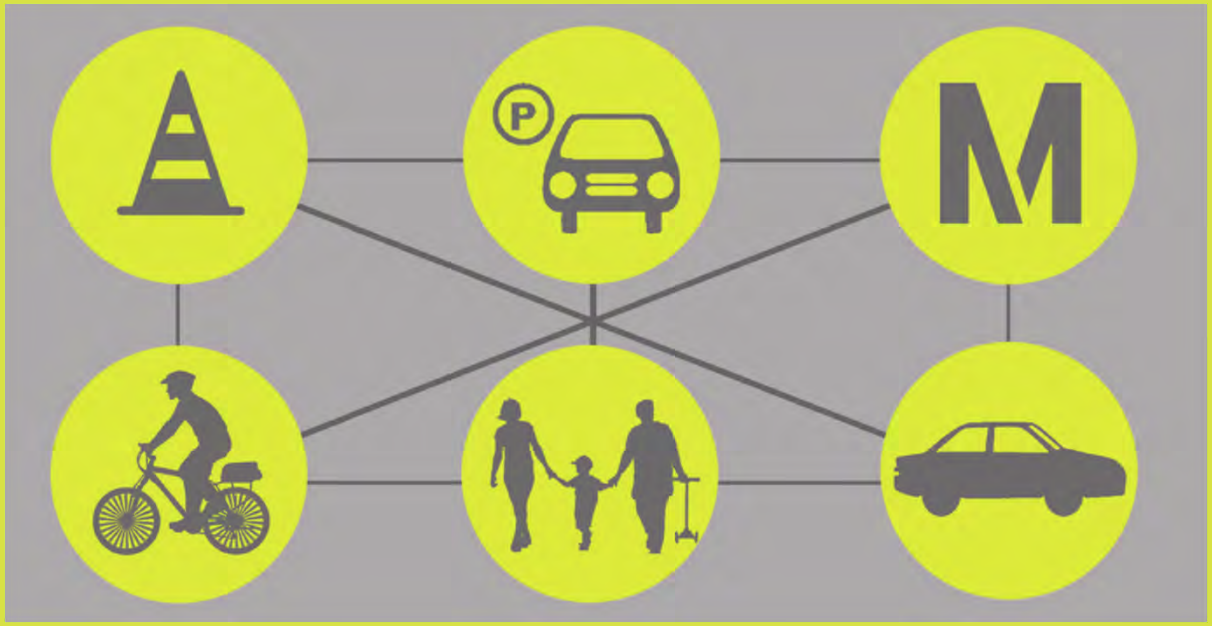
Beach Cities Living Streets Design Manual and Aviation Boulevard Multimodal Corridor Plan



AGENDA

1 Project Background & Introductions

2 Living Streets and Their Elements

3 Living Streets Design Manual

4 Aviation Boulevard Study

5 Break-out Session

PROJECT BACKGROUND

- Caltrans Transportation Planning Grant/SCAG
- Prepare Living Streets Design Manual
- Apply Design Manual Principles to an Arterial
- Work with Public/Stakeholders to Identify Preferences

SCAG
INNOVATING FOR A BETTER TOMORROW

City of Hermosa Beach 1907

City of Manhattan Beach California Sun Sand Sea

More To Sea redondo BEACH

BCHD A Public Agency Beach Cities Health District

Stantec

Leslie Scott Consulting

Principal-in-Charge: Rock Miller
Project Manager: Surabhi Barbhaya
Traffic and Planning: Daryl Zerfass and David Fenn
Outreach Specialist: Leslie Scott

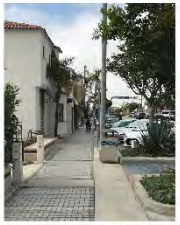
LIVING STREETS - STREETS FOR EVERYONE

"Living Streets" have the following elements...

- reflect the **CHARACTER** of the community to which it belongs
- allow people of all ages and abilities to **WALK AND BIKE** comfortably and safely
- contribute to the **ECONOMIC VITALITY** of the community
- are functionally complete, providing a **CHOICE OF TRAVEL MODES** throughout the place
- create attractive places that promote **SOCIAL ACTIVITY**
- integrate **GREEN TECHNOLOGIES** into design and construction

LIVING STREETS BENEFITS

Living Streets = Complete Street + Green Street

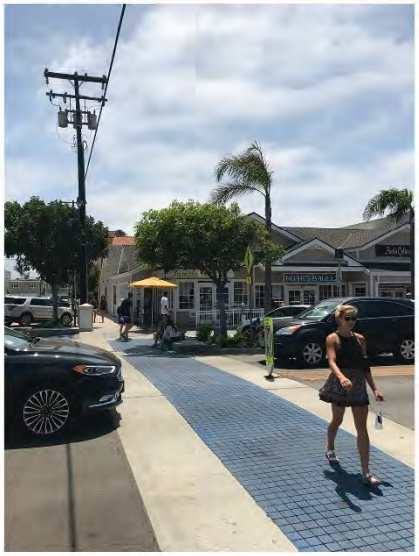


- Help Keep Kids Safe and Healthy
- Improve Mobility for Older People
- Aid People with Disabilities
- Improve Safety
- Help Create Livable Communities
- Stimulate the Local Economy
- Encourage Equitable Streets
- Promote Health
- Improve Stormwater Quality
- Reduce Heat Island Effects

PEDESTRIAN REALM

Wayfinding

Sidewalk Environment Enables Social and Economic Activity



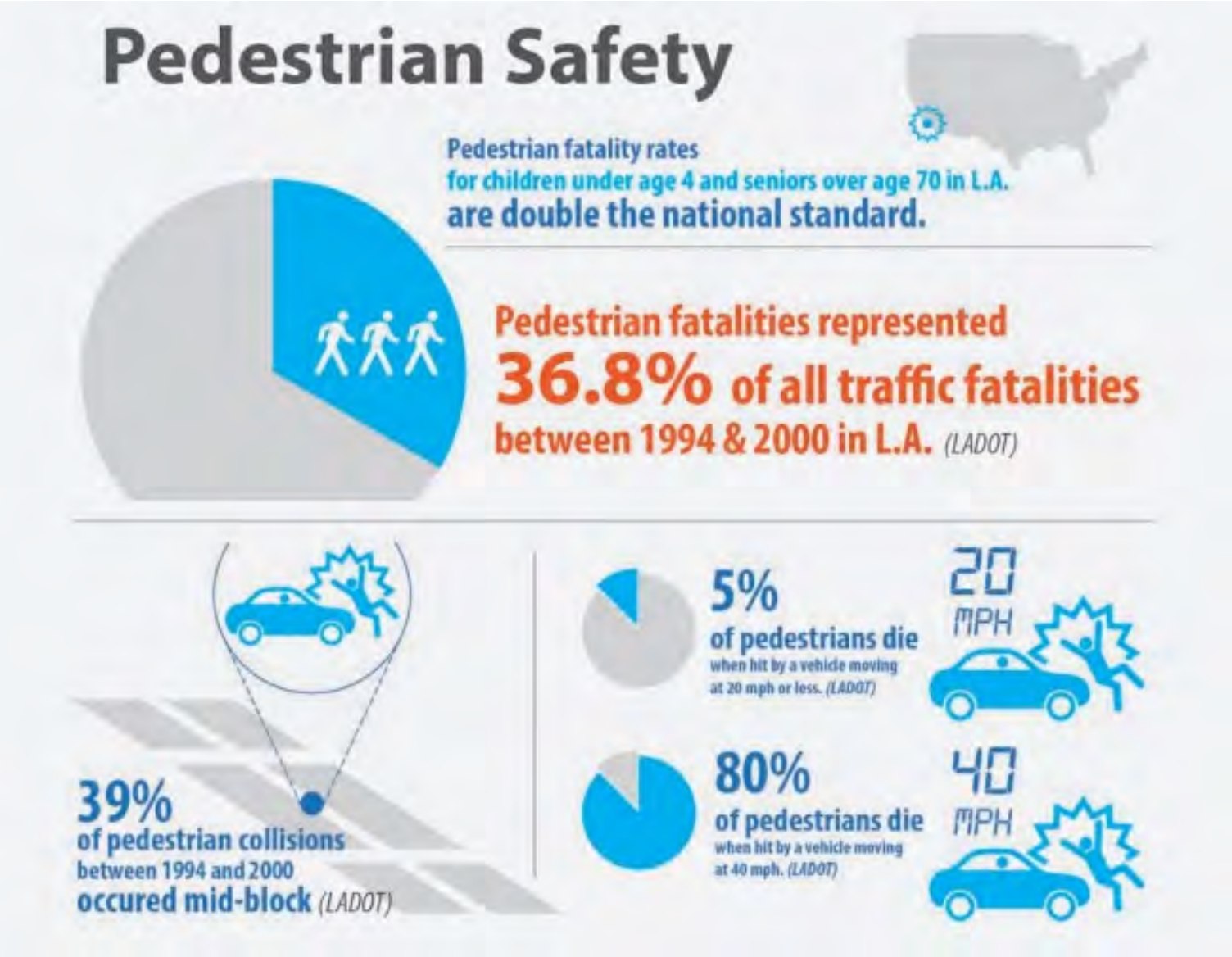
PEDESTRIAN SUPPORTIVE ENVIRONMENTS

They induce and inspire walking.

Safe Visible Crossings

Art Creates Interest

PEDESTRIAN SAFETY

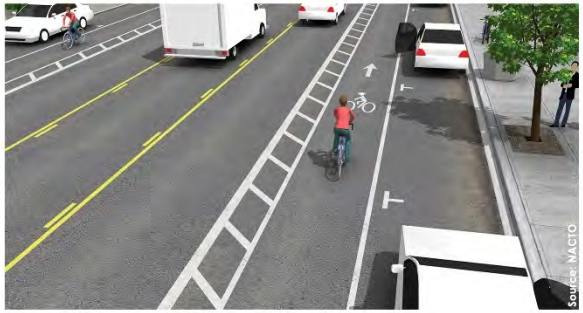


BICYCLE FACILITIES

Two-way Cycle Track

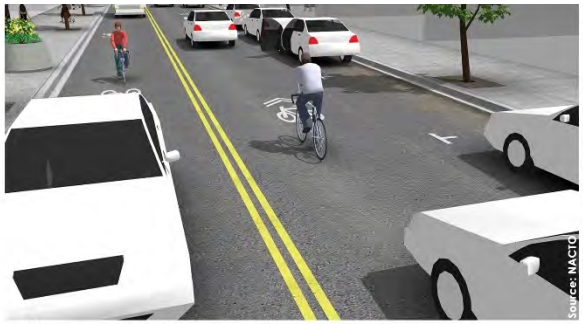
One-way Cycle Track

Elevated Bicycle Lane



Buffered Bicycle Lane

Conventional Bicycle Lane



Shared Road Facility

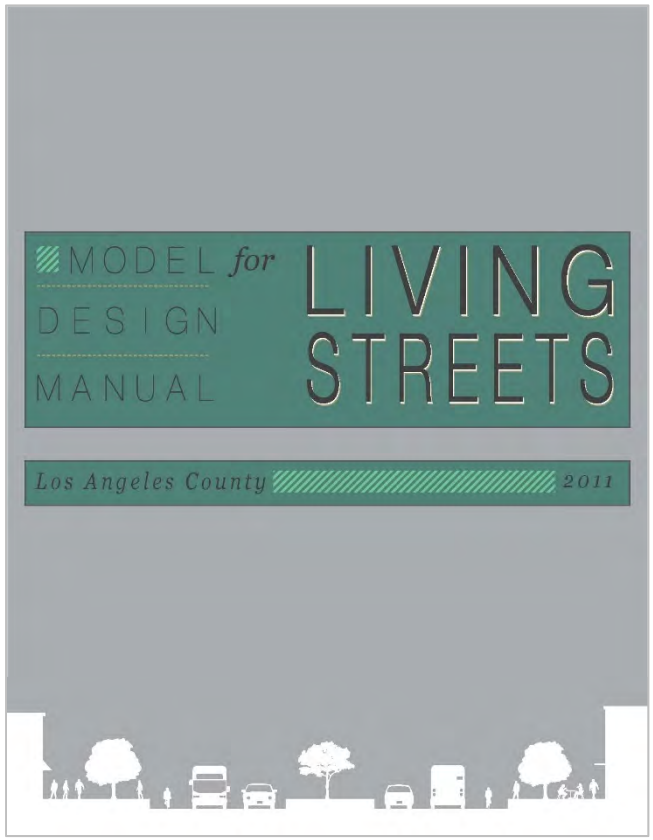
BALANCING USER NEEDS

AUTO-ORIENTED STREETS

ROADWAYS ACCOMMODATING A WIDER RANGE OF USERS

- **Reallocating space can allow for the installation of:**
  - Enhanced safety features
  - Bicycle facilities
  - Expanded sidewalk amenities
  - Placemaking initiatives
  - Public art
  - Expanded landscaping and stormwater management, street trees and shade
  - Enhanced transit facilities
- **Reduced speeding and improved safety**
- **Increased social interaction**
- **Reduced heat island effect**
- **Reduced local tail pipe emissions**
- **Encouraging residents to exercise by enabling walking and biking**
- **Reduced collisions**

