

# Pollution for Airline Profit

Proposed Expansion of Oakland International Airport  
Would Worsen Toxic Pollution of Workers, Communities of  
Color, & the Planet.



COMMUNITIES  
FOR A BETTER  
ENVIRONMENT  
established 1978



September 2024

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# 1) Executive Summary & Introduction

Locally and globally, we are in an environmental crisis as a direct result of past decision-making solely concerned with economic growth at the expense of the local community and the environment. The science is clear: airports make surrounding communities and workers sick and worsen climate change. Fossil jet fuel combustion emits huge volumes of climate change-inducing greenhouse gasses (GHG) and toxic air emissions that are most concentrated at airport worksites and in surrounding communities. However, aviation pollution is still found at high levels as far as 10 miles from airports. Experts say there will not be widespread, viable zero- or low-emission aviation technology before 2050. Public agencies must invest in a future of environmentally just transit rather than doubling down on fossil fuels that impact marginalized communities the most.

Despite the clear environmental harms to Oakland residents, airport workers, and the planet, the Port of Oakland (the Port) is currently proposing a massive expansion of the San Francisco Bay Oakland International Airport (OAK). The proposed expansion project (Project) would double air traffic at OAK and add up to 16 new gates, according to the draft environmental impact report released July 2023 (DEIR). The resulting increase in air pollution would increase resident and worker health impacts such as respiratory disease, cardiovascular disease, endocrine disease, cancer, poor birth outcomes, neurologic effects, and premature death. OAK operates in East Oakland, a predominantly Black and Latine low-income community that due to racist zoning and planning policies has experienced decades of heavy pollution from aviation, industrial facilities, freeways, and more. Deep East Oakland already experiences some of the worst air quality and environmental health outcomes in the state. Expanding OAK would hurt and kill airport workers and East Oakland residents.

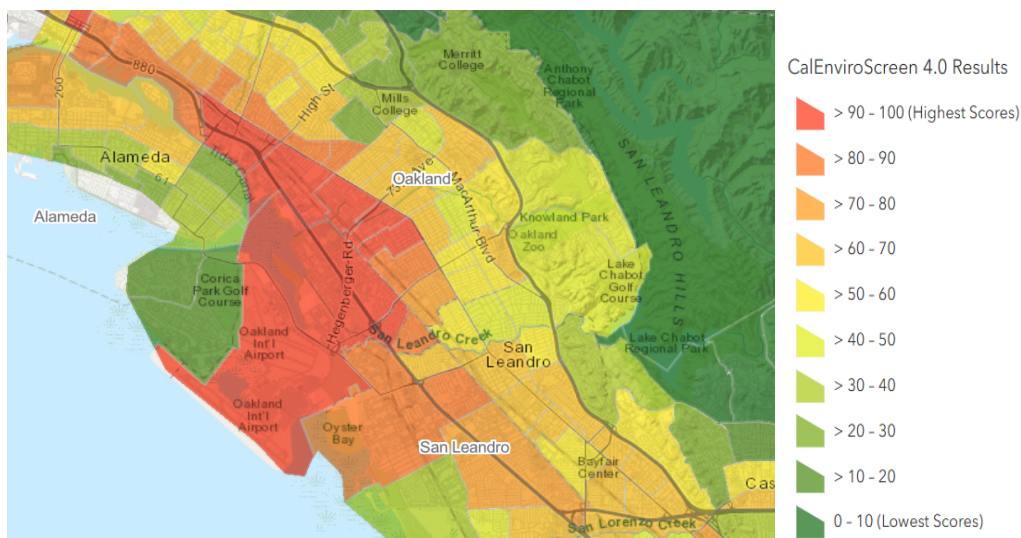
The Port can lead Oakland into a future of zero-emissions transportation and commerce, with dignified and healthy jobs, rather than doubling down on fossil fuel industries that hurt Oakland residents and the planet. While proponents of the expansion claim to want “good jobs” for East Oakland, it is the poverty-wage workers at and around OAK who will suffer the most while seeing none of the profit. The Port must put the health and wellbeing of the public ahead of the greed of multi-billion dollar corporations.

Workers and East Oakland residents urge government officials to 1) Slow Down & Engage, 2) Publish a Thorough Recirculated Environmental Impact Report, and 3) Oppose the Expansion. Read more in Section 11: Community Goals.

## 2) Community Profile: East Oakland Residents & Workers

East Oakland is a predominantly Black and Latine low-income community. Generations of families in these neighborhoods have experienced disproportionate pollution since the rapid developments of freeways, industry, and ports after World War II. People's health and wellbeing have been heavily burdened by the concentration of major polluting facilities and it is no coincidence that they are located away from more affluent and white populated areas in the East Bay. Decades of racist zoning and development policies have created a deadly cycle of harm in East Oakland. For example, the 880 highway and local streets are congested with cars and diesel trucks emitting exhaust, crematories release heavy metals near residences, and hazardous waste storage facilities are located directly adjacent to an elementary school and community garden.

Figure 1: CalEnviroScreen 4.0 Map of East Oakland<sup>1</sup>



Environmental health metrics demonstrate the severity of environmental injustice in East Oakland. Figure 1 depicts CalEnviroScreen, a mapping tool that aggregates data to identify which California communities are most impacted by environmental and socio-demographic burdens.<sup>2</sup> The overall CalEnviroScreen score represents the cumulative impact of environmental and health exposures people face, as well as socioeconomic factors (e.g. poverty and unemployment) impacting their lives. An area with a high CalEnviroScreen score (shown as red in Figure 1) is one that experiences a much higher pollution burden than areas with low scores (shown as green). **Nearly 36,000 people live in Deep East Oakland tracts scoring on average in the 89th percentile of the overall CalEnviroScreen score and in the 99th percentile of asthma rates.**<sup>3</sup>

<sup>1</sup> *CalEnviroScreen 4.0*, California Office of Environmental Health Hazard Assessment (Cal OEHHA) (May 1, 2023), <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>.

<sup>2</sup> *Id.*

<sup>3</sup> Census tracts in zip codes 94603 and 94621 below International Blvd: 6001409000, 6001408800, 6001409100, 6001409500, 6001408900, 6001409400, 6001409200, 6001409300. *CalEnviroScreen 4.0*

The census tract that includes OAK and the closest neighboring communities is in the 97th percentile of overall CalEnviroScreen scores and in the 100th percentile of asthma rates.<sup>4</sup> See Section 7: East Oakland Health Outcomes for more.

Oakland International Airport (OAK) operates in deep East Oakland. SEIU-USWW represents and organizes a wide range of airline contracted jobs including wheelchair service agents, cabin cleaners, janitors, baggage handlers, ramp agents, and security officers. These essential airport workers— who are largely people of color, immigrants and women— are on the frontlines at OAK and many live in neighboring communities. Despite providing essential services, they are underpaid and under-protected.

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*Results*, Cal OEHHA (last accessed Jul. 17, 2024), [https://experience.arcgis.com/experience/11d2f52282a54ceebcac7428e6184203/page/CalEnviroScreen-4\\_0/](https://experience.arcgis.com/experience/11d2f52282a54ceebcac7428e6184203/page/CalEnviroScreen-4_0/) .

<sup>4</sup> *Id.*

### 3) Proposed OAK Expansion Project

#### What is being proposed?

The Project proposes to dramatically expand OAK by constructing up to 16 new gates, an additional terminal, over 1,000 new parking spaces, new expanded fueling infrastructure, upgrading the two existing terminals, reconfiguring and relocating cargo and support facilities, and more.<sup>5</sup> Construction is expected to take place from 2025 to 2030.<sup>6</sup> Much remains unknown as the DEIR does not disclose critical details of the Project.

Notably, the DEIR is not definitive about the total number of gates that would operate at OAK, at times stating the Project would result in a net increase of 16 gates, stating the new terminal would include up to 25 aircraft gates, and nine existing gates would be removed.<sup>7</sup> The DEIR does not provide even the most basic information disclosing the configuration of the new 25-gate terminal or the decommissioning of existing gates.

Very little information is disclosed regarding major fuel infrastructure construction and expansion. The DEIR states “the existing fuel system at OAK, which includes the fuel farm and below-grade fuel distribution, would require expansion, relocation, and upgrades.”<sup>8</sup> This is the extent of information given about major fuel system changes. This is highly concerning because fuel systems significantly contribute to air quality emissions, GHG emissions, hazardous material contamination risks, seismic safety concerns, and human health risks.<sup>9</sup> Additionally, a massive

#### Included in Project Description

- Up to 16 new gates (in addition to the existing 29), for a total of up to 45 gates
- New terminal and terminal apron
- Expanded parking lots (more than 1,000 new spaces)
- Expanded Central Utility Plant (5 new gas-fired boilers and 4 new diesel backup generators)

#### Missing from Project Description

- Definitive number of gates, decommissioning schedule of old gates, configuration of new gates and terminal
- Fuel infrastructure expansion details:
  - Number & capacity of jet fuel, diesel, gas, or alternative fuel tanks
  - Pipeline expansions
- Hazardous sites cleanup plan given widespread contamination at airport
- Any mitigation of the major pollution the Project creates

<sup>5</sup> *Oakland International Airport Terminal Modernization and Development Project Draft Environmental Impact Report* (“DEIR”), Port of Oakland (Jul. 2023), [https://www.oaklandairport.com/wp-content/uploads/2024/03/230717\\_Public-Draft-EIR\\_Web\\_v1.0.pdf](https://www.oaklandairport.com/wp-content/uploads/2024/03/230717_Public-Draft-EIR_Web_v1.0.pdf), at Chapter 2.

<sup>6</sup> *Id.* at Chapter 2.7.

<sup>7</sup> Compare DEIR Table 2-2 with DEIR at 2-17, 2-23.

<sup>8</sup> DEIR at 2-24.

