Steering Committee

Meeting #2: April 11, 2019

List of Appendices:

- Meeting Agenda
- Sign-In Sheet
- PowerPoint Presentation
Richmond-San Pablo Area Community Air Monitoring Plan
Steering Committee Meeting

April 11, 2019 ~ 6:00 pm - 8:00 pm
Richmond Memorial Auditorium (403 Civic Center Plaza, Richmond)

A G E N D A

5:30 pm  Registration and Light Refreshments

6:00  I.  Welcome and Introductions

6:10  II.  Agenda Review

6:15  III.  Discussion of Community Co-Leads
• Nomination Results and Voting Process

6:35  IV.  Brief Introduction to Measuring Air Quality
• Types of Air Pollution Measurements
• Actionable Data Collection

6:45  V.  Capacity-Building on Monitoring Plan Elements

7:05  VI.  Discussion of Plan Area Boundaries
• Community Purpose of Monitoring
• Source Locations, Emissions and Sensitive Receptors

7:45  VII.  Next Steps
• Next Steering Committee Meeting: May 15, 2019, 6:00 - 8:00 pm; RSVP Link: https://forms.gle/aWV3ou4JufEbeMPFA
7:50    VIII.    Public Comments

8:00 pm    Close…
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<td>Adam Oliver</td>
<td></td>
<td>Chevron</td>
<td>Industry/Business</td>
<td>510-619-6738</td>
<td><a href="mailto:adamoliver@chevron.com">adamoliver@chevron.com</a></td>
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<td>Annie M. King-Meredith</td>
<td></td>
<td>Resident</td>
<td>Resident/Neighborhood Group</td>
<td>510 932-9312</td>
<td><a href="mailto:akingmeredith@yahoo.com">akingmeredith@yahoo.com</a></td>
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<td>Arnon Oren</td>
<td>Lee Ann Hill</td>
<td>Anaviv Catering</td>
<td>Industry/Business</td>
<td>510-932-4095</td>
<td><a href="mailto:arnon@anaviv.com">arnon@anaviv.com</a></td>
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<td>Boris Lukanov</td>
<td>PSE Healthy Energy</td>
<td>CBO/Nonprofit</td>
<td>510-330-5557</td>
<td><a href="mailto:blukanov@psehealthyenergy.org">blukanov@psehealthyenergy.org</a></td>
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<td>Cesar Zepeda</td>
<td>Hill Top Neighborhood</td>
<td>Resident/Neighborhood Group</td>
<td>510-290-3299</td>
<td><a href="mailto:cesarz13@hotmail.com">cesarz13@hotmail.com</a></td>
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<td>Adam Lenz</td>
<td>City of Richmond</td>
<td>Government</td>
<td>510-375-1942</td>
<td><a href="mailto:johnsonademnlus@yahoo.com">johnsonademnlus@yahoo.com</a></td>
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<td>Don Lau</td>
<td></td>
<td>Resident</td>
<td>Resident/Neighborhood Group</td>
<td>510-813-5170</td>
<td><a href="mailto:dlau1969@gmail.com">dlau1969@gmail.com</a></td>
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<td>Elizabeth Dunn</td>
<td></td>
<td>City of San Pablo</td>
<td>Government</td>
<td>510-215-3036</td>
<td><a href="mailto:elizabethd@sanpabloca.gov">elizabethd@sanpabloca.gov</a></td>
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<tr>
<td>Dr. Henry Clark</td>
<td>West County Toxics Coalition</td>
<td>CBO/Nonprofit</td>
<td>925-978-4129</td>
<td><a href="mailto:henryC11@prodigy.net">henryC11@prodigy.net</a></td>
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<td>James Holland</td>
<td>Levin Terminal</td>
<td>Richmond Chamber of Commerce</td>
<td>Industry/Business</td>
<td>510-307-4076</td>
<td><a href="mailto:jimh@levinterminal.com">jimh@levinterminal.com</a></td>
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<td>James Lee</td>
<td></td>
<td>Richmond Chamber of Commerce</td>
<td>Industry/Business</td>
<td>510-717-2285</td>
<td><a href="mailto:james@rcoc.com">james@rcoc.com</a></td>
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<td>Janet Johnson</td>
<td>Sunflower Alliance</td>
<td>CBO/Nonprofit</td>
<td>510-331-3985</td>
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<td>Jessica Range</td>
<td>Resident</td>
<td>Resident/Neighborhood Group</td>
<td>510-541-3465</td>
<td><a href="mailto:jrange@gmail.com">jrange@gmail.com</a></td>
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<td>Jill Rodby</td>
<td>Sims Metal</td>
<td>Industry/Business</td>
<td>510-412-5336</td>
<td><a href="mailto:jill.roddy@simsmm.com">jill.roddy@simsmm.com</a></td>
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<td>Joe L. Fisher</td>
<td>Coronado Neighborhood</td>
<td>Resident/Neighborhood Group</td>
<td>510-253-8712</td>
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<td>John Anderson</td>
<td></td>
<td>Bay Area Rescue Mission</td>
<td>CBO/Nonprofit</td>
<td>510-215-4878</td>
<td><a href="mailto:john@bayarearescue.org">john@bayarearescue.org</a></td>
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<td>Julia Walsh</td>
<td></td>
<td>No Coal in Richmond</td>
<td>CBO/Nonprofit</td>
<td>510-595-1745</td>
<td><a href="mailto:jwalshorama@gmail.com">jwalshorama@gmail.com</a></td>
