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**Community Emission Reduction Plan (CERP)
Community Steering Committee Meeting #8**


November 15, 2021

Today's Agenda

1. Roll Call
2. Approval of October 18, 2021 Meeting Minutes
3. Timeline to Submit CERP to CARB
4. Assessing Air Quality Impacts: Concepts and Tools
5. CERP Boundary Overview
6. Public Comment on Non-agenda Items and Next Steps
7. Community Assets and Air Pollution Mapping Project Update

Plan Process: Where are We Today?



KEY:  = You are here!

Welcome!

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Approval of October 18, 2021 Meeting Minutes

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Public Comment

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Timeline to Submit CERP to CARB

Y'Anad Burrell and Alfredo Angulo-Castro, Steering Committee Co-Chairs

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Outline

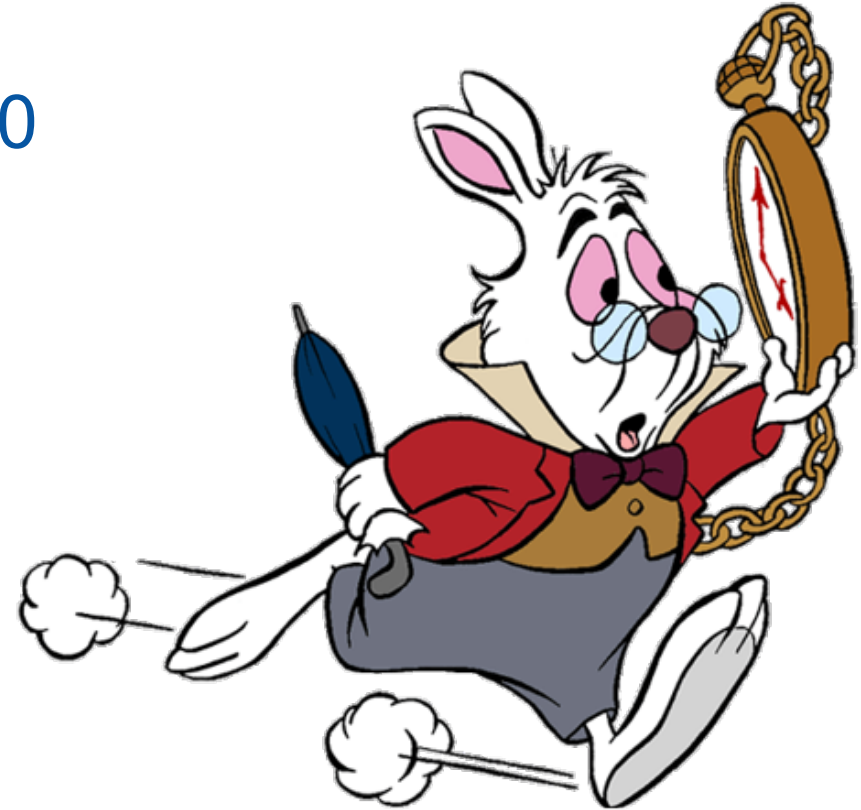
- AB 617 Statutory timeframe for submitting CERP to CARB
- Proposed timeframe
- Next steps



Source: <http://clipart-library.com/clipart/alice-in-wonderland-clip-art-3.htm>

Statutory Timeframe to Submit CERP to CARB

- CARB Designation: February 2020
- Statutory Timeframe:
February 2021, one year (12 months) after designation



Proposed Timeframe

- CARB Designation: February 2020
- Steering Committee CERP Approval: August 2022
- Air District Board Approval: October 2022, depending on type of required environmental assessment
- Submitted to CARB: November 2022, depending on timing of Air District approval



Source:
<http://www.freepngclipart.com/free-png/38593-free-alice-in-wonderland-clipart>



INTRODUCTION TO THE STEERING COMMITTEE
 DECISION MADE

Next Steps

- The Steering Committee sends CARB a letter describing the timeframe
- Volunteers to lead this effort?



Source: <http://clipart-library.com/clipart/alice-in-wonderland-clip-art-10.htm>

Public Comment

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Steering Committee Questions and Discussions

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The logo consists of three lines of text. The first line, 'RICHMOND - NORTH RICHMOND - SAN PABLO COMMUNITY', is in a light blue, sans-serif font. The second line, 'PATH TO', is in large, bold, brown letters with a dirt texture. The third line, 'CLEAN AIR', is in large, bold, blue letters with a sky and clouds texture. The entire logo is enclosed in a light blue rounded rectangular border.

Assessing Air Quality Impacts: Concepts and Tools

Daniel Alrick, Principal Air and Meteorological Monitoring Specialist

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David Holstius, Senior Advanced Projects Advisor

dholstius@baaqmd.gov



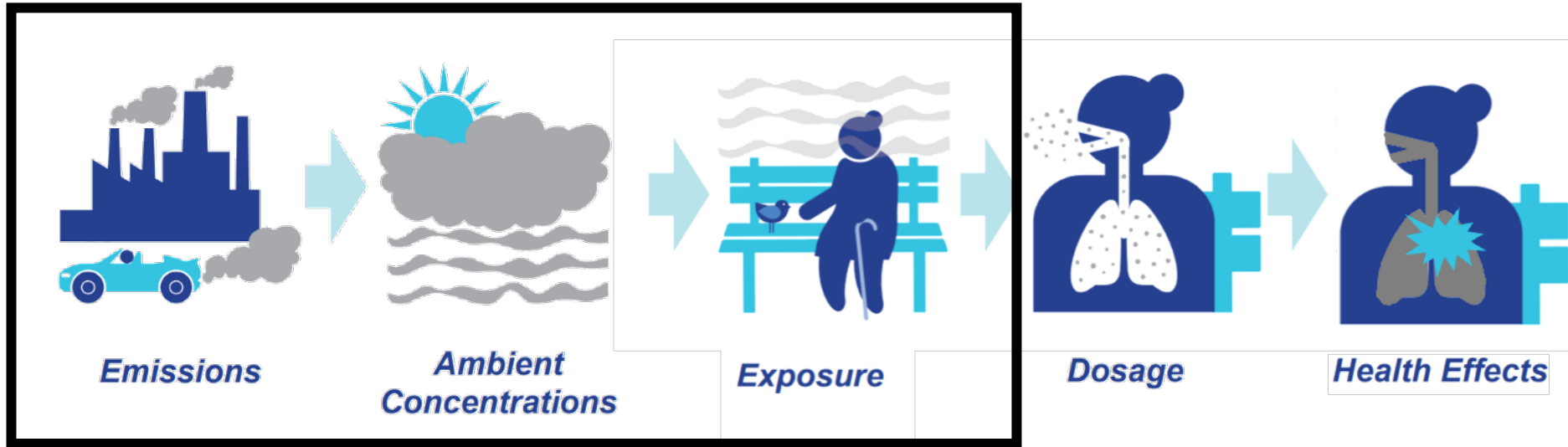
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Topics for this Presentation

- Air quality concepts and terms
- Pathway from emissions, to concentrations, to exposures
- Tools and methods, with examples

Air Quality Concepts

Assessing Air Quality: Emissions to Health



Focus for this presentation

SOURCES

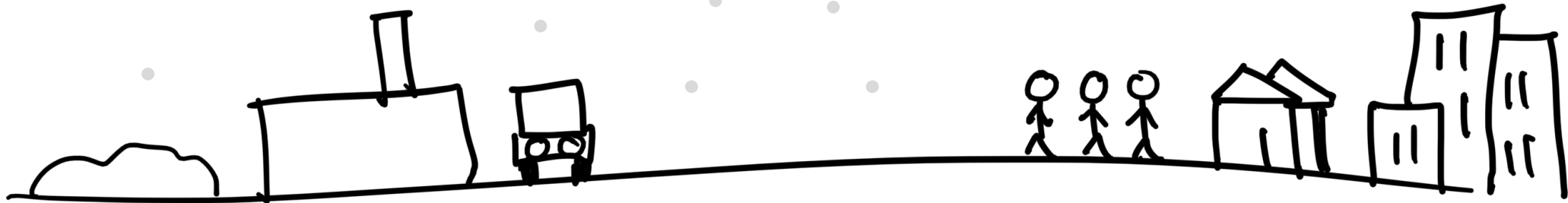
of emissions

"RECEPTORS"

(places or people)



"AMBIENT AIR"
"BACKGROUND"



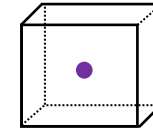
DOWNWIND



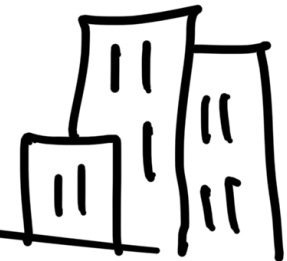
EMISSIONS



EMISSIONS



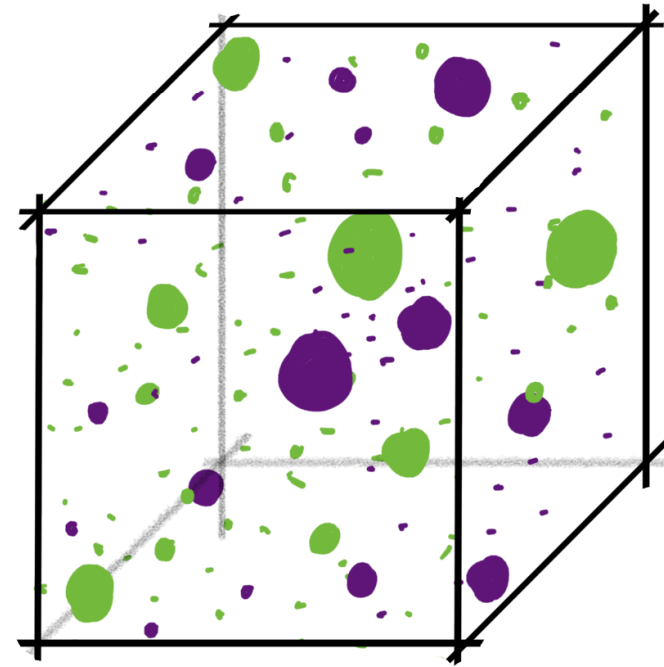
1 m³ of air
(next slide)



THE GREEN AND PURPLE DOTS
REPRESENT POLLUTION.

