Today’s Agenda

1. Roll Call
2. Approval of December 13, 2021, Meeting Minutes
3. New Steering Committee Members Introduction
4. Social Pinpoint Final Presentation (by Grantees)
5. How Measurements and Modeling Help Develop a CERP
6. Public Comment on Non-agenda Items and Next Steps
Timeline: Where are We Today?

PHASE
- SCOPE AND ORGANIZE
  - Partnership with Community
- ASSESS
  - The Challenges We Face
- PLAN
  - Our Solutions
- REVIEW & ADOPTION
- IMPLEMENT

WORK PRODUCT
- Steering Committee
- Plan Process
- Vision and Principles
- Plan Boundary
- Community Description
- Technical Assessment
- Key Issues
- Goals and Targets
- Strategies
- Environmental Assessment
- Plan Adoption – Steering Committee
- Plan Adoption – BAAQMD
- Plan Adoption – CARB
- Implementation Plan
- Enforcement Plan
- Metrics to Track Progress
- Ongoing Reporting

2021
- APR
- MAY
- JUN
- JUL
- AUG
- SEPT
- OCT
- NOV
- DEC
- JAN
- FEB
- MAR
- APR
- MAY
- JUN
- JUL
- AUG

2022

INTRODUCTION TO THE STEERING COMMITTEE
DECISION MADE
Welcome!
Approval of December 13, 2021
Meeting Minutes
Public Comment
New Steering Committee Members

Introduction

Karissa White, Staff Specialist I
kwhite@baaqmd.gov
New Members

• Application period closed November 19, 2021

• The Air District Board approved four new members on December 15, 2021

• Two new members have accepted, completed paperwork, swore in, and are now joining the CSC

• Let's give a warm virtual applause for our new members!
Marisol Cantú
Public Comment
Steering Committee Questions and Discussions
Social Pinpoint Final Presentation (by Grantees)

Kevin Olp, Senior Policy Advisor
kolp@baaqmd.gov
Emphasis on Equity and Representation

• Reaching out to vulnerable communities:
  • Communities susceptible to air pollution because of pre-existing health conditions
  • Neighborhood areas near sources of pollution

• And groups which have been historically excluded or underrepresented. Examples include:
  • Young people
  • Monolingual non-English speaking households
  • Unincorporated areas
  • Geographically underrepresented areas

• Quality of outreach over quantity
Key Information About Grants

• Six grantees, projects ranged in size from $5,000 to $15,000. $72,876 total awarded.

• All groups stipended youth activities and $9,300 were spent on stipends for youth-funded outreach efforts.

• The grant period was from September through November.
Community Organizing Project
Highlights

Path to Clean Air Sunday Ride!
Come ride with us on Sunday as we ride around the beautiful parks and city of Richmond.
We are encouraging participants to show their support for clean air in Richmond and San Pablo as part of the Path to Clean Air Campaign. We have a express for those who want to try it out by themselves, or at least, all ages, bottle any kids.
Everyone is welcomed

Youth Spotlight
 lijline

Path to Clean AIR

KIRKLAND NORTH RICHMOND SAMPLES COMMUNITY PATH TO CLEAN AIR
Project team

- The NAACP Health Committee is composed of four members: Sarah Grant, LaChanda Davis, Jamelle Wallace, Tracy Walker

NAACP Health Committee Activities

1. Social media campaign
2. Promoted at community events
3. Connected with local churches
4. Leveraged swag bags and promotional items
5. Sponsored youth/young adult activities
Social Media Campaign

Air Pollution and Community Resource Mapping
Help shape our understanding of air pollution and the strategies that will help improve your neighborhood! This is your opportunity to provide us with community-level data based on your lived experience in the Richmond - North Richmond - San Pablo area. Your input will assist the Air District in strengthening and targeting air pollution reduction strategies.

1 Sep

Please enjoy this tutorial on how to use the Social Pin Point Survey tool!

