

June 2023



Orange County Bike Connectors Gap Closure Feasibility Study - Appendix

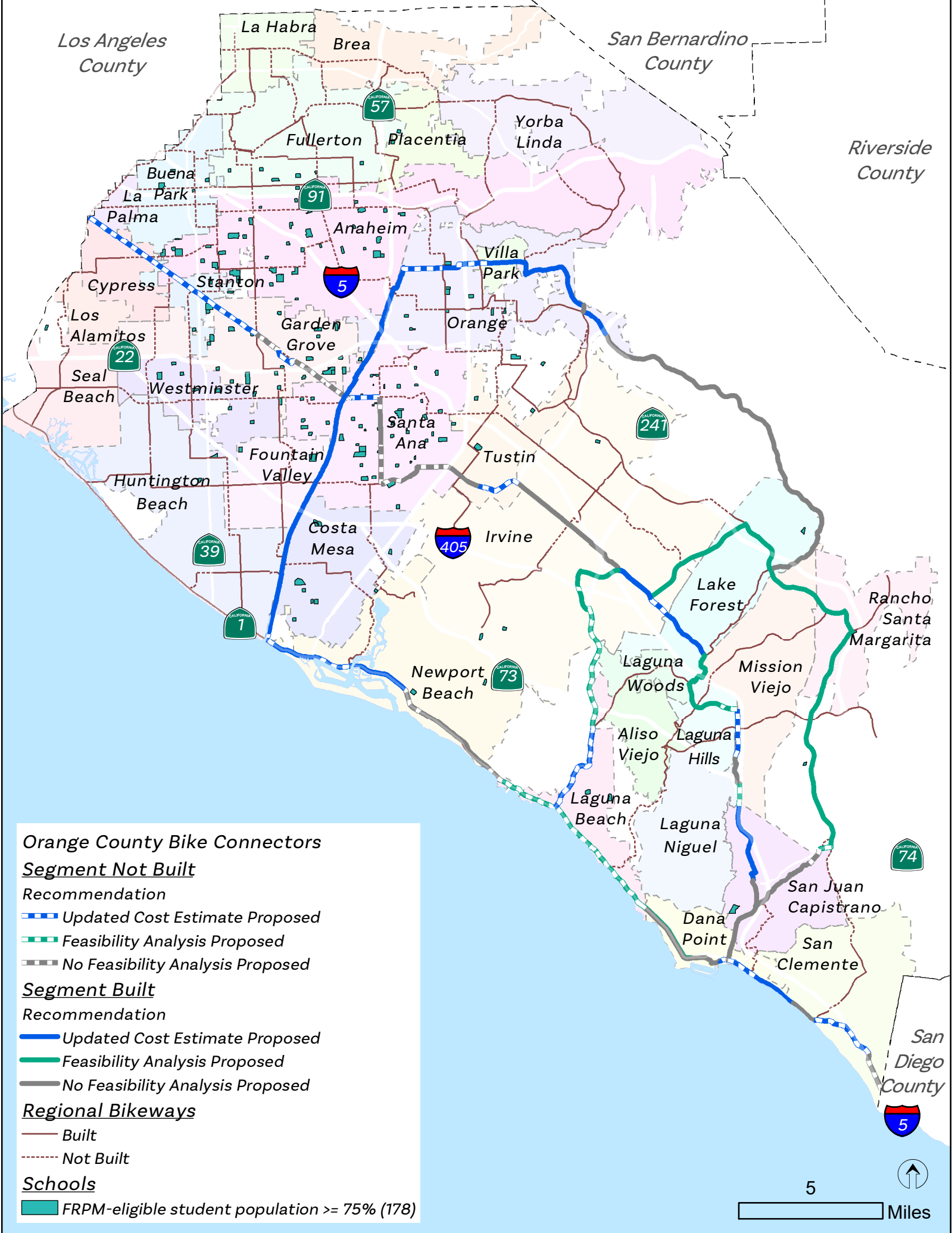
Prepared for:



**ORANGE COUNTY
TRANSPORTATION
AUTHORITY**

APPENDIX A: DEMOGRAPHIC MAPS





Los Angeles County

San Bernardino County

Riverside County

San Diego County

Orange County Bike Connectors
Segment Not Built

Recommendation

- Updated Cost Estimate Proposed
- Feasibility Analysis Proposed
- No Feasibility Analysis Proposed

Segment Built

Recommendation

- Updated Cost Estimate Proposed
- Feasibility Analysis Proposed
- No Feasibility Analysis Proposed

Regional Bikeways

- Built
- Not Built

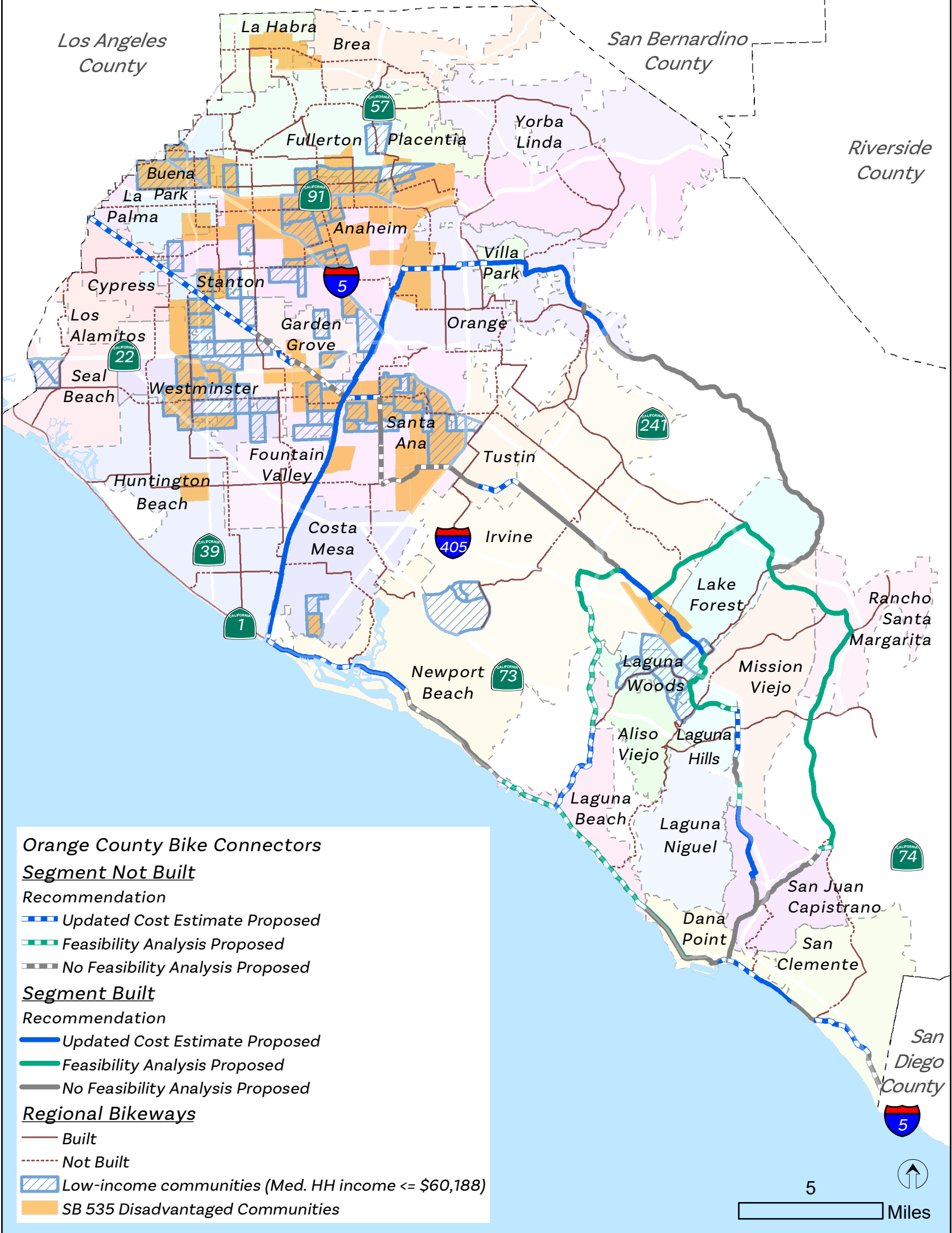
Schools

- FRPM-eligible student population >= 75% (178)

5

Miles





Los Angeles County

San Bernardino County

Riverside County

San Diego County

Orange County Bike Connectors

Segment Not Built

Recommendation

Updated Cost Estimate Proposed

Feasibility Analysis Proposed

No Feasibility Analysis Proposed

Segment Built

Recommendation

Updated Cost Estimate Proposed

Feasibility Analysis Proposed

No Feasibility Analysis Proposed

Regional Bikeways

Built

Not Built

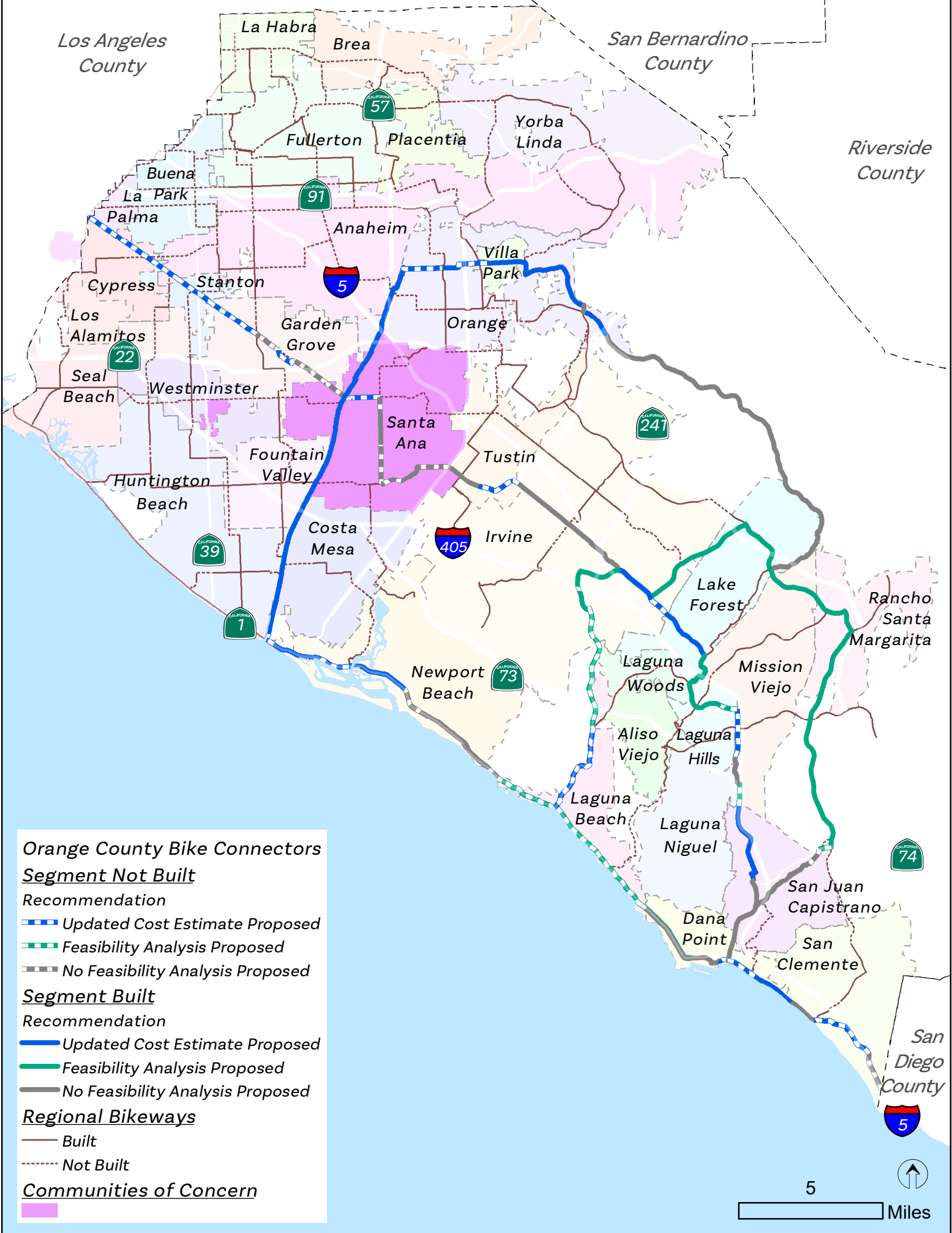
Low-income communities (Med. HH income <= \$60,188)

SB 535 Disadvantaged Communities

5



Miles



Los Angeles County

San Bernardino County

Riverside County

San Diego County

Orange County Bike Connectors
Segment Not Built

- Recommendation
- Updated Cost Estimate Proposed
 - Feasibility Analysis Proposed
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Segment Built

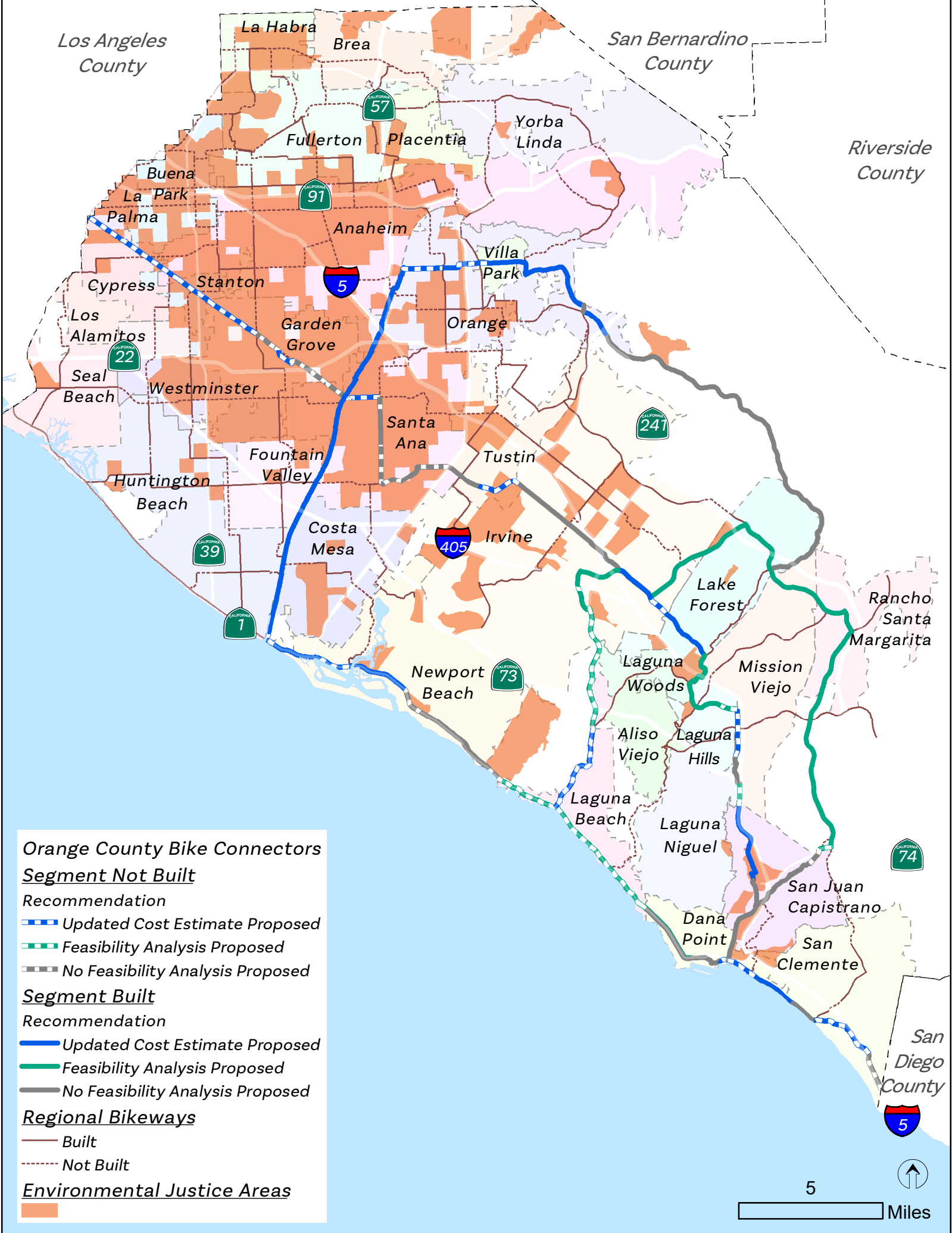
- Recommendation
- Updated Cost Estimate Proposed
 - Feasibility Analysis Proposed
 - No Feasibility Analysis Proposed

Regional Bikeways

- Built
- Not Built

Communities of Concern





Los Angeles County

San Bernardino County

Riverside County

San Diego County

Orange County Bike Connectors
Segment Not Built

Recommendation

- Updated Cost Estimate Proposed
- Feasibility Analysis Proposed
- No Feasibility Analysis Proposed

Segment Built

Recommendation

- Updated Cost Estimate Proposed
- Feasibility Analysis Proposed
- No Feasibility Analysis Proposed

Regional Bikeways

- Built
- Not Built

Environmental Justice Areas



**ORANGE COUNTY
TRANSPORTATION
AUTHORITY**

APPENDIX B: PUBLIC ENGAGEMENT MATERIALS





 **MARK
THOMAS**

Orange County Bike Connectors

Gap Closure Feasibility Study

September 21, 2021

MARK THOMAS

1

OC BIKE CONNECTORS

Project Partners

<p>City of Anaheim City of Buena Park County of Orange City of Cypress City of Dana Point City of Garden Grove City of Irvine City of La Palma City of Laguna Beach City of Laguna Hills City of Laguna Niguel City of Lake Forest</p>	<p>City of Mission Viejo City of Newport Beach City of Orange City of Rancho Santa Margarita City of San Clemente City of San Juan Capistrano City of Santa Ana City of Villa Park Rancho Mission Viejo Transportation Corridor Agencies</p>
--	--





MARK THOMAS


2

OC BIKE CONNECTORS











70/30 Plan
Completing the OC Loop

June 2015


30% Remaining


- The OC Loop is a vision for 66 miles of seamless connections and an opportunity for people to bike, walk, and connect to some of California's most scenic beaches and inland reaches.
- About 88% of the OC Loop is already in place and is used by thousands of people.
- Currently, nearly 58 miles use existing off-street trails along the San Gabriel River, Coyote Creek, Santa Ana River, and the Coastal/Beach Trail.




3

OC BIKE CONNECTORS

OC Active Plan

- 2019 Active Transportation Plan covering all of Orange County
 - Bicycle & Pedestrian Modes Addressed
- Introduces Layered Bicycle Network:
 - Local Bikeways – City Focus
 - Regional Bikeways – Across City Borders
 - Regional Connectors – Serve Large Region (ie. OC Loop)



4

OC Bike Connectors

- Expands on concept of OC Loop



- OC Active Identifies New Regional Connectors
 - OC Loop (North)
 - *New*: Central County Loop
 - *New*: South County Loop
 - *New*: Cross-County Connector



5

Gap Closure Study

- Agency Stakeholder Input
- Public Engagement
- Branding & Promotion
- Engineering Recommendations
- Cost Estimates
- ***Position for Funding Pursuits***





6

OC BIKE CONNECTORS

Project Branding & Promotion

OC Loop Branding

Example Graphics

Current Naming	Proposed Naming
OC Loop	OC North Loop
Central Loop	OC Central Loop
South Loop	OC South Loop
Cross County Connector	OC Connect



7

OC BIKE CONNECTORS

Project Branding & Promotion

OC Loop Branding

Example Graphics

Current Naming	Proposed Naming
OC Loop	OC North Loop
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Cross County Connector	OC Connect

8

Agency Stakeholder Input

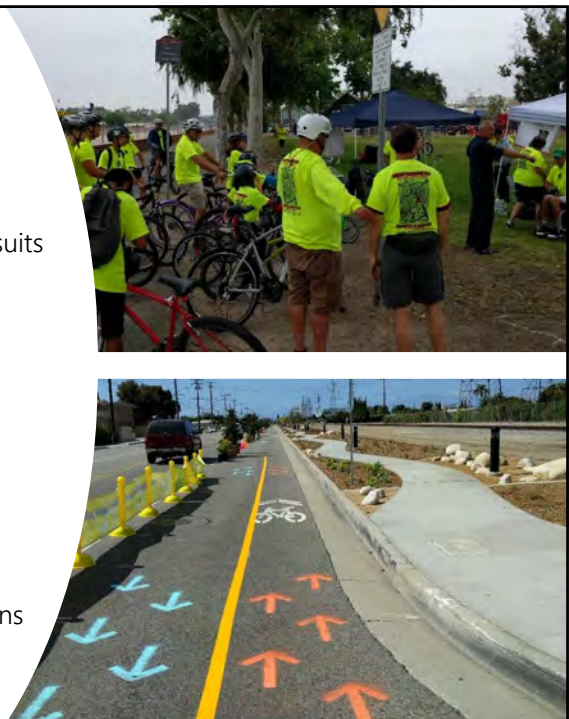
- Planned Stakeholder Meetings
 - Local City/County/Caltrans Staff Project Development Team Meetings (4)
 - Law Enforcement Representatives Meetings (2)
 - OCTA Technical Advisory Committee Meetings (2)
 - OCTA Bicycle and Pedestrian Active Transportation Subcommittee Meetings (2)



9

Public Engagement

- Solicit Feedback on Proposed Concepts
 - Secure Input Required for Future Grant Pursuits
 - Promote Project Concept & Solutions
 - Build Momentum and Community Support
- Planned Project Outreach Activities
 - 2 Community Workshops
 - 10 Pop-Up Events
 - Prioritize Engagement in Disadvantaged Communities
 - Account for Covid-19 Limitations
 - Partner with Community Based Organizations
 - Account for Covid-19 Assembly Constraints



10

Position for Success

- Develop Engineering Recommendations
- Confirm Feasibility of Concepts
- Provide Grant-Ready Cost Estimates
- Create 5 Fact Sheets (see Example)

- *Empower Agencies to Secure Funding for Implementation*

PROJECT FACT SHEET

OSO CREEK EXTENSION

Implementing Agency: County of Orange

PROJECT INFORMATION

- Extend existing Class I facility southerly by 0.8 miles, including 100-foot long bridge over Osu Creek, closing the gaps in bikeways between Osu Creek and Camino Capistrano (see map)
- Located in City of Laguna Niguel using County Measure D Osu Creek

Public Input From:

- OC Active Lifestyle Regional Study, OC Bike Connectors Feasibility Study, Local General Plan

Potential Funding Sources:

- Local BCIP, CTRP
- State RTP Proposition 68, SLP

PROJECT BENEFITS

- Off-Street Bicycles & Pedestrian Facility
- Serves age 8 to 80 audience
- High comfort level facility
- Gap closure between Camino Capistrano & Osu Creek trail
- Access to Laguna Niguel/Mission Viejo Train Station
- Address 5 bicyclist injuries within 5 years

COST

Environmental & Design	\$400,000
Right of Way	\$50,000
Construction & Support	\$2,000,000
TOTAL	\$2,450,000

SCHEDULE

YEARS → 1 2 3

CEQA/NEPA Clearance | Final Design | Construction

PROJECT OUTCOMES

- Increases Mobility Options
- Improves Safety
- Reduces Emissions
- Adheres to Transit
- Gap Closure

11

Thank you for your time!