THE AMOUNT OF POLLUTION IN
A STANDARD-SIZED CHUNK OF
AIR → ITS CONCENTRATION.

CONCENTRATION ↔ INTENSITY.



POLLUTION

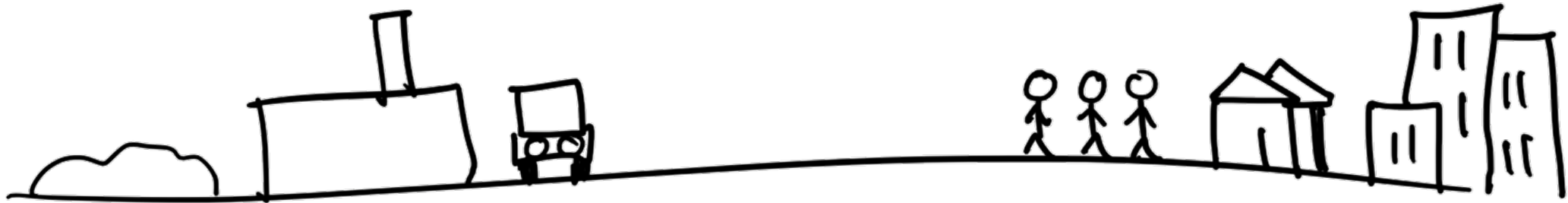
HUMAN-CAUSED

EMISSIONS

ONLY AT THE SOURCE

CONCENTRATION

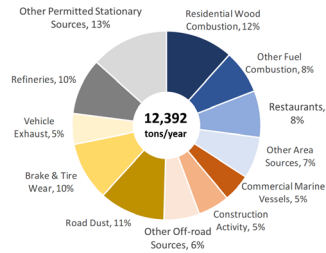
INTENSITY ANYWHERE



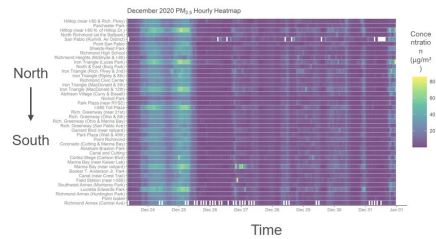
Tools and Methods

Examples of Tools and Methods

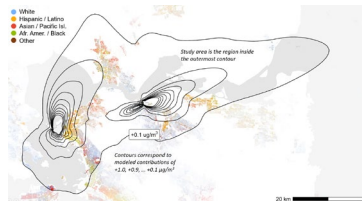
Emissions inventory



Air quality monitoring



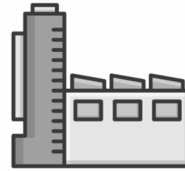
Air quality and exposure modeling



Emissions Inventory

- Variety of estimation methods & inputs
- Certain events or sources may not be inventoried
- Some sources will be more precisely located
- Improves and evolves

Stationary Sources w/Permits



Refineries, power plants, gas stations, body shops, ...

Area Sources



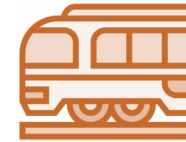
Fireplaces, water heaters, consumer products, ...

On-Road Mobile



Cars, trucks, buses, ...

Off-Road Mobile



Ships, aircraft, rail, construction equipment, ...

Natural



Soil, sea salt, vegetation, ...

Air Quality Monitoring

Emissions from Sources

Ambient Air Quality

Source Testing

Emissions from facilities (e.g. stack)

Fenceline Monitoring

Facility emissions that may impact communities



Long-Term Station

Air District regulatory stations in the Bay Area

Mobile Monitoring

Using a vehicle to survey a larger area or to collect additional data in targeted areas

Short-Term Station

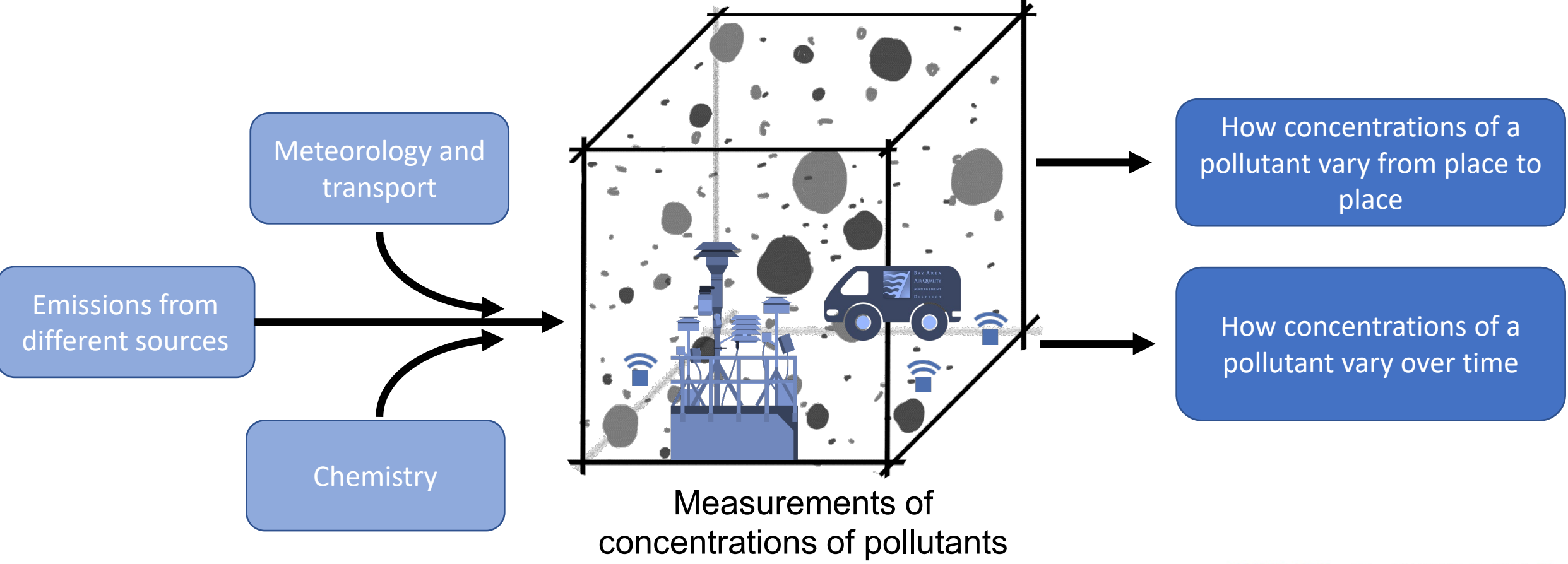
Stations that measure concentrations for days to months