NAACP Richmond CA is working in partnership with the Bay Area Air Quality Management District to help learn about the air pollution in our community, while identifying strategies to help improve our neighborhoods for better health.

We solicit input from you and all community members in Richmond, North Richmond, and San Pablo, to learn more about local air pollution concerns.

Community leaders from the area are working with the Air District to co-develop strategies to reduce harmful air pollution that impacts people where they live, work, play and pray.

We need to hear from you!

Please visit: https://bit.ly/3yJ1D3t and take a moment to share your stories, perspectives, and input to help inform local air pollution strategies.

We thank you for your partnership to help build a healthy air environment for us all.

@bayeresedistrict naacprichmondca #communitysupport #communityaction
#cleanairforall #cleanairnow #bayareaair #richmondairmatters
Community Outreach Activities

- 9/10 Pop-up clinic Bethlehem Missionary Church, Richmond 5 bags given
- 10/17 Pop-up clinic North Richmond Baptist Church, Richmond 10 bags given
- 10/30 Pop-up clinic William Jenkins Health Center, Richmond 10 bags given
- 11/06 Pop-up clinic Life Long Medical Vale Road, Richmond 10 bags given
- 11/10 Pop-up clinic Mobile Clinic, Parkside Drive, Richmond 15 bags given
- 10/31 Pilgrim Rest Community Church 43rd Street, Richmond 25 bags given
- 11/06 Community Walk 49th Street, Richmond 10 bags given
- 11/13 Women’s Empowerment MacDonald, Richmond 30 bags given
- 11/19 Richmond High School PTA 23rd Street, Richmond 18 bags given
- 11/20 Community Volunteer Day Ohio Ave, Richmond 10 bags given
- 11/21 Davis Chapel Youth Outreach North Richmond 20 bags given
- 11/22 Pilgrim Rest Food Giveaway 43rd Street, Richmond 10 bags given
Youth Led Survey Promotion Activities – Youth Contest

Congratulations!

Jeraline Haney

Congratulations!

Kamyn Davis

Congratulations!

Cassius Dyer

San Pablo area (For example: what did you see, where, when and what did you or your family do?)

c. Propose a specific solution for addressing air pollution

d. Encourage other young people in Richmond, North Richmond and San Pablo to complete the Air Pollution and Community Mapping survey

e. In the video, use the hashtag #RichmondAirMatters

First prize award: $250
Second prize award: $150
Third prize award: $100
Youth Led Survey Promotion Activities – Health Education Ambassadors

NAACP Health Education Ambassadors

Limni Ahmed  Tijaan Henderson  Harrison Frith
Lessons Learned

1. Participants encountered a host of technical difficulties.
2. When individuals ran into issues with the survey, they became frustrated and gave up without submitting a response.
3. Third, residents did not know how to identify poor air quality unless there was a clear visual cue for them or the air had a strong odor.
4. Trust is a major issue.
Suggestions and Feedback

- The recent Chevron flaring incident demonstrates that residents feel powerless to do anything about air pollution.
- Invest in a training program in Richmond, San Pablo and North Richmond about the negative effects of air pollution upon their health and well-being.
- Health professionals should participate in the program as well discuss strategies for managing asthma, respiratory and cardiovascular diseases that are exacerbated by poor air quality.
- In addition, the team should lay out the actions that businesses and government entities are undertaking to reduce air pollution.
#NuestraVoz +
#OurVoice:
Our community’s feedback on air quality, resources, and strengths of Richmond and San Pablo

By YPAR students:
Michelle Gomez, Manuel Gomez, Hector Munoz, Jocelynn Arellanes, Mario Rodriguez
Student project leaders:

Manuel Gomez  
12th grade  
Berkeley High School

Jocelynn Arellanes  
12th grade  
Richmond High School

Michelle Gomez  
11th grade  
Berkeley High School

Hector Munoz  
11th grade  
John F. Kennedy Highschool

Mario Rodriguez  
9th grade  
Leadership Highschool
Our YPAR Program

(Youth Participatory Action Research)

2020 Cohort
2021 Cohort
2019 Cohort

As a youth-driven program in Richmond, we are committed to taking the pulse of the Richmond community. One of the ways we do this is through focus groups and surveys. We are interested in understanding what matters most to the community and how we can support them effectively. Through our youth-participatory action research, we aim to gather feedback and insights that will help us improve our programs and services.