<sup>9</sup> *E.g.* Studies have repeatedly found the US EPA TANKS model vastly underestimates dangerous emissions, thereby posing a greater threat to the environment and human health. (Mellqvist et al., *Emission Measurements of VOCs, NO<sub>2</sub> and SO<sub>2</sub> from the Refineries in the South Coast Air Basin Using Solar Occultation* (Apr. 11, 2017); Johansson et al., *Emission measurements of alkenes, alkanes, SO<sub>2</sub>, and NO<sub>2</sub> from stationary sources in Southeast Texas over a 5 year period using SOF and mobile DOAS*, *J. Geophys.*

expansion in fuel consumption at OAK keeps the fossil fuel industry alive in the greater Bay Area. It is impossible for the lead agency and the public to meaningfully review the Project impacts without an improved Project description.

### The Project will cause significant environmental impacts, but denies responsibility.

Flights cannot increase indefinitely at OAK without an expansion. However, the DEIR is based on the unsupported assumption that with or without the Project, aviation activity will increase exponentially at OAK to the same degree. Common sense, expert testimony,<sup>10</sup> and correspondence between Southwest Airlines and a former OAK Director of Aviation indicates otherwise.<sup>11</sup> Flights from OAK are not increasing as predicted in the DEIR and in fact, the shortfalls from that prediction are increasing dramatically.<sup>12</sup> The FAA now predicts that OAK will not return to 2019 enplanement levels until 2029.<sup>13</sup> **If the Project is approved and increases flights to the levels projected in the DEIR, the Project will nearly double passenger enplanements at OAK from 2024 to 2038.**<sup>14</sup> The accompanying pollution would also massively expand.

The DEIR acknowledges the Project would have significant environmental and human health risk impacts,<sup>15</sup> but does not include *any* mitigation for air quality, greenhouse gas (GHG), or noise pollution. The argument presented is that since ground-side mitigation efforts would not reduce total emissions below the significance threshold due to the large contribution from aircraft emissions, the Port will not mitigate harms at all.<sup>16</sup> Although aircraft emission standards are solely

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Res. Atmos. 119, at 1973-199, <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2013JD020485> (Jan. 4, 2014).

<sup>10</sup> Attachments to Citizens League for Airport Safety and Serenity (“CLASS”) DEIR Comments, Attachment A (Oct. 15, 2023), [https://www.oaklandairport.com/wp-content/uploads/organizations/231016\\_Attachments%20to%20CLASS%20DEIR%20Comments.pdf](https://www.oaklandairport.com/wp-content/uploads/organizations/231016_Attachments%20to%20CLASS%20DEIR%20Comments.pdf).

<sup>11</sup> “[C]urrent capacity constraints won’t allow a steady growth consistently in the years prior to opening.” *Id.* at Attachment N (email from Randy Gillespie, Southwest Airlines representative, to Bryant Francis, former OAK Aviation Director, dated October 23, 2019.)

<sup>12</sup> Compare DEIR Table 2-1, *Forecast Summary for OAK; Terminal Area Forecast (“TAF”)*, Federal Aviation Administration (last updated January 2024), [https://www.faa.gov/data\\_research/aviation/taf/](https://www.faa.gov/data_research/aviation/taf/); Port of Oakland, *Nine Months Ending March 31, 2024 Financial Highlights Unaudited Results (May 9, 2024)* (Fiscal year-to-date [fiscal year 2024] passenger traffic averaged 82.8% of same period FY 2019 levels” and “[m]onthly OAK passenger traffic exceeded 1 million passengers in only July 2023.”).

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> Experts found the Human Health Risk Assessment (HHRA) in the DEIR is outrageously flawed (impossibly finding the Project would reduce the net emissions of key pollutants, lacking any supporting evidence or methodology, and artificially rounding to avoid findings over the significance threshold) (City of Alameda Comments on DEIR (Oct. 16, 2023), [https://www.oaklandairport.com/wp-content/uploads/agencies/231016\\_City%20of%20Alameda\\_Ramirez,%20Ryn.pdf](https://www.oaklandairport.com/wp-content/uploads/agencies/231016_City%20of%20Alameda_Ramirez,%20Ryn.pdf)). Even with highly questionable methodology, the HHRA finds significant health risk to airport workers (8-hour non-cancer human health hazard and acute non-cancer human health hazards above significance threshold).

<sup>16</sup> DEIR at 3.3-29.

regulated by the federal government,<sup>17</sup> local governments, including the Port, are still responsible for building and operating the airports necessary to bring these planes to pollution-burdened communities. By denying responsibility for increased airplane emissions, the Port also denies responsibility for ground operation emissions.

To read more about the issues with the Project DEIR, view comment letters at <https://www.oaklandairport.com/business/oakland-international-airport-terminal-modernization-and-development-project/terminal-modernization-and-development-environmental-review/>.

### What comes next in the approval process?

The Port has stated it intends to complete the final environmental impact report (FEIR) in Fall 2024, but environmental law experts and peer government agencies have urged major changes to the Project that must be included in a recirculated environmental impact report (REIR) under the California Environmental Quality Act (CEQA).<sup>18</sup> A basic purpose of CEQA is to “[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.”<sup>19</sup> When a FEIR is released, there is no official public comment period in which to review the hundreds of pages of highly technical material and provide feedback. The lead agency typically votes quickly after the FEIR is released. An REIR gives the public and government agencies the legally required opportunity to comment on a proposal that contains all the necessary detail to understand the potential environmental harms and consider alternatives. An REIR is required in this case because the DEIR is missing critical information and contains major inaccuracies that prevent meaningful engagement.<sup>20</sup> Any agency acting in good faith should want community and expert input on an accurate, complete proposal.

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<sup>17</sup> Clean Air Act Sections 231 and 233 preempt states from adopting their own aircraft emission standards. The U.S. is party to the Convention on International Civil Aviation that established the International Civil Aviation Organization (ICAO), a specialized agency of the United Nations. ICAO establishes aviation standards for aircraft operators operating over the high seas.

<sup>18</sup> See *especially*, comment letters on the DEIR from CLASS, NRDC, Alameda County Public Health Department, Bay Area Air Quality Management District, U.S. EPA Region 9, City of Alameda (Oct. 2023), <https://www.oaklandairport.com/business/oakland-international-airport-terminal-modernization-and-development-project/terminal-modernization-and-development-environmental-review/>.

<sup>19</sup> CEQA Guidelines § 15002(a)(1).

<sup>20</sup> Preservation Action Council v. City of San Jose (2006) 141 Cal.App.4th 1336.



## 4) Airport Air Quality Impacts

The following information is adapted from the SEIU-USWW report “Poisoned From Above: Aviation’s Contributions to Negative Health Impacts on Black, Brown and Indigenous Workers, Their Communities, and California’s Opportunity to Mitigate its Risks” (2024). For a comprehensive review of air quality impacts of airports and original citations, see SEIU USWW report.

### Sources and Types of Airport Emissions

The majority of airport emissions come from jet fuel combustion from aircraft, however ground access vehicles (including passenger cars and delivery trucks), ground support equipment (typically off-road equipment needed to service planes), and stationary sources (gas boilers, diesel generators, fossil fuel storage and pump) also significantly contribute to pollution (Figure 2).

Figure 2: Categories of Airport Emission Sources<sup>21</sup>

<b>Aircraft</b>	Passenger and cargo planes combust fossil jet fuel. Emissions are modeled to include startup, taxiing, climbing and descent below “mixing height” (a height above which it is thought that aviation emissions do not impact ground level concentrations of emissions) <sup>22</sup> and auxiliary power unit emissions (small engines built-in to planes used to power limited functions of planes while parked on the ground).
<b>Ground Access Vehicles (GAVs)</b>	Emissions from on-road traffic associated with passengers, air cargo, airport tenant business operations, and employees’ travel to and from the airport.
<b>Ground Service Equipment (GSE)</b>	Emissions from baggage carts and tractors, belt loaders, aircraft pushback tractors, catering trucks, lavatory trucks, and other off-road equipment needed to service planes on the ground.
<b>Stationary Sources</b>	Emissions from terminal and facility heating (boilers) and backup generators, above ground fuel storage tanks, and fuel dispensing.

<sup>21</sup> OAK DEIR at Section 3.3.2.4 “2019 Airport Emissions.”

<sup>22</sup> For more information about FAA modeling of aviations based on mixing height, see Aviation Environmental Design Tool (AEDT) FAQs, FAA (Aug. 2024), [https://aedt.faa.gov/Documents/AEDT\\_FAQ\\_and\\_knowledge\\_base.pdf](https://aedt.faa.gov/Documents/AEDT_FAQ_and_knowledge_base.pdf).

Types of emissions from these sources include Volatile Organic Compounds (VOCs); Particulate Matter (PM) of varying sizes; gaseous criteria pollutants like Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), and Sulfur Oxides (SO<sub>x</sub>); and heavy metals such as lead.<sup>23</sup> Aviation emissions also contribute to the creation of Ozone (O<sub>3</sub>), formed from NO<sub>x</sub> reacting with VOCs in heat and sunlight.<sup>24</sup> All of these pollutants have known adverse health impacts, and many have short and long-term effects on cardiovascular health, respiratory health, or harmful effects on nervous and reproductive systems.

Studies have consistently found highly elevated concentrations of ultrafine particles (UFPs), the smallest size of particulate matter, at and around airports.<sup>25</sup> UFPs serve as a reliable “tracer” for aircraft emissions as the smaller particle sizes are more associated with aviation emissions than ground traffic.<sup>26</sup> Due to their small size, UFPs are thought to be more dangerous to human health than larger particulate matter (PM 2.5 and PM10).<sup>27</sup> Jet engines are a significant source of UFP and UFP levels are strongly influenced by the landing and takeoff of planes.<sup>28</sup>

## Airport Worksites

Research has found that airport workers breathe extreme concentrations of harmful aviation pollutants. Much of this research has been done at Copenhagen Airport in Denmark, where UFP concentrations at the apron<sup>29</sup> across a full day were being seen at levels two to three times higher than what was seen at one of the busiest streets in the country.<sup>30</sup> At the same airport, a review of exposure levels across 6 to 22 hours found UFPs were at concentrations 6 to

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<sup>23</sup> Bendtsen et al., A review of health effects associated with exposure to jet engine emissions in and around airports, *Environ Health* 20, 10 (2021); *Regulations for Lead Emissions from Aircraft*, US EPA (updated Apr. 5, 2024), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-lead-emissions-aircraft> (leaded aviation fuel (“avgas”) is used in smaller piston aircraft).

