

Reducing Energy Demand and Emissions through Bicycling

Central Coast Sustainability Summit 2023

About Us



MOVE

Santa Barbara County



Our purpose is to empower, educate and advocate for people who walk, bicycle and take public transit county-wide.



What We Do



Community Bike Shops (Bici Centro)



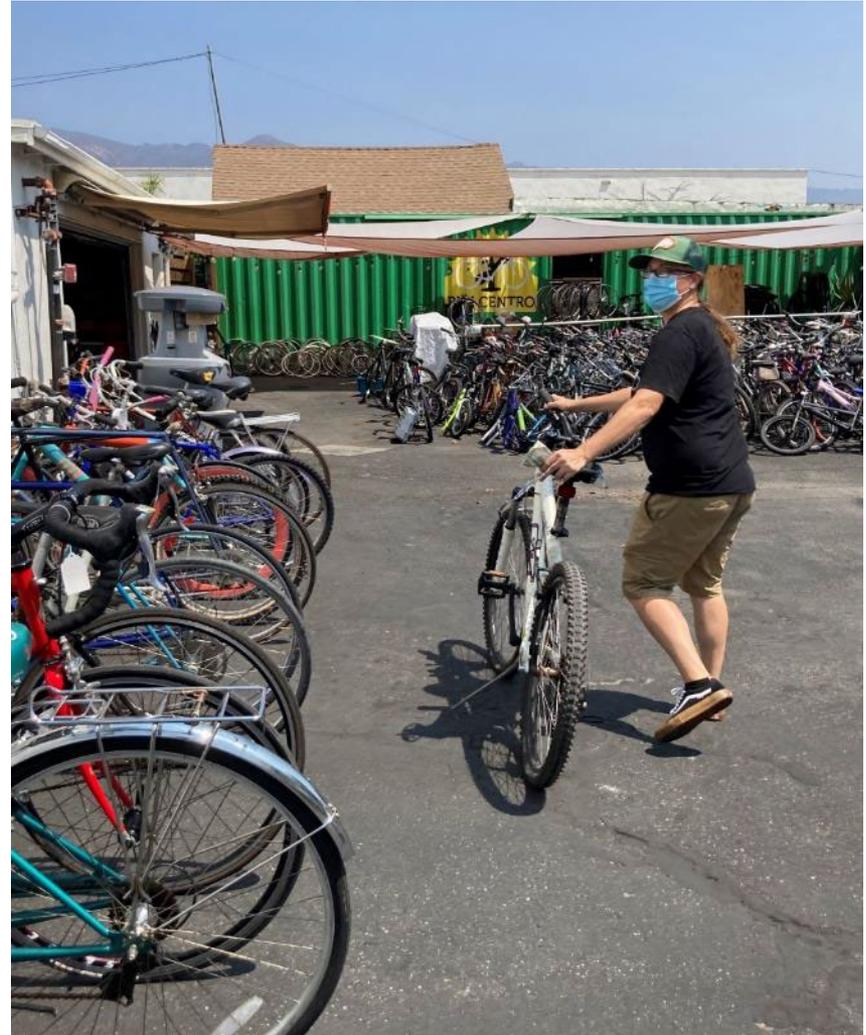
Community Bike Shops

- DIY mechanic partnerships
- Drop off for repairs
- Buy refurbished bikes



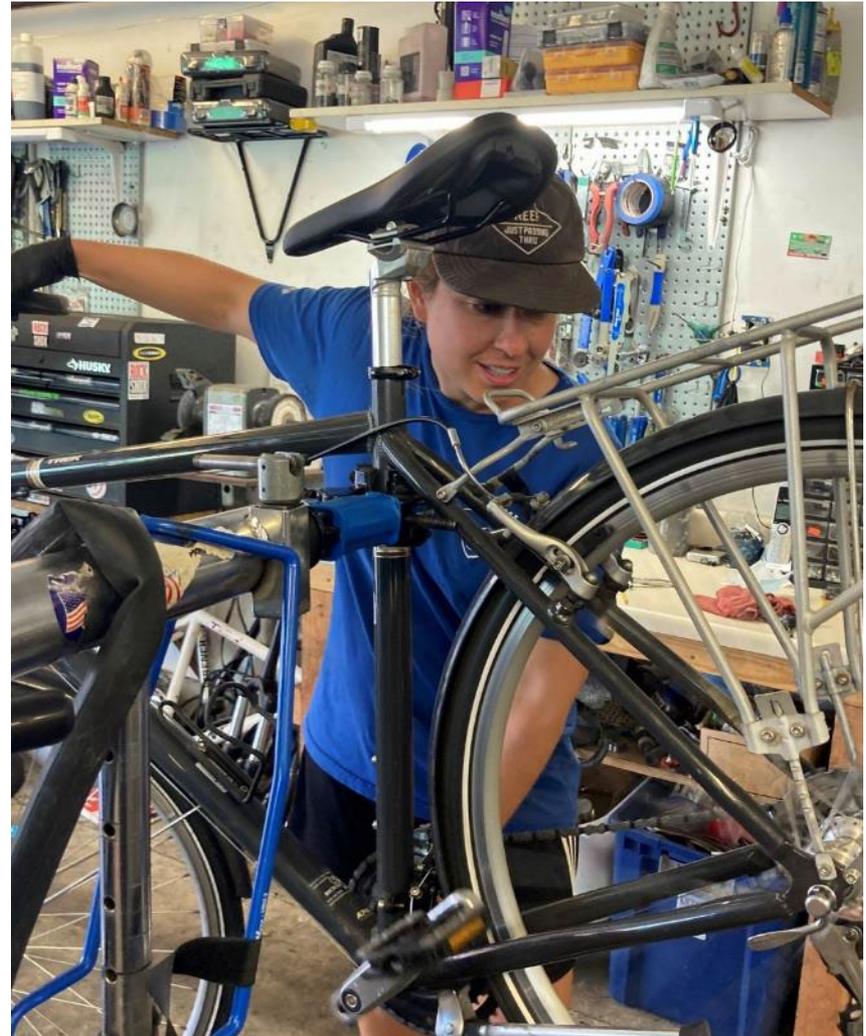
Community Bike Shops

- Keep bikes from landfills
- Disassemble and recycle unusable parts
- Very -low cost youth bikes for education program



Community Bike Shops

- 600 refurbished bikes sold
- 4,500 customers serviced
- 1,000 bikes repaired



Education



Education

- Learning to ride
- Bicycling skills
- Youth and adults
- Incorporating e-bikes



Education

- North County focus on riding in schools
- Adoption by Santa Maria Bonita School District
- 2,000 > 4,000



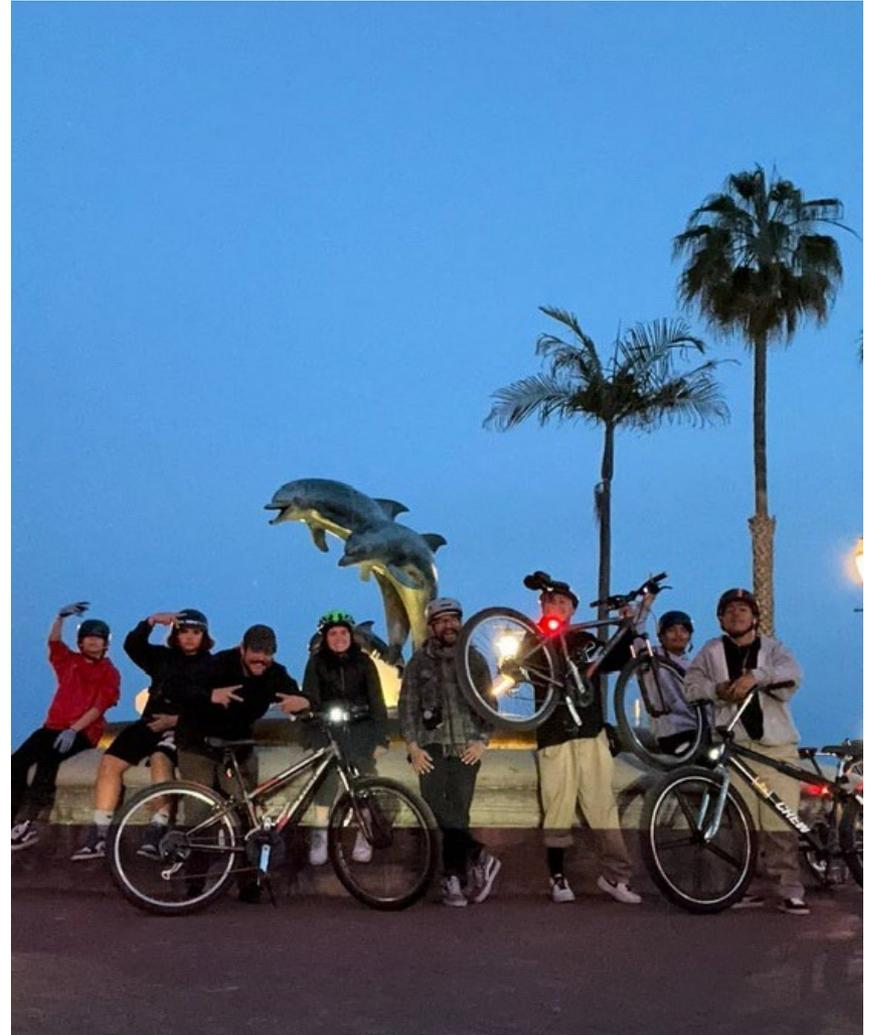
Education

- South County focus on increasing walk/bikes rates
- Holistic approach
- Behavioral change



