San Diego and Western Riverside Interregional Park & Ride Strategy

Borders Committee
May 9, 2019

Caltrans Sustainable Transportation Planning Grants: Strategic Partnerships Award

- Grant Award
  - $288,000 Caltrans Grant
  - $72,000 Local Match
- Partnership with Riverside County Transportation Commission
- Two-Year Project to be completed by June 30, 2019
I-15 Interregional Partnership

Workers Commuting From Riverside To Other Counties

- 0 - 100
- 101 - 500
- 501 - 1,000
- 1,001 - 50,000
- 50,001 - 89,709
- Riverside
- No Commuters To This County

Total Workers Commuting Out: 255,256

Special Report of 2006 to 2010 County-to-County Commuting Flows, American Community Survey, U.S. Census Bureau, report released January 2013

Park & Ride Benefits

What value does the region gain with Park & Ride investments?
Park & Ride Challenges
What improvements are necessary for Park & Ride success?

Key Deliverables
Providing Resources to Support Park & Ride Decision-Making
Leveraging Partnerships to Improve Regional Analysis

This map shows P&Rs adjacent to I-8 with utilization and Smart Growth layers enabled.

Strategy Toolkit
Next Steps

- Regional Strategic Actions
- Finalize Report
BORDER TO BAYSHORE BIKEWAY
Borders Committee May 24, 2019

REGIONAL BIKE PLAN

EARLY ACTION PROGRAM

• $200 million in TransNet funds
• Building 77 linear miles of bikeways
• 70 of 77 miles either open or under design
• 7.5 miles open to date
REGионаl Bike Plan

Early Action Program

Border to Bayshore Bikeway

Everyday People, Everyday Trips

No way

Interested, but concerned
(potential bikeway users)

Anywhere, anytime
BIKE EAP DESIGN PRINCIPLES

SAFE “LOW STRESS” STREETS

• Safe movement of people
• Protected bikeways provide separation
• Traffic calming to reduce speeds
• Challenges in urban areas due to limited space and competing uses

SUPPORTING PLANNING EFFORTS

City of San Diego Bicycle Master Plan

Otay Mesa-Nestor Community Plan

City of Imperial Beach Bicycle Transportation Plan

San Ysidro Community Plan Update
WHICH PLACES SHOULD BE CONNECTED BY THE BIKEWAY?

1st COMMUNITY MEETING
SOUTHWEST HIGH SCHOOL, May 2017
PREFERRED PROJECT

BIKE BOULEVARD FEATURES
SEPARATED BIKEWAY FEATURES

RECENT ACCOMPLISHMENTS AND NEXT STEPS

• California Environmental Quality Act (CEQA) December 2018
• National Environmental Protection Act (NEPA) March 2019
• SANDAG is working on engineering design plans
• Anticipated Schedule
  o Ready to advertise in early 2021
  o Construction to begin in mid-2021
  o Open to public in early 2023
San Diego Association of Governments

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KeepSanDiegoMoving.com/BordertoBayshore
San Ysidro Air Monitoring Network

San Ysidro Air Monitoring Study Findings (2016-2018)

- It helped identify San Ysidro as a disadvantaged community by the CalEnviroScreen (CES), an environmental justice tool used by the state of California, and be placed within the top 25% of census tracts that are highly impacted.
- The census tract hosting the SY Port-of-Entry in San Ysidro has the highest traffic levels in ALL California.
- It showed a clear correlation between border wait-time and pollution in the community which allowed for the creation of a PM$_{2.5}$ prediction chart, shown below.
CARB - $642,774 – Supporting 3 years of continued Air Monitoring in for SY Air Network; work with SDAPCD to develop recommendations for emissions reduction.


- Provide comprehensive data from both sides of the border.
- Incorporate UABC research assistance. Dr. Emmanuel Castillo Quinones.
- The new monitoring sites will measure the same pollutants (PM$_{2.5}$, CO, NO, NO$_2$, and O$_3$)
- To make a positive, incremental improvement in overall understanding of how environmental quality and the health of border communities may be improved through improved environmental monitoring.
Goals and Purpose of San Ysidro Air Monitoring Network

- Update and expand current 13 low-cost monitor networks and form collaboration with residents of region, SDAPCD, CARB and EPA.
- Deploy 100 new ultra-low cost PM sensors to further study the difference of indoor vs outdoor air quality.
- Build up capacity at Casa Familiar and the community to stop relying so heavily on the University of Washington and San Diego State University for technical assistance and data analysis.
- Hold 3 Community-to-Community training events.

