

# The West Oakland Link

Meeting 3 of 5

Environmental Justice

Oct. 17, 2023



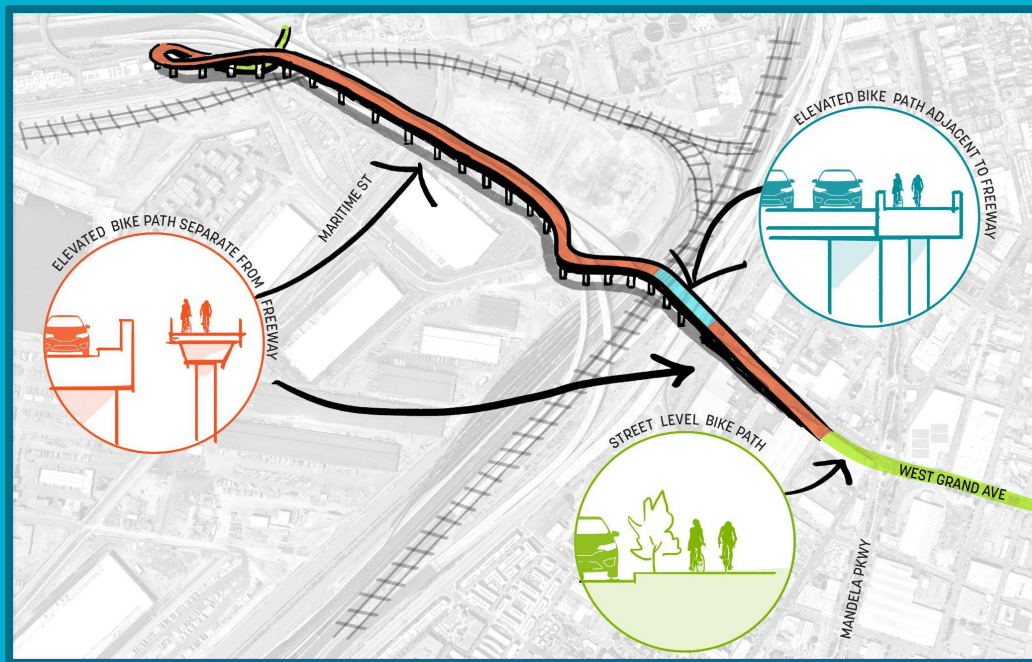


# What is the project?

In simple language this is a trail project.

The West Oakland Link of the Bay Skyway, is part of the Bay Trail and will provide a safe 15-foot wide connection for bicyclists and pedestrians to travel between West Oakland, the Port of Oakland, and the Bay Bridge Trail.

- 1.1 miles of separated, elevated low-stress multi-use path
- Connects with the planned Grand Ave protected bike lane (to downtown) at Mandela/Grand intersection
- Landscaping and community amenities based on community input



# Schedule [RSVP to upcoming meetings at woeip.org/events](https://woeip.org/events)

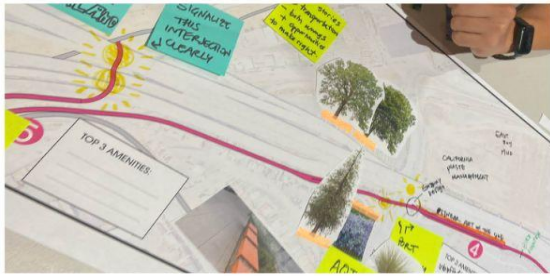
Phase	Meeting	Date	Purpose
1	1: Intro to the West Oakland Link	9/1/2023	Start the community engagement process.
	2: Design Deep-dive	10/10/2023	Explore design elements shaping the path at key locations.
<b>Tonight</b> →	<b>3: Environmental Justice, Air Pollution &amp; Public Health</b>	<b>10/17/2023</b>	<b>Explore the health and equity implications of the path's location through an area with elevated pollution levels.</b>
	4: Streetscapes, Intersections & Traffic Safety	10/25/2023	Use shared local knowledge to help shape a path that accommodates different modes of transportation for all.
	5: Placemaking, Design & History	11/8/2023	Root the Link in local history and create a sense of community.
2	Design Update Meeting 1	2/2024	
	Design Update Meeting 2	6/2024	
3	Design Update and Construction Phase Introduction Meeting	8/2024	
4	Pre-Construction Phase Meeting	3/2025	