Sensor Networks

Lower cost, real-time sensors for higher density data, community-led science

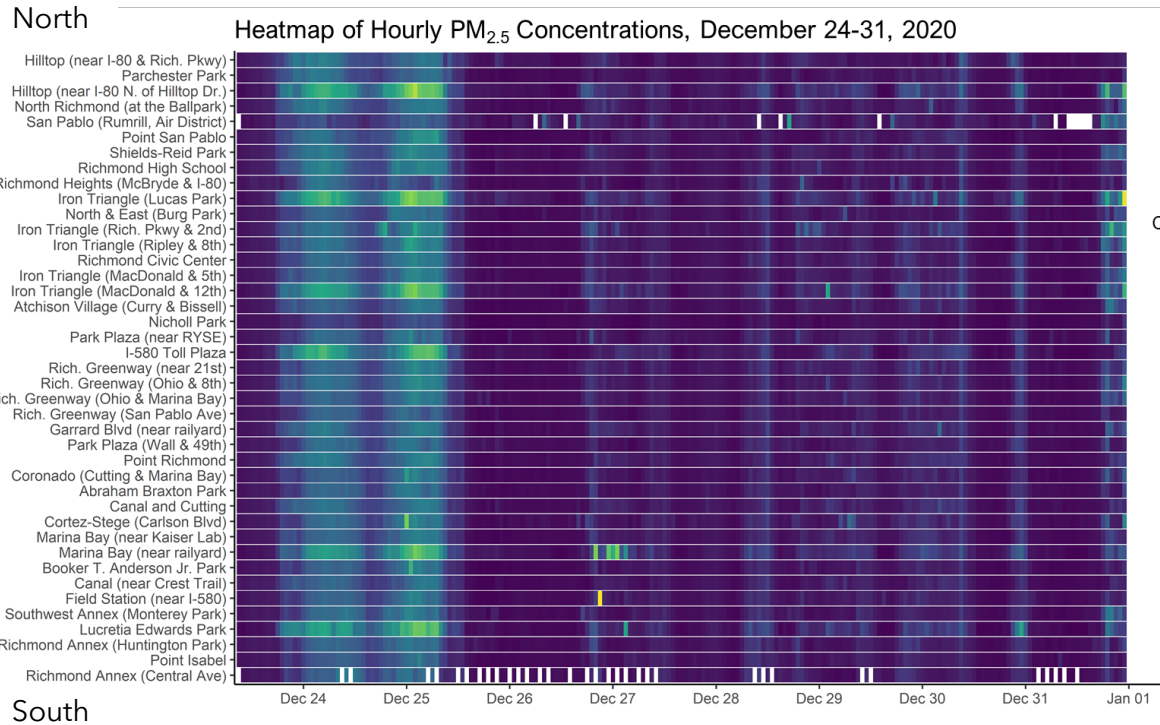


Ambient Air Quality Monitoring



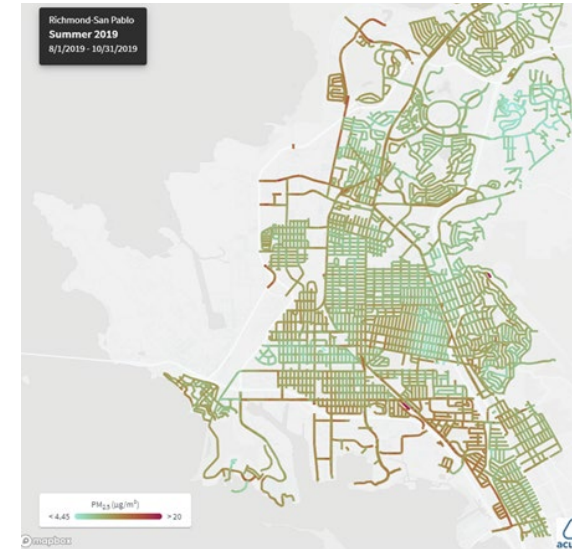
Different ways of looking at PM_{2.5} monitoring data

Hourly concentrations varying over place and time

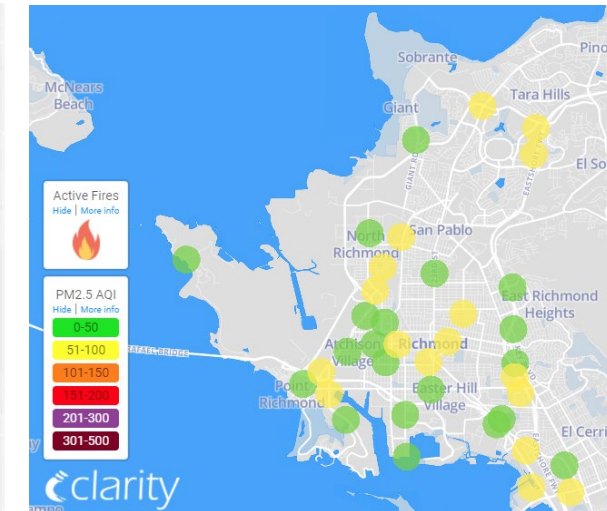


Different views of different pollutants can help inform different key issues

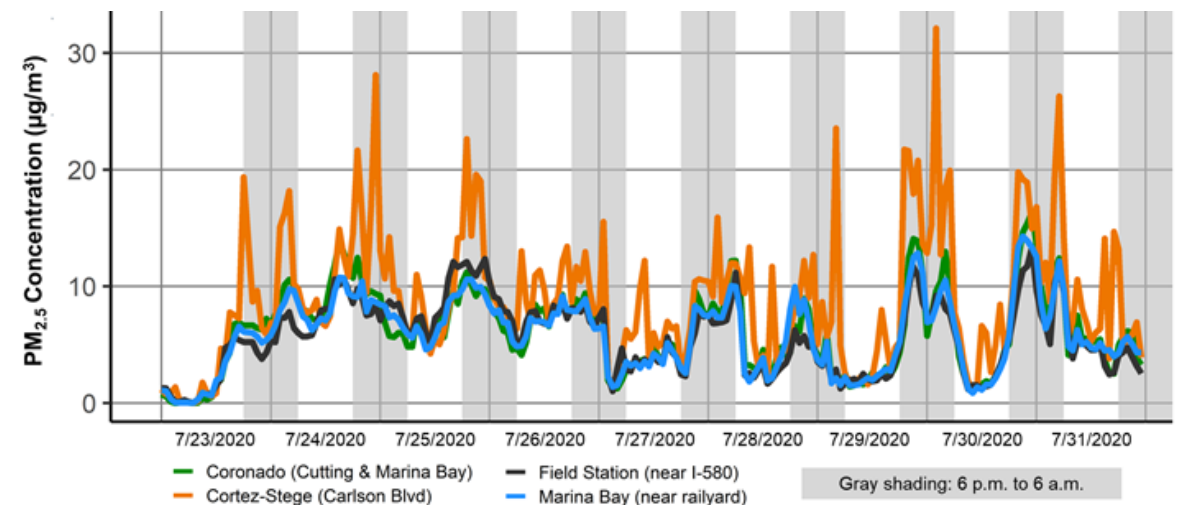
Typical average concentrations vary from place to place



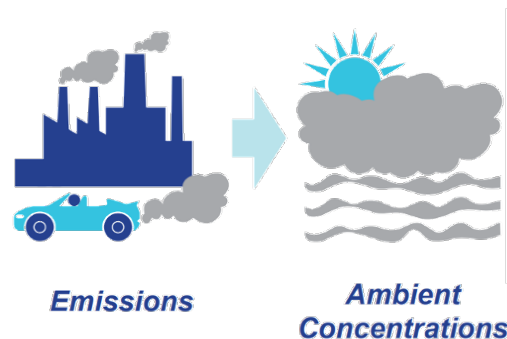
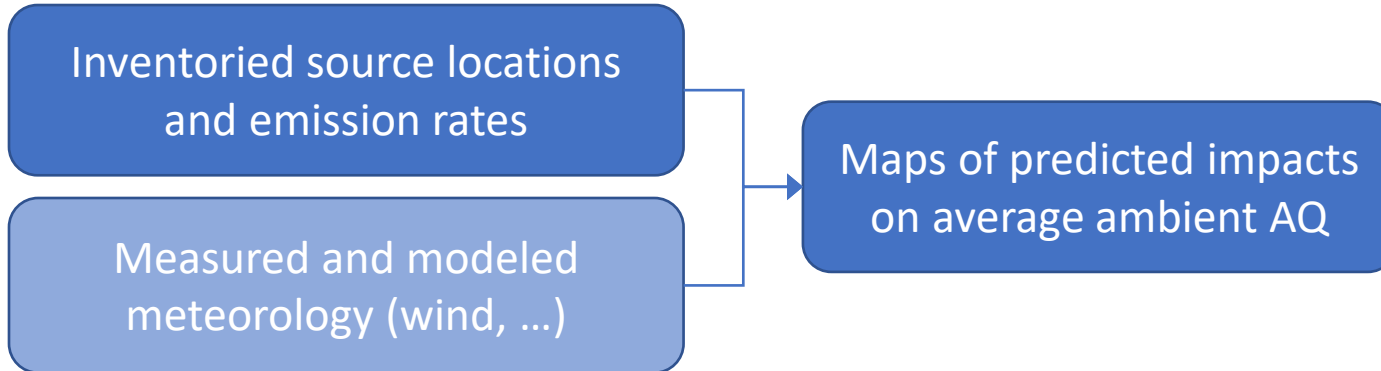
Real-time 1-hour concentrations vary from place to place



