Summary and Commentary: OAK Airport Final Environmental Impact Report

by the Stop OAK Expansion Coalition

November 2024

On October 17, 2024, the Port of Oakland released the Final Environmental Impact Report (FEIR) on its plan to modernize and expand the Oakland airport (OAK). It makes no significant changes from the Draft Environmental Impact Report (DEIR), which generated broad public opposition due to the negative health impacts increased aircraft emissions and noise, particularly in East Oakland, which is next to the airport. This summary and commentary provide basic information on the lengthy and complex report.

The FEIR is 580 pages long and has 19 Appendices (A-R). Appendix P, which has public comments made on the DEIR and the Port's responses, is 2161 pages long.

This summary is an attempt to capture the main points of interest to people living in the area served by OAK. But because the document is so long and detailed, it is not intended to be a comprehensive overview.

Overall, the FEIR finds that air pollution, greenhouse gas and noise emissions would be "significant and unavoidable" because the Port does not regulate them. However, the Port provides the infrastructure that makes this possible and must take responsibility for the consequences of its actions.

Useful Links

Coalition Press Release on FEIR **Oct 17, 2024**

Coalition Letter to Port Requesting Updated Recirculated EIR **Oct 3, 2024**

Coalition letter to Port requesting Health Impact Assessment **July 22, 2024**

FEIR: Port of Oakland webpage on OAK modernization and expansion

The coalition has asked the Port Board of Commissioners not to certify the FEIR and instead return it to the Port staff. We further call on the Port to engage community stakeholders and develop a modernization plan for the airport that protects public health and looks to an environmentally sustainable future. The current report is potentially in violation of the California Environmental Quality Act (CEQA) and is inconsistent with state and local policies to address the harms of climate change and air and noise pollution.

This summary focuses on four areas in the FEIR:

I. Air pollution increases and impacts
II. Greenhouse gas emissions and costs
III. Forecasts for future passengers, cargo and private jet traffic
IV. Alternatives presented and considered

Quotes from the FEIR appear in italics.

I. AIR POLLUTION INCREASES AND IMPACTS

Sources: Executive Summary and Chapter 3, Section 3.3.3.3, Appendix E: Human Health Risk Assessment, and Appendix F: Air Quality.

Executive Summary: Overview statement that the Project does not conflict with or obstruct the air district's Air Quality Plan.

Context:

Because the San Francisco Bay Area is in "nonattainment" of state (CEQA) air quality standards, the State and the Bay Area Air Quality Management Board, (BAAQMD) are mandated to implement air quality improvement plans.

New projects must not conflict with or obstruct implementation of the applicable Air Quality Plan, which the FEIR identifies as BAAQMD's 2017 Clean Air Plan.

FEIR:

The FEIR claims that neither the construction nor the operation phase of the Project will do so to a significant degree. It states (emphasis added):

> *"The primary goals of the AQP [Air Quality Plan—the BAAQMD 2017 Clean Air Plan] are to attain air quality standards, reduce population exposure and protect public health in the Bay.*

Expanding airport operations will clearly conflict with these primary goals, yet the FEIR contends (emphasis added):

> *"The Proposed Project supports the primary goals of the AQP because it would modernize existing facilities to efficiently accommodate both existing and market-based demand for passenger and cargo shipment at OAK. The Proposed Project would allow for more efficient movement of passengers in and around the Airport which should help reduce idling and delays at the Airport*." (Chapter 3, p 3.3.32)

In other words, the FEIR claims that the entire modernization and expansion of the airport supports the air quality plan because the proposed modernization might decrease instances of airplanes running their engines while waiting for passengers to inefficiently make their way through the terminal to the plane! Any such avoidable idling could contribute only a miniscule fraction of the airport's current emissions.

The paragraph does not acknowledge that the project is an airport expansion, which will cause significant net increases in OAK's harmful impacts on air quality, public health, and climate. In fact, read literally, it denies the expansion, stating that modernization of existing facilities will allow OAK to "*accommodate both existing and market-based [i.e., increased] demand*."