Side Project: Border 2020 Project Goals

- Led by Dr. Seto (University of Washington) in partnership with San Diego State University and Casa Familiar.
- Establish 6 new monitors south of the POE in Tijuana.
  - Expanded to 9 locations
- Document changes in air quality near the POE.
- Engage with residents, academic researchers, and air quality agencies.
- Integrate data into current syairstudy.org website.
Updates of Networks Development Progress

- **San Ysidro Air Network:**
  - Edimax ultra-low cost indoor and outdoor PM monitors have arrived to Casa Familiar.
  - Clarity (PM and NO2) monitors have arrived to Casa Familiar and will soon be calibrated.
  - University of Washington Box monitors (UW) are being redesigned and assembled at the University of Washington by Dr. Seto.

- **Border 2020:**
  - All monitors have been calibrated by colocation at Donovan Prison and were deployed to their assigned Tijuana sites.
  - Currently working to overcome connectivity issues with the deployed monitors.

Monitor Insight

Three different types of monitors will be used to measure the air quality around San Ysidro

1. University of Washington Boxes (UW)
2. Edimax
3. Clarity Node
Pollutants measured by UW Boxes

Nitric Oxide (NO)
- **Sources:** Combustion of coal and oil at electric power plants and also during the combustion of gasoline in automobiles.

Nitrogen Dioxide (NO2)
- **Sources:** NO2 primarily gets in the air from the burning of fuel. NO forms from emissions from cars, trucks and buses, power plants, and off-road equipment.

Ozone (O3)
- **Sources:** Happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight.

Carbon Monoxide (CO)
- **Sources:** CO is released when something is burned. The greatest sources of CO to outdoor air are cars, trucks and other vehicles or machinery that burn fossil fuels.

Particulate Matter (PM)
- **Sources:** Most particles form in the atmosphere as a result of complex reactions of chemicals such as sulfur dioxide and nitrogen oxides, which are pollutants emitted from power plants, industries and automobiles.
Insight of UW Box Monitors

- Non-regulatory research instruments, calibrated to government monitoring instruments
- Modified Dylos particle counter with 4-size bins measuring between PM 0.5 – 10 um (changing this to newer Plantower sensor)
- Alphasense electrochemical sensors for traffic-related gas pollutants (CO, NO, NO₂, O₃)
- Temperature and Relative Humidity
- Cellular network for real-time data transmission
- Internet server for storing and sharing data
- Data calibration and quality control process applied before posting to website: www.syairstudy.org

Monitoring Sites in San Ysidro (UW)

1. San Ysidro POE
2. SY Bus Terminal / McDonalds
3. Outlets at the Border
4. Willow Elementary School
5. The Front Arte Cultura
6. San Ysidro Middle School
7. San Ysidro Senior Health
8. Nicoloff Elementary School
9. Tijuana River Estuary (Off Map)
10. Donovan APCD Site (Off Map)
Monitoring Sites in Tijuana

We propose:
1. One monitor in a “background” site
2. One monitor co-located with a SPA site
3. One monitor at the Otay Mesa truck crossing
4. Three remaining monitors located at varying distance from the San Ysidro Port of Entry
5. Expanded network includes three additional gradient monitors

Edimax
Indoor vs Outdoor Air Quality

- Indoor and Semi-outdoor version
- Measures particulate matter, temperature and humidity
- Uploads data directly to the internet
Indoor and Outdoor Study

- The purpose of this sub-study is to analyze and understand the patterns and correlations between indoor air quality and different type of buildings and households in San Ysidro.

- Through community feedback and engagement we will be able to understand the community’s main concerns and prioritize the hosting locations for these sensors.

- A pair of Edimax monitors (one indoor/one outdoor) will be assigned up to 50 sites in San Ysidro.

Edimax Co-locations
Clarity Node

- Measures PM$_{2.5}$
- Measures NO$_2$
- Solar Powered

Clarity Co-locations