Statewide Mobile Monitoring Initiative

Community Meeting #2

May 6, 2025

The Statewide Mobile Monitoring Initiative is part of California Climate Investments, a statewide initiative that puts billions of **Cap-and-Trade dollars** to work reducing greenhouse gas emissions, strengthening the economy, and **improving public health** and the environment — particularly in disadvantaged communities.

CALIFORNIA AIR RESOURCES BOARD

aclima

TVAQCA

Tri-Valley Air Quality Climate Alliance

TVAQCA Mission: **communicate science-based understanding** of air quality in the Tri-Valley area, listen to **community feedback**, **collaborate** with interested parties, and **promote actions** that will effectively reduce emissions, mitigate health impacts, and reduce climate change.

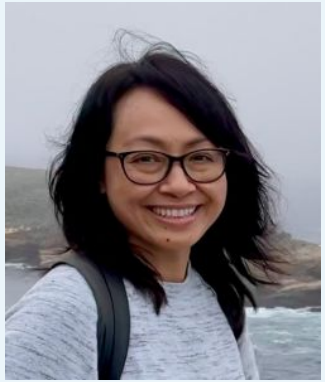
- TVAQCA is nonprofit
- Serving the Tri-Valley Community for 5 years
- Paid staff and volunteers with science, engineering, communication, and legal specialties

www.tvaqca.org

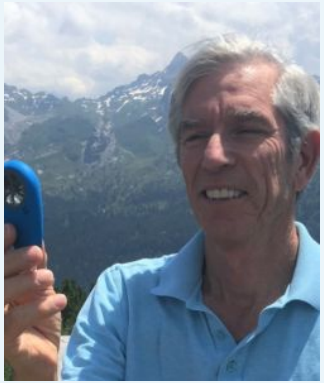
Welcome and introductions

TVAQCA/SMMI Team:

Tom Edmunds
Co-Chair
TVAQCA



Terry Chang
Operations



Ron Baskett
TVAQCA Founder,
Chief Scientist

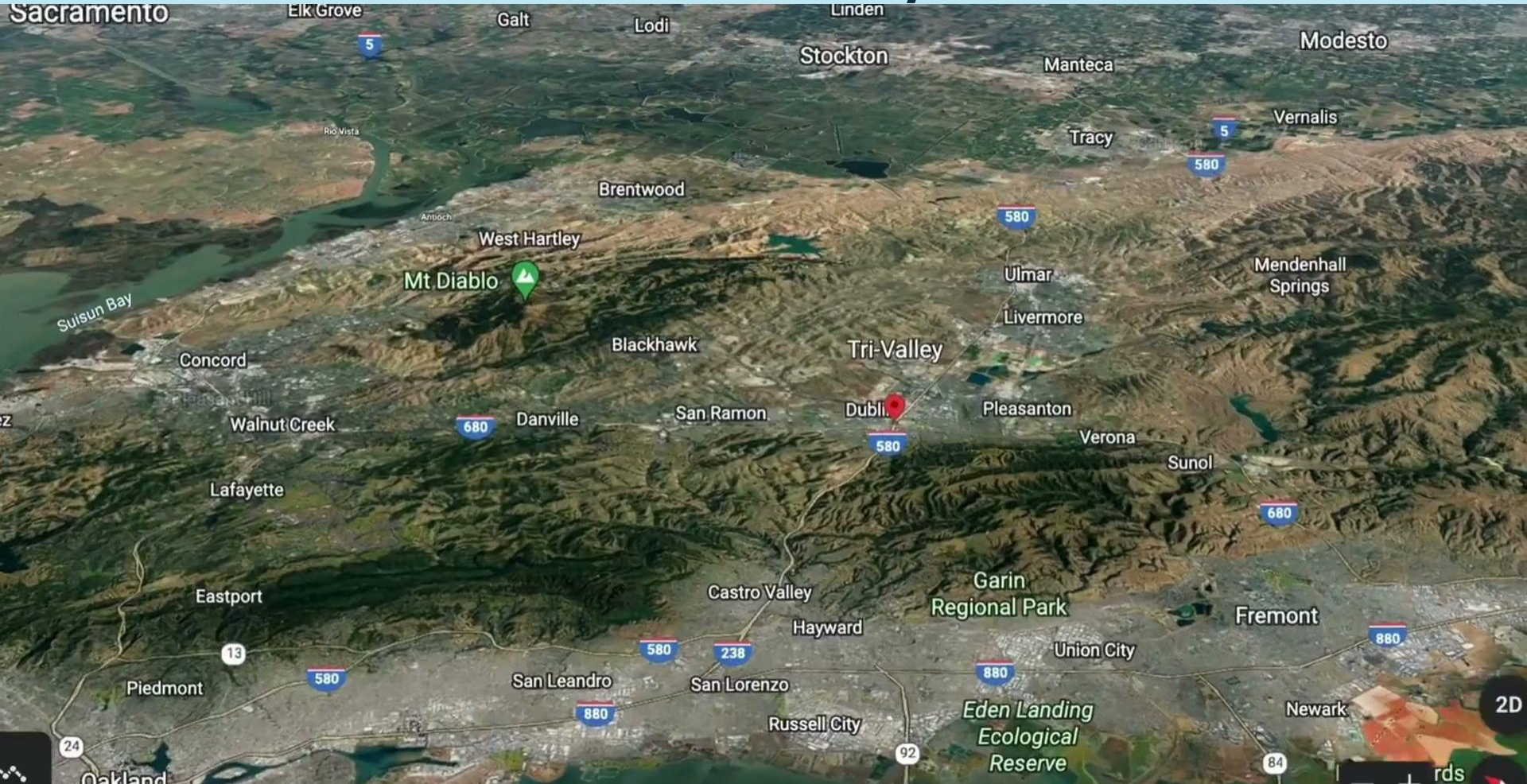
Annie Chen
Communications

Fabjola Kasaj
GIS mapping

Today's agenda:

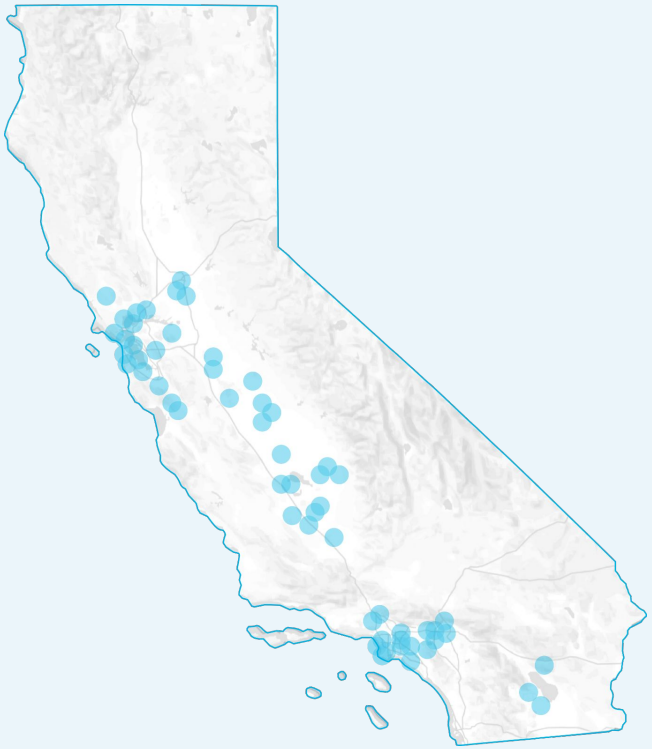
1. Why do we care? The Tri-Valley Airshed
2. Meeting #1 Recap
    a. Review the project scope
    b. Review the decision-making process
    c. Recap of past discussions and decisions
3. Review the draft **Community Air Monitoring Plan (CAMP)**
4. **Q & A**
5. Discuss desired changes to the CAMP
6. Next steps

What is the Tri-Valley Airshed?