Concentrations varying over time at different locations



Ambient Air Quality Modeling



Picturing the Modeled World

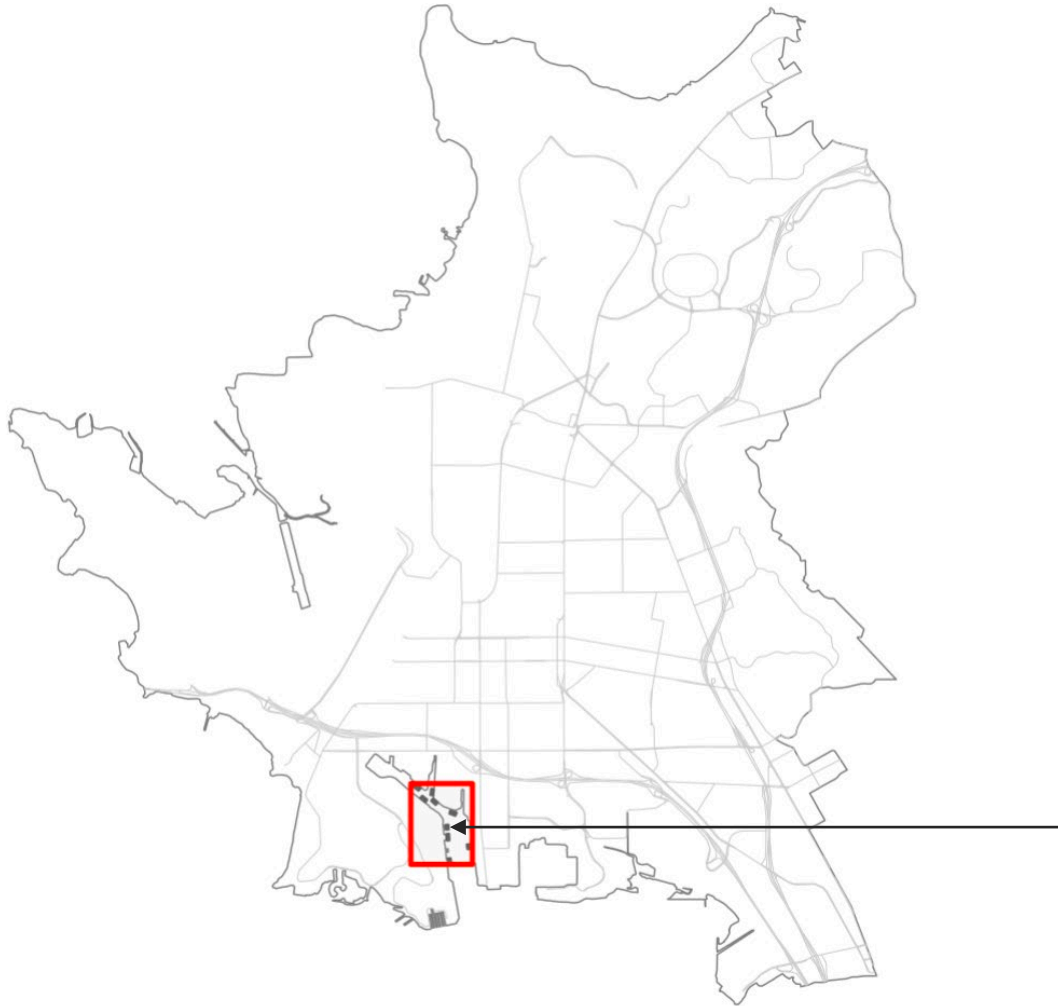
Each source contributes to total impacts

Example Category: Mobile > Off-Road > Ships

Example Source: Conoco-Philips Berth

Pollutant: PM_{2.5}

1. *Start with* emissions (ton/yr) inventoried for this source and pollutant
2. Use winds, etc. to simulate dispersion into local air over the course of a year
3. *Result:* predicted impact, from this source, on air quality at every modeled “pixel”



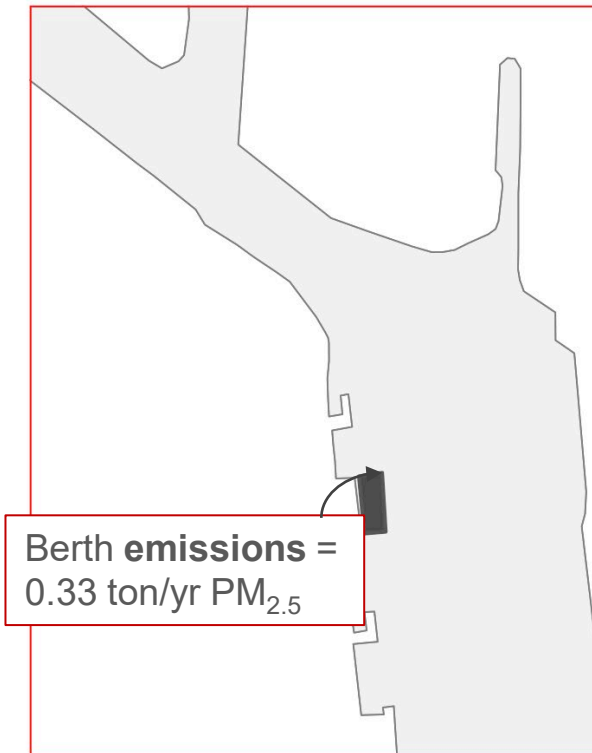


Picturing the Modeled World (cont.)

Each source contributes to total impacts

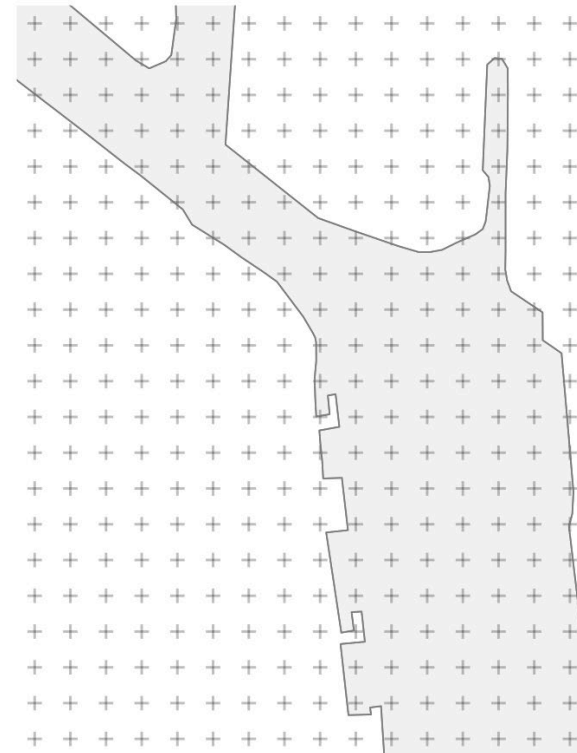
Single Source

As represented in inventory



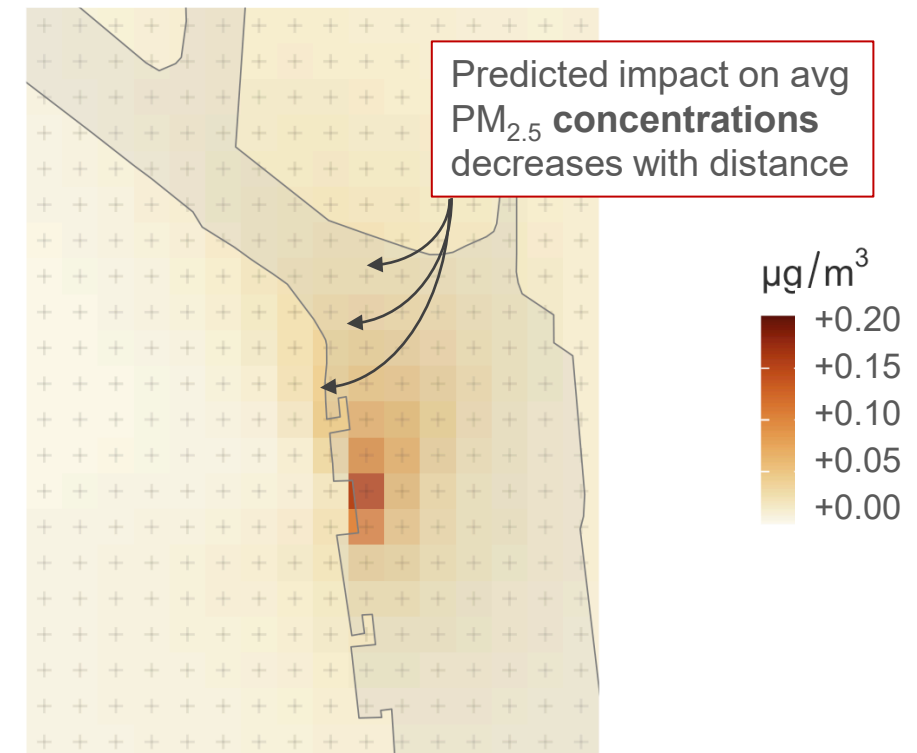
Receptors ("Pixels")