Education

- Young adult programs
- Youth Access to Nature
- Teen Transportation Justice



Bike Valet



Bike Valet

- Provide secure bike parking at events
- Reduce driving and need for vehicular parking
- 3,400 bikes parked in 2023



Advocacy



Advocacy

- All streets safe for all users
- All communities connected by frequent transit



Advocacy

- Educate community
- Understand design
- Advocate and speak at public meetings



How We Partner



Partnerships

- UCSB Geography
 - Communicate studies to diverse audience
 - Data on crashes and near misses
 - Volume data for pedestrians and bicyclists
- City of Santa Barbara
 - Installing infrastructure based on public need
 - Developing complete network
- BCycle
 - Increasing parent use of bicycles
 - Making bicycling accessible to all



MOVE

Santa Barbara County

Thank you!

Heather Deutsch

heather@MoveSBCounty.org

805.845.8955



BCycle

SSC
October 2023

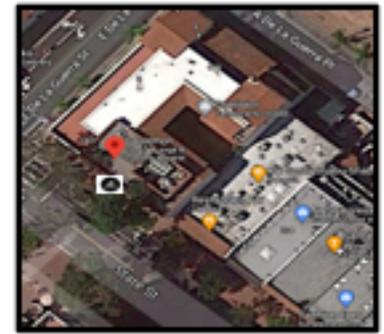


Point-to-Point Transportation

Fun
Sustainable
Accessible
Reduce
Community

E De La Guerra and State
Station Size: 6' x 12'
Station Type: 3.0, 6 docks
~740 State St, Santa Barbara,
CA 93101
Lat: 34.419677
Long: -119.699303

Notes:
- Location: State
+ De La Guerra
- Asphalt
- Drill into
Asphalt or
Baseplate



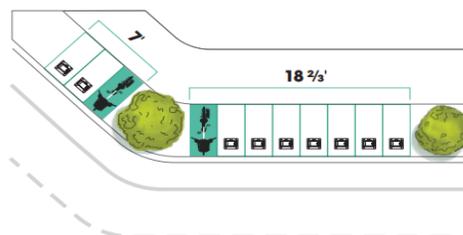
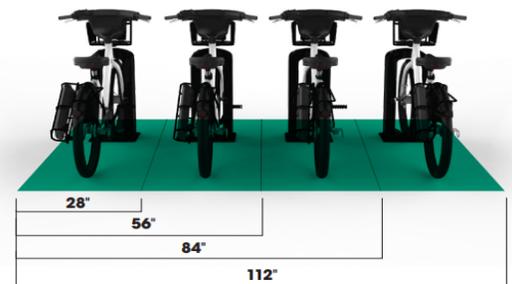
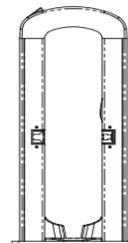
E De La Guerra & State 6 1/28/2021

Sighting Locations

3.0 Install Dimensions

- City right of way
- Red curb
- 6ft PED
- Size: 6-8 docks – 6' x 12'
- Review
- Implement

3.0 STATION PLANNING



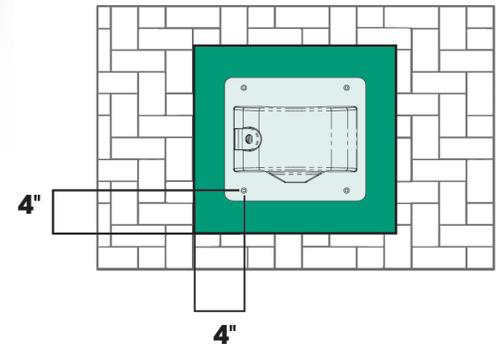
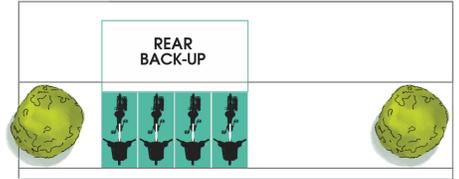
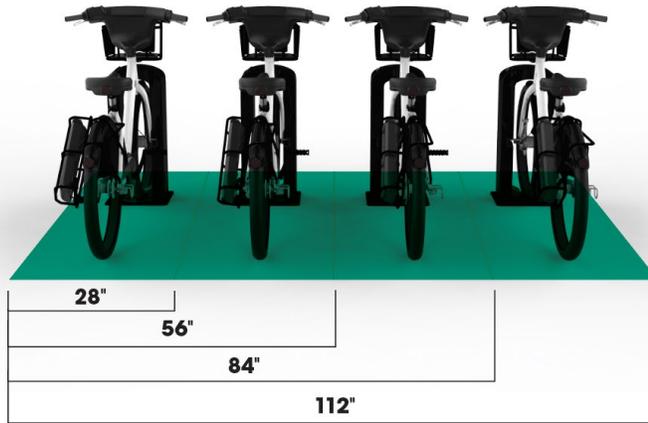
QUICK KEY:

# OF DOCKS	MIN. WIDTH
5	140" (11 3/4')
6	168" (14')
7	196" (16 1/2')
8	224" (18 3/4')
9	252" (21')
10	280" (23 1/2')
11	308" (25 3/4')
12	336" (28')

3.0 STATION PLANNING

IN THE FOLLOWING PAGES WE WILL COVER:

- Station Dimensions
- Install Dimensions
- Station Configurations
- Install Basics
- Station Mockups

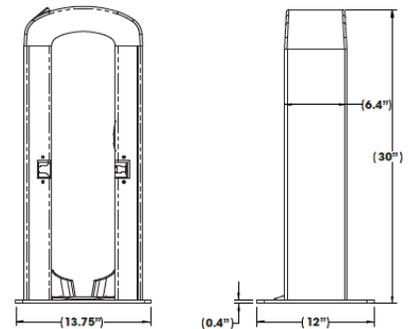
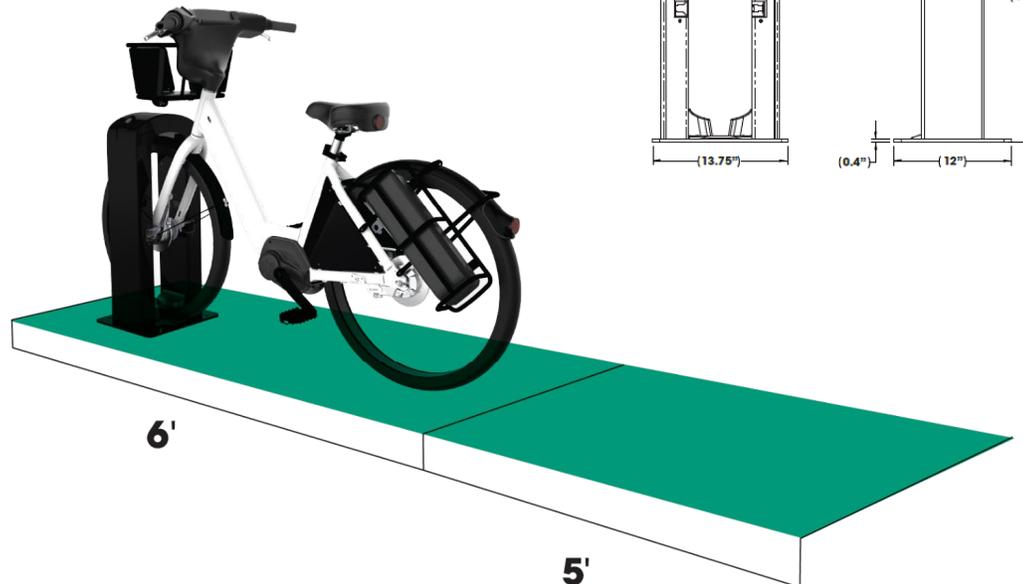


3.0 STATION - INSTALL DIMENSIONS 3.0 DIMENSIONS

STATION DEPTH:

• Single-sided stations must have at least 6' of space (this includes a 6" front tire overhang) plus a 5' back-up zone totaling 11'

• Double-sided stations must have at least 8'6" of space plus a recommended 5' back-up zone on each side totaling 16'6"





System Functionality

LOCAL

Field/Mechanic Techs
Rebalance/Recharge (2:1 ratio)
Maintain

E-CHARGE

No plug in or grid connection
Run on solar battery (replaced 6-9 months)

OBSTACLES

Finding Good Locations
Connectivity
Rebalancing



Funding Sources

PUBLIC

CMO GRANT
City/County
Reap 2.0
Alt. Trans.