2. Cross-street (to play the survey quiz):

3. Tell me how you have been feeling right now? What resources/incentives are you using to support yourself? Tell me more about them. Are those enough support

4. Have you made changes to your lifestyle due to COVID-19?

5. How often do you visit the Richmond Food Bank?

6. What are some resources you use to support food insecurity?

7. What type of food resources are you using most recently now?

8. What would help you get there? Or what programs would be helpful?
Our Project Proposal

**Goal:** Complete 100 surveys in Spanish with adults who....
- Live in Richmond / San Pablo
- A Spanish-speaker
- Have low income
- Are immigrants

Participants received a $20 FoodsCo gift card for completing a survey

**Why we gave priority to this community:**
- 50% of Richmond / San Pablo population is Latino
- 35% of Richmond population are immigrants
- It is difficult to express an opinion to the government when ...
  - You are not 100% comfortable speaking English.
  - You don't know who to call or how to complain about something that needs to be fixed in the community
  - There is no time to go to city government meetings because of work or other responsibilities
  - There may be discrimination or prejudice that does not create an open environment in government or city council meetings
1. Created recruitment scripts and materials for our table
2. Completed surveys with community members in Spanish and translated them into English
3. Led weekly meetings to review our progress
4. Created presentations of our project in English and Spanish
5. We supported with the final grant report

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**Weekly time commitment**

- 4 hours to complete surveys
- 1 hour for the meeting
- 1 hour to do homework (presentations & additional projects)
Tabled frequently at the clinic

Utilized social media to distribute surveys

Completed survey calls from home

Surveyed classmates and teachers

#NuestraVoz Methods

#OurVoice Methods
Results: #NuestraVoz

#NuestraVoz Surveys by Categories
Total Surveys: 129

Resources 31.8%
Locations to Gather 25.4%
Air Pollution 41.2%

Results: #OurVoice

#OurVoice Surveys by Categories
Total Surveys: 38

Resources 21.2%
Locations to Gather 33.3%
Air Pollution 45.5%
Results: #NuestraVoz

#nuestravoz I feel like I can't take my kids out anymore because their asthma is getting worse and worse and Chevron is constantly flaring chemicals in the air making it worse.

#NuestraVoz I work in Richmond High School and I know there is a lot of places where the students gather at the school but the football field specifically is the place where students gather the most. Something negative about it is that Richmond doesn’t have clean air and the students are spending a lot of their time outside.

#NuestraVoz I don’t like that the Chevron refinery is in Richmond and near to the place I live. There are a lot of people that live near here and can get sick because of the smoke the refinery lets out. It pollutes Richmond a lot and causes breathing problems for people there.

Results: #OurVoice

#ourvoice I feel like every time I’m in this area I see trash because I come here often to work out. I feel like the trash pollutes the air and creates a dirty environment.

The Ryse Center is a nice spot that provides internships for low-income students. Provides youth a place to hang out and avoid getting in trouble. #ourvoice

The flarings come from Chevron, every couple of years, there is a release in gases that can be smelled. My students who live closer to Chevron have a high risk of getting lung diseases. This affects them badly. #ourvoice
Factoids:
- Parents like to see children do something productive, like sports, clubs, but if it is outdoors, they are worried because of the bad quality air.
- People are worried that the air in Richmond is toxic for their health.
- The air is heavily polluted by Chevron refineries.