<sup>24</sup> *Ground-level Ozone Basics*, US EPA (updated May 14, 2024), <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics>.

<sup>25</sup> See e.g. Riley et al., *A systematic review of the impact of commercial aircraft activity on air quality near airports*, *City and Environment Interactions*, Volume 11 (2021).

<sup>26</sup> Riley et al., *Ultrafine particle size as a tracer for aircraft turbine emissions*, *Atmospheric Environment* (2016).

<sup>27</sup> Dean E Schraufnagel, *The health effects of ultrafine particles*, *Experimental Molecular Medicine*, 52(3), 311-317 (2020).

<sup>28</sup> Westerdahl et al., *The Los Angeles International Airport as a source of ultrafine particles and other pollutants to nearby communities*, *Atmospheric Environment*, 42, 3143-3155 (2008).

<sup>29</sup> An airport apron is the area where aircraft activity on the ground occurs. This includes aircraft parking, servicing, maintenance, refueling, loading and unloading of supplies and boarding and unboarding of passengers and crew.

<sup>30</sup> Ellermann et al., *Assessment of the air quality at the apron of Copenhagen Airport Kastrup in relation to the occupational environment*, Aarhus University, Danish Centre for Environment and Energy (2012).

9 times higher than the high traffic, busy city streets.<sup>31</sup> Mobile measurements of airport workers in this study also found the peak half-hour exposure for airport baggage handlers was more than double that of rush hour on heavy traffic city streets and over 22 times the typical concentrations found in office workplaces.<sup>32</sup> **UFP concentrations experienced by baggage handlers have been seen at concentrations roughly equivalent to a confined smoking room at the airport.**<sup>33</sup>

## Communities Near Airports

For many years, studies have shown communities near airports see increased levels PM (including ultrafine particles (UFPs)), black carbon (soot), gaseous criteria pollutants<sup>34</sup> and volatile and semi-volatile organic compounds (VOCs and sVOCs) including polycyclic aromatic hydrocarbons (PAHs).<sup>35</sup>

**Aviation pollution is most concentrated at airports, with significantly elevated concentrations of emissions reaching as far as 10 miles from airports.** A 2014 study of UFP concentrations around the Los Angeles International Airport (LAX) found that UFP concentrations within five to six miles downwind of the airport were four to five times higher than comparable areas.<sup>36</sup> Additionally, UFP concentrations as far as 10 miles downwind were still two times higher than levels in the comparable areas.<sup>37</sup>

A 2020 study of communities near Logan International Airport in Boston found “concentrations of gaseous and particulate **pollutants that were up to 480% higher** [in downwind residences] than residences not downwind of the airport. [The] study found that **aircraft emissions were resulting in indoor particle concentrations comparable to what was being measured on busy local roads and near highways.**”<sup>38</sup> This finding suggests that communities near airports are also breathing heavily polluted air in their homes, schools, schools, senior facilities, places of worship, and medical facilities.

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<sup>31</sup> Danish Ecocouncil et al., *Air Pollution in Airports, Ultrafine Particles, solutions and successful cooperation* (2021), [https://aragge.ch/wp-content/uploads/2018/04/DK\\_Ecocouncil\\_20120328\\_](https://aragge.ch/wp-content/uploads/2018/04/DK_Ecocouncil_20120328_Air-Pollution-in-Airports_en.pdf)

[Air-Pollution-in-Airports\\_en.pdf](https://aragge.ch/wp-content/uploads/2018/04/DK_Ecocouncil_20120328_Air-Pollution-in-Airports_en.pdf).

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> CAPs are specific pollutants that are regulated by the United States Environmental Protection Agency (US EPA). CAPs are commonly found in the air and pose a significant risk to human health and the environment. They include: ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. (*Managing Air Quality- Air Pollutant Types*, US EPA (last update Jul. 3, 2024), <https://www.epa.gov/air-quality-management-process/managing-air-quality-air-pollutant-types>).

<sup>35</sup> Riley et. al (2021).

<sup>36</sup> Hudda et al., *Emissions from an International Airport Increase Particle Number Concentrations 4-fold at 10 km Downwind*, *Environmental Science & Technology*, 48 (12), 6628-6635 (2014).

<sup>37</sup> *Id.*

<sup>38</sup> Hudda et al., *Impacts of Aviation Emissions on Near-Airport Residential Air Quality*, *Environmental Science & Technology*, 54 (14), 8580-8588 (2020).

A comprehensive literature review by SEIU-USWW demonstrates, “These first few generations of studies on pollutants in airport-adjacent communities have a common thread: exposure ends up being measured as much higher than was previously understood, and further research on the issue is recommended...the traditional methodologies by which aviation emissions are measured in communities—already uncovering much higher than expected exposure—are themselves routinely underestimating those emissions. **This issue is bad already and yet also appears to be worse than we currently know.**”<sup>39</sup>

In addition to emissions from airplanes themselves, airports have many direct and indirect sources of pollution. Airport ground operation sources of pollution include ground support equipment, ground access vehicles, fuel storage and distribution systems, diesel back-up generators, and boilers. Airports also act as pollution magnets for related, indirect sources such as fuel refining operations and fuel distribution, freight handling and logistics operations (e.g. warehousing and distribution centers for commercial cargo to be shipped by air), and ground transportation for passengers, airport employees, and cargo. Airport communities are also often in industrial areas with unaffiliated major sources of air pollution, compounding the harm caused by airport and airport-related pollution.

### Refinery Communities Connected by to OAK by Fuel Pipelines

Beyond Oakland, the Project would cause increased air quality emissions, GHG emissions, and human health impacts in Bay Area refinery communities due to increased demand for jet fuel through pipelines directly connecting OAK to major refineries. OAK is connected via the Kinder Morgan pipelines to jet fuel-producing refineries (Chevron Richmond Refinery, Phillips 66 Rodeo Refinery, Martinez Refining Company (formerly Shell Martinez Refinery), and Valero Benicia Refinery) as well as fuel transfer and storage facilities.<sup>40</sup> The refineries and facilities include traditional fossil fuel as well as alternative fuels (including biodiesel and sustainable aviation fuel [SAF]). In 2021, Southwest entered into memoranda of understanding with Phillips 66 and Marathon to develop SAF.<sup>41</sup> Phillips 66 recently announced that the Rodeo Renewable Energy Complex would begin producing components of SAF in the second quarter of 2024.<sup>42</sup> The Chevron Refinery produces 60% of jet-fuel used in the Bay Area.<sup>43</sup>

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<sup>39</sup> SEIU-USWW, *Poisoned From Above* (2024).

<sup>40</sup> *Pacific Operations Report*, Kinder Morgan (2019), <https://www.kindermorgan.com/WWWKM/media/Documents/2019-March-Pacific-Ops-brochure.pdf>.

<sup>41</sup> *Sustainable Aviation Fuels*, Southwest (last visited July 18, 2024), <https://www.southwest.com/citizenship/planet/sustainable-aviation-fuels/>.

<sup>42</sup> *News Releases: Phillips 66 Announces Major Milestone in Production of Renewable Diesel*, Phillips 66 (April 1, 2024), <https://investor.phillips66.com/financial-information/news-releases/news-release-details/2024/Phillips-66-Announces-Major-Milestone-in-Production-of-Renewable-Diesel/default.aspx>.

<sup>43</sup> *Chevron agreement with Air District called win for environment and energy*, Richmond Standard (Feb. 13, 2024), <https://richmondstandard.com/richmond/2024/02/13/chevron-agreement-with-air-district-called-win-for-environment-and-energy/>.

Like East Oakland, Bay Area refinery communities are predominantly low-income communities of color that are severely polluted by both traditional and alternative fuel refining.<sup>44</sup> Environmental health and climate harms from biofuel and SAF production are equal to or greater than the harm from traditional fossil fuel production.<sup>45</sup> Converting aging fossil fuel refineries to biofuel production harms workers and residents in low-income communities of color, with impacts including: increased toxic air pollution from the refining process and associated increased industrial transportation required, increased flaring, increased risk of fires and explosions, increased risk of fuel spills, and preventing the decommissioning of century-old facilities.<sup>46</sup> These hazards have already been exemplified as Marathon Refinery experienced two fires in facilities recently converted to biofuel production in November 2023, severely injuring one worker and releasing more than 200,000 pounds of biofuel.<sup>47</sup>

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<sup>44</sup> The refinery communities in Richmond, Rodeo, and Martinez are all designated Disadvantaged Communities under California Senate Bill 535. Like East Oakland, Richmond was selected by BAAQMD and CARB as an AB617 community due to its severely poor air quality. In 2024, CARB approved the Richmond-San Pablo Community Emissions Reduction Plan (CERP) (Bay Area Air Quality Management District, Path to Clean Air Plan (Richmond-San Pablo) (adopted May 1, 2024), <https://www.baaqmd.gov/community-health/community-health-protection-program/richmond-area-community-health-protection-program> .

<sup>45</sup> Fleming et al., *The Biofuels Myth: Why ‘Sustainable Aviation Fuels’ Won’t Power Climate-Safe Air Travel*, Center for Biological Diversity (Aug. 2022) [https://biologicaldiversity.org/programs/climate\\_law\\_institute/pdfs/2022\\_The\\_Biofuels\\_Myth\\_Center\\_for\\_Biological\\_Diversity.pdf](https://biologicaldiversity.org/programs/climate_law_institute/pdfs/2022_The_Biofuels_Myth_Center_for_Biological_Diversity.pdf); Carmen G. Gonzalez, *An Environmental Justice Critique of Biofuels in Energy Justice: U.S. and International Perspectives* (Raya Salter, Carmen G. Gonzalez, & Elizabeth Ann Kronk Warner eds., 2018) [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3274097](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3274097).