Peter Sotherland
psotherland@octa.net
(714) 560-5386



Consultant Contact
Paul Martin
pmartin@markthomas.com
(949) 697-7840

12

OC BIKE CONNECTORS

OC Central Loop



15

OC BIKE CONNECTORS

OC South Loop



16

OC BIKE CONNECTORS

Bikeways Gap Closure Study

- Advance Concept of Regional Connector Type Bikeways (similar to OC Loop)



- Caltrans Grant Funded Project
- Collaborate with Agencies & Public
- Develop Feasible Engineering Recommendations for Gap Closure
- Position for Grants & Implementation



1

OC BIKE CONNECTORS

Bikeways Gap Closure Study

- Refine Naming from "OC Loop" to: "OC Loops"



- Establish Partnerships with Community Based Organizations
- Engage Disadvantaged Communities



2

OC BIKE CONNECTORS



Class II - Bicycle Lane



Class II - Buffered Bicycle Lane



Class IV - Median Separated Bikeway



Class I - Off-Street Route

3

OC BIKE CONNECTORS

Which Bikeway Type do you prefer?



Class II
Bicycle Lane



Class II
Buffered Bicycle Lane



Class IV
Median Separated Bikeway





Class I
Off-Street Route

4

OC Bike Connectors

Gap Closure Feasibility Study

OCTA Technical Advisory Committee
January 26, 2022




MARK THOMAS

1

Bikeways Gap Closure Study

Caltrans Grant Funded Project to:

- Leverage OC Loop & OC Active
- Prepare New Bikeways Feasibility Analysis
- Engage Community & Agency Stakeholders
- ***Position for Successful Implementation***



OC BIKE CONNECTORS
GAP CLOSURE
FEASIBILITY
STUDY

2

Project Partnerships



Funding Provided by Caltrans
Sustainable Transportation
Planning Grants Program



Project Managed by OCTA



MARK THOMAS

Project Consultant Team

Project Development Team through Partnership with Representatives from Local Cities,
County of Orange, Rancho Mission Viejo, Transportation Corridor Agencies

3



70/30 Plan
Completing the OC Loop

June 2015



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OC Active Plan

2019 Active Transportation Plan covering all of Orange County

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Introduces Layered Bicycle Network:

- Local Bikeways – City Focus
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5

OC Bike Connectors

Expands on concept of OC Loop



OC Active Identifies 3 New Regional Connectors

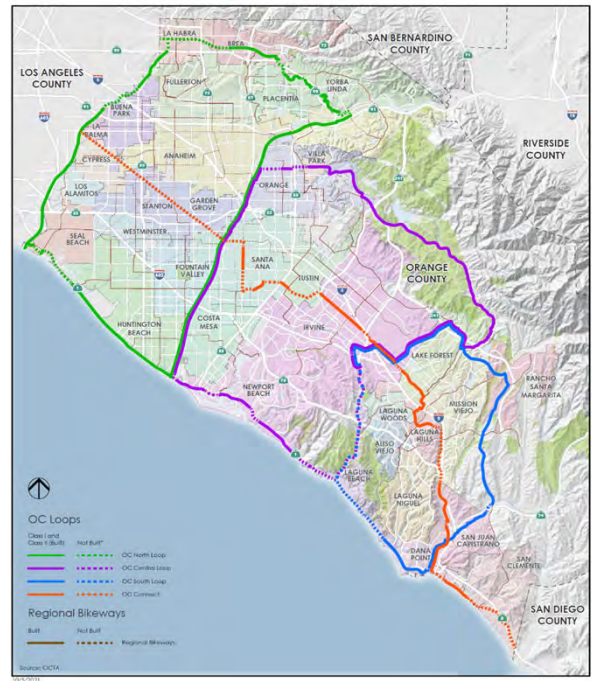
- OC Loop (North)
 - 66 miles
- New: Central County Loop
 - Approximately 68 miles
- New: South County Loop
 - Approximately 45 miles
- New: Cross-County Connector
 - Approximately 49 miles



6

Project Analysis Will

- Rely Upon Any Local Agency Efforts
- Or
- Provide Updated Cost Estimate at Unbuilt Segments (from prior OCTA Regional Bikeway Studies)
- Or
- Prepare Bikeways Gap Closure Feasibility Recommendations



7

Stakeholder Engagement Activities

- Agency Stakeholder Engagement
- Local City/County/Caltrans Staff Project Development Team Meetings (4)
 - Law Enforcement Representatives Meetings (2)
 - OCTA Technical Advisory Committee Meetings (2)
 - OCTA Bicycle and Pedestrian Active Transportation Subcommittee Meetings (2)

Public Stakeholder Engagement

- Workshops (2)
- Tabling/Pop-Up Events (10)

Per Grant Funding: Prioritize Engagement in Disadvantaged Communities





8

OC BIKE CONNECTORS

Desired Audience

Aim to serve an 8 to 80 (year old) audiences





9

OC BIKE CONNECTORS


Project Naming & Logo

Retain OC Loop Naming



Current Naming	Proposed Naming
<i>OC Bike Connectors</i>	<i>OC Loops</i>
OC Loop	OC North Loop
Central Loop	OC Central Loop
South Loop	OC South Loop
Cross County Connector	OC Connect

New OC Loops Logo



10

5

Position for Success

- Develop Engineering Recommendations
- Confirm Feasibility of Concepts
- Provide Grant-Ready Cost Estimates
- Create 5 Fact Sheets (see Example)

- *Empower Agencies to Secure Funding for Implementation*
 - *Alignment with ATP Cycle 6 (Spring/Summer 2022)*

PROJECT FACT SHEET

OSO CREEK EXTENSION

Implementing Agency: County of Orange

PROJECT INFORMATION

- Extend existing Class I facility southerly by 0.8 miles, including 100-foot long bridge over Osu Creek, closing the gaps in bikeways between Osu Creek and Camino Capistrano (see map)
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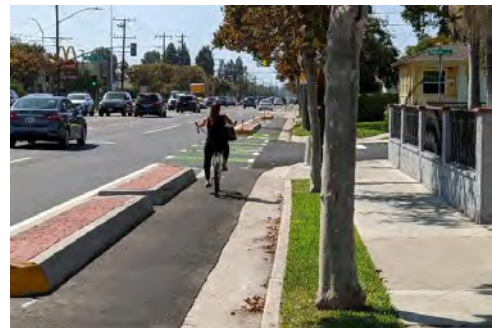
PROJECT OUTCOMES

- Increases Mobility Options
- Improves Safety
- Reduces Emissions
- Access to Transit
- Gap Closure

11

Your Help Needed For


- Staff to Provide Input on Bikeway Recommendations
- Consider New Applications such as:
 - Class I (Widened Sidewalks)
 - Class II Buffered Bike Lanes
 - Class IV Cycletracks
 - Focused Bikeway Countermeasures
- Consider Bikeways Concepts for Regional Connectivity Across City Boundaries



12


OC BIKE CONNECTORS

Thank you for your time!



OCTA logo featuring a stylized sailboat icon above the text "OCTA".

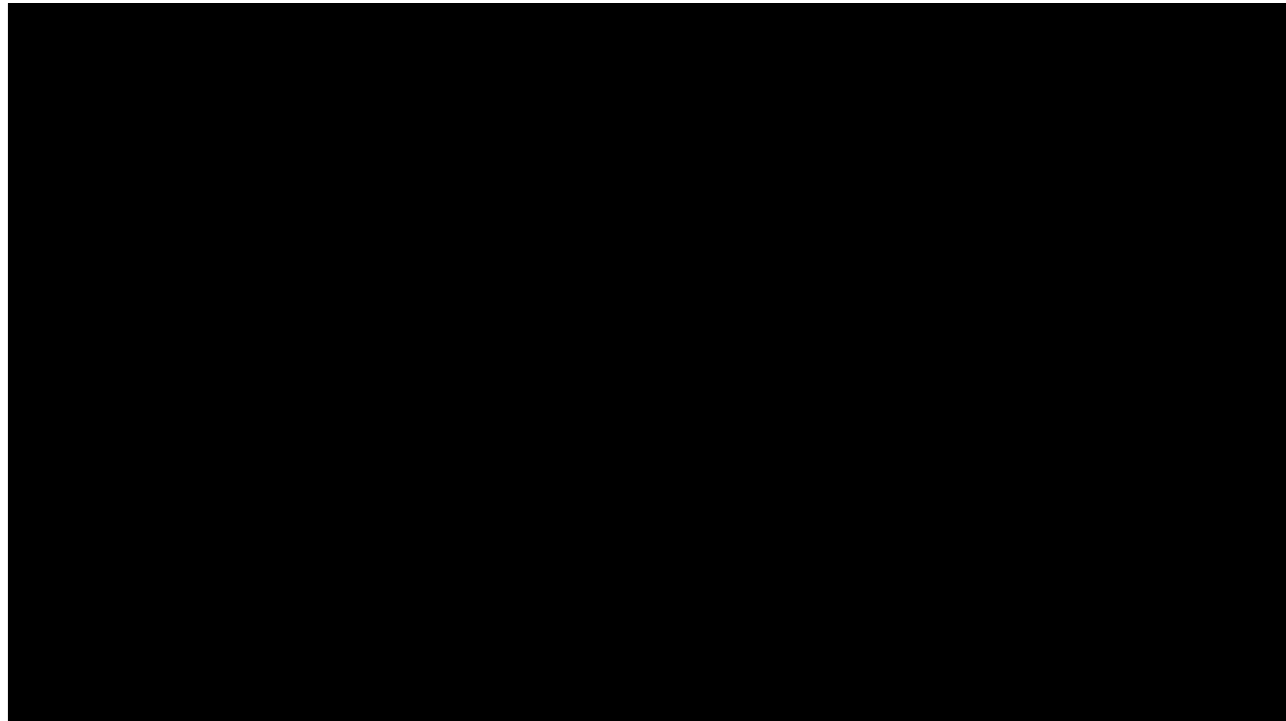
OCTA Contact
Peter Sotherland
psotherland@octa.net
(714) 560-5386



MARK THOMAS logo featuring a stylized green icon above the text "MARK THOMAS".

Consultant Contact
Paul Martin
pmartin@markthomas.com
(949) 697-7840

13



14

Project Goals

- *Engage diverse community* members, accounting for needs of *disadvantaged* populations
- Utilize innovative outreach to *identify and reduce barriers* to the bikeway network
- Strengthen link between *regional and local bikeway* network
- *Increase access* to transit centers, employment, housing, and other regional destinations
- Reduce bicyclist exposure to *traffic crashes* to address mobility and safety
- *Preserve and enhance* sustainable transportation choices
- *Collaborate* among jurisdictional agency staff
- *Increase local capacity to advance projects*, secure funding, and implement bikeways

15



OC Central Loop

- Total of 11 segments will be evaluated throughout the South Loop
- Total of 3 segments recommending updated cost estimates

16

OC BIKE CONNECTORS

OC South Loop

- Total of 6 segments will be evaluated throughout the Central Loop
- Total of 8 segments recommended for updated cost estimate

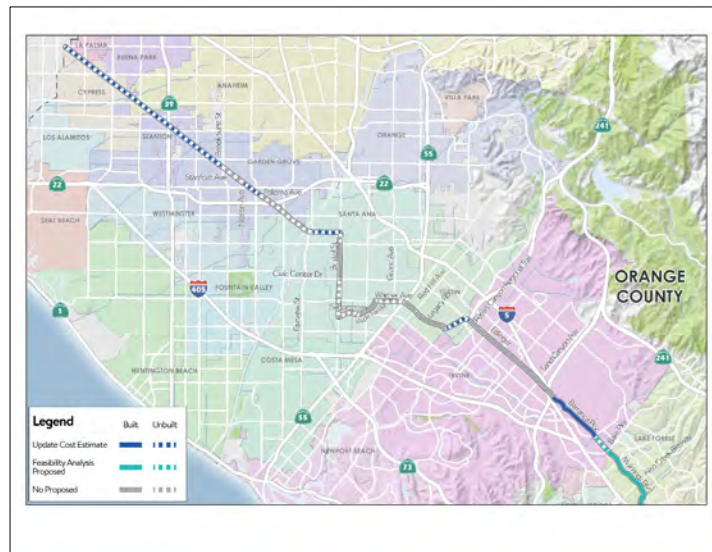


17

OC BIKE CONNECTORS

OC Connect (North)

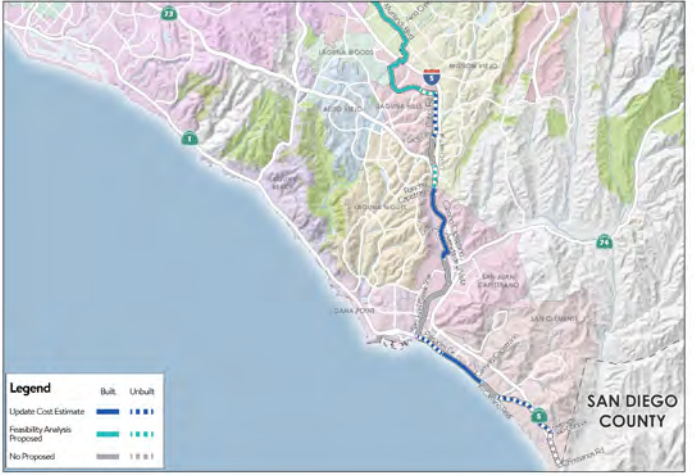
- Total of 2 segments will be evaluated throughout the OC Connect
- Total of 15 segments recommending updated cost estimates



18

OC BIKE CONNECTORS

OC Connect (South)





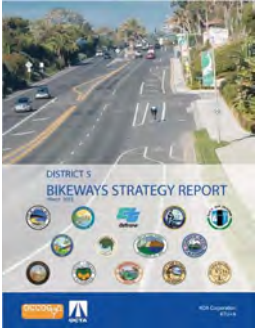

- Total of 2 segments will be evaluated throughout the OC Connect
- Total of 15 segments recommending updated cost estimates

19

OC BIKE CONNECTORS

Regional Bikeways Studies

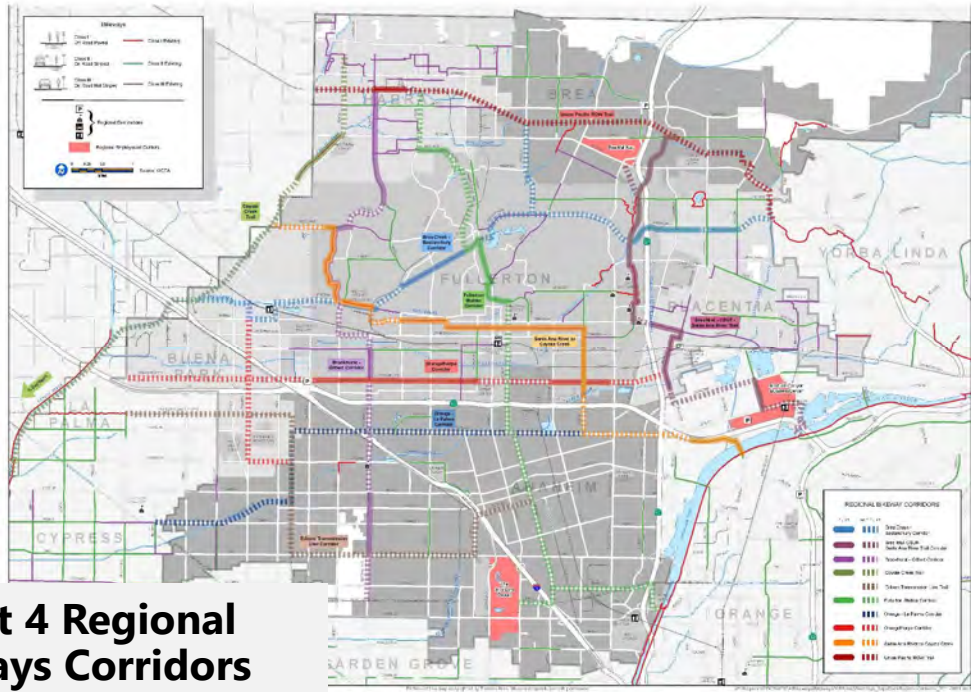
- Prior analysis through four Regional Bikeways Studies:
 - Fourth District Bikeways Strategy (2012)
 - District 1 and 2 Bikeways Strategy (2013)
 - District 5 Bikeways Strategy Report (2015)
 - OC Foothills Bikeways Strategy (2016)
- Regional Studies identified and prioritized potential bikeways throughout Orange County.
- Feasibility analysis of 3-4 corridors in each study includes overlapping segments with OC Bike Connectors.

20

OC BIKE CONNECTORS

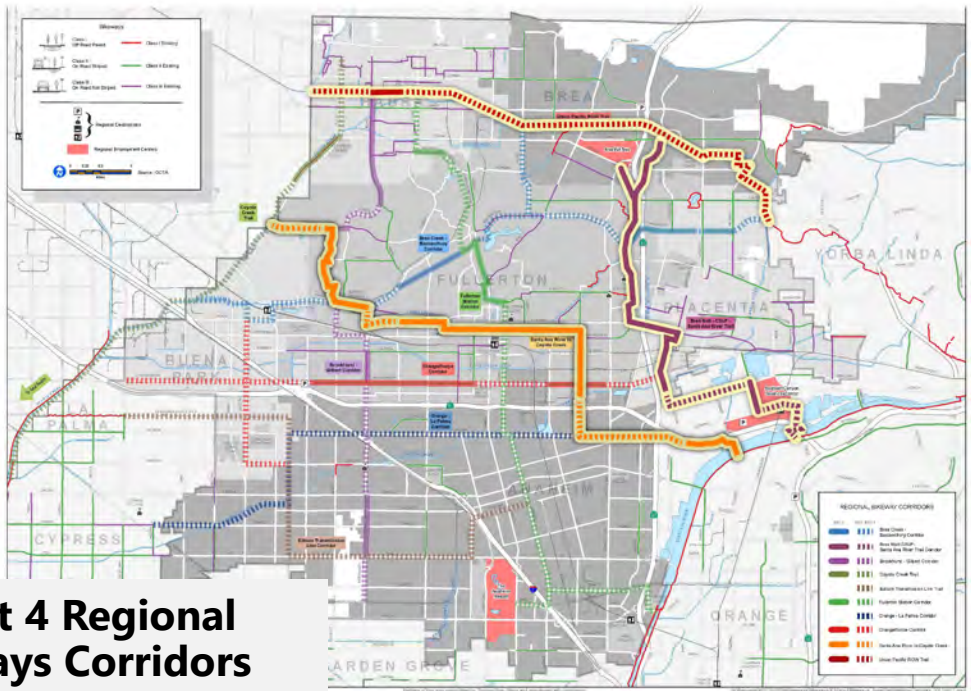
District 4 Regional Bikeways Corridors



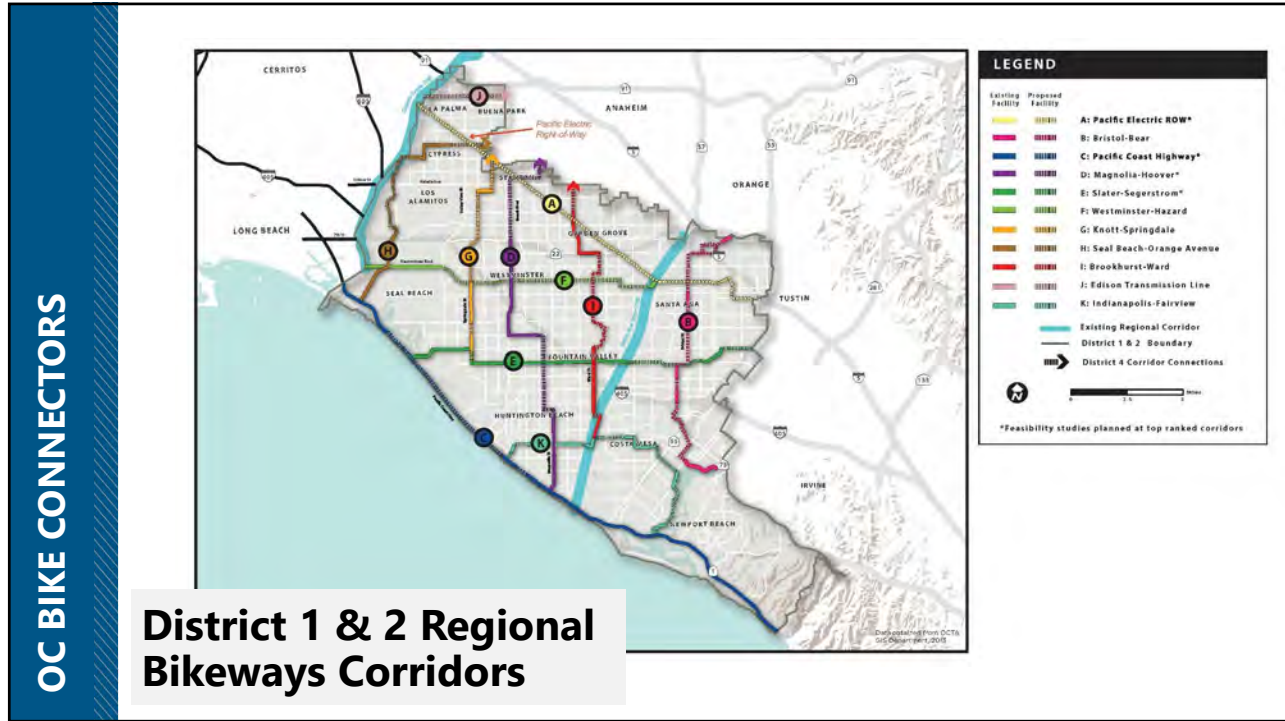
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OC BIKE CONNECTORS