Resources:
- RYSE Center
- Yes Nature to Neighborhoods
- Communities for Better Environment (CBE)
- Richmond Police Activities League (RPAL)
- The East Bay Center for the Performing Arts
- Veggie Giveaways at LifeLong WJHC
- Experience Berkeley

Our Limitations:
1. Covid-19 pandemic restrictions
2. Limited clinic hours
3. Short grant activity window
4. Personal time management
   - School
   - Part-time employments
   - Family commitments

One of our Friday afternoon weekly meetings via Zoom
Our community and personal takeaways from this project
Thank you!
We are very grateful for your support

A special thank you to:
Our family for supporting us,
Dr. Omotoso for always advocating for us,
Kevin and Joan for making this project financially possible,
and our project supervisors Cindy, Marina, Carlos, Michelle, and Jackie for providing us with the tools and guidance to make this project a success
Rich-city Kids and Beautiful Gate, Inc.

The project at a glance...
• Developed an intergenerational outreach and education program by engaging youth ages 10-18 to conduct outreach and educational services for seniors.
  • Virtual training sessions
  • Youth-created art; poems; and songs to promote the project, educate the seniors on project goal and objectives; and inform them on how to respond to digital requests for information.

Geography Served: North Richmond, San Pablo, Tara Hills

Communities Prioritized: Seniors in the Heritage Homes and Tara Hills Care facilities.
The Air Quality & Arts Program

Training for stipended youth participants who were conducting outreach:

- WEEK 1: What is Air Pollution?
- WEEK 2: How is Air Quality Measured
- WEEK 3: What is Climate Change
- WEEK 4: Air Pollution & Health Effects
- WEEK 5: Our Part and What We Can Do… & Final Projects

Youth organized to conduct outreach in October and November in 3 different senior care facilities in Tara Hills and San Pablo.
Rich City Rides

The project at a glance...

- Facilitate the collection of survey responses at their weekly Sunday rides, and other events (20 total events).
  - Stipends for youth who participate in and facilitate survey collection.
  - 11 weekend group bike rides centered around Clean Air as the specific theme to promote the mapping effort.
  - Curated multi-language multimedia content that is in multiple to raise awareness around advocacy and equity for environmental health initiatives.

Geography Served: North Richmond
Path to Clean Air Sunday Rides

Path to Clean Air Sunday Ride!

Come ride with us on Sunday as we ride around the beautiful paths our city of Richmond has to offer.

We are encouraging participants to share their story about Air Pollution in Richmond and San Pablo as part of the Path to Clean Air Campaign. We may have a surprise for those who join us. ;)

Everybody rides. All riders. All ages. Nobody left behind. Everyone is welcomed!
Urban Tilth

The project at a glance...
• Engage residents and collect completed online surveys through social media campaigns, mailers with CR codes, in person survey collection at community events, farm stands, Community Sourced Agriculture (CSA) box deliveries, volunteer days, in person door to door canvassing and email invitations to CSA members in the project area.
  • Youth-led community service project - table and collect surveys from their peers during lunch and through visits to other classes.

Geography Served: Richmond and San Pablo

Communities Prioritized: Local residents, specifically living in neighborhoods surrounding their existing community gardens and farms.
Communities for a Better Environment (CBE)

The project at a glance...
- Conduct outreach and gather 500+ community stories for the Social Pinpoint platform.
- Door to door knocking, canvassing, phone banking, digital organizing, and direct mailers.

Geography Served: North Richmond-Richmond-San Pablo

Communities Prioritized: Black, Indigenous, People of Color frontline communities.
Public Comment
Steering Committee Questions and Discussions
How Measurements and Modeling Help Develop a CERP: Overview and Examples

Steve Reid, Senior Advanced Projects Advisor
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Daniel Alrick, Principal Air and Meteorological Monitoring Specialist
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Topics for this Presentation

• Overview of technical assessment work
  • How technical analyses inform the CERP development process

• Example methods and insights
  • Chevron Richmond refinery
  • On-road mobile sources
Recap: Air Pollution
Emissions to Health Effects

What information do measurements or modeling provide about the steps in this air pollution pathway?
Linking Community Concerns to Strategies