Placed on 50x50m grid



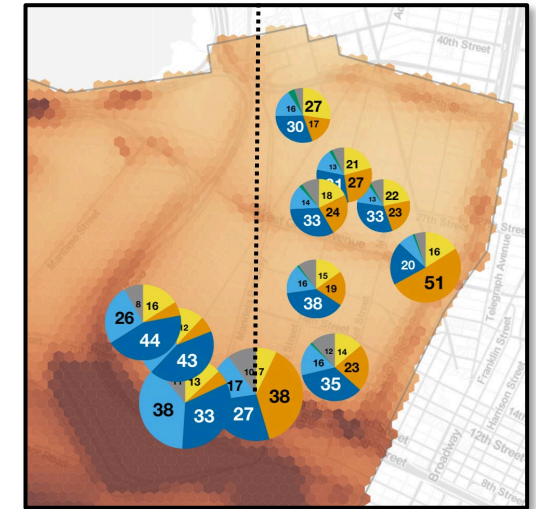
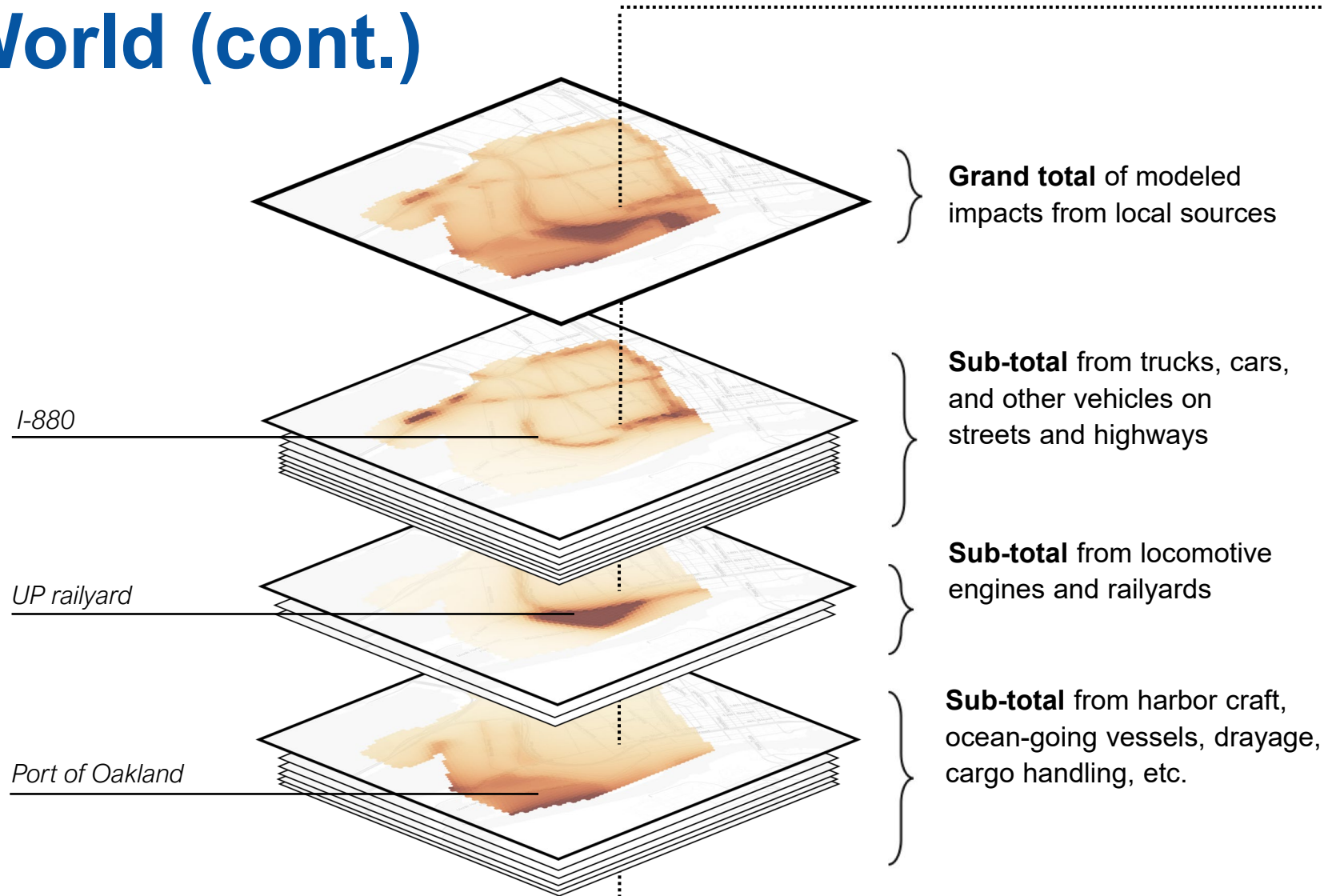
Predicted Contribution

To impacts on air quality (annual average)



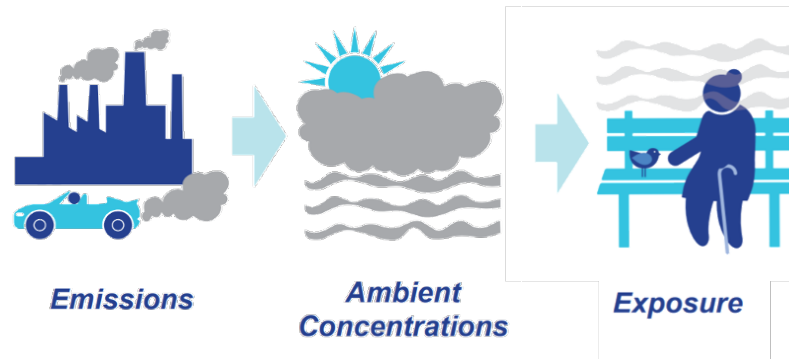
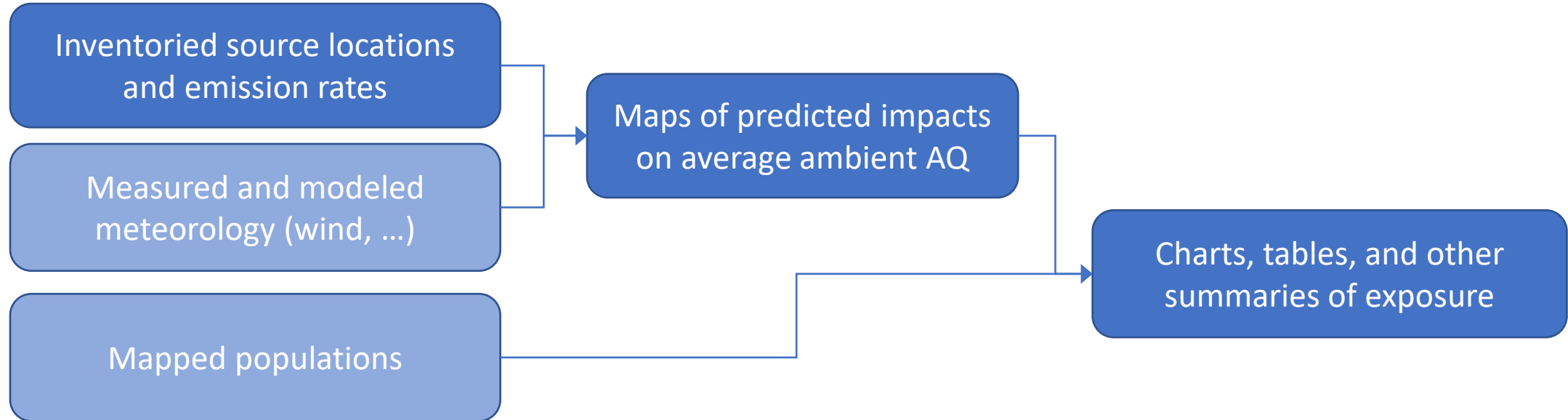
Picturing the Modeled World (cont.)

Model-based “source apportionment”
— a system of accounting



For any location, we can use the sub-totals to draw piecharts showing the relative impacts of sources A, B, C, etc.

