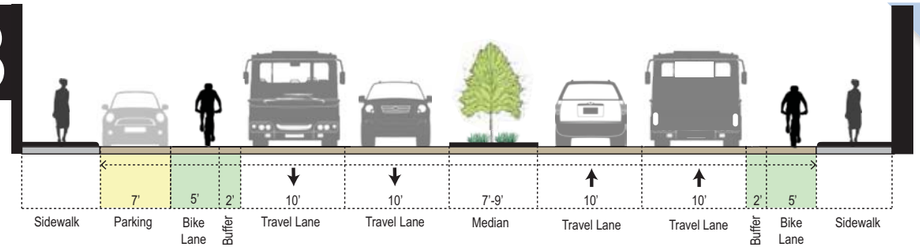
A center raised median is provided to improve vehicular, bicycle, and pedestrian safety by eliminating all left turn conflicts between signalized intersections while improving the aesthetics in the corridor. Curb extensions are provided to improve visibility of pedestrians, reduce crossing distances, and further calm traffic. On-street parking and the bicycle sharrows are maintained. This alternative provides opportunities for landscaping and urban design features in the median and on both sides of the street.

Four travel lanes, raised median, left turn pockets at signalized intersections, sharrows for bicycles, maintains on-street parking.

CONDITIONS	Performance	Benefits	Drawbacks	Trade-Offs	Change From Existing
Pedestrian crossing El Cajon Boulevard (ECB)	**GOOD**	• Enhanced "continental" crosswalks for better visiblity. • Pedestrian refuge areas in the median reducing exposure time. • Bulb-outs reduce exposure time and improve visibility.		• Bulb-outs prevent biking along curb when no vehicles are parked.	↑
Pedestrian along ECB	**GOOD**	• Enhanced "continental" crosswalks for better visiblity. • Bulb-outs reduce exposure time and improve visibility. • Parked vehicles add buffer for pedestrians from traffic.			↑
Bike Mobility	**FAIR**		• Does not provide a separate bicycle facility in both directions. • Signed Sharrow.	• Bicycle facility doesn't impact other corridor needs.	↑
Transit Mobility	**FAIR**	• Median improves traffic operations.			↑
Vehicle Mobility	**FAIR**	• Median improves traffic operations.			↑
Safety	**POOR**	• Median eliminates conflicts with left turning traffic for all modes except at signalized intersections. • Bulb-out improves pedestrian safety.			↑
Urban Design Conditions	**GOOD**	• Potential for plantings in parking areas. • Center planted median.			↑
Constructability	**GOOD**	•Generally low cost, only requires striping changes. • Existing utilities not impacted.	•Signal Modifications for bicycle detection and timing.		N/A
Parking	**GOOD**	• Both sides of the street accommodate on-street parallel parking. • Additional angled parking to the north along Highland.			=

RETAINED ALTERNATIVE

8B



This alternative removes parking from one side of the street and re-purposes that space for an on-street bicycle lane. The opposite side of the street becomes a bicycle lane with parking. Additionally, a center raised median is provided to improve safety by eliminating all left turn conflicts between signalized intersections while improving the aesthetics in the corridor. This alternative provides opportunities for landscaping and urban design features in the median and on one side of the street.

Four travel lanes, raised median, left turn pockets at signalized intersections, no parking on one side of street, bicycle lanes within the existing curb-to-curb area, narrower travel lanes.