<sup>46</sup> *Lawsuits Challenge Two Massive Bay Area Biofuel Refinery Projects*, Center for Biological Diversity (Jun. 8, 2022), <https://biologicaldiversity.org/w/news/press-releases/lawsuits-challenge-two-massive-bay-area-biofuel-refinery-projects-2022-06-08/>; *Re: Phillips 66 Rodeo Renewed Project – comments concerning scoping: File LP20–2040*, Biofuel Watch et al. (Jan. 27, 2021), <https://www.biofuelwatch.org.uk/wp-content/uploads/Scoping-comments-Rodeo-Renewed-EIR.pdf>.

<sup>47</sup> Ted Godlberg, *Federal Agency Probes Marathon’s Martinez Refinery After Two Large Fires Last Month*, KQED (Dec. 5, 2023), <https://www.kqed.org/news/11968786/recent-fires-at-marathons-martinez-refinery-spark-major-safety-concerns>.

## 5) Airport Health Impacts

The following information is adapted from the SEIU-USWW report “Poisoned From Above: Aviation’s Contributions to Negative Health Impacts on Black, Brown and Indigenous Workers, Their Communities, and California’s Opportunity to Mitigate its Risks” (2024). For a comprehensive review of health impacts of airports and original citations, see SEIU USWW report.

The exposure to toxic emissions facing workers and flightpath communities is serious, real, and the research often concludes that it may be significantly underestimated. Much of the research has been focused on respiratory health, cardiovascular conditions, cancer and birth outcomes, with alarming findings across all of these categories.

### Respiratory Issues

Residential proximity to airports and its impact on respiratory health has been among the more studied issues in this space, as many of the pollutants associated with commercial aviation have known short and long-term impacts on the lungs— especially NO<sub>x</sub> and PM.

Major study findings include:

- Increased hospital admissions for asthma, chronic bronchitis, emphysema, and COPD in communities near major airports. These effects were found to be more pronounced for African Americans and Hispanic Americans.<sup>48</sup>
- **Children living within 5 miles of Boston’s Logan Airport were 3 to 4 times more likely to report asthma or asthma related symptoms.** COPD in adults was also seen at significant rates once they lived there for at least three years.<sup>49</sup>
- Washington state commissioned a major study on communities near SeaTac airport, finding lower life expectancy, higher hospitalization rates for asthma and COPD, and higher death rates from COPD in residents near the airport. For residents between 1 to 5 miles from the airport, **adults were being hospitalized for asthma at rates 70% above the rest of the county, children at rates 40% higher, and lung cancer deaths about 32% higher.**<sup>50</sup>

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<sup>48</sup> Lin et al., *Residential proximity to large airports and potential health impacts in New York State*, International Archives of Occupational & Environmental Health, 797-804 (2007).

<sup>49</sup> HMA Department of Public Health, Bureau of Environmental Health, *Logan Airport Study* (May, 2014).

<sup>50</sup> Public Health Seattle & King County, *Community Health and Airport Operations Related Noise and Air Pollution: Report to the Legislature in Response to WA State HB 1109* (Dec. 2020).

## Cardiovascular Issues

Nearly every major pollutant associated with aircraft activity has at least some suggestive evidence to contribute to negative cardiovascular health outcomes. There is strong evidence that short-term exposure to Fine Particulate Matter (PM2.5) can cause cardiovascular issues, even for people without underlying heart disease. Populations with just moderate exposure develop heart disease and hypertension at higher rates, and experience more heart attacks, strokes and cardiac-related deaths.<sup>51</sup> **Higher hospitalization and death rates for diabetes, heart disease and stroke have all been seen in airport communities.**<sup>52</sup>

Though research on the health impacts of UFP exposure is limited, one recent study concluded that long-term exposure significantly increased mortality from cardiovascular diseases and other non-accidental causes of death.<sup>53</sup> This study also found that certain demographics experienced more severe outcomes, finding **higher UFP-related mortality within young children, older adults, as well as Hispanic and Black populations.**<sup>54</sup>

The health effects of noise from airport activity have been studied too, with studies finding **ties between airport noise pollution and diabetes and cardiovascular events** among other impacts. Increased traffic noise disrupts sleep and causes elevated stress hormone levels, in turn leading to serious cardiovascular and endocrine disease.<sup>55</sup> Communities exposed to higher noise pollution have been found to have higher rates of diabetes,<sup>56</sup> with a review study finding 17% increase in risk of diabetes observed per 5 decibels increase in aircraft noise exposure.<sup>57</sup> A study also found that every 10-decibel increase in noise from planes was tied to about a 4% jump in hospital admission rates for cardiovascular problems in seniors living near airports.<sup>58</sup>

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<sup>51</sup> Shin et al., *Outdoor fine particles and nonfatal strokes: Systematic review and meta-analysis*, *Epidemiology*, 25(6). 835-842 (2014).

<sup>52</sup> Public Health Seattle & King County (2020).

<sup>53</sup> Qi et al., *Hidden danger: The long-term effect of ultrafine particles on mortality and its sociodemographic disparities in New York State*, *Journal of Hazardous Materials*, Vol. 471 (Jun. 5, 2024).

<sup>54</sup> *Id.*

<sup>55</sup> Münzel et al., *Transportation noise pollution and cardiovascular disease*, *Nat. Rev. Cardiology*, 18, 619–636 (2021).

<sup>56</sup> Bazyar et al., *A comprehensive evaluation of the association between ambient air pollution and adverse health outcomes of major organ systems: A systematic review with a worldwide approach*, *Environmental Science and Pollution Research* (2019).

<sup>57</sup> Zare Sakhvidi et al., *Association between noise exposure and diabetes: A systematic review and meta-analysis*, *Environmental Research*, Vol. 166, 647-657 (2018).

<sup>58</sup> Correia et al., *Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study*, *British Medical Journal Clinical Research Ed.*, 347 (2013).

## Cancer

Diesel exhaust, which jet fuel exhaust is closely comparable to, is a known carcinogen, and numerous studies have explored the links between airport emissions and cancer. Many of the Volatile Organic Compounds (VOCs) most prominent in aviation emissions<sup>59</sup>—formaldehyde, benzene, acetaldehyde, 1,3-butadiene—are carcinogenic. Airport-related UFPs were found to be a risk factor for malignant brain cancers,<sup>60</sup> and UFP exposure has been linked to one of the most common types of lung cancer (squamous cell carcinoma).<sup>61</sup>

**Cancer deaths in communities between 1 to 5 miles from SeaTac Airport in Washington were seen at levels nearly 20% higher than the rest of the county, with lung cancer deaths occurring at rates 32% above the county.**<sup>62</sup> Overall life expectancy decreased in each of the three groups studied as proximity to the airport increased.<sup>63</sup>

## Birth Outcomes

Researchers have found statistically significant correlations between proximity to airports and birth outcomes—including preterm births (the leading cause of child deaths) and low birthweight.<sup>64</sup> In one study, researchers divided the area within 15 km of LAX (roughly 9 miles) into four sections, finding that the quarter closest to the airport and with the most UFP exposure had a 14% higher chance of preterm birth than residents at the outermost quarter.<sup>65</sup>

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<sup>59</sup> National Academies of Sciences, Engineering, and Medicine, *Summarizing and Interpreting Aircraft Gaseous and Particulate Emissions Data*, National Academies Press (2008).

<sup>60</sup> Wu et al., *Association between Airport-Related Ultrafine Particles and Risk of Malignant Brain Cancer: A Multiethnic Cohort Study*, *Cancer Res.* (Aug. 2021).

<sup>61</sup> Bookstein et al., *Examining ultrafine particle pollution and lung cancer risk in a large, diverse cohort*, *Journal of Clinical Oncology*, 41, 8532-8532 (2023).

<sup>62</sup> Public Health Seattle & King County (2020).

<sup>63</sup> *Id.*

<sup>64</sup> See e.g. Argys et al., *Residential Noise Exposure and Health: Evidence from Aviation Noise and Birth Outcomes*, IZA Discussion Paper No. 12605.

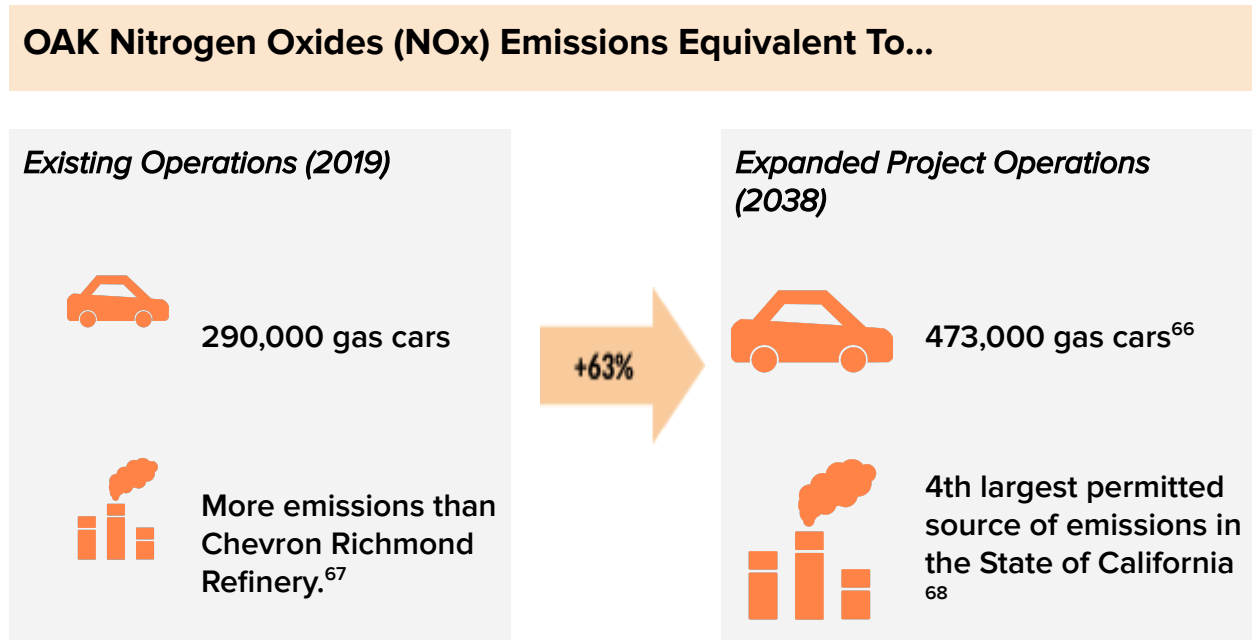
<sup>65</sup> Wing et al., *Preterm Birth among Infants Exposed to in Utero Ultrafine Particles from Aircraft Emissions*, *Environmental Health Perspect.* (2020).