# Meeting Expectations

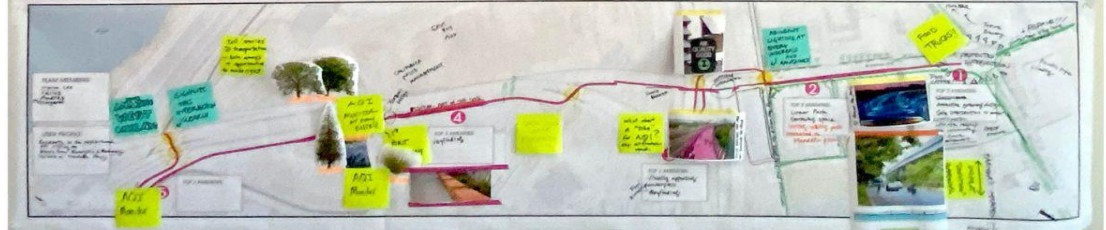
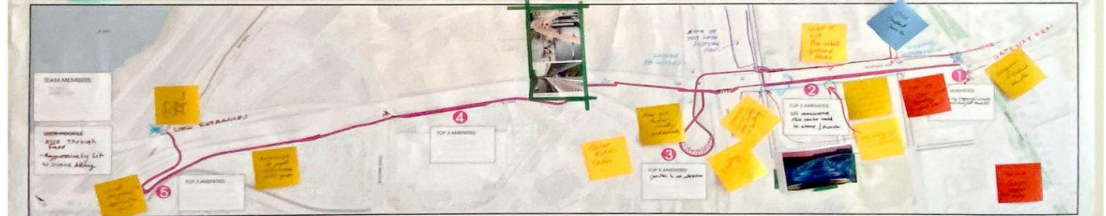
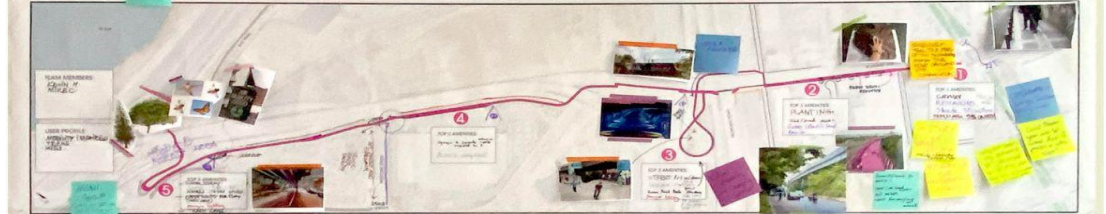
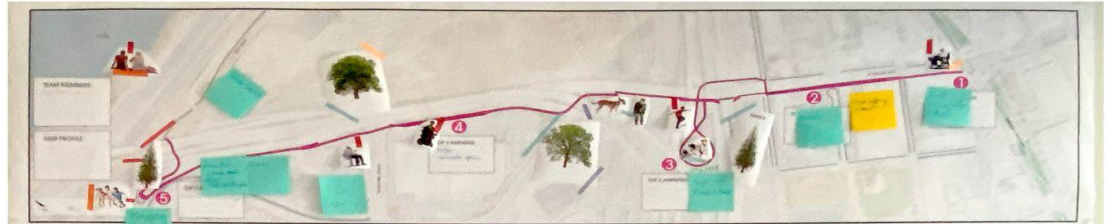
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- Please communicate with respect and be mindful of how much space you're taking while engaging those who haven't spoken
- Respect time agreements and stay on topic in order to achieve our meeting goals
- We actively listen with an open mind, respecting multiple points of view
- We assume good faith in giving and receiving feedback, criticism and questions
- We check for diversity gaps (who is missing) and propose solutions for it

# Community Process



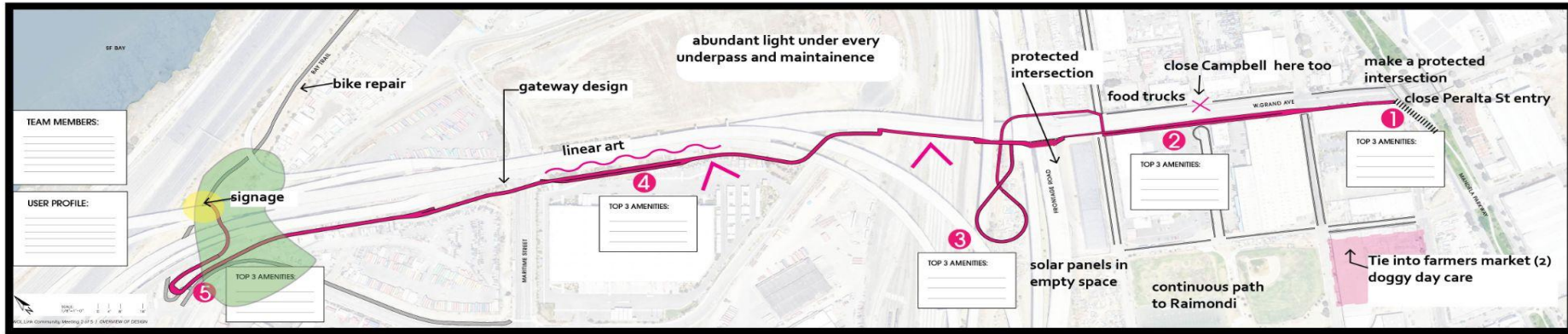
# 4 Groups Made Placemaking Maps





# What We Heard:

*"tell stories - including transportation - both wrongs and opportunities to make it right"*



## 5

- Signage (2)
- Strong lighting (2)

- Urban forest
- Digital display counter (bike+ped)
- Metrics - trees saved
- Opportunity for play (mini golf)
- Trash cans
- Water fountains
- Mini golf
- Accessibility for people w/ disabilities on this grade
- Memorial plaques (military/army)
- View point(scenic view)
- Bench
- Trash cans? Recycling

## 4

- Signage to separate entrance + exit + wayfinding (2)

- No hostile seating (bench)
- Water
- Interactive space
- Way finding
- Bike counting device
- Gateway design for the port

## 3

- Make this stand out, visually/ architecturally (x3)
- Quiet ride calm (x2)
- Visually appealing underpass (2)

- Street art on columns
- Skate park attracts (daring users)
- Union point pask
- Spiral structure
- Stronger lighting
- Make space for dancers or other performing groups
- Can this be an attraction
- Lighting
- Sound (ped bridge in san diego)
- Poop bags
- Picnic table
- Wayfindings
- Fun intuitive
- What about a "tube" for aqi? Esp. At Frontage Rd

## 2

- Street lighting (2)
- Planting (2)
- Wind sound screen (2)
- Gathering space (2)

- More housing + jobs= lunch zone
- Clear view sights no blind spots
- Left unmaintained this corridor could be a disaster
- Bench
- Cameras
- Linear park
- Walking path connected to mandela pkwy

## 1

- Arch way large welcoming/ attractive entry (4)
- Map + wafinging (3)
- Storytelling (3)

- Could it span over west grand?
- Gateway
- Restrooms
- Shade structure
- Food coffee
- Safe intersection to enter
- Continuity with the rest of the community & future development

### Local Stories:

1. History of west Oakland cypress freeway removal story
2. Memory of the neighborhood removed
3. Earthquake of 89 "Black Wall Street" of 7th st, Jazz Clubs, continued railroads, Black Panthers, etc.