CONDITIONS	Performance	Benefits	Drawbacks	Trade-Offs	Change From Existing
Pedestrian crossing El Cajon Boulevard (ECB)	**FAIR**	• Enhanced "continental" crosswalks for better visiblity. • Pedestrian refuge areas at side streets reducing exposure time and improve visibility. • Bulb-outs on one side of ECB reduce exposure time.	• Removes a buffer (parked cars) between pedestrians and traffic on one side of street.	• Bike lane limits bulb-outs on one side of street.	↑
Pedestrian along ECB	**GOOD**	• Enhanced "continental" crosswalks for better visiblity. • Bulb-outs reduce exposure time and improve visibility. • Parking and bike lane provide buffer for pedestrians from traffic reducing exposure time. • Preserves existing sidewalk / furniture area. • Median eliminates left turn conflicts at driveways alleys, and unsignalized intersections.			↑
Bike Mobility	**GOOD**	• 5' bike lanes • 2' buffer on one side • Median eliminates left turn conflicts at driveways, alleys, and unsignalized intersections.			↑
Transit Mobility	**FAIR**	• Bus Rapid Transit (BRT) Route. • Active local transit route. • Parking conflicts removed from one side.			↑
Vehicle Mobility	**FAIR**	• Parking obstructions removed from one side. • Median provides vehicle operations improvement.			↑
Safety	**FAIR**	• Median improves corridor safety by reducing conflict points. • Bulb-out improves pedestrian safety. • Bike lane improves bicyclist safety in uphill direction.			↑
Urban Design Conditions	**FAIR**	• Curb to ROW area preserved for urban design treatments. • Center planted median.	• Non-parking side-of-street reduces bulb-outs and planter/parklet opportunities. • Narrower median may limit plant options..	• Curb-extension planters and bulb-outs for ECB crossings/plantings are limited on one side of street.	=
Constructability	**FAIR**	• Low cost restriping of roadway. • Existing utilities not impacted.	• Construct median. • Requires reworking ADA ramps and driveway aprons. • Requires signal modifications. •Signal Modifications for bicycle detection and timing.	•Requires deviation from City design standard.	N/A
Parking	**POOR**	• Parking is accommodated on one side of the street. • Additional angled parking to the north along Highland.	• Reduction in low use parking stalls.	• Potential for more pedestrians to need to cross ECB due to parking only on one side.	↓

DESIGN GUIDELINES & REQUIREMENTS

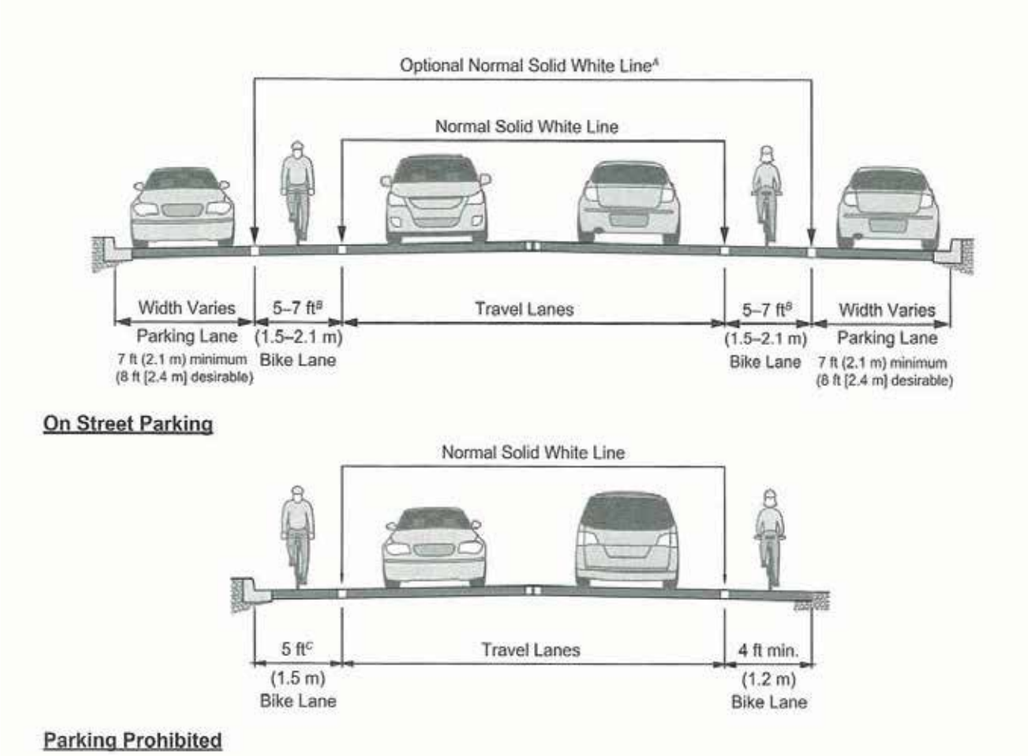


Figure 4-13 Typical Bike Lane Cross Sections
AASHTO Guide for the Development of Bicycle Facilities

