Via Electronic Mail

November 8, 2022

Hon. Steven S. Cliff, Executive Officer
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

RE: Assembly Bill 617 Community Emissions Reduction Plan Recommendation for Bayview Hunters Point/Southeast San Francisco

Dear Mr. Cliff,

This letter serves as the Bay Area Air Quality Management District's recommendation for the AB 617 Community Air Protection Program for 2023. Specifically, we are recommending that the self-nominated community of Bayview Hunters Point/Southeast San Francisco be selected for the next cycle of Community Emission Reduction Plans (CERP) pursuant to AB 617. We recognize that this community has a high cumulative exposure burden to air pollution, and we affirm our willingness to support and partner with the community co-leads, Bayview Hunters Point Community Advocates and the Marie Harrison Community Foundation, to develop a CERP.

Background

In August 2018, the Bay Area Air Quality Management District (BAAQMD) submitted "high priority"[1] communities for the first five years of the AB 617 Community Air Protection Program drawn from the Bay Area's full list of candidate communities that experience large disparities in air pollution exposure and health impacts. To select high priority communities from all Bay Area candidate communities, the BAAQMD considered air quality and health-based data compiled through our Community Air Risk Evaluation (CARE) program, which we initiated in 2004. We also considered community capacity, historical and on-going community monitoring efforts or exposure characterization work, concentration of stationary sources, socio-economic factors, and other public health data available via statewide screening tools. In September 2018, CARB approved our recommended high priority communities to move forward with an emissions reduction or monitoring plan over the next five years. The communities include East Oakland, Eastern Contra Costa County (East County), Eastern San Francisco, Richmond, San Leandro, San Jose, the Tri-Valley, Vallejo, and West Oakland.

Bayview Hunters Point/Southeast San Francisco Recommendation

In September 2022, the BAAQMD received a comprehensive self-nomination letter for a CERP submitted by Bayview Hunters Point Community Advocates and the Marie Harrison Community Foundation. (See co-leads self-nomination letter, attached.) The proposed section area principally extends

along and east of the Interstate101 freeway to the Bay from south Potrero Hill to Visitacion Valley and to the San Francisco City boundary This area includes the heavy industrial, port, and Naval shipyard areas of Bayview Hunters Point along with many diverse low-income residential neighborhoods. Over the last few months, our staff have been working with the co-leads to ensure that there is sufficient planning background, technical assessment characterization, and outreach to justify initiating a unique community driven CERP process.

In addition to the high disparate pollution and health burdens impacting the general Bayview Hunters Point area, this area has been a long-standing BAAQMD community of concern for which we have focused resources to address localized air pollution impacts. Our consideration of support for this nomination was also based on the community co-leads' demonstrated capacity to partner with us. The co-leads have been working for years to build community capacity in air quality planning and have strongly advocated to be included in the Community Air Protection Program. These lead organizations have also partnered with us through grants and other initiatives to build community capacity to address environmental health and local air quality impacts.

The BAAQMD held a formal online public workshop on October 27th, augmenting the community engagement already undertaken during two community-led townhalls on August 15th and August 31st, enabling us to hear from stakeholders and community members about our AB 617 program in general and to give us feedback on the proposed CERP for Bayview Hunters Point/Southeast San Francisco. Speakers highlighted the need for comprehensive emissions and exposure reductions, building effective partnerships with local City and County governments, and the capacity of the Bayview Hunters Point community-based organizations to engage affected community members across a diversity of languages and circumstances in this proposed planning process. CARB staff from the Community Air Protection Program also took a constructive role in these discussions. BAAQMD staff believes that the Bayview Hunters Point/Southeast San Francisco community has ample capacity to co-develop a CERP.

Given these considerations, staff recommended that our Board of Directors support the self-nomination. On November 2, 2022, the BAAQMD Board of Directors unanimously approved the recommendation to support and forward the community CERP self-nomination to CARB. (For more information, please see the Board agenda, presentation, and minutes).

The BAAQMD now plans to continue to work with the community partners and participate in the December 1, 2022 CARB nomination workshop, as well as the February 22, 2023 CARB Board meeting. Our staff will be in further communication with CARB specifically regarding any further technical assessment needs to support this nomination. (See the initial technical assessment/draft monitoring report, attached.)

Thank you for the opportunity to participate in the AB 617 Community Air Protection Program. BAAQMD's recommendation for Bayview Hunters Point/Southeast San Francisco supports the community's and Air District's efforts to reduce air pollution from sources that impact one of the Bay Area's most overburdened communities. We look forward to working with CARB and the community in addressing these issues through the successful development and implementation of a CERP.

Sincerely,

Sharon L. Landers
Interim Executive Officer/APCO

Attachment A: Community Self-Nomination Letter
Attachment B: Air District Draft Monitoring Report for Bayview Hunters Point/ Southeast San Francisco proposed CERP Area

Cc: Deldi Reyes, Office of Community Air Protection, California Air Resources Board
Michelle Pierce, Bayview Hunters Point Community Advocates
Arieann Harrison, Marie Harrison Community Foundation

Bayview Hunters Point Community Advocates

CAN WE LIVE

September 21, 2020

To: Bay Area Air Quality Management District, Attention Veronica Eady, Senior Deputy Executive Officer
From: Bayview Hunters Point Community Advocates and the Marie Harrison Community Foundation

RE: AB617 COMMUNITY SELF-NOMINATION SUBMITTAL FOR BAYVIEW HUNTERS POINT

Dear Ms. Eady.

On behalf of the Bayview Hunters Point Community Advocates and the Marie Harrison Community Foundation, we are self-nominating and requesting that our community, the greater Bayview Hunters Point (BVHP) area in Southeast San Fracisco, be selected for the next round of Community Emissions Reduction Planning (CERP) per AB617 for 2023.

Below please find attached a description of the proposed preliminary boundaries for our intended CERP area; background on the BVHP community, the experience of air pollution impacts on the community, and a description of key on-going pollution concerns including air modeling data. Finally, we are also including a summary of the long-standing work our groups have been leading in the BVHP including ongoing community engagement, organizing and outreach to address air pollution and community health concerns.

Based on our collective track records working from the community and for the community, the wealth of environmental justice, health, and organizing expertise we bring, and our established working relations with the Air District and City/County of San Francisco, our two groups are proposing to be the co-leads of this process. We look forward to working collaboratively with the California Air Resources Board and the Air District to initiate and develop a Community Emissions Reduction Plan for Bayview Hunters Point.