In response to multiple public comments highlighting the climate imperative to DECREASE rather than increase air travel, the FEIR states: "*The commenter's statement regarding decreasing air travel is acknowledged. The Port does not have the authority to require air travelers to use other*

modes of transportation." But OAK is not simply preparing to respond to what are now known to be faulty projections of increased passenger demand. On the contrary, through this modernization and expansion plan and aggressive advertising, OAK is attempting to induce increased passenger demand.

Expected Impacts of specific air contaminants: Ozone, Particulate Matter, and Toxic Air Contaminants

- **Ozone: "significant and unavoidable" increases in ozone precursors**

Context:

Breathing ozone causes coughing, difficult and/or painful deep breathing, inflamed and damaged airways, heightened susceptibility to lung infections, aggravation of lung diseases such as asthma, emphysema, and chronic bronchitis, and increased frequency of asthma attacks.

These effects may lead to increased school absences, medication use, visits to doctors and emergency rooms, and hospital admissions. Some studies in locations with elevated concentrations also report associations of ozone with deaths from respiratory causes.

Long-term exposure to ozone is likely to be one of many causes of asthma development. (Source: EPA)

The Bay Area and downwind communities are in "nonattainment" for ozone. That means we breathe air with unhealthy concentrations of ozone and new projects must not conflict with the Air Quality District's plan to decrease ozone levels.

As described in BAAQMD's 2017 Clean Air Plan: *To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors—reactive organic gases (ROG) and nitrogen oxides (NOx)—and reduce transport of ozone and its precursors to neighboring air basins.* Executive Summary, p ES-2

FEIR

The FEIR acknowledges that the expansion will increase emissions of both ozone precursors (reactive organic gases and nitrogen oxides) by substantially more than the threshold of significance set by BAAQMD. Per the FEIR, between 2019 and 2038, Nitrogen Oxide (NOx) emissions are expected to increase by 558.7 tons per year, almost 60 times the BAAQMD threshold of significance of 10 tons per year. Also, between 2019 and 2028, emissions of Reactive Organic Gases (ROG) are expected to increase by 17.2 tons per year, vs BAAQMD's threshold of significance of 10 tons per year. (Source: Table 3.3-12).

The FEIR claims that OAK is not able to avoid these significant ozone precursor increases because:

> "*the majority of ROG and NOX emissions result from aircraft operations, which the Port does not have the authority to regulate*." (Source: TABLE ES-2)

However, the airport does have the authority to avoid the increases by choosing no expansion.

- **Particulate Matter: increases, characterized as insignificant**

Context:

Breathing air with higher concentrations of microscopically fine particles (PM10 and PM2.5), whether for a short time (hours to a day) or on a long-term basis, increases the risk for many negative health outcomes throughout our lifespans, including

- premature births and low birth weights
- impaired development of children's lungs and asthma incidence and severity
- impaired cognitive, behavioral, and psychomotor development in children
- cardiovascular disease, including heart attacks, strokes, and heart failure
- chronic obstructive pulmonary disease and several other respiratory diseases
- chronic kidney disease
- cancer (lung and others)
- Alzheimer's disease and Parkinson's disease. (Sources: various)

People with heart or lung diseases, children, older adults, minority populations, and low socioeconomic status populations are the most likely to be affected by particle pollution exposure. (Source: EPA)

Because of growing scientific evidence of such harms being caused by particulate matter even at low concentrations, this year the EPA strengthened the National Ambient Air Quality Standards for Particulate Matter, lowering the health-based annual PM2.5 standard from 12.0 to 9.0 micrograms per cubic meter.

The Bay Area is in "nonattainment status" for the state and recent federal standards (12.0 micrograms per cubic meter) for PM2.5 and as well as for the state standard for PM10. Therefore, as for ozone precursors, new projects must not conflict with or obstruct the BAAQMD 2017 Clean Air Plan, which aims to attain air quality standards, reduce population exposure and protect public health in the Bay Area—i.e., to reduce particulate matter emissions, both PM10 and PM2.5.

FEIR

The FEIR acknowledges that its expansion will increase PM2.5 and PM10 emissions. However, it characterizes the increases as "insignificant" because its projected 2038 emissions vs 2019's are below the BAAQMD threshold of significance: an expected increase of 5.0 vs the threshold of 10.0 tons per year of PM2.5; and an expected increase of 4.9 vs the threshold of 15 tons per year of PM10. (Source: FEIR Table 3.3-12, p. 3.3-31)

OAK flights are currently less frequent than in (pre-COVID) 2019, and the expansion is intended to accommodate increasing flights through 2050. So, using today as the baseline and 2050 as end-point, the airport expansion may cause an increase in PM2.5 emissions nearing or surpassing the threshold.