Meeting #1 Recap

The Statewide Mobile Monitoring Initiative



The California Air Resources Board (CARB) contracted Aclima to develop **Community Air Monitoring Plans (CAMPs)** for and collect and analyze air quality data in the **64 Consistently Nominated Communities (CNCs).**

Through CAMP development and implementation, SMMI putting communities in a better position to develop strategies for emissions reduction.

What pollutants will we measure?

Broad Area Monitoring

- **Fine Particulate Matter** ($PM_{2.5}$)
- **Black Carbon**
- **Nitrogen Oxide** (NO)
- **Nitrogen Dioxide** (NO_2)
- **Ozone** (O_3)
- **Carbon Monoxide** (CO)
- **Carbon Dioxide** (CO_2)
- **Methane** (CH_4)
- **Ethane** (C_2H_6)
- **Total Volatile Organic Compounds** (VOCs)

Targeted Area Monitoring

All of the same pollutants, plus:

- **Heavy Metals** (e.g. arsenic, lead)
- **Particulate Matter** (e.g. ultrafine, PM_{10})
- **Gases and VOCs** (e.g. formaldehyde)

When will the monitoring happen?

- Aclima will deploy its monitoring vehicles by **June 2025**
- The cars will monitor for **nine months** at different times of day, days of week, and seasons
- Aclima will maintain project updates for each community on its website: www.aclima.earth/ca-smmi

When will the data be available?

Spring 2026:

- StoryMaps available with content related to each Consistently Nominated Community

May 2026:

- Project results webinar by region
- Final report and StoryMaps published

Summer 2026:

- Data available on CARB's website for download

Decision-Making Process

MAJORITY VOTE OPTION:

Members cast votes, and the option with the most votes wins.

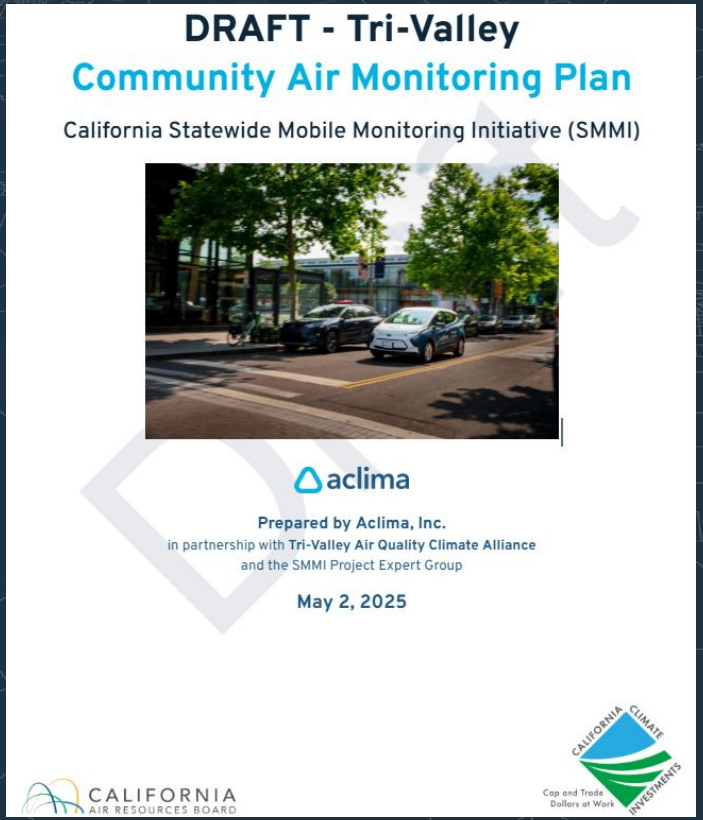
Community Pollution Concerns

Locations of concern identified in online survey and in Meeting #1:

1. Water treatment plant in Pleasanton at Stoneridge & I-680
2. Vehicle emissions from traffic on I-680 and I-580 freeways
3. Air quality around elementary schools
4. Livermore Airport (leaded aviation fuel)
5. Cement plant and other heavy industry on Stanley Blvd.
6. Emissions from Lawrence Livermore and Sandia National Laboratories
7. Emissions from landfill operations Northeast of Livermore (out of scope)


680
The Bridges Golf Club
San Ramon
Hidden Valley Open Space
Brown Ranch Mitigation Lands
Morgan Territory
Doolan Canyon
Brushy Peak Regional Park
San Ramon Country Club
Dublin Ranch Golf Course
Springtown Wetlands Preserve
Dublin Hills Regional Park
Dublin
580
Las Positas Golf Course
Fairlands Park
J2
680
Ken Mercer Sports Park
Livermore
Robertson Park
Pleasanton
Pleasanton Ridge Regional Park
Ruby Hill Country Club
Augustin Bernal Community Park
Callippe Preserve
Sycamore Grove Park

Draft Community Air Monitoring Plan



Draft Community Air Monitoring Plan

What is the reason for conducting air monitoring?