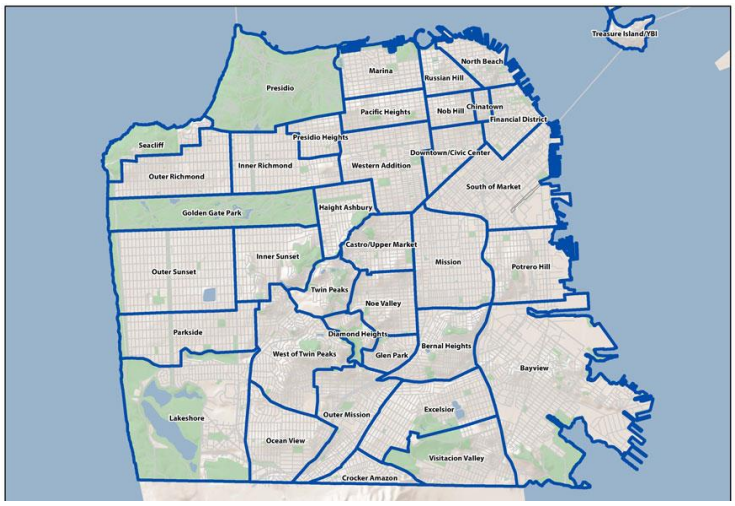
Sincerely,

J. Michelle Pierce,
Bayview Hunters Point Community Advocates

Arieann Harrison,
Marie Harrison Community Foundation

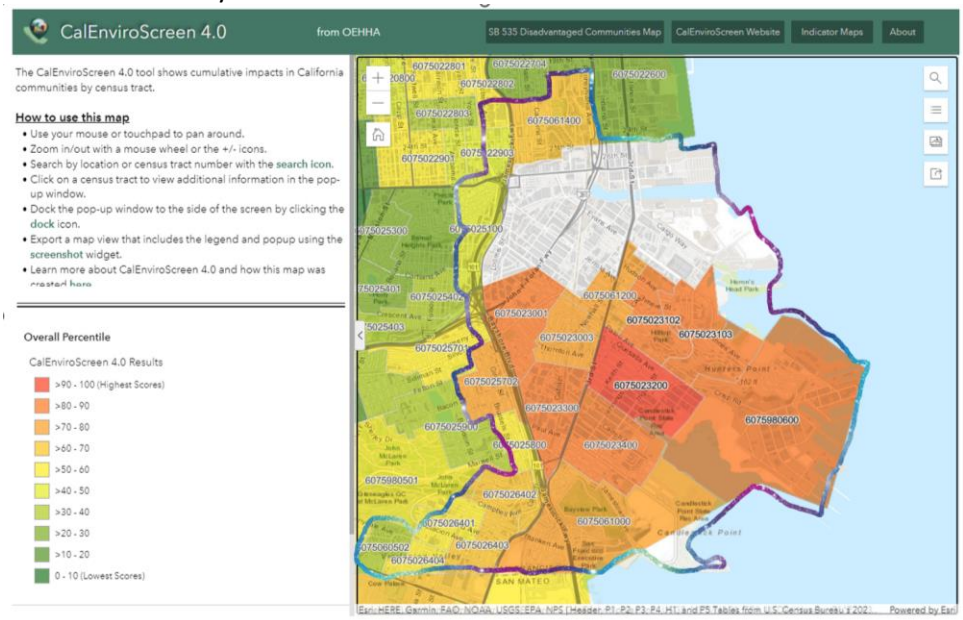
Community Location and Boundaries

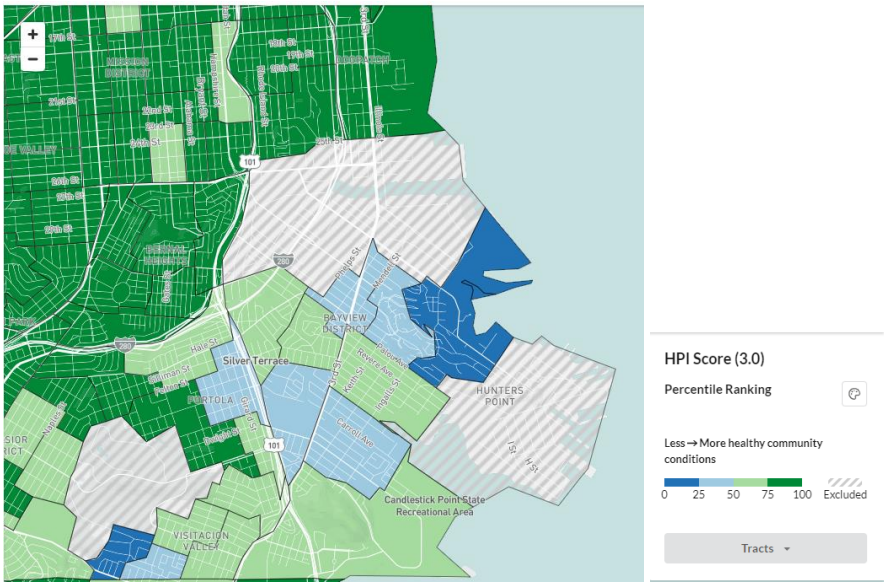
The Bayview Hunter's Point (BVHP) community is a formal district in Southeast San Franciso bordering the San Francisco Bay to the East. BVHP is surrounded by Potrero Hill to the North, Excelsior to the West, and Visitacion Valley to the southwest. Most of this area is within San Fracisco's Board of Supervisor District 10.



Based on State of California environmental indicator maps, we have identified 17 census tracts in and around BVHP for a proposed preliminary CERP boundary. Eleven of these are within the formal BVHP district (as designated by City). There are six other adjacent census tracts to BVHP we are including for consideration for our preliminary CERP boundaries that include portions of Potrero Hill, Excelsior, Little Hollywood, and Visitacion Valley.

The CalEnviroScreen (CES) 4.0 map (below) clearly shows that the greater BVHP community suffers a disproportionate burden and exposure to air pollution and health inequities with some of the highest reporting census tracts in the region. (Note the blank census tracts on the map corresponding with the Cesar Chavez Industrial Areas are due to lack of census data collected for non-residential industrial areas). The California Healthy Places Index (HPI) 3.0 map (also below) confirms, from a different set of indicators, that the least-healthy places in the region are concentrated in the BVHP and some adjacent census tracts areas in the Excelsior as well as Visitacion Valley.

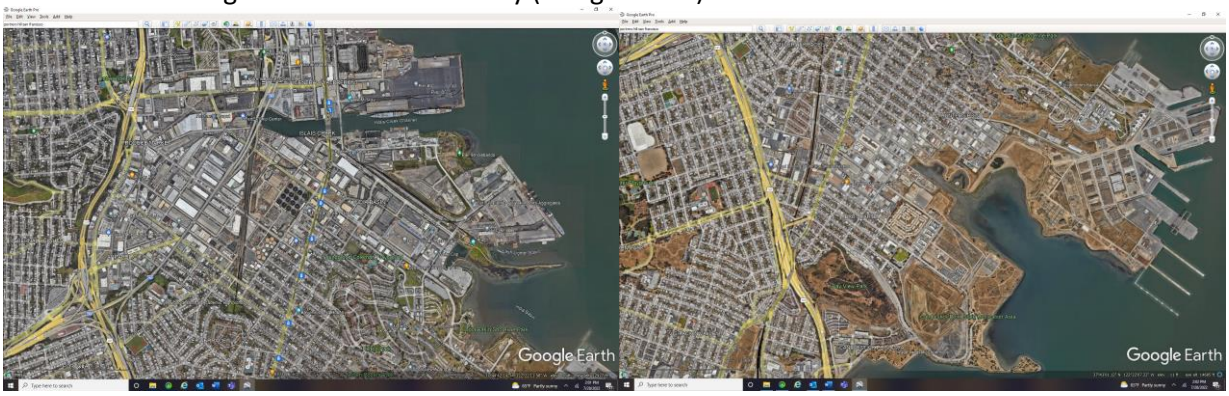




Census Tracts for Preliminary CERP Boundary

Census Tracts	CES 4.0	HPI	Notes
607-502-3200	90-100	Light green (50-75)	Bordered by 3rd, Palau Ave., to Yosemite Slough
607-502	No number	No color	Cesar Chavez Industrial areas
607-502-3001	80-90	Light green (50-75)	
607-502-3300	80-90	Light blue (25-50)	
607-502-3400	80-90	Light blue (25-50)	Study Area of Thompkins et al/around Carroll Street
607-502-3102	80-90	Light blue (25-50)	Hilltop
607-502-3103	80-90	Dark blue (0-25)	
607-598-0600	80-90	No color	Naval Shipyard
607-506-1000	70-80	Light green (50-75)	Candlestick area and Little Hollywood
607-502-3003	70-80	Light green (50-75)	
607-506-1200	70-80	Light blue (25-50)	
Outlier Areas for on-going Consideration			
607-502-5702	70-80	Light blue (25-50)	In D9 – Portola Area. Around Bacon Street – mostly residential
607-502-6402	60-70	Light green (50-75)	Vis Valley East along freeway
607-502-6403	60-70	Light green (50-75)	Vis Valley East along freeway
506—0502??	30-40	Dark blue (0-25)	Sunnydale projects
502-6404??	50-60	Light blue (25-50)	Vis Valley West
607-506-1400	70-80	Dark green (75-100)	Sits b/w two freeways, includes Potrero Hill housing project areas at edge (new phases of Rebuild Potrero at 25th/26th/Connecticut, with other phases to be built by 2029 replacing old Potrero Terrace and Annex.

Aeria views of the greater BVHP community (Google Earth):



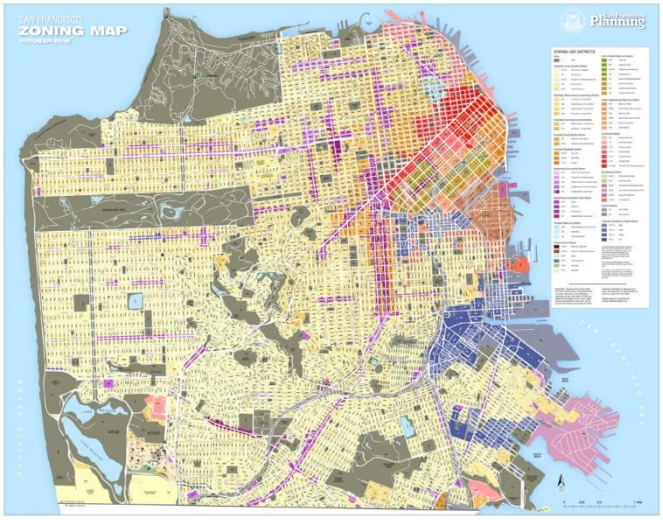
Description of the BVHP Community

The community for the proposed CERP is focused on the Bayview Hunters Poiint Neighborhood District and portions of adajcent areas – Portreo Hill, the site of the former Terrace Housing project and Visitacion Valley, knoown for the Sunnydale Housing projects. This community is bisected by the commercial oriented Third Street corridor and straddles two busy freeways (the I-280 and the I-101) that bring freight trucks and high volumes of commuter traffic between the South Peninsula and downtown San Francisco. BVHP, in general, took on its contemporary industrial and worker housing character amidst the public disinvestment and siting of hazardous uses that accelerated post-WWII. With the lure of the Great Migration pulling folks from the South to work in the shipyards, the BVHP community grew to become predominantly African American with a focus for several generations around the bustling commercial corridor of Third Street and the shipyard. More recently, with influxes of Asian Americans AAPI communities as well as greater Latinx folks, the community has become very multi-racial and multi-ethnic.

Over the last half-century, BVHP has unfortunately come to be known as the "forgotten neighborhood" of San Francisco, a community rife with poverty and violence, and a historically disadvantaged environment justice community whose activists have been on the frontlines of notorious battles such as shutting the PG&E plant and fighting the Naval Shipyard's radioactive waste contamination resulting from the negligent clean-up of this superfund site. The Hunters Point radiological defense lab and naval shipyard repair facility closed in 1974 but became a notorious site for continuing contamination and community exposures to legacy cancer-causing pollutants that are exacerbated by windblown dust and on-going re-development efforts. Much of the existing southeast shoreline was created by landfill prior to the development of modern environmental regulations and standards and the soils in these industrial areas, along with the naturally occurring asbestos deposits in the rocks, pose hazardous conditions to the community. This legacy of environmental racism and the spirit of activism still animate our community. We acknowledge and are continued to be inspired by those who stood up and those who have given their lives in this fight, including Ms. Marie Harrison.

From a land-use perspective, BVHP has a red-lined impacted pattern with industry and housing as the dominant uses. The conflict between housing and industry are an issue in the following areas: the eastern edge of the South Basin industrial area, which abuts the Candlestick Point State Park and former stadium; the Yosemite Slough; the Alice Griffith public housing project; and areas that experience a heavy circulation of industrial truck traffic through neighborhood residential and commercial districts.

Truck traffic and diesel idling continue to be problems that our groups have directly addressed through various outreach campaigns with CARB and the Air District. Ingalls and Carroll Avenues are existing truck routes, and we note that there are efforts to develop new housing in these areas which must be adequately insulated from the adverse effects of heavy traffic. The industrial areas surrounding the maritime operations (break bulk, bulk cargo, ship repair/dry dock – piers 70, 80, 90, 92, 94 and 96) and the shipyard need to have policies in place to minimize impacts from trucks on the surrounding residential areas.