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<td>Kate Hoag</td>
<td>Kristen Law</td>
<td>BAAQMD</td>
<td>Government</td>
<td>415-749-4619</td>
<td><a href="mailto:khoag@baaqmd.gov">khoag@baaqmd.gov</a></td>
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<td>Katrinka Ruk</td>
<td>Fred Glueck</td>
<td>Council of</td>
<td>Industry/Business</td>
<td>510-260-4820</td>
<td><a href="mailto:kpruk@sbcglobal.net">kpruk@sbcglobal.net</a></td>
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<tr>
<td>Linda Whitmore</td>
<td>Gilda Harrell</td>
<td>Santa Fe</td>
<td>Resident/Neighborhood</td>
<td>510-236-8386</td>
<td><a href="mailto:lindajwhitmore@aol.com">lindajwhitmore@aol.com</a></td>
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<td>Maria Martinez Resendiz</td>
<td></td>
<td>Resident</td>
<td>Resident/Neighborhood</td>
<td>510-701-0054</td>
<td><a href="mailto:mariaazucenam7@gmail.com">mariaazucenam7@gmail.com</a></td>
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<td>Marin Trujillo</td>
<td></td>
<td>WCCCUUSD</td>
<td>Education</td>
<td>510-307-4526</td>
<td><a href="mailto:mtrujillo@wccusd.net">mtrujillo@wccusd.net</a></td>
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<tr>
<td>Matt Holmes</td>
<td>Jen Fong</td>
<td>Groundwork Richmond</td>
<td>CBO/Nonprofit</td>
<td>415-254-3546</td>
<td><a href="mailto:matt@groundworkrichmond.org">matt@groundworkrichmond.org</a></td>
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<td>Melvin Siegel</td>
<td></td>
<td>Resident</td>
<td>Resident/Neighborhood</td>
<td>510-222-2202</td>
<td><a href="mailto:anitasiegel@comcast.net">anitasiegel@comcast.net</a></td>
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<tr>
<td>Mima Cervantes</td>
<td></td>
<td>Multicultural Institute</td>
<td>CBO/Nonprofit</td>
<td>510-849-7580</td>
<td><a href="mailto:mima@miionline.org">mima@miionline.org</a></td>
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<td>Monique Davis</td>
<td></td>
<td>CARB</td>
<td>Government</td>
<td>916-802-9063</td>
<td><a href="mailto:monique.davis@arb.ca.gov">monique.davis@arb.ca.gov</a></td>
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<tr>
<td>Dr. Naama Raz-Yaseef</td>
<td></td>
<td>Richmond Heights</td>
<td>Resident/Neighborhood</td>
<td>510-501-5913</td>
<td><a href="mailto:rynaama@gmail.com">rynaama@gmail.com</a></td>
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<tr>
<td>Nain Villanueva de Lopez</td>
<td></td>
<td>First Five</td>
<td>CBO/Nonprofit</td>
<td>510-232-5654</td>
<td><a href="mailto:niopez@bacr.org">niopez@bacr.org</a></td>
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<td>Oscar Garcia</td>
<td></td>
<td>Iron Triangle</td>
<td>Resident/Neighborhood</td>
<td>510-798-9082</td>
<td><a href="mailto:oscarg2@gmail.com">oscarg2@gmail.com</a></td>
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<td>Paul Ehara</td>
<td></td>
<td>Idle No More / Rich City Rides</td>
<td>CBO/Nonprofit</td>
<td>510-932-4095</td>
<td><a href="mailto:paul.ehara@gmail.com">paul.ehara@gmail.com</a></td>
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<td>Randy Joseph</td>
<td></td>
<td>RYSE Youth Center</td>
<td>CBO/Nonprofit</td>
<td>510-241-7274</td>
<td><a href="mailto:rfjoseph23@gmail.com">rfjoseph23@gmail.com</a></td>
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<td>Dr. Rohan Radhakrishna</td>
<td></td>
<td>CC Health Services</td>
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<td><a href="mailto:Rohan.Radhakrishna@cchealth.org">Rohan.Radhakrishna@cchealth.org</a></td>
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<td>Roxanne Carrillo Garza</td>
<td>Pierre Thompson</td>
<td>Healthy Richmond</td>
<td>CBO/Nonprofit</td>
<td>510-680-3133</td>
<td><a href="mailto:rcgarza@lisc.org">rcgarza@lisc.org</a></td>
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<td>Siew Weng Lee</td>
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<td>South East Asian Community</td>
<td>Resident/Neighborhood Group</td>
<td>415-949-9818</td>
<td><a href="mailto:siew.weng.lee@gmail.com">siew.weng.lee@gmail.com</a></td>
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<td>Willie Robinson</td>
<td></td>
<td>NAACP: Richmond Branch</td>
<td>CBO/Nonprofit</td>
<td>415-722-9167</td>
<td><a href="mailto:williejrobinson@gmail.com">williejrobinson@gmail.com</a></td>
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<td>Duyen Kaufman</td>
<td></td>
<td>OCTHA</td>
<td>State Govt</td>
<td>510-301-0675</td>
<td><a href="mailto:duyen.kaufman@octha.ca.gov">duyen.kaufman@octha.ca.gov</a></td>
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<td>Cordell Broker</td>
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<tr>
<td>Adam Unt</td>
<td></td>
<td></td>
<td></td>
<td>510-620-5537</td>
<td>Adam_Unt26c1.amricanuniv.edu</td>
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Today’s Agenda