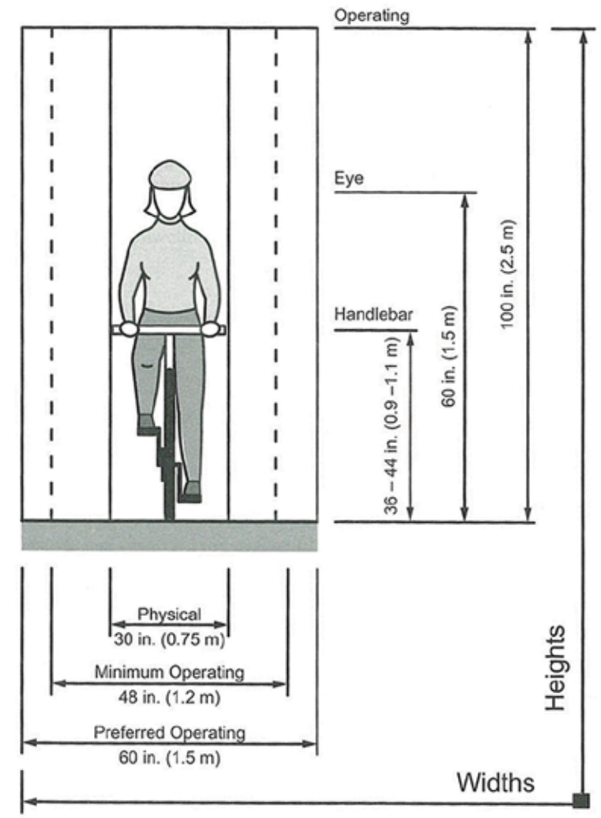
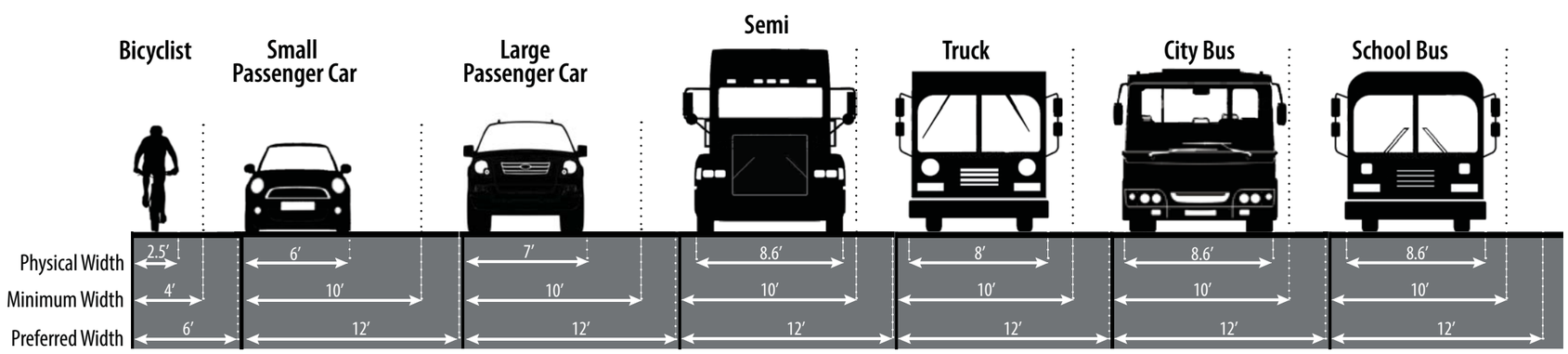
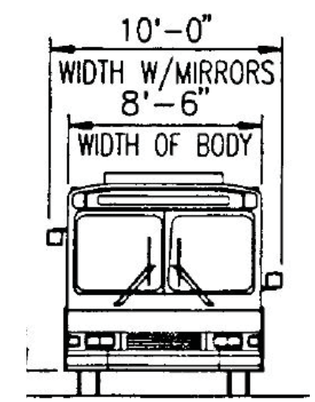


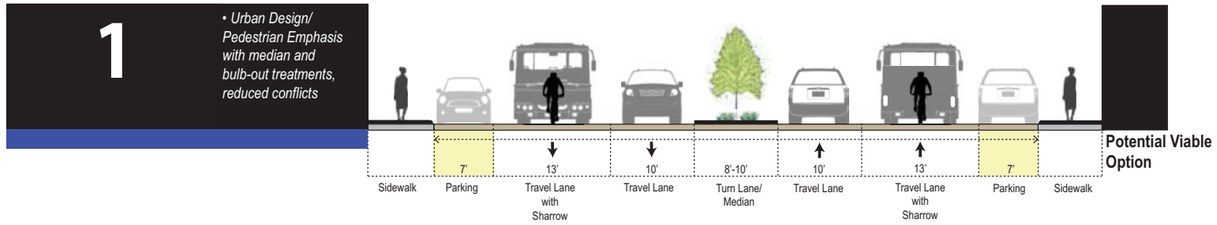
Figure 3-1 Bicyclist Operating Space
AASHTO Guide for the Development of Bicycle Facilities