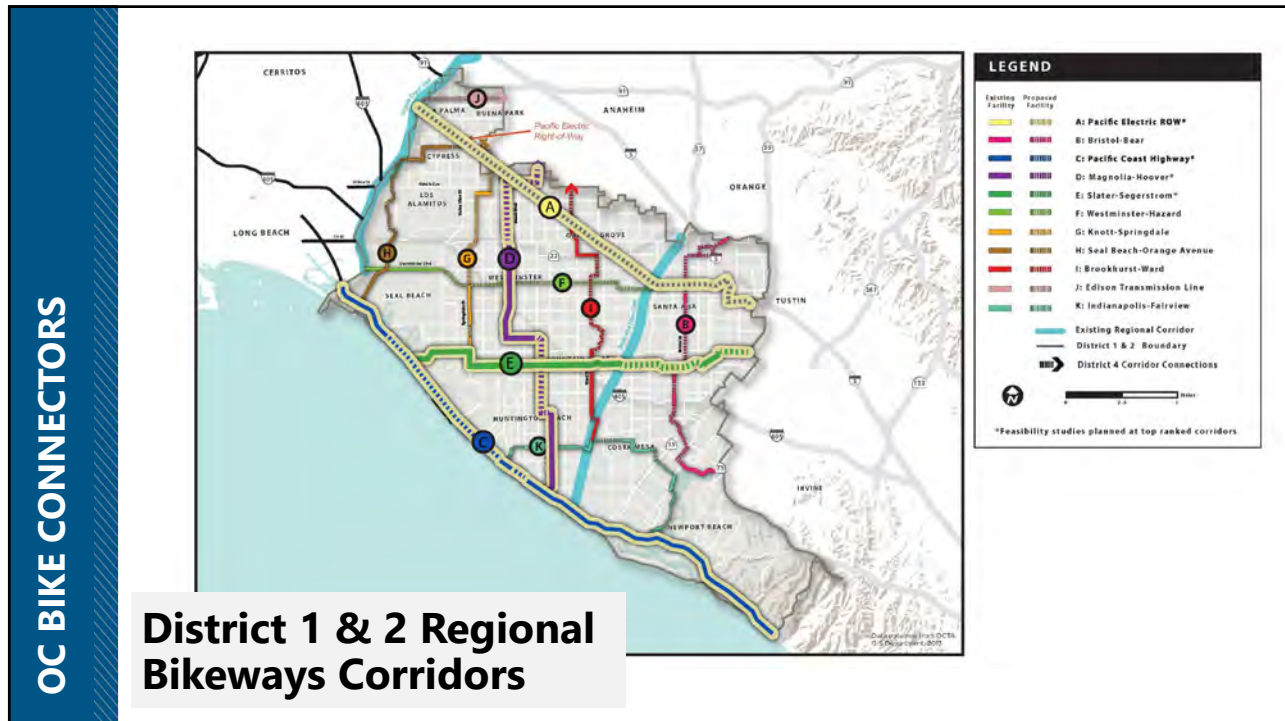
District 4 Regional Bikeways Corridors



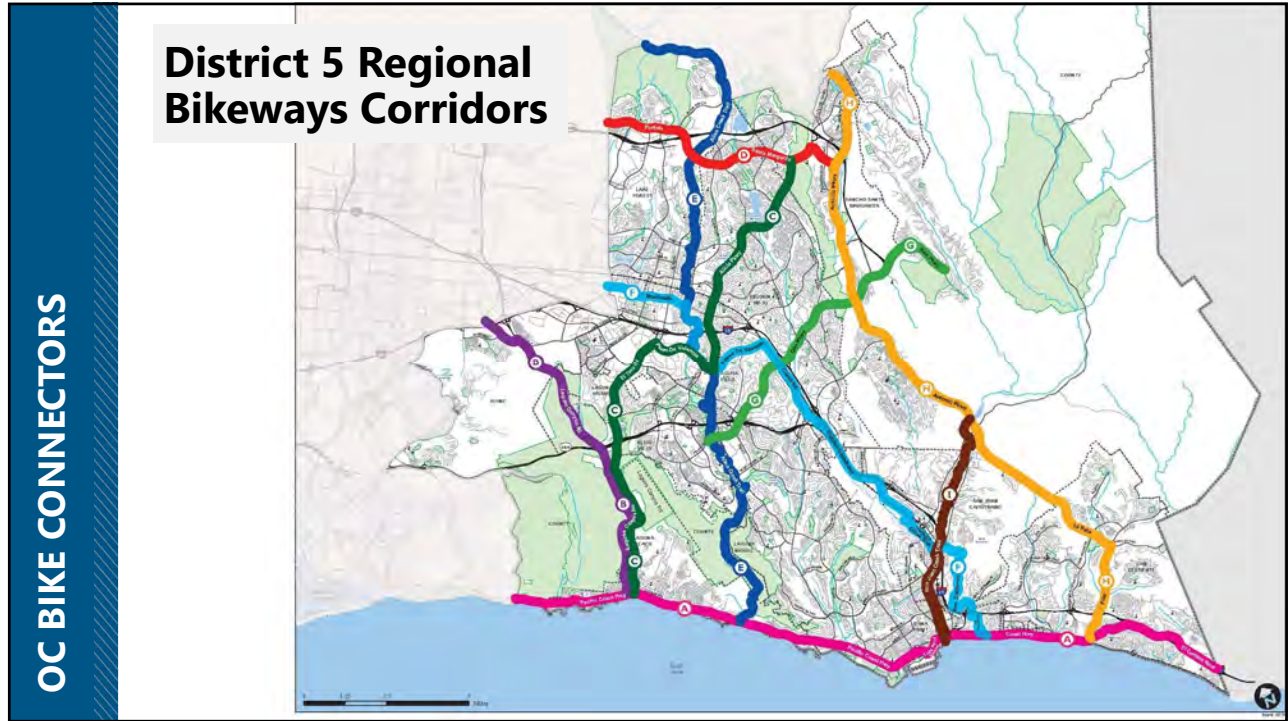
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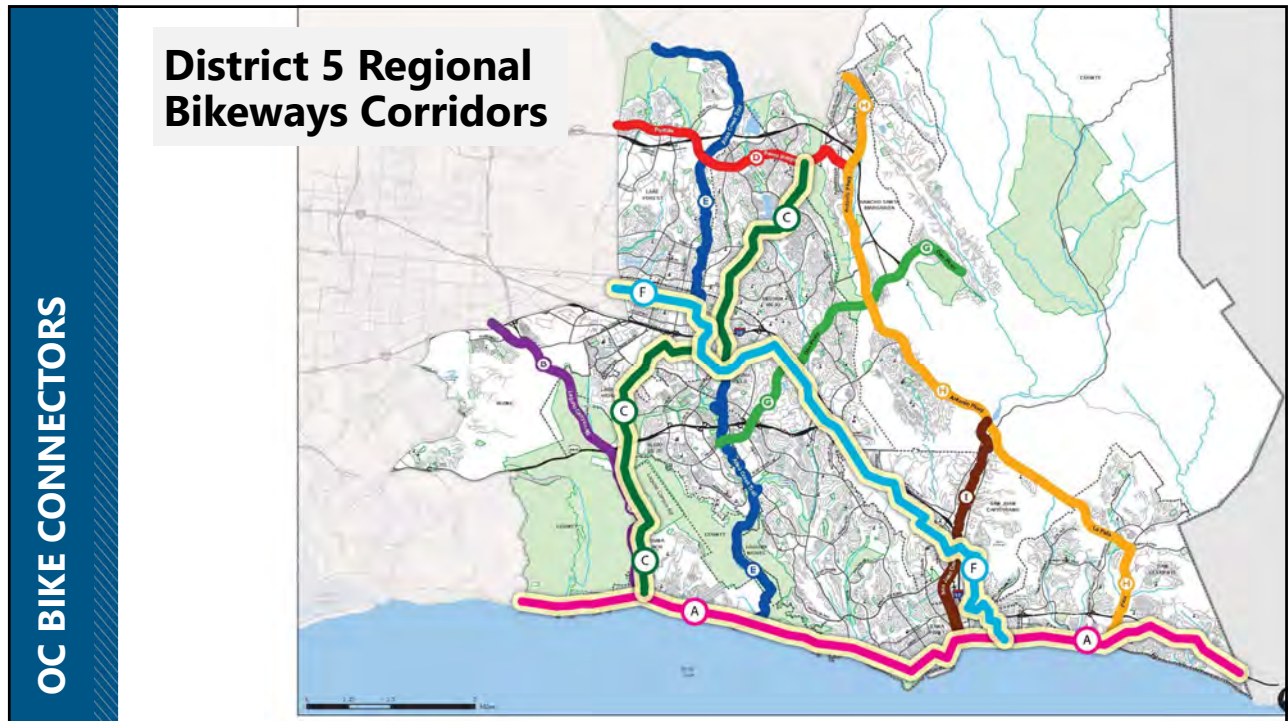
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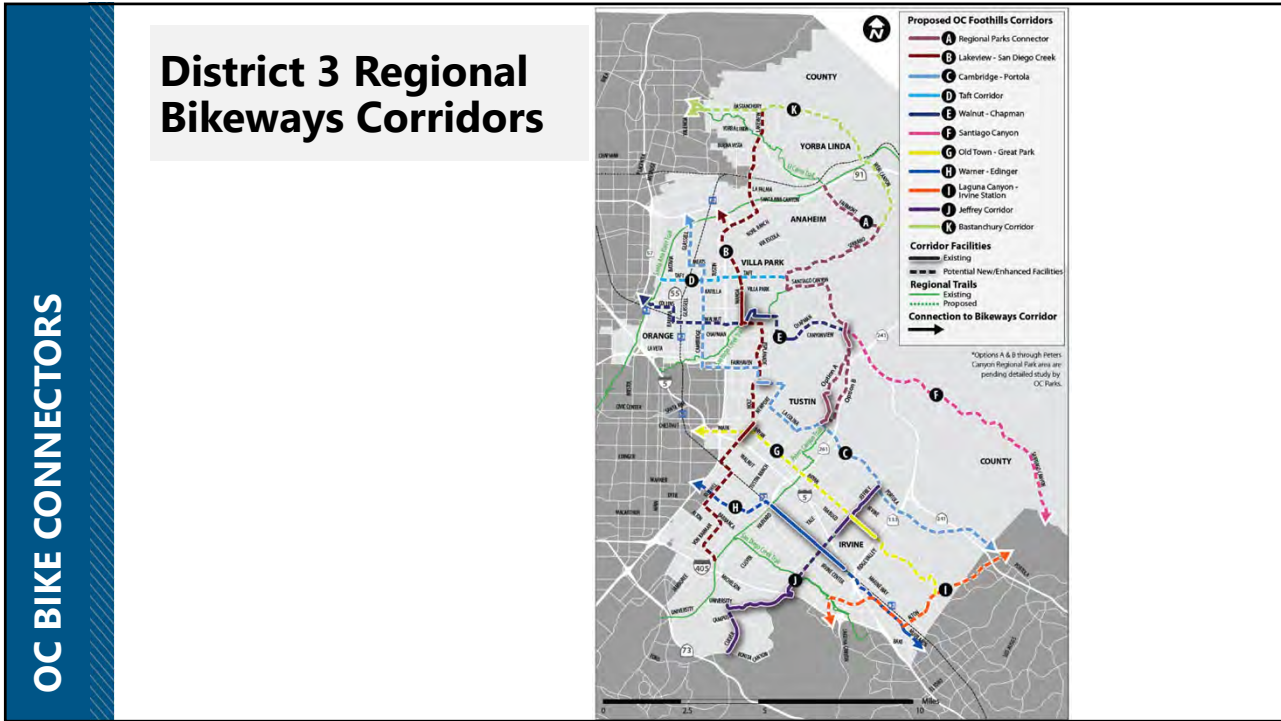
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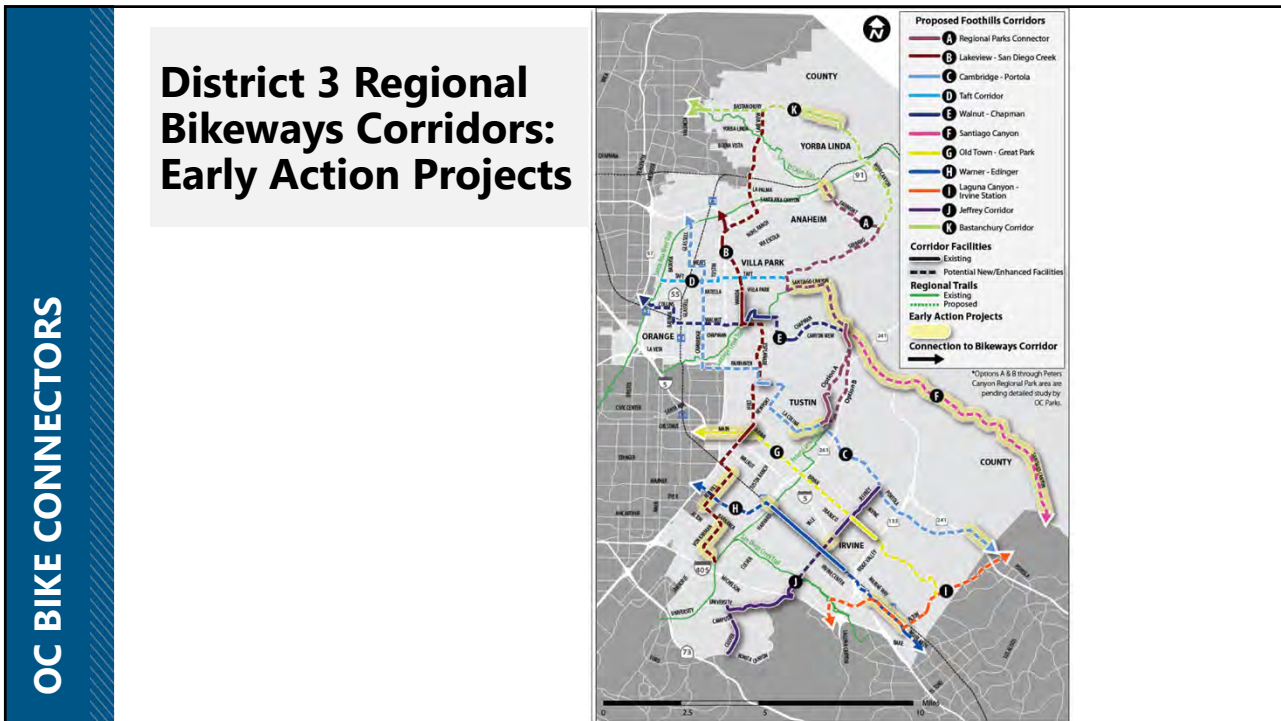
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27



28

TABLING ACTIVITY SUMMARY

OC Bike Loops – Gap Closure Feasibility Study

Date: February 12, 2022
Time: 10:00 AM
Location: Great Opportunities Bike Clinic, San Juan Capistrano (SJC)
Length: 4-hours

OCTA hosted a pop-up bicycle safety demonstration at Great Opportunities, a non-profit in San Juan Capistrano, on February 12, 2022. The event was part of the ongoing OC Loops Bike Gap Closure Feasibility Study to increase awareness of the project, gain public participation in the planning process, and support prioritization of gap closure projects countywide.

Members of the public participated by answering survey questions to help refine the OC Loops network and identify preferred facilities for cyclists of all ages and abilities within the community. Public feedback and input were collected through sticker voting boards and handwritten comments on post-it notes.

Key takeaways from the public were identified by the following survey questions:

1. Participants (9) were asked to pinpoint approximately where they lived using dots on a map: Participants were from San Clemente (56%), San Juan Capistrano (22%), and Dana Point (22%).
2. Participants (28) were asked to vote on which bikeways they felt most comfortable bicycling on: The top responses were the multi-use trail/widened sidewalk trail (40%), separated bikeway with median/parked car buffer (40%), buffered bicycle lane (10%), and bicycle lane (10%).
3. Participants (17) identified features and places that would bring them out to OC Loops: The top three influences were connections to scenic destinations (35%), shaded bikeways (24%), and on-street bikeways with green paint markings (25%).
4. Participants (16) identified obstacles that would deter use of the OC Loops: The top three deterrents were vehicular speeding (38%), high car traffic on roads (31%), and personal safety (13%).

The project team received positive support for the OC Loops project by the event participants. Concerns were raised related to mixed users on bicycle facilities:

- Concern for personal safety regarding electric bicycle speed within the bike lane and on the roadway.
- Concerns with motor vehicles entering or parking within the bicycle lane.

Consultants at Mark Thomas will take into consideration the safety concerns of existing bikeways and of future bikeway connection projects.

Event Photographs

Photos collected at Great Opportunities in San Juan Capistrano on February 12, 2022.

Two bicyclists riding down Avenida De La Vista, which has on-street parking on both sides.



Bicyclists on Avenida De La Vista next to an idling trailer.



Youths engaging in the bike clinic demonstration.



Participation on sticker voting boards.



Event Photographs (continued)

Photos collected at Great Opportunities in San Juan Capistrano on February 12, 2022.

Electric tricycle bicyclist on Avenida De La Vista.



Bicycle safety demonstrated by bicyclist on an electric bicycle wearing a helmet and closed toe shoes.



Two youths inflating a bicycle tire during the bike clinic demonstration.





Bicycles parked in front of Great Opportunities for the pop-up event.



OC LOOPS

Gap Closure Feasibility Study

Virtual Workshop
February 16, 2023

1


Virtual Meeting Guidelines

Welcome

- Meeting Ground Rules
 - All perspectives are welcome
 - Submit Questions
 - Be respectful of other opinions
- This meeting is being recorded

Questions

- To ask a question:
 - Click on the Q&A Icon
 - Type into the text box



2

Agenda

- Welcome & Introductions
- Project Partners & Background
- Defining the OC Loops
- Desired Riders
- Review Concepts
- Next Steps



3

Project Partnerships



Funding Provided by
Caltrans Sustainable
Transportation Planning
Grants Program



Project Managed by
OCTA



Project Consultant Team

Project Development Team through Partnership with Representatives from Local
Cities, County of Orange, Rancho Mission Viejo, and Transportation Corridor Agencies

4

OC Loops

Regional Planning by OCTA in OC Active Identified 3 New Branded Regional Bikeways

- OC North Loop
- *New:* OC Central Loop
- *New:* OC South Loop
- *New:* OC Connect



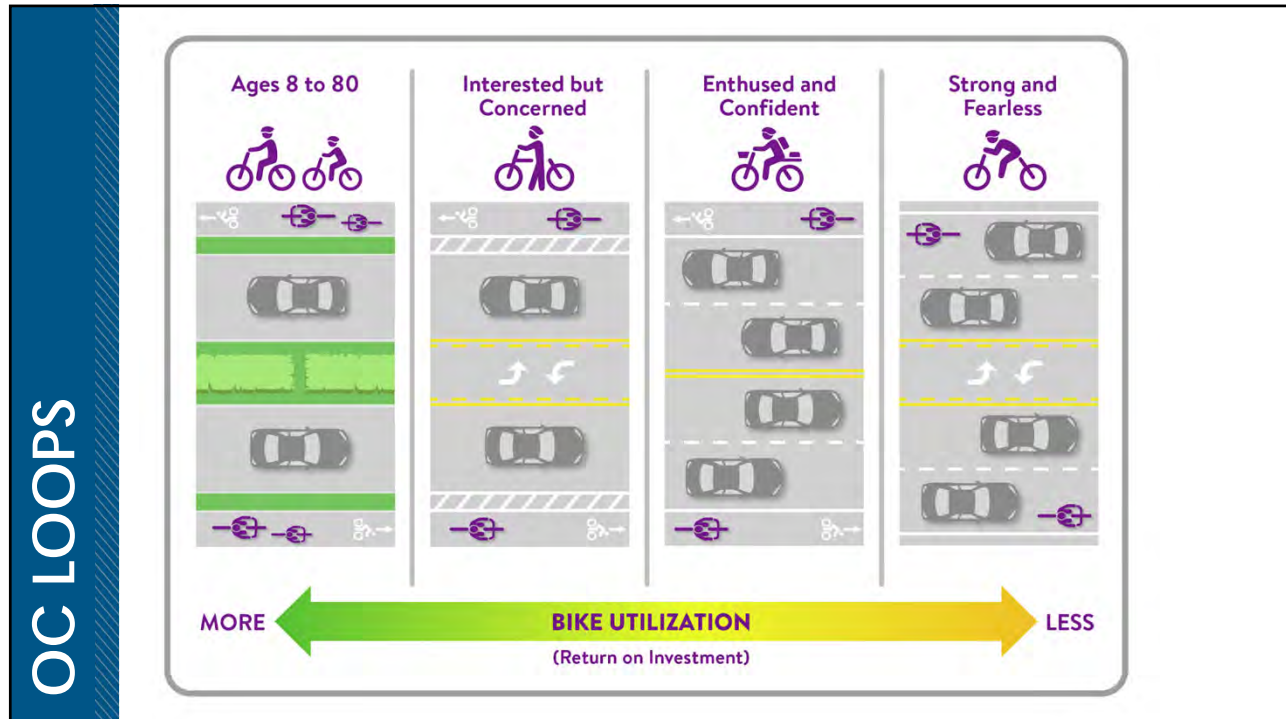
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Bikeway Network & Desired Riders

OC Loops to serve an 8 to 80 (year old) audience



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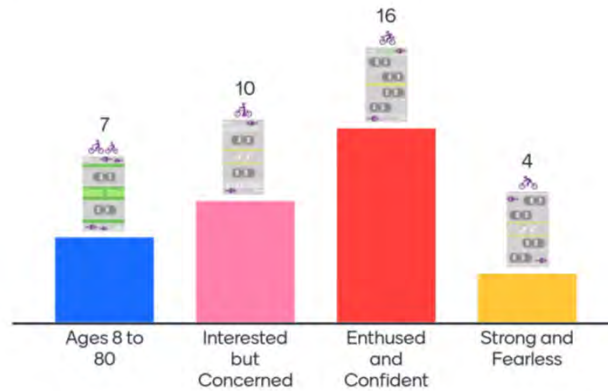
OC LOOPS

Please log on to
www.menti.com
 and enter code
 ##### #####

8

Which Type of Rider are You?