## 6) OAK Pollution Profile: Existing & Proposed Impacts

OAK is already a significant source of pollution and, by the Port's own estimates, the proposed expansion Project would dramatically increase the harmful pollution OAK emits into East Oakland and the broader Bay Area. The following information represents best estimates of emissions based on limited data sources that likely underrepresent emissions attributable to OAK operations (more on limitations below).

Figure 3: Existing and Projected OAK NOx Emissions Based on Port of Oakland Estimate



<sup>66</sup> NOx Emissions from DEIR Table 3.3-12 (total OAK operational NOx emissions include aircraft, stationary source, ground service equipment, and ground access vehicle emissions). NOx emissions were converted to equivalent gas cars using methodology developed by ICCT (*Technical Note Airport Emissions Tracker Data*, International Council on Clean Transportation (Oct. 2023), [https://airporttracker.org/assets/Airport%20Tracker\\_Technical%20Note.pdf](https://airporttracker.org/assets/Airport%20Tracker_Technical%20Note.pdf)). ICCT's conversion factor was derived from U.S. Department of Transportation 2019 average vehicle emission rates and a global average of 9600 miles traveled in a year per car (*Estimated U.S. Average Vehicle Emissions Rates per Vehicle Type Using Gasoline and Diesel*, U.S. Bureau of Transportation Statistics (Jun. 21, 2024), <https://www.bts.gov/content/estimated-national-average-vehicle-emissions-rates-vehicle-vehicle-type-using-gasoline-and>).

<sup>67</sup> Comparing 2019 total operation NOx emissions of OAK (DEIR Table 3.3-12) to Chevron Richmond Refinery 2019 stationary source NOx emissions (*Facility Search Tool*, Cal. Air Resources Board (2019 data year), <https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/facility-search-tool>).

<sup>68</sup> Comparing 2038 projected total operation NOx emissions of OAK (DEIR Table 3.3-12) to the most recent year available of statewide stationary source NOx emissions *Facility Search Tool*, Cal. Air Resources Board (2022 data year), <https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/facility-search-tool>).

## Existing Emissions of OAK

OAK is a significant source of TAC and CAP emissions in East Oakland, with aircraft emissions making up a significant majority of both.

The vast majority of criteria air pollutants (CAPs) at OAK come from aircraft jet fuel emissions, as compared to ground service equipment, ground access vehicles, and stationary sources (see Figure 2 for definitions of source categories).<sup>69</sup> For example, the DEIR estimates over 87% of OAK's NOx emissions are from aircraft.<sup>70</sup> While all CAPs are of concern, both NOx and CO emissions from OAK are extremely high and have serious associated health impacts.

### According to the DEIR, in 2019 OAK emitted:<sup>71</sup>

- **More NOx than the Chevron Richmond Refinery (respiratory, cardiovascular, cancer, nervous system impacts)**
- **Carbon Monoxide emissions approximately equivalent to the Tesoro Martinez Refinery, Shell Martinez Refinery, and Valero Benicia Refinery combined (cardiovascular impacts)**

Similarly, OAK is a major source of toxic air contaminants (TACs) with aircraft making up the significant majority of TAC emissions (Figure 4). The Bay Area Air Quality Management District uses a Toxicity Weighted Emissions (TWE) methodology to account for the different toxicities of individual TACs and help to illustrate how they contribute to cancer risk, chronic health effects (e.g. asthma, hypertension), and acute health effects (e.g. eye or respiratory irritation).

The 2021 East Oakland Emissions Inventory produced by BAAQMD (2021 Emissions Inventory) includes TWE attributable to aircraft, gasoline dispensing, generators, and ground support equipment at OAK.<sup>72</sup> Toxicity-weighted emissions were largest for jet fuel from aircraft and diesel particulate matter emissions from ground support equipment. Notably, the large category of ground access vehicles is not included in the 2021 Emissions Inventory. However, DEIR data indicate that ground access vehicles are a larger source of CAPs than ground support

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<sup>69</sup> DEIR table 3.3-6.

<sup>70</sup> *Id.*

<sup>71</sup> Compare DEIR at Table 3.3-6; *Facility Search Tool*, Cal. Air Resources Board (2019 data year), <https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/facility-search-tool>. Note that 2019 is a pre-pandemic time and by using 2019 estimates as a baseline, the DEIR makes the net increase between today's 2024 operations and future operations seem artificially smaller.

<sup>72</sup> Bay Area Air Quality Management District (BAAQMD), *2021 East Oakland Emissions Inventory*. The inventory includes sources within East Oakland and/or impacting East Oakland air quality. See *summary report*, BAAQMD & CBE, *East Oakland Emissions Inventory: A Closer Look at Permitted Sources*, (Jun. 2024), <https://www.baaqmd.gov/community-health/community-health-protection-program/east-oakland-community-emissions-reduction-plan>.

equipment.<sup>73</sup> Even without considering the impact of ground access vehicles, the 2021 Emissions Inventory shows that:<sup>74</sup>

- Cancer Toxic Weighted Emissions (TWE)
  - OAK had approximately 7 times the Cancer TWE of all other stationary, permitted sources impacting East Oakland combined
- Chronic Health Conditions (e.g. respiratory disease) Toxic Weighted Emissions (TWE)
  - OAK had approximately 14 times the Chronic TWE of all other stationary, permitted sources impacting East Oakland combined
  - OAK had approximately the equivalent Chronic TWE of all on-road mobile sources (e.g. cars, heavy duty trucks, buses) impacting East Oakland combined
- Acute (e.g. eye & throat irritation) Toxic Weighted Emissions (TWE)
  - OAK had approximately 27 times the Acute TWE of all stationary, permitted sources impacting East Oakland combined
  - OAK contributed 37% of the total Acute TWE of all sources combined impacting East Oakland

Figure 4: 2021 OAK Toxicity Weighted Emissions (TWE) Based on BAAQMD 2021 Emissions Inventory<sup>75</sup>

Source of OAK TWE Emissions	Percent of Total Known OAK Cancer TWE	Percent of Total Known OAK Chronic TWE	Percent of Total Known OAK Acute TWE
Aircraft (VOCs from Jet Fuel)	77%	98%	98%
Ground Access Vehicles	<i>(Not included in 2021 Emissions Inventory, but likely more TWE than ground support equipment based on DEIR data)</i>		
Ground Support Equipment (Diesel Particulate Matter)	22%	2%	2%
Diesel Generators	1%	<1%	<1%
Gasoline Dispensing	<1%	<1%	0%

<sup>73</sup> DEIR at Table 3.3-6.

<sup>74</sup> Bay Area Air Quality Management District (BAAQMD), 2021 East Oakland Emissions Inventory.

<sup>75</sup> *Id.*

In addition to air quality pollution, OAK operations result in significant noise pollution for communities near the airport and under flight paths. OAK receives thousands of aircraft noise complaints each month, including thousands of overnight complaints.<sup>76</sup>

### Proposed Expansion Project Increases Emissions of OAK

If the Project is approved and induces increased flights to the levels projected in the DEIR, the Project will nearly double passenger enplanements at OAK between 2024 and 2038.<sup>77</sup> Given that aircraft emissions are by far the largest source of CAPs and TACs, **it is reasonable to assume the Project would roughly double OAK's overall emissions.** In addition to increased flights, increased ground sources such as diesel generators, ground support equipment, ground access vehicles, fuel storage and dispensing, and associated truck and car traffic would also dramatically increase CAPs and TACs. **By the Port's own estimations, OAK NOx emissions would increase 63% by 2038 with the proposed expansion project.** Additionally, the DEIR acknowledges that the impact of the proposed expansion would result in a considerable increase of CAPs, such as ozone, levels of which already exceed State and Federal air quality standards in the Bay Area.<sup>78</sup> With significant increases in flights and capacity for larger aircraft, the Project would also dramatically increase noise pollution.<sup>79</sup>

It is not currently possible to know what the true pollution impacts of the Project would be because the DEIR provides unverifiable and critically flawed information. There is no methodology or inputs provided for emissions calculations (e.g. number and type of equipment and attributed emissions) and there is valid reason to doubt the accuracy of the DEIR estimates. For example, the DEIR claims that carbon monoxide (CO) and Toxic Air Contaminants (TACs) will decrease with the Project.<sup>80</sup> Numerous experts have stated this is impossible with the substantial increase in air traffic volumes and corresponding emissions, and the DEIR does not justify this finding.<sup>81</sup> Similar flaws exist in the noise pollution and GHG emissions analysis. The DEIR also uses inappropriate modeling years that obscure the true impacts of the Project.

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<sup>76</sup> Attachments to CLASS DEIR Comments, Attachment B at 3 (May 2023 OAK Noise Complaint Summary).

<sup>77</sup> DEIR at Table 2-1.

<sup>78</sup> DEIR at Table ES-2: Summary of Environmental Impact Levels of Significance and Mitigation Measures

<sup>79</sup> See CLASS DEIR Comments.

<sup>80</sup> Attachments to CLASS DEIR Comments, Attachment C at 2-3.

<sup>81</sup> CLASS DEIR Comments at 31; City of Alameda DEIR Comments.

