



Session 2B: Continuous, Connected, and Joyful: Exploring Bicycle Highways in the Bay Area

11th Annual Silicon Valley Bike Summit Aug 12 & 13, 2021

Continuous, Connected, and Joyful

Exploring Bike Highways in the Bay Area

Silicon Valley Bike Summit 2021 | August 12, 2021



SPEAKERS



SPEAKERS

MAURICIO HERNANDEZ
Senior Planning Associate
Alta Planning + Design

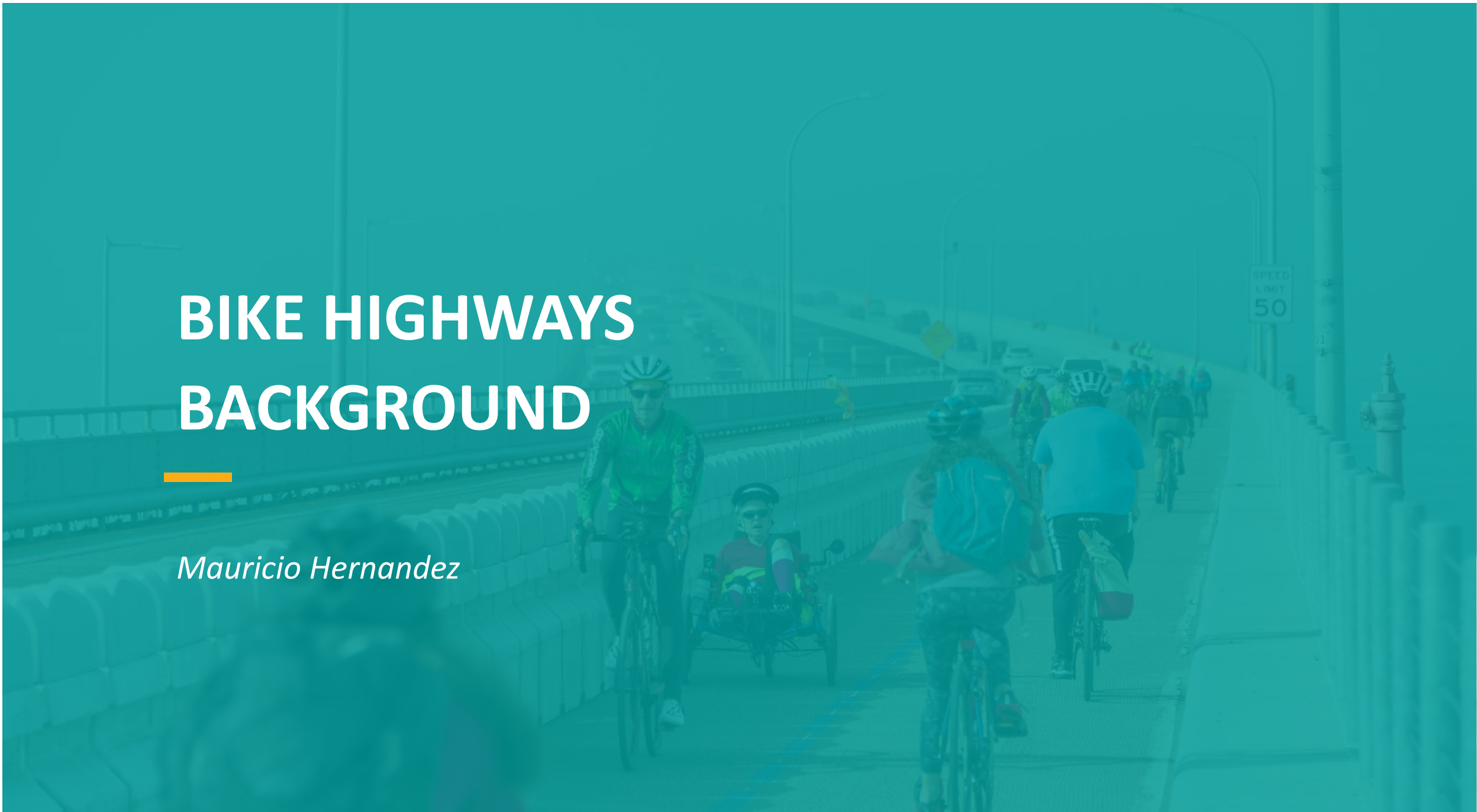
ELLIOT GOODRICH
Associate Transportation Planner
Caltrans Bay Area