PRIVATE

Sponsorship
Corporate Campus
University
Custom ie: Ritz Carlton

**BCycle is a public/private Partnership with
the City of SB/Trek Retail Corp**



Contact

Jesse Rosenberg, BCycle
(e) jesse_rosenberg@bcycle.com
(m) 858-945-3700

Join the electric movement

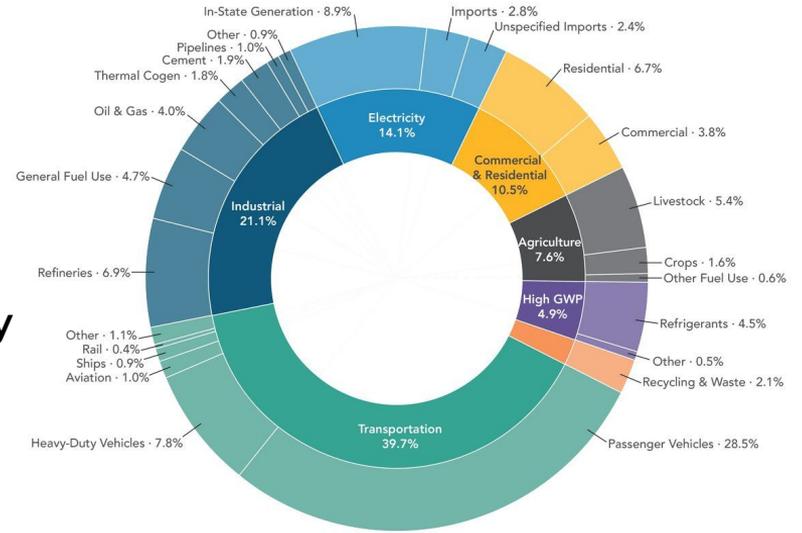
Data and Mapping Solutions for Bicycles in Santa Barbara County

Spatial Pattern Analysis and Research Lab



Pollution and Climate

- Earth's climate is changing because of decades of fossil fuel use
- SoCal has the worst air quality in the US (American Lung Association)
- 284,166 Registered Automobiles in SB County (CA DMV)



2019 GHG Emissions by Sub-Category
CA Air Resources Board



(Wally Skalij / Los Angeles Times)

Active Transportation Plans



City of SB's bike network map

\$80M

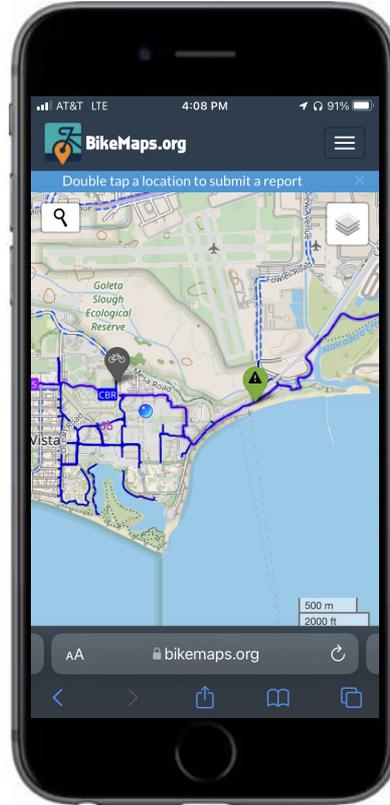
In **Active Transportation Program** funding for project in Santa Barbara County

The Problem

Governments in Santa Barbara County
need data to support transportation
sustainability plans

Our Solution

Use geographic data science to improve data for sustainable and equitable transportation decision making



GeoAI



GIS



Crowdsourced Data



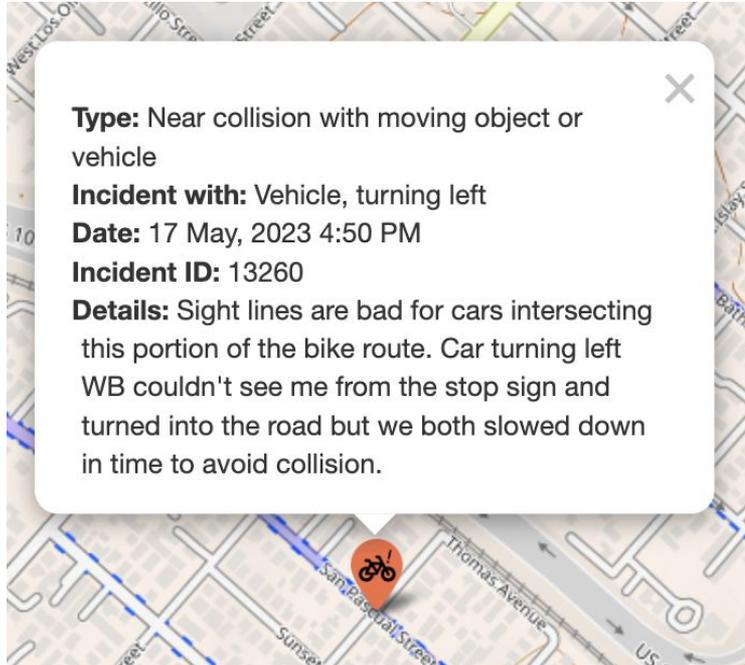
Equity Data



Statistics

Fill Data Gaps

Crowdsourcing Data on Bike Safety



- Report crash or near miss
- 10,000+ reports
- 40+ countries
- Active since 2014

Fill Data Gaps

Using fitness app data, maps, and AI

Data

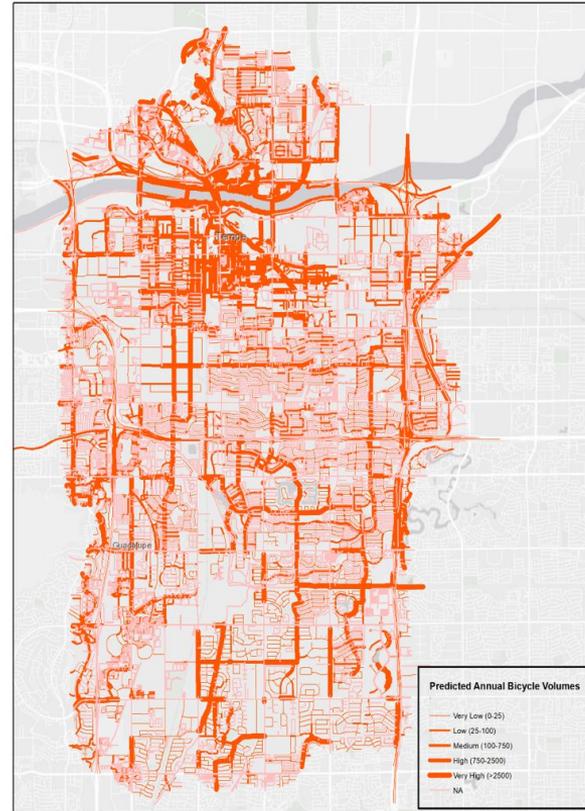
Strava, bicycling safety, income

Cities

Phoenix, San Francisco, Boulder,
Ottawa, Victoria

Result

Up to +/- 10 average daily bicyclists
for 75% of streets

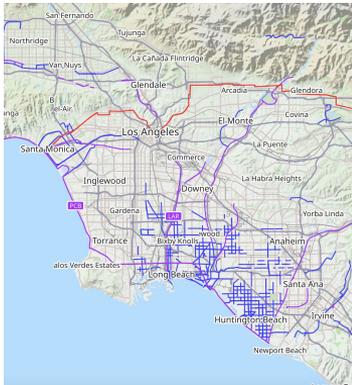


Nelson, T., et al. (2021). Generalized model for mapping bicycle ridership with crowdsourced data. *Transportation Research Part C: Emerging Technologies*, 125, 102981.