Community-Identified Concerns

Community Mapping Project

Monitoring Plan Development

Air Quality Complaints
Linking Community Concerns to Strategies

Community-Identified Concerns

- Community Mapping Project
- Monitoring Plan Development
- Air Quality Complaints

Understanding Key Issues

- New Technical Information from Measurements
- New Technical Information from Modeling
- Existing information from the community, agencies, or research
Linking Community Concerns to Strategies

Community-Identified Concerns

- Community Mapping Project
- Monitoring Plan Development
- Air Quality Complaints

Understanding Key Issues

- New Technical Information from Measurements
- New Technical Information from Modeling

Existing information from the community, agencies, or research

Insights Inform Key Issues

Strategies to Reduce Pollution Emissions and Exposure

Setting targets and tracking progress
Linking Community Concerns to Strategies

• A given key issue may be better informed by modeling data, measurement data, by both, or by other kinds of information

• A technical assessment is a weight of evidence approach, combining relevant types of information to add to the description of key issues and support developing strategies

• Some issues and strategies might not need additional technical analyses
Example Key Issue: Chevron
Air Quality Monitoring

Emissions from Sources

Source Testing
Measurements of emissions from certain sources at facilities (e.g. stacks)

Continuous Emissions Monitoring Systems (CEMS)
Continuous monitoring at certain sources

Fenceline Monitoring
Unexpected facility emissions released near the ground that may impact communities
Air Quality Monitoring

Emissions from Sources

Source Testing
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Continuous monitoring at certain sources

Data from Chevron fenceline monitoring
https://www.richmondairmonitoring.org/

Flare Emission Reports
https://www.baaqmd.gov/about-air-quality/research-and-data/flare-data
Air Quality Monitoring

Emissions from Sources

Source Testing
Measurements of emissions from certain sources at facilities (e.g. stacks)

Continuous Emissions Monitoring Systems (CEMS)
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Fenceline Monitoring
Unexpected facility emissions released near the ground that may impact communities

Ambient Air Quality

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

Long-Term Stations
Air District regulatory stations and facility-operated community stations provide real-time and long-term trend information for some locations

Sensor Networks
Lower-cost, real-time sensors for higher density data, community-led science
Air Quality Monitoring

Data from Air District long-term stations

Ambient Air Quality

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

Long-Term Stations
Air District regulatory stations and facility-operated community stations provide real-time and long-term trend information for some locations

Sensor Networks
Lower-cost, real-time sensors for higher density data, community-led science
Ambient Air Quality Measurements

Measurements of concentrations of pollutants

What makes up the concentrations we are measuring?

- Emissions from sources within the local area
- Emissions from sources throughout the Bay Area that get moved into and out of the local area
- Transport of pollution into and out of the area from beyond the Bay Area
- Chemical and physical changes to pollutants in the air
What can we learn from modeling?

Modeling: emissions $\Rightarrow$ concentrations

• Air quality models combine emissions with meteorological data and other information

• Models provide an estimate of pollutant concentrations at specified receptor locations

• Modeling can be conducted to either quantify contributions from specific sources alone, or to estimate concentrations from a combination of sources

• Modeling can provide information on the impact of projected changes in emissions
What can we learn from modeling? (cont.)

Concentrations

Exposure

Modeled Impacts of PM$_{2.5}$ from Restaurants
Limitations of modeling and emissions data

• Emissions inventories do not cover all sources, and the quality of estimates vary by source type
• Emissions and modeling are usually focused on annual averages (may not capture episodic events)
• Modeling results are impacted by inaccuracies in underlying input data
• Models have simplifying assumptions built into them (e.g., ignoring chemical transformations)
Emissions data is a key input to modeling

- Estimate of the mass of pollution emitted by various sources during a specified time interval (e.g., tons per year)
- The spatial resolution can vary from the global scale (GHGs) down to a single facility
- Inventories are generally pollutant specific based on average or typical conditions
- For air toxics, emissions can be risk-weighted
Emissions: How are they organized?