LAUREN LEDBETTER
Senior Transportation Planner
VTA

JACQUELINE FRANCO
Co-founder and Owner
META LLC

BIKE HIGHWAYS BACKGROUND

Mauricio Hernandez



What are Bike Highways?*

- High-quality, uninterrupted, and long-distance bikeways
- Support higher speed travel
- Support large volumes of people bicycling
- Connect regional destinations



Bike Highway in Denmark. Photo: Maurits Lopez Cardozo

* Based on review of worldwide best practices

Intended Users

- Bicycle Commuters
- Recreational riders
- Powered micromobility
- E-bikes



Bike Highway in the Netherlands. Photo: Maurits Lopez Cardozo

DESIGN ELEMENTS



Design Principles

- Higher speed
- Dedicated
- Low Effort
- Direct



Photo: Alta Planning + Design;
Maurits Lopez Cardozo



Design Elements

- Alignment
- Intersections
- Materials and Amenities



*Photos: Alta Planning + Design;
Maurits Lopez Cardozo;
Sergio Ruiz*

Alignment

- Levels of Separation
- Design Speeds
- Width
- Slope
- Vehicles Permitted



Intersections

- Access Points and Connections to Local Bikeways
- Intersection/Crossing Treatments
- Green Wave Signal Phasing



Photo: Alta Planning + Design; Maurits Lopez Cardozo

Materials and Amenities

- Surface Materials
- Branding/Wayfinding
- Lighting
- Support Facilities

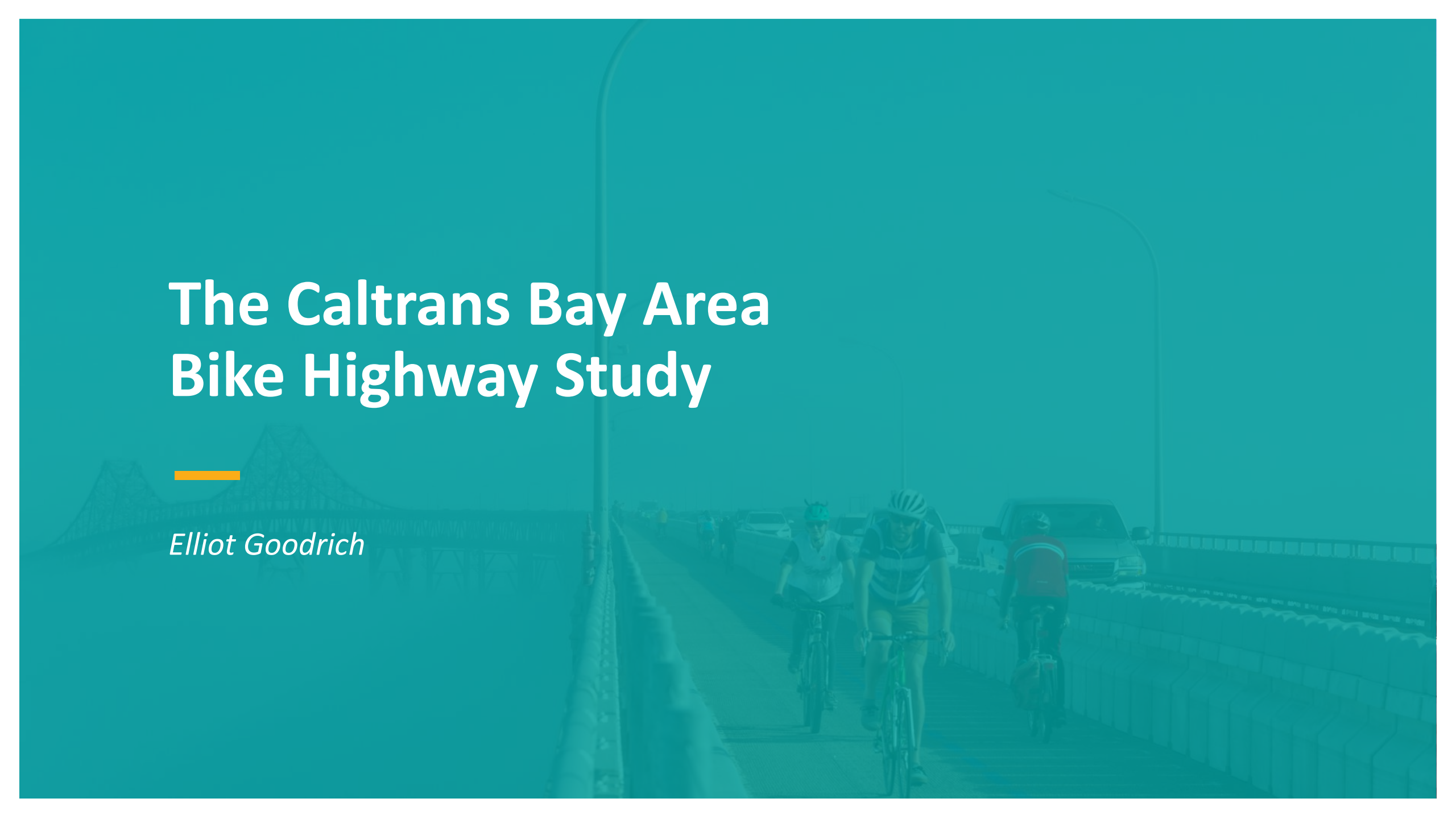


*Photos: Alta Planning + Design
Maurits Lopez Cardozo*

The Caltrans Bay Area Bike Highway Study



Elliot Goodrich

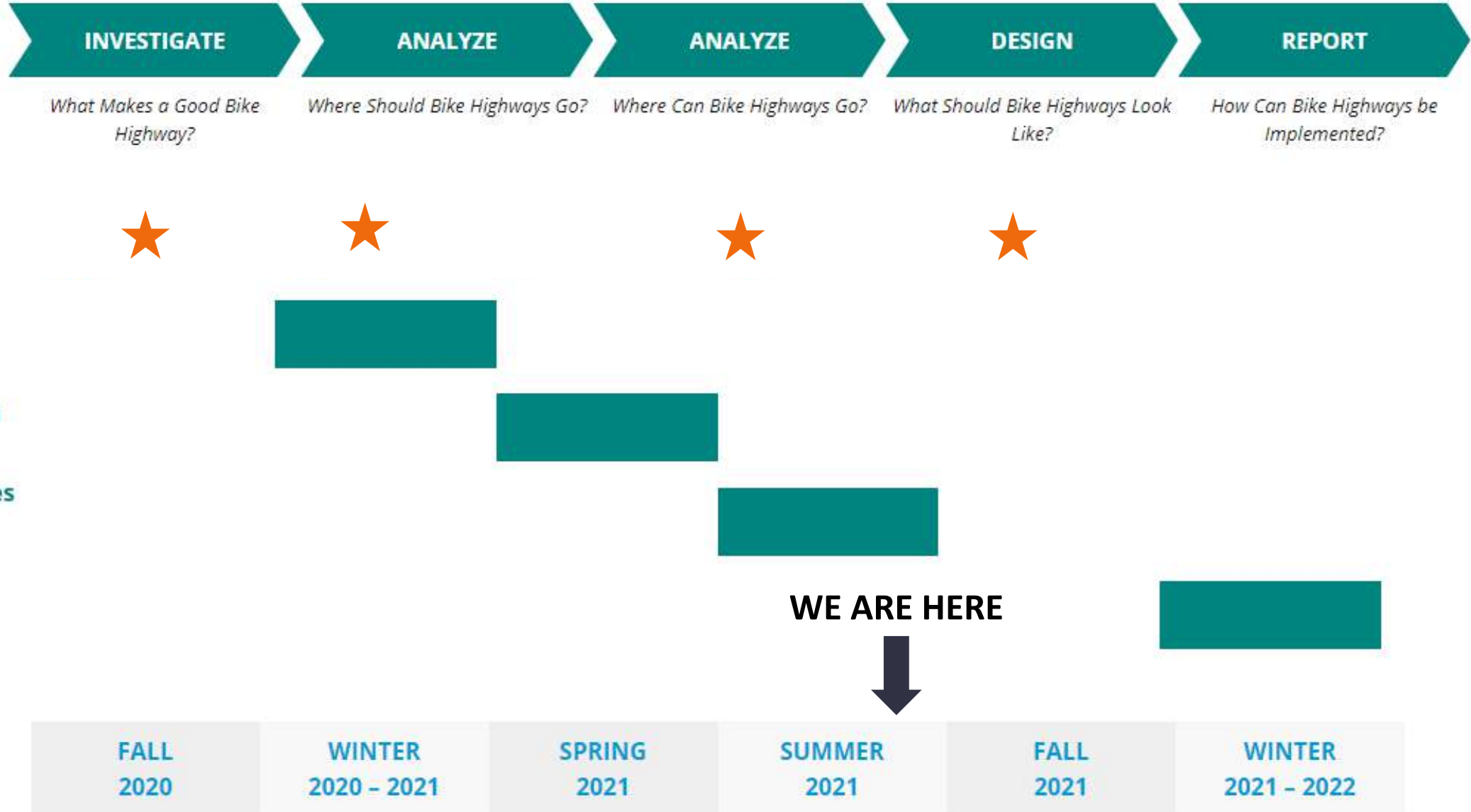


Bike Highways are a Priority For Caltrans (and California!)

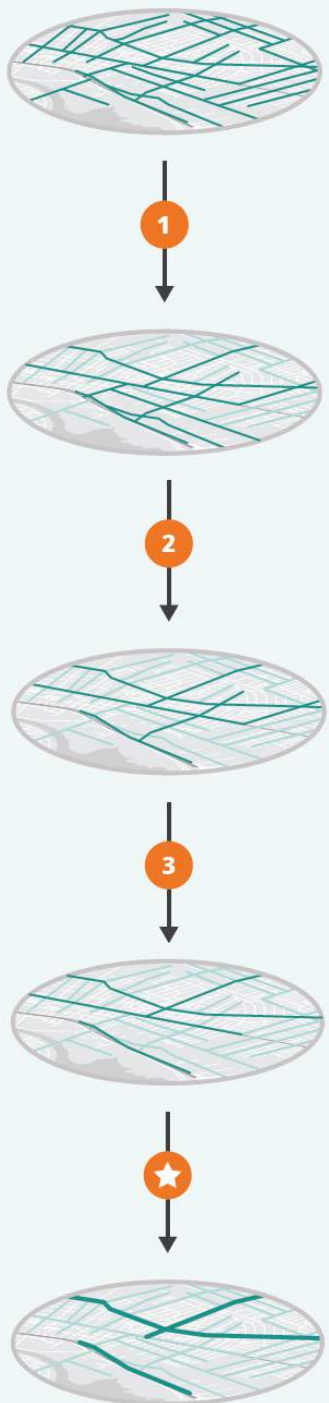
- Toward an Active California (2017)
- District 4 Bike Plan (2018)
- Demonstrated political appetite in 2021