LIVING STREETS MANUAL



- LA County Living Streets model manual updated for localized conditions in Beach Cities - Redondo Beach, Hermosa Beach and Manhattan Beach
- Updated policies, standards, tool box, local pictures, local conditions
- Documented outreach process
- Additional chapter on "Emerging Technologies"
- Specific Chapter on each of the three Cities

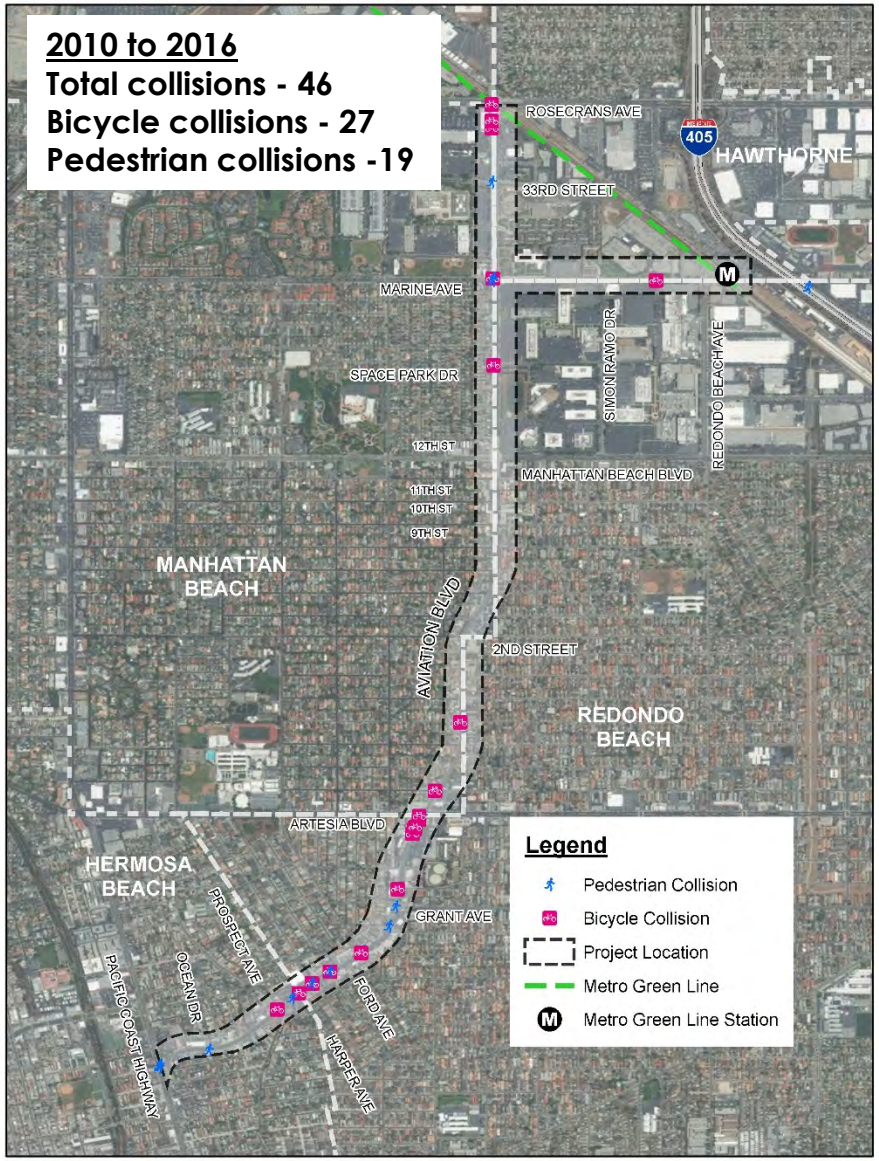
Open for Public Review
Please visit your City website

AVIATION BOULEVARD LIVING STREET

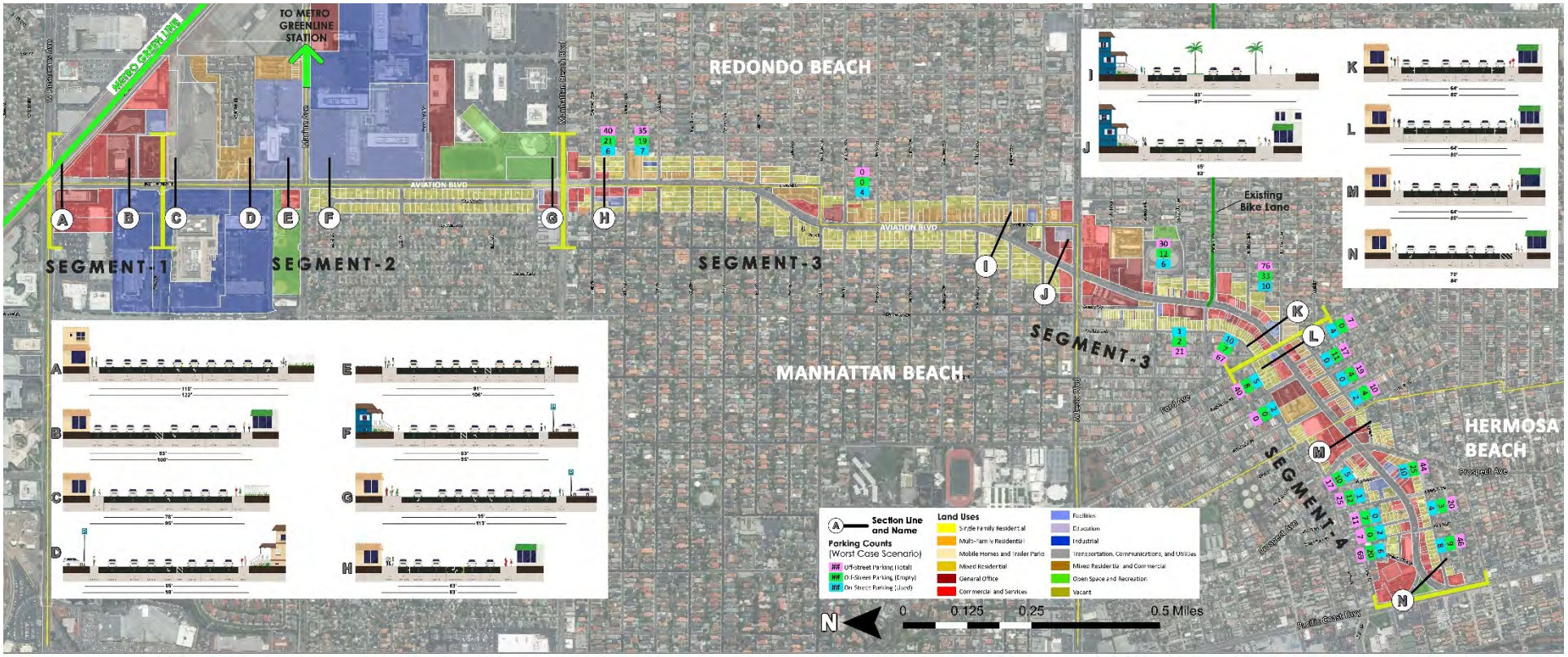
- **Provide travel choices for users of all ages and abilities**
  - kids, older individuals and people with disabilities
- **Transit by choice and transit by circumstances**
  - Connect to Metro Green Line Station
  - Provide welcoming environment to people using Bus service
- **Provide safe environment for bike commuters that work along Aviation Boulevard and Marine Avenue**
  - 2012 Petition - Enhancing Aviation Boulevard walking and biking paths
- **Connect to destinations**
- **Future preparedness/emerging technologies**

WHY AVIATION BOULEVARD?

- **Serves entire Community**
  - Many jobs to the North
- **Passes near Metro Green Line Station**
- **Passes through all 3 Cities**
- **Popular bike route to Beach Area**
- **Multiple options possible**



AVIATION BOULEVARD EXISTING CONDITIONS

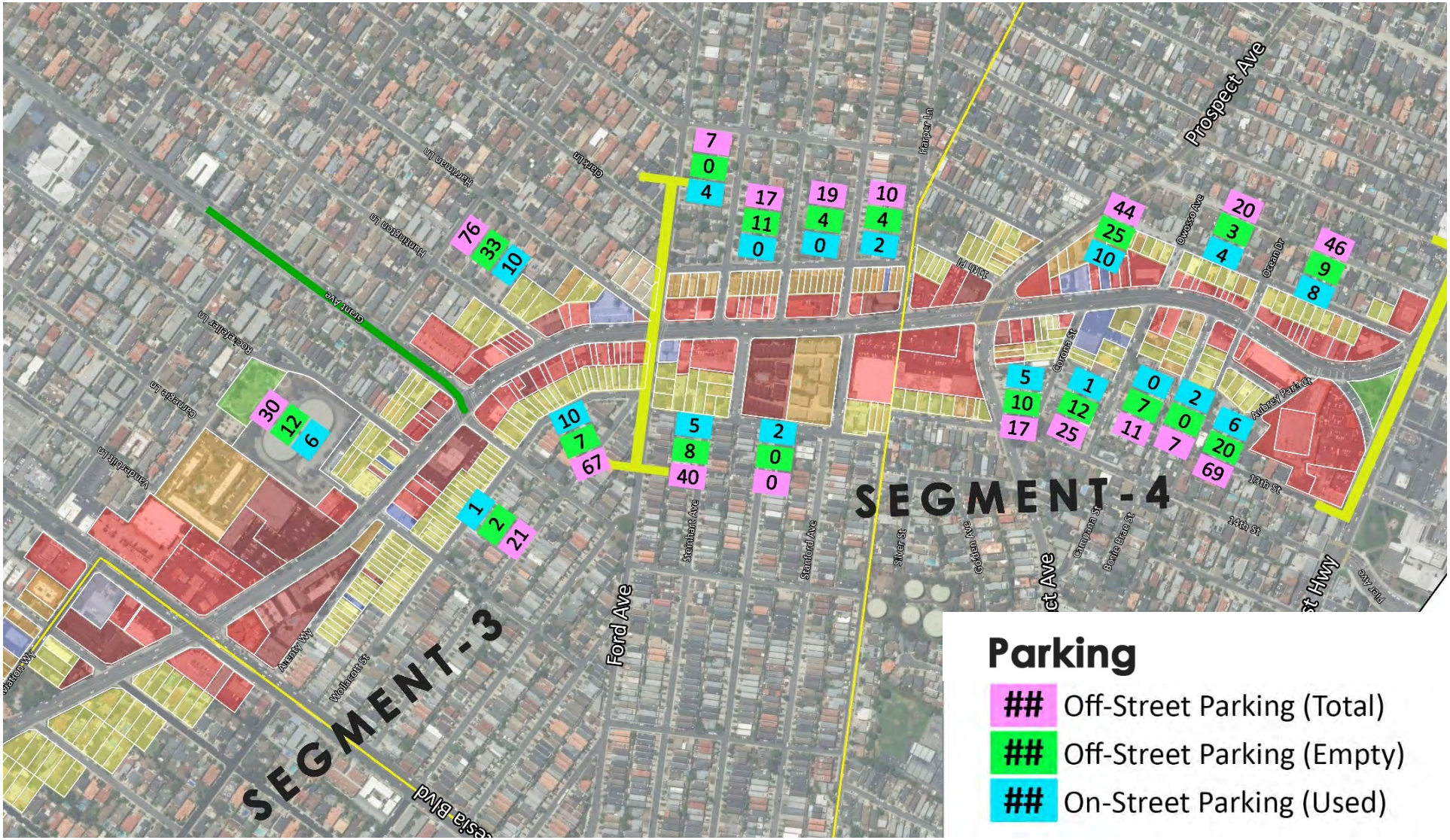


- Changing Width and Configuration
- Connection to Destinations
- Land Use Variety Along Corridor
- Parking Supply and Demand
- Traffic Counts and Capacity
- Previous Studies for Prospect Avenue Intersection and PCH intersection
- Aesthetics of the Streets
- Current Usage by Bicyclists