In addition, this year the EPA lowered the federal PM2.5 annual standard from 12 to 9 micrograms per cubic meter, which will force CARB and BAAQMD to institute more intensive measures to further decrease PM2.5 emissions. Thresholds currently listed may soon be out of date.

Bottom line: the airport expansion will increase deadly PM2.5 and PM10; this conflicts with the Bay Area's Air Quality Plan's goals of attaining PM2.5 and PM10 standards. The projected PM2.5 emissions may approach the current BAAQMD threshold of significance; and that threshold of significance may have to be substantially lowered due to the recent science-based strengthening of the federal PM2.5 standard.

- **Toxic Air Contaminants (TAC)**

1) Cancer risks

The FEIR claims that cancer risk to residents due to OAK emissions will actually decrease once construction is complete. How could that be? "*Over 80 percent of cancer risk is driven by DPM [diesel particulate matter], and DPM emissions from both on-road truck and shuttle trips, as well as from Airport GSE [ground service equipment], would be lower.*"

The increase in cancer risk due to a substantial increase in flights and jet engine exhaust would be expected to far outweigh the decrease due to decreased ground vehicle diesel exhaust. Research into the nature, behavior across space and time, and the health impacts of aviation exhaust is in its infancy compared with other forms of transportation exhaust, but jet engine exhaust is similar to diesel exhaust. It contains large amounts of ultra-fine particles, the tiniest-sized subset of PM2.5, which are breathed most deeply into the lungs and cross most readily into the bloodstream, tissues, and organs. Attached to these nanoparticles are polycyclic aromatic hydrocarbons (PAHs), many of which are proven or probable carcinogens according to the Centers for Disease Control (CDC). In addition, jet engine emissions include reactive organic gases and metals. (Source: A review of health effects associated with exposure to jet engine emissions in and around airports)

2) Chronic non-cancer hazards and Acute hazards

Context:

> *TACs, also known under the federal programs as hazardous air pollutants (HAPs), are pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health. Health effects of TACs may include cancer, birth defects, and immune system and neurological damage. . In general, air toxics that may cause cancer have no threshold concentration below which risks do not occur. However, standards for carcinogenic air toxics are established* … (FEIR, page 3.3-7)

FEIR

The FEIR predicts an increase in the 8-Hour Hazard Index of twice the threshold of significance for on-airport Workers. (Table 3.3-15: Chronic non-cancer human health hazards for maximally exposed individuals during construction and operation periods compared to existing conditions)

It predicts an increase in the acute Hazard Index of 3.4 times the threshold of significance for on-airport workers. (Table 3.3-16, Peak incremental acute (1 hour) non-cancer health hazards during construction and operation periods)

In the mitigation column, as for the other "significant and unavoidable" project impacts, the FEIR repeats its statement of helplessness to regulate. It repeats that it will continue the same current practice. It then adds a mitigation measure (not listed in the Draft EIR, discussed below, then acknowledges the planned failure to reduce the impact to less-than-significant.

- Statement of helplessness:
  The majority of 8-hour non-cancer and acute (1- hour) non-cancer human health hazard effects for on-Airport workers would result from aircraft operations, which the Port does not have the authority to regulate. Again, the Port could avoid the increase by not expanding.
- Continuation of current practice:
  The Port has provided electrical infrastructure throughout the terminals and cargo areas for use by commercial and cargo airlines and would install this electrical infrastructure in the new terminal and relocated cargo area.
- Newly added mitigation measure:
  The Port commits to providing environmental awareness training for on-Airport workers (Port employees) and making appropriate personal protective equipment (PPE) available upon request. For on-Airport workers who are not Port employees, the Port will collaborate with tenants and provide environmental awareness documentation and materials to conduct training for their own employees. (Table ES-2 and p. 3.3-47)

It is not clear that this generally worded commitment provides any mitigation for airport workers' increased toxic air contaminant exposures. Will the environmental awareness trainings educate workers about specific hazards and include practical, feasible actions by individual workers and/or their supervisors to decrease exposure?