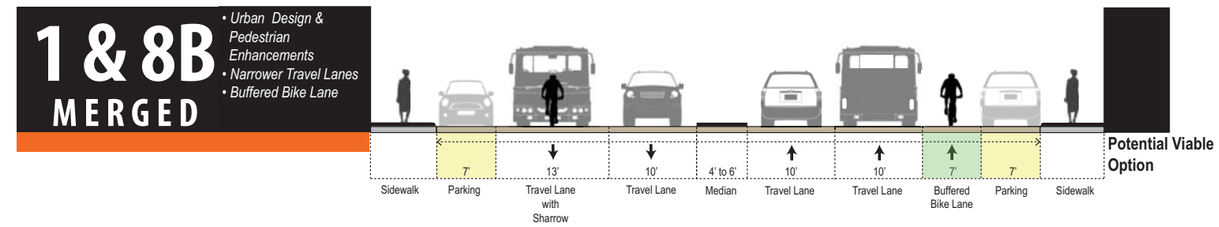


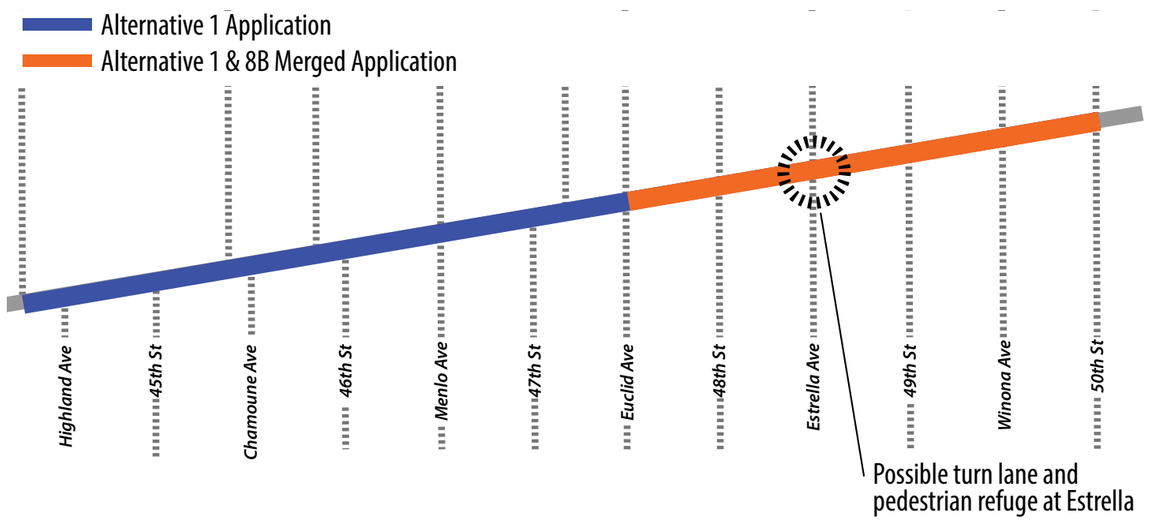


Designing for Transit Manual
Metropolitan Transit Development Board (MTDB) San Diego, CA