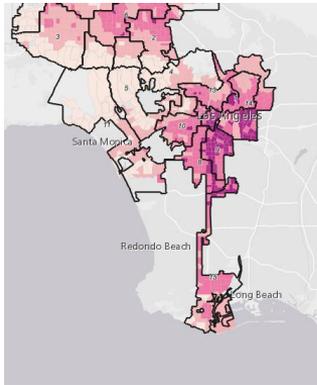
SB County Active Transportation Dashboard

Funding: SB County Association of Governments REAP

Partners: County of SB, MOVE SBC, City of Santa Maria



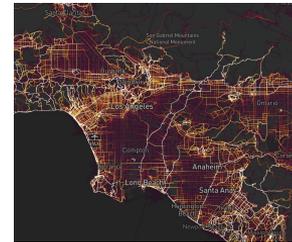
Infrastructure Data



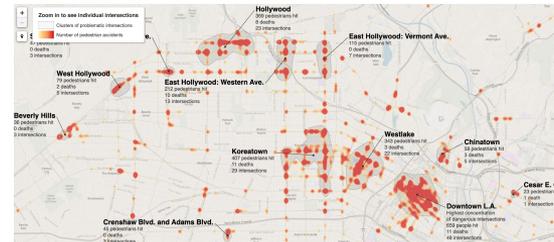
Equity Data



Accessibility Data

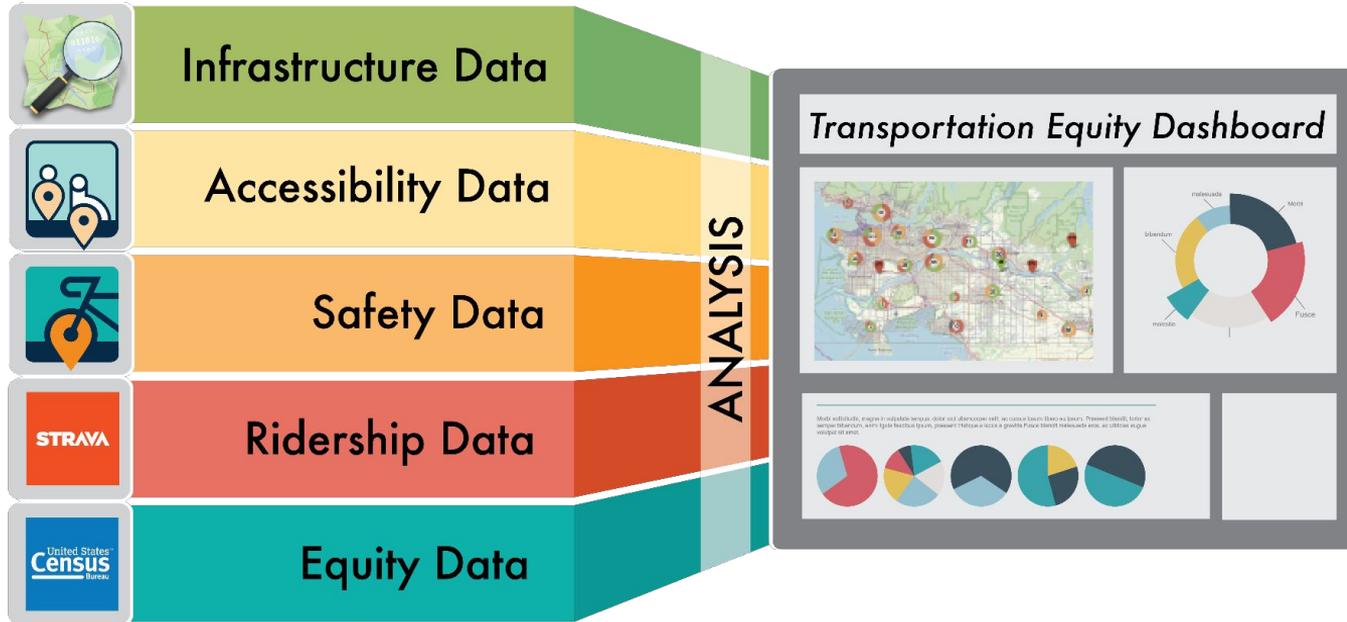


Ridership Data



Safety Data

SB County Active Transportation Dashboard



E-Bikes in Santa Barbara

Funding: National Safety Council

Partners: MOVE SB County

Goal: Increase availability of data on ebike safety. Analyze data to generate evidence that can support safe ebike policy and interventions.

1

Safety Data
Collection

2

Quantify locations +
factors leading to ebike
injury/death

3

Ebike safety
dashboard

The Team



Dr. Trisalyn Nelson

Professor & Dangermond
Chair of Geography
UC Santa Barbara
Founder of BikeMaps.org
and WalkRollMap.org



Karen Laberee

Executive Director of BikeMaps.org
and WalkRollMap.org



Dr. Achituv Cohen

Mobility crowdsourced
geodata and spatial data
mining specialist



Caitlyn Linehan

Walkability, bikeability, and
connectivity in urban areas
specialist



Lizzy Schattle

BikeMaps.org, communication
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SUSTAINABILITY & RESILIENCE DEPARTMENT

REDUCING ENERGY DEMAND AND EMISSIONS THROUGH BICYCLING

Central Coast Sustainability Summit | October 18, 2023

U.S. Emissions Trends

- 1990-2021, total transportation emissions from fossil fuel increased 19%
- 2021: GHG emissions from transportation: 28% of total, largest contributor
- Pandemic dip
- 2021: sport utility vehicles, pickup trucks, and minivans (37%); medium- and heavy-duty trucks (23%); passenger cars (21%); commercial aircraft (7%); other aircraft (2%); pipelines (4%); ships and boats (3%); and rail (2%).

Source: - <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>



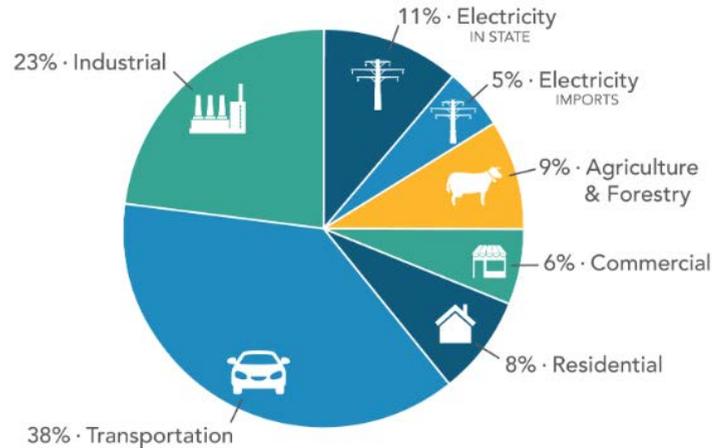
Michael Conti: <https://www.bicycling.com/news/a22864724/roll-coal-cyclist/>



California GHG Emissions

2000-2020 GHG Inventory (2022 Edition)

Million Metric
Tons Carbon
Dioxide
Equivalent
(MMT CO₂e)

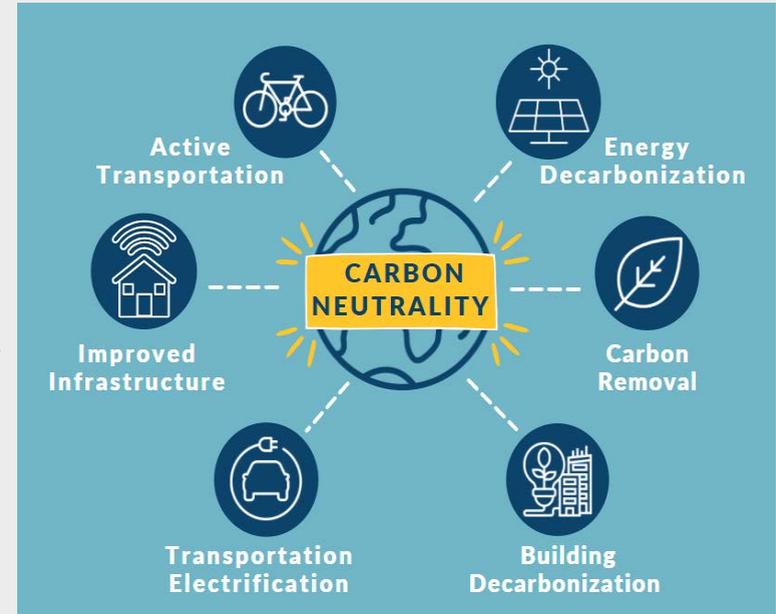


369.2 MMT CO₂e
2020 TOTAL CA EMISSIONS

Source: C.A.R.B. 2022
GHG Emissions

Carbon Neutrality by 2035: Building Off a Strong Foundation

- Strategic Energy Plan
- Santa Barbara Clean Energy
- County ReSource Center
- Municipal Green Building Policy
- Natural Gas Prohibition for New Buildings
- Zero Emission Vehicle Acquisition Policy
- Bicycle Share Pilot Program
- Bicycle and Pedestrian Master Plans





Santa Barbara Clean Energy

BACKGROUND TIMELINE

June 2017

Council adopts an ambitious goal of 100% renewable energy by 2030 for the entire City of Santa Barbara

January 2020

The California Public Utilities Commission approves Santa Barbara Clean Energy's Implementation Plan

October 2021

Residential Santa Barbara Clean Energy service launches



July 2019

Council votes to move forward with a City of Santa Barbara Community Choice Energy Program

September 2020

Council adopts goal of Carbon Neutrality by 2035, acknowledging that Santa Barbara Clean Energy is going to be a critical component of achieving that goal