# Agenda

- Environmental Justice and West Oakland
- Traffic Related Air Pollution
- Health Implications
- Mitigation Opportunities and Limitations

Environmental justice embraces the principle that all people and communities have a right to equal protection and equal enforcement of environmental laws and regulations.

-Dr. Robert Bullard, Father of environmental justice



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# West Oakland and Environmental Justice



gettyimages®  
Credit: Jim Sugar

# Connecting West Oakland to the Shoreline and San Francisco

Provides a West Oakland bicycle & pedestrian connection to:

- Bay Trail and East Span Path
- Judge John Sutter Shoreline Park
- 280 acres of parks on Treasure Island
- Jobs at the Port and in San Francisco



# Potential risks of traffic-related air pollution (TRAP) exposure and mitigation strategies

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Created by Maria Harris, Kelsey Meisenhelder, Ms. Margaret Gordon

*Members of West Oakland Community Action Plan  
Health Equity Advisory Committee (WOCAP HEAC)*



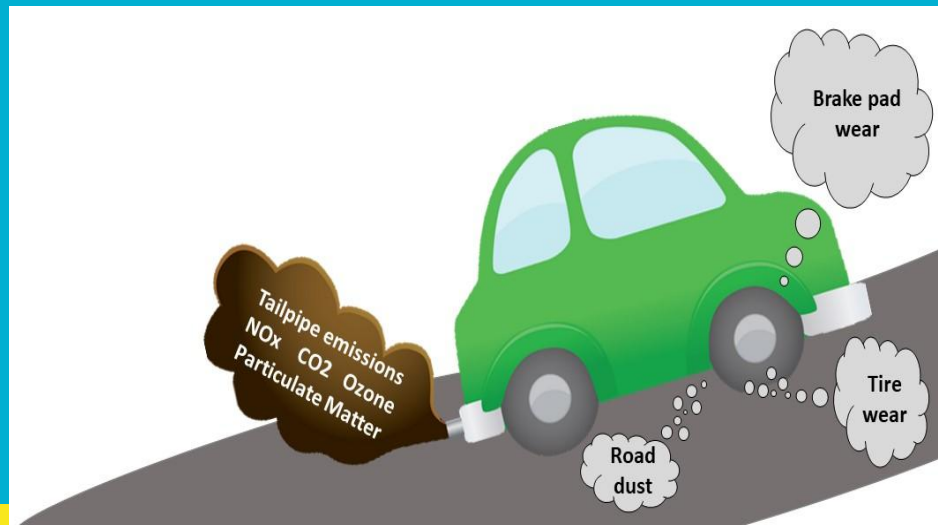
West Oakland  
Environmental  
Indicators  
Project





# What is traffic-related air pollution (TRAP) ?

- Motor vehicles emit a complex mixture of particles and gases including:
  - Tailpipe emissions
    - Ultrafine particles
    - NO<sub>x</sub>, CO<sub>2</sub>, Ozone, Particulate Matter
  - Non-tailpipe emission
    - Brake-wear
    - Tire-wear
    - Road dust
- Traffic noise
- TRAP is characterized by high spatial and temporal variability



# Health outcomes associated with traffic-related air pollution

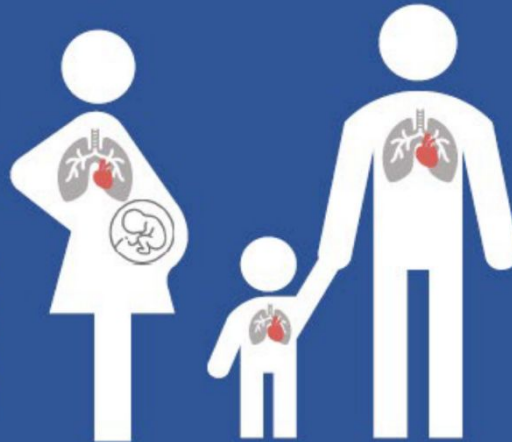


## **Birth outcomes:**

- Term low birth weight ●
- Small for gestational age ●

## **In Children:**

- Asthma onset ●
- Acute lower respiratory infections ●
- Asthma ever ●
- Active asthma ●



## **In Adults:**

- All-cause mortality
- Circulatory mortality
- Ischemic heart disease mortality
- Lung cancer mortality
- Asthma onset
- Respiratory mortality
- Ischemic heart disease events
- Diabetes

Overall confidence in the evidence for an association with long-term exposure to traffic-related air pollution:

● high    ● moderate to high    ● moderate

# Short-term health impacts of TRAP

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- **Asthma exacerbation** (increased asthma symptoms, asthma emergency department visits and hospital admissions)
- **Worsening of lung disease** (increased hospitalizations for COPD and other respiratory diseases)
- **Increased hospitalizations** for acute lower respiratory infections in children
- **Heart attacks and stroke** (increased hospitalizations and emergency department visits)
- **Death** from cardiovascular disease