I. Welcome, Introductions and Role Call

II. Agenda Review

III. Discussion of Community Co-Leads

IV. Brief Introduction to Measuring Air Quality

V. Capacity-Building on Monitoring Plan Elements

VI. Discussion of Plan Area Boundaries Next Steps

VII. Public Comments
Discussion of Community Co-Leads
Characteristics of the Co-Lead(s)

• Good **listener**

• Keeps people focused

• Speaks **truth**

• **Well-organized** and can keep the group on schedule

• Develops agendas and **documents** key discussion points

• Takes the lead on managing/ compiling the information needed for the Steering Committee to **make decisions**

• Coordinates with influential people in community

• Works **side by side** with the Air District and the third-party facilitator
Roles of the Co-Lead Team

- Provide infrastructure support
- Provide background materials for Steering Committee members
- Develop meeting agendas
- Collaborate with meeting facilitator
- Provide technical support to the Steering Committee
- Participate in weekly planning meetings
Co-Lead Structure Proposed by Community Summit Design Team

- 3 co-leads governed by a partnership agreement
- Co-lead(s) must have a fiscal sponsor for the invoicing process
- Selected process:
  - 1 co-lead already selected; the Steering Committee will select 2 co-leads
• Quorum:
  • Majority (51%) of active voting members are present; and
  • At least a majority (51%) of those present represent people who live in the Richmond-San Pablo area.