TRAFFIC VOLUME

- Average Daily Traffic
- Intersection Conditions
- Peak Volumes AM & PM
- Traffic Opportunities

ON-STREET PARKING CONDITIONS



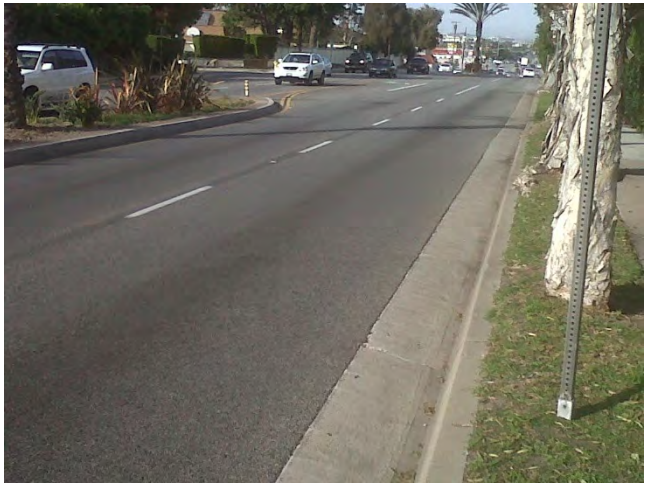
Parking

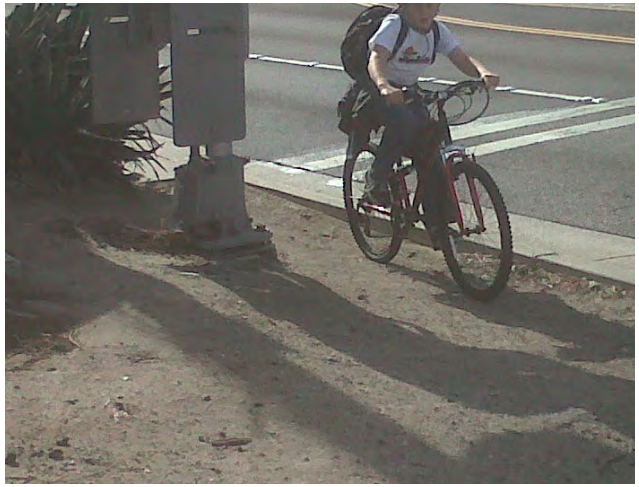
Off-Street Parking (Total)

Off-Street Parking (Empty)

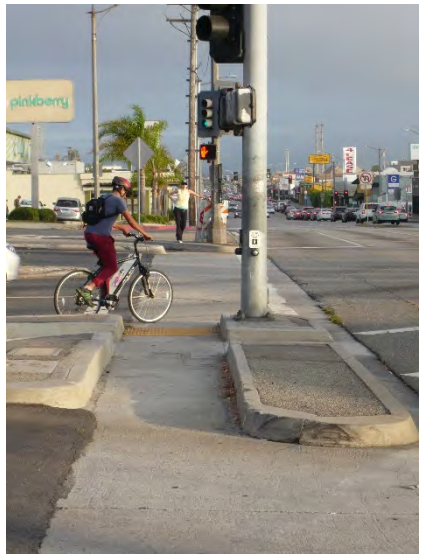
On-Street Parking (Used)

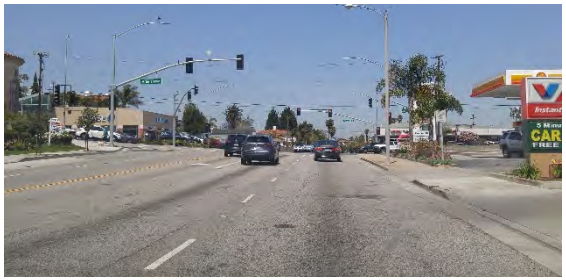
AESTHETICS

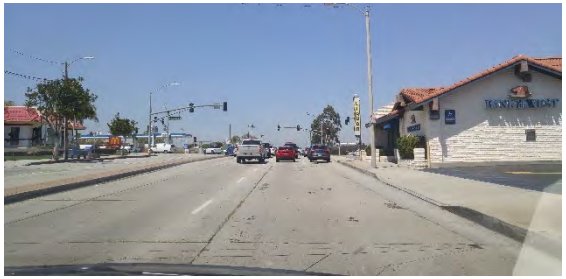




CURRENT BICYCLING

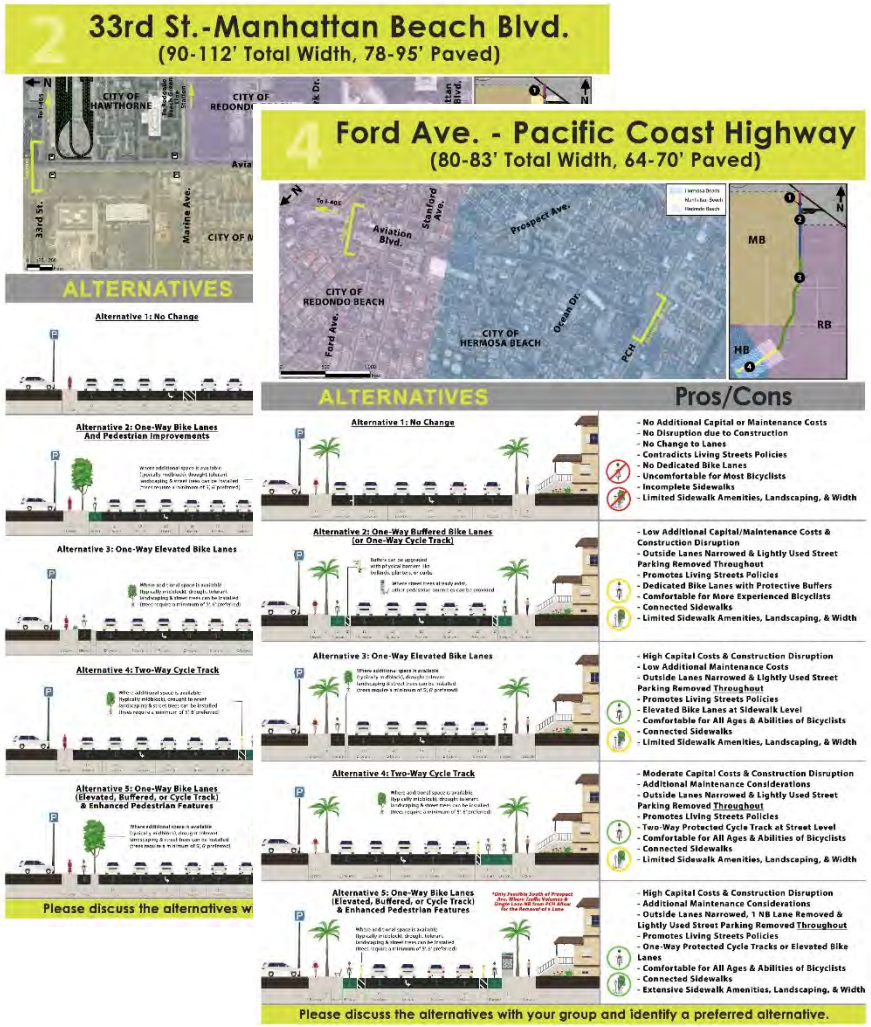






Source: https://labs.strava.com/heatmap/

SEGMENT OPTIONS



Use of minimum width to develop alternatives

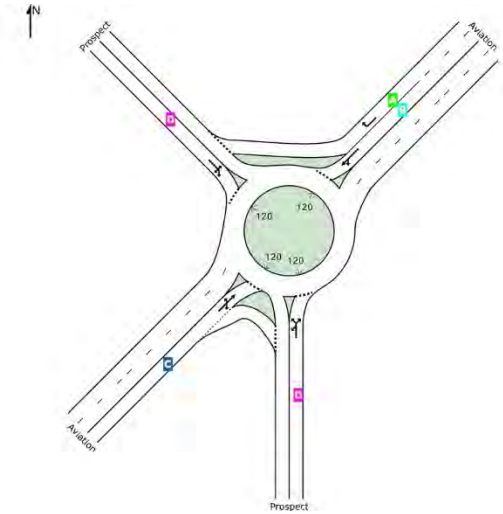
Alternatives

- **No Change**
- **Pedestrian improvements**
- **One-way bike lanes**
- **One-way elevated bike lanes**
- **Two-way cycle track**
- **One-way cycle track**

Other Elements

- **Street trees and landscaping**
- **Number of lanes**
- **Left & right turn lanes**
- **Parking**
- **Lane width adjustments**

ROUNDABOUT AT PROSPECT AVENUE



Signalized Intersection (Existing)

Operates with an acceptable level of vehicle delay.

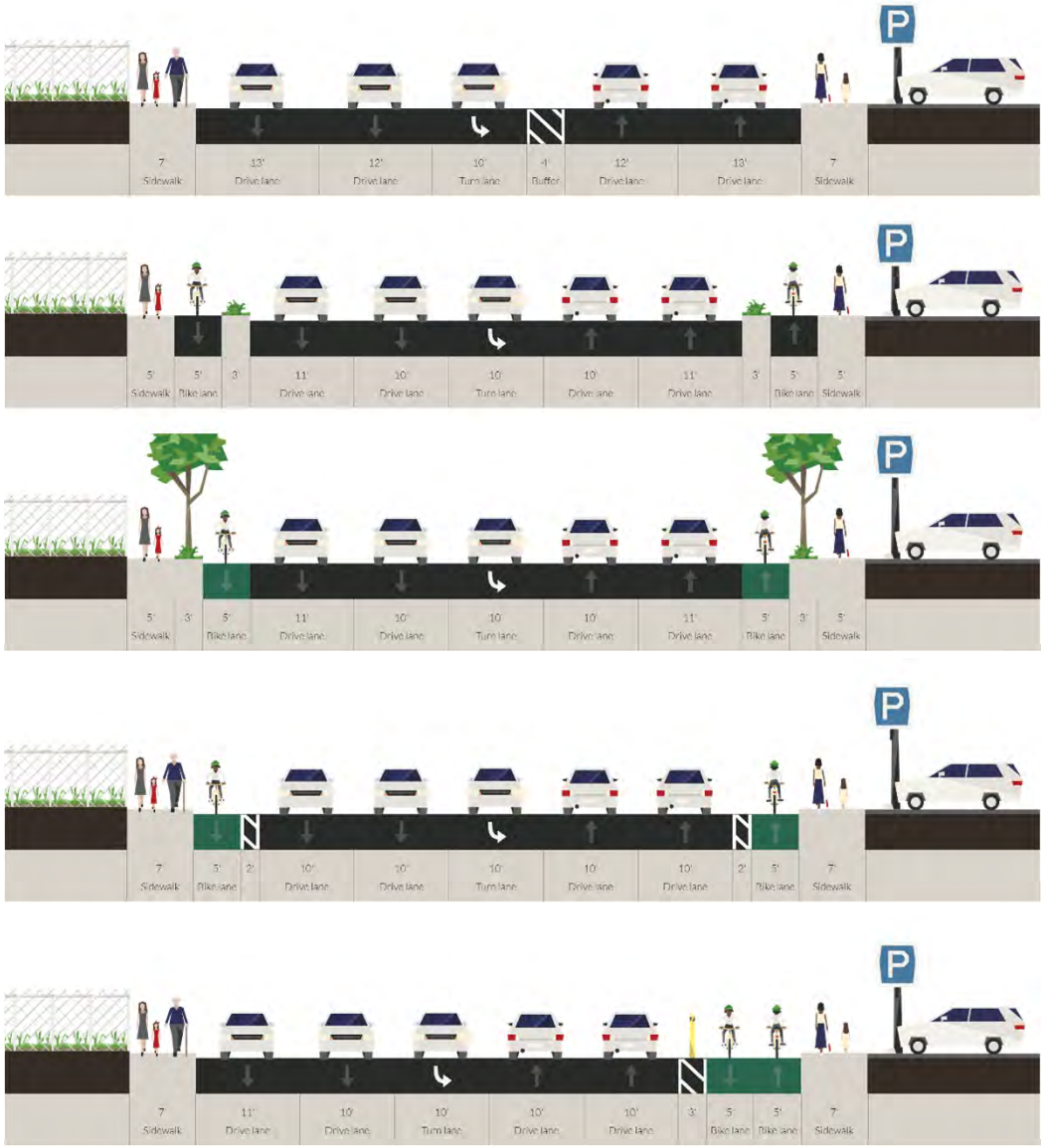
One-Lane Roundabout

Fits into street area. Would require reducing traffic volumes by 410-635 vehicles during peak hours to operate with an acceptable level of vehicle delay.