Bike Highway Study Timeline



Corridor Selection Methodology



1 **Who are we serving?**

SUITABILITY ANALYSIS

2 **Where should bike highways go?**

GEOGRAPHIC BALANCING

3 **Where can bike highways go?**

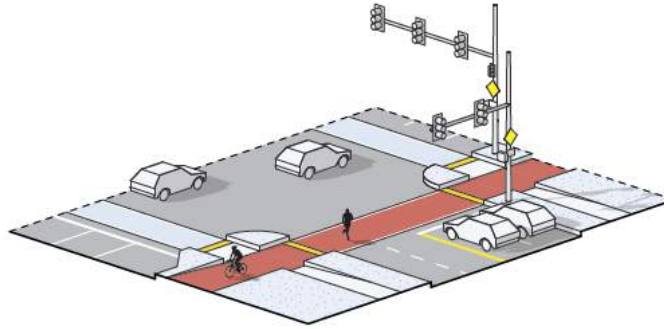
FEASIBILITY ANALYSIS

★ **Which roadways have the highest score?**

FINAL SELECTION

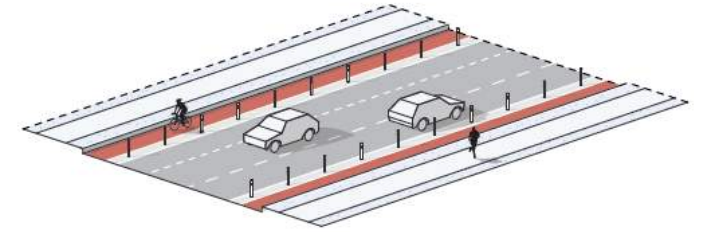
Concept Development

- Candidate corridor typologies
- Network connection concepts
- Visual Simulations
- Cost estimates



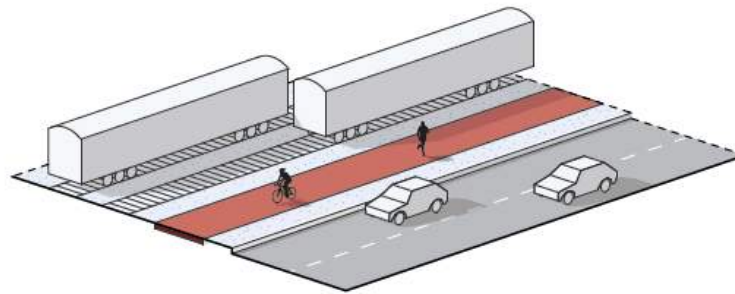
PROTECTED INTERSECTION

Protected intersections with signal timing support safe and efficient roadway crossing.



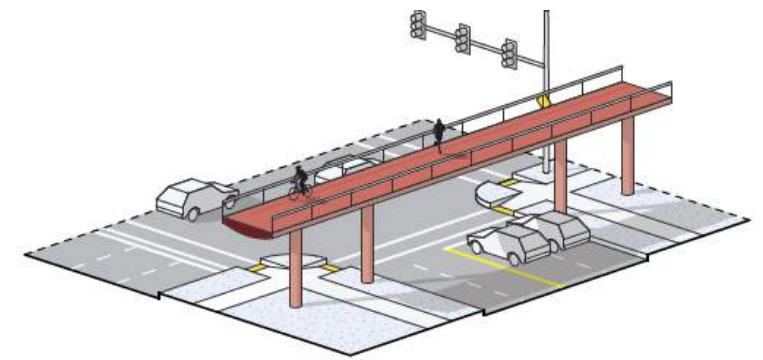
CYCLE TRACKS

Cycle tracks are on-street options that provide separation from traffic. These may be considered as two-way (one side) or one-way (both-sides) facilities.



OFF-STREET

As space allows, the simplest and safest option is an off-street trail.



OVERCROSSING

Overcrossings provide a safe and iconic road or rail crossing.

Next Steps

- Finalize list of candidate corridors for further concept development
- Community feedback on candidate corridors
- Develop design concepts for candidate corridors