Mentimeter



37

9

Examples of Bikeway Infrastructure

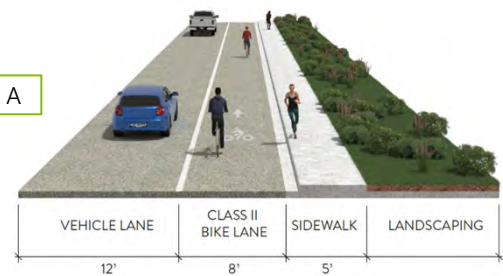
A. Class II Bike Lane:

- Accommodates "Strong and Fearless" cyclists
- No barrier separation for bicyclists

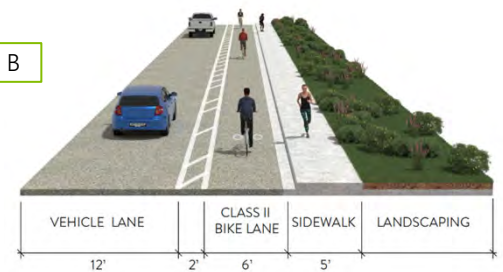
B. Buffered Bike Lane:

- Accommodates "Strong and Fearless" cyclists
- No barrier separation for bicyclists

Option A



Option B

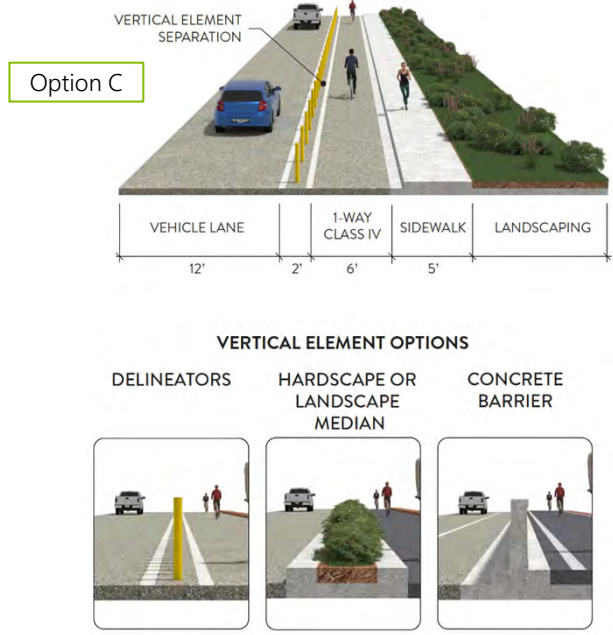


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Examples of Bikeway Infrastructure

C. Class IV Cycle Track:

- Accommodates "Interested but Concerned" cyclists
- Vertical element raises visibility of bicycle lane
- Multiple options for separation

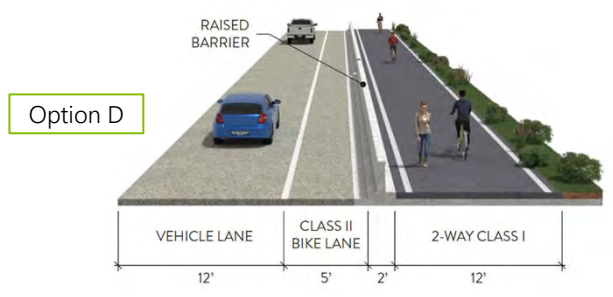


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Examples of Bikeway Infrastructure

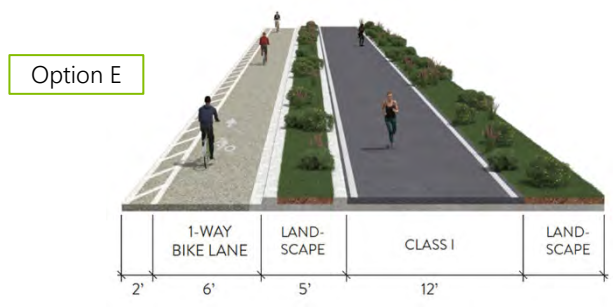
D. Class I Shared Use Path:

- Accommodates "Enthusied and Confident" & "Interested but Concerned" cyclists
- May require Property Acquisition



E. Lane Reduction + Class I Path

- Accommodates "Enthusied and Confident" & "Interested but Concerned" cyclists
- May affect traffic operations by removing one travel lane



12

Public Engagement Activities

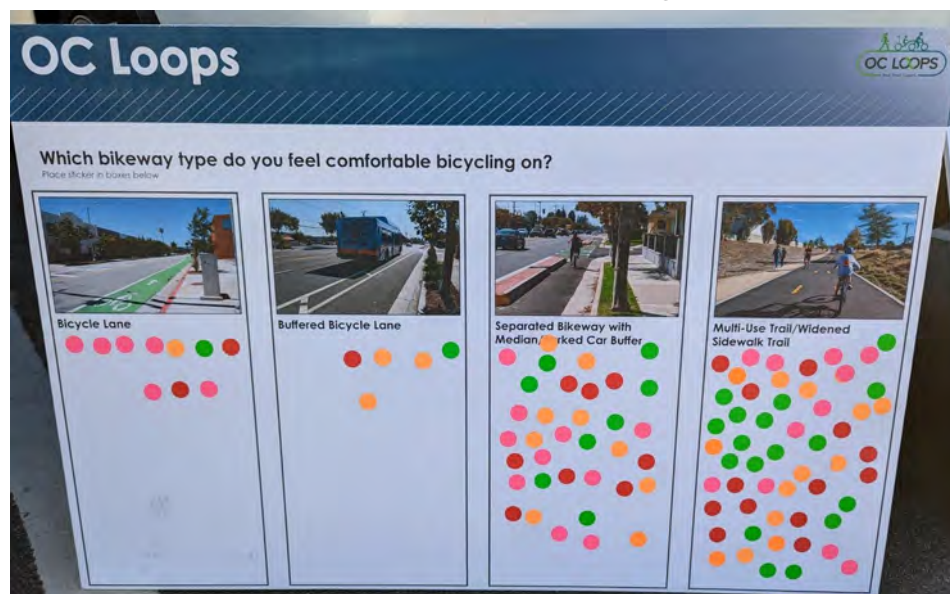
Outreach Events

- Tabling at 10 events/trails in South County
- Virtual Workshop in March 2022
- Focus Meetings with Agency Staff



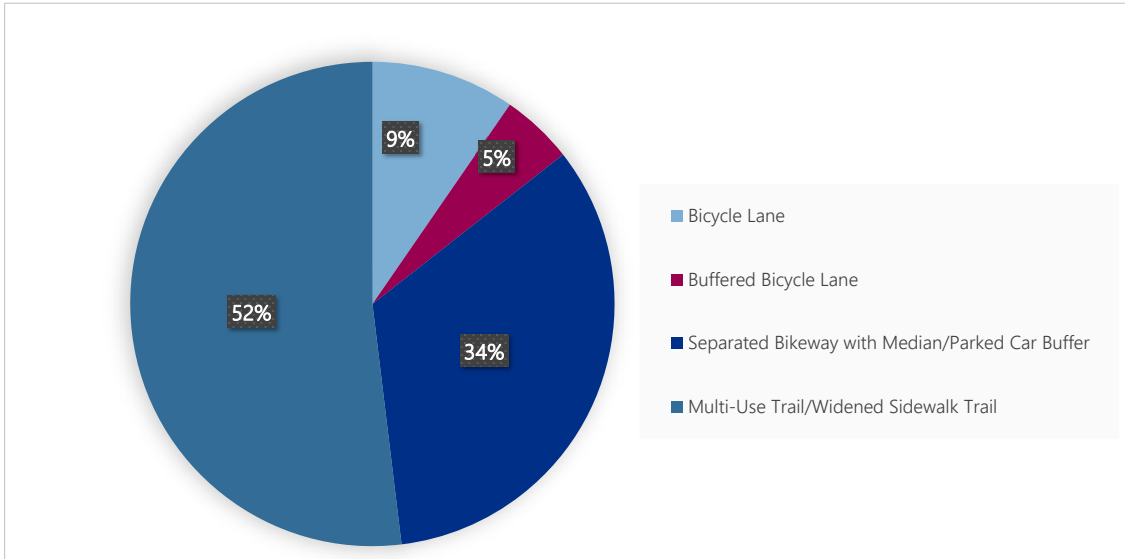
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Public Input on Desired Bikeways



14

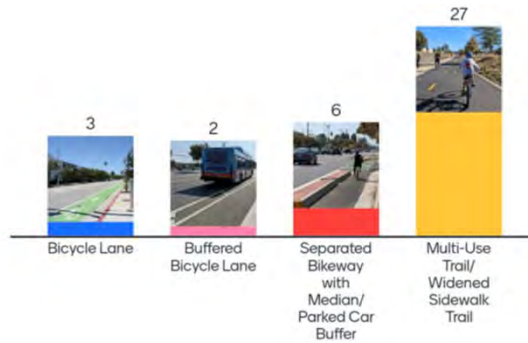
Public Input on Desired Bikeways



15

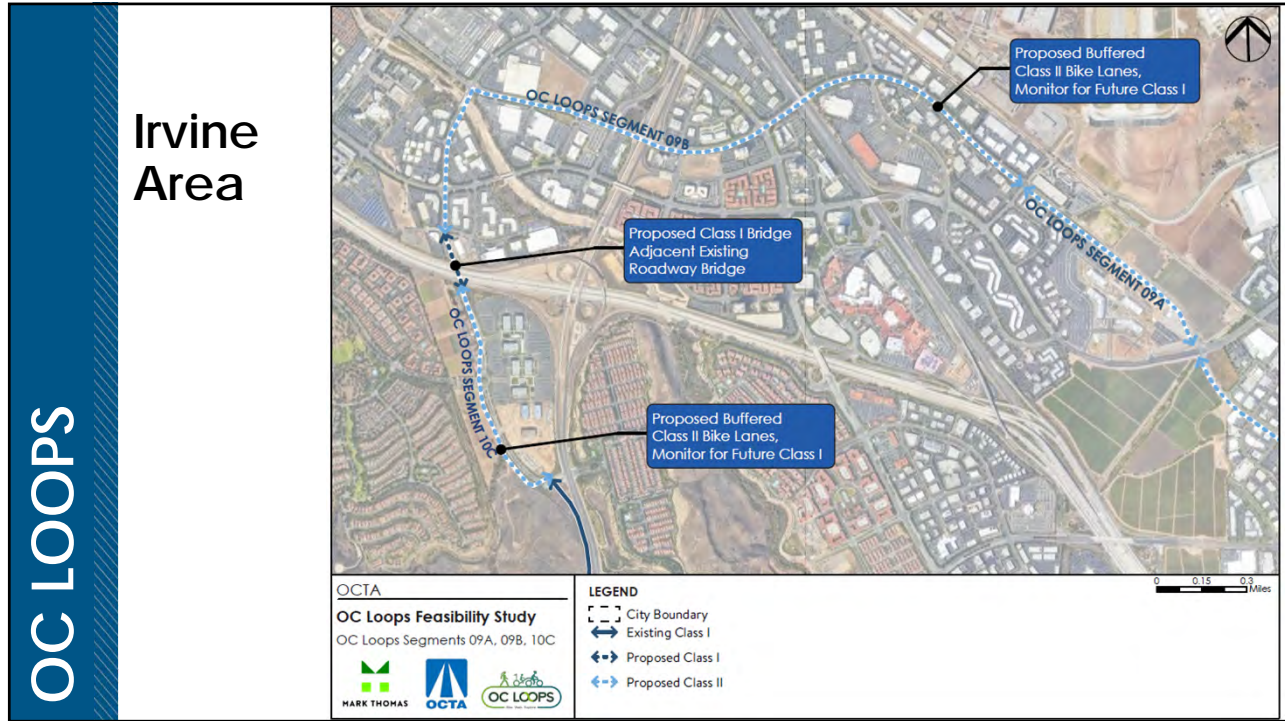
Which bikeway type do you feel comfortable on?

Mentimeter

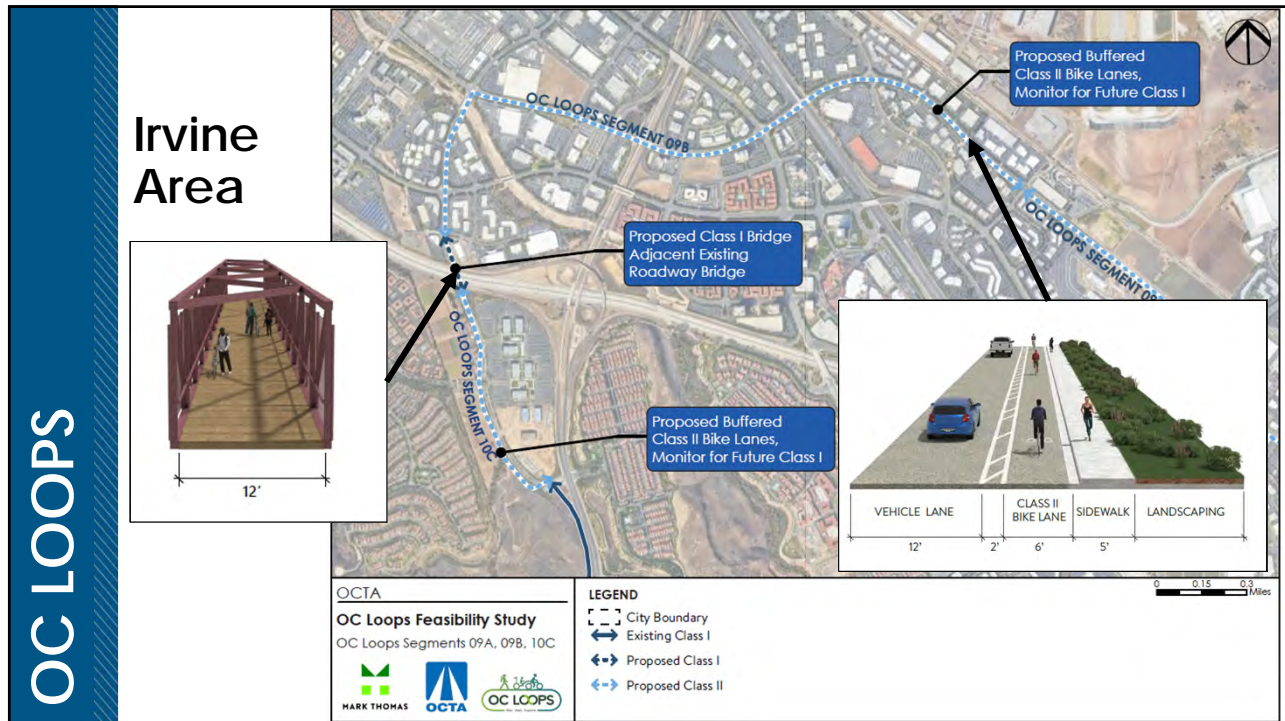


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16



17



18

OC LOOPS



What is one word you would use to describe the bridge over the 405? Mentimeter



36

19

OC LOOPS

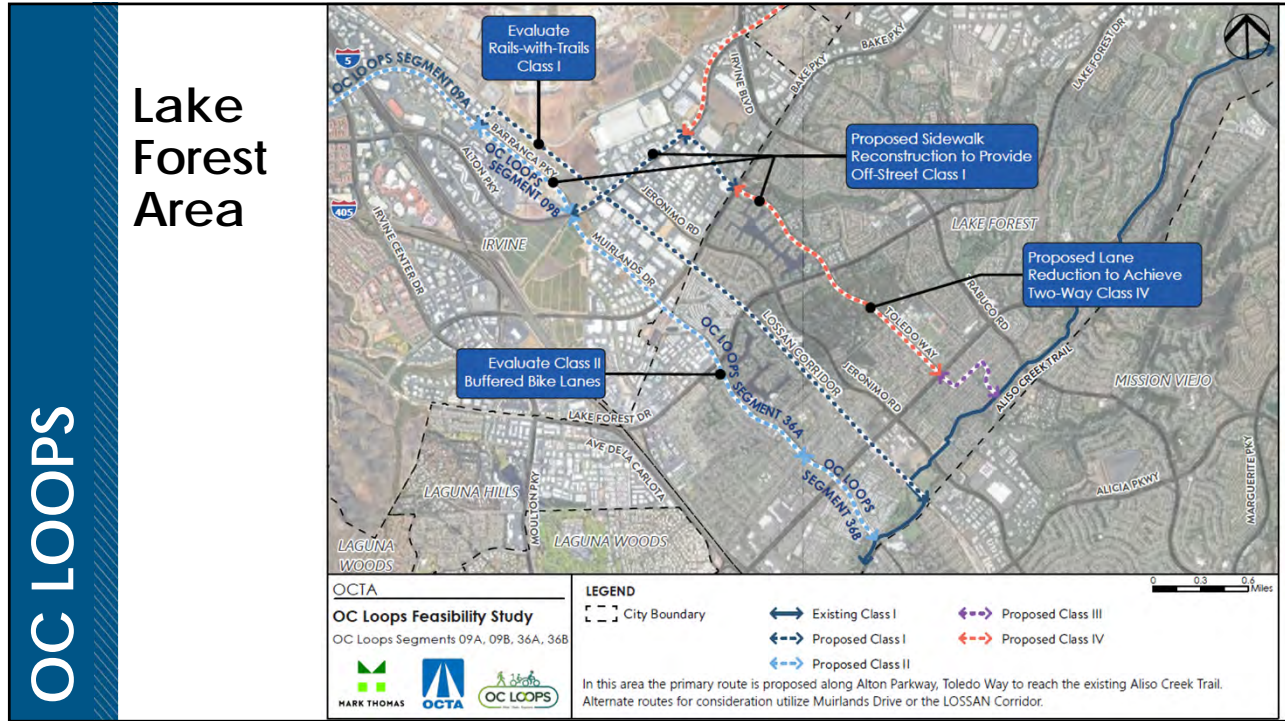
Irvine to Laguna Beach Area



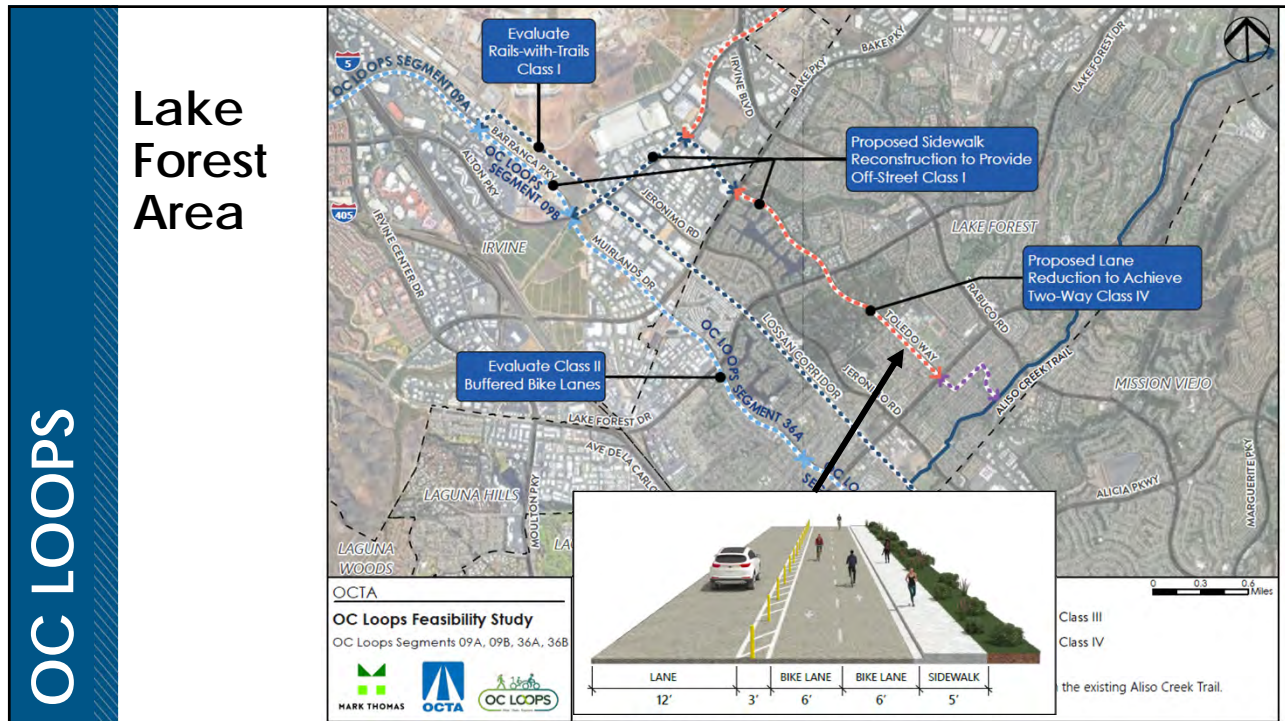
OCTA
OC Loops Feasibility Study
 OC Loops Segments 11A-11B

LEGEND
 ⇄ Proposed Class II

20



23



24

Which criteria option is most important to you?