Two-Lane Roundabout

Would operate with an acceptable level of vehicle delay with existing traffic volumes, but enlarged circle would require acquiring private property.

MARINE AVENUE OPTIONS



- Create safe pedestrian and bicycle connection to Metro Green Line Station
- Work with City of Hawthorne to further the study
- Wide lanes (12'+) can be narrowed to (10') to accommodate other users and create first mile/last mile connection
- Does not impact traffic flow
- Wider space in mid-block section can be used for enhanced treatment of pedestrian realm

NEXT STEPS

Activities so far

- **Understanding Existing Conditions**
- **Parking and Traffic Study**
- **Meetings with City Staff**
- **First Community Workshop - July 2017** *(Focused on development of Living Streets Design Manual)*
- **BCHD Workshop featuring Dan Burden –** *January 4 & 5, 2018*
- **Draft Living Streets Design Manual for Public review** *(Until Feb 15, 2018)*
- **Develop Alternatives for Aviation Boulevard and Marine Avenue**
- **Second Community Workshop- January 2018** *(Focused on Aviation Boulevard alternatives)*

Activities moving forward

- **Finalize Living Streets Design Manual**
- **Review Input on Potential Alternatives**
- **Third Community Workshop- April 2018** *(Focused on promising alternatives)*
- **Refine Promising Alternatives based on Workshop Feedback**
- **Develop Implementation Plan**
- **City Adoption - October 2018**
- **Cities would be Responsible for Specific Approvals, Securing Funding, and Implementation**

BREAKOUT SESSION
&
QUESTIONS

- **4 Stations → 4 Segments**
- **10-15 minutes per Station**
- **All comments welcome**

Living Streets

LIVING STREETS ARE STREETS FOR EVERYONE.

A Living Street is a street designed to enhance environmental benefits while making the surrounding areas more livable, walkable and healthier. Living Streets are designed and operated to improve safety for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. They make it easy to cross the street, walk to shops, use bicycles, allow buses to run on time, and make it safer for people to walk to and from train stations. A Living Streets approach improves economic vitality as a whole.

A "Living Street" has following elements...

- reflect the **CHARACTER** of the community to which it belongs
- allow people of all ages and abilities to **WALK AND BIKE** comfortably and safely
- contribute to the **ECONOMIC VITALITY** of the community
- be functionally complete, providing a **CHOICE OF TRAVEL MODES** throughout the place
- create attractive places that promote **SOCIAL ACTIVITY**
- integrate **GREEN TECHNOLOGIES** into design and construction

Benefits of Living Streets

LIVING STREETS = COMPLETE STREETS + GREEN STREETS

Help Keep Kids Safe and Healthy

- 71% of US adults walked or biked to school as kids but only 17% of their children do so.
- The number of overweight or obese children in US nearly tripled from 1980-2004.
- Complete Streets provide children with more opportunities to safely walk, bike and play.

Improve Mobility for Older People

- Nearly one in five Americans will be over 65 by 2025. Many will be unable to drive.
- In 2008, seniors accounted for 13% of all pedestrians but 18% of fatalities.
- Complete Streets create safe space for older adults to walk or bike, reducing the need to drive.

People with Disabilities

- Disconnected, narrow, or damaged sidewalks discourage wheelchair users and the blind from walking.
- Complete Streets treatments aid these users with curb ramps, audible or tactile signals, shorter crossing distances, inviting sidewalks free of obstacles, and ample space at transit stops to board safely.

Improve Safety

- Bicyclist and pedestrian casuality rates are 2-6 times higher in the US than in other western countries.
- Complete Streets promote safe and comfortable places to walk and bike.
- As more people are seen walking and biking, deaths and injuries decline.

Help Create Livable Communities

- More than 50% of Americans would like to walk/bike more and drive less.
- Lack of pedestrian facilities is the primary reason many don't walk more.
- Fear of traffic is main reason adults don't ride bikes.
- Complete Streets meet the demand for transportation options promoting other community goals like improving health, livability, and affordable access for everyone for both transportation and recreation.
- Complete streets treatments can transform uninteresting places into vibrant destinations.

Help Create Livable Communities

- Inactivity can lead to obesity, diabetes, heart disease, and stroke yet 55% of the U.S. adult population do not exercise enough and 25% are completely inactive.
- Complete Streets increase physical activity by incorporating features that promote regular walking, cycling & transit use.
- 43% of people living within 10 minutes of safe places to walk met activity guidelines, but only 27% without safe places to walk are as active.

Stimulate the Local Economy

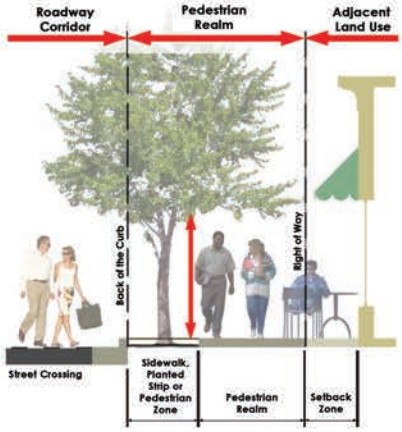
- Traffic costs LA region businesses $1.1 billion a year.
- Local businesses benefit from improving bike and pedestrian access.
- When Lancaster, CA installed a pedestrian plaza, with wider sidewalks and landscaping, it spurred $125 million in investment, with a 26% increase in sales tax revenue, and 800 new jobs.
- When a bike lane was added to Valencia Street in San Francisco, nearby businesses saw sales increase by 60%, which merchants attributed to increased pedestrian and bicycle activity.

Equitable Streets

- Low-income communities are disproportionately affected by unsafe streets.
- The pedestrian fatality rate is over 80% higher than the national average in counties where more than 20% of households have incomes below the federal poverty line.

Pedestrian Realm

PEDESTRIAN ENVIRIONMENT IS MORE THAN JUST SIDEWALKS



Streets do not just move traffic, they also serve as public places supportive of a variety of activities. Quality environments are created when right-of-way is appropriately allocated to accommodate all modes of travel and create comfortable and enjoyable public spaces. A safe and inviting pedestrian environment needs more than just providing sidewalks - *it is important to recognize that people walk for different reasons in various types of places, and specific components influence the pedestrian friendliness of an area.*

PEDESTRIAN INTOLERANT ENVIRONMENTS

Not conducive to walking and does not meets minimum legal standards.

Utility pole in thecenter of sidewalk

Missing sidewalk

Broken sidewalk

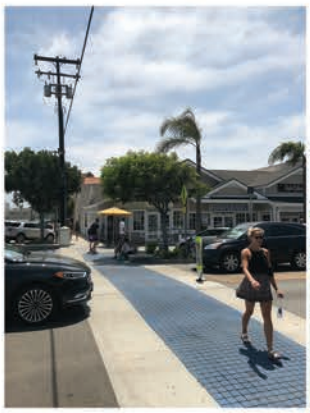
Broken or unkempt curb ramp

PEDESTRIAN TOLERANT ENVIRONMENTS

Meets minimum legal standards but still not conducive to walking.

Wayfinding

Sidewalk Environment Enables Social and Economic Activity



PEDESTRIAN SUPPORTIVE ENVIRONMENTS

They induce and inspire walking.

Safe Visible Crossings

Art Creates Interest

Bicycle Facilities

FACILITY TYPE	Pros	Cons
Two-way Cycle Track	- Physical barriers separate bicyclists from vehicles - Comfortable for ALL ages and abilities - Additional width makes it easier for bicyclists in groups to ride side by side - Barriers provide opportunities for aesthetic and landscaping improvements - Require less space than one-way cycle tracks	-Two-way bicyclist traffic creates additional conflicts at driveways - Barriers can complicate street sweeping and drainage - Bicyclists accessing destinations on the opposite side of the street are inconvenienced - Left turns and intersections require special design considerations - Higher cost relative to facilities without physical barriers
One-way Cycle Track	- Physical barriers separate bicyclists from vehicles - Comfortable for ALL ages and abilities - Barriers provide opportunities for aesthetic and landscaping improvements - Bicyclists can easily access destinations on both sides of the street - Less conflict at driveways than two-way cycle tracks	- Barriers can complicate street sweeping and drainage - Narrower, one-way bikeway design makes it more difficult for bicyclists in groups to ride side by side - Left turns and intersections require special design considerations - Higher cost relative to facilities without physical barriers - Require more space than two-way cycle tracks
Elevated Bicycle Lane	- Elevation separates bicyclists from vehicles - Comfortable for ALL ages and abilities - Bicyclists can easily access destinations on both sides of the street - No additional conflict at driveways - Require less space than cycle tracks (no buffer area needed) - May provide opportunities for aesthetic and landscaping improvements	- Elevation requires modifications to drainage - Narrower, one-way bikeway design makes it more difficult for bicyclists in groups to ride side by side - Left turns and intersections require special design considerations - Designs must consider separation between bicyclists &pedestrians - Higher cost than other bicycle facilities
Buffered Bicycle Lane	- Painted buffer separates bicyclists from vehicles - Comfortable for a wide range ages and abilities but more exposed to the traffic - Bicyclists can easily access destinations on both sides of the street - No additional conflict at driveways - Can be easily upgraded to cycle tracks - Lower cost relative to bicycle facilities with physical barriers - No impact on drainage or street sweeping	- No physical barriers separating bicyclists from vehicles - Not comfortable for all ages and abilities - Narrower, one-way bikeway design makes it more difficult for bicyclists in groups to ride side by side
Conventional Bicycle Lane	- Provides dedicated space for bicyclists - Comfortable for more experienced cyclists - Bicyclists can easily access destinations on both sides of the street - No additional conflict at driveways - Lower cost relative to bicycle facilities with physical barriers - No impact on drainage or street sweeping	- No physical barriers or painted buffer separating bicyclists from vehicles - Not comfortable for a wide range of ages and abilities - Narrower, one-way bikeway design makes it more difficult for bicyclists in groups to ride side by side - Often place bicyclists in the "door zone" without room to maneuver - Not effective for attracting new bicyclists
Shared Road Facility	- Lowest cost relative to all other bicycle facility types - Requires no space for bicycling - Bicyclists can easily access destinations on both sides of the street - No additional conflict at driveways - No impact on drainage or street sweeping - "Sharrow" markings can indicate where to ride to avoid "door zones"	- No physical barriers or painted buffer separating bicyclists from vehicles - No dedicated space for bicyclists - Very few bicyclists are comfortable riding in mixed traffic on a larger roadway - Often place bicyclists in the "door zone" without room to maneuver - Do not meet demad for bicycle facilities

Balancing User Needs

REALLOCATE SPACE TO ACCOMODATE ALL USERS

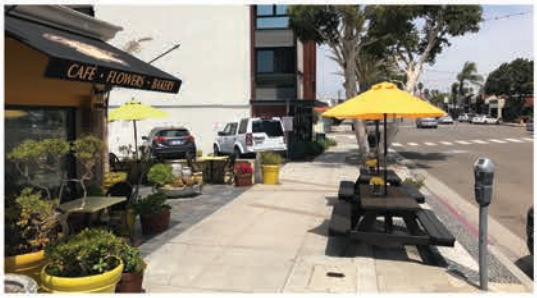
Wide, high speed roadways are good at moving cars from one place to another, but they sometimes do so at the expense of surrounding communities, businesses, and other roadway users. As technology opens up new mobility options and our population ages, communities around the country are reevaluating public spaces and priorities, including optimizing street space to ensure that local roadways balance the needs of all users.

WHEN IS A ROADWAY OUT OF BALANCE?