Zoning and land use map for the City of San Francisco (left). The grey, purple and dark blue designate land uses areas of industrial, utility, and transportation related activities. Note that these areas are in direct proximity to residential (yellow) areas interspersed into three main "fingers", the middle one sticking into the Naval Shipyard. The community district has varying topography and can be exposed to very swirling winds that bring and intensify dust and other pollutants mixing with the emanating pollution from industrial sources and traffic as well as illegal dumping such as along the eastern industrial edge.

BVHP has a high density of sensitive populations including children and the elderly at schools, hospitals, and day care centers located near mobile and stationary emissions sources of concern, including roadways. These sensitive receptors have been burdened with disproportionate health impacts from the chronic and acute pollution. Health impacts and conditions from existent air pollution include preventable health problems such as increased illness and premature death from asthma, bronchitis, emphysema, pneumonia, coronary heart disease, abnormal heart rhythms, congestive heart failure, and stroke. People exposed to poor air quality from roadway-generated pollution have increased incidences of severe health problems including higher rates of asthma onset and aggravation, cardiovascular disease, impaired lung development in children, pre-term and low-birthweight infants, childhood leukemia, and premature death.

Our Community's Health Equity Challenge

Policymakers regularly dismiss the deep harms inflicted by environmental racism on human and public health as anecdotes, erasing decades of pollution or contamination. This stance is sustained and amplified by the institutional dimensions of systemic racism, accepting the premise that "economic development" or other erratically defined benefits in the built environment are worth sacrificing the lives, health, and territories of (some) citizens. In these circles, even *noticing* these sacrifices prompts dismissal as a naïve activist who doesn't understand realpolitik. Yet for communities at the frontlines — often Black, Indigenous, or Latinx and already facing crushing inequities and exclusion from full citizenship — environmentally unjust practices pose real, measurable, and ongoing existential threats.

According to the 2017 *American Community Survey* (*https://censusreporter.org/profiles/86000US94124-94124/) t*he Bayview-Hunters Point neighborhood of San Francisco (zip code 94124) has a population of 35,492. The population is 28% Black, 35% Asian, and 24% Hispanic. The per capita income in the neighborhood is $26,061, roughly half of the per capita income in the San Francisco-Oakland-Hayward metropolitan area ($48,538). 21.3% of people in the neighborhood live below the poverty line, more than double the rate of the San Francisco-Oakland-Hayward metropolitan area. In addition, 26% of the population is 19 years old or younger, a higher percentage than almost every other neighborhood in San Francisco. According to the San Francisco Community Health Needs Assessment at www.sfhip.org: the Bayview-Hunters Point neighborhood has one of the highest mortality rates, and one of the lowest life expectancies, in all of San Francisco. As mentioned above, the neighborhood has substantially higher rates of emergency room visits and hospitalizations for asthma and chronic obstructive pulmonary disease than any City neighborhood. Black and Latinx residents, especially in the City's southeast neighborhoods, have higher rates of cancer and numerous other illnesses.

Bayview-Hunters Point has also long served as San Francisco's "dumping ground," home to a significant concentration of hazardous waste facilities. It is home to one of the most polluted Superfund sites in the country that is also the largest redevelopment project in San Francisco's history; the botched cleanup of that site clearly correlates with higher cancer and disease rates in the neighborhood. 80% of the city's sewage is treated at Bayview's wastewater plant; all the City's garbage and recycling is processed here. These are not unrelated facts. We don't raise this history because it is unique, but because it is common. We are far from the only community forced into adversarial relationships with policymakers committed to urban transformation packed with complex histories of power, racism, and inequality. As a result, we must believe that community-based and community-led advocacy is critical to pursuing the goals of environmental and health justice; indeed, we have no alternative. Our health equity challenge is to reverse our adverse health outcomes by finally cleaning up our environment. Researchers have developed tools for analyzing the health studies, scientific data, and regulatory measures that underpin environmental assessments. At the same time, grass roots environmental-justice organizers can tell you that local residents are the experts about their own neighborhoods, conditions, and exposures to contaminants. Our work requires an interdisciplinary approach, built on trust and exchanges of knowledge and experience.

Community-based, community-led efforts are critically important to a neighborhood's self-sustaining future, to develop research and practices that co-produce knowledge *with* communities instead of merely extracting data *from* them. We seek to create an evidence-based policy platform for environmental justice in Bayview-Hunters Point, combining site-based documentation of systemic racism with measured environmental impacts on public health and health outcomes, along with training on policy creation and advocacy. Through this shared work and the new community leaders who participate in it, we will support longer, healthier lives in our vulnerable neighborhood.

A Description of Our Specific Air Pollution Concerns

Over the last decades of increased environmental justice and health equity activism our community has been especially concerned about the legacy pollution (including radiation) from the Naval Shipyard, dust and asbestos from on-going large-scale redevelopment, perennial odors and emissions from the Waste treatment facility, chronic diesel truck idling, and prominent odors from facilities such as Recology and Darling Industries Rendering.

Based on the Air District's "Permitted Stationary Source Risk and Hazards Map" there are over 81 permitted facilities in the preliminary boundary area (and an undisclosed number of hidden hazards) unpermitted sources). Key stationary sources of pollution exposure in the BVHP area include big institutional uses (SF General hospital, SE Community College) to numerous gas stations, auto body shops and repair, trucking companies; numerous industrial and utility uses such as waste recycling center, concrete recycling, the Southeast Wastewater Treatment Facility, concrete, and aggregate operations, along with smaller sheet metal, iron, maritime, and other associated industrial uses. The largest mobile sources of pollution are from the I-280 and I-101 freeways and the steady vehicular and truck traffic they carry through the community. The congestion along these freeways also impacts our community from the constant braking, idling causes bits of tire and brake pads to erode and drift in atmosphere and disproportionately burdens the surrounding neighborhoods.

We also acknowledge the huge concern with indoor air pollution exposure due to proximity to industries and freeways. The SF Health Department (2018 report: *In-House Pollution Exposure at Houses Near High Trafficked Roadways*) states:

> "The higher prevalence of industrial businesses and proximity to local freeways results in higher air pollution conditions in eastern San Francisco compared to its western counterparts. Air pollution produced from these sources can infiltrate the indoor air environment through openings, joints, cracks, open windows and doors, and as makeup air from mechanical ventilation systems. People exposed to poor air quality from roadway-generated pollution have increased incidences of severe health problems including higher rates of asthma onset and aggravation, cardiovascular disease, impaired lung development in children, pre-term and low-birthweight infants, childhood leukemia, and premature death.

According to an article in the *San Francisco Chronicle* (Rachel Swan, 9/4/2017) "Statistics from the California Office of Statewide Health Planning and Development show that between 2013 and 2015, the Bayview – which is surrounded by freeways, cement plants and other industry – has 93 asthma emergency room visits for every 10,000 people" which is significantly higher than other neighborhoods, especially those insulated from freeways and major streets.

Existing Monitoring Data

We understand from the Air District that while air monitoring coverage is spotty (in terms of pollutants, geography, and duration) the existent air monitoring results can characterize the high air pollution exposure burden experienced by the community well enough to inform a community emissions reduction program development. In a meeting with our two groups, Air District technical staff recently provided the following community-specific summaries of available monitoring data for BVHP as a high-level overview of insights from existing current/historical monitoring in the area. Some key takeaways were:

- Long-term trends show that levels at the San Francisco monitoring site at Arkansas St. and 16th St. are similar to or higher than levels at monitoring sites located within or nearby other communities experiencing disproportionate impacts from air pollution.
- The long-term $PM_{2.5}$ trends from 2012-2021 also show that there has been less overall improvement in recent years.

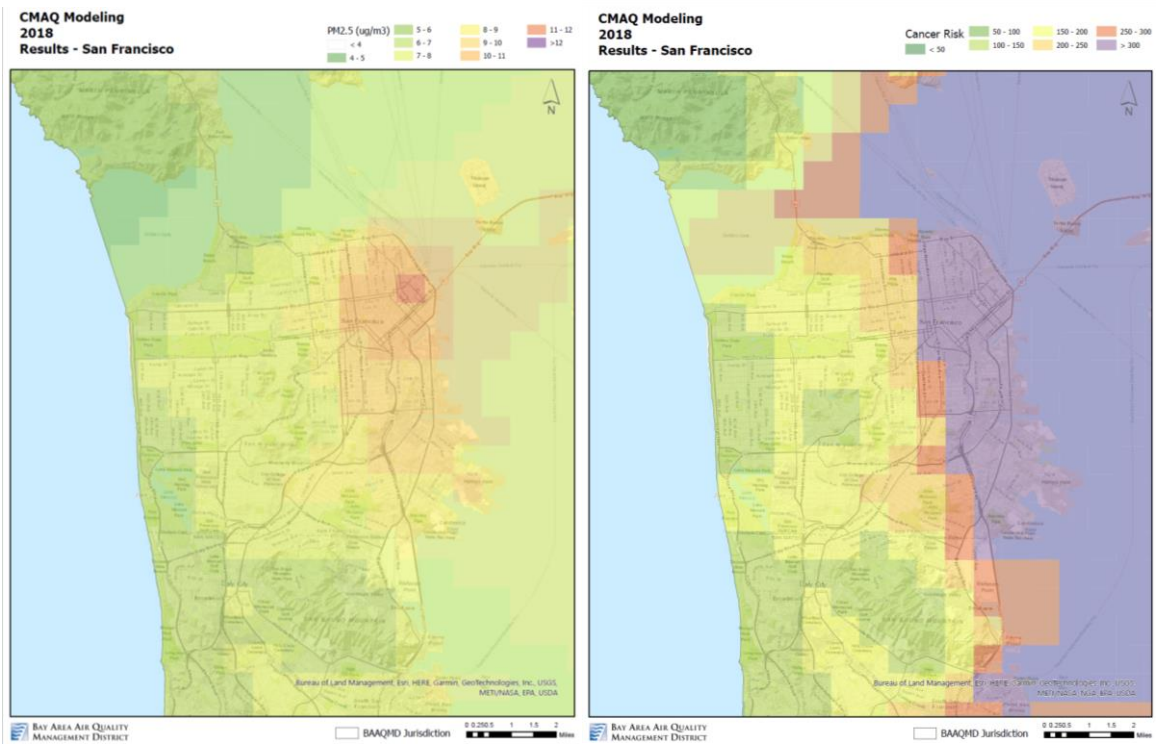
- While $PM_{2.5}$ levels are below the National Ambient Air Quality Standards (NAAQS), we know the $PM_{2.5}$ NAAQS are not health protective, especially for populations experiencing cumulative impacts. Therefore, reducing the concentrations of $PM_{2.5}$ further is warranted.
- Air District expects that pollutant concentrations, especially over short time periods, could be higher at times within Bayview Hunters Point than those measured at the San Francisco monitoring site and those elevated concentrations may vary significantly from place-to-place depending on proximity to nearby sources and the wind speed and direction.
- A review of the data shows that elevated levels of $PM_{2.5}$ can occur throughout the year.
- There are multiple different types of meteorological patterns (wind speed, wind direction, inversions, etc.) that occur throughout the year that can affect which sources of air pollution contribute to elevated levels of $PM_{2.5}$ in different places.
- Levels of Volatile Organic Compounds (VOCs) are similar compared to regional averages, except for two compounds (Ethyl Alcohol and Methylethylketone), which are slightly higher than other sites in the Bay Area.
- Data from additional sources (previous short-term monitoring studies, Aclima) highlight the potential for short-duration or intermittent elevated concentration levels of $PM_{2.5}$, NO_2, and VOCs that may occur at different locations throughout the community during different times of the year.