For instance, will workers and supervisors be taught about locations, times, or events with increased TAC concentrations AND recommendations to limit the time spent, limit physical exertion (and thus deeper, more rapid breathing), and/or wear personal protective equipment (PPE) in those situations? If time should be limited, supervisors should receive and enforce time limits – that should not fall to individual workers, who likely feel pressure to perform maximally. Will PPE use be included in the awareness trainings, or do workers have to come up with the idea and make the request? What PPE will be recommended, and made available, and how effective is it for the relevant TACs? What will the protocols be for PPE fitting, training, and individual testing of the seal to the face in work conditions, including movement, head turning, and loud talking or shouting? Is it reasonable to expect workers to tolerate the PPE and function effectively for the duration of situations with heightened exposure (or the entire shift, if the excessive exposure spans the shift)?

If the environmental awareness training only informs workers that the job increases their exposure to certain TACs and thus their risk for certain negative health outcomes but does not provide them with tools to decrease their exposures, there is no mitigation.

FEIR Acknowledgement: *However, this would not reduce impacts to less-than-significant levels.*

Be aware of differing meanings for the terms "sensitive receptors" and "cumulative"

1) **Sensitive Receptors**

The California Air Resources Board states: "Sensitive receptors are children, elderly, asthmatics and others whose are at a heightened risk of negative health outcomes due to exposure to air pollution." The EPA explains: "People with heart or lung diseases, children, older adults, minority populations, and low socioeconomic status populations are the most likely to be affected by particle pollution exposure."

The FEIR uses a different definition of "sensitive receptors", namely "Maximally Exposed Individuals in each of five categories—i.e., individuals "*with the highest expected exposure durations and exposure frequencies (e.g., residents).* (Appendix E.5.2, p E-39*)* The categories are: on-Airport (non-project) workers, off-Airport workers, off-Airport adult residents, off-Airport child residents, and off-Airport school children (Appendix E 2.2-1, p. E-6)

The FEIR does not address the more severe impacts on residents at heightened risk of negative health outcomes, even though it provides tables in Appendix 7 of relevant area CalEnviroScreen 4.0, Healthy Places Index, and Overall Health & Equity Scores including, for example, that the area is in the 99.5th percentile for asthma. Instead, it dismisses those impacts by stating "*Exposures are, therefore, expected to be less for other populations, even those with higher chemical sensitivities*." (Appendix E.5.2, p E-39)

For in-airport workers only, the FEIR's Human Health Risk Assessment estimates actual concentrations of contaminants the person will breathe. For others, it seems to only estimate the increase in contaminants due to the expansion. Using its definition of "sensitive receptor" (based on the duration of exposure to expected pollutant concentrations in the case of airport workers or to expected increases in pollutant concentrations for others), the FEIR concludes that the Project WILL significantly expose "sensitive receptors"--namely on-airport workers--to substantial concentrations of nitrogen oxides and reactive organic gases.

2) **Cumulative Impacts (FEIR) vs Cumulative air pollution exposure burden**

FEIR:

> *Methodology for Evaluating Cumulative Impacts*
>
> *The BAAQMD has specified that cumulative impact analysis should include evaluating the total impacts from all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source plus contribution from the project.* (Appendix E, E.2.4.5)

CARB, the Community Air Protection Program was established by the California Air Resources Board (CARB) in response to Assembly Bill 617 (2017). The Program's focus is to reduce exposure in communities most impacted by air pollution. East Oakland, neighboring the airport, is one such heavily impacted participating community. According to CARB:

"Cumulative air pollution exposure burden takes into account both the exposure to multiple criteria pollutants and toxic air contaminants and the vulnerability of the population in the community. CARB will work with air districts to examine the six factors described below to assess the cumulative air pollution exposure burden in each [AB 617] community selected:

1. Concentrations of ozone, particle pollution, and toxic air pollutants from measurements, air quality modeling, or other information quantifying air pollution exposure burden.....

5. Public health data that are representative of the incidence or worsening of disease related to air quality such as the prevalence of asthma, heart disease, and low birth weights.