## 7) East Oakland Health Outcomes

Air pollution causes respiratory disease, heart disease, cancer, stroke, reproductive harms, and more. According to the Alameda County Public Health Department (ACPHD), “Cancer, heart disease, stroke, and chronic lower respiratory disease are among the top 10 causes of death in East Oakland and together account for 43.4% of all deaths.”<sup>82</sup> East Oakland has the highest rate of asthma hospitalization in Alameda County at three times the county average.<sup>83</sup> The most impacted census tracts of East Oakland have an average life expectancy that is 15 years less than life expectancy in tracts with the highest life expectancy in the county.<sup>84</sup> Despite this, the Port did not conduct a Health Impact Assessment as part of the DEIR and as ACPHD urged.<sup>85</sup> A Health Impact Assessment “is a recognized and well-defined process to evaluate the potential health implications of a policy or decision.”<sup>86</sup>

The Deep East Oakland communities closest to the airport have some of the worst environmental health outcomes in the state. The prevailing wind direction in this area is west to east, resulting in near-surface airborne pollution being blown from OAK towards these downwind neighborhoods.<sup>87</sup> Nearly 36,000 people live in Deep East Oakland census tracts neighboring OAK. These areas score on average in the 89th percentile of CalEnviroScreen Score and in the 99th percentile of asthma rates.<sup>88</sup> Additionally, nearly 4,700 people live in the same census tract as OAK.<sup>89</sup> Of all census tracts in California, this tract is in highest percentiles for numerous toxic exposure measures and environmental health outcomes (Figure 5).<sup>90</sup>

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<sup>82</sup> Alameda County Public Health Department (ACPHD) Comments on DEIR, at 2 (Oct. 16, 2023) [https://www.oaklandairport.com/wp-content/uploads/agencies/231016\\_Alameda%20County%20Public%20Health%20Department\\_%20Kimi%20Watkins-Tartt%20and%20Nicholas%20Moss.pdf](https://www.oaklandairport.com/wp-content/uploads/agencies/231016_Alameda%20County%20Public%20Health%20Department_%20Kimi%20Watkins-Tartt%20and%20Nicholas%20Moss.pdf).

<sup>83</sup> ACPHD Comment Letter at 2, “From 2018-2020, there were 936.6 asthma hospitalizations and Emergency Department visits per 100,000 for adults in East Oakland, and 1256.1 per 100,000 for children.”

<sup>84</sup> Tejada-Vera et al., *Life Expectancy Estimates by U.S. Census Tract, 2010-2015*, National Center for Health Statistics (2020).

<sup>85</sup> ACPHD Comments on DEIR.

<sup>86</sup> ACPHD Comments on DEIR (“HIAs typically look at who is most likely to be affected, explore whether the positive or negative impacts affect certain groups of people more than others, and consider health holistically, including broader social, economic, and environmental influences. HIAs can provide evidence-based recommendations to enhance predicted positive health impacts and minimize or mitigate negative ones. A comprehensive and systematic evaluation of the Proposed Project’s impacts on human health and the distribution of those effects within the population is especially critical as part of CEQA requirements for EIRs to adequately inform the public about health and safety impacts, including to reasonably describe the nature and magnitude of the adverse effect and show a reasonable effort to put into a meaningful context any conclusions about significant impacts.” [internal quotations omitted]).

<sup>87</sup> *Prevailing Wind Direction*, Western Regional Climate Center (Last visited July 18, 2024), [https://wrcc.dri.edu/Climate/comp\\_tables.php](https://wrcc.dri.edu/Climate/comp_tables.php).

<sup>88</sup> CalEnviroScreen 4.0 (results for Deep East Oakland Census tracts below International Blvd. nearest OAK and other major industrial pollution: 6001409000, 6001408800, 6001409100, 6001409500, 6001408900, 6001409400, 6001409200, 6001409300).

<sup>89</sup> Census tract 6001409000.

<sup>90</sup> CalEnviroScreen 4.0 (results for census tract 6001409000).

Most notably, **the census tract that includes OAK is in the 100th percentile of asthma rates in California**. The residents of this tract are 54% Hispanic, 35% Black, 5% Asian American, <5% Other, and <2% White.<sup>91</sup>

Figure 5: Communities Neighboring OAK, CalEnviroScreen Score Percentiles for Key Environmental Health Metrics<sup>92</sup>

CalEnviroScreen Score Percentile (compared across California)		
Environmental Health Metric	Broader Deep East Oakland	Census Tract Including OAK
CalEnviroScreen Score	89	94
Diesel Particulate Matter Exposure	80	87
Lead Exposure	97	97
Toxic Cleanup Sites	94	94
Groundwater Threats	83	88
Hazardous Waste	69	80
Asthma	99	100
Low Birth Weight	81	91
Cardiovascular Disease	78	85

<sup>91</sup> *Id.*

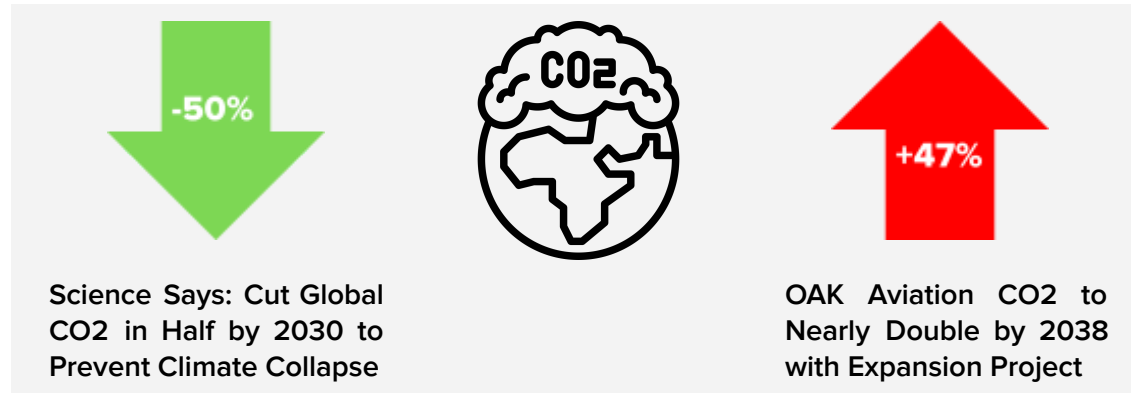
<sup>92</sup> *Id.* (Broader Deep East Oakland includes averaged scores of census tracts in zip codes 94603 and 94621 below International Blvd; OAK is located in census tract 6001409000).

## 8) Climate Impacts of Aviation & OAK

### Airport Expansion Worsens Climate Crisis

Figure 6: Comparing OAK DEIR projected 2038 CO<sub>2</sub> aircraft emissions to international scientific consensus of CO<sub>2</sub> reduction threshold<sup>93</sup>

#### OAK Aviation Carbon Increases during Climate Crisis...



The airline industry has caused immense climate impacts and continues to increase its emissions despite the dire state of the global climate emergency. June 2024 marked 12 consecutive months with global temperature at or exceeding 1.5°C above pre-industrial temperatures—the critical threshold for avoiding the most disastrous effects of climate change.<sup>94</sup> In 2023, the UN’s Intergovernmental Panel on Climate Change (IPCC) found that cutting GHG emissions by half across all sectors by 2030—a target well beyond any current commitments—will be needed to have any hope of limiting warming to 1.5°C in years to come.<sup>95</sup>

Despite promises to “green” operations,<sup>96</sup> airlines are failing to meet climate goals.<sup>97</sup> Aviation emissions from the combustion of jet fuel causes surface warming of the earth through aviation emissions such as carbon dioxide (CO<sub>2</sub>), NO<sub>x</sub>, water vapor, soot and sulfate aerosols,

<sup>93</sup> Compare DEIR Table 3.7-3.; *Urgent climate action can secure a liveable future for all*, UN IPCC ( Mar. 20, 2023), <https://www.ipcc.ch/2023/03/20/press-release-ar6-synthesis-report/>.

<sup>94</sup> Hayley Smith, *In a troubling milestone, Earth surpasses 1.5 degrees C of warming for 12 consecutive months*, Los Angeles Times (July 8, 2024), <https://www.latimes.com/environment/story/2024-07-08/earth-surpasses-1-5-c-of-warming-for-12-consecutive-months>.

<sup>95</sup> UN IPCC (2023).

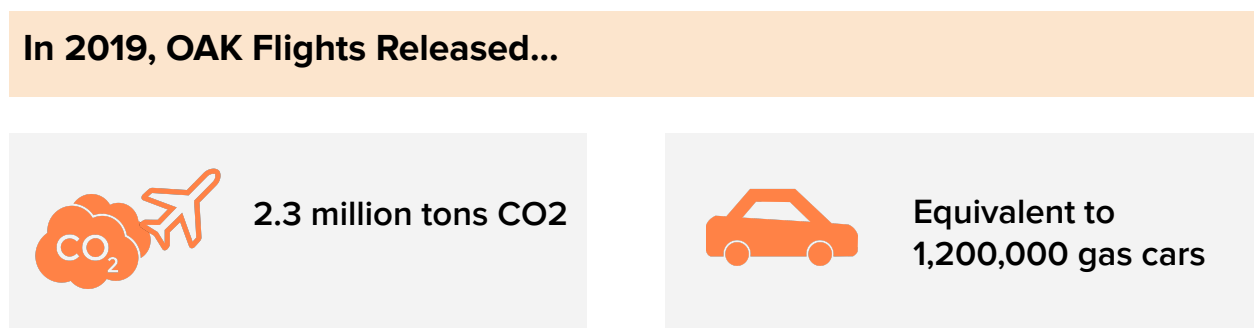
<sup>96</sup> *Busted: 5 tricks the aviation industry plays on us to appear green*, Greenpeace International (Jun. 1, 2022), <https://www.greenpeace.org/international/story/54040/busted-5-tricks-the-aviation-industry-plays-on-us-to-appear-green/>.

<sup>97</sup> Damien Gayl, *Just one of 50 aviation industry climate targets met, study finds*, The Guardian (May 10, 2022), <https://www.theguardian.com/environment/2022/may/10/just-one-of-50-aviation-industry-climate-targets-met-study-finds>.

and increased cloudiness due to contrail formation.<sup>98</sup> In 2019, US airlines used 23 billion gallons of jet fuel.<sup>99</sup> Before the COVID-19 pandemic, the International Civil Aviation Organization (ICAO) predicted aviation carbon emissions would triple by 2050.<sup>100</sup> This prediction is in stark contrast to the stated airline industry goal of reaching net-zero carbon output by 2050.<sup>101</sup>

The proposed expansion Project at OAK would be a disastrous step backwards from California’s climate goals<sup>102</sup> and the scientific imperative to cut emissions in half by 2030. **By the Port’s own estimates, the Project would increase OAK’s aircraft CO2 emissions by 47% over 2019 levels by 2038.**<sup>103</sup> This is just one type of climate change-inducing emission out of many that would dramatically increase with an OAK expansion.