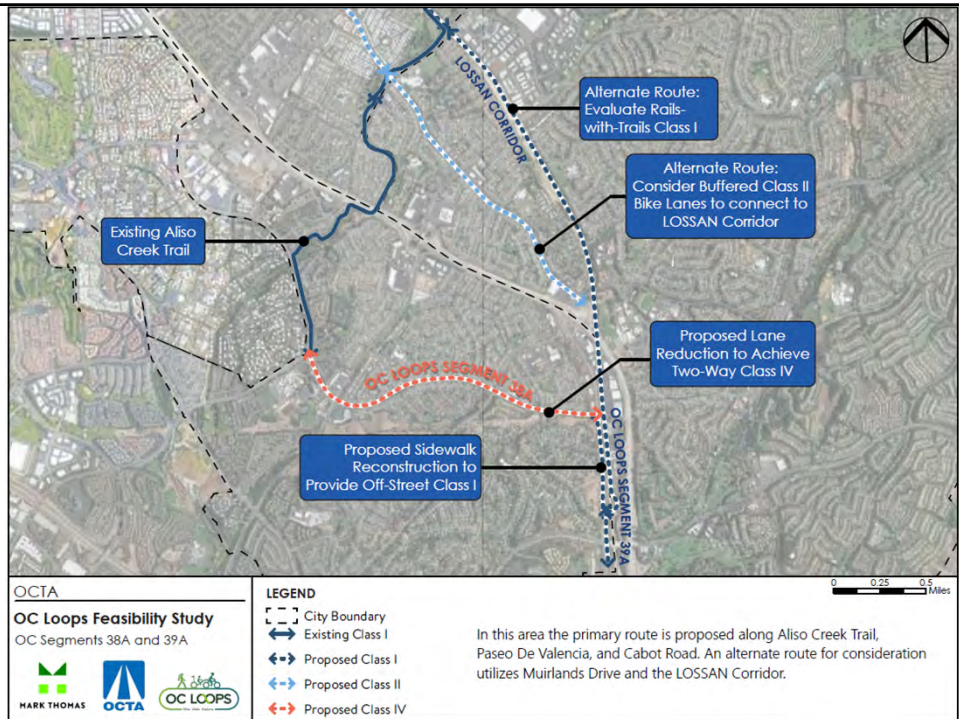
Mentimeter



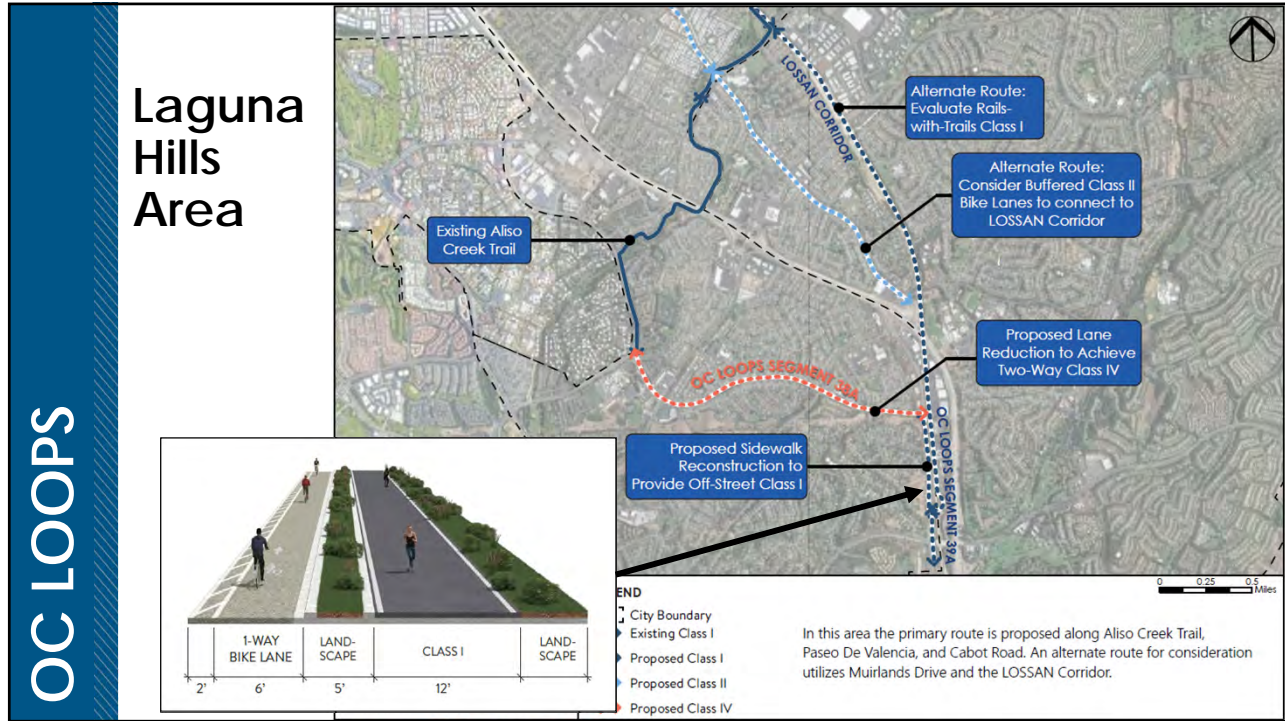
34

25

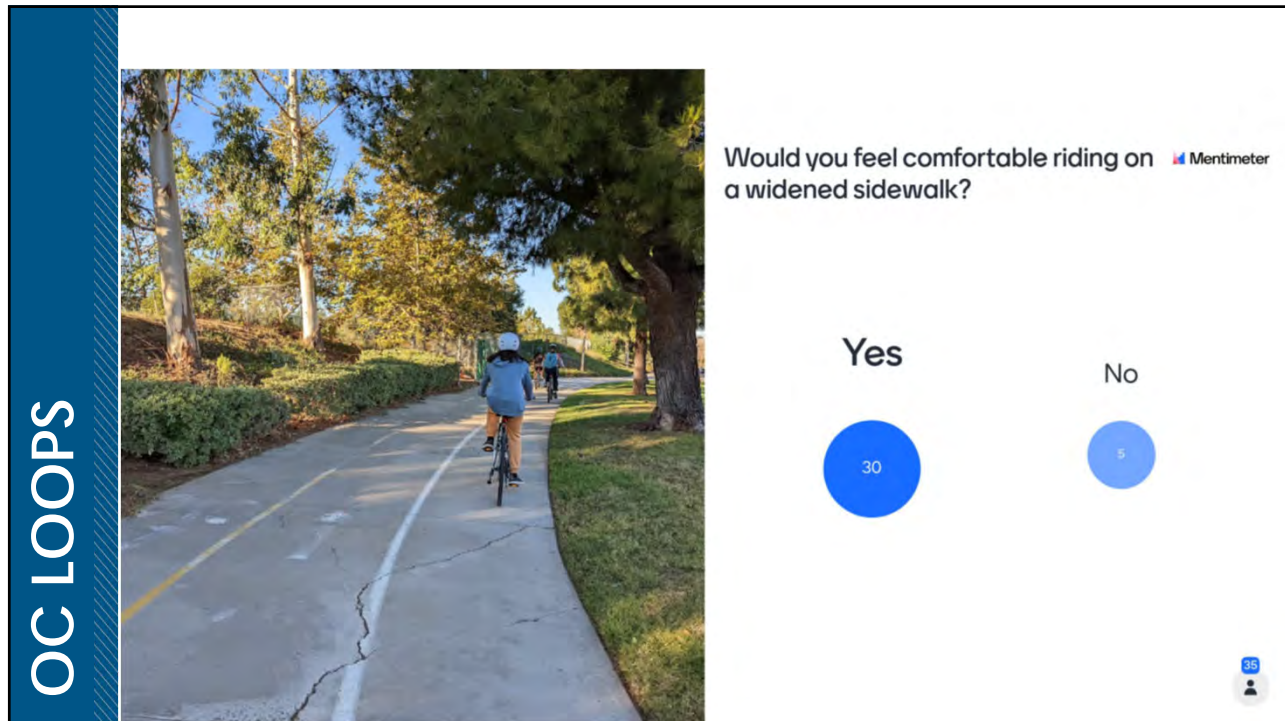
Laguna Hills Area



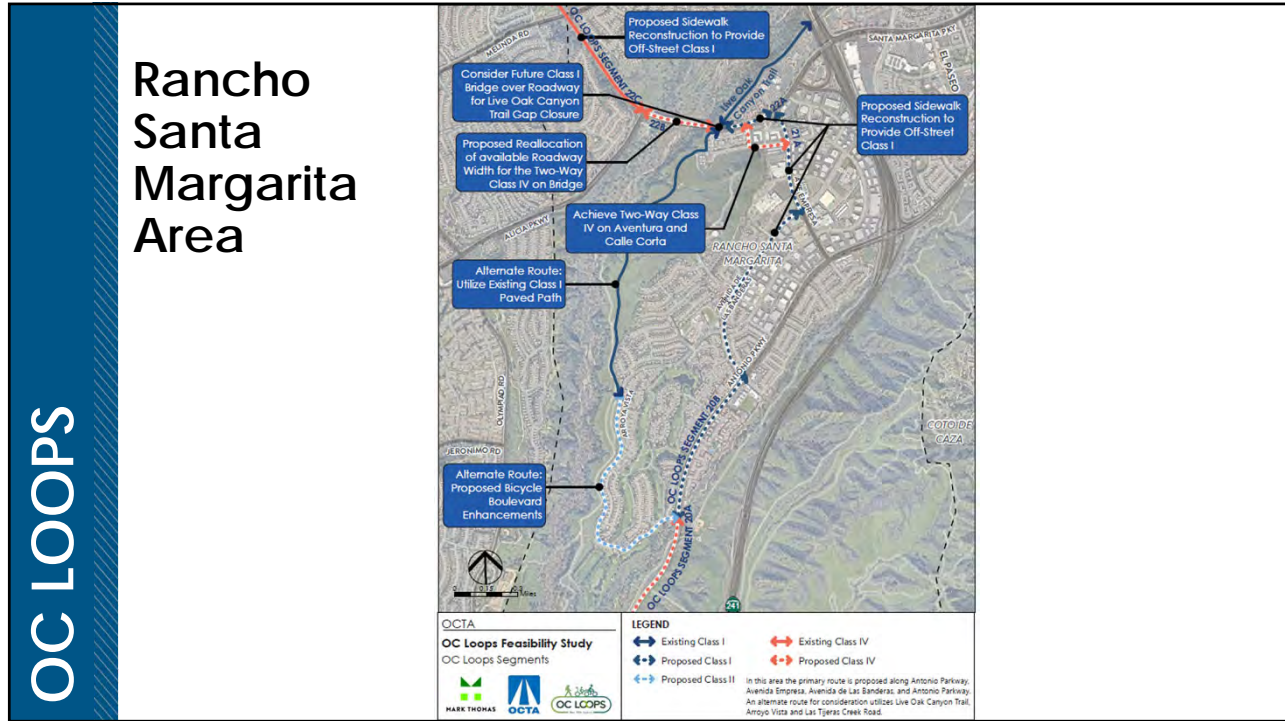
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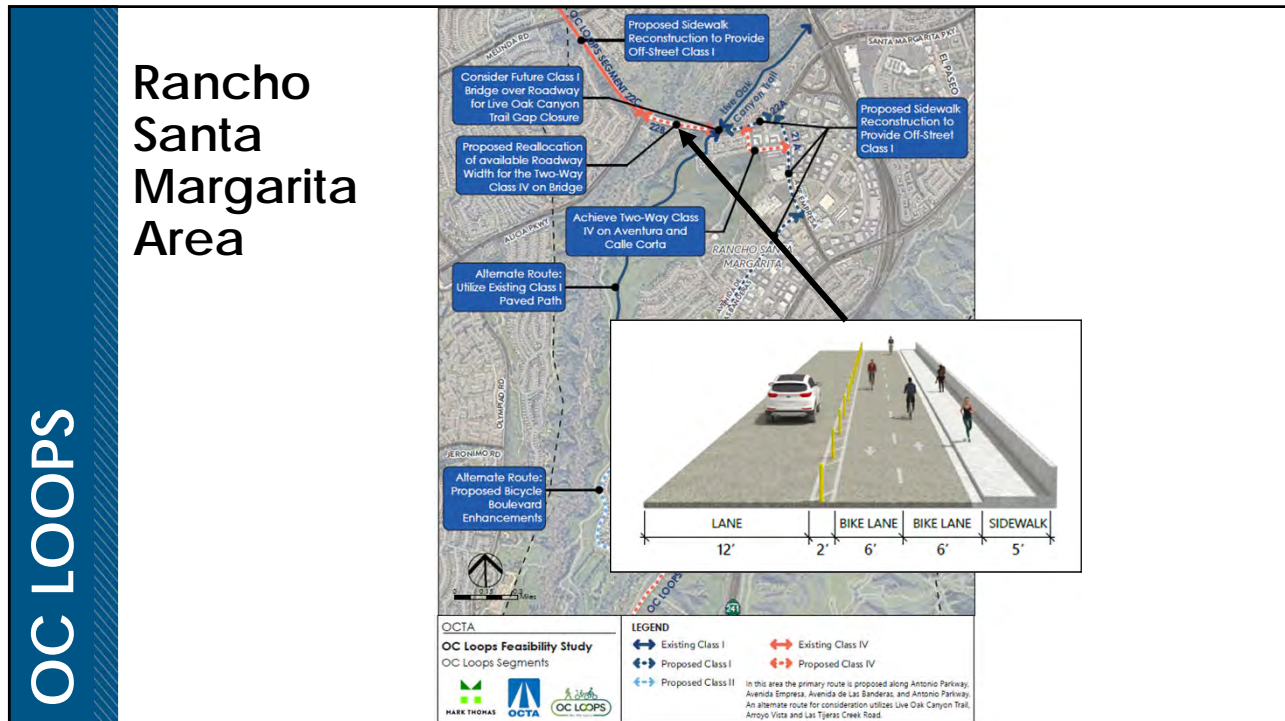
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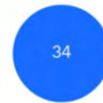
OC LOOPS



Would you ride across the Santa Margarita Parkway Bridge with the proposed modification?

Mentimeter

Yes



No

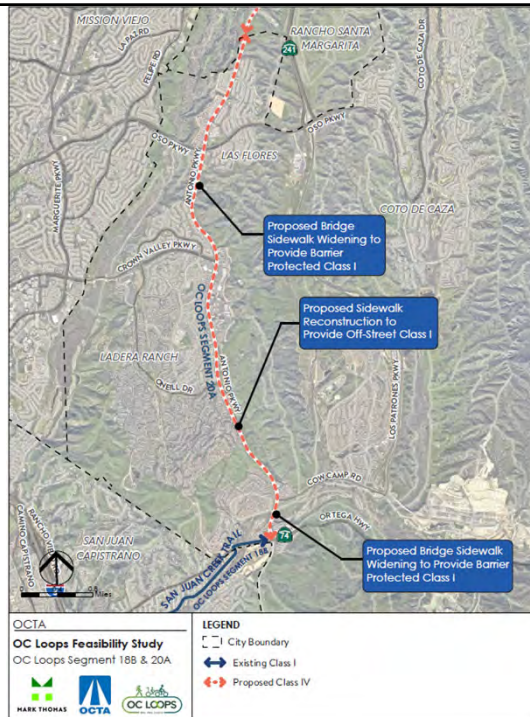


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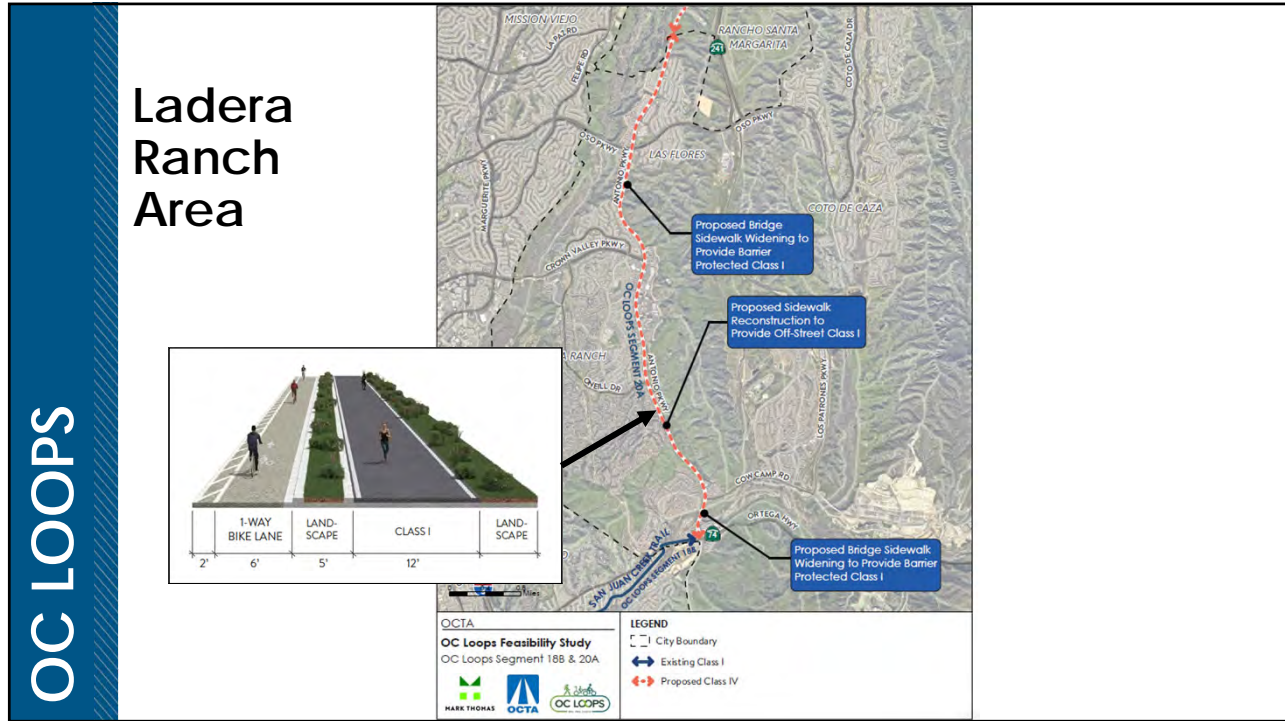
31

OC LOOPS

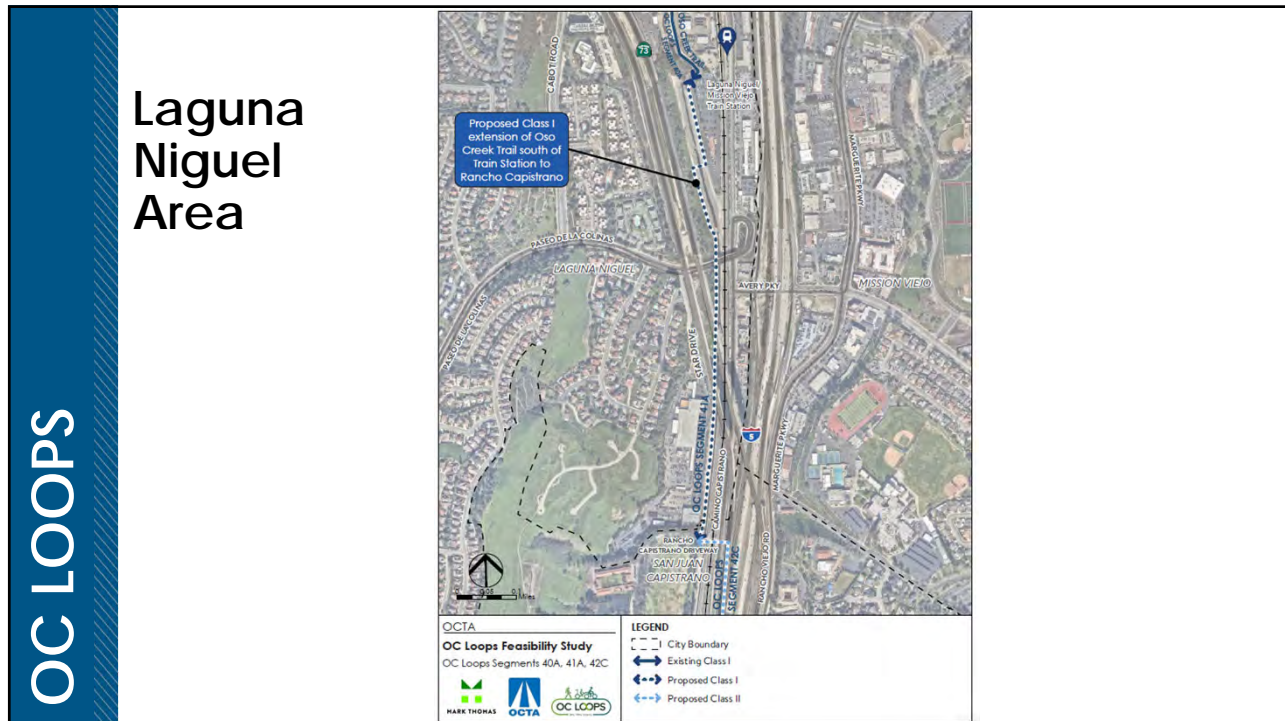
Ladera Ranch Area



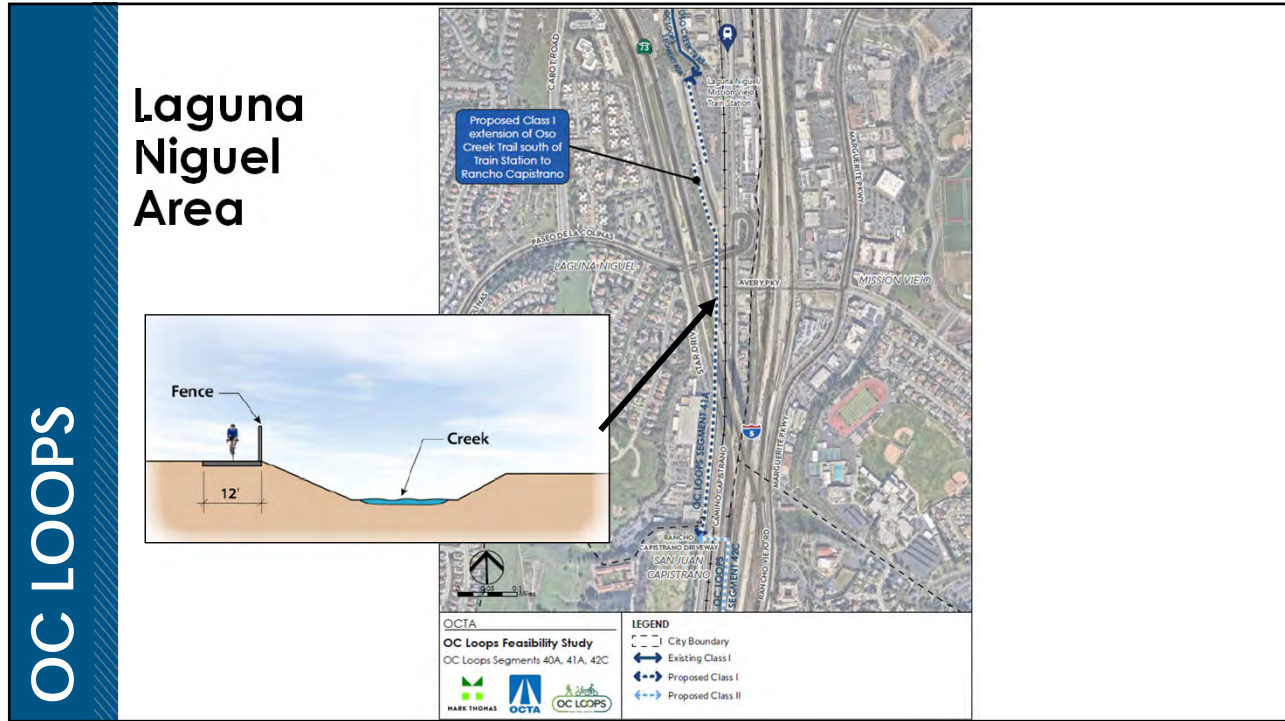
32



33



34



35

OC Loops Gap Closure Feasibility Study

Caltrans Grant Funded Project to:

- Leverage Prior Planning Efforts
- Incorporate Public Input
- Collaborate with Local Agencies
- Summarize Bike Gap Closure Ideas
- Identify Funding Needed
- Position for Successful Grants

OC LOOPS

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Next Steps

- Summary 2023
 - Finalize Feasibility Study
- 2024 & Beyond
 - OCTA Coordinate with Agencies on Grant Pursuits
 - Implementation by Local Agencies



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Questions & Answers

For additional questions please contact
Peter Sotherland at psotherland@octa.net

or

Paul Martin at pmartin@markthomas.com



For additional information please visit the project website at
octa.net/bikegapclosure

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TABLING ACTIVITY SUMMARY

OC Bike Loops – Gap Closure Feasibility Study

Date: March 11, 2022
Time: 10:00 AM
Location: Boys and Girls Club of Lake Forest at El Toro Park
Length: 2-hours

OCTA hosted a pop-up demonstration event at the Boys and Girls Club of Lake Forest at El Toro Park on March 11th, 2022, between 3:00 PM and 5:00 PM. The event was part of the ongoing OC Loops Bike Gap Closure Feasibility Study to increase awareness of the project, gain public participation in the planning process, and support prioritization of gap closure projects countywide. Note that majority of adult participants in the OC Loops event were parents of youth enrolled in Boys and Girls Club of Lake Forest.

Members of the public participated by answering survey questions to help refine the OC Loops network and identify preferred facilities for cyclists of all ages and abilities within the community. Public feedback and input were collected through sticker voting boards and handwritten comments on post-it notes.

Key takeaways from the public were identified by the following survey questions:

1. Participants (5) were asked to pinpoint approximately where they lived using dots on a map: Majority of participants were from Lake Forest (40%) and Laguna Hills (40%).
2. Participants (5) were asked to vote on which bikeways they felt most comfortable bicycling on: The responses were the multi-use trail/widened sidewalk trail (80%) and separated bikeway with median/parked car buffer (20%).
3. Participants (6) identified features and places that would bring them out to OC Loops: The top influences were connections to scenic destinations (50%), shaded bikeways (33%), and routes to travel to work or school (17%). (6 total participants).
4. Participants (3) identified obstacles that would deter use of the OC Loops: The top deterrents were proximity from home (67%) and personal safety (33%).

The project team received positive support for the OC Loops project by the event participants. Concerns were raised related to local infrastructure, including the following highlights:

- Concern for youth safety using on-street bikeways and crossing at intersections.
- Concerns with road maintenance in the City of Lake Forest, including situations of uneven roads and cracked pavement which pose as a safety hazard to bicyclists.

Consultants at Mark Thomas will take into consideration the safety concerns of existing bikeways and of future bikeway connection projects.

Event Photographs

Photos collected at El Toro park on March 11, 2022.

Bicyclist on dirt path at the El Toro Park.



Electric bicyclist on the sidewalk shared by pedestrians.



Sidewalk width at El Toro Park shared by bicyclists and pedestrians.



Storm drain runs through the park. Signage warns of possible flooding.



Signage for storm drain. When flooded, bikeway and sidewalk can be hazardous.



On-street parking southbound on Los Alisos Blvd. Head of street labeled the lane as a bicycle lane.



Event Photographs (continued)

Photos collected at El Toro park on March 11, 2022.

Aliso Creek underpass bikeway at El Toro Park.



Family bike riding in the flood channel before the underpass.



Parents picking-up students in cul-de-sac at the end of Larkwood. (club meeting location).





Underpass of Aliso Creek Bikeway on Muirlands Blvd.



OC LOOPS

Gap Closure Feasibility Study

Virtual Workshop
March 24, 2022



MARK THOMAS

1

Agenda

- Welcome & Introductions
- Icebreaker Questions
- Project Partners & Background
- OC Loops & Project Goals
- Input from Participants
- Next Steps
- Q&A Forum



OC LOOPS
Bike. Walk. Explore.

2

Virtual Meeting Guidelines

Welcome

- Meeting Ground Rules
- This meeting is being recorded

Questions

- To ask a question:
 - Click on the Q&A Icon
 - Type into the text box
 - Use "Raise Hand" feature
- All perspectives are welcome
- One person speaks at a time
- Everyone will have a chance to participate
- Be respectful of other opinions



3

Please log on to
www.menti.com
 and enter code
 #####

4

OC LOOPS

What is Your Favorite Fruit?