4. Air monitoring objectives

    4.2.1 Characterize sources

    4.2.6 Identify disproportionate impacts

4.3 Define monitoring sample designs to support objectives

4.4 Example concerns, sample designs, objectives, and visualizations

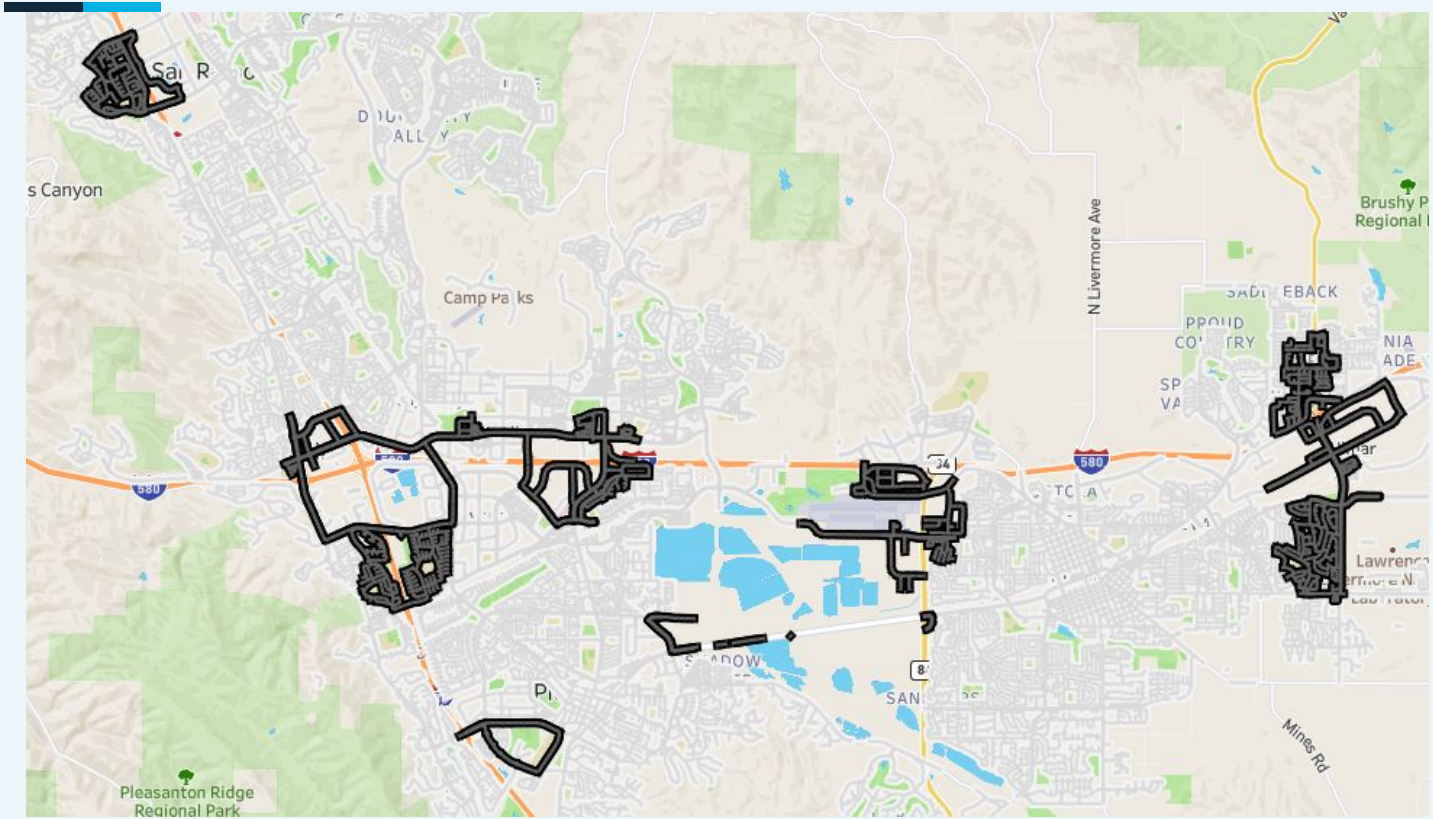
4.5 Strengths and limitations of mobile monitoring

Draft Community Air Monitoring Plan

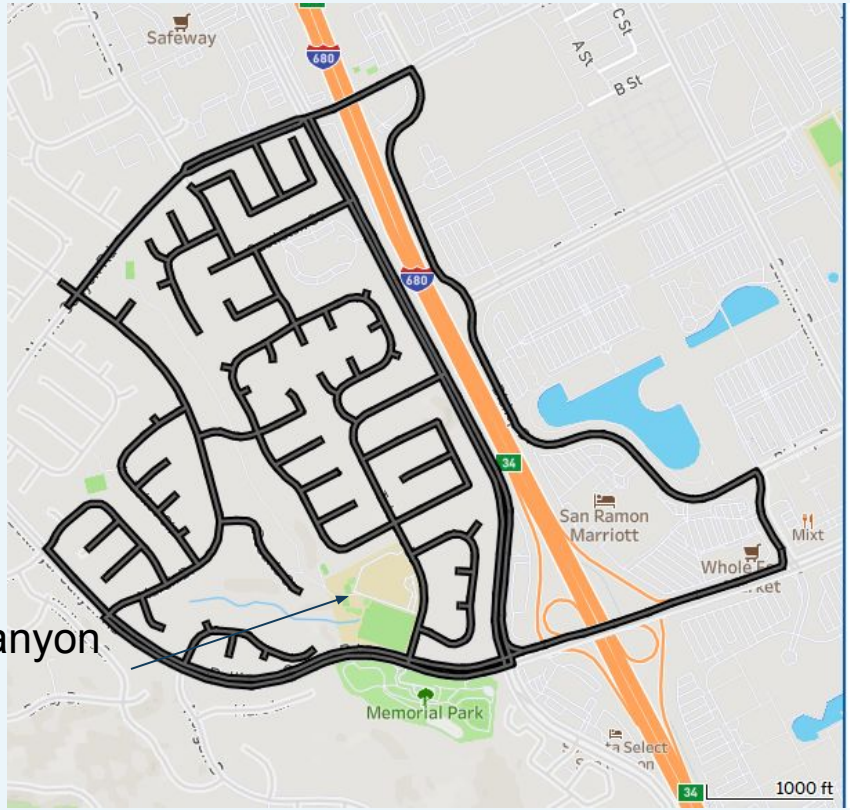
How will monitoring be conducted?

7. Monitoring methods and equipment
    - 7.1 Monitoring equipment
    - 7.2 Monitoring methods - broad area monitoring
    - 7.3 Monitoring methods - targeted area monitoring
9. Quality control procedures
10. Data management
11. Work plan for conducting field measurements