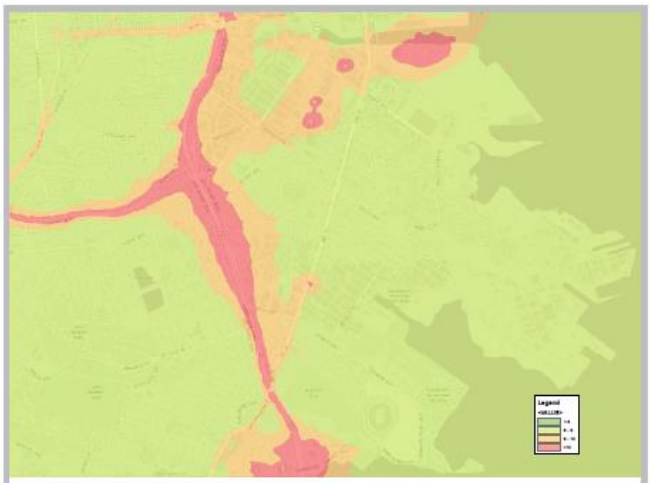
The summary also states: “These available air monitoring data confirms that there is community exposure to air pollutants that is likely exacerbated by emissions from sources within the community and that these impacts affect the health of people living and spending time in Bayview Hunters Point.”

Air District staff further concurs that “the existing air monitoring data supports the development of a Community Emission Reduction Plan to reduce emissions and exposure to all sources of air pollution, especially considering the additional cumulative impacts the community experiences from nearby sources (commercial, utility, industrial, mobile, etc.). Staff concluded by acknowledging “that air monitoring data cannot by itself completely characterize the extent of air pollution issues… and a multi-faceted approach is needed - most important of which is the lived experience of Bayview Hunters Point community members.”

Existing Modeling Data

Below are two Congestion Mitigation and Air Quality (CMAQ) 1 km x 1km grid data and maps based on air quality modeling quantifying air pollution exposure burden from the Air District’s latest 2018 emission inventory program of average concentrations of PM 2.5 and Toxics Cancer Risk.

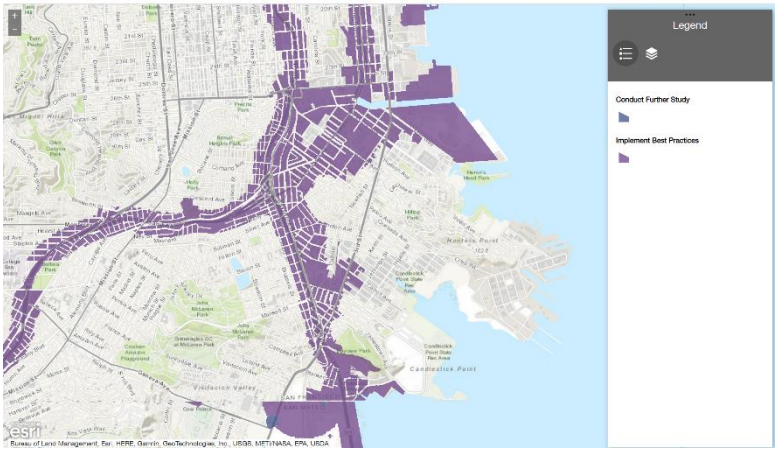




The modeled PM2.5 results shows, along with the highly urbanized and transportation intensive Eastern San Francisco in general, that there are high and unhealthy concentrations (9-10 mg/m3) of fine particulate matter in the areas around and between the two freeways from the downtown core through the industrial and residential areas of central BVHP and inclusive of the neighborhoods overlooking and adjacent to the Shipyard. A closer view of PM2.5 (see 2018 map to left) from the County Health Department reveals average PM 2.5 levels that exceed 10 mg/m3 along the freeway corridors in Bayview Hunters Point ad Portero Hill and pockets of industrial areas along Islais Creek (Pier 92) and industrial areas south of candlestick Point.

In addition to the well-documented dangers from PM 2.5 exposure, the most prominent pollution story, impacting so many families, centers on the elevated toxic risks for cancer. Here almost the entire proposed BVHP CERP area is within the highest ranges of greater than 300 up to 600 in a million and above cancer risk. Much of this we attribute to diesel particulate matter and industrial toxics, and we look to the Air District and CARB to help us characterize these emissions and their sources. We note too that this modeled CMAQ data is based on *known* permitted sources, and we have already documented numerous “hidden hazards” and unpermitted sources that are operating within the area (See Dr. Ray Tompkins et al, 2019. *Hidden Hazards of Bayview Hunters Point*, Phase 1 Report and Ground-Truthing

Study for Bayview Hunters Point). Furthermore, the daily pollution exposure from dust, asbestos, idling diesel trucks, and other toxics and radiation exposure also need to be accounted (please see testimonies, studies, and assessments also conducted via the interagency IVAN process that has been operating in BVHP since 2017 and which CARB and the Air District are regular participants and sponsors).



These CMAQ data, collected pursuant to the Air District mandate to maintain National Ambient Air Quality Standards, also serve to target cost-effective clean air strategies and to maximize public health benefits. In fact, the patterns of pollution are nothing new and have been reflected by the Air District's CARE (Community Air Risk Evaluation Program) which, since 2009 designated BVHP as an "impacted" community and "overburdened' community. This designation was further emphasized in the Air District's 2011 "Planning Healthy Places" mapping highlighting key areas along the freeways and industrial areas to implement "best practices." Along with the many studies and measurements, there have been some positive movements: The SF County Health Department in 2000 did implement (through Article 38) an "Air Pollution Exposure Zone" that covers most of BVHP while the Air District began (staring July 1, 2022) setting more stringent health risk limits and public noticing requirements for projects located in designated "overburdened communities" (see R*egulation 2-1-243)*. However much more needs to be done as far as community planning and developing implementable mitigation strategies given the still clearly high chronic and acute pollution levels. We seek to build from specific pollution planning tactics that other AB617 communities in the Bay Area and across the State have developed as part of our planning and mitigation interventions.

About Our Co-Lead Groups

Bayview Hunters Point Community Advocates

Bayview Hunters Point Community Advocates, founded in 1994, is governed and operated by long-term members of the Bayview-Hunters Point neighborhood in San Francisco. Our programs combine community organizing with education, advocacy, and direct services. We seek to build the neighborhood's capacity as a self-determining, fully autonomous force for social change in today's San Francisco. The organization is structured as a traditional non-profit organization, with a staff and a governing Board of Directors. But our Board is an activist board, not a fundraising board. And we seek guidance in all our programs from our Southeast Community Council – residents from diverse Bayview neighborhoods (90% BIPOC), paid a stipend for their participation, serving as new leaders in the neighborhood and as advocates for shared work throughout our communities.

Bayview Hunters Point Community Advocates created a Southeast Community Council to give local leaders and their constituencies a stronger platform for building neighborhood power; the Council receives training in research and analysis tools and are structured along the lines of the City's Board of Supervisors. In short, we founded the Council to hold both local policymakers and us accountable. The

Council is quickly growing as an independent voice in community affairs, and we are proud to see that development.

Other key projects related to this effort include our collaborative public health projects designed with authentic community participation from the ground up:

- Our Community Toxic Index trains and employs community members to document and map environmental exposures.
- Our branch of the Umoja Health initiative relies on peer-to-peer outreach to bring public health outreach and services to underserved Black communities.
- The Health Equity Advocates and Leaders in Environmental Research and Science (HEALERS) program utilizes peer-to-peer education and training for policy advocacy to address local inequities surrounding breast cancer outcomes.

Simply put, all our work and partnerships are co-created with the diverse and underserved communities of Bayview-Hunters Point, often bringing public agencies in to support the collective vision of local residents. Our work has always connected residents with environmental justice issues in our neighborhood, seeking to increase community participation in environmental decision-making, and to build skills in the community to support a cleaner environmental future. Our projects are capacity-building initiatives for the organization and the neighborhood; the local power we build in Bayview can model practices to make community relationships less extractive and more collaborative.

The Marie Harrison Community Foundation

The Marie Harrison Community Foundation (MHCF) for environmental and social justice was founded in 2019 to honor the legacy, advocacy and dedication of Marie Harrison, the "Mother of the Environmental Justice movement." The foundation serves as a platform to develop the next generation of environmental and social justice leaders, mobilize grassroots community power and develop campaigns to advance community-designed solutions and policies to long-standing health, economic and environmental issues in Bayview Hunters Point. Most recently, the foundation launched the #CanWeLive campaign, a youth-driven effort to amplify the community's call for full clean-up of the numerous Brownfield and Superfund Sites in the district as well advocate for full reparations and lifetime medical services for residents, ex-residents and workers who disproportionately suffer poor health outcomes due to toxic Shipyard exposures.