• Full consensus may not always be possible

• In the event of an impasse, the co-leads and the Air District will be final decision-makers
Co-Lead Membership

• How many community members would you like to have on the co-lead team?
  • 3 total
  • 5 total
  • Abstain/ No preference
Co-Lead Nominations

- Randy Joseph
- Nain Lopez
- Naama Raz Yaseef
- Julia Walsh
- Linda Whitmore
- Cesar Zepeda
Voting for Co-Lead Team

- Of the nominated individuals, please select your top choice to serve as co-lead.
  - Randy Joseph
  - Nain Lopez
  - Naama Raz Yaseef
  - Julia Walsh
  - Linda Whitmore
  - Cesar Zepeda
Voting for Co-Lead Team

• Of the remaining individuals, please select your next top choice to serve as co-lead.
  • Randy Joseph
  • Nain Lopez
  • Naama Raz Yaseef
  • Julia Walsh
  • Linda Whitmore
  • Cesar Zepeda
Brief Introduction to Measuring Air Quality
Air Quality

• Measure of how clean and clear of pollutants the air is

• Air quality affects human health, plants, animals, and other resources

• Some pollutants are more hazardous to health than others
Air Quality

Concentrations of gases and particles in the air vary in time and space due to many factors:

• Emissions from many sources add pollutants to the air

• Chemical reactions can reduce or increase pollution

• Meteorology: Temperature, rainfall, winds, inversions, time of day all affect levels

Source: EEA, 2015, Air Quality in Europe, 2015 Report
Example Air Pollutants

- Criteria air pollutants
  - Gases like Ozone ($O_3$), carbon monoxide (CO), nitrogen dioxide (NO$_2$), sulfur dioxide (SO$_2$)
  - Particulate Matter, including PM$_{10}$, PM$_{2.5}$, black carbon, ultra-fine particles, lead

- Toxics
  - Organic gases or particles (e.g., benzene, benzo-a-pyrene, etc.)
  - Metals (e.g., lead, cadmium, etc.)

- Greenhouse gases
  - Carbon dioxide (CO$_2$), methane (CH$_4$), etc.
Anthropogenic Sources of Air Pollution
Connecting Pollutant Emissions to Health

So how do we measure air pollution?
Traditional Air Monitoring Sites

Designed to estimate regional population exposure to compare to health-based standards (NAAQS)

• Usually highly accurate measurements
• Long periods of time to incorporate variations in weather, season, and changes in emissions over time
• Well documented methods to anchor other monitoring approaches and track regional air quality
• Cost prohibitive to have a very dense network (spatial gaps)
Screening

Designed to cover large areas to identify “hot spots” for further investigation

- Usually short duration (not for intermittent issues or long-term trends)
- Mobile monitoring, dense sensor networks, remote sensing, etc.
- Available sensors may be limited to certain pollutants
Special Air Monitoring Studies

Designed to investigate areas with suspected issues to understand contribution of various sources

- Usually medium-term duration, using portable/relocatable monitoring systems
- More complex instrumentation can differentiate between different pollutants better, helping tease apart the impacts of several sources on one place
Examples of Factors that Affect Measurements

- Location and obstructions
- Source contributions and distance from those sources
- Meteorological conditions over time and wind flow; Topography
- Interferences (e.g., other gases, water vapor)
- Ability to remain in the monitoring location for long periods of time (years to decades)
- Logistics such as power, security, and access
Goal for our Air Monitoring Plan Process

To match a monitoring approach (or a combination of approaches) to the community-specific concern in a way that maximizes the likelihood that resulting data supports actions that decrease air pollution emissions and exposure in your community.
Capacity-Building on Monitoring Plan Elements

Monique Davis, P.E. and Katie George
California Air Resources Board
April 11, 2019
Defines statewide strategies and sets requirements for:

- Public engagement and community partnerships
- Selecting communities
- Conducting community air monitoring
- Developing community emissions reduction programs

https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/community-air-protection-blueprint
Appendix E: Statewide Air Monitoring Plan

- 14 elements

- Guides process of planning action-focused air monitoring

- Provides air monitoring criteria applicable to a wide variety of objectives and approaches

- Table E-2 includes checklists that specify criteria for each element
| What is the reason for conducting air monitoring? | Form community partnerships  
| | State the community-specific purpose  
| | Identify scope of actions  
| | Define air monitoring objectives  
| | Establish roles and responsibilities  

| How will monitoring be conducted? | Define data quality objectives  
| | Select monitoring methods and equipment  
| | Determine monitoring areas  
| | Develop quality control procedures  
| | Describe data management  
| | Provide work plan for conducting field measurements  

| How will data be used to take action? | Specify process for evaluating effectiveness  
| | Analyze and interpret data  
| | Communicate results to support action |
Element 1: Community Partnerships