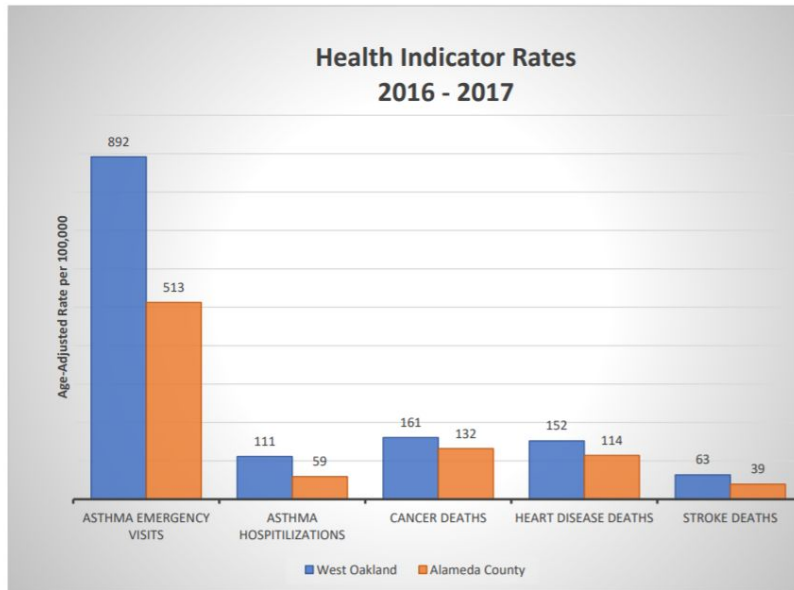


# TRAP and Exercise

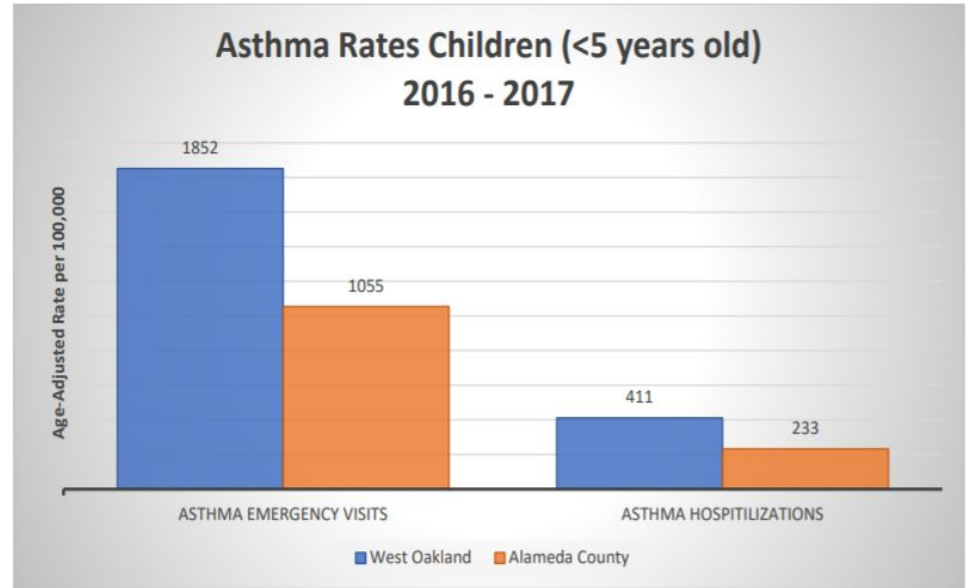
- Exercising has many positive health impacts, but can also increase intake of pollution
- People with health conditions like heart and lung disease are more vulnerable to negative impacts of pollution
- The health impacts of exercising in a polluted area can vary depending on air pollution level, health status and exercise intensity ([US EPA](#))



# West Oakland residents have higher rates of health conditions that increase vulnerability to air pollution



Source: ACPHD CAPE, with data from Alameda County vital statistics files, 2016-2017