March 2022

Commercial Santa Barbara Clean Energy service launches



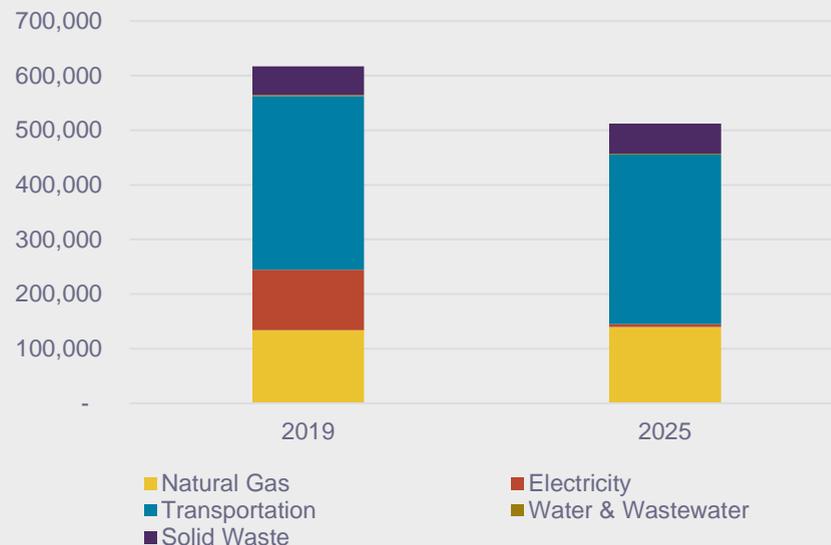
City of Santa Barbara GHG Emissions

Metric Tons Carbon Dioxide Equivalent (MT CO₂e)

*2025 is Post-SBCE, post Resource Center

Major Areas of Opportunity

- TRANSPORTATION
 - On road
 - Off road
- Natural Gas (in buildings)



**All values are of the unit metric tons of carbon dioxide equivalent (MT CO₂e)



Regional Efforts on the South Coast

- City of SB: infrastructure, policy and program management
- MOVE Santa Barbara County: education and encouragement programs
- BCycle: bike share system
- UCSB: data to better understand behavior

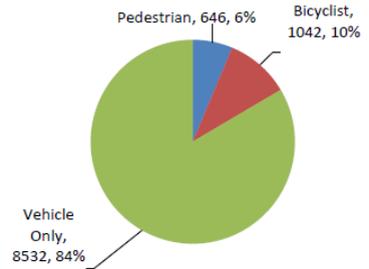


Infrastructure: The Foundation For Safe Active Transportation

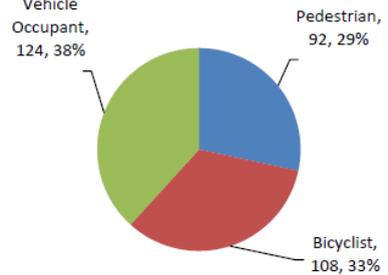


VISION ZERO SANTA BARBARA

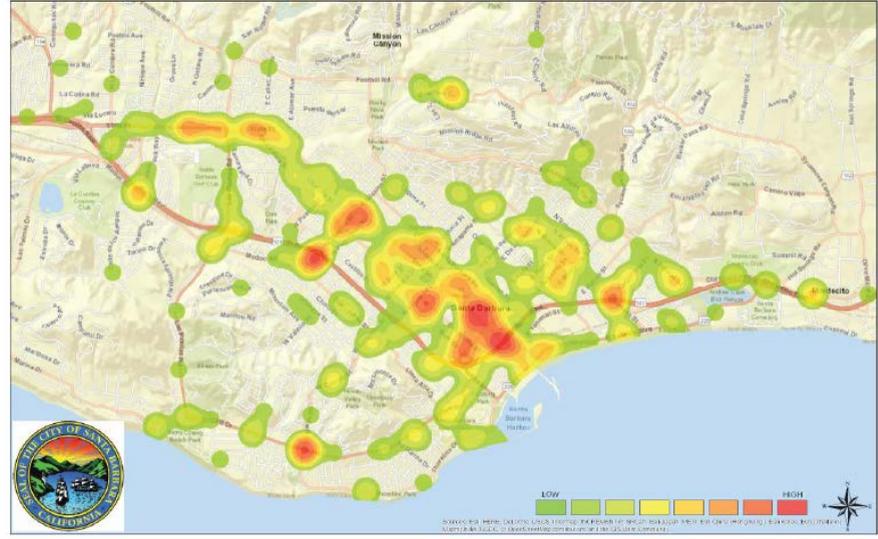
Total Collisions
2008-2017



Serious or Fatal Injuries
2008-2017



Serious and Fatal Collision Heat Map 2008-2017



Grants Make it Happen

- Active Transportation Program (ATP)
 - \$94,925,000 (Cycles 1-6)

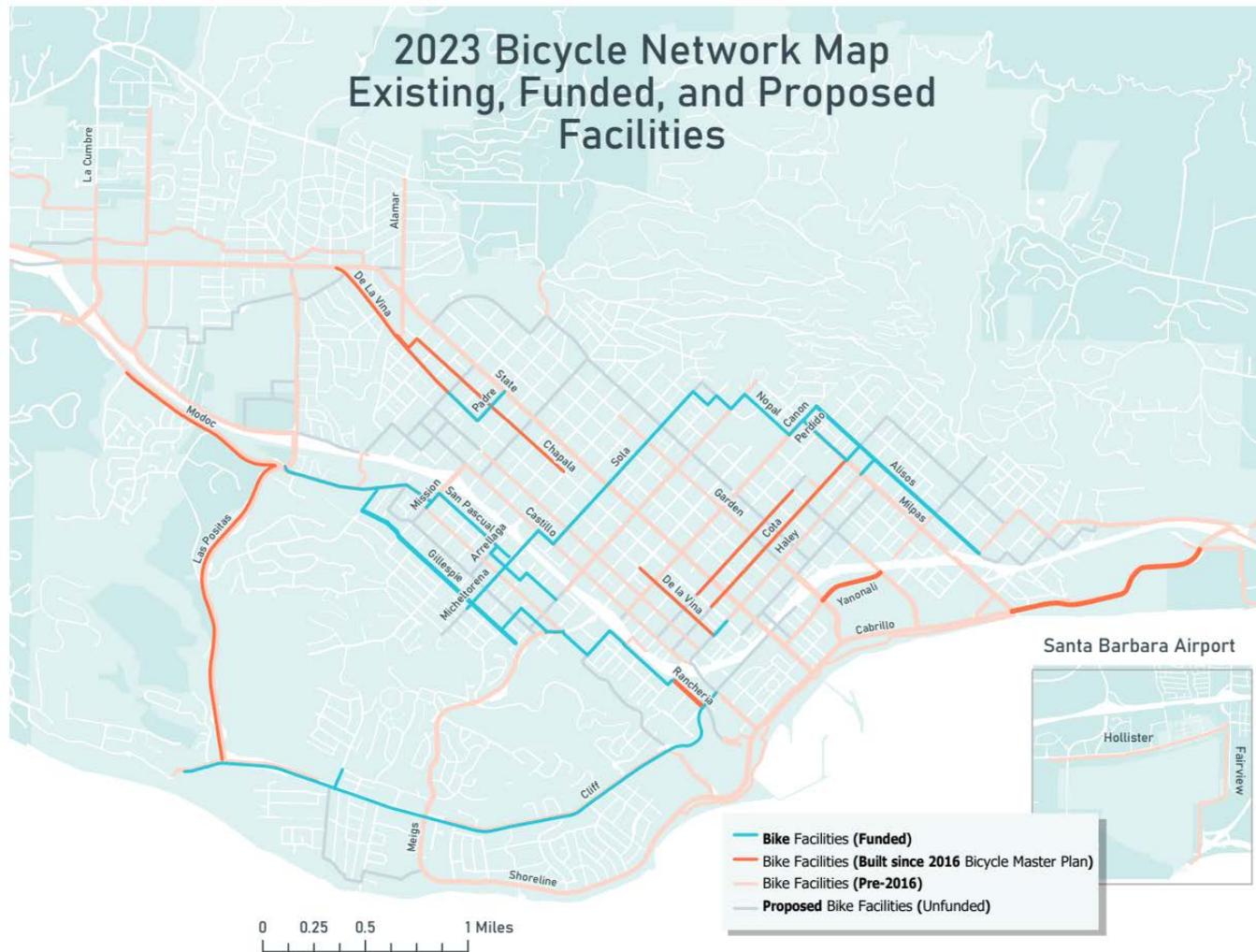


- Highway Bridge Program (HBP)
 - \$111,200,508 (since 2011)

- Highway Safety Improvement Program (HSIP)
 - \$22,549,000 (Cycles 4-10)
- Measure A Grants
 - \$3,920,211 (Cycles 1-6)