Figure 7: Projected Increases of CO2 Emissions at OAK by 2038 with Expansion Project<sup>104</sup>



Expanding OAK for unknown potential short-term profits will irrevocably hurt Oakland and the planet. Climate change disproportionately harms marginalized communities earliest and most severely.<sup>105</sup> In East Oakland this looks like: compounded bad air quality on the hottest days of the year from wildfire smoke and emergency power generation due to grid failure, some of the oldest housing stock in the country amplifying extreme heat and air quality impacts, heat island effect

<sup>98</sup> Arter et al., *Air quality and health-related impacts of traditional and alternate jet fuels from airport aircraft operations in the U.S.*, Environment International, Vol. 158 (Jan. 2022).

<sup>99</sup> O'Malley et al, Meeting The SAF Grand Challenge: Current and Future Measures to Increase U.S. Sustainable Aviation Fuel Production Capacity, ICCT (Nov., 2023), <https://theicct.org/publication/us-saf-production-capacity-nov23/>.

<sup>100</sup> *Reducing emissions from aviation*, European Commission (last accessed Sept. 9, 2024), [https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-aviation\\_en](https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-aviation_en).

<sup>101</sup> *Net-zero carbon emissions by 2050*, International Air Transport Association (IATA) (Oct. 4, 2021), <https://airlines.iata.org/2021/10/04/net-zero-carbon-emissions-2050>.

<sup>102</sup> In 2022 California codified its commitment to achieve net-zero no later than 2045 in Assembly Bill 1279.

<sup>103</sup> DEIR Table 3.7-3.

<sup>104</sup> *Airport Tracker*, ICCT & Transport and Environment (last visited Sept. 9, 2024), <https://airporttracker.org/>.

<sup>105</sup> See e.g. Solomon et al., *The Climate Gap and the Color Line—Racial Health Inequities in Climate Change*, New England Journal of Medicine, 388, 943-949 (2023); *EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States*, US EPA (2021), <https://www.epa.gov/newsreleases/epa-report-shows-disproportionate-impacts-climate-change-socially-vulnerable>.



due to lack of green spaces, high flooding risk bringing toxic groundwater and vapors into contact with residents, and severe health outcomes in all climate disasters (eg extreme heat or increased pandemic) due to generational environmental health impacts causing underlying health conditions.

In addition to the human and ethical cost of aviation contributions to climate change, doubling down on fossil fuel aviation would cost Oakland taxpayers billions of dollars in the long run. The Social Cost of Greenhouse Gases is a metric used to calculate the monetary cost of climate change impacts caused by greenhouse gas emissions.<sup>106</sup> With a social cost of carbon at \$190 per ton, existing OAK flight emissions come at a cost of \$437 million per year; over 50 years that is \$22 billion.<sup>107</sup>

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<sup>106</sup> US EPA, *EPA Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* (Nov. 2023), [https://www.epa.gov/system/files/documents/2023-12/epa\\_scghg\\_2023\\_report\\_final.pdf](https://www.epa.gov/system/files/documents/2023-12/epa_scghg_2023_report_final.pdf).

<sup>107</sup> Applying EPA Social Cost of Carbon (*Id.* at Table ES.1.) to ICCT data on OAK flight carbon emissions, based on Revenue Passenger Kilometers (*Technical Note Airport Emissions Tracker Data*, International Council on Clean Transportation (Oct. 2023), [https://airporttracker.org/assets/Airport%20Tracker\\_Technical%20Note.pdf](https://airporttracker.org/assets/Airport%20Tracker_Technical%20Note.pdf)).

## 9) Alternative Fuels are Not a Solution to Airport Pollution

Airlines often promote sustainable aviation fuel (SAF) as a way to reduce the climate impact of aviation despite the fact that SAF is not environmentally friendly and will not be widely available for decades to come. SAF is typically produced from a variety of feedstocks including plant materials, such as fuel crops, and waste products like used cooking oil and municipal waste. Although SAF releases less CO<sub>2</sub> than fossil jet fuel at the point of combustion, many types of SAF have equal or greater lifecycle carbon and ecosystem impacts than fossil fuels.<sup>108</sup> SAF combustion also does not reduce harmful air quality emissions such as NO<sub>x</sub> and VOCs that make nearby communities and workers sick.<sup>109</sup> Refining SAF also keeps century-old fossil fuel refineries in business and refinery communities and workers by the price for continued toxic air pollution (see more in Section 4). A 2020 study commissioned by the Bay Area Air Quality Management District found that SAF does not reduce air quality impacts of OAK operations.<sup>110</sup>

Alternative fuels for aviation will not be viable for decades to come. The amount of SAF produced in 2023 met only 0.2% of global jet fuel demand.<sup>111</sup> Although Southwest has stated a voluntary goal to replace 10% of total jet fuel consumption with SAF by 2030, SAF currently makes up less than 0.1% of Southwest's jet fuel consumption in 2024.<sup>112</sup> There is not enough crop or waste feedstock to produce large volumes of SAF and to meet jet fuel demand with SAF, thousands of bio-refineries would need to be built at a \$1-2 trillion USD cost in the next decade.<sup>113</sup> Existing technology only allows blending up to 50% SAF with traditional fossil jet fuel.<sup>114</sup> Neither the US federal government nor the State of California incentivise SAF enough to support significant uptake.<sup>115</sup> Hydrogen and electric planes are not expected to be viable until after 2050, far too late to prevent climate disaster, and have their own associated environmental harms to overcome.<sup>116</sup>

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<sup>108</sup> *Stay Grounded Fact Sheet 4: Biofuels*, Stay Grounded (Oct. 2021), SG\_factsheet\_8-21\_Biofuels\_print\_Lay02.pdf.

<sup>109</sup> Arter et al. (2022).

<sup>110</sup> Gladstein, Neandross & Associates, Sustainable Aviation Fuel: Greenhouse Gas Reductions from Bay Area Commercial Aircraft, BAAQMD (Oct. 2020), <https://www.baaqmd.gov/~/media/files/planning-and-research/research-and-modeling/saf-report-final-for-distribution-to-baaqmd-pdf.pdf?la=en>.

<sup>111</sup> *Net zero 2050: sustainable aviation fuels*, IATA (May 2024) Net zero 2050: sustainable aviation fuels (iata.org).

<sup>112</sup> *Sustainable Aviation Fuels*, Southwest, (last visited July 18, 2024) Sustainable Aviation Fuels | Southwest Airlines.

<sup>113</sup> *Stay Grounded Fact Sheet 4: Biofuels*.

<sup>114</sup> *Id.*

<sup>115</sup> O'Malley et al. (2023); International Council on Clean Transportation, *Comments on Low Carbon Fuel Standard Initial Statement of Reasoning* (Feb. 20, 2024).

<sup>116</sup> *Stay Grounded Fact Sheet 2: Electric Flight*, Stay Grounded (Oct. 2021), [https://stay-grounded.org/wp-content/uploads/2021/08/SG\\_factsheet\\_8-21\\_Electricity\\_print\\_FIN\\_korr.pdf](https://stay-grounded.org/wp-content/uploads/2021/08/SG_factsheet_8-21_Electricity_print_FIN_korr.pdf);

## 10) Just Transition in Oakland

Just Transition is a set of principles, processes, and practices that move us from an extractive pollutive economy to a regenerative and sustainable economy that is community-driven and distributes its benefits equitably among the community. “Just Transition strategies were first forged by labor unions and environmental justice groups, rooted in low-income communities of color, who saw the need to phase out the industries that were harming workers, community health and the planet and at the same time provide just pathways for workers to transition to other jobs.”<sup>117</sup> Creating a Just Transition is urgent, as we see the result of centuries of global plunder and exploitation in the climate crisis, widening poverty and wealth inequality, and escalating violent enforcement of the current system. “An economy based on extracting from a finite system faster than the capacity of the system to regenerate will eventually come to an end—either through collapse or through our intentional reorganization. Transition is inevitable. Justice is not.”<sup>118</sup>

Just Transition envisions an economy and way of life that is very different from the one we are in now. This requires stopping the bad while at the same time building the good. “Just transition initiatives are shifting from dirty energy to energy democracy, from funding highways to expanding public transit, from incinerators and landfills to zero waste, from industrial food systems to food sovereignty, from gentrification to community land rights, from military violence to peaceful resolution, and from rampant destructive development to ecosystem restoration. Core to a just transition is deep democracy in which workers and communities have control over the decisions that affect their daily lives.”<sup>119</sup> The process of transition must also be just and equitable. “Just Transition describes both where we are going and how we get there.”<sup>120</sup>

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*Stay Grounded Fact Sheet 3: Hydrogen Flight*, Stay Grounded (Oct. 2021), [https://stay-grounded.org/wp-content/uploads/2021/08/SG\\_factsheet\\_8-21\\_Hydrogen\\_FIN\\_Korr.pdf](https://stay-grounded.org/wp-content/uploads/2021/08/SG_factsheet_8-21_Hydrogen_FIN_Korr.pdf).