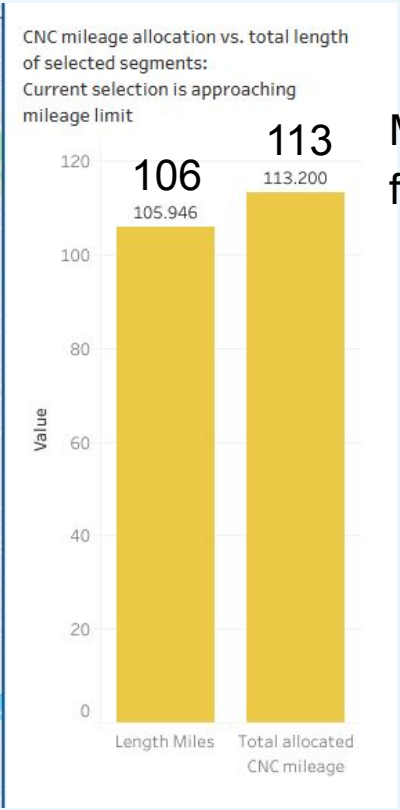
Vehicle Routing - Overview



Draft Community Air Monitoring Plan - San Ramon

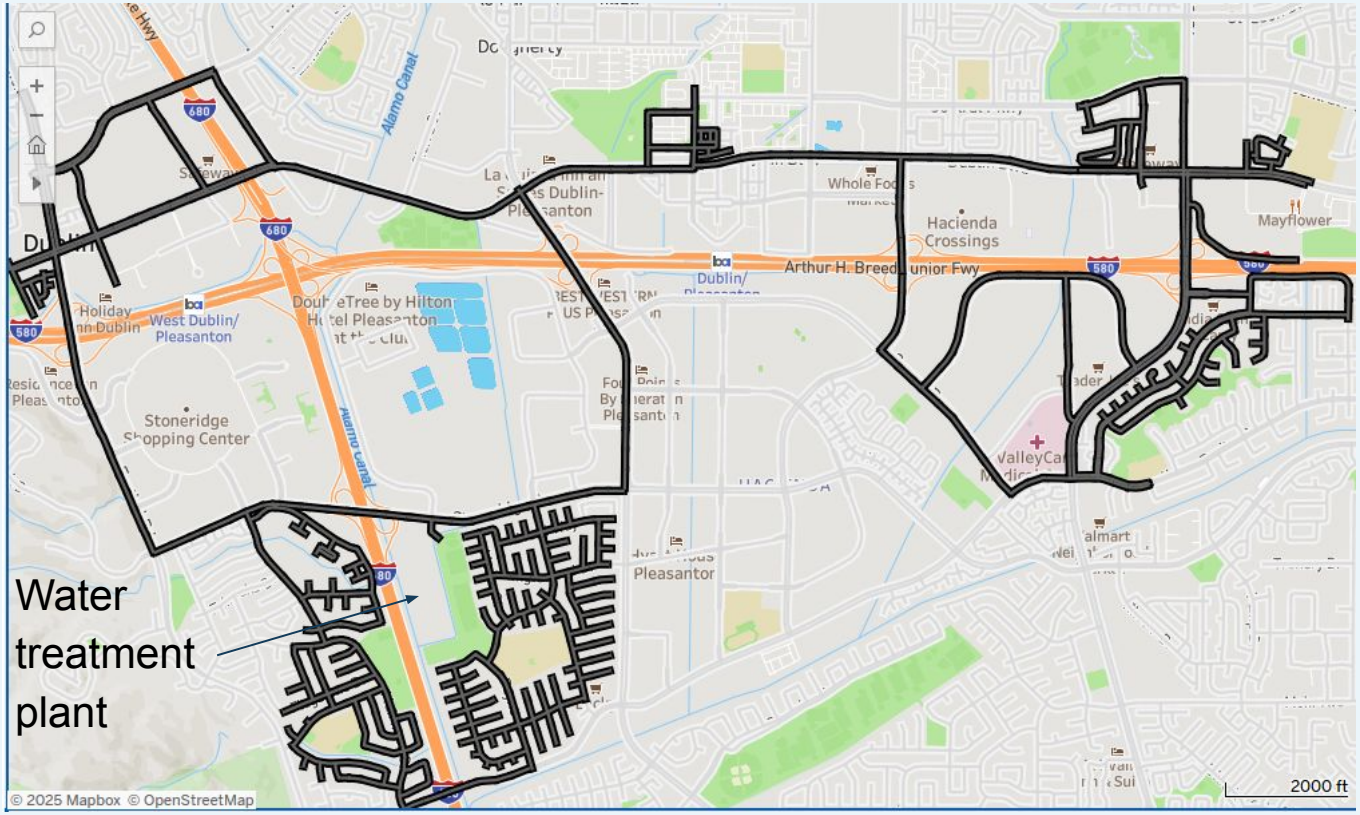


Bollinger Canyon Elementary

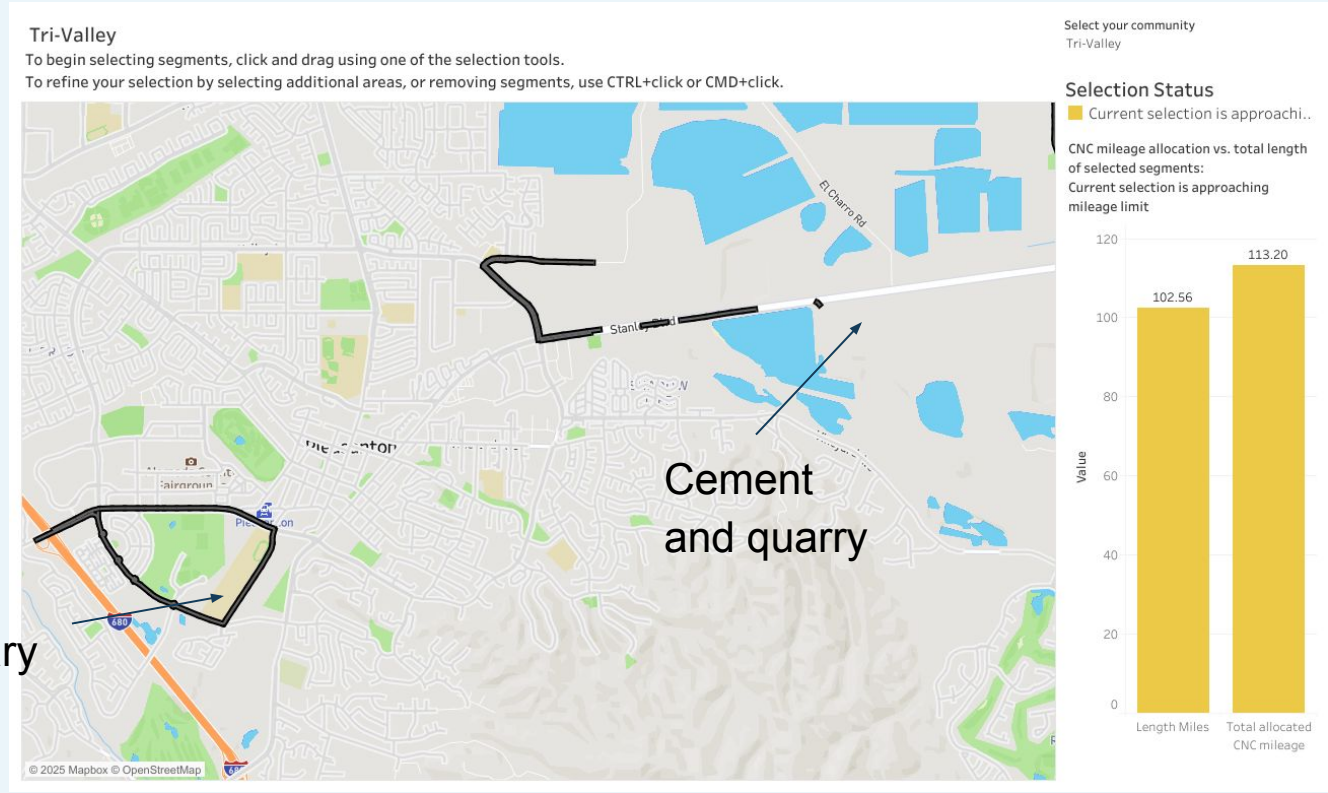


Mileage budget for Tri Valley

Draft Community Air Monitoring Plan - Dublin/Pleasanton

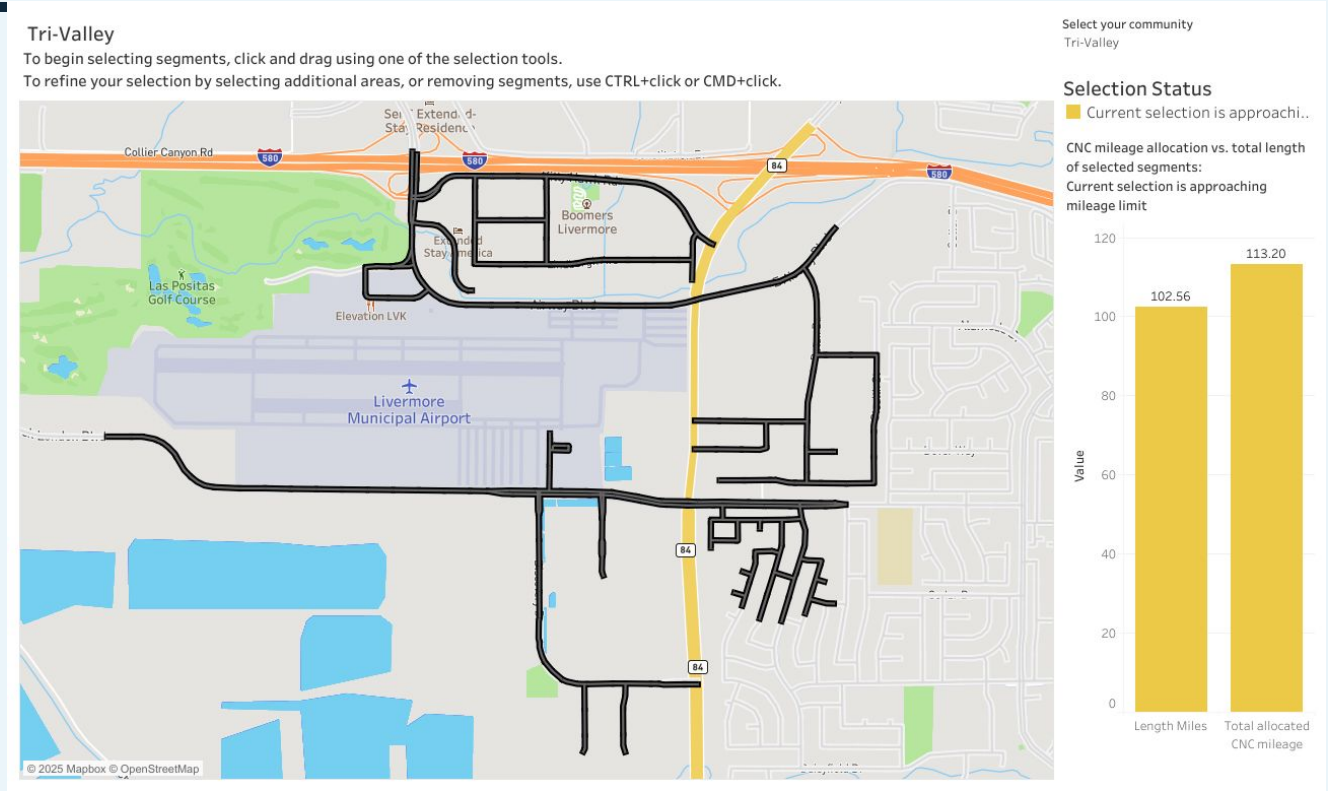