2023 Bicycle Network Map Existing, Funded, and Proposed Facilities



Cacique Soledad Pedestrian Bridges and Sidewalk Infill

- **Before** — dilapidated bridge, lack of facilities to get to school

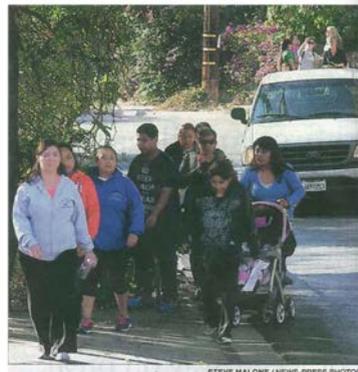


- **After** — 2 new bridges to get to 3 schools, library and community center





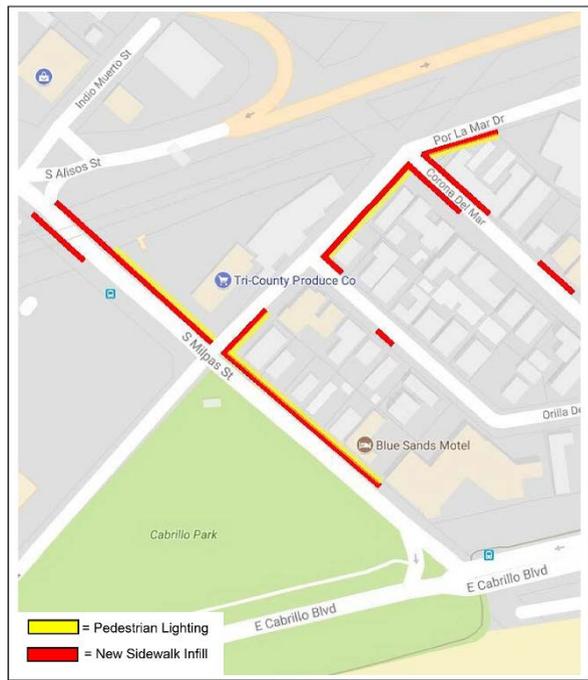
Montecito/Yanonali Bridge Replacement and Sidewalk Infill



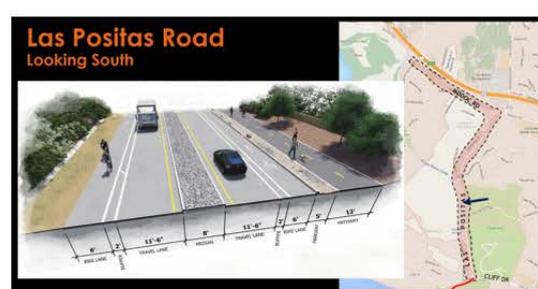
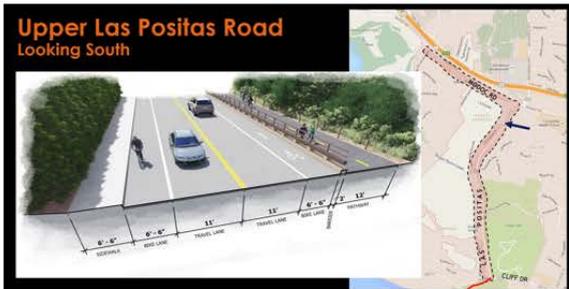
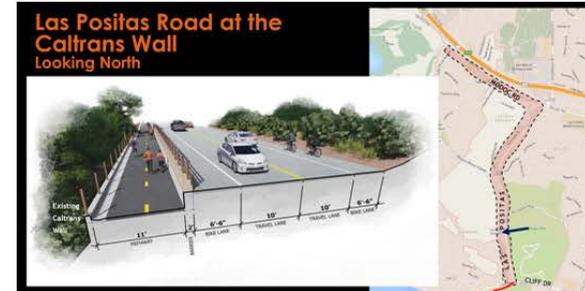
STEVE MALONE / NEWS-PRESS PHOTOS
Traffic leaves little room for pedestrians on the Sycamore Street



Lower Milpas Pedestrian Improvement Project



Las Positas and Modoc Roads Multiuse Path (Planning, Environmental and Design)



Las Positas and Modoc Roads Multiuse Path (Construction)

- During Construction



- After

Carpinteria/Voluntario Crosswalks and Lighting

Injury Traffic Accident

updated: Sep 25, 2014, 8:45 AM

Injury Traffic Accident where a vehicle struck a child at Voluntario and Carpinteria Streets. Fire, Medics, and SBPD are responding.

Photo by John Palminteri of KEYT



A young girl was hit by a truck as she used a crosswalk on a [Santa Barbara street Thursday morning](#) near Franklin Elementary School. (09/25/14)



Downtown De La Vina Safe Crosswalks and Buffered Bike Lane

- Before



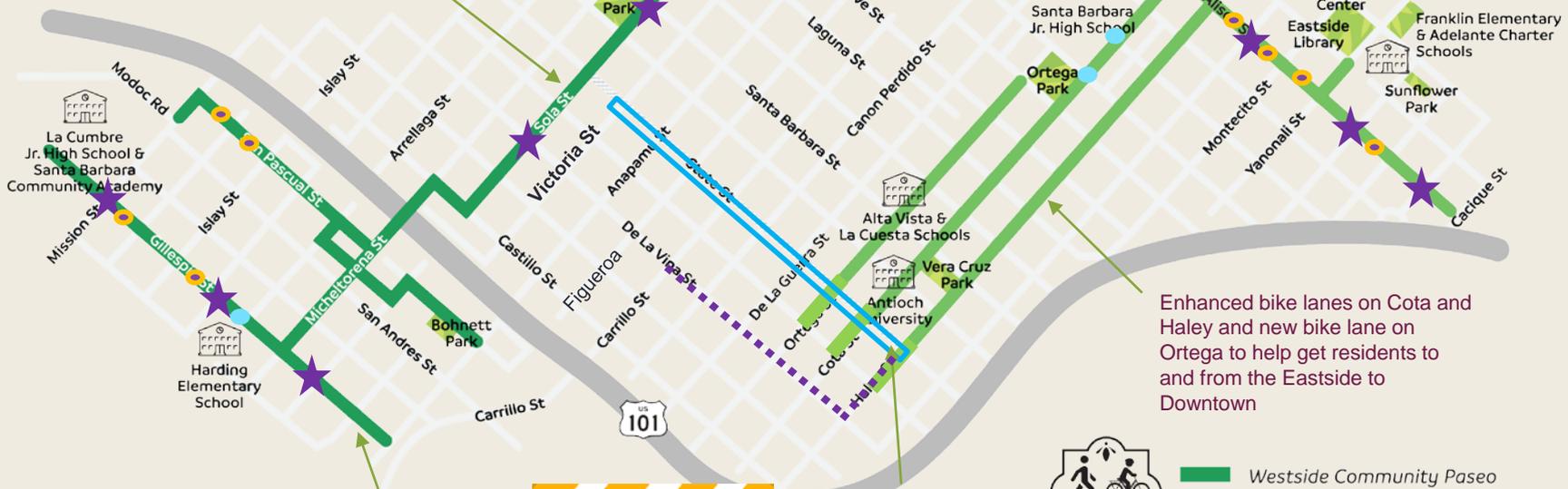
- After



Westside and Eastside Community Paseos Projects

Sola: New Downtown Crosstown Route and connection route to Westside and Eastside Neighborhoods

Alisos: New north-south connection (parallel route to the vehicular dominated Milpas Street)



Gillespie and San Pascual: New north-south connections in Westside (parallel routes to the vehicular dominated San Andres Street)

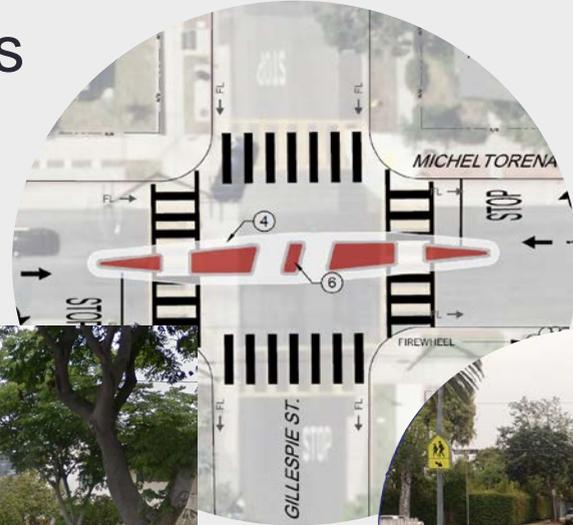
Enhanced bike lanes on Cota and Haley and new bike lane on Ortega to help get residents to and from the Eastside to Downtown



- Westside Community Paseo
- Eastside Community Paseo
- Downtown De La Vina Safe Crosswalks and Buffered Bike Lane
- Landscape Peninsulas
- Enhanced School Crossing