- No dedicated space/limited space for non-motorized modes
- Travel lanes are overly wide or unnecessary
- Noise, speeds, or lack of amenities discourage people from spending time along it
- Frequent speeding or collisions

AUTO-ORIENTED STREETS

ROADWAYS ACCOMODATING A WIDER RANGE OF USERS



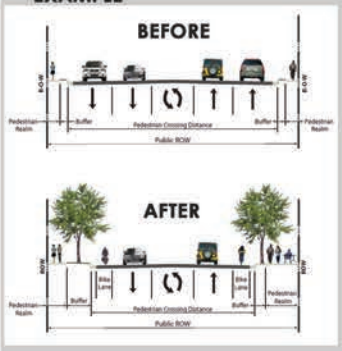
BENEFITS OF RIGHT-SIZING ROADWAYS

- **Reallocating space can allow for the installation of:**
  - Enhanced safety features
  - Bicycle facilities
  - Expanded sidewalk amenities
  - Placemaking initiatives
  - Public art
  - Expanded landscaping & stormwater management
  - Street trees & shade
  - Enhanced transit facilities
- **Reduced speeding & improved safety**
- **Increased social interaction**
- **Reduced heat island effect**
- **Reduced local tail pipe emissions**
- **Encouraging residents to exercise by enabling walking & biking**
- **Reduced collisions**

When roadways do not cater to all modes of transportation and all ages and abilities, businesses supported by the roadway may suffer. Balancing user needs by right-sizing the roadway can increase use of sustainable modes of transport by reducing travel speeds and creating interesting places that promote social interactions, healthy exercise, and economic activity.

STRATEGIES TO OPTIMIZE AVAILABLE SPACE

EXAMPLE



- Reduce lane widths: typically reduces vehicle speeds 1-2 mph
- Remove excess lanes when traffic volumes permit: can often be done while only increasing vehicle delay a few seconds
- Accommodate ALL roadway users to the extent possible
- Strive for a result that is comfortable for ALL ages & abilities

Draft Living Streets Design Manual: Beach Cities Chapters

The draft was customized for the Beach Cities from the Los Angeles County - 2011 Model Design Manual for Living Streets

Chapter 1: Introduction
Updated to include new manuals, standards, & legal changes since 2011

Chapter 2: Vision, Goals, Policies & Benchmarks
Removed generic policies & referenced city-specific goals

Chapter 3: Street Networks & Classifications
No changes

Chapter 4: Traveled Way Design
Updated to include new cycle track treatments & referenced public feedback from first public meeting

Chapter 5: Intersection Design
Expanded discussion of pedestrian scrambles & curb ramp orientation

Chapter 6: Universal Pedestrian Access
No changes

Chapter 7: Pedestrian Crossings
Expanded discussion of pedestrian scrambles & referenced public feedback from first public meeting

Chapter 8: Bikeway Design
Added discussion of topography, bicycle intersections, bicycle stations, & bicycle corrals & expanded discussion of cycle tracks, bike boxes, colored pavement treatments, & legal status. Added model project.

Chapter 9: Transit Accommodations
Added discussion of comfort & sense of place, effective wayfinding, personal safety, transit-bike conflicts, bus stop islands, rail-bike conflicts, & additional resources.

Chapter 10: Traffic Calming
Expanded discussion of road diets & referenced public feedback from first public meeting

Chapter 11: Streetscape Ecosystem
Added discussion of regional SCAG GoHuman regional outreach & advertising program

Chapter 12: Gathering Places
No changes

Chapter 13: Designing Land Use Along Living Streets
No changes

Chapter 12: Retrofitting Suburbia
No changes

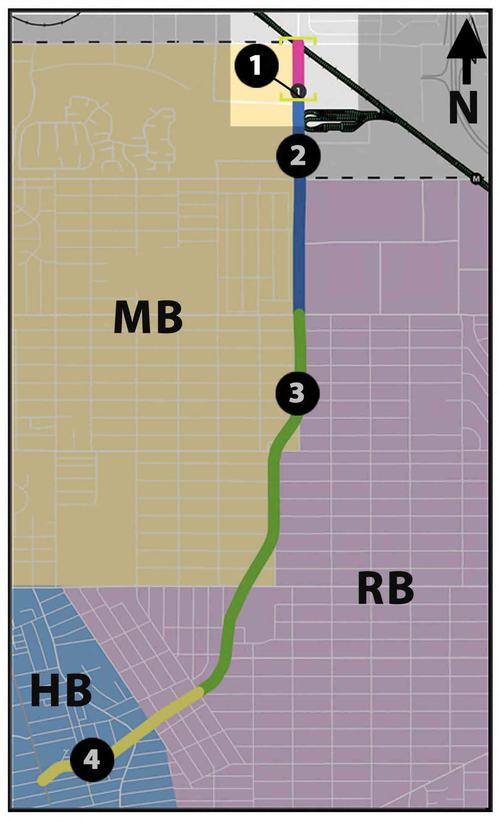
Chapter 15: Community Engagement for Street Design
Added discussion of outreach conducted for this manual & concerns & projects for consideration identified through that process

Chapter 16: Emerging Technologies
New chapter: discussion of shared mobility services, transportation network companies, car share, bike share, autonomous vehicles, & the impact of these technologies on transit included

Chapter 17: The Beach Cities & [Hermosa Beach, Manhattan Beach, or Redondo Beach]
New chapter: added discussion of common issues related to living streets across the Beach Cities & in each individual city specifically & highlighted relevant local living streets policies & planning

1 Rosecrans Ave.- Marine Ave.

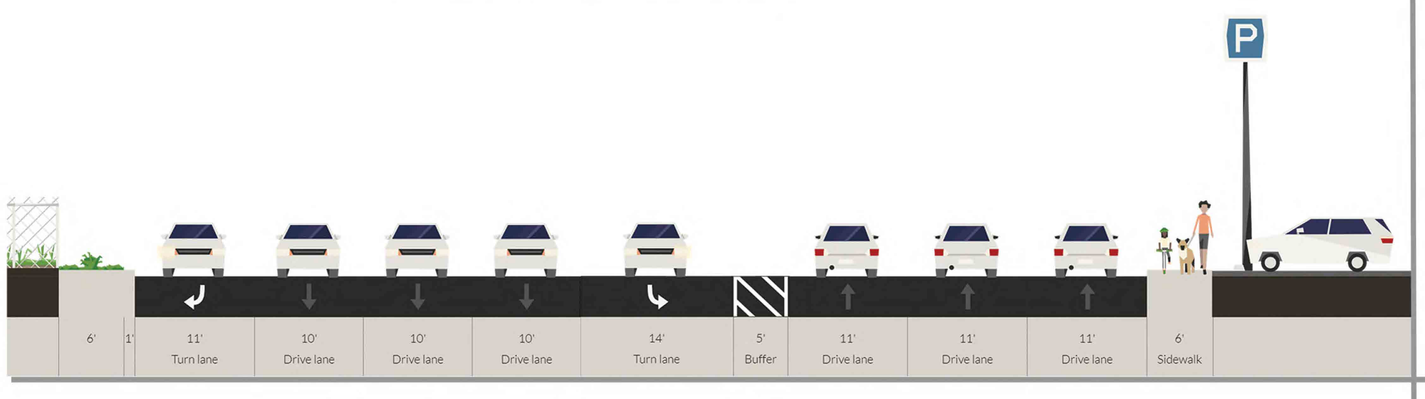
(110-122' Total Width, 94-111' Paved)



ALTERNATIVES

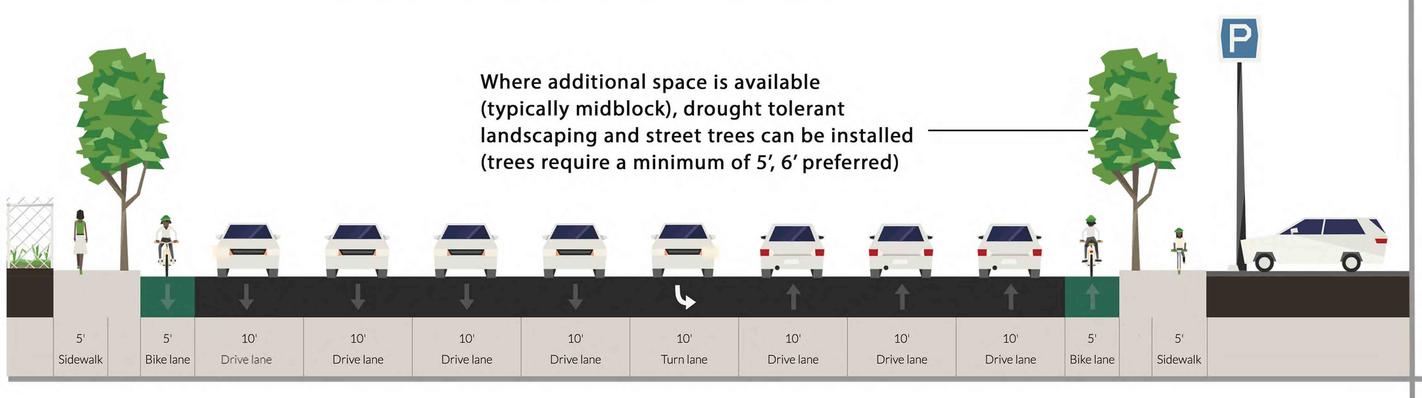
Pros/Cons

Alternative 1: No Change



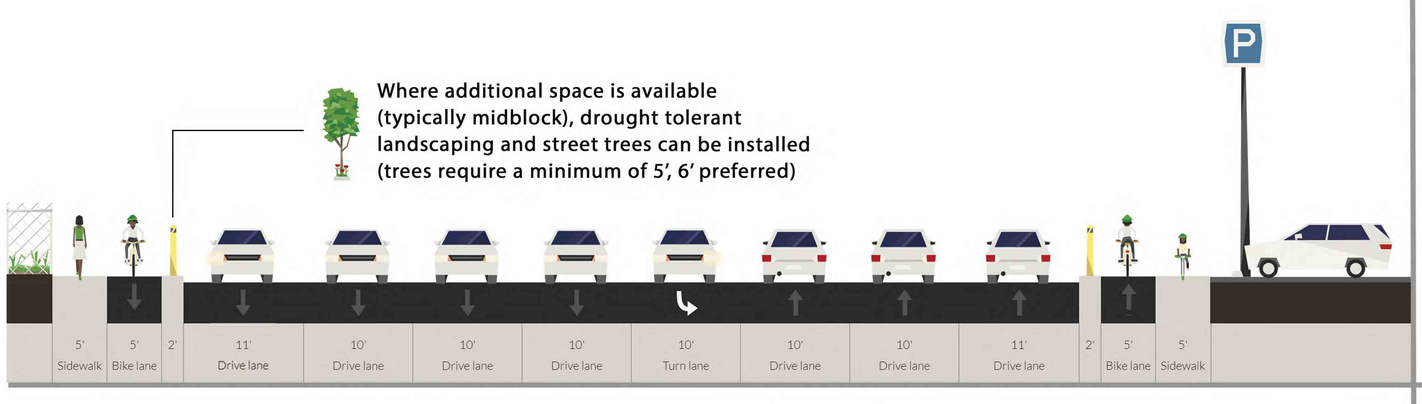
- No New Capital or Maintenance Costs
- No Disruption due to Construction
- No Change to Lanes
- Contradicts Living Streets Policies
- No Dedicated Bike Lanes
- Uncomfortable for Most Bicyclists
- Incomplete Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 2: One-Way Bike Lanes And Pedestrian Improvements



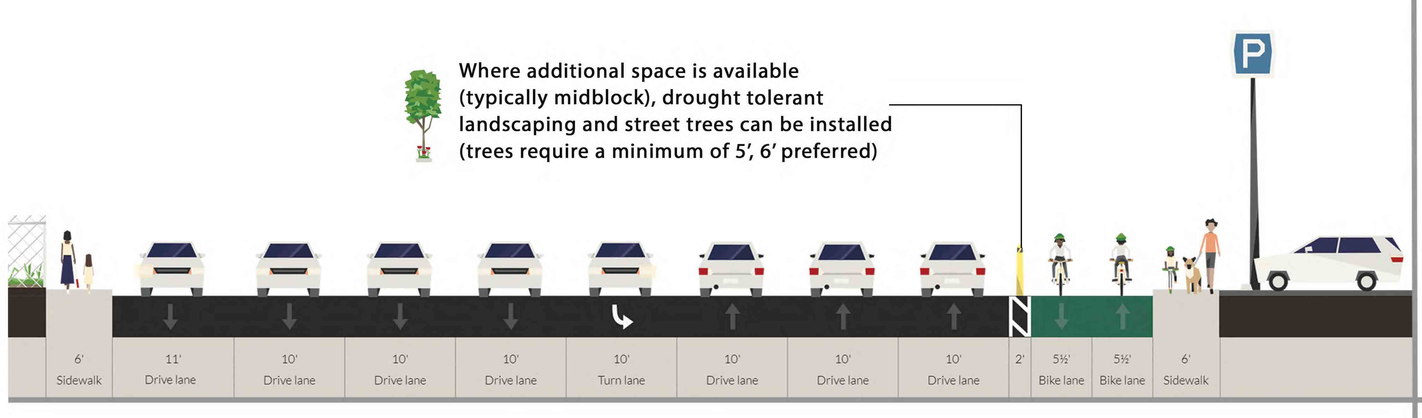
- Low Capital/Maintenance Costs
- Low Construction - Disruption
- All Vehicle Lanes Narrowed Slightly
- Lightly Used #4 SB Lane Removed at Rosecrans ONLY
- Promotes Living Streets Policies
- Comfortable for More Experienced Bicyclists
- Dedicated Bike Lanes with High-Visibility Coloring
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 3: One-Way Elevated Bike Lanes