- Documents community steering committee involvement
- Fundamental role in designing community air monitoring

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<td>- Date, time, number of attendees for all meetings that have been held.</td>
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<td>- Frequency of future meetings and expected attendees.</td>
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<td>Details level of community involvement in planning and resources made available to accommodate community’s desired level of involvement throughout implementation.</td>
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Element 2: Purpose for Air Monitoring

- Characterize the need for air monitoring
  - *What is/are the air pollution concern(s) in the community?*

- Include background information and introduce pollutants/sources
  - *What information helped identify these concerns?*

| MONITORING PLAN ELEMENT 2: STATE THE COMMUNITY-SPECIFIC PURPOSE FOR AIR MONITORING |
|--------------------------------------------------|---|
| CRITERIA                                           | ✔ |
| Identifies the community-specific air monitoring need(s). | □ |
| Provides background information on how the need was discovered. | □ |
| Documents relevant information from previous, ongoing, and proposed air monitoring and identifies gaps that this community air monitoring will address. | □ |
| Explores alternative approaches to investigating and addressing the air quality monitoring need(s). | □ |
Element 3: Scope of Actions

Defines action(s) that air monitoring aims to support

- Inform personal choices (e.g. activity), increase air quality awareness
- Evaluate source impacts and identify monitoring gaps
- Track progress of community emissions reduction programs
- Support enforcement activities, rules and regulations
Element 4: Air Monitoring Objectives

• General objectives:
  • Providing air quality information to inform community members of current conditions.
    • “What is the real-time concentration of pollutant ‘Y’ across the community?”
  • Identifying emissions sources and assessing their impact on air quality.
    • “What are the ambient air emissions of pollutant ‘Y’ from industrial source ‘Z’?”

• Answers relevant questions:
  - What data is needed?
  - How much data is needed?
  - Besides pollutant measurements, what other measurements are needed?
  - What time periods are of interest?
  - How long should monitoring continue?
  - Do we have the funds to do this?
Element 5: Roles & Responsibilities

- Identify all major parties involved with air monitoring
- Contact information for key members
- Can provide organizational chart
Discussion of Plan Area Boundaries
Map Activity Discussion Questions

Are the draft boundaries sufficient or do they need to be revised?

Are there needed revisions to the information displayed?
   For example: facilities in the incorrect location, missing sources of air pollution

Are there specific datasets, such as health information, air quality, or demographics, that we should discuss at the next meeting to help develop a list of community specific purposes, a scope of action and monitoring objectives?

Ideas for community specific purposes for air monitoring.
   Where do you want to learn more about your air quality and why?
Public Comments
Next Steps
Next Steps

• Next Steering Committee meeting:
  – May 15, 2019, 6-8 pm
  – Richmond Memorial Auditorium, Bermuda Room

• RSVP for the May 15th meeting by May 8th
  – https://forms.gle/aWV3ou4JufEbeMPFA
Steering Committee Meeting Schedule

- May 15, 6:00 – 8:00 pm
- June 19, 6:00 – 8:00 pm
- July 10, 6:00 – 8:00 pm
- August 14, 6:00 – 8:00 pm
- September 11, 6:00 – 8:00 pm
- October 9, 6:00 – 8:00 pm
- November 13, 6:00 – 8:00 pm
- December 11, 6:00 – 8:00 pm

To view Steering Committee agendas, minutes and PowerPoint presentations online, visit:

Extra Deck
Deliberation and Consensus

The Six Levels of Agreement include:

1. I can say an unqualified “yes” to the recommendation.
2. I find the recommendation acceptable. It appears to be the best of the real options available to us at this time.
3. I can live with the recommendation, although I am not especially enthusiastic about it.
4. I do not agree with the recommendation, but I am willing to live with it so the process can move forward.
5. I do not agree with the recommendation and I would like the Steering Committee to do more to see if we can reach a higher level of agreement.
6. I do not agree with the recommendation and I will work actively to oppose it.
What data is shown on the large maps