NEW ALTERNATIVE 1& 8B MERGED





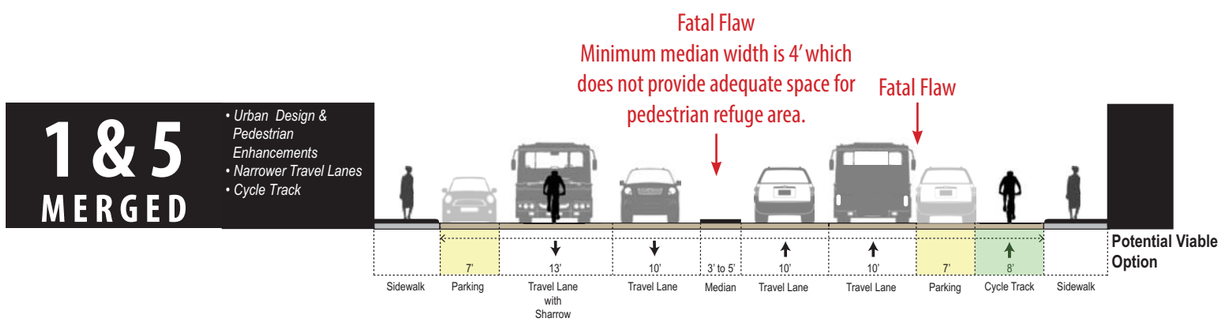


Items still being discussed:

- Use of retroflective tape on median curb;
- Low level planting space;
- Median break at Estrella;
- Parking on Highland, north of El Cajon Boulevard;
- Hoover High School Concept (see page 13);
- Cultural/Historic/Neighborhood urban design amenities.

CONDITIONS	Performance	Benefits	Drawbacks	Trade-Offs	Change From Existing
Pedestrian crossing El Cajon Boulevard (ECB)	**FAIR**	• Enhanced "continental" crosswalks for better visiblity. • Pedestrian refuge areas at side streets reducing exposure time and improve visibility. • Bulb-outs reduce exposure time and improve visibility.	• Removes a buffer (parked cars) between pedestrians and traffic on one side of street.	• Bike lane limits bulb-outs on one side of street.	↑
Pedestrian along ECB	**GOOD**	• Enhanced "continental" crosswalks for better visiblity. • Bulb-outs reduce exposure time and improve visibility. • Parking and bike lane provide buffer for pedestrians from traffic reducing exposure time. • Preserves existing sidewalk / furniture area. • Median eliminates left turn conflicts at driveways alleys, and unsignalized intersections.			↑
Bike Mobility	**GOOD**	• 5' bike lanes • 2' buffer on one side • Median eliminates left turn conflicts at driveways, alleys, and unsignalized intersections.			↑
Transit Mobility	**FAIR**	• Bus Rapid Transit (BRT) Route. • Active local transit route. • Parking conflicts removed from one side. • Median improves traffic operations.			↑
Vehicle Mobility	**FAIR**	• Parking obstructions removed from one side. • Median provides vehicle operations improvement.			↑
Safety	**GOOD**	• Median improves corridor safety by reducing conflict points and eliminates conflicts with left turning traffic for all modes except at signalized intersections. • Bulb-out improves pedestrian safety. • Bike lane improves bicyclist safety in uphill direction.			↑
Urban Design Conditions	**FAIR**	• Curb to ROW area preserved for urban design treatments. • Center planted median. • Potential for plantings in parking areas.	• Non-parking side-of-street reduces bulb-outs and planter/parklet opportunities. • Narrower median may limit plant options..	• Curb-extension planters and bulb-outs for ECB crossings/plantings are limited on one side of street.	=
Constructability	**FAIR**	• Low cost restriping of roadway. • Existing utilities not impacted.	• Construct median. • Requires reworking ADA ramps and driveway aprons. • Requires signal modifications. •Signal Modifications for bicycle detection and timing.	•Requires deviation from City design standard.	N/A
Parking	**POOR**	• Parking is accommodated on one side of the street. • Additional angled parking to the north along Highland.	• Reduction in low use parking stalls.	• Potential for more pedestrians to need to cross ECB due to parking only on one side.	↓