Mentimeter



22

5

OC LOOPS

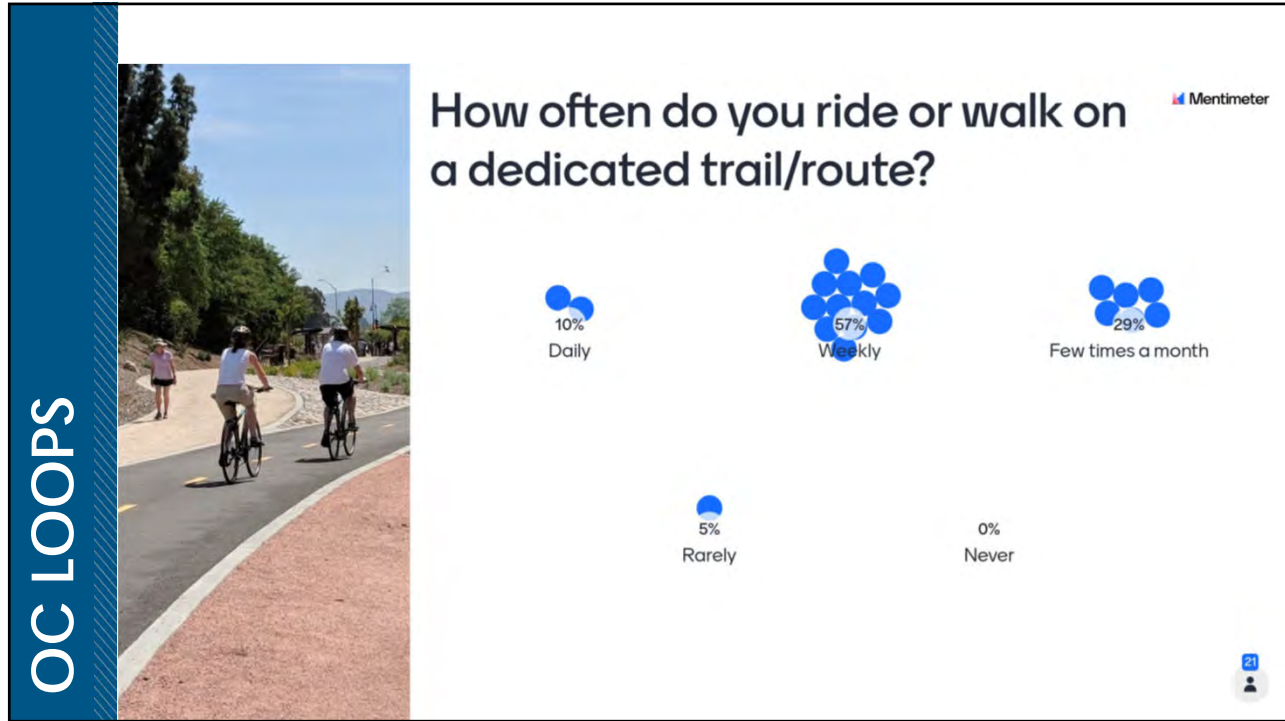
What is Your City of Residence?

Mentimeter



21

6



7

OC LOOPS

Project Partnerships



Caltrans®

Funding Provided by
Caltrans Sustainable
Transportation Planning
Grants Program



OCTA

Project Managed by
OCTA



MARK THOMAS

Project Consultant Team

Project Development Team through Partnership with Representatives from Local Cities, County of Orange, Rancho Mission Viejo, and Transportation Corridor Agencies

8

OC LOOPS












70/30 Plan

Completing the OC Loop

June 2015






- The OC Loop is a vision for 66 miles of seamless connections and an opportunity for people to bike, walk, and connect to some of California's most scenic beaches and inland reaches.
- About 88% of the OC Loop is already in place and is used by thousands of people.
- Currently, nearly 58 miles use existing off-street trails along the San Gabriel River, Coyote Creek, Santa Ana River, and the Coastal/Beach Trail.

9

OC LOOPS

OC Active Plan

- 2019 Active Transportation Plan covering all of Orange County
 - Addresses both Bicycle & Pedestrian Topics
- Introduces Layered Bicycle Network:
 - Local Bikeways – City Focus
 - Regional Bikeways – Across City Borders
 - Connectors – Serve Large Region
- Connectors expand on the concept of OC Loop



10

OC Loops

OC Active Identified 3 New Branded Regional Bikeways

- OC North Loop
- *New:* OC Central Loop
- *New:* OC South Loop
- *New:* OC Connect



11

OC Connect

- Shown in Orange
- Approximately 49 miles



12

OC Connect

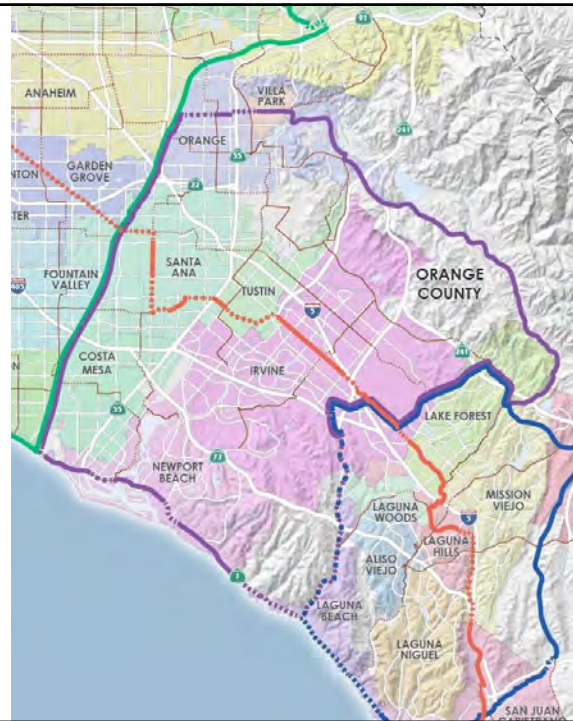
- Shown in Orange
- Approximately 49 miles



13

OC Central Loop

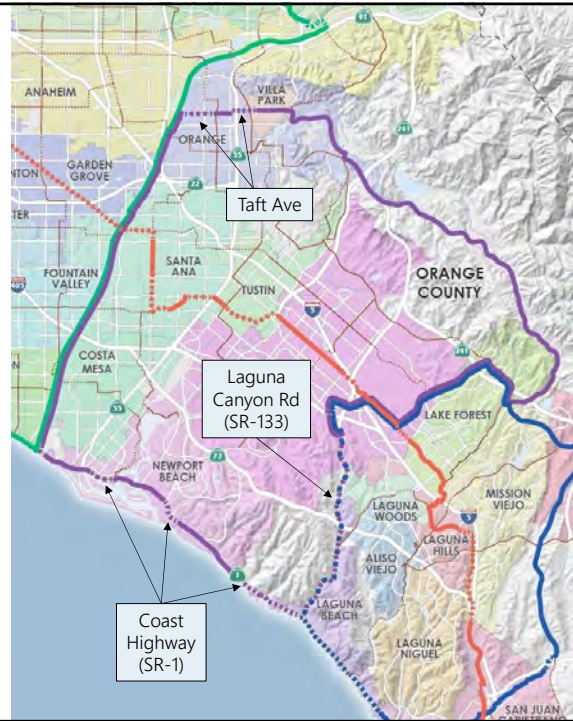
- Shown in Purple
- Approximately 68 miles



14

OC Central Loop

- Shown in Purple
- Approximately 68 miles



15

OC South Loop

- Shown in Blue
- Approximately 45 miles



16

OC LOOPS

OC South Loop

- Shown in Blue
- Approximately 45 miles



A topographic map of the Orange County region showing various communities and roads. A blue line traces a loop through the area, starting from Laguna Canyon Rd (SR-133) in the north, passing through Laguna Woods, Laguna Hills, Laguna Niguel, Laguna Beach, Dana Point, San Juan Capistrano, and Mission Viejo, ending near San Juan Creek. Other roads shown include PCH (SR-1) and Highway 5. The map also labels Lake Forest, Aliso Viejo, and San Clemente.



OC LOOPS
Bike. Walk. Explore.


17

OC LOOPS

OC Loops Gap Closure Feasibility Study

Caltrans Grant Funded Project to:

- Leverage Prior Planning Efforts
- Engage Community & Agency Stakeholders
- Prepare Bikeways Feasibility Analysis
- Position Agencies for Successful Grant Funding and Implementation

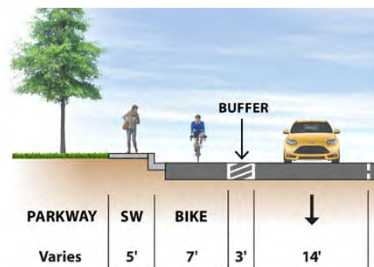


A photograph of a paved road with a white line marking, curving through a hilly landscape. Two cyclists are riding on the road. Overlaid on the image is the text: **OC BIKE CONNECTORS GAP CLOSURE FEASIBILITY STUDY**

18

Position for Success

- Develop Engineering Recommendations
- Confirm Concept Feasibility
- Provide Engineering Cost Estimates
- Create Fact Sheets (see Example)



OSO CREEK EXTENSION

Implementing Agency: County of Orange

PROJECT INFORMATION

- Extend existing Class I facility southerly by 8.6 miles, including 300-foot long bridge over Osu Creek, utilizing the gap in bike lanes between Osu Creek and Camino Capistrano (see notes)
- Located in City of Laguna Niguel along County Managed Osu Creek

Public Input From:

- OC Active Director's Regional Study OC Bike Connections, Feasibility Study, Local Services Plan

Potential Funding Sources:

- Local BCIP/CTIP
- State AB 680 Proposition 68, SCIP

PROJECT BENEFITS

- Off-Street Bicyclist & Pedestrian Facility
- Sevens age 8 to 85 audiences
- High comfort level facility
- Gap closure between Camino Capistrano & Osu Creek Trail
- Access to Laguna Niguel/Mission Viejo Trail Station
- Addresses 5 bicyclist queries within 5 years

COST

Environmental & Design	\$400,000
Right of Way	\$50,000
Construction & Support	\$2,000,000
TOTAL	\$2,450,000

SCHEDULE

YEARS → 1 2 3

CEQA/NEPA Clearance | Final Design | Construction

PROJECT OUTCOMES

- Increases Mobility Options
- Improves Safety
- Reduces Emissions
- Access to Transit
- Gap Closure

19

What factors would deter you from using the OC Loops?

Proximity from home	High car traffic on roads	Lack of lighting	Lack to rest or sheltered areas
Vehicular speeding	Hills and steep terrain	Continuity of bike lanes	Personal safety

20



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Which bikeways would you feel comfortable bicycling on?

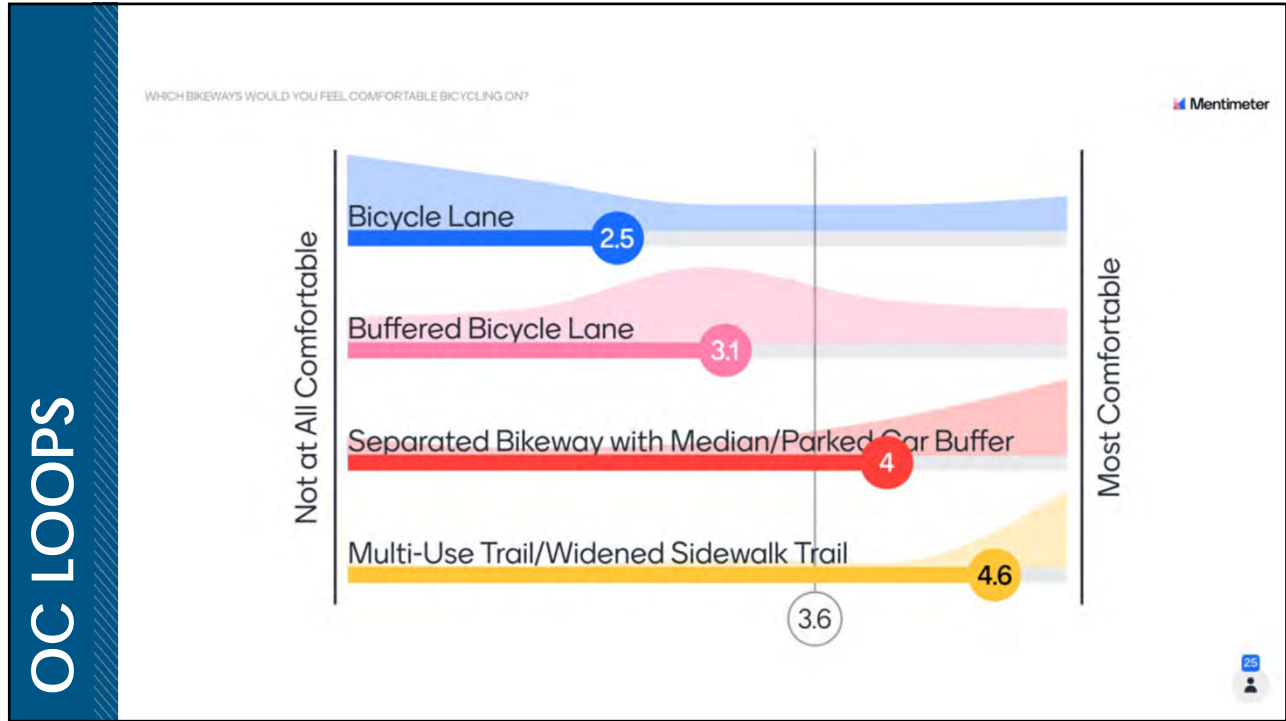
Bicycle Lane

Buffered Bicycle Lane

Separated Bikeway with Median/Parked Car Buffer

Multi-Use Trail/Widened Sidewalk Trail

22



23

What features & places would bring you out to OC Loops?

- Shaded Bikeways (Icon: tree)
- On-street Bikeways with Green Paint Markings (Icon: hand pointing to a green line)
- Traffic Signals for Street Crossings (Icon: traffic light)
- Dedicated Trail Markings (Icon: person on a path with up/down arrows)
- Travel to Work or School (Icon: house with a briefcase)
- Access to Train/Bus (Icon: train)
- Visit Scenic Destinations (Icon: lifeguard stand)

24



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Next Steps

- Spring 2022
 - Develop Engineering Concepts
 - Continue Community Engagement
- Summer 2022
 - Collaborate with Public Works & Agency Representatives
 - Host Public Workshop #2
- Fall 2022
 - Finalize Feasibility Analysis

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Questions & Answers

For additional questions please contact
Peter Sotherland at psotherland@octa.net
or
Paul Martin at pmartin@markthomas.com

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Questions & Answers

For additional questions please contact
Peter Sotherland at psotherland@octa.net
or
Paul Martin at pmartin@markthomas.com



For additional information please visit the project website at
octa.net/bikegapclosure

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TABLING ACTIVITY SUMMARY

OC Bike Loops – Gap Closure Feasibility Study

Date: August 7, 2022
Time: 3:00 PM
Location: Bell Tower Regional Community Center
Length: 2 hours

The City of Rancho Santa Margarita (RSM) and the Orange County Sheriff's Department (OCSD) hosted a Bike Safety Rodeo at the Bell Tower Regional Community Center on August 7, 2022, between 3:00 PM and 5:00 PM. The Bike Rodeo promotes the use of safe multimodal access throughout the city and provides the community with an opportunity to practice bicycle maneuvering skills and learn the rules of the road. OCTA participated in the local pop-up event as part of the ongoing OC Loops Bike Gap Closure Feasibility Study to increase awareness of the project, gain public participation in the planning process, and support the prioritization of gap closure projects countywide.

Members of the public participated by answering survey questions to help refine the OC Loops network and identify preferred facilities for cyclists of all ages and abilities within the community. Public feedback and input were collected through sticker voting boards and handwritten comments on post-it notes.

Key takeaways from the public were identified by the following survey questions:

1. Participants (16) were asked to pinpoint approximately where they lived using dots on a map: All the participants were from the City of Rancho Santa Margarita.
2. Participants (25) were asked to vote on which bikeways they felt most comfortable bicycling on: The top responses were the multi-use trail/widened sidewalk trail (56%), separated bikeway with median/parked car buffer (20%), and bicycle lane (20%).

The project team received positive support for the OC Loops project from community members. Concerns were raised related to bicycle safety and accessibility to trails, such as:

- Concern with electric bicycle safety.
- Concern for youth safety using on-street bikeways.
- Concern for the availability of shade and other supportive infrastructures on multi-use trails.
- Concern with the proximity of bikeway and multi-use trail to home.

Consultants at Mark Thomas will take into consideration the connectivity of existing and future bikeways and the safety concerns of all roadway users.

Event Photographs

Photos collected at Bell Tower Regional Community Center in Rancho Santa Margarita on August 7, 2022.

Youths learning about the different bikeways in Orange County.



Youth bicycling to booths at the Bike Rodeo.



Community members registering for the event.



Youths participating in the sticker voting boards.



Interactive multimodal obstacle course for youths to demonstrate their street safety skills.



Youths and their parents engage with the sticker boards.






1

Agenda

1. Understanding the OC Loops
2. Gap Closure Feasibility Study
3. Outreach Events Summary
4. Design Concepts Discussion
5. Next Steps



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2

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Understanding the OC Loops

OC Active Identified 3 New Branded Regional Bikeways

- OC North Loop
- *New:* OC Central Loop
- *New:* OC South Loop
- *New:* OC Connect



3

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OC Loops Gap Feasibility Study

Recommendations Review Underway with Local Agencies

- Irvine
- Laguna Beach
- Laguna Hills
- Lake Forest
- Mission Viejo
- San Juan Capistrano
- Rancho Santa Margarita
- Caltrans
- County of Orange



4

Outreach Events Summary

1. Great Opportunities Bike Clinic, San Juan Capistrano
 - February 12th, 2022
2. Boys and Girls Club, Lake Forest
 - March 11th, 2022
3. Virtual Workshop, Online
 - March 24th, 2022
4. Bike Safety Rodeo, Rancho Santa Margarita
 - August 7th, 2022



5

Great Opportunities Bike Clinic, SJC

Activities:

- Sticker voting boards
- Bicycle safety presentation
- Bicycle repair demonstration

Findings:

- Participants most comfortable on multi-use trail/widened sidewalk trail; separated bikeway with median buffer.
- Scenic destinations encourage the use of OC Loops.
- Vehicular speeding deters the use of the OC Loops.
- Concern regarding electric bicycle speed and motor vehicles entering the bicycle lane.



6

Boys and Girls Club, Lake Forest

Activities:

- Sticker voting boards
- Survey questions

Findings:

- Participants most comfortable on a multi-use trail/widened sidewalk trail
- Scenic destinations encourage use of OC Loops
- Proximity of OC Loops (longer distances) deters use of OC Loops
- Concern for youth safety regarding on-street bikeways
- Concern over roadway maintenance in the City of Lake Forest



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Virtual Workshop, Online

Activities:

- Ice breaker questions
- Survey questions
- Questions and answers session

Findings:

- Participants most comfortable on a multi-use trail/widened sidewalk trail
- Scenic destinations and parks encourage use of OC Loops
- High car traffic on roads deters use of OC Loops



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Bike Safety Rodeo, RSM & OC Sheriff

Activities:

- Bicycle maneuvering obstacle course
- Roadway safety for bicyclists
- Sticker voting boards

Findings:

- Participants most comfortable on a multi-use trail/widened sidewalk trail
- Concerns regarding electric bicycles and youths using on-street bikeways
- Other concerns include supportive infrastructures on trails
- Proximity of bikeways to home



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Future Engagement Activities

Additional Agency Stakeholder Meetings

- Focus Meetings and Group Meetings
- Input from Law Enforcement
- Input from OCTA Technical Advisory Committee

Future Additional Public Engagement

- Community Workshop
- 5 Pop-Up Events





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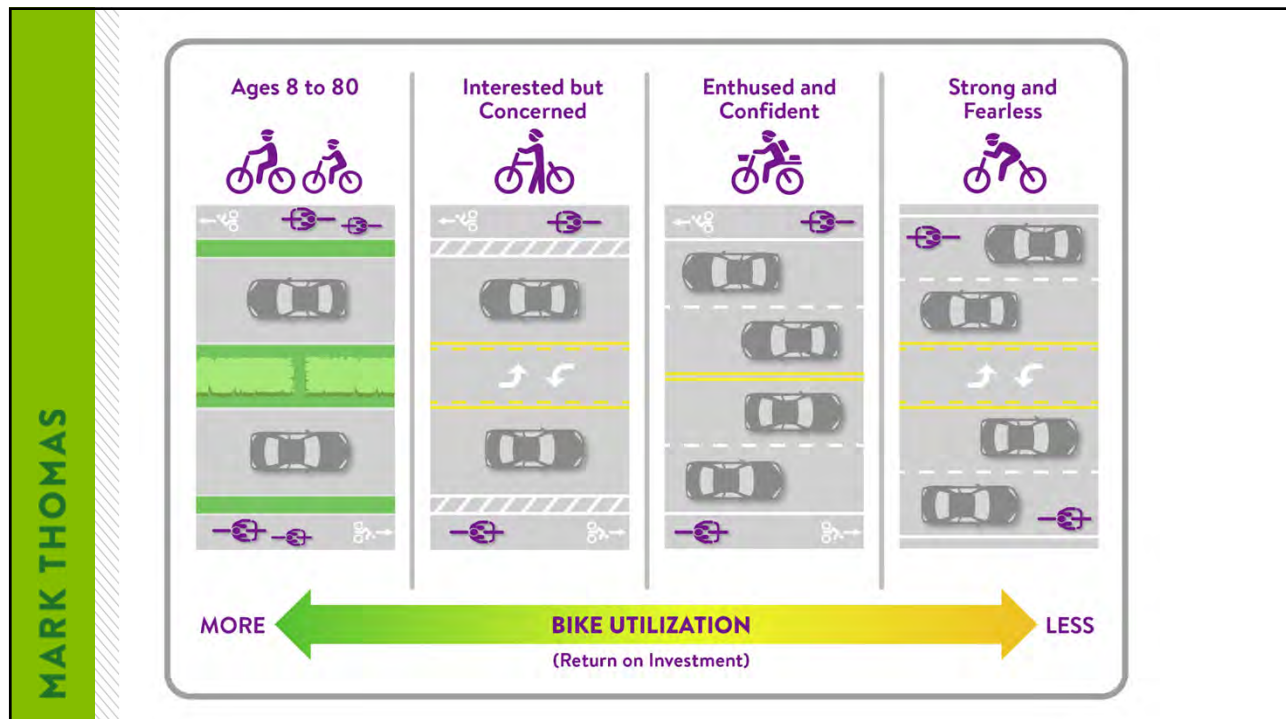
MARK THOMAS

Project Design Discussion

- Desired Audience of Cyclists
- Bikeways Return on Investment
- Design Improvement Options
 - Bike Lane
 - Buffered Bike Lane
 - Protected Bike Lane
 - Separated Trail
 - Lane Reduction

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Examples of Bikeway Infrastructure

Class II Bike Lane:

- Accommodates "Strong and Fearless" cyclists
- Can accommodate "Enthusied and Confident" cyclists
- Bicyclists vulnerable to automotive traffic



A: CLASS II BIKE LANE

Buffered Bike Lane:

- Accommodates "Strong and Fearless" cyclists
- Can accommodate "Enthusied and Confident" cyclists
- Bicyclists remain vulnerable to automotive traffic



B: BUFFERED BIKE LANE OPTION

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Examples of Bikeway Infr

Class IV Bike Lane:

- Accommodates the "Interested but Concerned" cyclists
- Vertical barriers raise visibility of bicycle lane
- Bicyclists' vulnerability dependent upon vertical structure stability



C: CLASS IV OPTION

Class I Lane:

- Accommodates the "Interested but Concerned" cyclists
- Bicyclists and pedestrians protected from automotive traffic
- Speed differences between pedestrian and electric bicycles



D: CLASS I OPTION

14

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Examples of Bikeway Infrastructure

Lane Reduction:

- Both On-Street (Class II) and Off-Street Trail (Class I) by reducing roadway by one travel lane
- Accommodates "Enthusied and Confident" cyclists
- Accommodates the "Interested but Concerned" cyclists



E: LANE REDUCTION OPTION

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Examples of Bikeway Infrastructure

Lane Reduction:

- Both On-Street (Class II) and Off-Street Trail (Class I) by reducing roadway by one travel lane
- Accommodates "Enthusied and Confident" cyclists
- Accommodates the "Interested but Concerned" cyclists



E: LANE REDUCTION OPTION

16

Questions



OCTA Contact
Peter Sotherland
psotherland@octa.net
(714) 560-5386

MEMORANDUM

OC Bike Loops – Gap Closure Feasibility Study

Date: October 8, 2022
Time: 10:00 AM
Location: JSerra Catholic High School at San Juan Capistrano
Duration: 4-hours

San Juan Capistrano Rotary and Great Opportunities hosted a Bikestravaganza at JSerra Catholic High School at San Juan Capistrano on October 8th, 2022, between 10:00 AM and 2:00 PM. The event promotes bicycle safety and provides the community with an opportunity to practice interpreting pavement signage and learn about bike repair and maintenance. OCTA participated in the local pop-up event as part of the ongoing OC Loops Bike Gap Closure Feasibility Study to increase awareness of the project, gain public participation in the planning process, and support the prioritization of gap closure projects countywide.