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# Health Equity

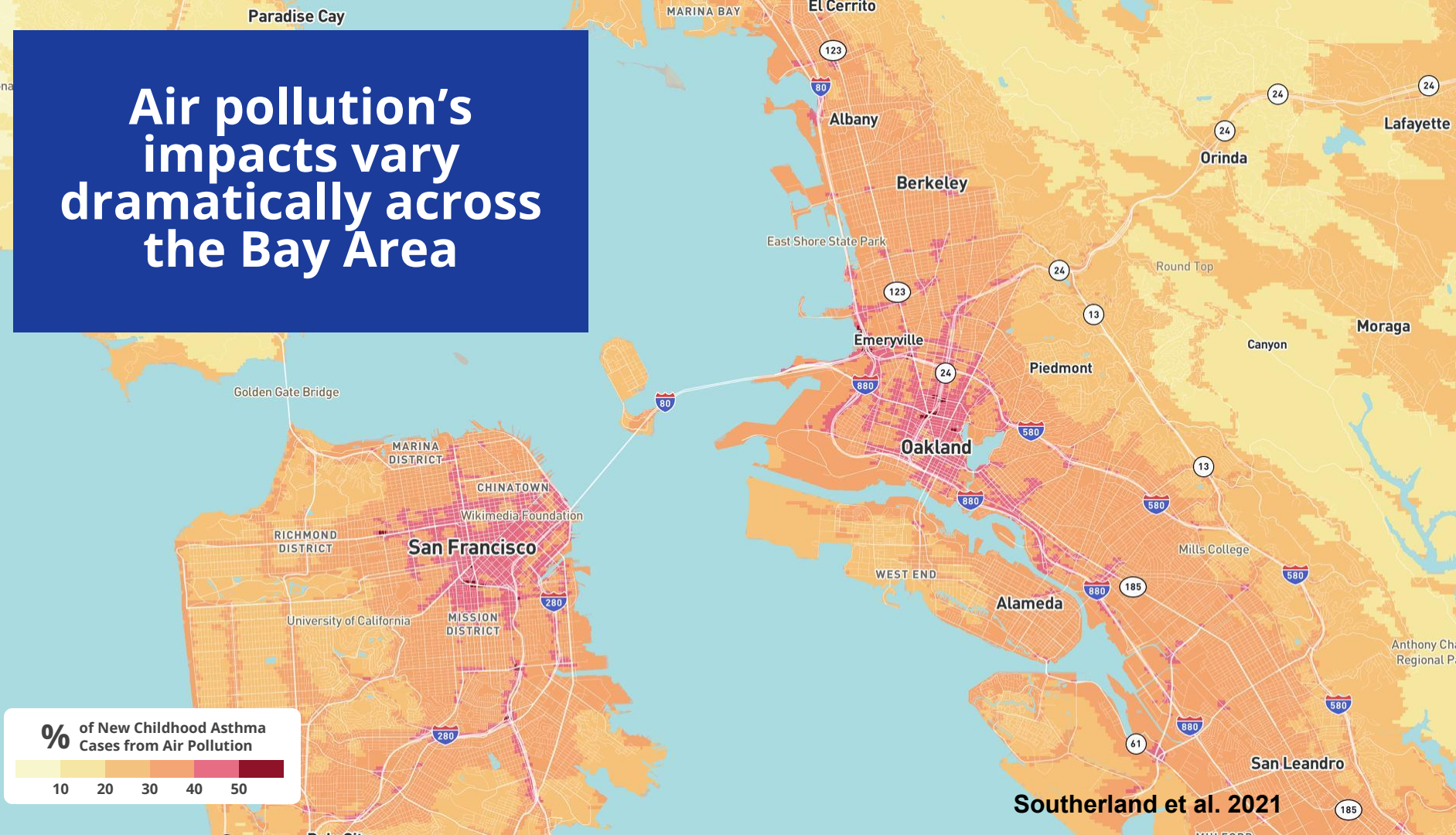
When everyone has the opportunity to be as healthy as possible

- address historical and contemporary **injustices**
- overcome economic, social, and other **obstacles** to health and healthcare
- **eliminate preventable health disparities**