CHCDC PROPOSED ALTERNATIVES



City Heights CDC's & Circulate's refined alternatives requested for analysis and Working Group discussion in Complete Blvd study (v10/5/16)		
Refined Alternatives:	*Description:*	
Alternative 10 Tweaked (Bus/Bike Lane; cycletrack on uphill)	Single best option for transit. Installing cycletrack on uphill (from Euclid to Winona) eliminates bus delays cyclists may cause. 3rd best option for pedestrians. Improvement for bikes due to lower vehicular traffic; with enhanced experience from 4 block cycletrack section.	Not Supported
Alternative 10 (Bus/Bike Lane)	2nd best option for pedestrians (Road diet is 1st). Improvement for biking. 2nd best option for transit. Yet rated as 'poor' for transit mobility, citing assumptions that appear to be incorrect. Consultant's analysis assumes motorists can't merge into this lane to park or turn right. We believe they could be allowed to. Also, incorrectly and unfairly assumes 'leap-frogging with cyclists' is unique to this alternative. Existing conditions and Alternative 1 with sharrows create the same leap-frog situations a bus/bike lane would, yet this is not listed as a drawback in the Alternative 1 analysis. How can Alt 1 w/ shared lanes rank transit mobility as 'fair,' yet Alt 10 w/ transit priority lanes is ranked 'poor'? If the primary reason is due to objection by MTS, a technical explanation in writing is warranted. Was NACTO's Transit Street Design referenced by the consultants?: http://nacto.org/publication/transit-street-design-guide/transit-lanes-transitways/transit-lanes/shared-bus-bike-lane/	Not Supported
Alternative 8B + 5 Merged (cycletrack on uphill)	Installs buffered bike lanes with cycletrack on uphill section	Loss of 36 Parking Spaces Between Euclid & 50th St
New alternative: Install BLs, Ped Refuge, Retain 4 TLs, Narrow Sidewalks	Open to the idea of narrowing the sidewalk by 2 feet or so on each side if it means we can install bike lanes (ideally buffered bike lanes or cycletrack), install new sidewalks (albeit slightly narrower), pedestrian refuge (plus occasional turn pockets), while retaining travel lanes and parking (except near conflict points), or similar arrangement	Requires Long Term Improvements
Alternative 8B Tweaked (Green-backed sharrows on downhill)	Downhill section from Winona to Euclid doesn't need cycletrack as much. Downhill speeds make it easier for cyclists to take the lane. Install green-backed sharrows here and calm traffic to improve safety.	
Alternative 1 + 5 (Cycletrack on uphill)	Biking on ECB is most difficult while heading eastbound from Euclid to Winona. Install cycletrack only on this section for eastbound travel.	Fatal Flaw for East Bound Travel / Parking
Alternative 1 + 8B Merged (Buffered BL on uphill)	Same as above, but buffered bike lane provides less protection compared to cycletrack.	
Alternative 1 + 11 Merged (TL to buffered BL conversion on uphill)	Same as above, except retains parking. Converts eastbound travel lane from Euclid to Winona to dual-sided buffered bike lane instead).	Not Supported

PARKING TRADE-OFFS

Parking Trade-Offs on El Cajon Boulevard for Alternatives

	HIGHLAND AVENUE	45TH STREET	CHAMOUNE AVENUE	46TH STREET	MENLO AVENUE	47TH STREET
Alternative 8B	0 Spaces	0 Spaces	0 Spaces 0 Spaces 0 Spaces	0 Spaces	0 Spaces 0 Spaces	0 Spaces
Alternative 1	2 Spaces	8 Spaces	2 Spaces 2 Spaces 3 Spaces	2 Spaces	7 Spaces 2 Spaces	7 Spaces
Existing Parking	2 Spaces	8 Spaces	2 Spaces 2 Spaces 3 Spaces	2 Spaces	7 Spaces 2 Spaces	7 Spaces

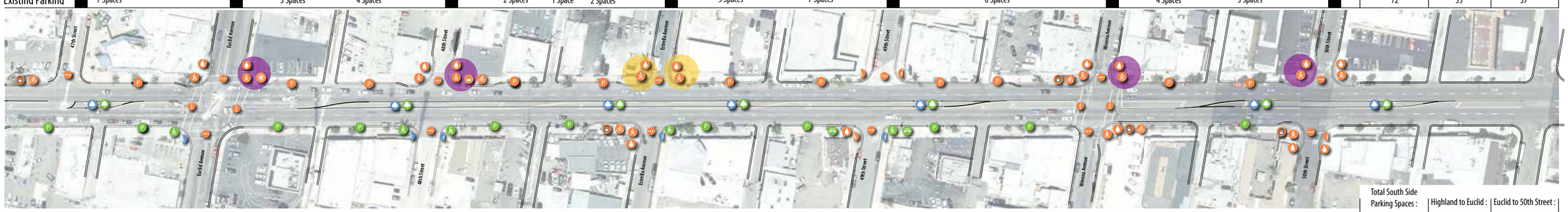
Legend

- Commonalities between Alternative 1 & 8B
- Alternative 1
- Alternative 8B
- Bulb Out North/South, East/West
- Bulb Out East/West
- Median Planting
- Parallel Parking
- Bus Stop
- Bike Rack
- Parklet
- Reduced bulb-out due to short red curb or full bulb-out would reduce # of parking spaces
- No red curb available for bulb-out