**Source Sectors**

- **Stationary Sources w/Permits**
  - Refineries, power plants, gas stations, autobody shops

- **On-Road Mobile**
  - Cars, trucks, buses

- **Area Sources**
  - Fireplaces, water heaters, consumer products

- **Off-Road Mobile**
  - Ships, aircraft, rail, construction equipment

**Emission “Buckets”**

- Petroleum Refining
- On-road/Freeway
- Auto Body
- Port
- Rail
- Etc.
Emissions: How are they estimated?

Chevron

• For permitted sources at the facility, emissions are estimated annually and submitted to the District

• Emissions estimates are based on a variety of data, including source tests, emission factors, and activity data

• Emissions are reported by process/device, along with release parameters (e.g., location, stack height)

• The “Refining bucket” may include related industries (e.g., Chemtrade, Kinder Morgan) and mobile sources
Illustration: Modeled annual average contribution to PM$_{2.5}$ from sources at Chevron

... on ambient air ("concentration")

... on population ("exposure")
Modeled Residential Impact

- Bar heights = modeled concentrations for an average R-NR-SP resident of a particular group
- Population data based on 2020 Census
- Dotted lines represent population-weighted averages
Example Key Issue: On-Road Mobile Sources
Near-Road Air Quality Monitoring

• Monitoring stations located where maximum impacts from on-road pollution sources are expected
• These monitors are part of a national network of near-road monitors required by U.S. EPA for NO$_2$, PM$_{2.5}$, and CO
Near-Road vs. Other Monitors: PM$_{2.5}$

At most stations, PM$_{2.5}$ levels slightly higher in mid-morning and evening.

Near-road monitors have similar PM$_{2.5}$ levels to some of the other urban non-near road monitors in the Bay Area.

PM$_{2.5}$ also comes from numerous non-road sources, including non-combustion sources and from secondary formation.

Each line represents average PM$_{2.5}$ each hour at one monitoring station.
Near-Road vs. Other Monitors: Black Carbon

Black carbon levels generally higher at the near-road stations, with larger peak during morning commute.

Some sources of black carbon include diesel and gas engines, wood smoke, wildfires.

Each line represents average black carbon each hour at one monitoring station.
Emissions: How are they estimated?

On-Road Mobile Sources

- Emissions calculations combine:
  - *Emissions per mile* from California’s EMission FACtors (EMFAC) model
  - *Miles traveled* from Bentley Streetlytics traffic data
- Annualized emissions are estimated at the link (road segment) level
- Emissions can be categorized by mode (e.g., running exhaust, brake wear, road dust), vehicle type, and road type
Illustration: Modeled impacts of PM$_{2.5}$ from on-road sources

... on ambient air ("concentration")

... on population ("exposure")
Insights from these Examples

• For a given source, impacts may vary for different neighborhoods and population groups.

• The choice of metric matters. Emissions, concentrations, and exposures may tell different “stories” about relative impacts.

• Grouping and labeling matter. Modeled impacts from individual sources can be grouped based on key issues.

• Measurements can provide more information on how air quality changes over time, for different pollutants, and from sources not captured in modeling.
Next Steps for the Technical Assessment

• The TA Ad Hoc will work over the coming months to
  • Help inform a list of key issues to bring back to the Steering Committee
  • Refine technical analyses and communication regarding community concerns to inform actions to reduce pollution emissions and exposure
  • Provide monthly report-outs on progress
• In March and April, we will bring more detailed insights from technical analyses
Public Comment
Steering Committee
Questions and Discussions
Next Meeting

• Our next meeting will be on Monday, February 28, 2022, from 5:30 p.m. to 8:00 p.m.

• Our agenda will include:
  • An initial list of community concerns with key issues framing
  • A presentation on the types of actions that can be used to reduce emissions and exposure, focused on BAAQMD's Planning, Rules, Engineering, Strategic Incentives Division, Technology Implementation Office, and Compliance and Enforcement work
Public Comment on Non-Agenda Matters