Draft Community Air Monitoring Plan - South Pleasanton

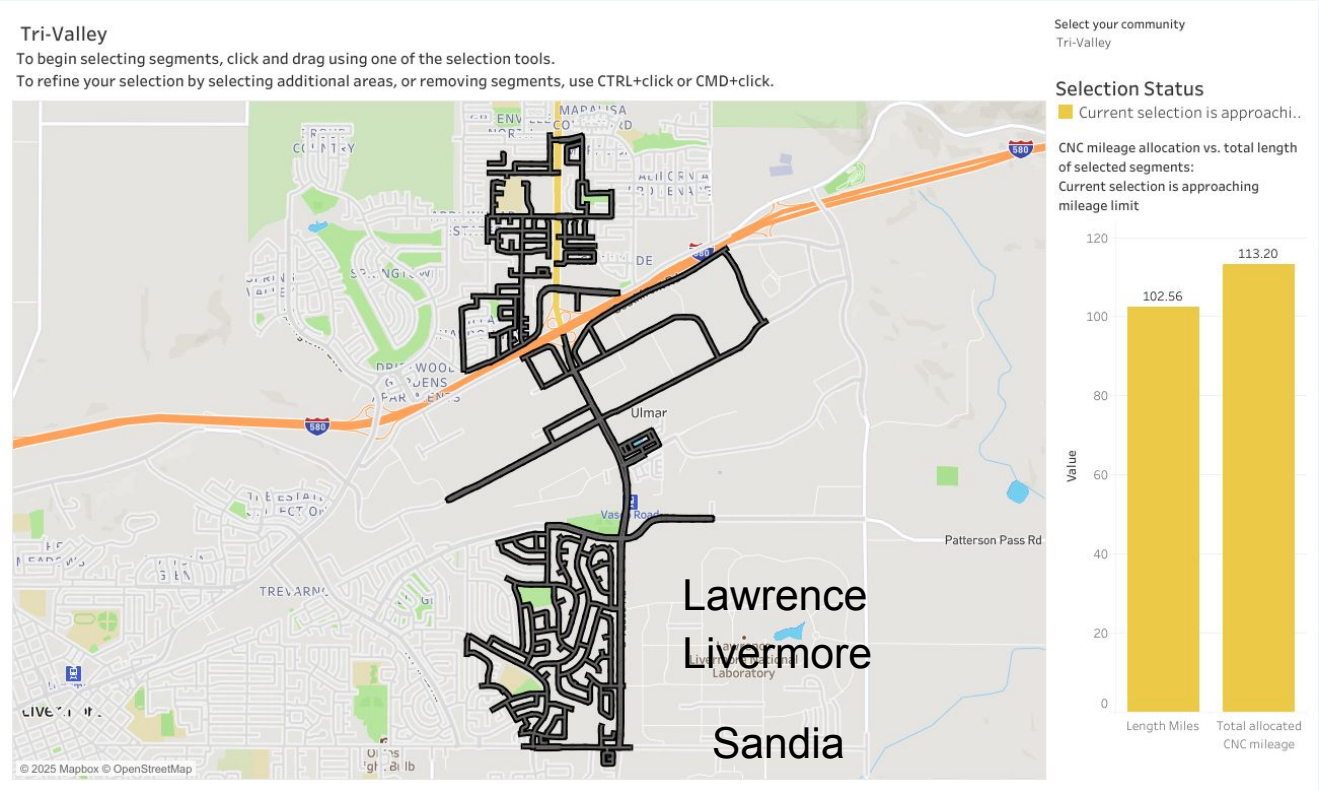


Hearst Elementary

Draft Community Air Monitoring Plan - Airport



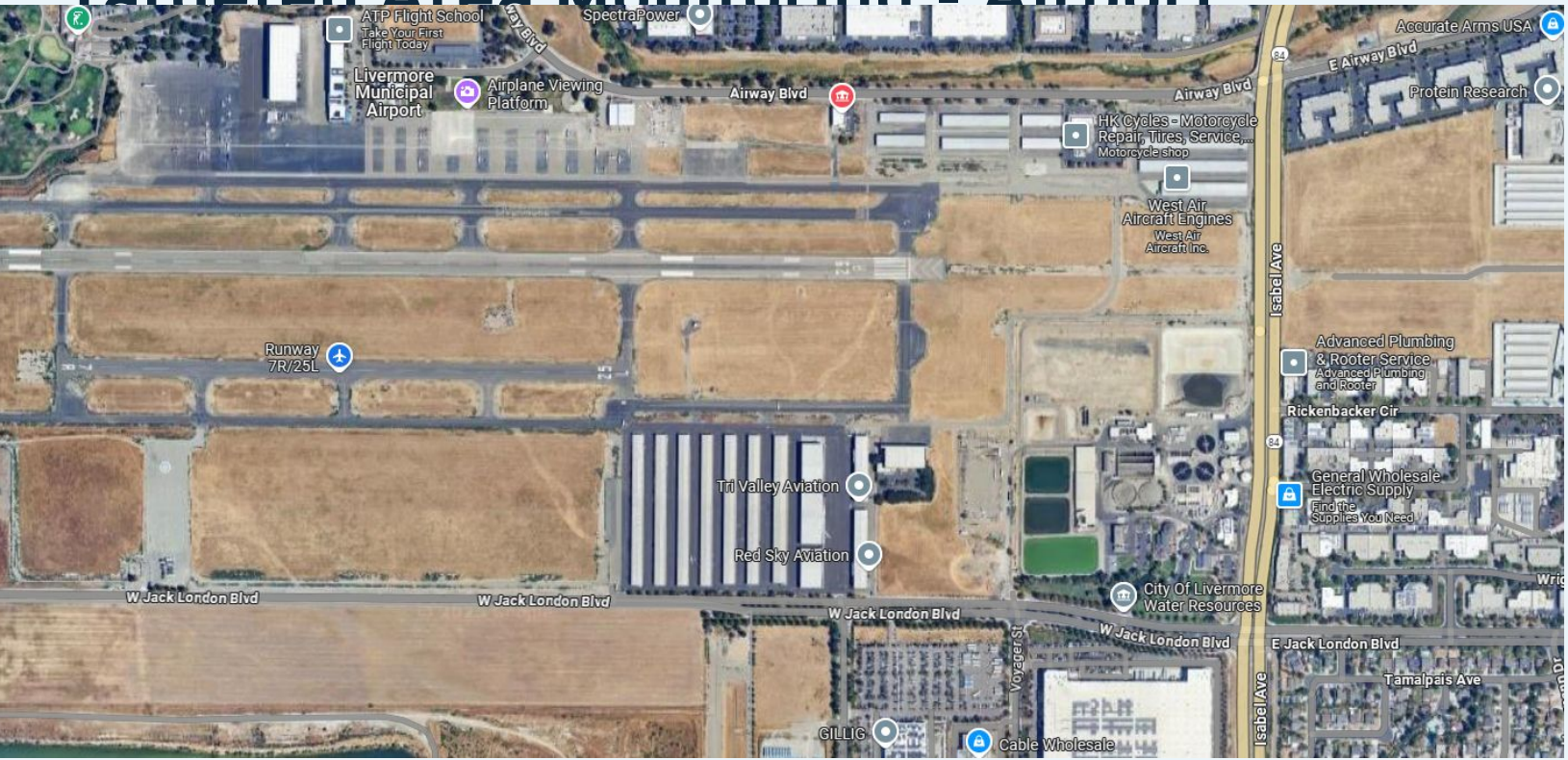
Draft Community Air Monitoring Plan - East Livermore



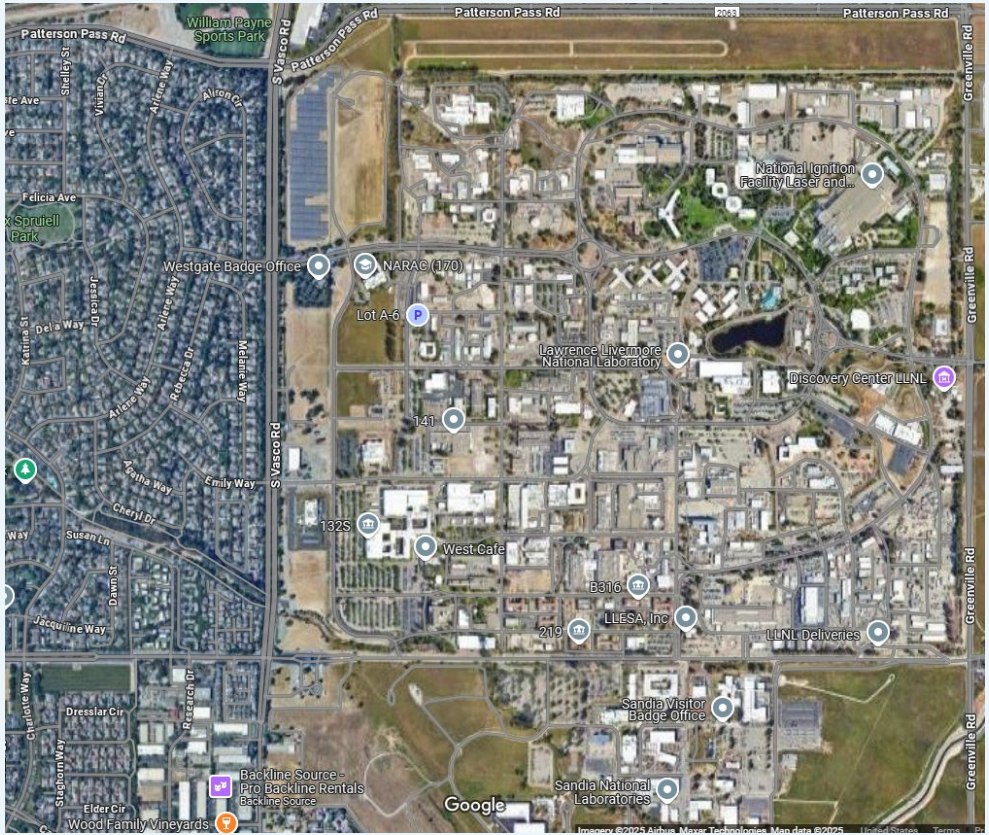
Targeted Area Monitoring - Water Treatment Plant

Targeted Area Monitoring - Cement and Quarry

Targeted Area Monitoring - Airport



Targeted Area Monitoring - National Laboratories



Lawrence Livermore

Sandia

Q & A

Discussion: Desired Changes to the CAMP

Broad Area Monitoring (vehicle routes)

Add area/streets: San Ramon further east, Pleasanton up Hopyard, Dublin connect Dublin Blvd.