6. Socio-economic factors, such as poverty levels and unemployment rates." (emphasis added)

Appendix E: Human Health Risk Assessment

Context:

A search of the 318-page Human Health Risk Assessment reveals 686 appearances of the word "cancer" but none for asthma, cough, cardiovascular, respiratory, premature, birth, death, dementia, inflammation, heart, lung, or disease.

Furthermore, multiple studies have shown that ultrafine particle plumes due to aircraft can extend at least several miles from airports (Source: Assessing the impact of aircraft arrival on ambient ultrafine particle number concentrations in near-airport communities in Boston, Massachusetts), and existing pollution due to local sources vary significantly block-by-block in nearby communities. Therefore, the additive impact of increased aircraft emissions on vulnerable residents of more polluted areas should be evaluated, rather than just the effect on a hypothetical generic adult or child resident of a golf course near the airport.

The Human Health Risk Assessment is thus detailed but very limited, and a Health Impact Assessment is necessary.

Appendix F: Air Quality

The 898-page Air Quality report includes 23 identical copies of three tables listing area CalEnviroScreen 4.0 Scores, Healthy Places Index Scores, and Overall Health & Equity Scores—one copy of each at the end of each of 23 Detailed Reports focusing on emissions during specified time periods from 2025 through 2030. However, nothing is done with this data. Following these tables are three report headings, each time reporting as follows:

7.4. Health & Equity Measures
No Health & Equity Measures selected.
7.5. Evaluation Scorecard Health & Equity Evaluation
Scorecard not completed.
7.6. Health & Equity Custom Measures
No Health & Equity Custom Measures created.

Thus, it appears the Scores were copied into the report pro-forma and no use was made of the information they contain. A Health Impact Assessment would utilize this data and optimally engage the affected community.

- **Mitigation measures for operational phase impacts deemed potentially significant and unavoidable (Table ES-2)**

1) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

In the Mitigation Measures column the FEIR provides:

- A statement of helplessness to mitigate this impact: *The majority of ROG and NOX emissions result from aircraft operations, which the Port does not have the authority to regulate.* The Port has the authority to avoid increases in ROG and NOX emissions: for example, it can modernize without expanding or to pursue no project.
- one purported mitigation: *The Port has provided electrical infrastructure throughout the terminals and cargo areas for use by commercial and cargo airlines and would install this electrical infrastructure in the new terminal and relocated cargo area.* This is a plan to continue current Port practice--likely necessary to comply with state and regional requirements-- not a proposed mitigation measure.
- This acknowledgement: *However, this would not reduce impacts to less-than-significant levels*.

2) Expose sensitive receptors to substantial pollutant concentrations

The Mitigation column is identical to that for #1: a statement of helplessness, a plan to continue current practices, and an acknowledgement of planned failure to reduce the impact to less-than-significant.

3) Toxic Air Contaminants—Acute Hazards and Chronic Non-Cancer Hazards: Significant impact on On-Airport Workers

The Project would make a "cumulatively considerable contribution to a cumulative impact [on both acute hazards and chronic non-cancer hazards], which would be significant," but which the airport would be powerless to avoid because the majority of these health hazard effects "would result from aircraft operations, which the Port does not have the authority to regulate." Again, OAK could avoid these impacts by modernizing without expanding. For the Final EIR. OAK added the following mitigation measure for each:

> "*The Port commits to providing environmental awareness training for on-Airport workers (Port employees) and making appropriate personal protective equipment (PPE) available upon request. For on-Airport workers who are not Port employees, the Port will collaborate with tenants and provide environmental awareness documentation and materials to conduct training for their own employees. However, this would not reduce impacts to less-than-significant levels and the impact would be potentially significant and unavoidable*." (Source: FEIR p. 1-12)

II. GREENHOUSE GAS EMISSIONS AND COSTS

A very big problem with the expansion of any airport is Greenhouse Gas (GHG) emissions.

