Reducing Energy Demand and Emissions through Bicycling

Central Coast Sustainability Summit 2023
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

Attending and Speaking at a Santa Maria City Council Meeting
Bike Valet

- Provide secure bike parking at events
- Reduce driving and need for vehicular parking
- 3,400 bikes parked in 2023
Attending and Speaking at a Santa Maria City Council Meeting

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
Attending and Speaking at a Santa Maria City Council Meeting

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
Thank you!

Heather Deutsch
heather@MoveSBCounty.org
805.845.8955
Point-to-Point Transportation

Fun
Sustainable
Accessible
Reduce
Community
Sighting Locations

3.0 Install Dimensions

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

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

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)
Active Transportation Plans

$80M

In Active Transportation Program funding for project in Santa Barbara County

City of SB’s bike network map
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.
Fill Data Gaps

Crowdsourcing Data on Bike Safety

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

**Type:** Near collision with moving object or vehicle

**Incident with:** Vehicle, turning left

**Date:** 17 May, 2023 4:50 PM

**Incident ID:** 13260

**Details:** Sight lines are bad for cars intersecting this portion of the bike route. Car turning left WB couldn’t see me from the stop sign and turned into the road but we both slowed down in time to avoid collision.
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

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

- Infrastructure Data
- Accessibility Data
- Safety Data
- Ridership Data
- Equity Data

Transportation Equity 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
goedata and spatial data
mining specialist

Caitlyn Linehan
Walkability, bikeability, and
connectivity in urban areas
specialist

Lizzy Schattle
BikeMaps.org, communication
and project management
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

California GHG Emissions

2000-2020 GHG Inventory (2022 Edition)

Million Metric Tons Carbon Dioxide Equivalent (MMT CO₂e)

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

369.2 MMT CO₂e
2020 TOTAL CA 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

<table>
<thead>
<tr>
<th>Background Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>June 2017</strong></td>
</tr>
<tr>
<td>Council adopts an ambitious goal of 100% renewable energy by 2030 for the entire City of Santa Barbara</td>
</tr>
<tr>
<td><strong>January 2020</strong></td>
</tr>
<tr>
<td>The California Public Utilities Commission approves Santa Barbara Clean Energy’s Implementation Plan</td>
</tr>
<tr>
<td><strong>October 2021</strong></td>
</tr>
<tr>
<td>Residential Santa Barbara Clean Energy service launches</td>
</tr>
<tr>
<td><strong>July 2019</strong></td>
</tr>
<tr>
<td>Council votes to move forward with a City of Santa Barbara Community Choice Energy Program</td>
</tr>
<tr>
<td><strong>September 2020</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td><strong>March 2022</strong></td>
</tr>
<tr>
<td>Commercial Santa Barbara Clean Energy service launches</td>
</tr>
</tbody>
</table>
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
Total Collisions 2008-2017

- Pedestrian, 846, 6%
- Bicyclist, 1042, 10%
- Vehicle Only, 8532, 64%

Serious or Fatal Injuries 2008-2017

- Vehicle Occupant, 124, 38%
- Pedestrian, 92, 29%
- Bicyclist, 108, 33%

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

Bike Facilities (Funded)
Bike Facilities (Built since 2016 Bicycle Master Plan)
Bike Facilities (Pre-2016)
Proposed Bike Facilities (Unfunded)
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
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
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. (Aug 18/16)
Downtown De La Vina Safe Crosswalks and Buffered Bike Lane

• Before

• After
Santa Barbara CA.gov

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

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)

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

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

State Street Promenade

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

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

• What to expect along the paseos
State Street Undercrossing

Before
Lower Eastside Connectivity Plan (Planning Grant)

Concept
Upper De La Vina Active Transportation Improvements

- Before

- After
Cliff Drive: Urban Highway to Complete Street
Milpas Street Crosswalk Safety and Sidewalk Widening
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

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