Photos: Sergio Ruiz; Maurits Lopez Cardozo



CENTRAL BIKEWAY

Study

Exploring Bicycle Superhighways in the Bay Area

Silicon Valley Bike Summit 2021

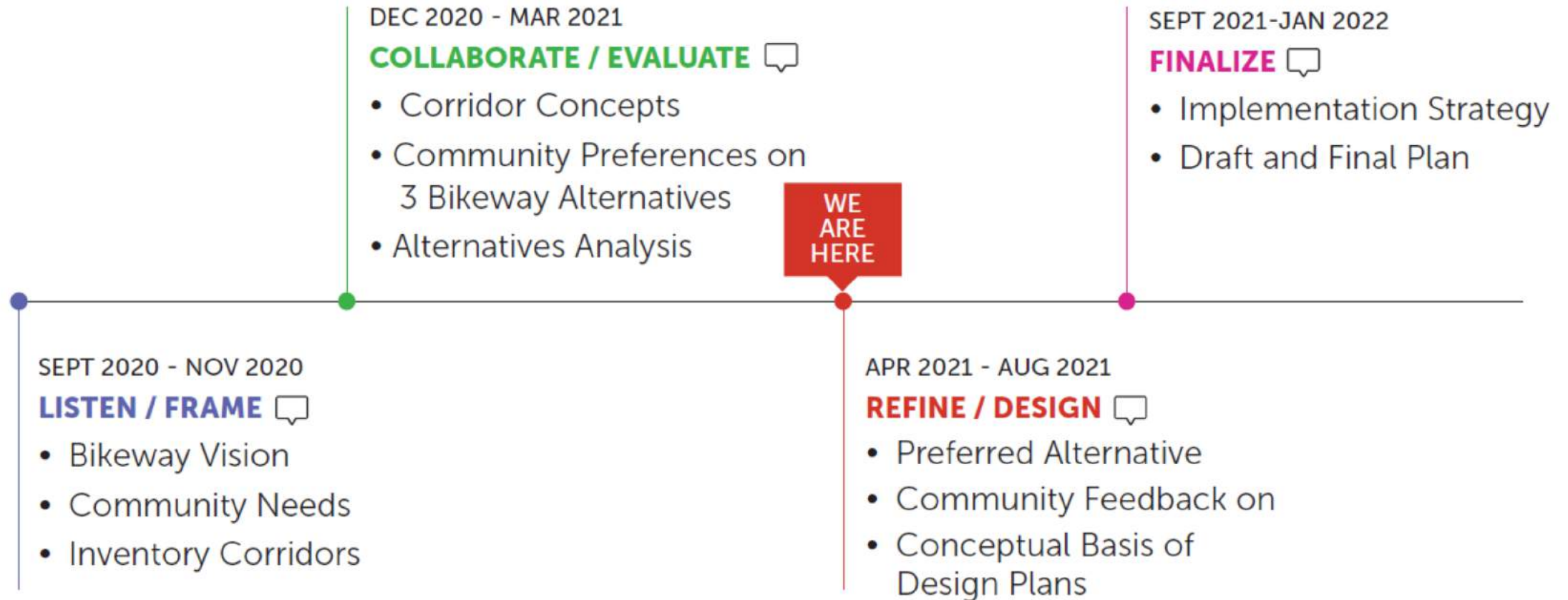
Lauren Ledbetter & Jacqueline Franco

How the Central Bikeway Study Came to Be

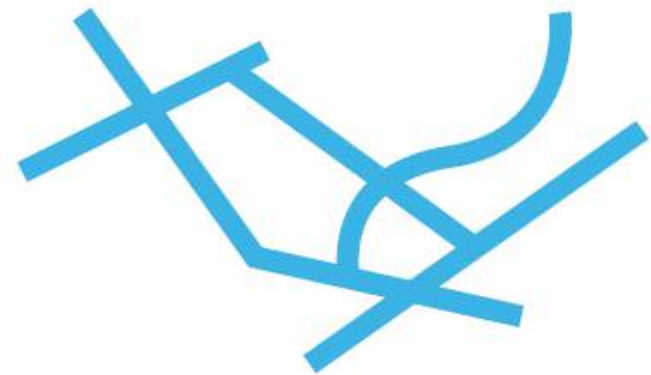
- Countywide Bicycle Plan (2018) introduced “bicycle superhighways”
- High quality, low-stress uninterrupted, long-distance bikeways separated from motor vehicles that traverse across the county on-street or on trails
- Central Bikeway connects transit and trails east-west; provides opportunities for low income and minority communities
- Addresses major Airport barrier



Central Bikeway Milestones To Date



How did we develop Central Bikeway alternatives?