- Base layers
  - Proposed boundary
  - Population by census tract
  - Operational monitoring sites

- Permitted sources, colored by source type
Emissions of particulate matter less than 2.5 microns (PM$_{2.5}$)

This map shows the level of direct PM$_{2.5}$ emissions from each source.
**Toxic Air Contaminant (TAC) Emissions**

This map shows a subset of sources with the highest **toxicity prioritizations scores**

Sources with prioritization scores <10 not shown

This score combines the amount and toxicity of each TAC emitted by a source into one score. More information about this is in our Rule 11-18:

Source proximity to sensitive receptors

One example of sensitive receptor data: schools and hospitals.

Can also get race, age, and other information about demographics in addition to population number.

Other data sets are also possible, including health burden, that increases susceptibility to the effects of air pollution.
Other information we can review

- More data on mobile sources (cars, trucks, rail, ships)
- Sensitive receptors (where people are that are particularly vulnerable to the health affects of air pollution)
- Health data
- Air quality data from BAAQMD or Chevron sites
  - Air quality data from currently operated sensor networks (BEACON, PurpleAir)
  - Air quality data from previous research studies
- Information about specific types of sources
- Compliance and Enforcement information on complaints or violations
General topics we can bring information on to the Steering Committee

- More information about different types of PM or toxic air contaminants, and where they come from
- Health effects of different pollutants
- **Types of specific air monitoring instrumentation**
  - Information about specific types of sources
  - Source testing and how we monitor facility/source emissions
  - Compliance and Enforcement
Discussion Questions

• Are the draft boundaries sufficient or do they need to be revised?

• Are there needed revisions to the information displayed?
  • For example: facilities in the incorrect location, missing sources of air pollution

• Ideas for additional datasets to visualize for future discussions?
  • For example: health burden, population density or sensitive receptors, enforcement information

• Ideas for community specific purposes for air monitoring. (Where do you want to learn more about your air quality and why?)
Additional information

Will send out after meeting:

• Links to information about stationary source emissions
• Links to information about monitoring sites and data
# Air Monitoring in Richmond / San Pablo

<table>
<thead>
<tr>
<th>Organization</th>
<th>Station</th>
<th>ParametersMeasured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air District</td>
<td>Richmond – 7th Street</td>
<td>SO₂, H₂S, Air Toxics</td>
</tr>
<tr>
<td></td>
<td>Point Richmond</td>
<td>H₂S</td>
</tr>
<tr>
<td></td>
<td>San Pablo</td>
<td>O₃, CO, NO, NO₂, SO₂, PM₁₀, PM₂·₅, Air Toxics</td>
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<tr>
<td></td>
<td>Point San Pablo</td>
<td>Meteorology</td>
</tr>
<tr>
<td>Refinery Ground Level Monitoring</td>
<td>Chevron Castro</td>
<td>SO₂ and H₂S</td>
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<tr>
<td></td>
<td>Chevron Golden Gate</td>
<td>SO₂ and H₂S</td>
</tr>
<tr>
<td></td>
<td>Chevron Gertrude</td>
<td>SO₂, H₂S, and Meteorology</td>
</tr>
<tr>
<td>Richmond Fenceline Monitoring</td>
<td>Along Chevron Fenceline</td>
<td>Benzene, Carbon Disulfide, H₂S, Ozone, SO₂, Toluene, Xylene, Meteorology</td>
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<tr>
<td>Richmond Community Monitoring</td>
<td>Atchison Village</td>
<td>Ammonia, Benzene, Ethylbenzene, Heptane, Hexane, Octane, Trimethylbenzene, Trimethylpentane, Methylpentane, H₂S, PM₂·₅, Meteorology</td>
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<tr>
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<td>North Richmond</td>
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<tr>
<td></td>
<td>Point Richmond</td>
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<tr>
<td>BEACO₂N (UC Berkeley)</td>
<td>Several stations in/near Richmond</td>
<td>CO₂, CO, NO₂, O₃, Particle Number (≥0.5 µg)</td>
</tr>
<tr>
<td></td>
<td>Richmond Field Station</td>
<td>CO₂, CO, NO₂, O₃, Particle Number (≥0.5 µg), Methane, Upper-Air Meteorology</td>
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