Impacts on Air → Impacts on People

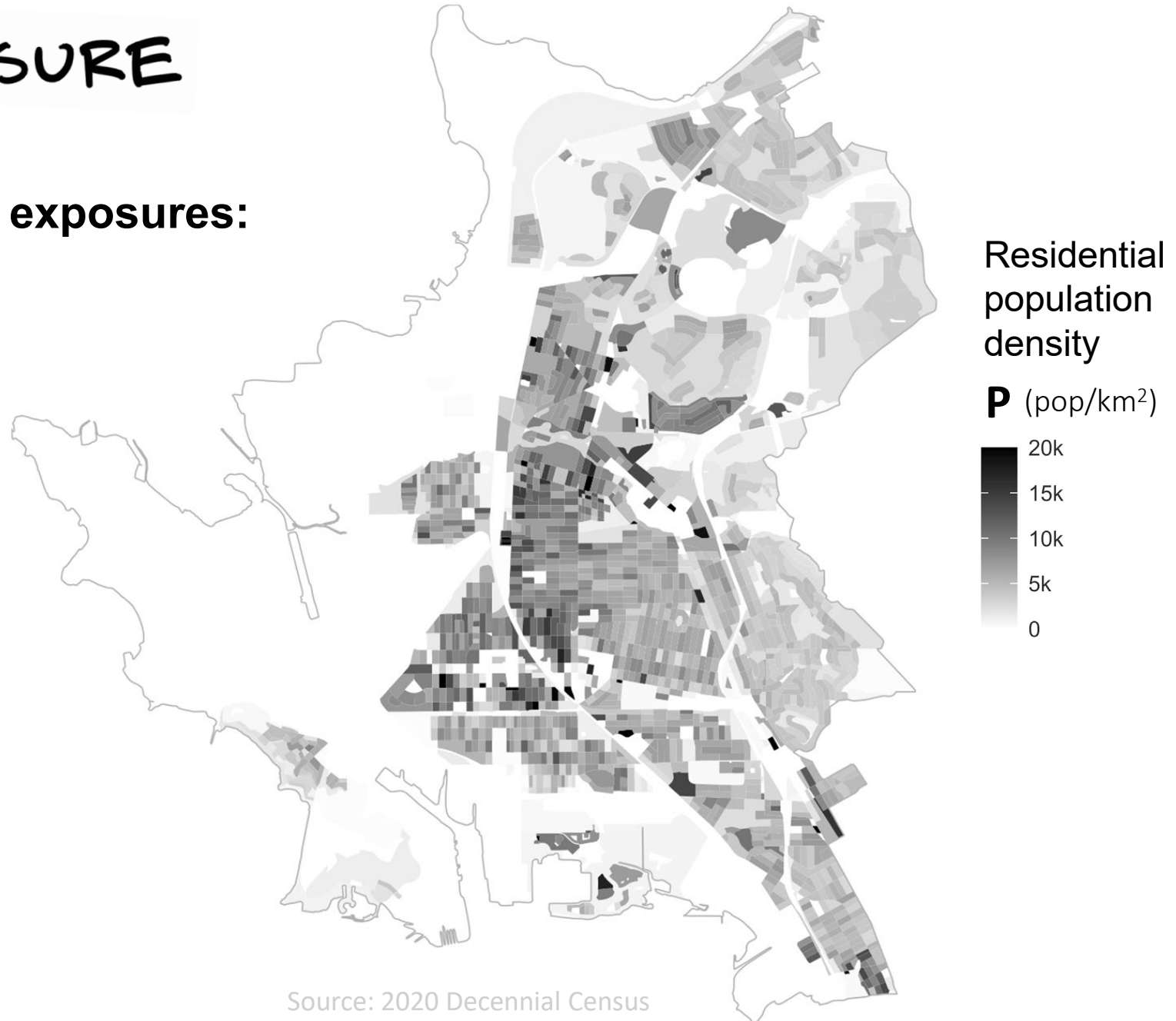


$$\begin{array}{r} \text{CONCENTRATION} \\ \times \text{PEOPLE} \\ \times \text{TIME} \\ \hline \text{EXPOSURE} \end{array} \quad \begin{array}{l} (\text{INTENSITY}) \\ (\text{NUMBER OF}) \\ (1 \text{ YEAR?}) \end{array}$$

PEOPLE AND EXPOSURE

Two perspectives on area-wide exposures:

- Health burden is calculated using **population exposure**. Where there are more people, there is more exposure, all else being equal. For $PM_{2.5}$ the units are person- $\mu g/m^3$.
- **Per capita exposure** is group exposure divided by group size. You can think of this as “expected exposure intensity” for a member of the group.



Disparities in Per Capita Exposure

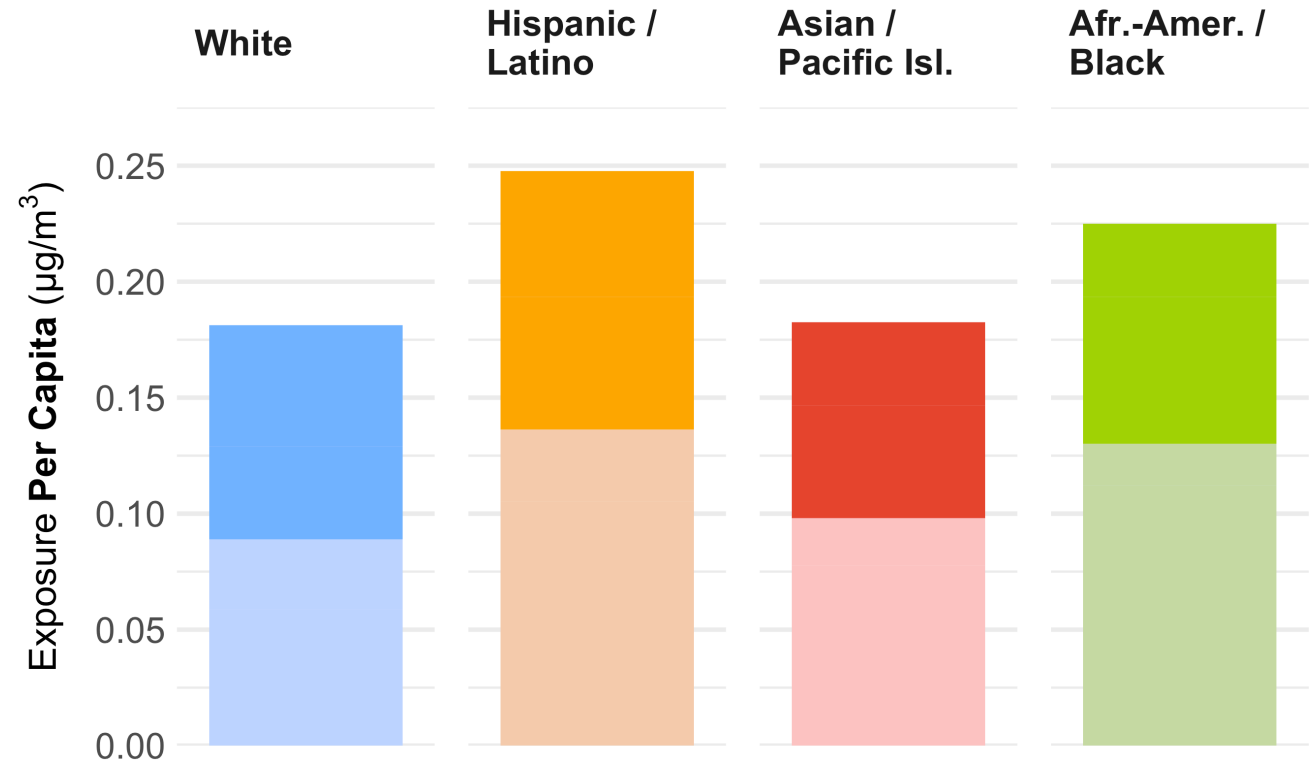
Illustration: modeled impacts from two refineries*

Racial/Ethnic Disparities

- African-American / Black and Hispanic / Latino residents across the study area* are more exposed

Sources other than FCCU

- Drive these disparities
- Remain significant across all modeled scenarios*



*Darker colors = Fluidized Catalytic Cracking Unit (FCCU) impacts
Bar heights = total impacts (FCCU + Non-FCCU), in µg/m³*

* Rule 6-5 context, not CERP

Next Steps

Continuing the Conversation

- Iterate on analyses and insights with the Technical Assessment (TA) Ad Hoc group, incorporating information from the community and direction from the Steering Committee
- In January we will share examples of how to use inventory, modeling, and monitoring together to say something about a concern
- In Spring 2022, we will share insights from analyses

Public Comment

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CERP Boundary Overview

Kelly Malinowski, Senior Environmental Planner
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Outline