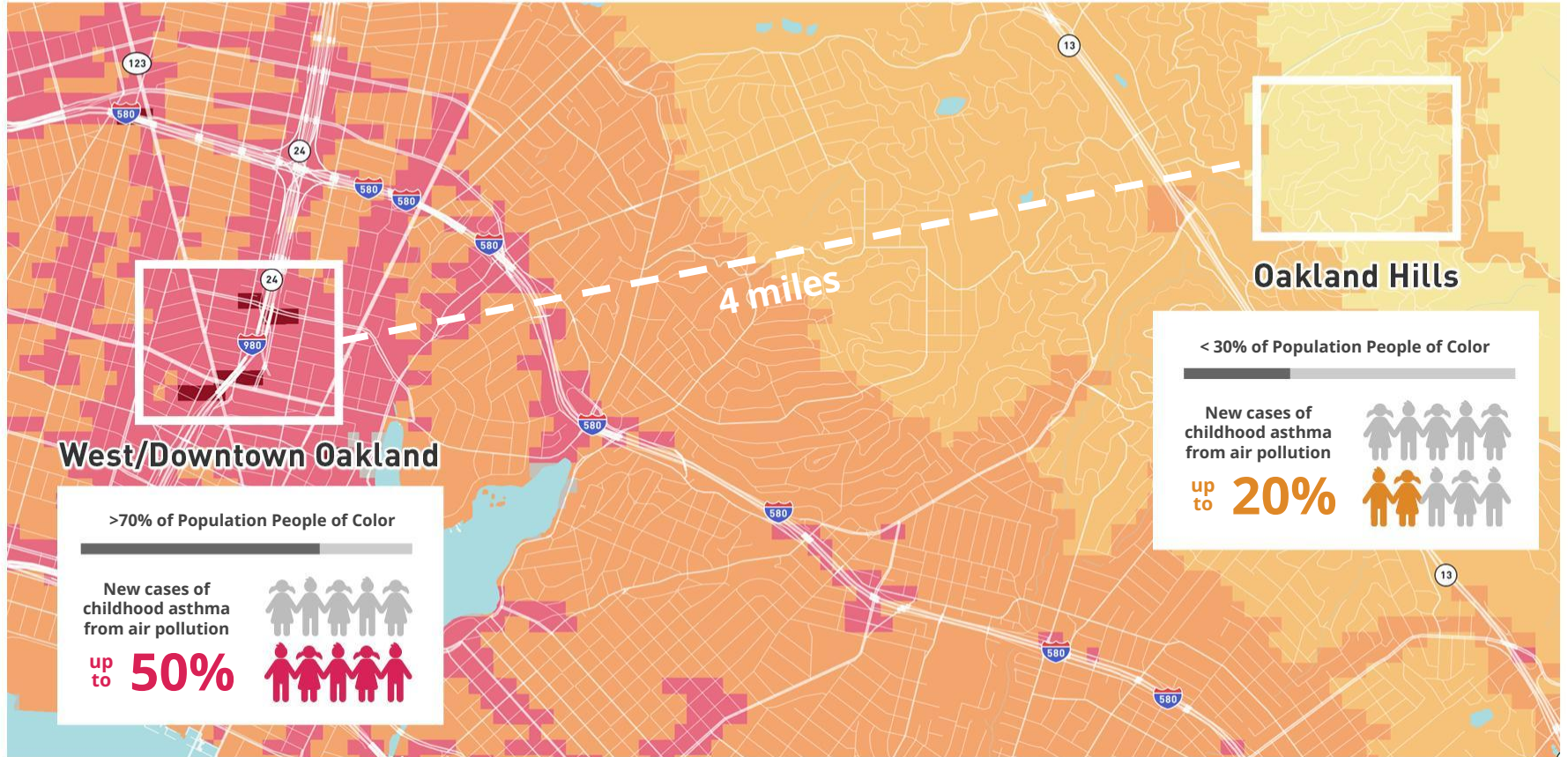




# Air pollution's impacts vary dramatically across the Bay Area



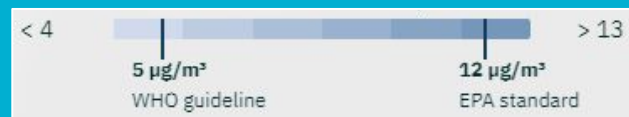
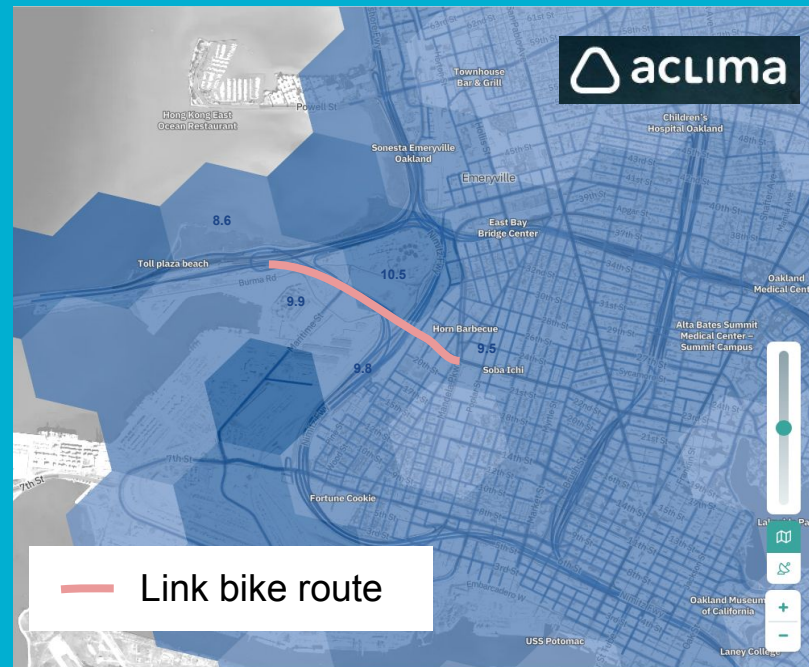
# Communities of color face higher rates of health impacts from air pollution





# Pollution on West Oakland Link route

- Long-term average  $PM_{2.5}$  along the proposed Link route is **9-12  $\mu\text{g}/\text{m}^3$** , while  $\text{NO}_2$  is **10-12 ppb**, higher than lower traffic areas of West Oakland (based on Aclima mobile data)