Westside and Eastside Community Paseos Projects

- What to expect along the paseos



State Street Undercrossing

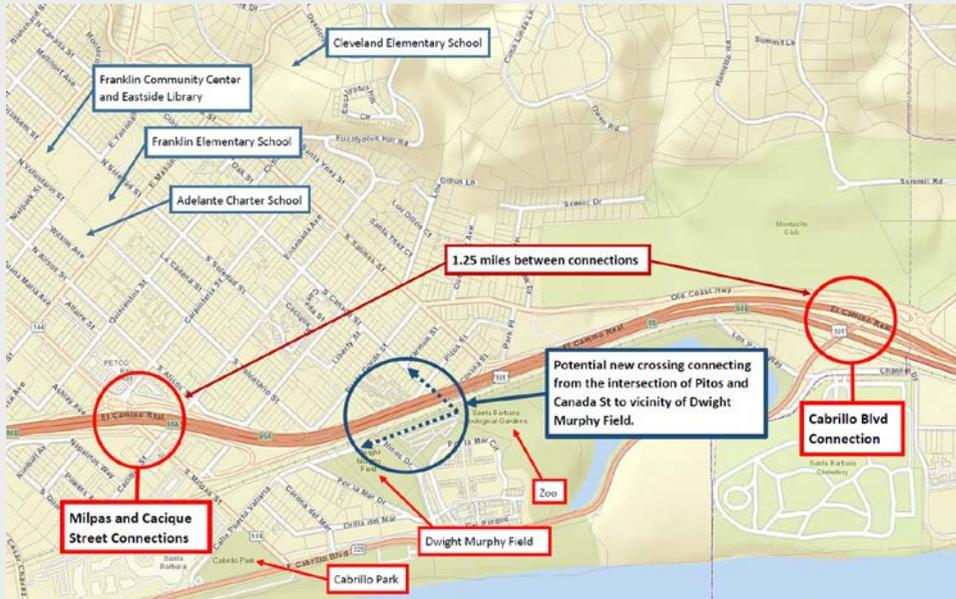


Before



**UNDER
CONSTRUCTION**

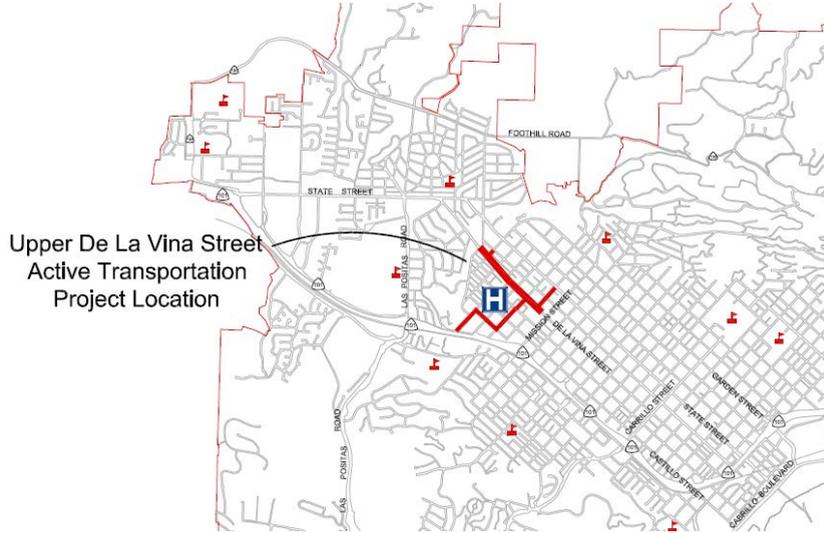
Lower Eastside Connectivity Plan (Planning Grant)



Concept



Upper De La Vina Active Transportation Improvements



- Before



- After



Cliff Drive: Urban Highway to Complete Street



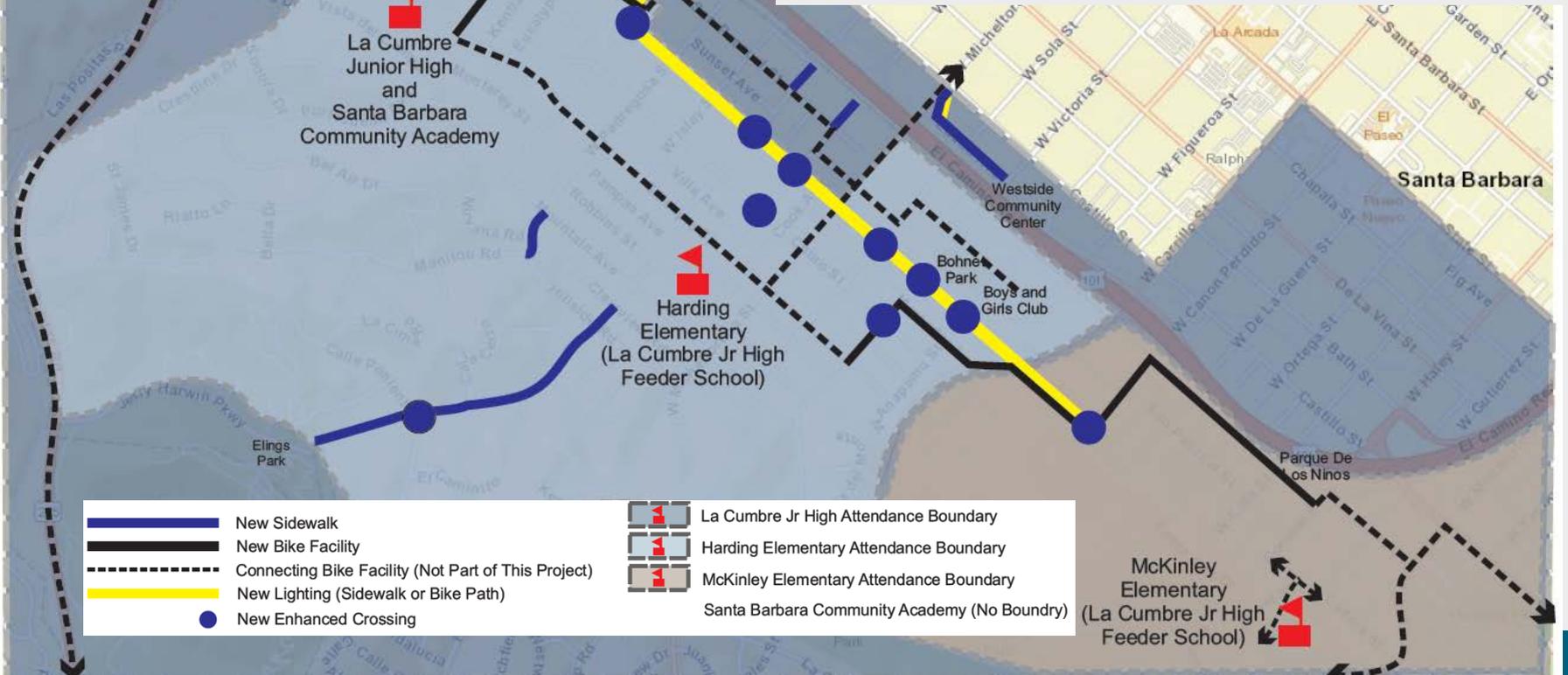
COMING SOON

Legend and Approximate Implementation Years

- Existing Coastal Route Section
- Modoc Road to Obern Trail Gap Closure Project (Santa Barbara County, Construction 2022/23)
- Modoc/Las Positas Multi Use Path Project (City of Santa Barbara, Completed 2022)
- Santa Claus Lane Bike Path (SBCAG, Santa Barbara County, Caltrans - Construction 2022/2023)
- Rincon Multi Use Trail Gap Closure (SBCAG, Construction 2023/2024)
- Cabrillo/Los Patos Intersection Improvement and Connector Path (roundabout, Class 1) (City of Santa Barbara, SBCAG, Caltrans - Construction 2023/2024)
- San Jose Creek Bike Path (City of Goleta, Construction 23/24)
- Cliff Drive Gap Closure Project, ATP Cycle 6 Application
- Other Future Class 1 or Class 4 Connections

Westside and Lower West Active Transportation Plan Implementation

COMING SOON



- New Sidewalk
- New Bike Facility
- Connecting Bike Facility (Not Part of This Project)
- New Lighting (Sidewalk or Bike Path)
- New Enhanced Crossing
- La Cumbre Jr High Attendance Boundary
- Harding Elementary Attendance Boundary
- McKinley Elementary Attendance Boundary
- Santa Barbara Community Academy (No Boundry)