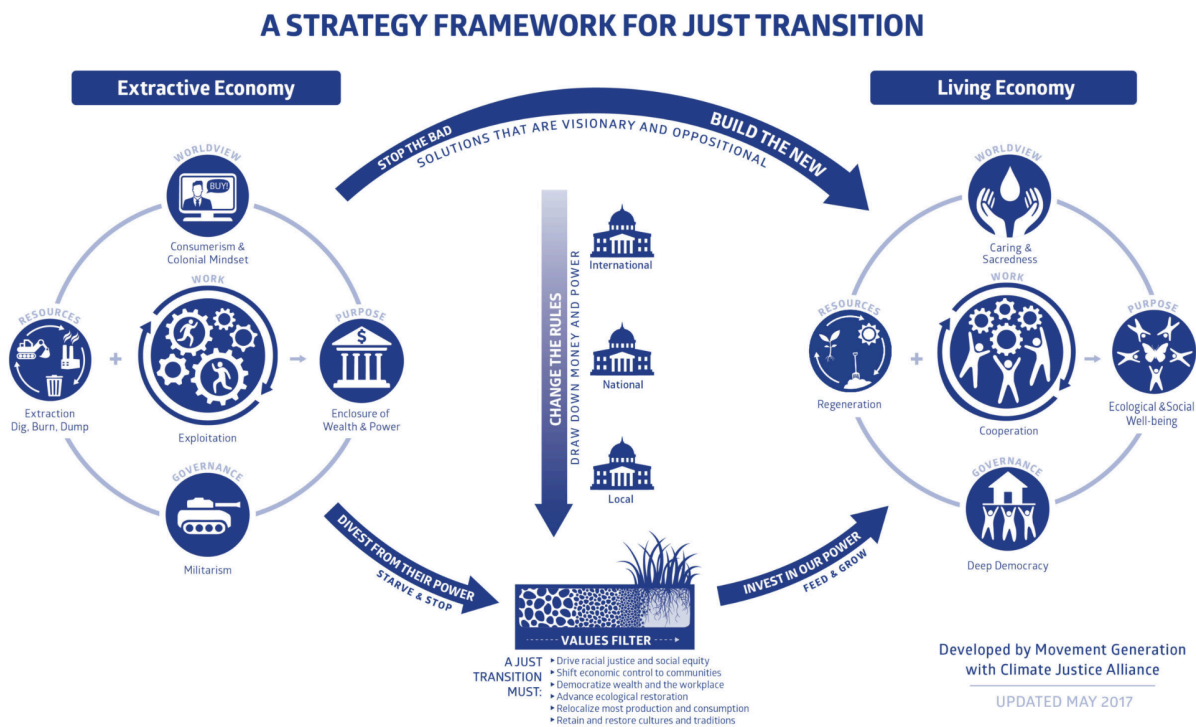
<sup>117</sup> *Just Transition- A Framework for Change*, Climate Justice Alliance (last visited Sept. 9, 2024), <https://climatejusticealliance.org/just-transition/>.

<sup>118</sup> *Just Transition: Overview*, Movement Generation (last visited Aug. 22, 2024), <https://movementgeneration.org/justtransition/>.

<sup>119</sup> Climate Justice Alliance (2024).

<sup>120</sup> *Id.*

Figure 8: Just Transition Framework<sup>121</sup>



In the spirit of Just Transition, East Oakland residents and airport workers have come together to oppose the expansion of OAK and demand that our local government put people and a livable future before profit. While proponents of the expansion Project emphasize a desire to create new jobs, airport workers have many labor justice concerns. The airline industry has proved to earn record profit and growth but there is no evidence to suggest that this is directly correlated to the creation of good jobs.<sup>122</sup> Essential airport workers—cabin cleaners, wheelchair agents, baggage handlers and security personnel—are underpaid and under-protected against the environmental and health impacts caused by aviation.<sup>123</sup> Airlines that profit from airport expansion have fragmented airport workplaces by contracting out their service jobs to dozens of different companies with varying standards for pay, benefits and training.<sup>124</sup> Contracted employees frequently report backbreaking workloads. More flights could exacerbate this

<sup>121</sup> Climate Justice Alliance (2024); Movement Generation (2024).

<sup>122</sup> *Turbulence Ahead- What LAX's Expansion Means for the City of Los Angeles' Legacy on Racial Equity & Environmental Justice*, SEIU-USWW (Jun. 2021), 25, <https://www.seiu-usww.org/wp-content/uploads/2021/06/turbulenceahead.pdf>.

<sup>123</sup> Karla Walter & Aurelia Glass, *Airport Service Workers Deserve Good Jobs*, Center for American Progress (Mar. 2023), <https://www.americanprogress.org/wp-content/uploads/sites/2/2023/03/Airport-Service-Workers-Deserve-Good-Jobs-1.pdf>.

<sup>124</sup> SEIU-USWW (2021).

problem, especially in a non-union environment where employees fear raising health and safety concerns. Good jobs do not exploit and poison workers.

While workers and residents fight for a livable future, the airline industry uses bully tactics to oppose the inevitable Just Transition away from fossil-fuel transit. Proponents of expanding OAK have openly stated that they are pursuing the Project in part because Southwest Airlines has threatened to dramatically reduce operations or even leave Oakland if the airport does not expand. Trading human wellbeing for profit is a standard tactic of the aviation industry. As SEIU-USWW stated in DEIR comments:

“[Commercial] airlines turn their profits toward actively undermining the standards of the workers most affected by their activity. Trade groups like Airlines for America sue over and lobby against living wage standards, sick leave, and healthcare for the subcontracted, low-wage workers essential to the industry. Commercial airlines contribute to serious health problems for workers, their families and their communities and then the airlines spend their resources attacking the very tools these groups have to cope with those health outcomes. Every major domestic airline is a member of Airlines for America, including Southwest, who possess about 80% market share in Oakland’s airport and whose business plans are key to the rationale for this Project...**OAK has no obligation to permanently enshrine significant harms to its most vulnerable workers and neighboring communities for the sake of accommodating the business plans of a multi-billion dollar corporation still reliant almost entirely on polluting fossil fuels.**”<sup>125</sup>

The basic needs of existing workers should be met before investing millions into an expansion project. An airport expansion would mean a continuation of majority non-union contractors where workers are denied access to living wages and access to affordable health coverage. Just Transition includes a just and fair process for workers to organize and access the benefits and protections that come with having a union.

A Just Transition in Oakland means stopping the bad– no expansion of an airport that hurts people and planet– and building the good– a community-led future of green transit with healthy and fair jobs. The future of Oakland depends on putting the right to clean air, healthy and well-paying jobs, safe neighborhoods, and investments in the people over the profit of destructive industries.

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<sup>125</sup>SEIU-USWW Comment on DEIR (Oct. 16, 2023), [https://www.oaklandairport.com/wp-content/uploads/organizations/231016\\_SEIU%20United%20Service%20Workers%20West\\_Coward,%20Casey.pdf](https://www.oaklandairport.com/wp-content/uploads/organizations/231016_SEIU%20United%20Service%20Workers%20West_Coward,%20Casey.pdf).

## 11) Community Goals

Workers and East Oakland residents urge City of Oakland and Port of Oakland officials to **1) Slow Down & Engage, 2) Publish a Thorough Recirculated Environmental Impact Report, and 3) Oppose the Expansion.**

### 1. **Slow Down & Engage: Conduct Necessary Studies and Community Engagement before Publishing Further CEQA Documents**

- a. Conduct a Health Impact Assessment as urged by the Alameda County Public Health Department: “HIAs typically look at who is most likely to be affected, explore whether the positive or negative impacts affect certain groups of people more than others, and consider health holistically, including broader social, economic, and environmental influences. HIAs can provide evidence-based recommendations to enhance predicted positive health impacts and minimize or mitigate negative ones.”<sup>126</sup>
- b. Seek Community Input: Public awareness of the proposed expansion remains extremely low. As detailed in this report, expanding OAK would cause serious health, labor, and climate change impacts for communities throughout the Bay Area. In order to serve the public, not corporate interests, the Port should:
  - i. Create clear summary documents (including project description and anticipated environmental health harms) in multiple languages. There are no FAQ documents available currently.
  - ii. Conduct community outreach and engagement sessions, starting with communities neighboring OAK and airport workers.
  - iii. Engage with community members who are already active in efforts to improve East Oakland’s air quality, including the East Oakland Community Emissions Reduction Plan (CERP) Community Steering Committee meetings in collaboration with CBE and BAAQMD.
  - iv. Accessible outreach: outreach and events should take place through existing community spaces such as cultural centers, schools, and libraries. All outreach should be conducted in languages most spoken by communities.
- c. Collaborate with Experts: public health, environmental justice, environmental law, and labor justice experts (including peer government agencies) all filed extensive comments to the Draft Environmental Impact Report (DEIR). Port Commissioners should meet directly with experts to be fully informed and collaborate on alternative plans before making a generational environmental and economic development decision.

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<sup>126</sup> ACPHD Comment on DEIR.

## 2. Publish a Thorough Recirculated Environmental Impact Report (REIR):

- a. Under the California Environmental Quality Act, the public has a right to be informed of and comment on projects with potentially significant environmental impacts. The public cannot do so when a DEIR is inaccurate, incomplete, or unreasonably indefinite. This DEIR is all three, as detailed in numerous comment letters from expert organizations and peer government agencies.
- b. When a FEIR is published there is no public comment period and the lead agency typically votes on approving the project within days of its release.
- c. A REIR is required to remedy the fatal flaws of the DEIR and provide for meaningful public notice and comment. Major changes that must be reflected in a REIR include, but are not limited to:
  - i. Health Impact Assessment
  - ii. Mitigation measures for all types of significant impact (air quality, GHG, human health risk, noise, etc)
  - iii. Definitely describe the project (finite number of gates and positions, description of fuel system expansion, hazardous waste cleanup plans, etc)
  - iv. Remove inaccurate core assumption that flights will continue regardless of expansion
  - v. Use a reasonable baseline year that reflects a post-pandemic world of aviation
  - vi. Disclose methodology and inputs used to calculate air quality, climate, human health risk, noise and vibration, and safety impacts
  - vii. Detailed, good faith analysis and consideration of Project Alternatives

## 3. Oppose Expansion:

- a. Modernization and improvement are still possible without increasing environmental justice harms. The Port should adopt a project alternative that reduces existing environmental harms to the fullest extent possible, addresses labor concerns for essential workers, maximizes aviation efficiency, and creates an attractive experience for travelers.
- b. Invest in healthy good jobs, green transit, and a livable future. The Port should partner with community-based economic justice organizations, organized labor, environmental justice organizations, and green transit experts to develop transit and shipping plans for the 21st century rather than doubling down on a dying fossil fuel industry.