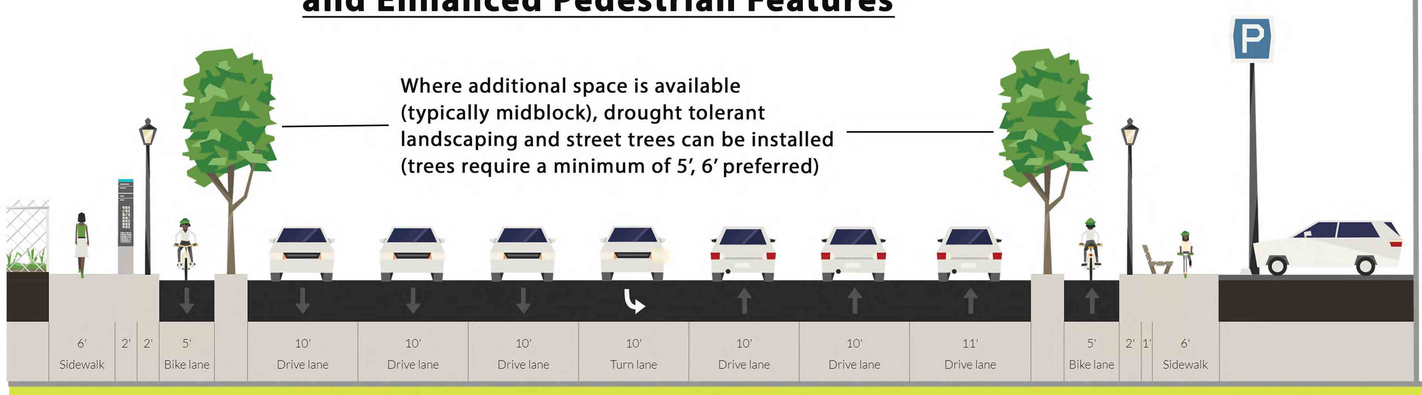
- Increased Capital Costs and Construction Disruption
- Low Additional Maintenance Costs
- Some Vehicle Lanes Narrowed Slightly
- Lightly Used #4 SB Lane Removed at Rosecrans ONLY
- Promotes Living Streets Policies
- Comfortable for All Ages and Abilities of Bicyclists
- Elevated Bike Lanes at Sidewalk Level
- Connected Sidewalks
- Limited Sidwalk Amenities, Landscaping, and Width

Alternative 4: Two-Way Cycle Track



- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- Some Vehicle Lanes Narrowed Slightly
- Lightly Used #4 SB Lane Removed at Rosecrans ONLY
- Promotes Living Streets Policies
- Comfortable for All Ages and Abilities of Bicyclists
- Two-Way Protected Cycle Track at Street Level
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 5: One-Way Bike Lanes (Elevated, Buffered, or Cycle Track) and Enhanced Pedestrian Features

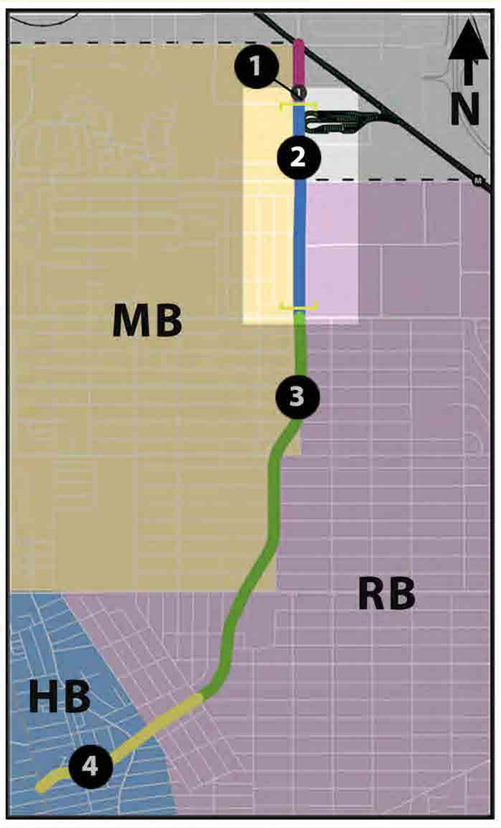


- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- Some Vehicle Lanes Narrowed Slightly
- Lightly Used #4 SB Lane Removed Throughout
- Promotes Living Streets Policies
- Comfortable for All Ages and Abilities of Bicyclists
- One-Way Cycle Tracks or Elevated Bike Lanes
- Connected Sidewalks
- Extensive Sidwalk Amenities, Landscaping, and Width

Please discuss the alternatives and identify 1-2 preferred alternatives.

2 Marine Ave.-Manhattan Beach Blvd.

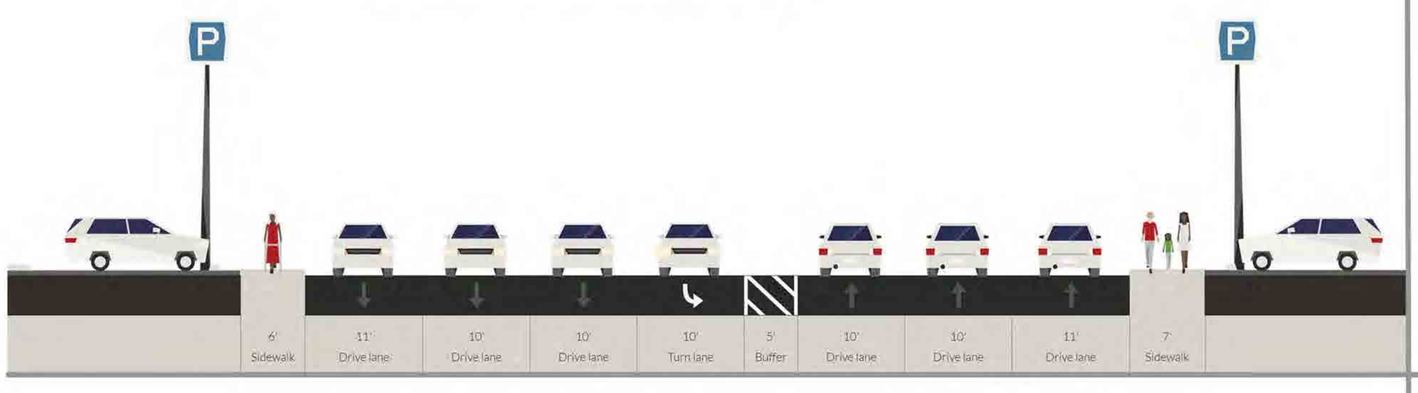
(90-112' Total Width, 78-95' Paved)



ALTERNATIVES

Pros/Cons

Alternative 1: No Change



- No New Capital or Maintenance Costs
- No Disruption due to Construction
- No Change to Lanes
- Contradicts Living Streets Policies
- No Dedicated Bike Lanes
- Uncomfortable for Most Bicyclists
- Incomplete Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

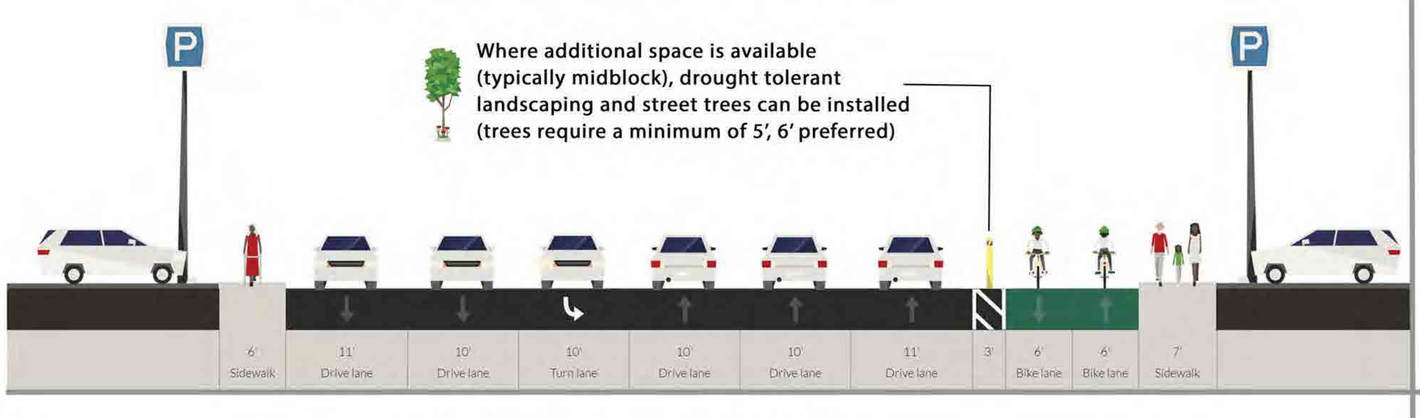
Alternative 2: One-Way Bike Lanes And Pedestrian Improvements

- Low Capital/Maintenance Costs
- Low Construction Disruption
- Outside Lanes Narrowed, #3 SB Lane Removed Near Manhattan Beach Blvd.
- Right Turn Lane Extended
- Promotes Living Streets Policies
- Dedicated Bike Lanes with High-Visibility Coloring
- Comfortable for More Experienced Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 3: One-Way Elevated Bike Lanes

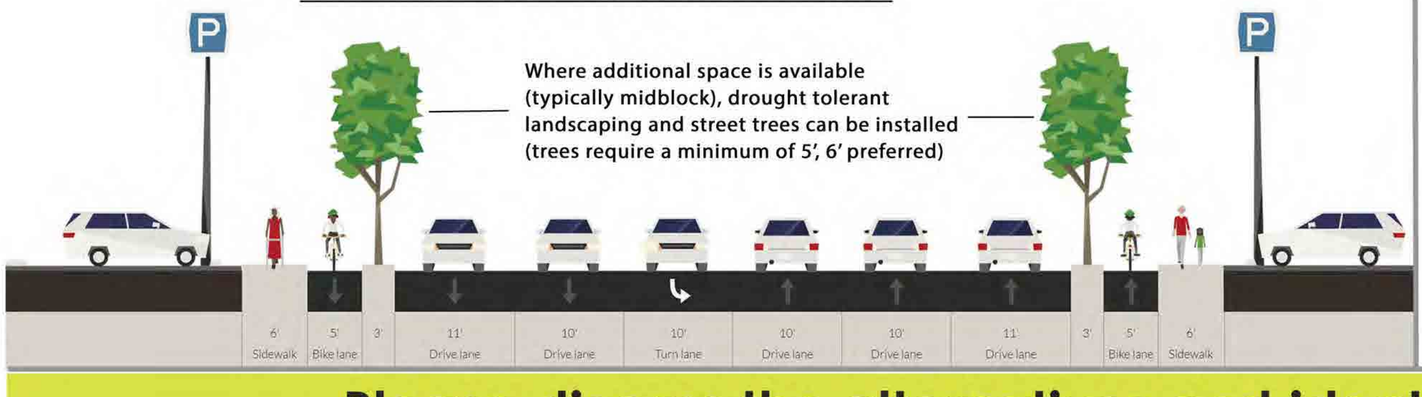
- Increased Capital Costs and Construction Disruption
- Low Additional Maintenance Costs
- #3 SB Lane Removed South of Marine Ave.
- Promotes Living Streets Policies
- Elevated Bike Lanes at Sidewalk Level
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 4: Two-Way Cycle Track



- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- #3 SB Lane Removed South of Marine Ave.
- Promotes Living Streets Policies
- Two-way Protected Cycle Track at Street Level
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 5: One-Way Bike Lanes (Elevated, Buffered, or Cycle Track) and Enhanced Pedestrian Features