- Preliminary CERP Boundary
- Purpose of the Boundary
- Next steps
- Discussion



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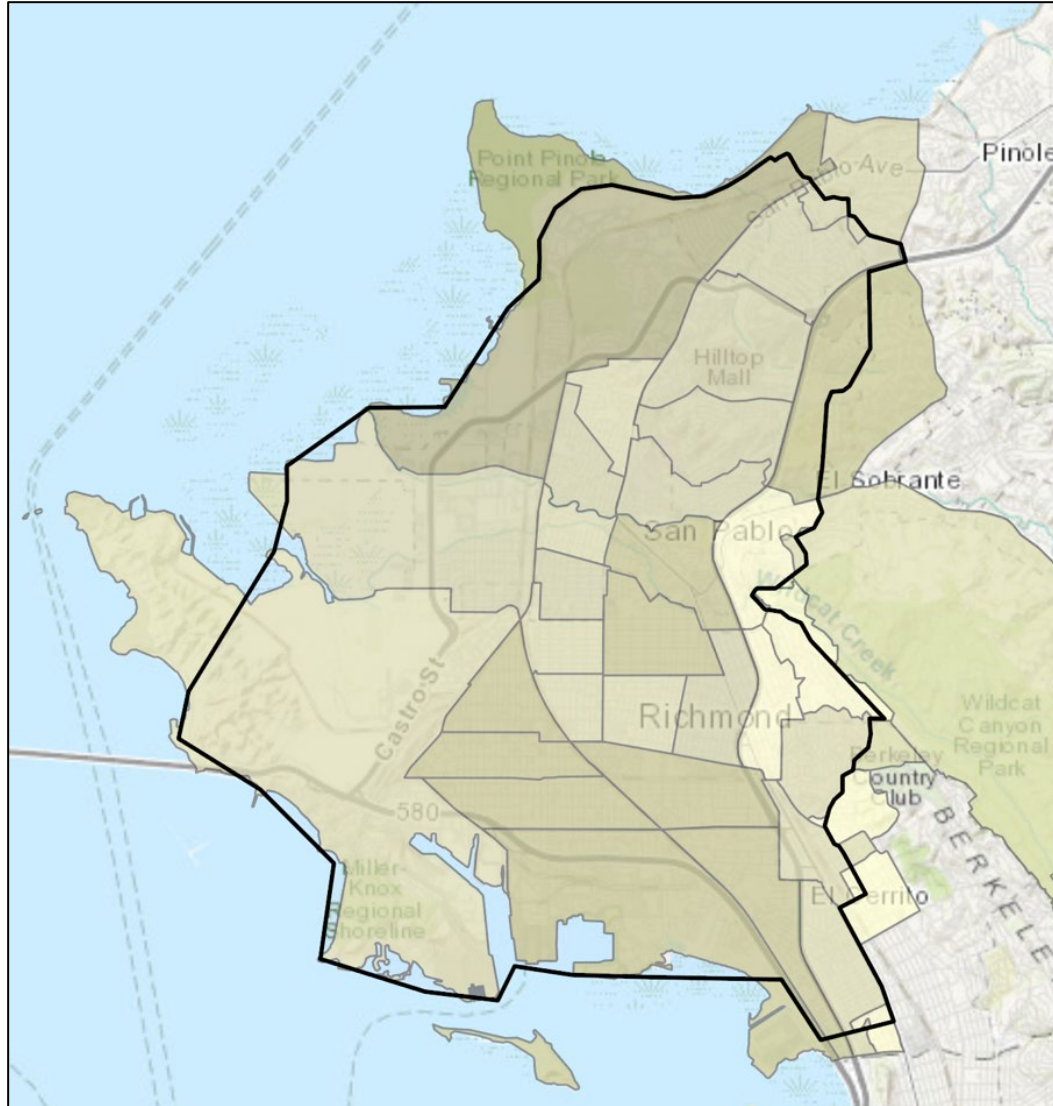
Preliminary CERP Boundary

- Started with Richmond Community Air Monitoring Plan (CAMP) boundary
- Updates made:
 - Aligned to the coastline
 - Aligned to census tracts, so that the boundary does not split any of them
 - Doubled checked that it includes all of Richmond, San Pablo, Unincorporated Contra Costa County areas of North Richmond, Tara Hills, Montalvin Manor-Bayview

CAMP Boundary

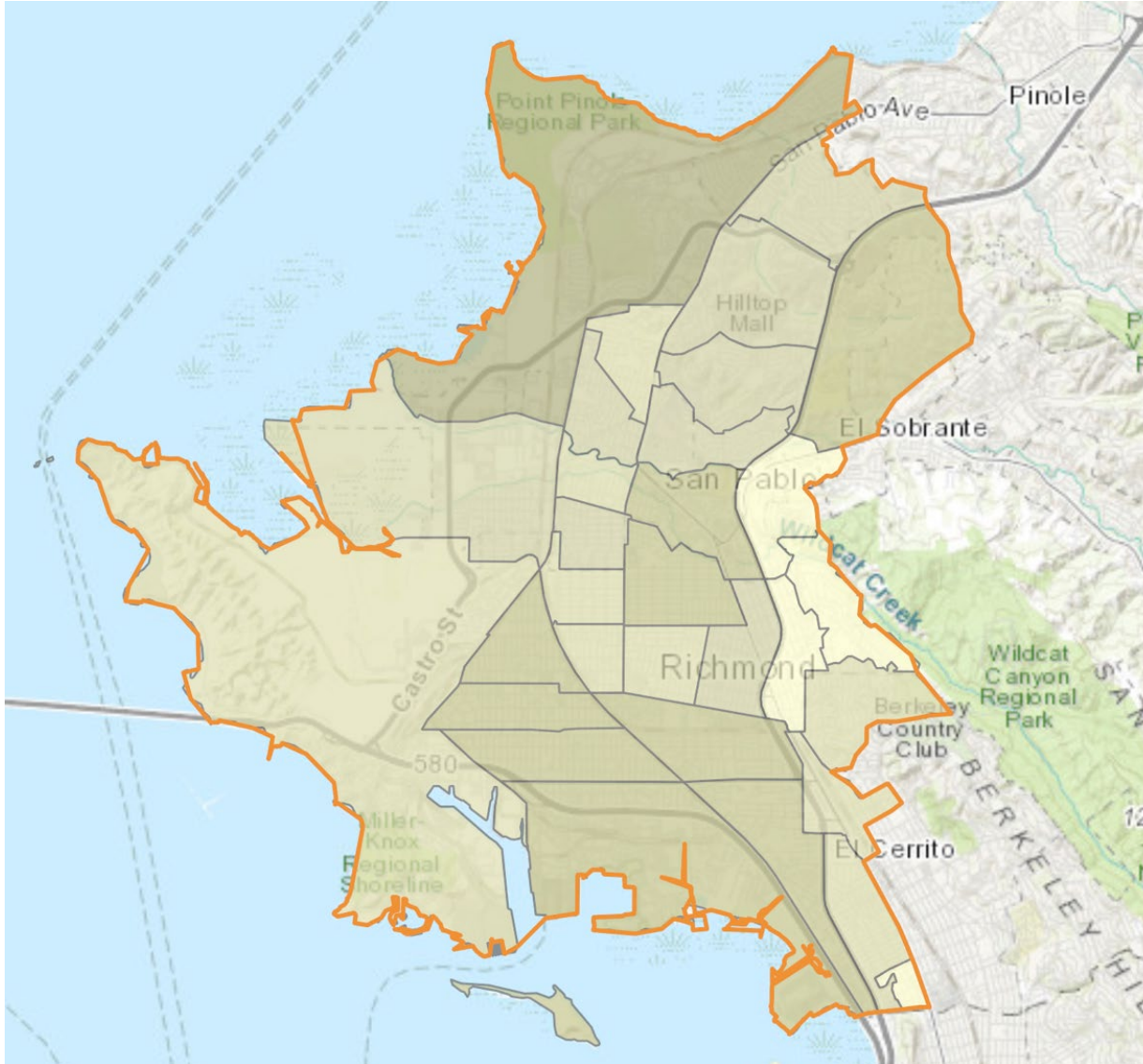


CAMP Boundary and Census Tracts



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Preliminary CERP Boundary and Census Tracts



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Purpose of the Boundary

- Steering Committee: the area from which members who live or work within the CERP area come from.
- Community Description: the area where the people, perspectives and land uses will be gathered and summarized.
- Technical Assessment: the area where technical information will be focused; however, the current emissions inventory extent goes a bit beyond the preliminary boundary.

Purpose of the Boundary (cont.)

- Social Pinpoint: the area of focus for input and feedback via the online mapping platform and community organizer efforts.
- Strategies: serves as an initial starting point for strategies; however, strategies may be at different scales, from hyper-local, to city-wide, to county-wide to Bay Area-wide to state-wide.
- Implementation: serves as a starting point for implementation, which may vary depending on the scale of the strategy.

Next Steps

- Per CARB's Blueprint, the CERP Boundary needs to be approved by the Steering Committee.
- Propose to agendize approval of the preliminary CERP Boundary at the December 2021 Steering Committee meeting.



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Discussion

- What questions do you have about the CERP Boundary?
- Are you ready to approve the preliminary CERP Boundary?
- If not, what more information do you need?

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Community Assets and Air Pollution Mapping Project Update

Kevin Olp, Senior Policy Advisor
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Community Co-Leading the Process

Steering Committee

31-member group of local leaders to co-develop the Community Emissions Reductions Plan

Community Organizing Grants for local

organizations to identify community concerns, record

Community Assets and Air Pollution Mapping Project

Interactive mapping platform to gather community input to prioritize resources

Focus on Quality of Outreach

- Reaching out to frontline communities:
 - Communities susceptible to air pollution because of pre-existing health conditions
 - Neighborhoods near sources of pollution
- Groups historically excluded or underrepresented. Examples include:
 - Young people
 - Monolingual non-English speaking households
 - Unincorporated areas
 - Geographically underrepresented areas
- Focus on high quality of outreach



Why do we need community input?

- Sharing power
- Local knowledge
- Diverse perspectives

The experiences and input of marginalized communities are often disputed or disbelieved by institutions of power

Principles of Mobility Justice, 1st ed. (Atlanta: The Untokening, 2016),
<http://www.untokening.org/updates/2017/11/11/untokening-10-principles-of-mobility-justice>

What Information are we Collecting?