MHCF has experience developing programs and conducting outreach in the community including creating the Marie Harrison Youth Scholarship program, distributing air filters to unsheltered communities at Pier 94 in San Francisco and Pollution Patrol - a ground truthing team - illegal dumping in District 10. The foundation has built long-term relationships with the Air District and participating in meetings and enforcement issues. As a result, MHCF has gained deep leadership and expertise around engaging the Air District with regulatory rulemaking, enforcement, planning processes and programs.

The MHCF is continuing our role in strongly advocating for a Community Emissions Reduction Plan process for Bayview Hunters Point. Our director, Arieann Harrisson, daughter of Marie Harrison, has become an uncompromising spokesperson and community leader in her own right for environmental justice. Her story and the disturbing results of her recent biomonitoring study showing the extent of heavy metal toxins present in her body from a lifetime exposure to community sources can be found here: https://sfbayview.com/2022/06/arienna-harrison-continues-her-mothers-environmental-justice-advocacy-for-bayview-hunters-point/.

Air Monitoring Data

Review of air monitoring data for Bayview Hunters Point

Bay Area Air Quality Management District

DRAFT Report, August 2022

Key Takeaways from Available Air Monitoring Data

- Long-term trends show that levels at the San Francisco monitoring site at Arkansas St. and 16th St. are similar to or higher than levels at monitoring sites located within or nearby other communities experiencing disproportionate impacts from air pollution.
- The long-term $PM_{2.5}$ trends from 2012-2021 also show that there has been less overall improvement in recent years.
- While $PM_{2.5}$ levels are below the National Ambient Air Quality Standards (NAAQS), we know the $PM_{2.5}$ NAAQS are not health protective, especially for populations experiencing cumulative impacts. Therefore, reducing the concentrations of $PM_{2.5}$ further is warranted.
- Air District expects that pollutant concentrations, especially over short time periods, could be higher at times within Bayview Hunters Point than those measured at the San Francisco monitoring site and those elevated concentrations may vary significantly from place-to-place depending on proximity to nearby sources and the wind speed and direction.
- A review of the data shows that elevated levels of $PM_{2.5}$ can occur throughout the year.
- There are multiple different types of meteorological patterns (wind speed, wind direction, inversions, etc.) that occur throughout the year that can affect which sources of air pollution contribute to elevated levels of $PM_{2.5}$ in different places.
- Levels of Volatile Organic Compounds (VOCs) are similar compared to regional averages, except for two compounds (Ethyl Alcohol and Methylethylketone), which are slightly higher than other sites in the Bay Area.
- Data from additional sources (previous short-term monitoring studies, Aclima) highlight the potential for short-duration or intermittent elevated concentration levels of $PM_{2.5}$, NO_2, and VOCs that may occur at different locations throughout the community during different times of the year.

Summary

A review of the available air monitoring data confirms that there is community exposure to air pollutants that is likely exacerbated by emissions from sources within the community and that these impacts affect the health of people living and spending time in Bayview Hunters Point. The existing air monitoring data supports the development of a Community Emission Reduction Plan to reduce emissions and exposure to all sources of air pollution, especially considering the additional cumulative impacts the community experiences from nearby sources (commercial, utility, industrial, mobile, etc.). The Air District also acknowledges that air monitoring data cannot by itself completely characterize the extent of air pollution issues within Bayview Hunters Point and a multi-faceted approach is needed - most important of which is the lived experience of Bayview Hunters Point community members.

Overview of Air District Monitoring

One type of information about air pollution in Eastern San Francisco is the monitoring data collected by the Air District's long-term air monitoring site. In general, these long-term monitoring sites are designed to reflect a typical population exposure and source mix for the area using approved methods and operations, according to U.S. EPA monitoring requirements. As such, they produce reliable data that is helpful for tracking the levels of the measured air pollutants through time at the one location. While these data provide some estimates of the air quality in in Eastern San Francisco, they do not represent actual concentrations within Bayview Hunters Point and cannot provide a complete picture on their own about the air pollution community members experience on a regular basis.

The Air District has operated an ambient air monitoring site in Eastern San Francisco on Arkansas St. and 16th St. since January 1986. Instruments at the San Francisco monitoring site currently measure concentrations of ozone, nitrogen oxides, carbon monoxide, coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and volatile organic compounds (VOCs). The Air District's 2022 Ambient Air Monitoring Network Plan[1] provides more information about the instruments currently deployed at the San Francisco monitoring site. The San Francisco monitoring site is located approximately 1.5 miles north of the Bayview Hunters Point neighborhood.

Due to the proximity and mix of sources located near and within Bayview Hunters Point, there are likely locations that at times experience higher concentrations than those measured at the San Francisco monitoring site; especially for air pollutants that have near-source impacts like PM, nitrogen oxides, black carbon, or VOCs.

[1] Bay Area Air Quality Management District, 2022 Annual Air Monitoring Network Plan, July 1, 2022

$PM_{2.5}$ and Nitrogen Dioxide Trends.

EPA is required to set NAAQS for six common air pollutants (also known as "criteria pollutants"). The six criteria pollutants include particulate matter, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead.[2] For Bayview Hunters Point and other communities experiencing disproportionate impacts, $PM_{2.5}$ and nitrogen dioxide (NO_2) are two of the criteria pollutants that are expected to have localized impacts. Comparing levels of these pollutants to EPA's health-based NAAQS is one way to describe an area's air quality in terms of health impacts. Long-term design value trends can generally inform typical area-wide air quality and track how data is changing compared to the NAAQS, but do not characterize times when concentrations may be higher at different locations under different conditions or for shorter amounts of time.

Also, the current levels of the $PM_{2.5}$ NAAQS are not health protective, and reductions in $PM_{2.5}$ concentrations at levels below the NAAQS have been shown to have health benefits.

Table 1 shows that the concentration levels of $PM_{2.5}$ and nitrogen dioxide measured at the Arkansas St. monitoring site are below the applicable NAAQS level. Comparing an area's air quality to the NAAQS uses a statistic derived from hourly or daily measurements and is called a design value.[3]

San Francisco $PM_{2.5}$ and NO_2 Trends

Design values at the San Francisco monitoring site are equal to or higher than levels at monitoring sites located within or nearby other communities experiencing disproportionate impacts from air pollution. The long-term $PM_{2.5}$ trends also show that there has been less overall improvement in recent years.

Table 1 – San Francisco 2019-2021 Design Values

Pollutant	NAAQS	Level of the NAAQS	Design Value
$PM_{2.5}$	2012 Annual	12 µg/m^3	8.5 µg/m^3
	2006 24-Hour	35 µg/m^3	25 µg/m^3
Nitrogen Dioxide	2010 1-Hour	100 ppb	42 ppb
	1971 Annual	53 ppb	8 ppb

Notes:
(1) µg/m^3: micrograms per cubic meter
(2) ppb: parts per billion

Figures 1 through 3 show the 10-year design value trends at Air District monitoring sites from 2012-2021 and highlight how the design values for these pollutants can change from year-to-year. These variations are caused primarily by changes in both meteorology and emissions of air pollutants (natural and man-made). For example, $PM_{2.5}$ design values are higher for years that have

[2] Additional information on criteria pollutants can be found on EPA's website: https://www.epa.gov/criteria-air-pollutants.
[3] The design value statistic for the form of a NAAQS for a pollutant is defined in 40 CFR Part 50. More information about design values can be found on EPA's website: https://www.epa.gov/air-trends/air-quality-design-values.

fewer winter storms due to increased rain and windy conditions that "clean out" air masses throughout the Bay Area. In recent years, wildfire smoke has caused the area to experience extremely high 24-hour $PM_{2.5}$ concentrations leading to design values above the NAAQS for several consecutive years.