NO<sub>2</sub> PM<sub>2.5</sub> O<sub>3</sub> CO CO<sub>2</sub>

Typical long-term level in selected hexagon BETA

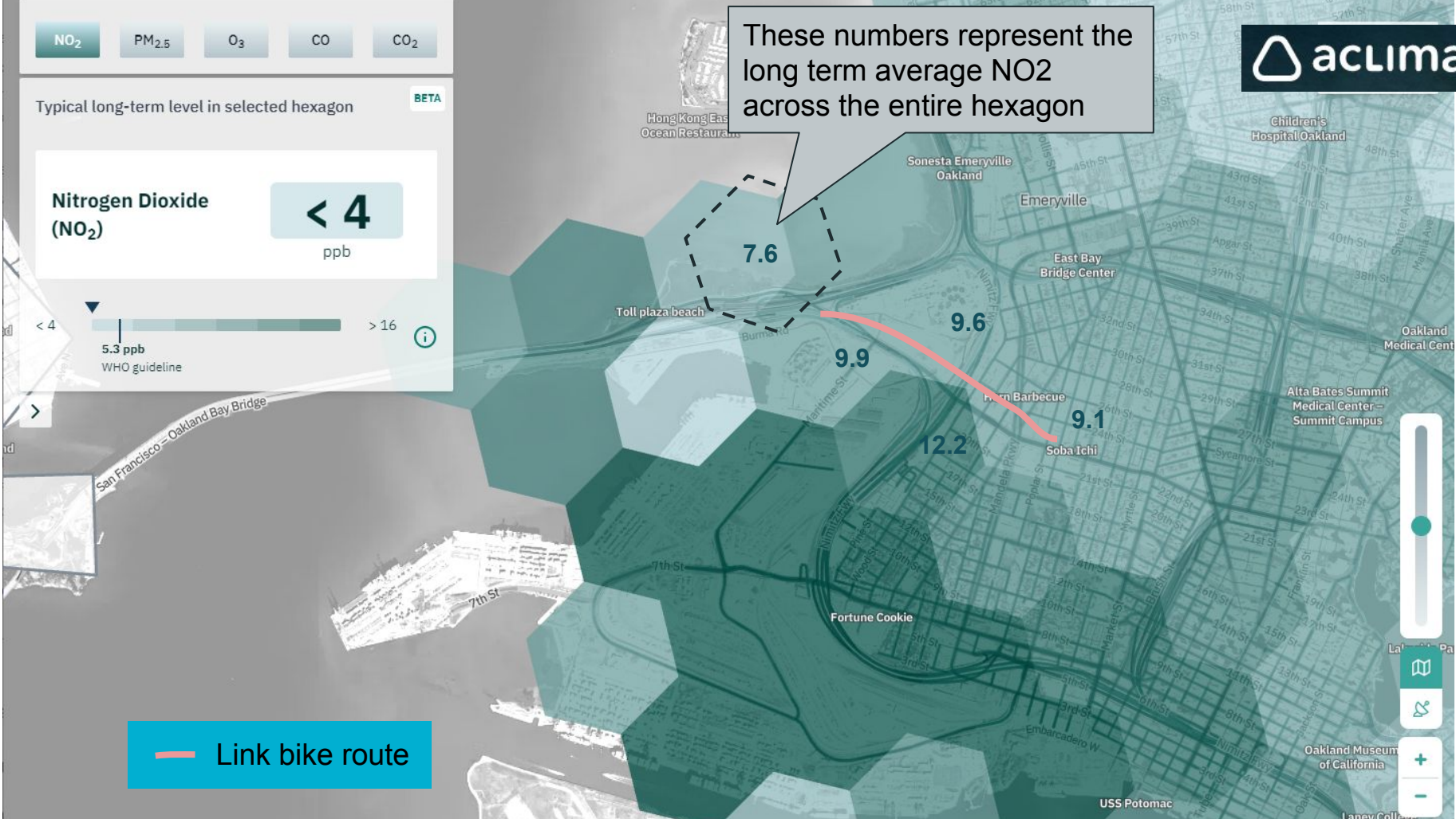
Nitrogen Dioxide (NO<sub>2</sub>)

< 4

ppb



These numbers represent the long term average NO<sub>2</sub> across the entire hexagon



— Link bike route



NO<sub>2</sub>

PM<sub>2.5</sub>

O<sub>3</sub>

CO

CO<sub>2</sub>



Typical long-term level in selected hexagon

BETA

Fine Particulate Matter (PM<sub>2.5</sub>)

6.3

µg/m<sup>3</sup>

< 4

5 µg/m<sup>3</sup>

WHO guideline

12 µg/m<sup>3</sup>

EPA standard

> 13



San Francisco - Oakland Bay Bridge

7th St

7th St

Fortuno Cookie

Soba Ichi

Hoon Barbecue

Toll plaza beach

Hong Kong East Ocean Restaurant

8.6

9.9

10.5

9.8

9.5

Townhouse Bar & Grill

Sonesta Emeryville Oakland

Emeryville

East Bay Bridge Center

Children's Hospital Oakland

Oakland Medical Center

Alta Bates Summit Medical Center - Summit Campus

Oakland Museum of California

USS Potomac

Laney College

Link bike route



NO<sub>2</sub>

PM<sub>2.5</sub>

O<sub>3</sub>

CO

CO<sub>2</sub>

Typical long-term level in selected hexagon

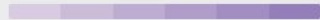
BETA

Ozone (O<sub>3</sub>)