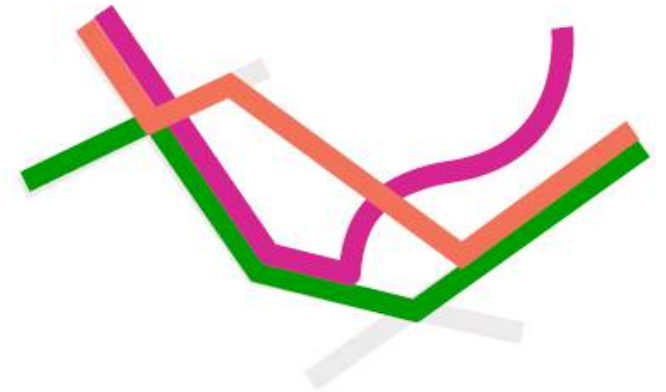
Corridors

A bunch of segments



Alignments

Cohesive and continuous 8-mile bike superhighway routes



Alternatives

3 Alignments that respond to the project goals, stakeholder input, and public feedback

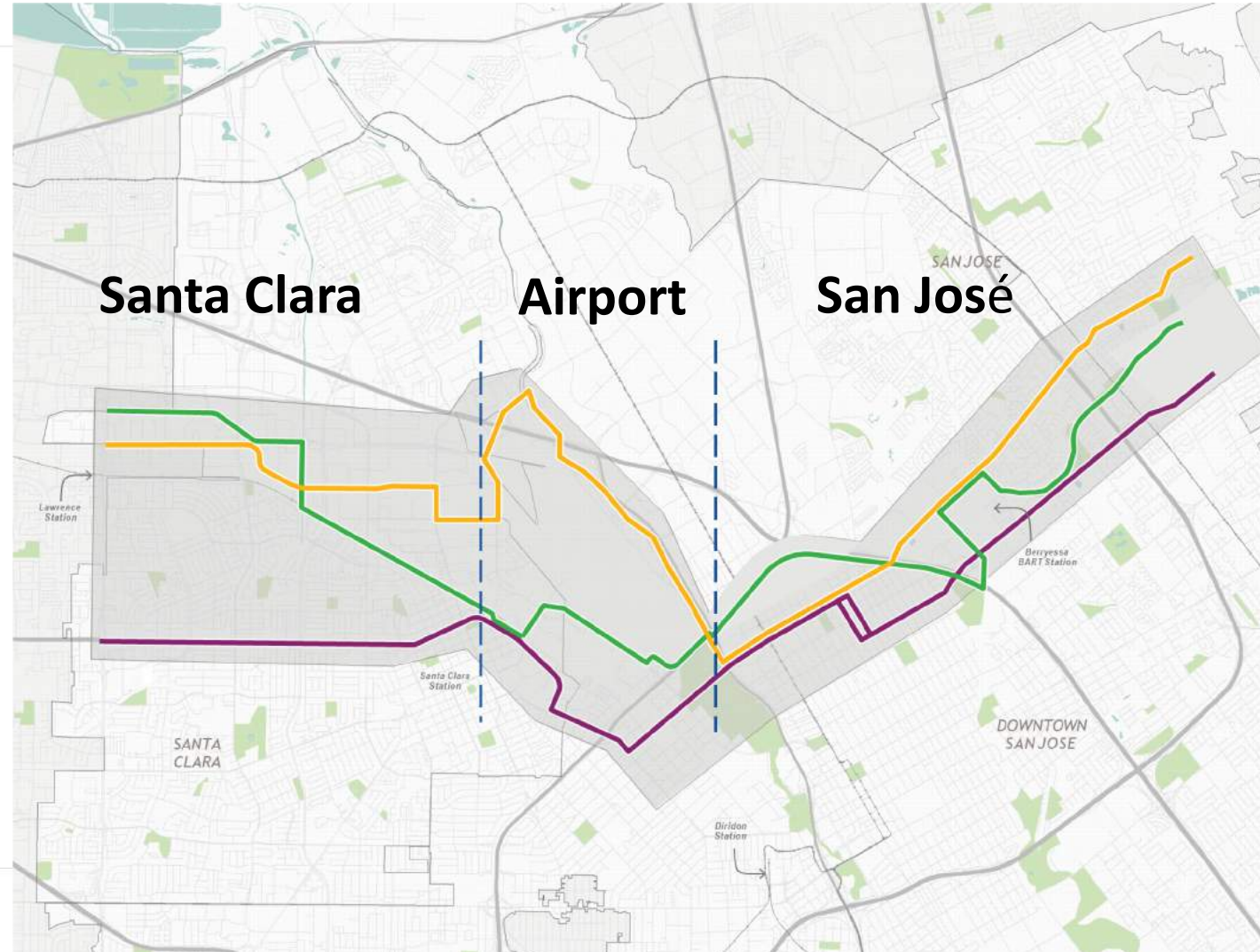


Solutions that move you

Three Alternatives + Three Areas

TRAIL TRACKWAY
WALSH WIZARD





SHORTLINER



Solutions that move you

Evaluation Criteria

GOAL

 EQUITY	New Users
	Women/Non-Binary & POC
	Equity Analysis
 PROJECT COMPATIBILITY	Available ROW
	Traffic Impacts
	Parking Analysis
	Transit Impacts
	Aligns with Planning Efforts
 COMMUNITY-DESIRED PROJECT	Community-Identified Destinations
	Community-Identified Segments
 SUSTAINABLE MOBILITY	Time/Length
	Modal Friction
	User Demand
	Potential VMT Reduction

GOAL

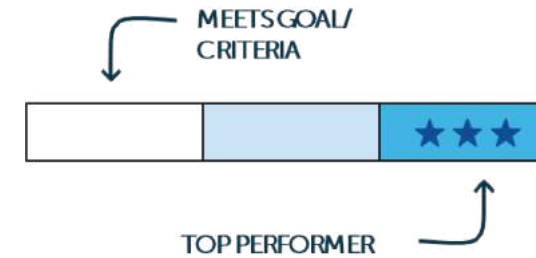
 ACCESS	Transit Access
	Level of Traffic Stress (LTS) Analysis
	Access to Employment
 JOY	Access to Open Space
	Promotes Passive Attention
	Expands Choice
	Level of Effort
 SAFETY	Separation from Traffic
	Intersectios & Exposure to Vehicles
	Traffic Speed
	Perceived Safety

SCREEN

FEASIBILITY / IMPLEMENTATION	Order of Magnitude Capital Cost
	Permitting & Coordination
	Operations & Maintenance
	Opportunities for Funding



Preliminary Evaluation Summary