Figure 1 – $PM_{2.5}$ Annual Design Values

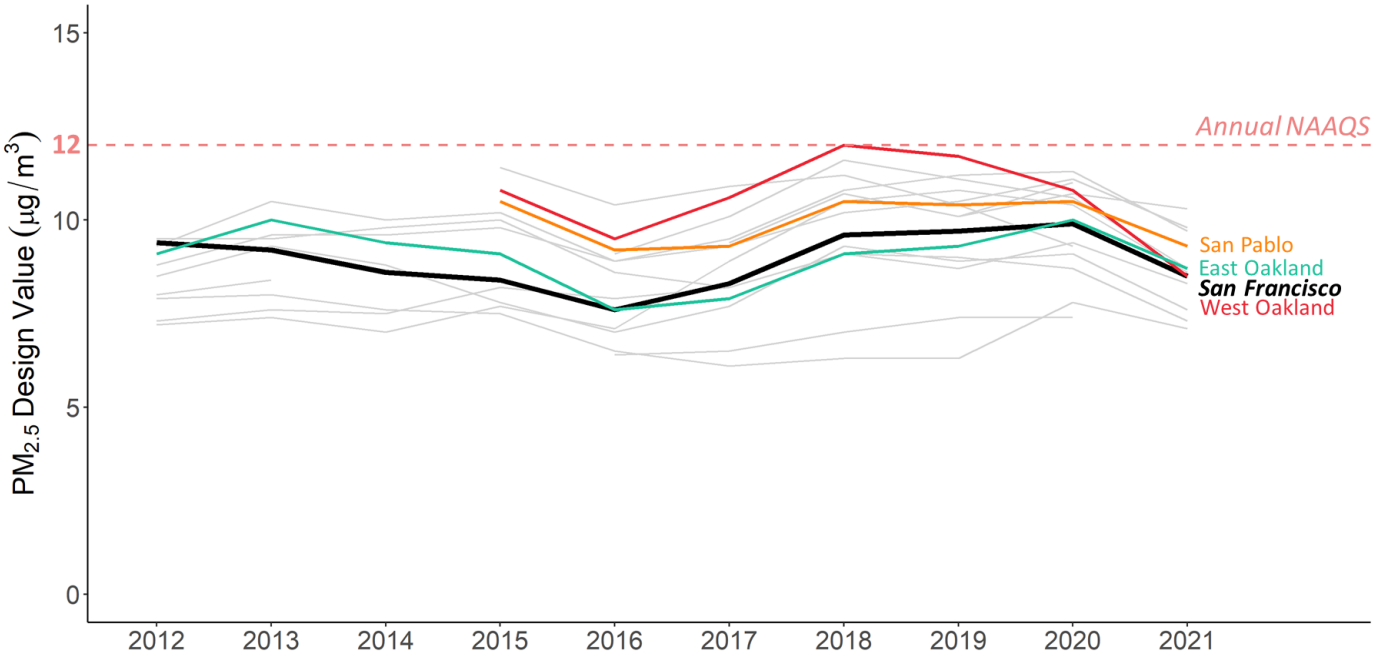


Figure 2 – $PM_{2.5}$ 24-Hour Design Values

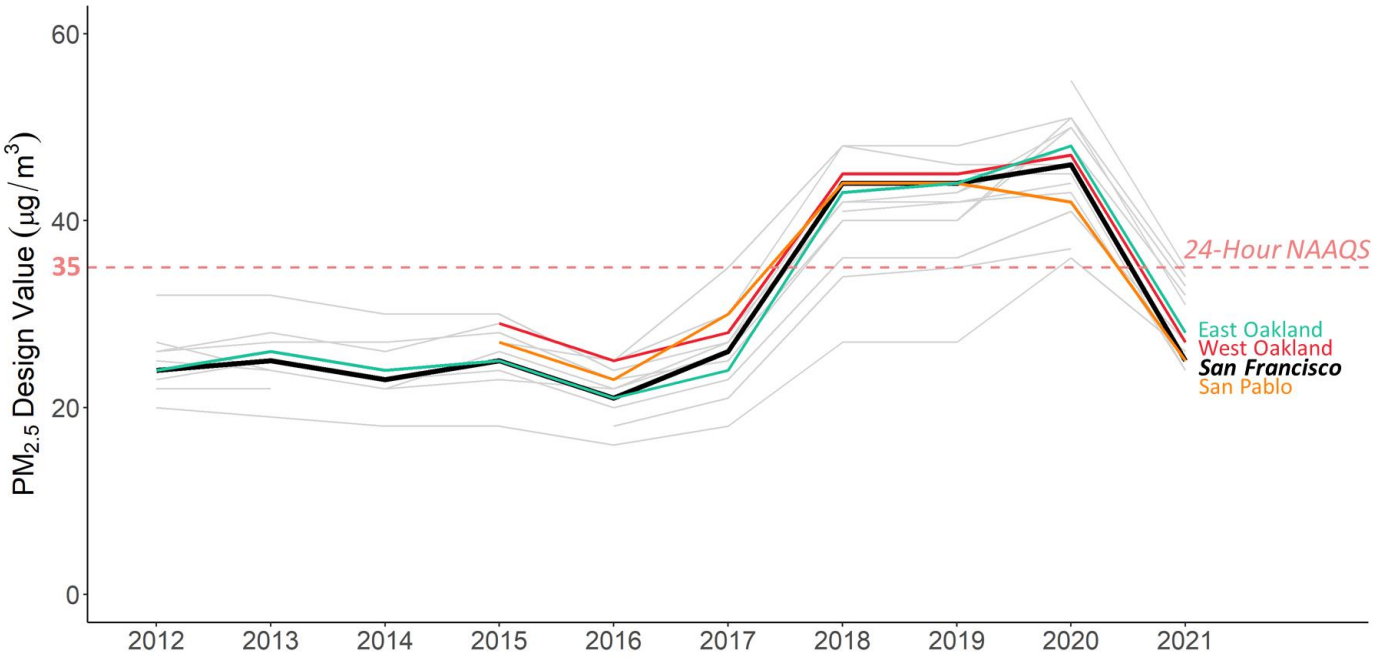
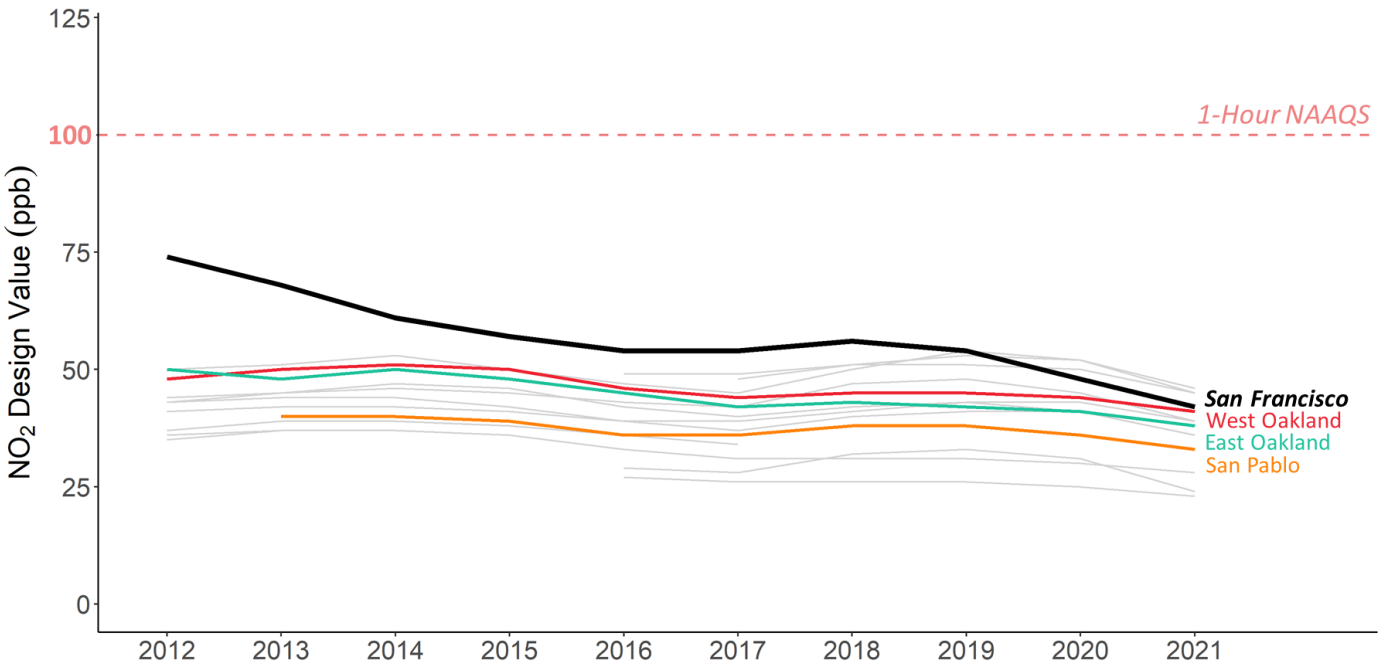


Figure 3 – Nitrogen Dioxide 1-Hour Design Values



Daily $PM_{2.5}$ Values

Comparing the daily values can provide insights into what times of year experience higher concentrations. Reviewing seasonal patterns in the daily data can help to determine which sources may be contributing to elevated values at a particular location during different times of the year. Understanding day-to-day variations in these data are also important for assessing potential exposure to air pollution. There is no safe level of PM, so any increase in PM is an increase in exposure so it is important to characterize those events even if those concentrations are below the NAAQS.

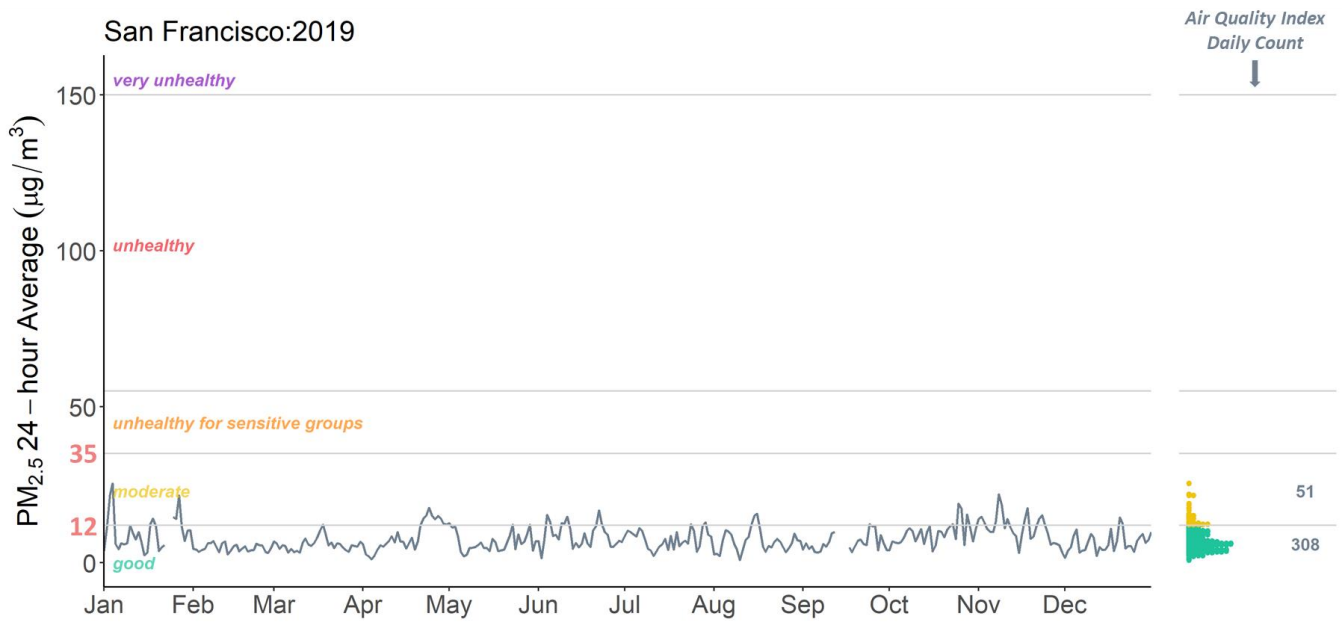
San Francisco Daily $PM_{2.5}$ Values

There are multiple different meteorological patterns that occur throughout the year that can affect which sources of air pollution contribute to elevated levels of $PM_{2.5}$ in different places. The highest concentrations occur in the fall and winter months when calm or light winds and inversions can trap pollutants close to the ground and cause $PM_{2.5}$ to increase over several days at a time. This is also the time of year when winds from the East and Northeast can transport emissions from upwind areas during this time of year (sources on Amador St., Navy Shipyard, etc.). Elevated concentrations also occur during spring and summer months when winds from the West can transport emissions from upwind areas (U.S. 101, I-280, mixed industrial activities west of 3rd St, Sewage Treatment Plant, etc.). Strong winds from the West and North can also cause windblown dust emissions from sources including construction sites, vacant lots, or roadways. (*see Figure C, Additional Figures*) The daily values also show the extremely high $PM_{2.5}$ concentrations caused by wildfires in August, September, and October 2020.