The FEIR avoids the issue. It states:

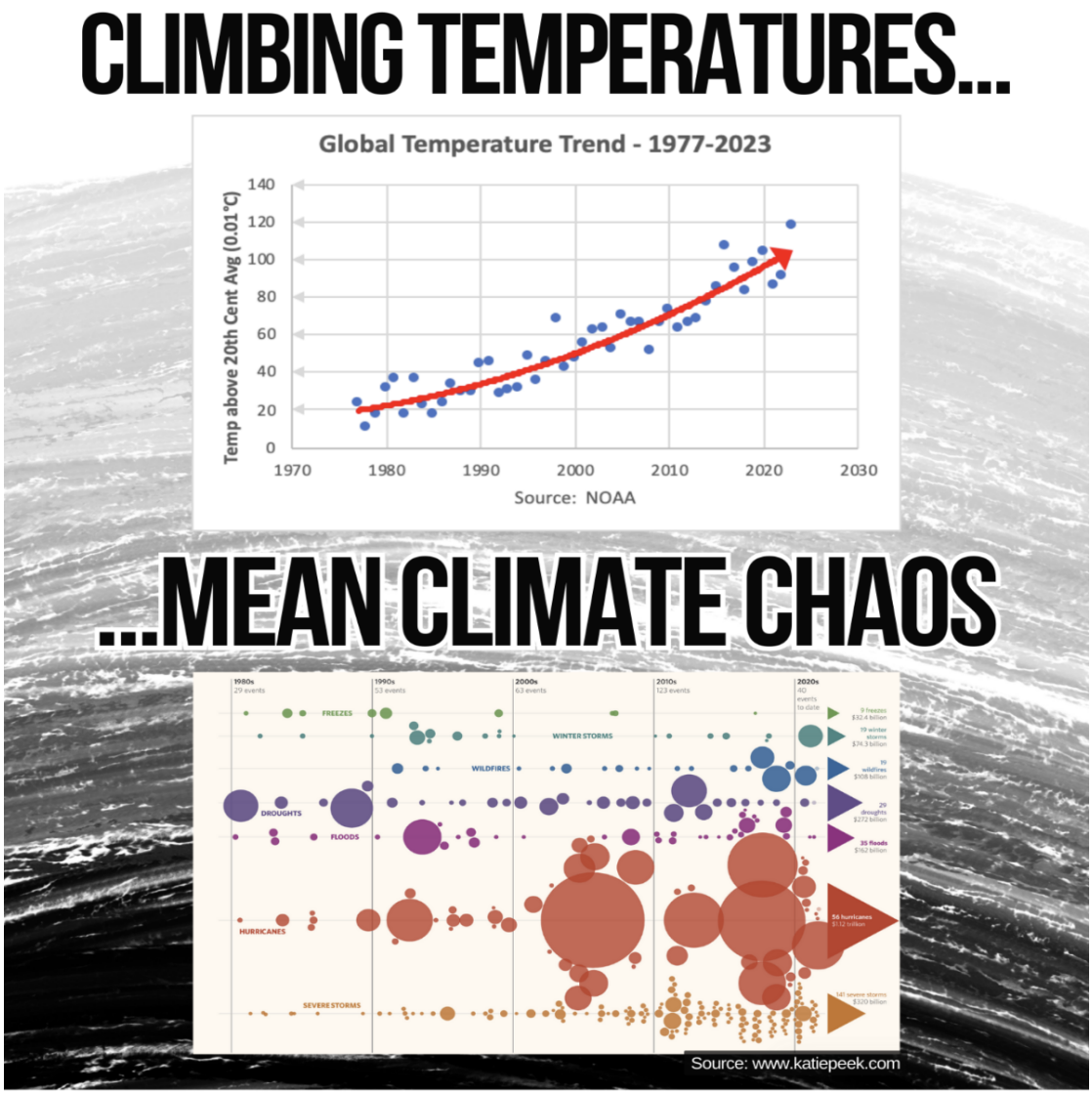
> *Typically, aircraft operations constitute the largest source of GHG emissions associated with an airport. Aircraft emissions are not under local control and would occur in the San Francisco Bay Area Air Basin regardless of permitting and construction of the Proposed Project. . . . .*
>
> *. . .the Port does not have the authority to mitigate air pollutant emissions associated with aircraft operations. Therefore, the impact would be significant and unavoidable.*

Even though CEQA does not require the FEIR to address emissions from flights, that doesn't mean that the Port Commission should ignore them either. The Port may not have the authority to mitigate air pollutant emissions, but it certainly has no obligation to accommodate or promote toxic activities that impact the health of neighboring communities and the planet.