	HIGHLAND AVENUE	45TH STREET	CHAMOUNE AVENUE	46TH STREET	MENLO AVENUE	47TH STREET
Existing Parking	3 Spaces 5 Spaces 5 Spaces	3 Spaces 5 Spaces	6 Spaces 6 Spaces	6 Spaces	2 Spaces 2 Spaces	2 Spaces 1 Space
Alternative 1	3 Spaces 5 Spaces 5 Spaces	3 Spaces 5 Spaces	6 Spaces 6 Spaces	6 Spaces	2 Spaces 2 Spaces	2 Spaces 1 Space
Alternative 8B	3 Spaces 5 Spaces 5 Spaces	3 Spaces 5 Spaces	6 Spaces 6 Spaces	6 Spaces	2 Spaces 2 Spaces	2 Spaces 1 Space
Alternative 1 + 5 (EB Cycle Track - Euclid to 50th Street)	3 Spaces 5 Spaces 5 Spaces	3 Spaces 5 Spaces	6 Spaces 6 Spaces	6 Spaces	2 Spaces 2 Spaces	2 Spaces 1 Space
Alternative 1 + 8B (EB Bike Lane - Euclid to 50th Street)	3 Spaces 5 Spaces 5 Spaces	3 Spaces 5 Spaces	6 Spaces 6 Spaces	6 Spaces	2 Spaces 2 Spaces	2 Spaces 1 Space

	47TH STREET	EUCLID AVENUE	48TH STREET	ESTRELLA AVENUE	49TH STREET	WINONA AVENUE	50TH STREET
Alternative 8B	0 Spaces	3 Spaces 4 Spaces	2 Spaces 1 Space 2 Spaces	5 Spaces 7 Spaces	6 Spaces	4 Spaces 3 Spaces	
Alternative 1	7 Spaces	3 Spaces 4 Spaces	2 Spaces 1 Space 2 Spaces	5 Spaces 7 Spaces	6 Spaces	4 Spaces 3 Spaces	
Existing Parking	7 Spaces	3 Spaces 4 Spaces	2 Spaces 1 Space 2 Spaces	5 Spaces 7 Spaces	6 Spaces	4 Spaces 3 Spaces	

	Total North Side Parking Spaces :	Highland to Euclid :	Euclid to 50th Street :
Alternative 8B	37	0	37
Alternative 1	72	35	37
Existing Parking	72	35	37



	EUCLID AVENUE	48TH STREET	ESTRELLA AVENUE	49TH STREET	WINONA AVENUE	50TH STREET
Existing Parking	2 Spaces 1 Space	3 Spaces 5 Spaces	5 Spaces	11 Spaces 2 Spaces	3 Spaces 5 Spaces	3 Spaces
Alternative 1	2 Spaces 1 Space	3 Spaces 5 Spaces	5 Spaces	11 Spaces 2 Spaces	3 Spaces 5 Spaces	3 Spaces
Alternative 8B	2 Spaces 1 Space	0 Spaces 0 Spaces	0 Spaces	0 Spaces 0 Spaces	0 Spaces 0 Spaces	0 Spaces
Alternative 1 + 5 (EB Cycle Track - Euclid to 50th Street)	2 Spaces 1 Space	0 Spaces 5 Spaces	5 Spaces	11 Spaces 2 Spaces	3 Spaces 0 Spaces	2 Spaces
Alternative 1 + 8B (EB Bike Lane - Euclid to 50th Street)	2 Spaces 1 Space	0 Spaces 5 Spaces	5 Spaces	11 Spaces 2 Spaces	3 Spaces 0 Spaces	3 Spaces

	Total South Side Parking Spaces :	Highland to Euclid :	Euclid to 50th Street :
Existing Parking	83	46	37
Alternative 1	83	46	37
Alternative 8B	47	46	0
Alternative 1 + 5 (EB Cycle Track - Euclid to 50th Street)	74	46	0
Alternative 1 + 8B (EB Bike Lane - Euclid to 50th Street)	75	46	29

Existing Parking
Alternative 1
Alternative 8B
Alternative 1 + 5 (EB Cycle Track - Euclid to 50th Street)
Alternative 1 + 8B (EB Bike Lane - Euclid to 50th Street)

Requires removal of parking for space needed for cycle track, maintain 4' minimum median width, accommodate space for left-turn pockets, and maintain safety.