Figures 7 through 9 show the daily 24-hour average $PM_{2.5}$ concentration values measured in the last three years and include the break points and total daily counts for the Air Quality Index (AQI) bins of good, moderate, unhealthy for sensitive groups, unhealthy, and very unhealthy air quality.

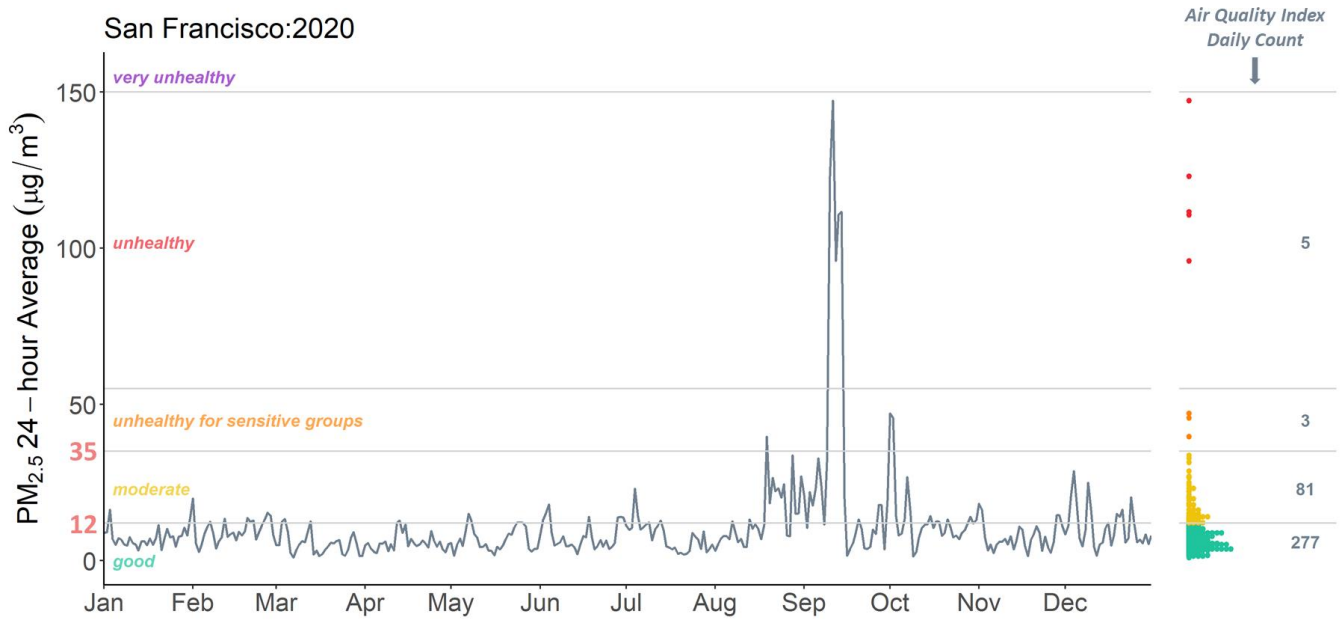
As stated before, the Air District expects that pollutant concentrations, especially during short-duration episodic events, could be higher within Bayview Hunters Point than those measured at the San Francisco monitoring site and those concentrations may vary significantly from place-to-place within Bayview Hunters Point depending on proximity to nearby sources and meteorology.

Figure 7 – $PM_{2.5}$ Daily Values – 2019



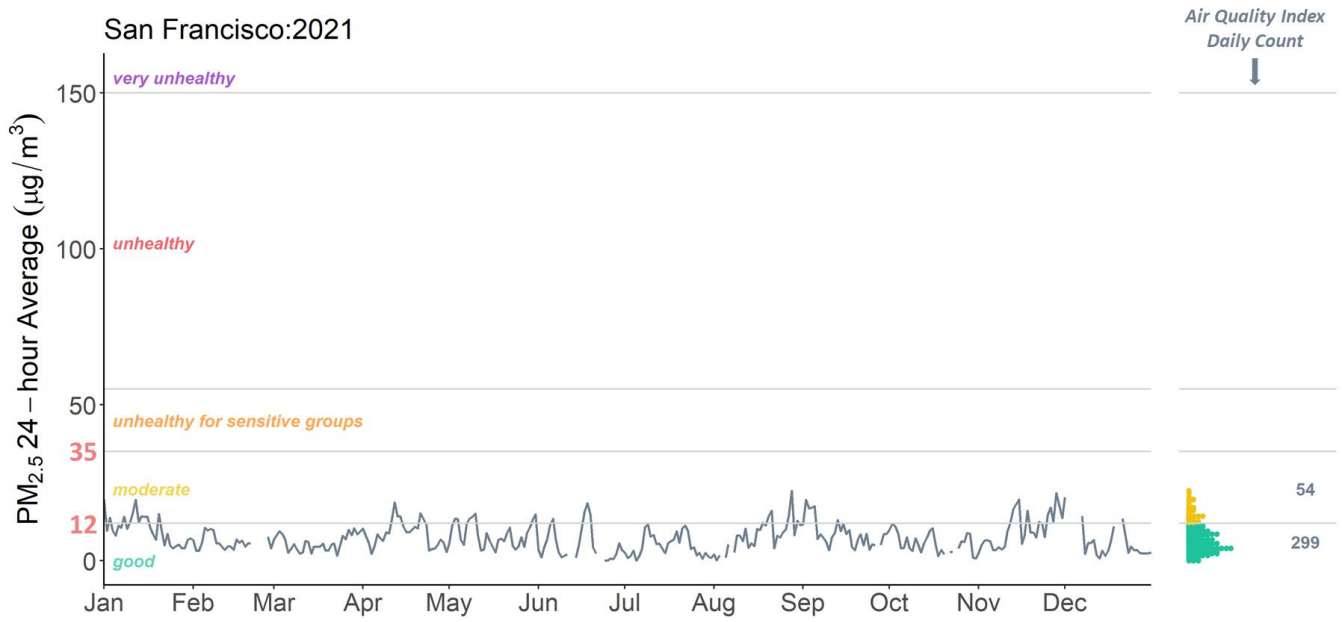
Notes:
(1) The breakpoint for the moderate $PM_{2.5}$ AQI category corresponds to the level of the Annual $PM_{2.5}$ NAAQS and is identified on the y-axis as 12 µg/m³
(2) Similarly, the breakpoint for the unhealthy for sensitive groups $PM_{2.5}$ AQI category corresponds to the level of the 24-hour $PM_{2.5}$ NAAQS and is identified on the y-axis as 35 µg/m³

Figure 8 – $PM_{2.5}$ Daily Values - 2020



Notes:
(1) The breakpoint for the moderate $PM_{2.5}$ AQI category corresponds to the level of the Annual $PM_{2.5}$ NAAQS and is identified on the y-axis as 12 µg/m³
(2) Similarly, the breakpoint for the unhealthy for sensitive groups $PM_{2.5}$ AQI category corresponds to the level of the 24-hour $PM_{2.5}$ NAAQS and is identified on the y-axis as 35 µg/m³

Figure 9 – $PM_{2.5}$ Daily Values – 2021



Notes:
(1) The breakpoint for the moderate $PM_{2.5}$ AQI category corresponds to the level of the Annual $PM_{2.5}$ NAAQS and is identified on the y-axis as 12 µg/m^3
(2) Similarly, the breakpoint for the unhealthy for sensitive groups $PM_{2.5}$ AQI category corresponds to the level of the 24-hour $PM_{2.5}$ NAAQS and is identified on the y-axis as 35 µg/m^3

Volatile Organic Compounds

Levels of volatile organic compounds (VOCs) in the air, many of which are also air toxics, are measured by collecting air into a canister over 24 hours, and then analyzing the air mixture at the Air District Laboratory.

San Francisco VOC Comparison

For two compounds, Ethyl Alcohol and Methylethylketone, the mean concentrations measured at the San Francisco monitoring site from 2017-2021 are slightly higher than the network-wide mean concentrations, but they are below OEHHA's chronic and acute reference exposure levels (RELs).[4] Ethyl Alcohol is a fuel additive and used as a solvent. Methylethylketone is used as a solvent and found in coatings and resins.

Table 2 lists the maximum and mean 24-hour concentrations of the VOCs measured at the San Francisco monitoring site from 2017-2021 compared to the concentrations measured at all the other Air District monitoring sites.

Table 2 – San Francisco 24-hour VOC Concentrations from 2016-2021

Pollutant	San Francisco Concentrations (ppb)		Network-Wide Concentrations (ppb)	
	Mean	Maximum	Mean	Maximum
Acetone	4.136	13.562	4.951	86.933
1-3-Butadiene	0.005	0.126	0.006	0.541
Benzene	0.139	1.390	0.166	3.123
Carbon Tetrachloride	0.103	0.126	0.104	0.984
Chloroform	0.011	0.057	0.014	0.135
Dichloromethane	0.070	0.317	0.084	5.750
Ethyl Alcohol	4.943	40.469	3.654	91.740
Ethylbenzene	0.070	0.372	0.077	1.201
Freon-13	0.066	0.083	0.066	0.235
Methyl Chloroform	0.000	0.000	0.007	1.266
Methylethylketone	0.244	1.075	0.231	5.743
Toluene	0.296	1.193	0.364	3.925
Trichlorofluoromethane	0.229	0.275	0.235	0.673
m/p-Xylene	0.155	0.640	0.174	3.154
o-Xylene	0.058	0.302	0.070	1.446

Notes:
(1) µg/m^3: micrograms per cubic meter
(2) San Francisco mean values that are greater than the regional mean have been highlighted

[4]Office of Environmental Health Hazard Assessment, OEHHA Acute, 8-hour and Chronic Reference Exposure Level Summary, November 4, 2019.