La Cumbre Junior High and Santa Barbara Community Academy

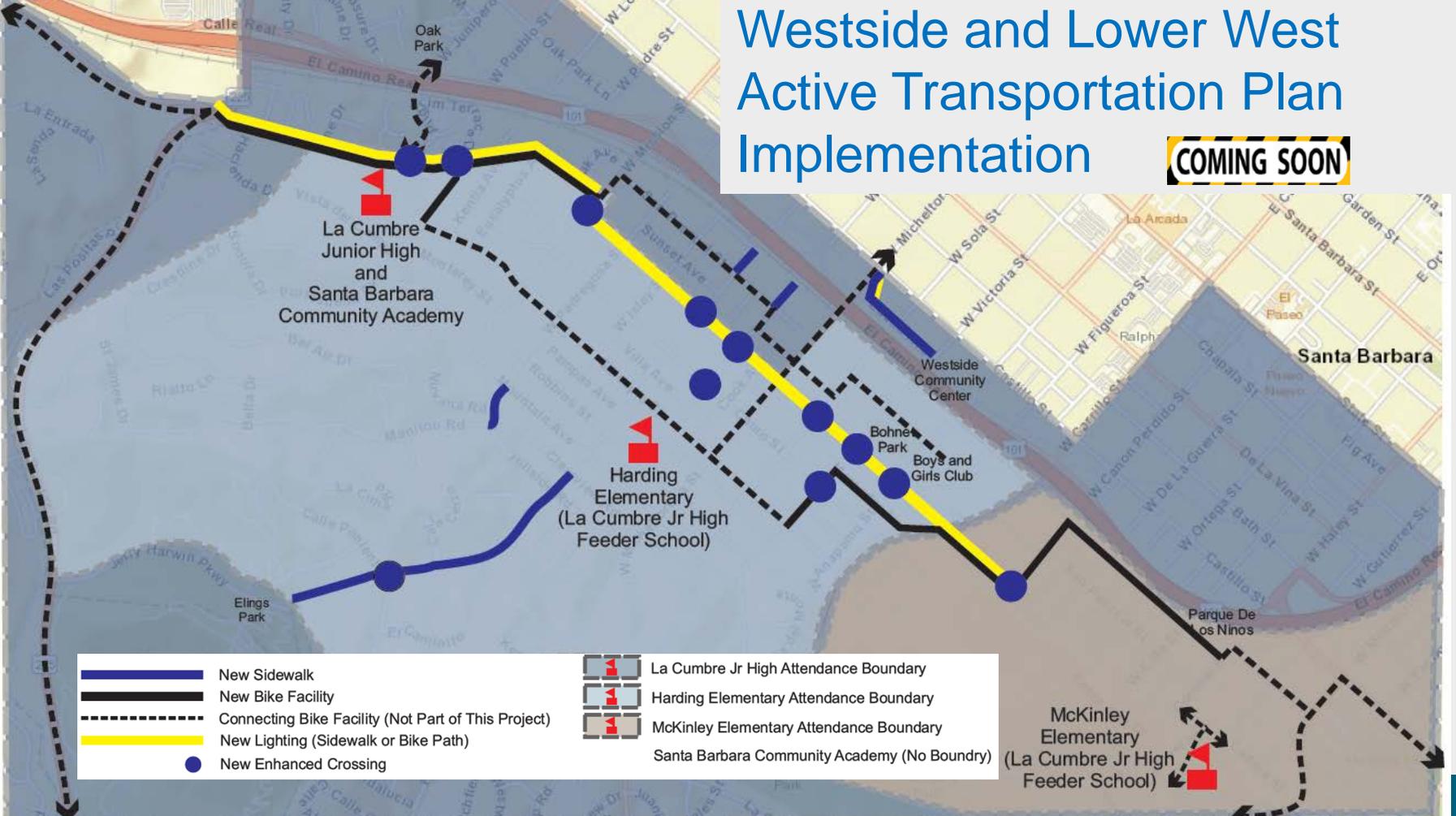
Harding Elementary (La Cumbre Jr High Feeder School)

Westside Community Center
Bohne Park
Boys and Girls Club

McKinley Elementary (La Cumbre Jr High Feeder School)

Santa Barbara

Parque De los Niños



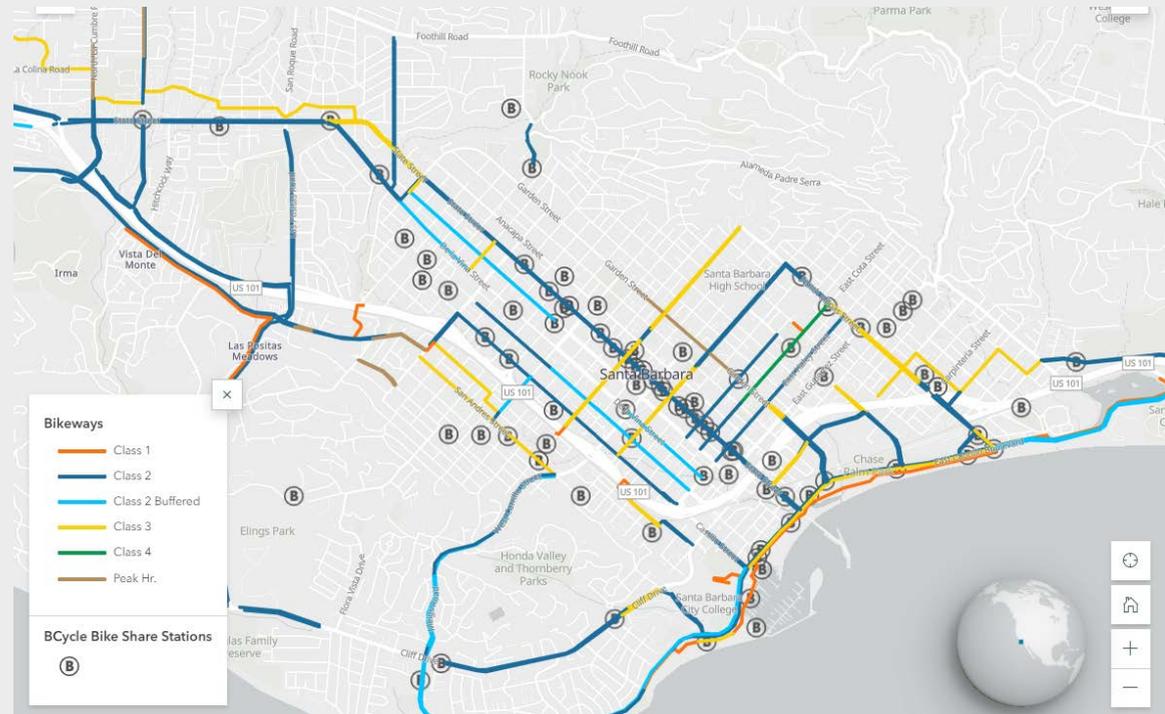
Milpas Street Crosswalk Safety and Sidewalk Widening



COMING SOON

SB's Interactive Bike Network Map

- Catalogue of existing network
- Types of bike facilities
- Future integration with regional map update





Bike Share on the South Coast

- City of SB: infrastructure, policy and program management
- MOVE Santa Barbara County: education and encouragement programs
- BCycle: bike share system
- UCSB: data to better understand behavior



What is Bike Share?

Point-to-Point transportation option that:

- Reduces traffic
- Reduces parking demand
- Provides access to key destinations
- Is affordable
- Is great when it's too far to walk, but too close to drive



Three Years In: Bike Share Pilot Program

System statistics from launch (January 2021) to September:

- 534 docks at 87 docking stations, ~265 pedal assist e-bikes
- 1,282,000+ miles ridden
- 387,000+ trips
 - 28% Single ride
 - 41% Monthly
 - 29.5% Annual Member
 - 1.5 % BCycle for All





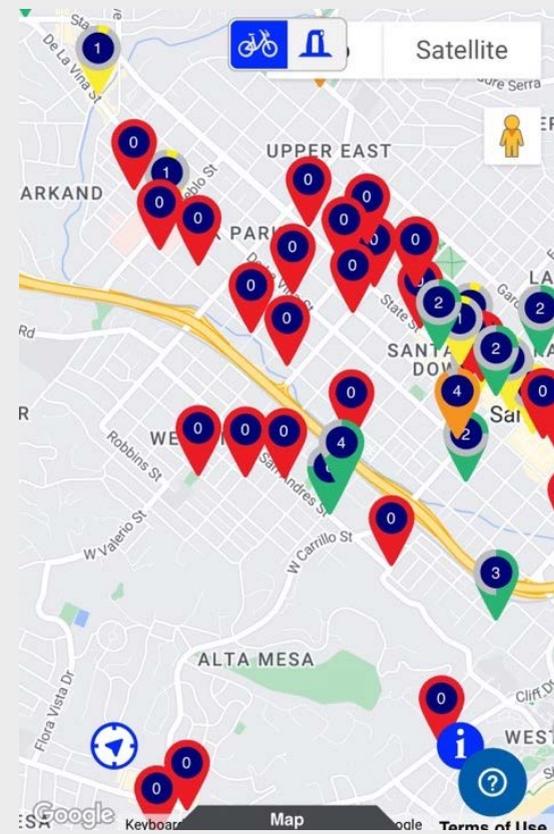
BCycle E-Bikes and Docks

- Electric, pedal-assist to 17 miles per hour
- App interface
- Dedicated team



Who Rides BCycle?

- Residents, commuters, tourists, e-bike curious
- BCycle for All – income qualified \$25 annual membership
- Library of Things



Fiesta:
11:00am
Friday,
August 4



Making It Happen



City of Santa Barbara
SUSTAINABILITY
& RESILIENCE



UC SANTA BARBARA

SPAR Lab



BIKEMAPS.ORG

Santa Barbara Bike Share
Regional Usage:
1/2023 – 3/2023