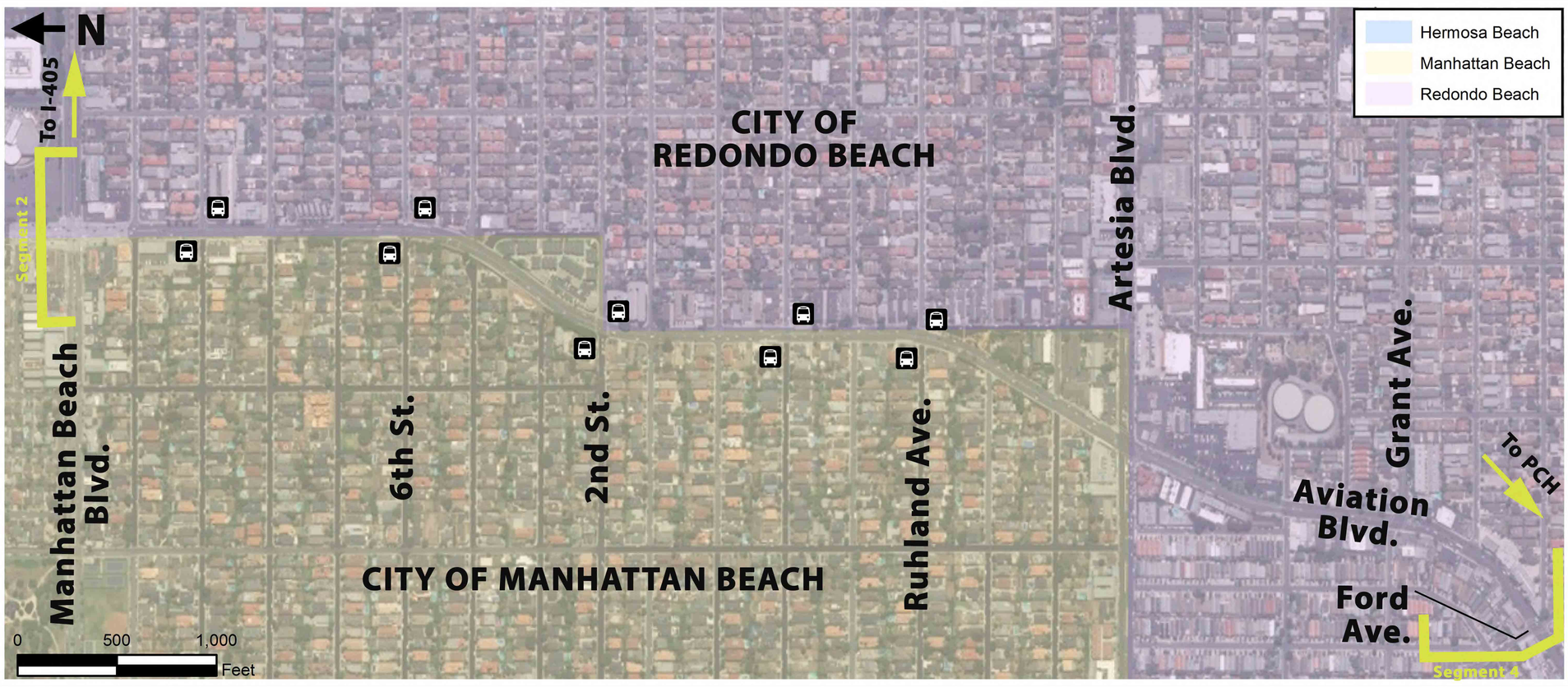


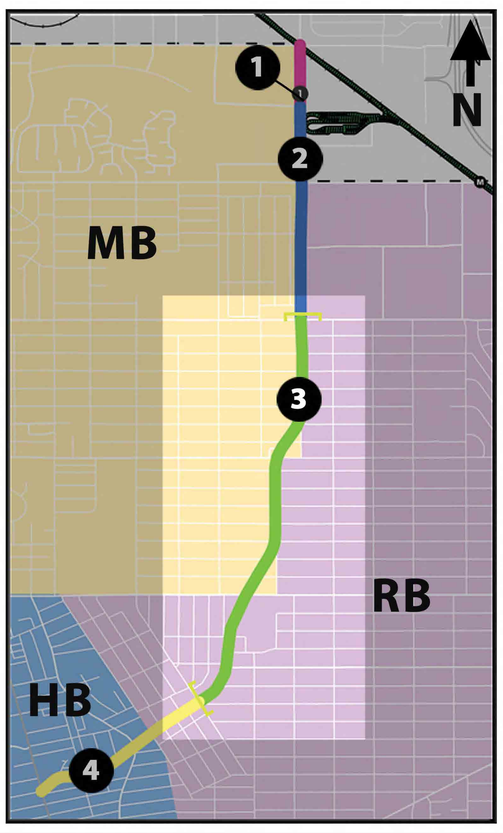
- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- #3 SB Lane Removed South of Marine Ave.
- Promotes Living Streets Policies
- One-way Protected Cycle Tracks or Elevated Bike Lanes
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Extensive Sidewalk Amenities, Landscaping, and Width

Please discuss the alternatives and identify 1-2 preferred alternatives.

3 Manhattan Beach Blvd.- Ford Ave.

(75-98' Total Width, 60-80' Paved)

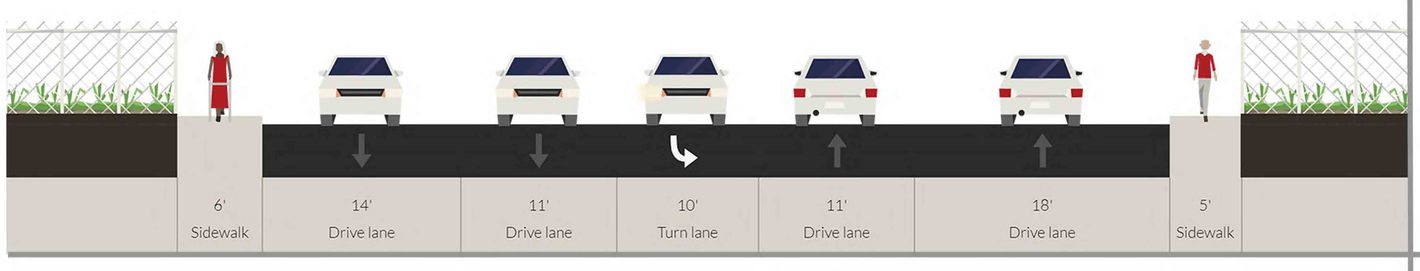




ALTERNATIVES

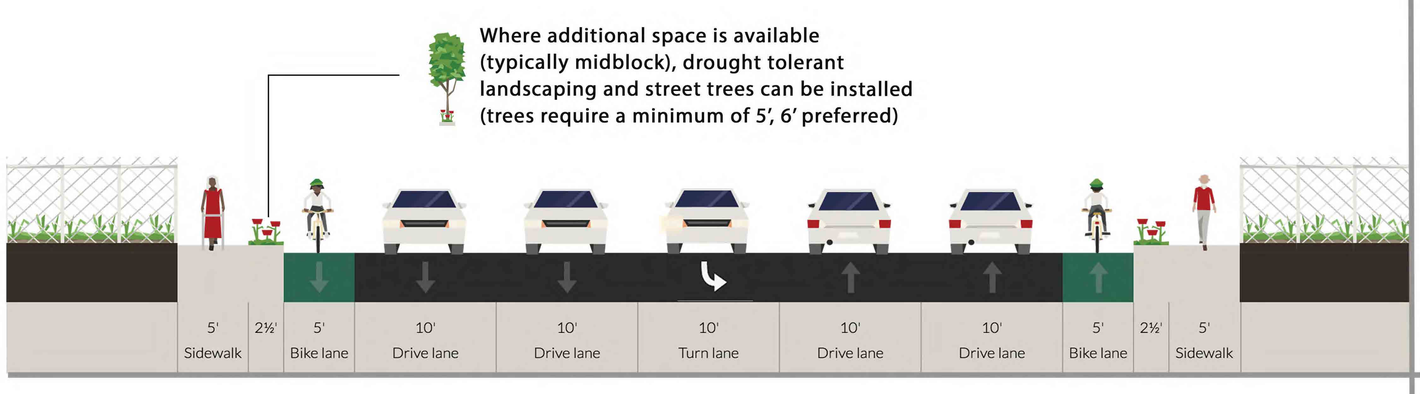
Pros/Cons

Alternative 1: No Change



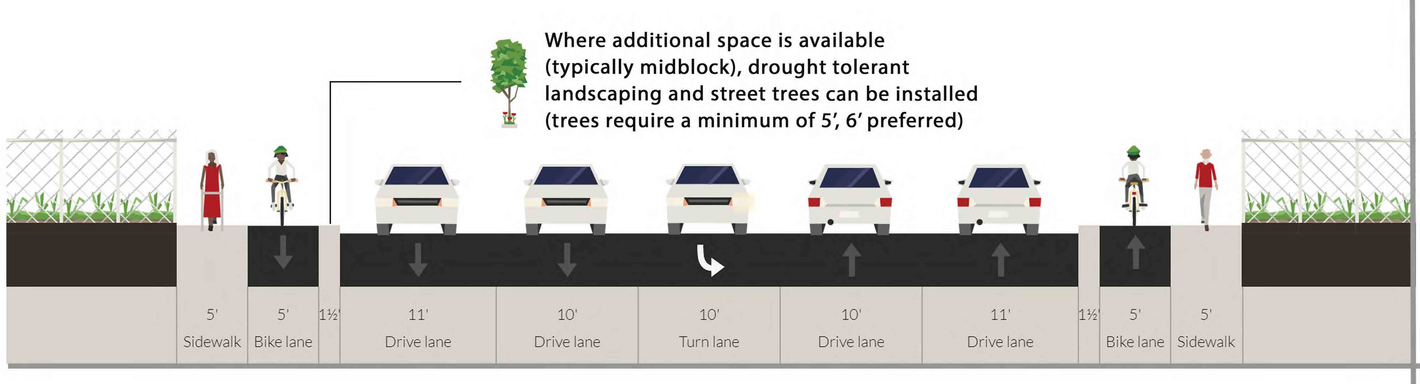
- No New Capital or Maintenance Costs
- No Disruption due to Construction
- No Change to Lanes or Parking
- Contradicts Living Streets Policies
- No Dedicated Bike Lanes
- Uncomfortable for Most Bicyclists
- Incomplete Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 2: One-Way Bike Lanes And Pedestrian Improvements



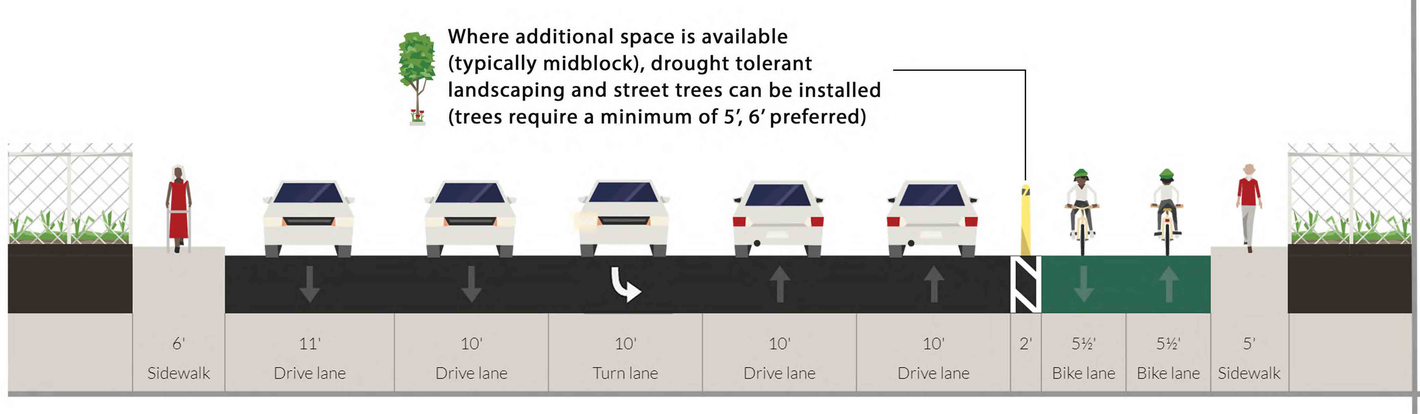
- Increased Capital/Maintenance Costs and Construction Disruption
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Dedicated Bike Lanes with High-Visibility Coloring
- Comfortable for More Experienced Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 3: One-Way Elevated Bike Lanes



- Increased Capital Costs and Construction Disruption
- Low Additional Maintenance Costs
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Elevated Bike Lanes at Sidewalk Level
- Comfortable For All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 4: Two-Way Cycle Track

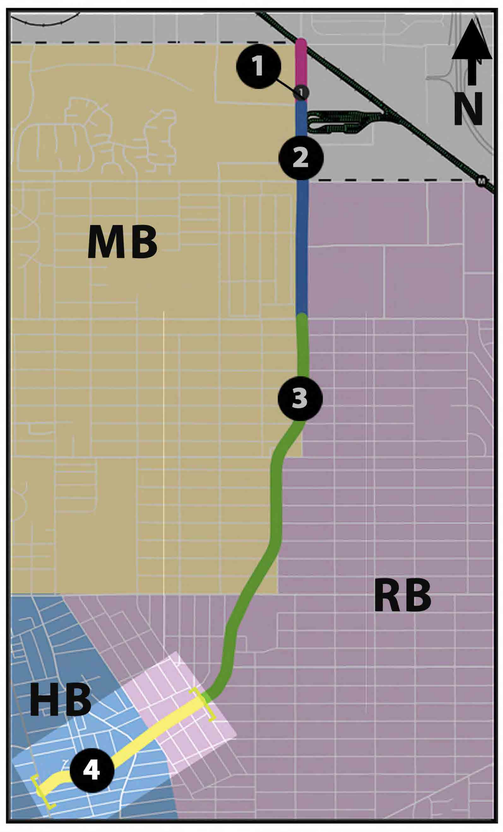


- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Two-Way Protected Cycle Track at Street Level
- Comfortable For All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Please discuss the alternatives and identify 1-2 preferred alternatives.