Members of the public participated by answering survey questions to help refine the OC Loops network and identify preferred facilities for cyclists of all ages and abilities within the community. Public feedback and input were collected through sticker voting boards and handwritten comments on post-it notes.

Key takeaways from the public were identified by the following survey questions:

1. Participants (23) were asked to pinpoint approximately where they lived using dots on a map: The majority of participants were from San Juan Capistrano (70%).
2. Participants (32) were asked to vote on which bikeways they felt most comfortable bicycling on: The responses were the multi-use trail/ widened sidewalk trail (53%) and separated bikeway with median/ parked car buffer (41%).
3. Participants (18) identified features and places that would bring them out to OC Loops: The top influences were connections to scenic destinations or parks (44%) and shaded bikeways (30%).
4. Participants (9) identified obstacles that would deter the use of the OC Loops: The top deterrents were vehicular speeding (44%), high car traffic on roads (22%), and personal safety (22%).

The project team received positive support for the OC Loops project from the event participants. Concerns were raised related to street safety for bicyclists, infrastructure connectivity, and bike route signage.

- Concern with fast bicyclists passing youth riders in the bike lane.
- Concern with distracted drivers and cars parked in the bike lane.
- Concern with the lack of bikeway connectivity to grocery stores, schools, and parks.
- Interest in signage with messaging about sharing the road and notice of bike routes.
- Interest in group rides for community enrichment.
- Interest in roadway safety education workshop for bicyclists.

Consultants at Mark Thomas will take into consideration the safety concerns of existing bikeways and of future bikeway connection projects.

Event Photographs

Photos collected at JSerra Catholic High School on October 8, 2022.

Tandem bicyclists partaking in the obstacle course.



Community members learn about bike maintenance.



Participants voting on the sticker boards.



Obstacle course with roadway signage chalked on the pavement for participants to test their riding skills.



Community members participating in the tableting event.



Youths participating in the hands-on bike clinic.



MEMORANDUM

OC Loops – Gap Closure Feasibility Study

Date: December 18, 2022
Time: 10:00 AM – 12 Noon
Location: Decanso Park at San Juan Capistrano
Duration: 2-hours

Mark Thomas staff set up a tabling event at Decanso Park in San Juan Capistrano on December 18, 2022 between 10:00 AM and 12 Noon. The team set up a table and shelter to engage people traveling at the junction between the San Juan Creek Trail and the Trabuco Creek trail where a bridge crosses Trabuco Creek. It is estimated that between 25 and 30 people were engaged at the event.

The pop-up event was hosted as part of the ongoing OC Loops Bike Gap Closure Feasibility Study to increase awareness of the project, gain public participation in the planning process, and support the prioritization of gap closure projects countywide.

Members of the public participated by answering survey questions to help refine the OC Loops network and identify preferred facilities for cyclists of all ages and abilities within the community. Public feedback and input were collected through sticker voting boards and comments written by the project team.

Key takeaways from discussion with the public are noted below:

1. The majority of attendees prefer the off-street trail or similar facilities such as raised concrete barrier separated bikeways.
2. Some participants noted multi-modal conflicts on off-street trails between cyclists, pedestrians, and joggers. Wider facilities were suggested with delineation of the pedestrian space separate from the cycling space.
3. Two visitors were visiting from the Town of Apple Valley and noted they often will have to travel to San Juan Capistrano or Rancho Cucamonga to ride high quality and long off-street trails with the comfort of full separation from car traffic.
4. One participant requested more parks in the area include fitness equipment to serve adults.
5. Many riders noted they only ride the San Juan Creek trail and other off-street trails since they are not comfortable riding on streets next to moving traffic.
6. Visitors were familiar with and enjoy the Class IV separated bikeway in San Clemente along El Camino Real and often perceived that facility as similar to a Class I off-street trail.
7. It was estimated that about 75% of the people riding bicycles were using electric bikes.

**ORANGE COUNTY
TRANSPORTATION
AUTHORITY**

APPENDIX C: COST ESTIMATE UPDATES



OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 01A, 01B, 01C & 01D



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Orange					
Segment 01A - Taft Ave from Santa Ana River Trail (SART) To N Cambridge St					
1	CLASS IV (STRIPED SEPERATION)	MI	1.37	\$175,000	\$239,631
2	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	5	\$50,000	\$250,000
3	RAILROAD CROSSING (High)	EA	1	\$500,000	\$500,000
4	RAILROAD CROSSING (Low)	EA	1	\$100,000	\$100,000
SUBTOTAL=					\$1,090,000
Segment 01B - Taft Ave from N Cambridge St to Tustin					
4	CLASS II (Buffered Bike Lane Addition to Existing Class II)	MI	0.55	\$50,000	\$27,462
5	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$78,000
Villa Park					
Segment 01C - Taft Ave from Tustin to Nichols Ave					
6	CLASS II (Buffered Bike Lane Addition to Existing Class II)	MI	1.15	\$125,000	\$143,537
7	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	2	\$50,000	\$100,000
SUBTOTAL=					\$244,000
Orange					
Segment 01D - Taft Ave from Nichols Ave to Cannon St					
8	CLASS II (Buffered Bike Lane Addition to Existing Class II)	MI	1.29	\$50,000	\$64,328
9	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	2	\$50,000	\$100,000
SUBTOTAL=					\$165,000
GRAND TOTAL					
SUBTOTAL=					\$1,577,000
CONTINGENCY (30%) =					\$473,100
GRAND TOTAL =					\$2,050,100

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

Notes:

Segments separated per existing conditions (existing Class II, no bike lanes, enough width
 Assumed that bus stops and Class II bike lanes can share the same space
 Assumed that Class IV change to Class II at bus stop locations
 Assume lanes are dropped to minimum of 10' wide to allow buffered without needing curb widening
 Assumed 2-Class II per roadway

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 02A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Orange					
Segment 02A - Cannon St from Taft Ave to E Santiago Canyon Rd					
1	CLASS II (Buffered Bike Lane Addition to Existing Class II)	MI	0.47	\$50,000	\$23,674
2	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	2	\$50,000	\$100,000
SUBTOTAL=					\$124,000
GRAND TOTAL					
SUBTOTAL=					\$124,000
CONTINGENCY (30%) =					\$37,200
GRAND TOTAL =					\$161,200

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

Assumed that existing Class II would need to be buffered.

Assumed not extending the Class I bike path from bridge to the north

Assumed 2 class II per roadway

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 03A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Orange					
Segment 03A - E Santiago Canyon Road from Cannon St to Jamboree Rd					
CANNON STREET TO ORANGE PARK BLVD					
1	CLASS IV (STRIPED SEPERATION)	MI	0.73	\$75,000	\$54,750
2	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	2	\$50,000	\$100,000
SUBTOTAL=					\$155,000
ORANGE PARK BLVD TO NORTH MEADS					
3	CLASS IV (STRIPED SEPERATION WITH WHOLE ROAD RESTRIPE)	MI	0.28	\$150,000	\$42,614
4	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$93,000
NORTH MEADS TO E LOLITA ST					
5	CLASS IV (STRIPED SEPERATION WITH WHOLE ROAD RESTRIPE)	MI	0.46	\$150,000	\$69,000
SUBTOTAL=					\$69,000
E LOLITA ST TO N NEWPORT BLVD					
6	CLASS IV (STRIPED SEPERATION)	MI	1.00	\$75,000	\$75,000
7	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	2	\$50,000	\$100,000
SUBTOTAL=					\$175,000
N NEWPORT BLVD TO SANTIAGO CANYON COLLEGE					
8	CLASS IV (STRIPED SEPERATION WITH WHOLE ROAD RESTRIPE)	MI	0.12	\$150,000	\$18,000
9	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$68,000
SANTIAGO CANYON COLLEGE TO .1 MILE WEST OF JAMBORREE					
10	CLASS IV (STRIPED SEPERATION)	MI	0.27	\$75,000	\$20,250
SUBTOTAL=					\$20,250
N NEWPORT BLVD TO SANTIAGO CANYON COLLEGE					
11	CLASS IV (STRIPED SEPERATION WITH WHOLE ROAD RESTRIPE)	MI	0.10	\$150,000	\$15,000
12	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$65,000
GRAND TOTAL					
SUBTOTAL=					\$645,250
CONTINGENCY (30%) =					\$193,600
GRAND TOTAL =					\$838,900

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 05A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Orange					
Segment 05A - E Santiago Rd from Jamboree Rd to State Route 241 Eastbound Ramps					
JAMBOREE RD TO RAISED MEDIAN					
1	CLASS IV (STRIPED SEPERATION)	MI	0.58	\$75,000	\$43,500
2	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$94,000
RAISED MEDIAN TO 0.1 MILES NORTH OF WB RAMPS					
3	CLASS IV (STRIPED SEPERATION WITH WHOLE ROAD RESTRIPE)	MI	0.25	\$150,000	\$37,500
4	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$88,000
0.1 MILES NORTH OF WB RAMPS TO EB RAMPS					
5	CLASS IV (STRIPED SEPERATION)	MI	0.13	\$75,000	\$9,750
6	CLASS IV TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1	\$50,000	\$50,000
SUBTOTAL=					\$60,000
GRAND TOTAL					
SUBTOTAL=					\$242,000
CONTINGENCY (30%) =					\$72,600
GRAND TOTAL =					\$314,600

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 07A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Lake Forest					
Segment 07A - Portola Pkwy from El Toro Rd to Alton Pkwy					
1	STRIPING - BIKE PATH	LF	31750	\$2	\$63,500
2	DELINEATORS	EA	360	\$50	\$18,000
SUBTOTAL=					\$81,500
GRAND TOTAL					
SUBTOTAL=					\$81,500
CONTINGENCY (25%) =					\$20,400
GRAND TOTAL =					\$101,900

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 08A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Irvine					
Segment 08A - Alton Pkwy from Portola Pkwy to 177' W/o Commercentre					
1	STRIPING - BIKE PATH	LF	27240	\$2	\$54,480
2	BIKE PATH (12' AC)	LF	9080	\$75	\$681,000
SUBTOTAL=					\$735,480
GRAND TOTAL					
SUBTOTAL=					\$735,500
CONTINGENCY (25%) =					\$183,900
GRAND TOTAL =					\$919,400

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study
Cost Estimates for Segment 08B



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Lake Forest					
Segment 08B - Alton Pkwy from 177' W/o Commercentre to Toledo Way					
1	STRIPING - BIKE PATH	LF	27610	\$2	\$55,220
2	BIKE PATH (12' AC)	LF	9210	\$75	\$690,750
SUBTOTAL=					\$745,970
Segment 08B - Alton Pkwy from Toledo Way to Barranca Pkwy					
4	STRIPING - BIKE PATH	LF	13380	\$2	\$26,760
5	BIKE PATH (12' AC)	LF	4460	\$75	\$334,500
SUBTOTAL=					\$361,260
GRAND TOTAL					
SUBTOTAL=					\$1,107,300
CONTINGENCY (25%) =					\$276,900
GRAND TOTAL =					\$1,384,200

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 09A



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Irvine					
Segment 09A - Barranco Pkwy from Alton Pkwy to Technology Dr					
1	CLASS IV TRAIL	MI	1.44	\$150,000	\$216,420
	CLASS IV TRAFFIC SIGNAL MODIFICATION	EA	3.00	\$500,000	\$1,500,000
SUBTOTAL=					\$1,717,000
GRAND TOTAL					
SUBTOTAL=					\$1,717,000
CONTINGENCY (30%) =					\$515,100
GRAND TOTAL =					\$2,232,100

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 09B, 10A, 10B & 10C



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Irvine					
Segment 09B - Barranca Pkwy from Technology Dr to Laguna Canyon Rd					
1	PEDESTRIAN/BIKE BRIDGE	SQFT	7610	\$500	\$3,805,000
2	SIDEWALK	SQFT	24590	\$15	\$368,850
3	BIKE PATH (12' AC)	LF	6680	\$75	\$501,000
4	STRIPING - BIKE PATH	LF	20020	\$2	\$40,100
SUBTOTAL=					\$4,714,950
Segment 10A - Laguna Canyon Rd from Barranca Pkwy to Ped/Bike Bridge					
5	PEDESTRIAN/BIKE BRIDGE	SQFT	2560	\$500	\$1,280,000
6	SIDEWALK	SQFT	8590	\$15	\$128,900
7	BIKE PATH (12' AC)	LF	2610	\$75	\$195,800
8	STRIPING - BIKE PATH	LF	7830	\$2	\$15,700
SUBTOTAL=					\$1,620,400
Segment 10B - Laguna Canyon Rd along Ped/Bike Bridge					
9	PEDESTRIAN/BIKE BRIDGE	SQFT	11700	\$500	\$5,850,000
10	STRIPING - BIKE PATH	LF	1680	\$2	\$3,400
SUBTOTAL=					\$5,853,400
Segment 10C - Laguna Canyon Rd from Ped/Bike Bridge to SR-133					
11	SIDEWALK	SQFT	19360	\$15	\$290,400
12	BIKE PATH (12' AC)	LF	4250	\$75	\$318,800
13	STRIPING - BIKE PATH	LF	12730	\$2	\$25,500
SUBTOTAL=					\$634,700
GRAND TOTAL					
SUBTOTAL=					\$12,823,500
CONTINGENCY (25%) =					\$3,205,900
GRAND TOTAL =					\$16,029,400

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 11A & 11B



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Laguna Beach					
Segment 11A - Laguna Canyon Rd to SR-73					
1	STRIPING - BIKE PATH	LF	22940	\$4	\$91,760
2	DELINEATORS	EA	770	\$50	\$38,500
SUBTOTAL=					\$130,260
Segment 11B - SR-73 to El Toro Road					
1	N/A - Project Led by Caltrans				\$0
2					\$0
SUBTOTAL=					\$0
GRAND TOTAL					
SUBTOTAL=					\$130,300
CONTINGENCY (25%) =					\$32,600
GRAND TOTAL =					\$162,900

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 11C



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Laguna Beach					
Segment 11C - State Route 133/Broadway from El Toro Road to Pacific Coast Highway					
SR133 BROADWAY ST (PACIFIC COAST HWY TO LAGUNA CANYON RD, DISTRICT 5)					
1	CLASS III SHARROWS	MI	0.10	\$50,000	\$5,000
SUBTOTAL=					\$5,000
SR 133 LAGUNA CANYON RD (BROADWAY ST TO CANYON ACRES DR, DISTRICT 5)					
2	CLASS II	MI	0.56	\$150,000	\$84,000
SUBTOTAL=					\$84,000
SR 133 LAGUNA CANYON RD (CANYON ACRES DR TO DOG PARK DW, DISTRICT 5)					
3	CLASS II BUFFERED	MI	1.66	\$150,000	\$249,000
SUBTOTAL=					\$249,000
SR 133 LAGUNA CANYON RD (DOG PARK DW TO EL TORO RD, DISTRICT 5)					
4	CLASS II BUFFERED	MI	0.78	\$150,000	\$117,000
SUBTOTAL=					\$117,000
GRAND TOTAL					
SUBTOTAL=					\$455,000
CONTINGENCY (30%) =					\$136,500
GRAND TOTAL =					\$591,500

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 12A & 12B



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Caltrans					
Segment 12A - Pacific Coast Highway from Santa Ana River Trail (SART) to Newport Blvd					
1	BUFFERED BIKE LANE ADDITION TO EXISTING CLASS II	MI	1.30	\$50,000	\$65,000
2	BUFFERED BIKE LANE CLASS II (PARKING ADJACENT)	MI	0.40	\$150,000	\$60,000
3	TWO-STAGE LEFT TURN BIKE BOXES	SF	200.00	\$32	\$6,400
4	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	3.00	\$50,000	\$150,000
SUBTOTAL=					\$282,000
Segment 12B - Pacific Coast Highway from Newport Blvd to Dover Dr					
5	CLASS II	MI	1.10	\$150,000	\$165,000
5	CLASS II (ADJACENT PARKING)	MI	0.30	\$150,000	\$45,000
8	TWO-STAGE LEFT TURN BIKE BOXES	SF	200.00	\$32	\$6,400
9	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	4.00	\$50,000	\$200,000
SUBTOTAL=					\$417,000
GRAND TOTAL					
SUBTOTAL=					\$699,000
CONTINGENCY (30%) =					\$209,700
GRAND TOTAL =					\$908,700

Notes:

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 12C



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Caltrans & Newport Beach					
Segment 12C - Pacific Coast Highway from Dover Dr to MacArthur Blvd					
1	CLASS II	MI	0.20	\$100,000	\$20,000
11	BUFFERED BIKE LANE ADDITION TO EXISTING CLASS II	MI	2.00	\$50,000	\$100,000
	TWO-STAGE LEFT TURN BIKE BOXES	SF	200.00	\$32	\$6,400
12	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$177,000
GRAND TOTAL					
SUBTOTAL=					\$177,000
CONTINGENCY (30%) =					\$53,100
GRAND TOTAL =					\$230,100

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure - 12E



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Laguna Beach					
Segment 12E - Pacific Coast Hwy from Broadway/SR-133 to Northern Laguna Beach City Limits					
1	STRIPING - BIKE PATH	LF	33230	\$2	\$66,460
2	DELINEATORS	EA	370	\$50	\$18,500
SUBTOTAL=					\$84,960
Alt: Forest Ave from Broadway/SR-133 to Laguna Ave					
1	PAVEMENT MARKING - CLASS III	SF	110	\$10	\$1,100
SUBTOTAL=					\$1,100
Alt: Glenneyre St from Laguna Ave to Calliope St					
1	STRIPING - BIKE PATH	LF	14260	\$2	\$28,520
2	DELINEATORS	EA	160	\$50	\$8,000
SUBTOTAL=					\$36,520
Alt: Glenneyre St from Calliope St to Nyes Pl/Pacific Coast Hwy					
1	STRIPING - BIKE PATH	LF	15970	\$2	\$31,940
SUBTOTAL=					\$31,940
Alt: Pacific Coast Hwy from Nyes Pl to Aliso Cir					
1	STRIPING - BIKE PATH	LF	11830	\$2	\$23,660
2	DELINEATORS	EA	140	\$50	\$7,000
SUBTOTAL=					\$30,660
GRAND TOTAL					
SUBTOTAL=					\$185,200
CONTINGENCY (25%) =					\$46,300
GRAND TOTAL =					\$231,500

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 17A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Dana Point					
<i>Segment 17A - Park Lantern from Dana Point Harbor to San Juan Creek Trail</i>					
1	CLASS III SHARROWS	MI	0.31	\$50,000	\$15,500
2	BIKE BOX	SF	100.00	\$32	\$3,200
3	PEDESTRIAN DETECTION/PUSH BUTTON	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$69,000
GRAND TOTAL					
SUBTOTAL=					\$69,000
CONTINGENCY (30%) =					\$20,700
GRAND TOTAL =					\$89,700

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 19A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Rancho Mission Viejo					
Segment 19A - SR-74 Ortega Hwy from Antonio Pkwy/Avenida La Pata to Reata Rd					
1	STRIPING - BIKE PATH	LF	6980	\$2	\$13,960
2	DELINEATORS	EA	80	\$50	\$4,000
SUBTOTAL=					\$17,960
GRAND TOTAL					
SUBTOTAL=					\$18,000
CONTINGENCY (25%) =					\$4,500
GRAND TOTAL =					\$22,500

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study
Cost Estimates for Segment 20A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Rancho Santa Margarita					
Segment 20A - Antonio Pkwy from Tijera Creek to SR 74 Ortega Hwy					
1	PEDESTRIAN/BIKE BRIDGE	SQFT	13620	\$500	\$6,810,000
2	SIDEWALK	SQFT	161060	\$15	\$2,415,900
3	BIKE PATH (12' AC)	LF	33450	\$75	\$2,508,750
4	STRIPING - BIKE PATH	LF	100360	\$2	\$200,720
SUBTOTAL=					\$11,935,370
GRAND TOTAL					
SUBTOTAL=					\$11,935,400
CONTINGENCY (25%) =					\$2,983,900
GRAND TOTAL =					\$14,919,300

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 20A, 20B, 21A & 22A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Rancho Santa Margarita					
Segment 22A - Santa Margarita Pkwy from Live Oak Canyon Trail to Avenida Empresa					
1	SIDEWALK	SQFT	3930	\$15	\$58,950
2	BIKE PATH (12' AC)	LF	1310	\$75	\$98,600
3	STRIPING - BIKE PATH	LF	3930	\$2	\$7,860
SUBTOTAL=					\$165,410
Alt - Calle Corta and Aventura					
4	STRIPING - BIKE PATH	LF	4160	\$2	\$8,320
5	DELINEATORS	EA	50	\$50	\$2,500
SUBTOTAL=					\$10,820
Segment 21A - Avenida Empresa from Aventura to Avenida de las Banderas					
5	SIDEWALK	SQFT	14110	\$15	\$211,650
6	BIKE PATH (12' AC)	LF	2360	\$75	\$177,000
7	STRIPING - BIKE PATH	LF	7060	\$2	\$14,120
SUBTOTAL=					\$402,770
Segment 20C - Avenida de las Banderas from Avenida Empresa to Antonio Parkway					
8	SIDEWALK	SQFT	25620	\$15	\$384,300
9	BIKE PATH (12' AC)	LF	4270	\$75	\$320,250
10	STRIPING - BIKE PATH	LF	12810	\$2	\$25,620
SUBTOTAL=					\$730,170
Segment 20B - Antonio Parkway from Avenida de las Banderas to RSM City Limit					
11	SIDEWALK	SQFT	22780	\$15	\$341,700
12	BIKE PATH (12' AC)	LF	3800	\$75	\$285,000
13	STRIPING - BIKE PATH	LF	11390	\$2	\$22,780
SUBTOTAL=					\$649,480
GRAND TOTAL					
SUBTOTAL=					\$1,958,700
CONTINGENCY (25%) =					\$489,700
GRAND TOTAL =					\$2,448,400