27.8

ppb

< 21



> 30



Hong Kong East Ocean Restaurant

Powell St

Townhouse Bar & Grill

Sonesta Emeryville Oakland

Emeryville

Children's Hospital Oakland

East Bay Bridge Center

Toll plaza beach

23.6

22.4

22.0

Horn Barbecue

22.0

20.4

Soba Tchi

Fortune Cookie

— Link bike route





NO<sub>2</sub> PM<sub>2.5</sub> O<sub>3</sub> CO CO<sub>2</sub>

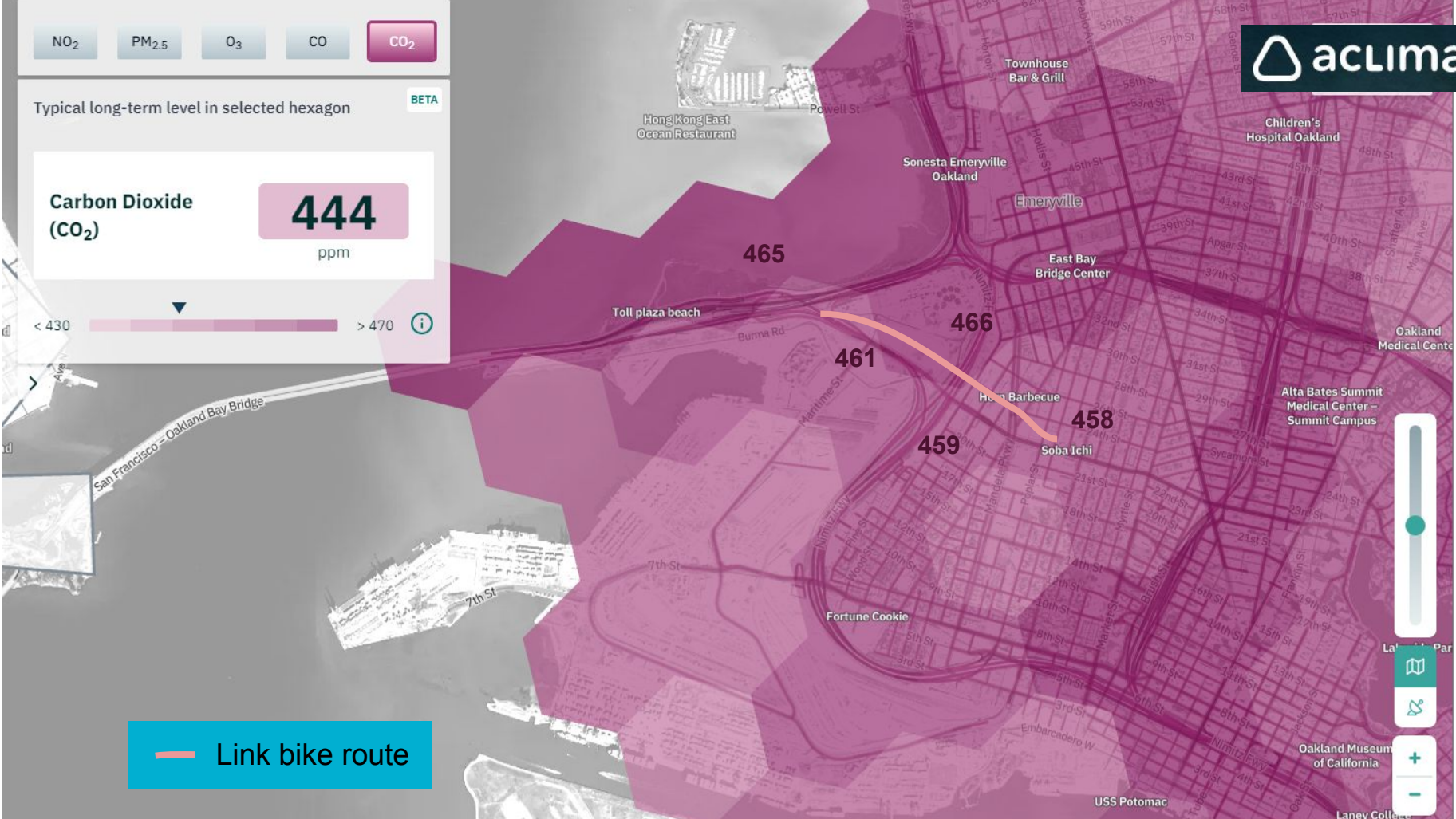
Typical long-term level in selected hexagon BETA


Carbon Dioxide (CO<sub>2</sub>)

**444**

ppm

< 430  > 470 i



 Link bike route



# Noise Pollution

- Unwanted sound
- Affects health and well being



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What are mitigation opportunities for West Oakland Link?

# Reducing Air Pollution & Exposure

## Air Quality Monitors



## Education

**WHAT ARE AIR TOXICS?**  
Compounds in the air that can harm our health

**HOW ARE WE EXPOSED?**

Air Toxics

Soil and Food

Air

Drinking Water

**WHAT ARE THE HEALTH EFFECTS?**

Respiratory Illness

Heart attacks

Birth Defects

Cancer

Nervous System Damage

**WHERE DO THEY COME FROM?**

Chemicals people use

Cars and Trucks

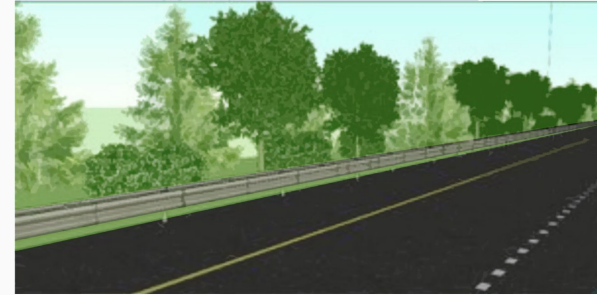
Businesses and Industry Sources

Illustration originally created by Chris Brown for Sierra Club

## Vegetative Buffers



Recommended planting order for Row 1 and 3: 2-3 Deciduous trees, 2-3 Conifer trees, 2-3 deciduous trees, 2-3 conifer trees, repeated. Trees should be planted in succession with 10-15' between them.



# Possible mitigation strategies

**Maximize the health benefits of exercise from “active commuting” and minimize the negative impacts of exposure to air pollution by...**

- Advise trail travelers and recreational users to use Link route outside of peak traffic hours (Phuong et al 2020, [website](#))
- Install a solid barrier or dense vegetation, or a combination, along the highway and the sides of the Link route ([website](#)) ([Charette](#))

## ***Other best practices***

- *Develop cyclist & pedestrian routes away from high traffic roads and other pollution sources (Phuong et al 2020, Potera et al 2017)*
- *Phase out diesel engines (Phuong et al 2020)*
- *Reduce car use (Potera et al 2017)*
- *Create car-free time periods along the Link route (Potera et al 2017)*

# How can we maximize the benefits of the West Oakland link project for West Oakland residents?

- Stationary monitoring of air quality along Link route to better understand temporal patterns in pollution (in coordination with BAAQMD)
  - Communicate results to users of West Oakland Link
- Evaluation of potential mitigations to reduce pollution exposure to Link users
- Coordination with WOCAP Steering Committee as project proceeds