4 Ford Ave. - Pacific Coast Highway

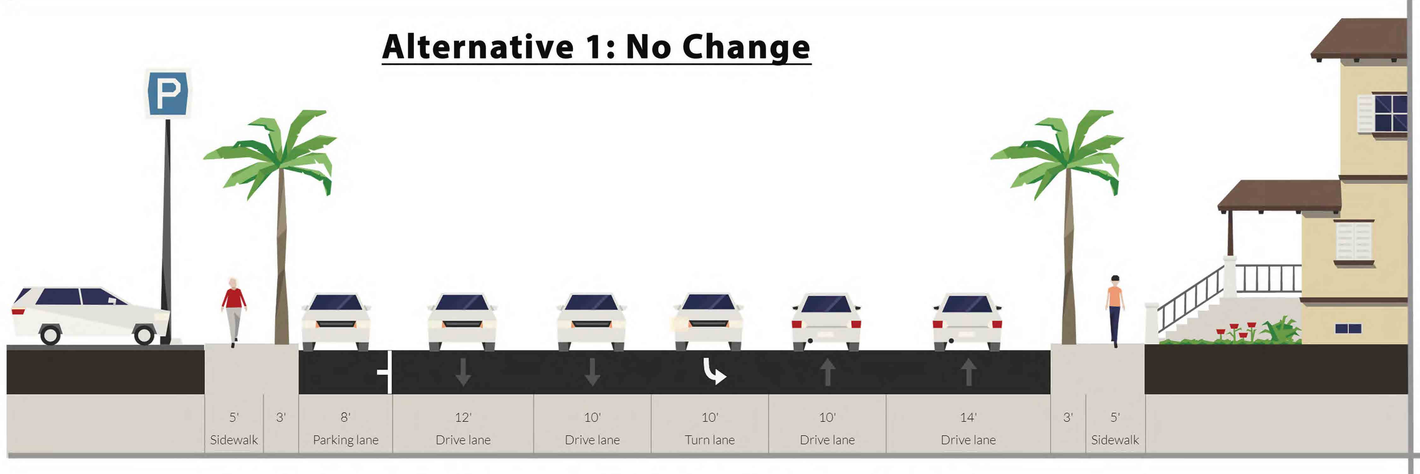
(80-83' Total Width, 64-70' Paved)



ALTERNATIVES

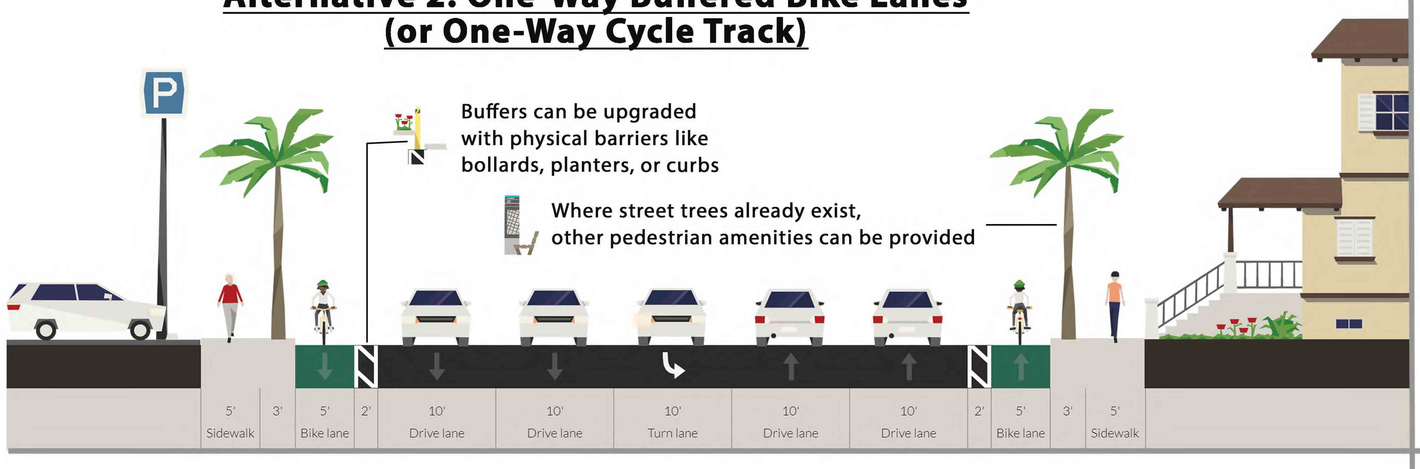
Pros/Cons

Alternative 1: No Change



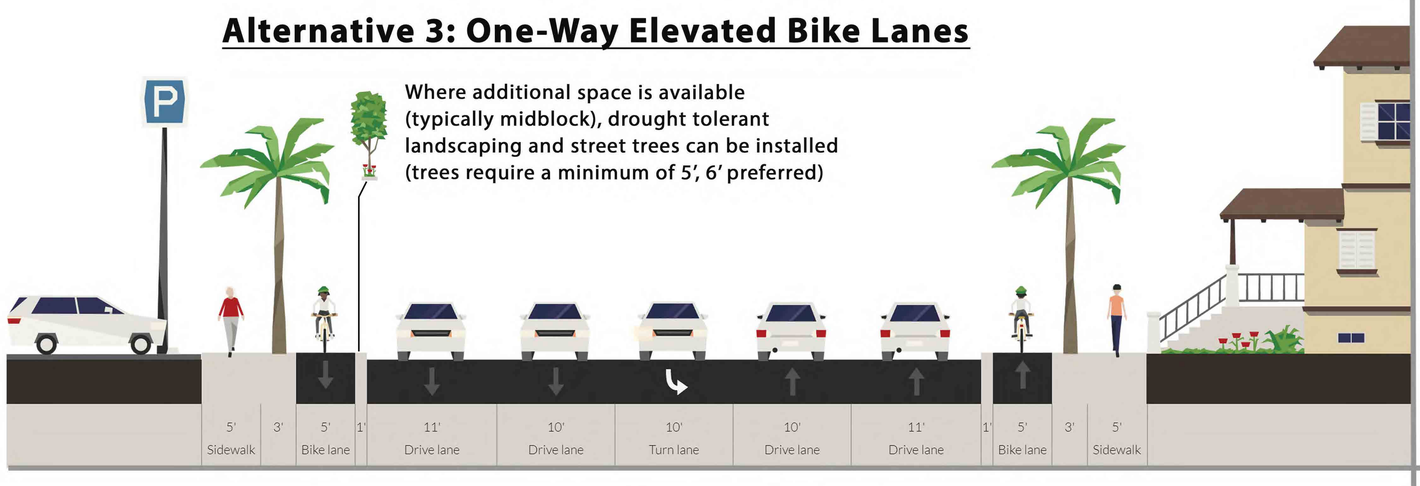
- No New Capital or Maintenance Costs
- No Disruption due to Construction
- No Change to Lanes
- Contradicts Living Streets Policies
- No Dedicated Bike Lanes
- Uncomfortable for Most Bicyclists
- Incomplete Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 2: One-Way Buffered Bike Lanes (or One-Way Cycle Track)



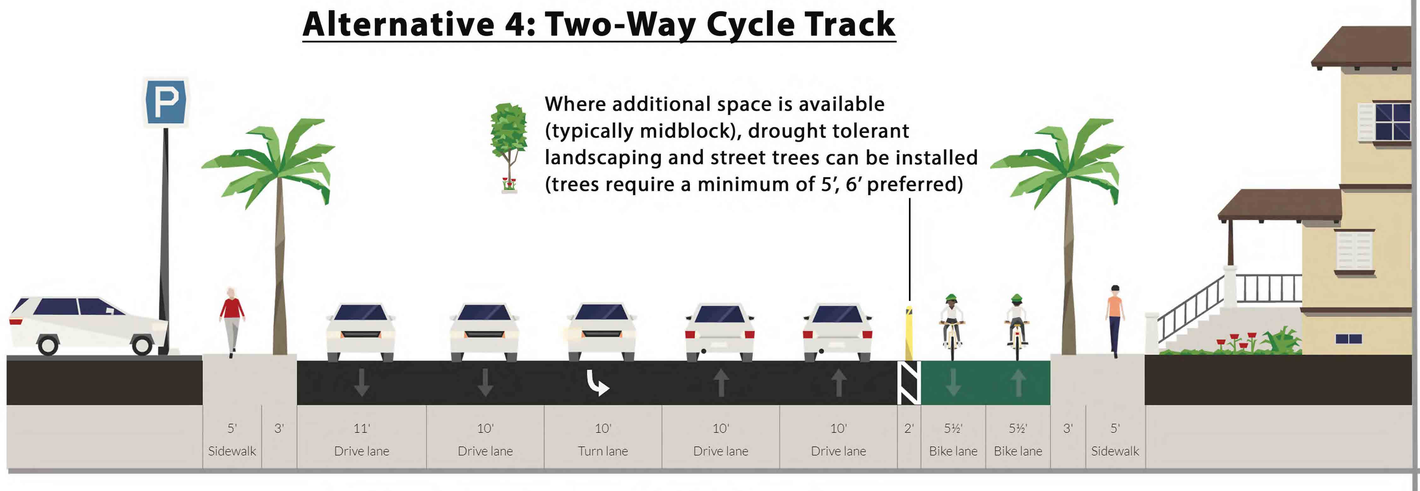
- Increased Additional Capital/Maintenance Costs and Construction Disruption
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Dedicated Bike Lanes with Protective Buffers
- Comfortable for More Experienced Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 3: One-Way Elevated Bike Lanes



- Increased Capital Costs and Construction Disruption
- Low Additional Maintenance Costs
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Elevated Bike Lanes at Sidewalk Level
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 4: Two-Way Cycle Track



- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- Outside Lanes Narrowed Slightly
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- Two-Way Protected Cycle Track at Street Level
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Limited Sidewalk Amenities, Landscaping, and Width

Alternative 5: One-Way Bike Lanes (Elevated, Buffered, or Cycle Track) and Enhanced Pedestrian Features

*Only Feasible South of Prospect Ave. Where Traffic Volumes and Single Lane NB from PCH Allow for the Removal of a Lane

- Increased Capital Costs and Construction Disruption
- Additional Maintenance Considerations
- Outside Lanes Narrowed, 1 NB Lane Removed
- Lightly Used Street Parking Removed Throughout
- Promotes Living Streets Policies
- One-Way Protected Cycle Tracks or Elevated Bike Lanes
- Comfortable for All Ages and Abilities of Bicyclists
- Connected Sidewalks
- Extensive Sidewalk Amenities, Landscaping, and Width

Please discuss the alternatives and identify 1-2 preferred alternatives.