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 22D & 22E



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Lake Forest / Mission Viejo					
Segment 22D - Santa Margarita Pkwy from 1530' N/o Los Alisos Blvd to Melinda Rd (Mission Viejo)					
1	STRIPING - BIKE PATH	LF	28540	\$2	\$57,080
2	BIKE PATH (12' AC)	LF	9520	\$75	\$714,000
SUBTOTAL=					\$771,080
Segment 22E - Santa Margarita Pkwy from El Toro Rd to 1530' N/o Los Alisos Blvd (Lake Forest)					
1	STRIPING - BIKE PATH	LF	3680	\$2	\$7,360
2	BIKE PATH (12' AC)	LF	1230	\$75	\$92,250
SUBTOTAL=					\$99,610
GRAND TOTAL					
SUBTOTAL=					\$870,700
CONTINGENCY (25%) =					\$217,700
GRAND TOTAL =					\$1,088,400

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 22B & 22C



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Rancho Santa Margarita					
Segment 22C - Santa Margarita Pkwy from Melinda Rd to Alicia Pkwy					
1	SIDEWALK	SQFT	17580	\$15	\$263,700
2	BIKE PATH (12' AC)	LF	2930	\$75	\$219,750
3	STRIPING - BIKE PATH	LF	8790	\$2	\$17,580
SUBTOTAL=					\$501,030
Segment 22B - Santa Margarita Pkwy from Alicia Pkwy to Existing Bike Path (Live Oak Canyon Trail)					
1	SIDEWALK	SQFT	12590	\$15	\$188,850
2	BIKE PATH (12' AC)	LF	2100	\$75	\$157,500
3	STRIPING - BIKE PATH	LF	6300	\$2	\$12,600
SUBTOTAL=					\$358,950
Along Tijeras Creek from Existing Bike Path to Antonio Pkwy					
4	STRIPING - BIKE PATH	LF	18540	\$2	\$37,080
SUBTOTAL=					\$37,080
GRAND TOTAL					
SUBTOTAL=					\$897,100
CONTINGENCY (25%) =					\$224,300
GRAND TOTAL =					\$1,121,400

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 23A through 23G



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Cypress					
Segment 23A - PE ROW from Coyote Creek Bikeway to Suffield St					
1	CLASS I	MI	0.60	\$1,000,000	\$600,000
	BRIDGE REHABILITATION	EA	5200.00	\$250	\$1,300,000
	BIKE CROSSING	EA	0.00	\$25,000	\$0
	SIGNALIZED CROSSING FLASHERS	UNIT	0.00	\$30,000	\$0
	HAWK SIGNAL	UNIT	0.00	\$89,500	\$0
	IN-PAVEMENT FLASHERS	UNIT	0.00	\$30,000	\$0
SUBTOTAL=					\$1,900,000
La Palma					
Segment 23B - PE ROW from Suffield St to Crescent Ave					
1	CLASS I	MI	0.20	\$1,000,000	\$200,000
	BRIDGE REHABILITATION	EA	1600.00	\$250	\$400,000
	BIKE CROSSING	EA	1.00	\$25,000	\$25,000
	SIGNALIZED CROSSING FLASHERS	UNIT	1.00	\$30,000	\$30,000
	HAWK SIGNAL	UNIT	1.00	\$89,500	\$89,500
	IN-PAVEMENT FLASHERS	UNIT	1.00	\$30,000	\$30,000
SUBTOTAL=					\$775,000
Cypress					
Segment 23C - PE ROW from Crescent Ave to Holder St					
1	CLASS I	MI	2.00	\$1,000,000	\$2,000,000
	BIKE CROSSING	EA	5.00	\$25,000	\$125,000
	SIGNALIZED CROSSING FLASHERS	UNIT	5.00	\$30,000	\$150,000
	HAWK SIGNAL	UNIT	5.00	\$89,500	\$447,500
	IN-PAVEMENT FLASHERS	UNIT	7.00	\$30,000	\$210,000
	SIDEWALK WIDENING	CY	1370.00	\$8	\$10,960
SUBTOTAL=					\$2,944,000
Buena Park					
Segment 23D - PE ROW from Holder St to Buena Park/Anaheim City Limits					
1	CLASS I	MI	0.30	\$1,000,000	\$300,000
	BOX CULVERT CONSTRUCTION	EA	1.00	\$5,000	\$5,000
	BIKE CROSSING	EA	1.00	\$25,000	\$25,000
	SIGNALIZED CROSSING FLASHERS	UNIT	1.00	\$30,000	\$30,000
	HAWK SIGNAL	UNIT	1.00	\$89,500	\$89,500
	IN-PAVEMENT FLASHERS	UNIT	1.00	\$30,000	\$30,000
SUBTOTAL=					\$480,000

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 23A through 23G



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Anaheim					
Segment 23E - PE ROW from Buena Park/Anaheim City Limits to Ramblewood Dr					
1	CLASS I	MI	0.80	\$1,000,000	\$800,000
	BIKE CROSSING	EA	2.00	\$25,000	\$50,000
	SIGNALIZED CROSSING FLASHERS	UNIT	2.00	\$30,000	\$60,000
	HAWK SIGNAL	UNIT	2.00	\$89,500	\$179,000
	IN-PAVEMENT FLASHERS	UNIT	2.00	\$30,000	\$60,000
SUBTOTAL=					\$1,149,000
Stanton					
Segment 23F - PE ROW from Ramblewood Dr to Los Alamitos High School					
1	CLASS I	MI	1.30	\$1,000,000	\$1,300,000
	BRIDGE REHABILITATION	EA	470.00	\$250	\$117,500
	BIKE CROSSING	EA	5.00	\$25,000	\$125,000
	SIGNALIZED CROSSING FLASHERS	UNIT	5.00	\$30,000	\$150,000
	HAWK SIGNAL	UNIT	5.00	\$89,500	\$447,500
	IN-PAVEMENT FLASHERS	UNIT	5.00	\$30,000	\$150,000
	RAILROAD AT-GRADE CROSSING	EA	1.00	\$750,000	\$750,000
	INTERSECTION SIGNALIZATION (BEACH BLVD & PACIFIC ST)	EA	1.00	\$500,000	\$500,000
	SIDEWALK WIDENING	CY	1800.00	\$8	\$14,400
SUBTOTAL=					\$3,555,000
Garden Grove					
Segment 23G - PE ROW from Los Alamitos High School to Brookhurst St					
1	CLASS I	MI	1.90	\$1,000,000	\$1,900,000
	BRIDGE CONSTRUCTION	SF	2100.00	\$250	\$525,000
	BIKE CROSSING	EA	5.00	\$25,000	\$125,000
	SIGNALIZED CROSSING FLASHERS	UNIT	5.00	\$30,000	\$150,000
	HAWK SIGNAL	UNIT	5.00	\$89,500	\$447,500
	IN-PAVEMENT FLASHERS	UNIT	5.00	\$30,000	\$150,000
SUBTOTAL=					\$3,298,000
GRAND TOTAL					
SUBTOTAL=					\$14,101,000
CONTINGENCY (30%) =					\$4,230,300
GRAND TOTAL =					\$18,331,300

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 24A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Garden Grove					
Segment 24A - PE ROW at Nelson Street to PE ROW at Paloma Ave					
PE ROW(NELSON ST, DISTRICT 1&2)					
1	SIGNALIZED CROSSING FLASHERS	EA	1.00	\$30,000	\$30,000
2	IN PAVEMENT FLASHERS	EA	1.00	\$30,000	\$30,000
SUBTOTAL=					\$60,000
CENTURY BLVD (NORTH OF GARDEN GROVE BLVD TO EUCLID ST, District 1 & 2)					
1	CLASS II (PARKING ADJACENT)	MI	0.60	\$150,000	\$90,000
SUBTOTAL=					\$90,000
PE ROW (EUCLID ST, DISTRICT 1 & 2)					
3	WIDEN SIDEWALK	FT	397.50	\$8	\$3,180
	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$54,000
PE ROW (PALOMA AVE, DISTRICT 1 & 2)					
4	CURB RAMP	EA	0.39	\$1,000,000	\$390,000
5	CLASS III (SHARROWS)	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$440,000
GRAND TOTAL					
SUBTOTAL=					\$644,000
CONTINGENCY (30%) =					\$193,200
GRAND TOTAL =					\$837,200

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 26A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
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Santa Ana
Segment 26A - Fairview St from PE ROW to Civic Center Dr

1	CLASS III	MI	0.10	\$50,000	\$5,000
SUBTOTAL=					\$5,000

GRAND TOTAL

SUBTOTAL=					\$5,000
CONTINGENCY (30%) =					\$1,500
GRAND TOTAL =					\$6,500

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study
Cost Estimates for Segment 27A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Santa Ana					
Segment 27A - Civic Center Dr from Fairview3 St to Bristol St					
1	CLASS II (ADJACENT PARKING)	MI	1.00	\$150,000	\$150,000
2	CLASS II TRAFFIC SIGNAL MODIFICATION (DETECTION)	EA	5.00	\$50,000	\$250,000
SUBTOTAL=					\$400,000
GRAND TOTAL					
SUBTOTAL=					\$400,000
CONTINGENCY (30%) =					\$120,000
GRAND TOTAL =					\$520,000

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 32A



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Tustin					
Segment 32A - Tustin Legacy Trail from Legacy Rd to Edinger Ave					
1	CLASS I	MI	0.96	\$1,000,000	\$960,000
2	CLASS II	MI	0.04	\$125,000	\$4,380
3	CLASS II BUFFERED	MI	0.32	\$50,000	\$16,000
4	CLASS IV	MI	0.12	\$2,000,000	\$240,000
5	CLASS II TRAFFIC SIGNAL MODIFICATION	EA	4	\$50,000	\$200,000
6	CONSTRUCT BRIDGE	SF	975	\$400	\$390,000
7	SIDEWALK WIDEN	SF	185	\$8	\$1,480
SUBTOTAL=					\$1,812,000
GRAND TOTAL					
SUBTOTAL=					\$1,812,000
CONTINGENCY (30%) =					\$543,600
GRAND TOTAL =					\$2,355,600

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 33A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Tustin					
Segment 33A - Jamboree Plaza-LOSSAN from Edinger Ave to Peters Canyon Regional Trail					
TUSTIN LEGACY TRAIL (EDINGER AVE TO JAMBOREE PLAZA, DISTRICT 3)					
8	CLASS I	MI	0.23	\$1,000,000	\$227,273
10	BALLAST REMOVAL	CY	34.00	\$30	\$1,020
11	RAIL REMOVAL	LF	900.00	\$30	\$27,000
SUBTOTAL=					\$256,000
JAMBOREE PLAZA-LOSSAN (EDINGER AVE TO PETERS CANYON REGIONAL TRAIL, DISTRICT 3)					
1	CONSTRUCT BRIDGE	SF	825	\$400	\$330,000
SUBTOTAL=					\$330,000
GRAND TOTAL					
SUBTOTAL=					\$586,000
CONTINGENCY (30%) =					\$175,800
GRAND TOTAL =					\$761,800

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 36A & 36B



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Irvine					
Segment 36A - Muirlands Blvd from Alton Pkwy to City Boundary (440' East of Bake Pkwy)					
1	CLASS II	MI	0.77	\$100,000	\$77,000
2	CLASS II SIGNAL MODIFICATION	EA	3.00	\$50,000	\$150,000
SUBTOTAL=					\$227,000
Lake Forest					
Segment 36B - Muirlands Blvd from 440 feet East of Bake Pkwy to Aliso Creek Bikeway					
1	CLASS II	MI	1.73	\$100,000	\$173,000
2	CLASS II SIGNAL MODIFICATION	EA	6.00	\$50,000	\$300,000
SUBTOTAL=					\$473,000
GRAND TOTAL					
SUBTOTAL=					\$700,000
CONTINGENCY (30%) =					\$210,000
GRAND TOTAL =					\$910,000

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 38A & 39A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Laguna Hills					
Segment 39A - Cabot Rd from Oso Pkwy to Paseo de Valencia					
1	SIDEWALK	SQFT	23780	\$15	\$356,700
2	BIKE PATH (12' AC)	LF	3970	\$75	\$297,750
3	STRIPING - BIKE PATH	LF	11890	\$2	\$23,780
SUBTOTAL=					\$678,230
Segment 38A - Paseo de Valencia from Cabot Rd to Laguna Hills Dr					
4	BIKE PATH (12' AC)	LF	8410	\$75	\$630,750
5	STRIPING - BIKE PATH	LF	25210	\$2	\$50,420
6	DELINEATORS	EA	290	\$50	\$14,500
SUBTOTAL=					\$695,670
GRAND TOTAL					
SUBTOTAL=					\$1,373,900
CONTINGENCY (25%) =					\$343,500
GRAND TOTAL =					\$1,717,400

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements other than shown hereon
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 39A, 39B & 39C



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Laguna Hills					
Segment 39A - Cabot Rd from Paseo De Valencia to 780-foot South of Oso Pkwy					
1	CLASS II BUFFERED (PARKING ADJACENT)	MI	0.90	\$150,000	\$135,000
2	CLASS II SIGNAL MODIFICATION	EA	4.00	\$50,000	\$200,000
SUBTOTAL=					\$335,000
Segment 39B - Cabot Rd from 780 feet south of Oso Pkwy to 3,470 feet south of Oso Pkwy					
1	CLASS II BUFFERED (PARKING ADJACENT)	MI	0.51	\$150,000	\$76,500
SUBTOTAL=					\$77,000
Segment 39C - Cabot Rd from 3,470 feet south of Oso Pkwy to Rapid Falls Rd					
1	CLASS II BUFFERED (PARKING ADJACENT)	MI	0.34	\$150,000	\$51,000
2	CLASS II SIGNAL MODIFICATION	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$101,000
GRAND TOTAL					
SUBTOTAL=					\$513,000
CONTINGENCY (30%) =					\$153,900
GRAND TOTAL =					\$666,900

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study
Cost Estimates for Segment 41A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Rancho Capistrano					
Segment 41A - Bike Path and Crossing					
1	PEDESTRIAN/BIKE BRIDGE	SQFT	1470	\$500	\$735,000
2	BIKE PATH (12' AC)	LF	6760	\$75	\$507,000
3	STRIPING - BIKE PATH	LF	13010	\$2	\$26,020
SUBTOTAL=					\$1,268,020
GRAND TOTAL					
SUBTOTAL=					\$1,268,100
CONTINGENCY (25%) =					\$317,100
GRAND TOTAL =					\$1,585,200

Notes:

- The cost estimates exclude the following items:
- a. Roadway pavement rehab or slurry seal
 - b. Americans with Disabilities Act (ADA) improvements other than shown hereon
 - c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 42A, 42B & 42C



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
San Juan Capistrano					
Segment 42A - Camino Capistrano from La Zanja St to Calle Chueca Rd					
1	CLASS I	MI	0.52	\$1,000,000	\$520,000
2	CLASS II SIGNAL MODIFICATION	EA	1.00	\$50,000	\$50,000
SUBTOTAL=					\$570,000
Segment 42B - Camino Capistrano from Calle Chueca St to Junipero Rd					
3	CLASS I	MI	0.38	\$1,500,000	\$570,000
SUBTOTAL=					\$570,000
Segment 42C - Camino Capistrano from Junipero Rd to Rancho Capistrano Driveway					
4	CLASS I	MI	0.13	\$1,000,000	\$132,600
5	CLASS II BUFFERED	MI	0.78	\$50,000	\$39,000
6	CLASS IV	MI	0.21	\$2,500,000	\$520,800
SUBTOTAL=					\$692,400
GRAND TOTAL					
BTOTAL=					\$1,832,400
Y (30%) =					\$549,800
GRAND TOTAL =					\$2,382,200

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 43A



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
San Juan Capistrano					
Segment 43A - Camino Capistrano to Avenida De La Vista					
1	CLASS III (SHARROW)	MI	0.20	\$50,000	\$10,000
2	AT GRADE CROSSING	EA	1.00	\$100,000	\$100,000
SUBTOTAL=					\$110,000
GRAND TOTAL					
SUBTOTAL=					\$110,000
CONTINGENCY (30%) =					\$33,000
GRAND TOTAL =					\$143,000

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 44A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
San Juan Capistrano					
Segment 44A - La Zanja St to Trabuco Creek Trail					
1	CLASS III	MI	0.26	\$50,000	\$13,000
SUBTOTAL=					\$13,000
GRAND TOTAL					
SUBTOTAL=					\$13,000
CONTINGENCY (30%) =					\$3,900
GRAND TOTAL =					\$16,900

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segments 47A, 47B & 47C



ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Dana Point					
Segment 47A - Park Lantern-Coast Highway from San Juan Creek Trail to Park Lantern					
1	CLASS I	MI	0.20	\$1,250,000	\$250,000
2	CLASS III	MI	0.03	\$50,000	\$1,515
3	RELOCATE EXISTING K RAIL	LF	500.00	\$100	\$50,000
SUBTOTAL=					\$302,000
Segment 47B - Park Lantern-Coast Highway from Park Lantern to Doheny Park Rd					
4	CLASS I	MI	0.17	\$1,000,000	\$170,000
SUBTOTAL=					\$170,000
Segment 47C - Park Lantern-Coast Highway from Doheny Park Rd to Palisades Dr					
5	CLASS I	MI	0.80	\$1,500,000	\$1,200,000
SUBTOTAL=					\$1,200,000
GRAND TOTAL					
SUBTOTAL=					\$1,672,000
CONTINGENCY (30%) =					\$501,600
GRAND TOTAL =					\$2,173,600

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 48A



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Dana Point					
Segment 48A - Coast Highway from Palisades Dr to Camino Capistrano					
1	CLASS IV BUFFERED	MI	1.64	\$2,500,000	\$4,100,000
SUBTOTAL=					\$4,100,000
GRAND TOTAL					
SUBTOTAL=					\$4,100,000
CONTINGENCY (30%) =					\$1,230,000
GRAND TOTAL =					\$5,330,000

Notes:

The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

OC Loops Gap Closure Feasibility Study

Cost Estimates for Segment 49B



MARK THOMAS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
San Clemente					
<i>Segment 49B - El Camino Real from Avenida Estacion to Avenida San Gabriel</i>					
1	CLASS II	MI	0.70	\$150,000	\$105,000
2	CLASS II	MI	0.70	\$100,000	\$70,000
3	CLASS II SIGNAL MODIFICATION	EA	8.00	\$50,000	\$400,000
SUBTOTAL=					\$575,000
GRAND TOTAL					
SUBTOTAL=					\$575,000
CONTINGENCY (30%) =					\$172,500
GRAND TOTAL =					\$747,500

Notes:

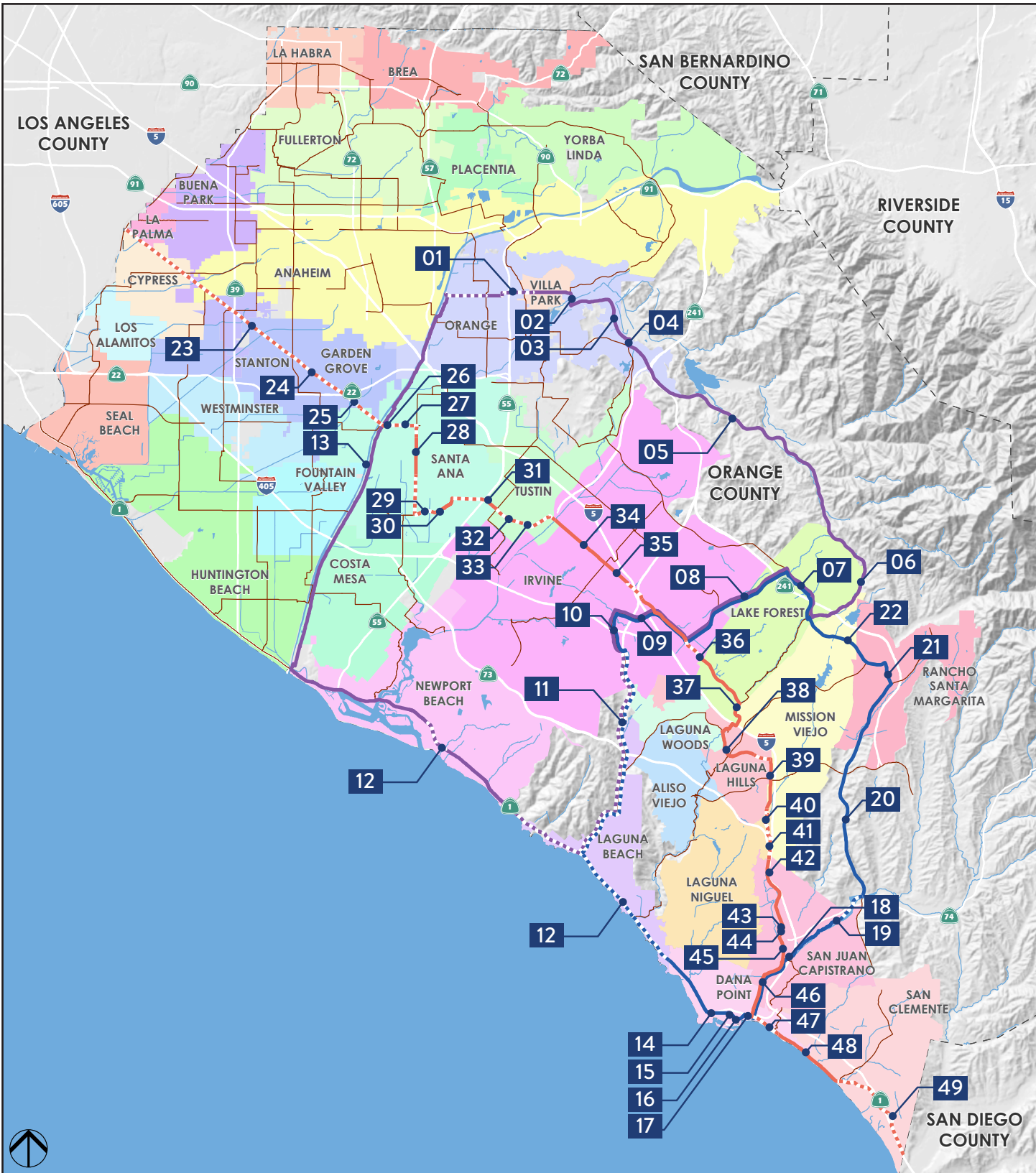
The cost estimates exclude the following items:

- a. Roadway pavement rehab or slurry seal
- b. Americans with Disabilities Act (ADA) improvements
- c. Right-of-Way (ROW) acquisition or Temporary Construction Easements (TCEs)

**ORANGE COUNTY
TRANSPORTATION
AUTHORITY**

APPENDIX D: REGIONAL STUDY CORRIDORS





OCTA

OC Loops Feasibility Study
OC Loops Corridor Numbering



LEGEND

Built Not Built

- ⋯ OC Central Loop
- ⋯ OC South Loop
- ⋯ OC Connect
- ⋯ Regional Bikeways

00 Corridor Number