Similar to discussions about $PM_{2.5}$, data from the Air District long-term air monitoring sites do not fully explain the range of VOC and air toxics impacts that we expect throughout Bayview Hunters Point due to the complex mix of air pollution sources in close proximity to where people live or spend time throughout the day. Often these near-source impacts are localized and can occur intermittently in different locations and/or for a short amount of time. These types of air pollution episodes may not be well characterized by the Air District's long-term regulatory air monitoring sites.

Also, while the science is still evolving, there are not currently many health-based thresholds for concentrations measured at shorter durations . However, these higher air pollution levels that happen over shorter time periods or at places without a monitor still affect the community, even though they may not result in an 8-hour, 24-hour, or annual average level above the NAAQS or a REL.

Additional Air Monitoring Data

In addition to the Air District long-term monitoring sites, other air monitoring approaches can help to provide a more complete picture of the levels of air pollution experienced by the community.

Additional Air Monitoring Data

These data highlight the potential for short-duration or intermittent elevated concentration levels of $PM_{2.5}$, NO_2, and VOCs that may occur at different locations throughout the community during different times of the year.

Table 3 lists several air monitoring studies that were conducted to assess concentration levels of various pollutants within Bayview Hunters Point.

Table 3 – Additional Air Monitoring Data Available in Bayview Hunters Point

Source of Data	Timeframe of Measurements	Pollutants
Hidden Hazards of Bayview Hunters Point, Appendix J: Preliminary Investigation of Air Pollution in San Francisco's Hunters Point Region	1998	VOCs
Hidden Hazards of Bayview Hunters Point, Appendix I: Determination of Volatile Organic Compounds in Bayview Hunters Point	April 2018 – April 2019	VOCs
State of the Air in Bayview Hunters Point: Results of the Bayview Community Air Monitoring Project (BayCAMP)	June 2004 – June 2005	VOCs, PAHs, Hexavalent Chromium, Non-Methane Hydrocarbons, $PM_{2.5}$, SO_2, CO, NO, NO_2, O_3
Aclima: San Francisco Annual Baseline[5]	October 2019 – September 2020	$PM_{2.5}$, NO_2, O_3, CO, CO_2
Greenaction for Health and Environmental Justice: CARB Community Air Grant[6]	April 2021 – Present	$PM_{2.5}$, PM_{10}
Publicly Available Sensor Networks: PurpleAir, Clarity	Present	$PM_{2.5}$, NO_2

Notes:
(1) Previously undefined terms include: Polynuclear Aromatic Compounds (PAHs), Sulfur Dioxide (SO_2), Carbon Monoxide (CO), Nitrogen Oxide (NO)

The measurements included in the Hidden Hazards of Bayview Hunters Point report show short-duration elevated levels of VOCs in localized areas of the community; including near schools and known sources of VOCs such as autobody shops and the San Francisco Southeast Treatment Plant.

[5] Aclima San Francisco Baseline; https://air.health/bayarea?contract=san-francisco&pollutant=no2
[6] Greenaction for Health and Environmental Justice IVAN Air Monitoring Network; https://www.bvhp-ivan.org/air

The BayCAMP study shows that the acute (Acute Health Index) and chronic (Chronic Health Index) health risks from the pollutants measured during the study were higher at the BayCAMP monitoring site compared to the San Francisco monitoring site. The report also shows that 24-hour $PM_{2.5}$ concentrations were also higher when compared to the San Francisco monitoring site, especially during higher $PM_{2.5}$ days in the winter months. Since the BayCAMP monitoring site was located near Hilltop Park at the Earl P. Mills Community center and further away from emission sources, concentrations could likely be higher at different locations throughout Bayview Hunters Point that are closer to nearby sources. The Air District also notes that these data were collected 18 years ago and the composition of sources of air pollution within Bayview Hunters Point may be different today.

More recently, Aclima collected mobile measurements of various pollutants throughout San Francisco County by repeatedly driving road segments to estimate annual averages of those pollutants on a block-by-block level. These data were later aggregated into hexagon areas that cover approximately a square quarter mile by averaging all the data collected on road segments within a particular hexagon.

$PM_{2.5}$ and NO_2 hexagon values are both comparatively higher at locations near major roadways (I-280 and U.S.-101) and locations near Amador St. Higher areas of $PM_{2.5}$ are found more consistently throughout Bayview Hunters Point. Maximum $PM_{2.5}$ road segment values were observed on Carroll Ave. between Ingalls St. and Arelious Walker Dr., Amador St., Carroll Ave./3rd St., and Underwood Ave/Ingalls St.

Future Data Analysis

This assessment of the data represents the current analysis completed by the Air District, but we continue to evaluate these data and will update this assessment as additional analysis are made.

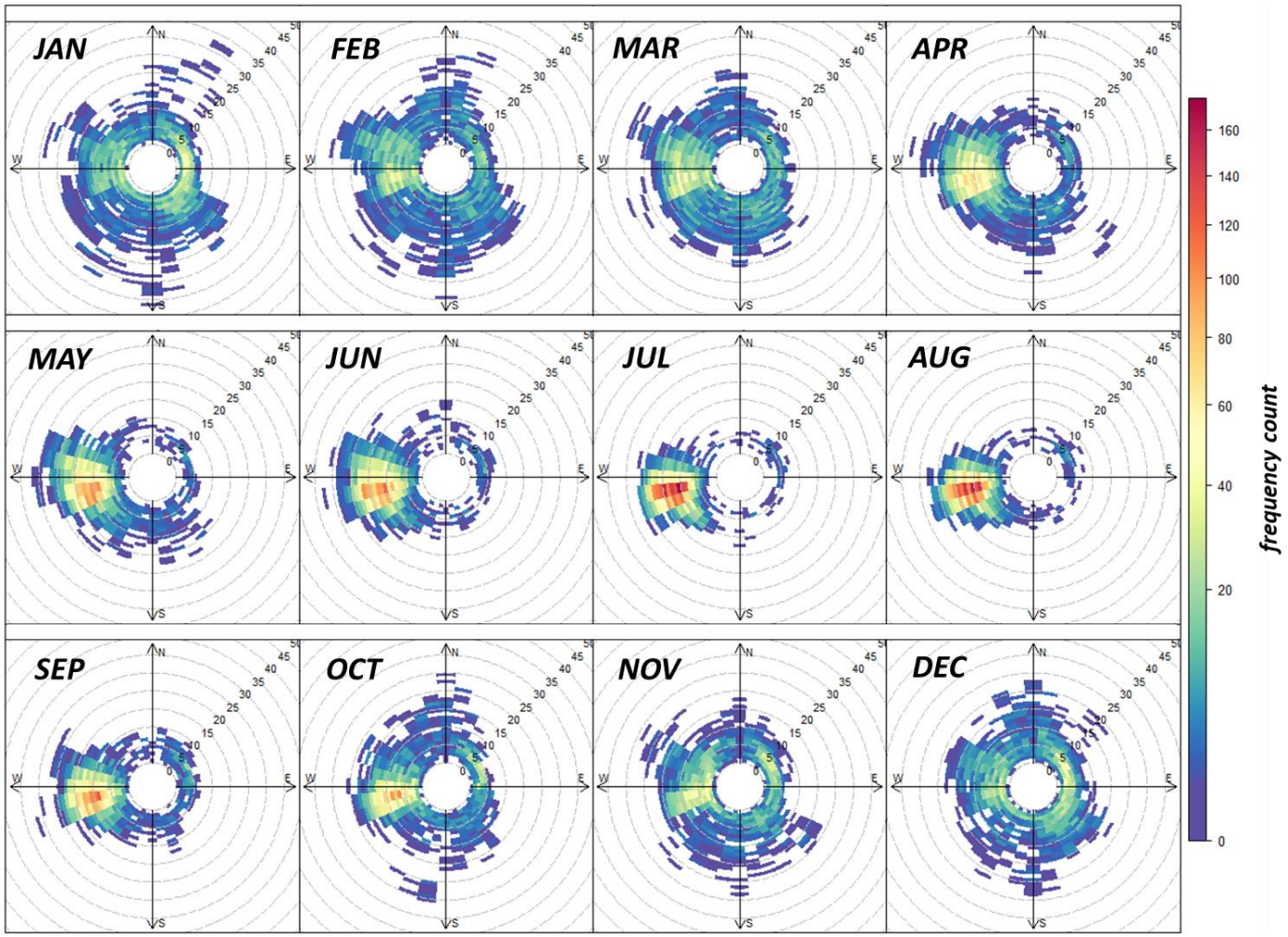
Future analysis may include:

- A review of PM_{10} data collected at the San Francisco air monitoring site.
- Evaluation of segment-level Aclima data for San Francisco.
- Historical data analysis and ongoing monthly reports of data collected by Greenaction.
    - The Bay Air Center, which is a third-party technical support contract managed by the Air District, is currently reviewing these data, and will be conducting future and ongoing analyses.
- A review and analysis of other publicly available sensor network data including data from PurpleAir and/or Clarity sensors located within Bayview Hunters Point

Additional Figures

Figures C shows hourly wind speed and wind direction plots from the San Francisco Sewage Treatment Plant separated by month to show the different types of meteorological conditions that occur throughout the year.

Figure C – Hourly Wind Speed and Direction Frequency Plots



Notes:
(1) Wind directions are binned and counted in 30° increments at each wind speed, which increases from the center of the plot outward and are noted in the hashed circles and the diagonal numbers.
(2) The counts are then colored from higher to lower and provide a visual as to which wind speed and direction combinations are more frequent in each month.