Subtract area/streets:

Targeted Area Monitoring (select 1 site)

1. Water treatment plant - 3 votes
2. Cement and quarry operations - 0 votes
3. Airport (& water treatment plant) - 5 votes
4. East Livermore (Labs) - 0 votes

Next Steps

- Aclima will **revise the Community Air Monitoring Plan** based on the changes discussed in this meeting, and submit to CARB
- Aclima will maintain a **project website** [aclima.earth/ca-smmi] with monitoring updates, hold office hours for community members to ask questions, and host training and educational webinars on:
  - Data literacy and interpretation
  - Success stories of communities translating data into emissions reduction
  - Air management policies and regulation
- We will also provide updates on TVAQCA website: www.tvaqca.org

Meeting Feedback

What worked about this meeting?

How can we make the next meeting better?

See You for Meeting #3!

Purpose of Meeting 3:

- Explain **project results** and answer questions
- Have community members **share experiences** engaging with the project
- Discuss possible **next steps**

Date & Location:

May 2026

Aclima and CARB staff will organize online meetings by air district

Project Timeline

Reminder

Remember to sign in on the **vendor agreement sheet** to be compensated for participation!

TVAQCA Project Contact Information

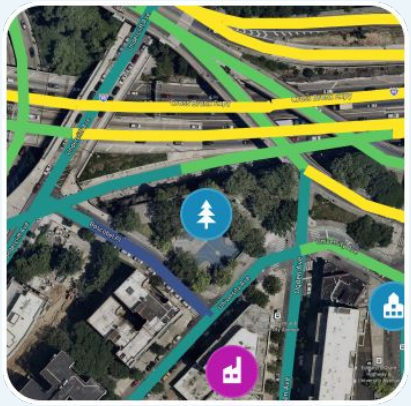
Email: aq.team@tvaqca.org

Website: www.tvaqca.org

Sign up to our newsletter!

Thank you to our project partners for your commitment to protect California air quality.

www.aclima.earth/ca-smmi



Cap and Trade Dollars at Work

CALIFORNIA AIR RESOURCES BOARD

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Pollutant Information

Fine Particulate Matter ($PM_{2.5}$)

Major Sources:

- Combustion (vehicles, power plants, industrial facilities)
- Dust
- Wildfires

Health Effects:

- Increased mortality
- Respiratory damage
- Asthma

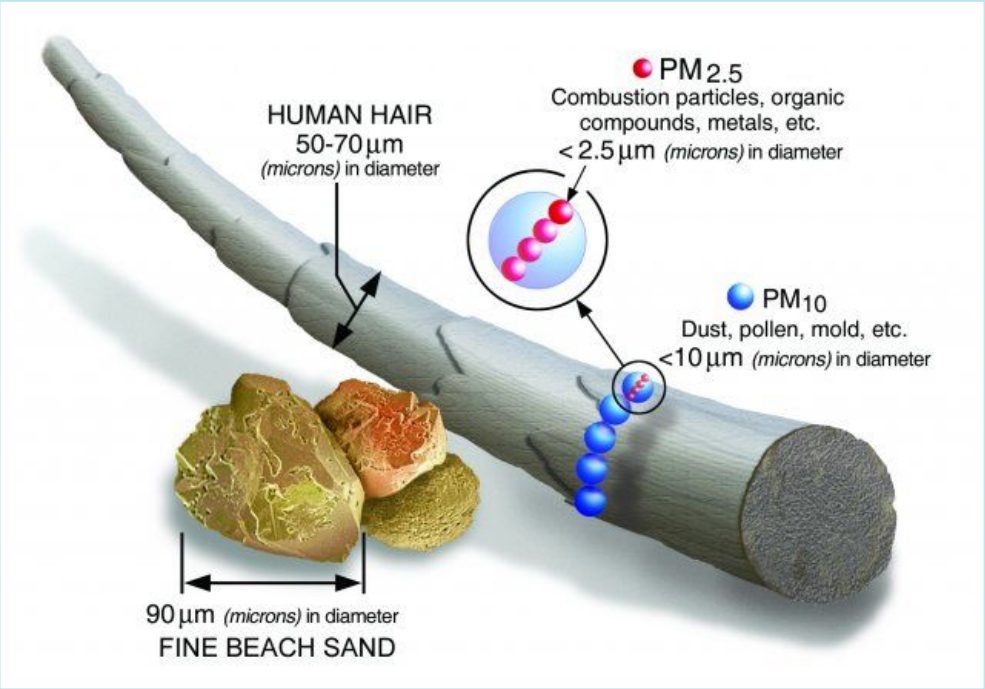

Image from US EPA

Black Carbon (the part of $PM_{2.5}$ that is "soot")

Major Sources:

- Diesel engines
- Wood fires
- Combustion

Health Effects:

- Respiratory and heart disease
- As "diesel particulate matter," classified as a carcinogen (cancer-causing)

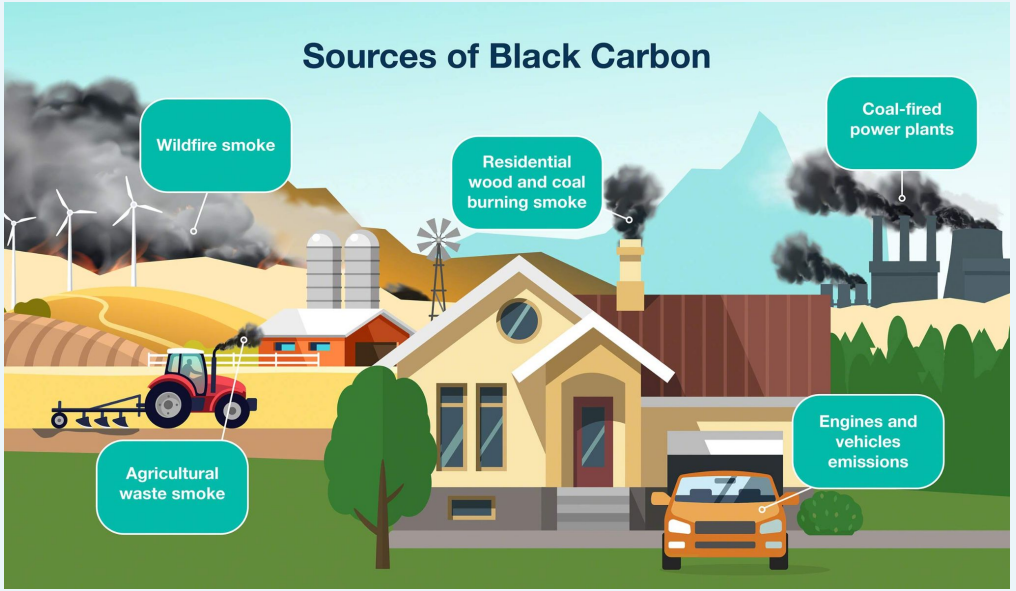

Image from IQAir

Nitric Oxide (NO)