SANTA CLARA

	WIZARD	TRACKWAY	SHORTLINER
EQUITY		★ ★ ★	
PROJECT COMPATIBILITY			
COMMUNITY DESIRED PROJECT			★ ★ ★
SUSTAINABLE MOBILITY			★ ★ ★
ACCESS	★ ★ ★		★ ★ ★
JOY			
SAFETY		★ ★ ★	

AIRPORT

	WIZARD	TRACKWAY	SHORTLINER
EQUITY			★ ★ ★
PROJECT COMPATIBILITY	★ ★ ★		
COMMUNITY DESIRED PROJECT			★ ★ ★
SUSTAINABLE MOBILITY			
ACCESS			★ ★ ★
JOY			★ ★ ★
SAFETY	★ ★ ★		

SAN JOSÉ

	WIZARD	TRACKWAY	SHORTLINER
EQUITY		★ ★ ★	
PROJECT COMPATIBILITY	★ ★ ★	★ ★ ★	★ ★ ★
COMMUNITY DESIRED PROJECT	★ ★ ★		
SUSTAINABLE MOBILITY			★ ★ ★
ACCESS	★ ★ ★		★ ★ ★
JOY			★ ★ ★
SAFETY		★ ★ ★	



What We've Learned So Far

Design solutions to meet community preferences

Make an on-street bikeway feel like a trail

- Passive attention
- Convenience
- Dedicated Space
- Nature



How do you make an on-street bikeway feel like a trail?



1-WAY SIDEPATH



Indianapolis Cultural Trail



Community Voice

How have we done making this subject accessible and relatable to the community?

What is your biggest challenge being part of a large consultant team?

What have you heard from the community about their needs for biking?



Jacky in community!



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thank you!

questions?

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THANK YOU!

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