Air Pollution Concerns

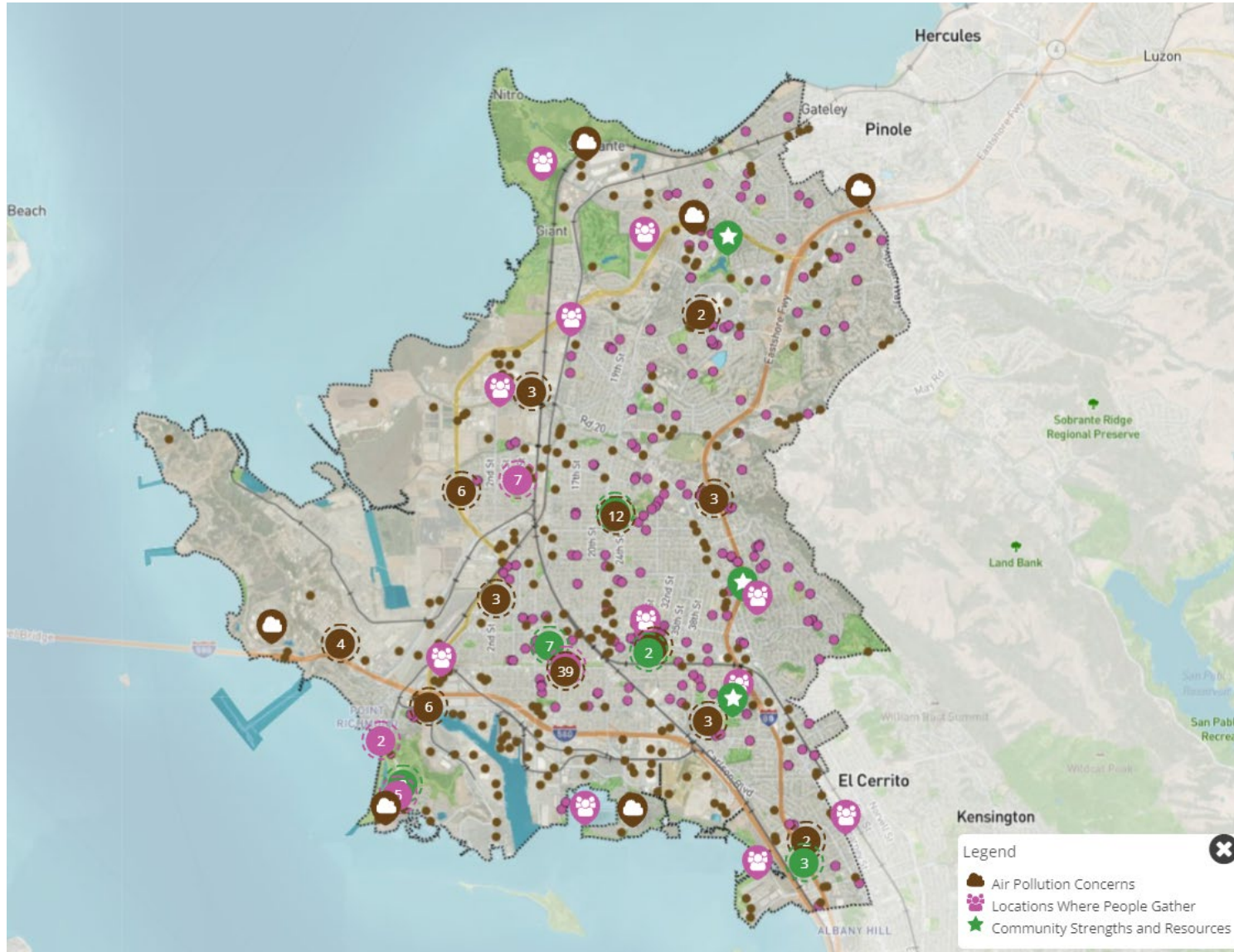


Locations Where People Gather



Community Strengths and Assets

Summary of Community Feedback



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Summary of comments through 10/30

- 171 comments
 - 101 air pollution concerns
 - 20 community strengths and resources
 - 50 places where people gather
- Over 500 unique visitors have visited the site
(Link: <https://rspcerp.mysocialpinpoint.com/ptca-mapping-project#/>)

Recurring Community Concerns

Odor Issue at Richmond Schools 10/25 & 10/28 (11 comments) –

- “There was a gas leak in our community which caused our school to shut down and prevent us from learning. It was on Monday morning and today, Thursday October 28.”
- “On Monday, Oct 25, 2021, there was a mysterious gas leak here at Richmond high school. Inside the school the smell was really strong, it was so strong I could smell it from outside. This happened around 8 am.”



Recurring Community Concerns (cont.)

Chevron/refinery (37 comments): Chevron refinery, oil refinery, refinery flare, smoke, fire

- “I’ve observed 2 flare ups when driving by the parkway.”
- “Last Sunday and Monday Chevron was flaring all over Richmond and San Pablo - couldn’t leave my windows open.”
- “Most nights I can smell nasty stuff in the air, I live right across from Chevron.”

Recurring Community Concerns (cont.)

Vehicle Traffic (30 comments): car, truck traffic, diesel pickup truck, freeway traffic, heavy traffic, idling, congestion, Richmond Parkway, pot holes

- “We could also plant more trees as there is lots of congestion of cars there.”
- “Weekday morning commuters idling on Tewksbury, thinking they would avoid the 80 backup and spending MORE time idling, not less.”
- “Heavy trucks and construction vehicles plow through, usually on their way to infrastructure and construction projects or deliveries -- EBMUD, PGE, ATT, Amazon, UPS, FedEx etc etc.”

Recurring Community Concerns (cont.)

Odor/Smell (14 comments) bad smell, chemical smell, landfill odor, strong smog smell, fumes, Sulphur, gas, smoky, rotten

- “Chemical smells, smog from cars”
- “The last few days it smelled like gas.”
- “I smell rotten eggs at times. The air is always congested when it doesn’t rain.”

Recurring Community Concerns (cont.)

Asthma (13 comments): Hard to breathe, coughing, chest, nasal, family, children

- “the gas from the cars impacts my sleep in a negative way and this is a problem because I have asthma.”
- “I am a woman who has asthma and a history of both grand and petite mall seizures. I live in San Pablo near Nation Hamburgers, I am so upset about the air quality in the morning from the freeway, There are more trucks now than ever that put out brown smoke on highway 80”
- “Asthma makes it hard to breathe when there are fires.”

Recurring Community Concerns (cont.)

Rail/Train (11 comments): Burlington Northern Railway, railroad crossing, idling trains, Santa Fe Railroad, Train Depot

- “A lot of dark smoke and a strong smog smell coming from the trains that pass here all day everyday. Trains are coming by at least twice every hour at all hours of the day.”
- “On several occasions late at night terrible smells have come as trains have passed through, forcing us to close our windows (and it still doesn't stop the smell coming through).”
- “This relates to the railroad crossing. Consistently the intersection is blocked for up to 20 minutes. During these times, semis and private vehicles idle. The related air pollution is staggering.”

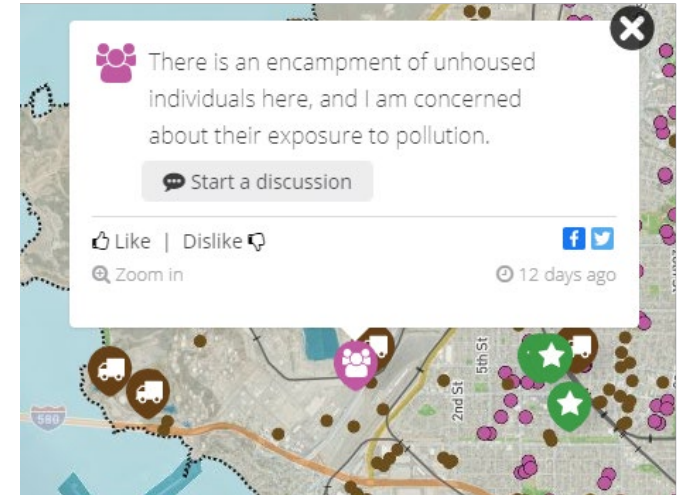
Recurring Community Concerns (cont.)

Smoke (10 comments): wood smoke, smoking vehicles, hazy

- “Sometimes there's so much smoke and fog you can't even see the sun. This really triggers my asthma.”
- “the smoke the come out of factories worries me and I feel like toxins are just going into the air we breathe. It smells like rubber and plastic.”
- “I often smell smoke, even at odd hours when there wouldn't be bbqs or fireplace burning.”

What will we do with this information?

- Use community concerns to guide where/how we conduct exposure analysis near sources of pollution
- Focus analysis of air pollution impacts on community identified susceptible populations
- Inform key issue priorities, strategies, and implementation



Community mapping platform with comment example.

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Steering Committee Questions and Discussions

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Next Meeting

- Our next meeting will be on Monday, December 13, 2021 from 6:00 p.m. to 8:00 p.m.
- We will be convening a new Ad Hoc group for the technical assessment work, and continuing the Community Description Ad Hoc meeting
- The Community Equity, Health, and Justice Committee of the Air District Board will be reviewing applicants and making recommendations at the December 2, 2021 meeting



Public Comment on Non-Agenda Matters

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