HERBERT HOOVER CONCEPT

Bike Rack Location

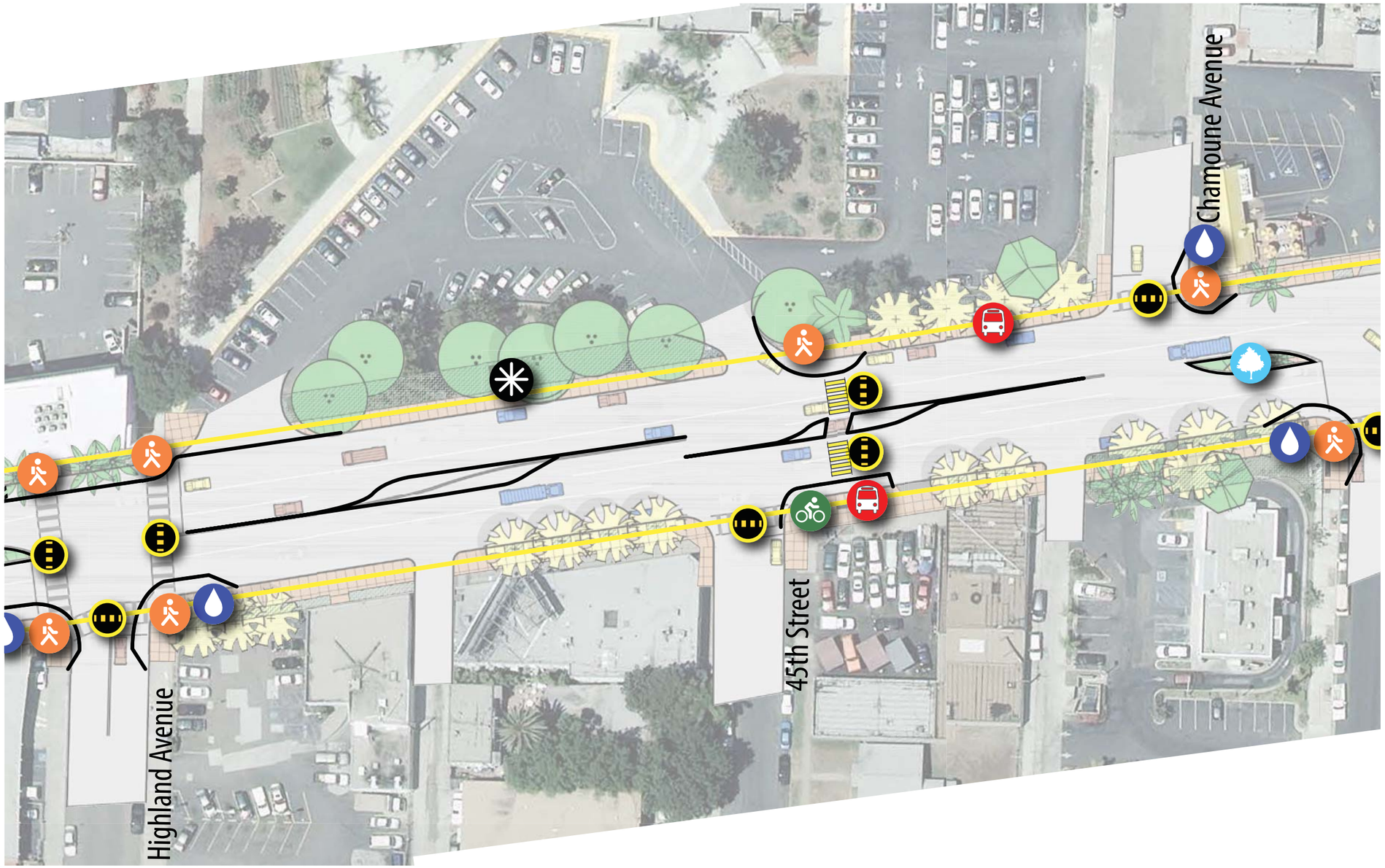
Curb Extension/ Bulb Out

Bus Stop

Stormwater/BMP

Crosswalk

Monument



*See page 2 for descriptions