Major Sources:

- Combustion (vehicles, power plants, industrial facilities)

Health Effects:

- Note: NO rapidly converts to nitrogen dioxide (NO_2) and ozone (O_3) in the atmosphere; see the following slides for their respective health effects

Image from LA Times

Nitrogen Dioxide (NO_2)

Major Sources:

- Photochemistry
  (NO + oxygen + sunlight)
- Combustion (vehicles, industry)

Health Effects:

- Reduced lung function
- Increased asthma attacks
- Increased risk of respiratory infections

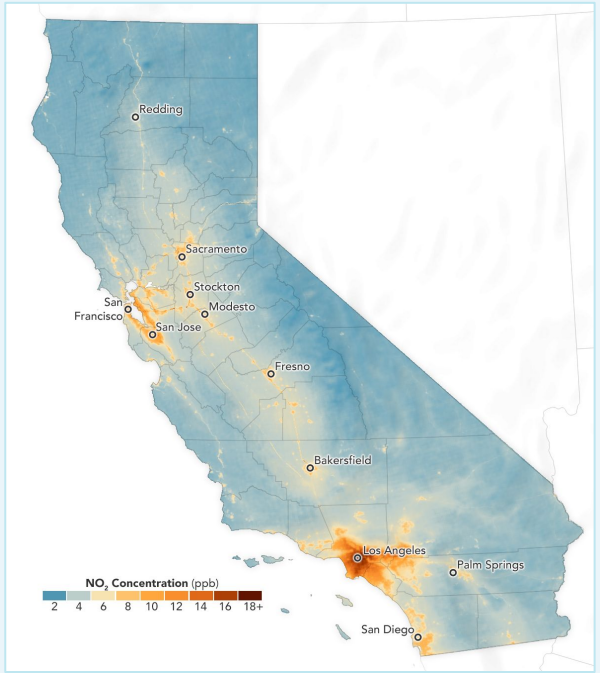

Image from NASA Earth Observatory

Ozone (O_3)

Major Sources:

- Emissions + Photochemistry
  (e.g. NOx from traffic, VOCs from paints) (sunlight)

Health Effects:

- Reduced respiratory system function
- Chest pain, asthma, bronchitis
- Damage to vegetation

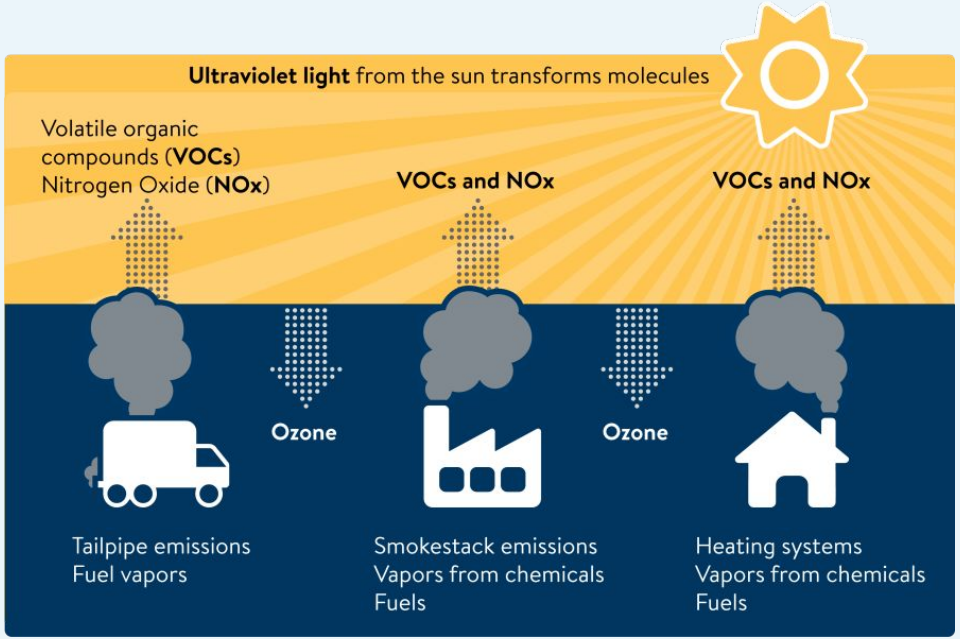

Image from Minnesota Pollution Control Agency

Carbon Monoxide (CO)

Major Sources:

- Combustion (especially gasoline engines)
- Wildfires

Health Effects:

- Headaches
- Dizziness
- Fatigue

Image from Centers for Disease Control and Prevention

Carbon Dioxide (CO_2)

Major Sources:

- Combustion (vehicles, power plants, industrial facilities, buildings)
- Deforestation, land use changes
- Cement production

Health Effects:

- CO_2 is monitored more for climate than direct human health impacts

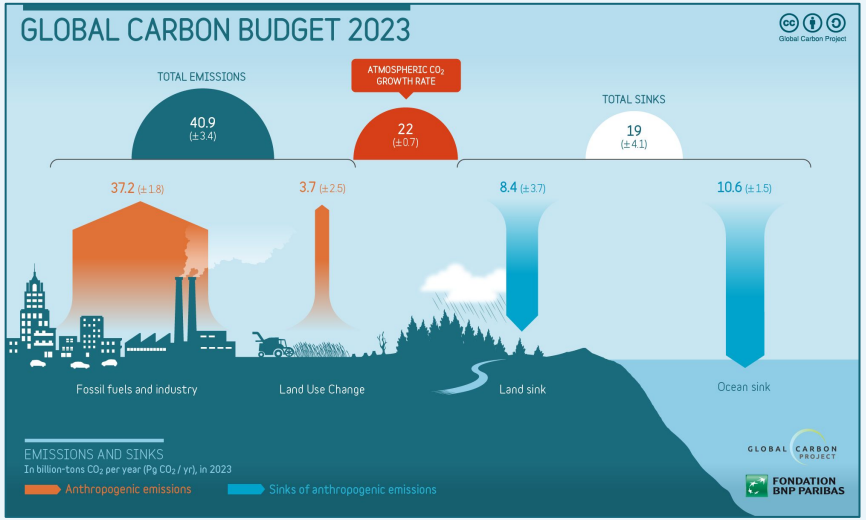

Image from Global Carbon Atlas

Methane (CH_4)

Major Sources:

- Natural gas extraction, processing, and leaks
- Landfills and wastewater treatment
- Agriculture

Health Effects:

- Indirectly contributes to ozone formation (bad for respiratory health)

Image from Clean Air Task Force

Ethane (C_2H_6)

Major Sources:

- Natural gas extraction, processing, and leaks
- Plastics manufacturing

Health Effects:

- Contributes to the formation of ozone and other volatile organic compounds (VOCs)

Image from Moms Clean Air Force

Volatile Organic Compounds (VOCs)

Major Sources:

- Combustion
- Paints, solvents, cleaning products
- Industrial processes

Health Effects:

- Eye, nose, throat irritation
- Headaches, nausea, dizziness
- Liver, kidney, or central nervous system damage

Image from Culligan