To understand the scale of the problem, this calculation estimates that the outgoing flights from OAK result in over 1 million metric tons (MMT) of emissions annually. For context, this amounts to about 8% of the emissions from Alameda and Contra Costa Counties (not counting the oil refineries).

Using the EPA estimate of $190 per MT as the social cost of carbon, then 2 million MT = $380 million. Based on 56,636 outgoing flights from Oakland in 2019, and 119 passengers per flight, that would be a cost of $56 per passenger per flight. (calculations in same document as above) This does not include health costs from particulate matter, noise and other pollution.

If the Port really achieves a doubling of flights, that would raise the emissions to 4 million MT and a cost of $760 million annually. And this assumes that the cost of global warming does not increase, which it certainly will as temperatures continue to climb, as illustrated in this graphic. The graphic does not include figures from 2024, which has had 24 disasters costing over $1 billion.



350BayArea

In 1980, a billion dollar natural disaster happened every 82 days. **Now it's every 10 days.** The number of Billion-dollar [inflation adjusted] disasters has risen from **3.3 annually** in the 1980's to **20 annually** for each of the first 3 years of the 2020's.

To respond to the climate impacts of air travel, the industry has put hope in so-called "sustainable aviation fuel" (SAF). To date, the scale and efficacy of these fuels is highly questionable at best, and total greenwashing at worst. The amount of land needed to produce SAF crops is staggering, and this use will ultimately take land out of carbon sequestering production, resulting in net negative impacts. To date, SAF is 0.2% of aviation fuels with little hope of increasing this number in significant ways for decades. These reports detail some of these concerns:

https://ips-dc.org/report-greenwashing-the-skies/

https://rhg.com/research/sustainable-aviation-fuels/

We implore the City of Oakland and the Port Commission to be climate and environmental justice leaders. They need to acknowledge both the local health effects of jet exhaust and the true cost of climate change as it relates to air travel. As an example, the following charts show how flying is the most carbon intensive way to get from Oakland to Los Angeles:

Figure 1–GHGs including Private Jets

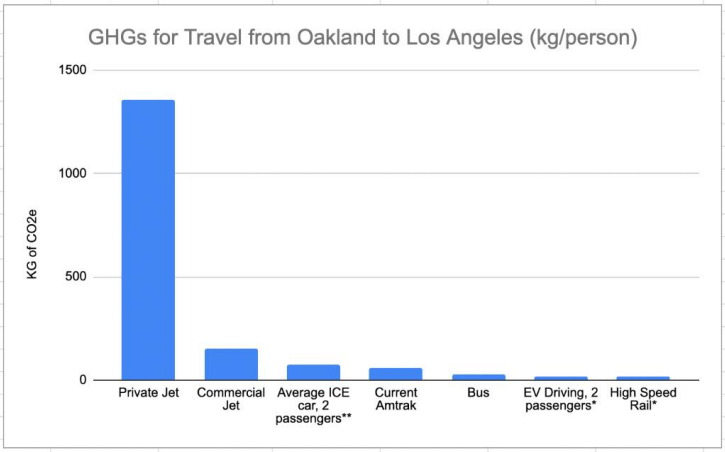


Figure 2–GHGs without Private Jets

Data sources for Figures 1 and 2.

While private jets are truly egregious in regard to GHG emissions, a comparison without this sector is still quite telling (see Figure 2 above).

A Port that is concerned with future generations should acknowledge that the increase in projected flights has not been materializing, and competition for air travel is increasing via internet meeting and high-speed rail. It should modernize the airport with the latest low-emission equipment and techniques, and concurrently consider a cap on the number of flights at or near the present level. This could be done in collaboration with other regional airports, so that the effect would not be just to switch flights to other airports. The time to consider a regional approach is now, and the time to bow to purely economic pressures is past. We need to stop the practice of bureaucratic sleight-of-hand, responsibility ducking, and blame passing and take action as if our future and our kid's futures depend on it.

III. FEIR AVIATION ACTIVITY AND FORECAST INFORMATION

Overview

The FEIR's forecast for future aviation activity at OAK is found in the main body of the report, including the Executive Summary and Chapter 2; Appendix P, which responds to public comments on the Draft EIR; and Appendix C, which is a study conducted by a consulting company and last updated in 2022.

The FEIR Executive Summary lists the Port's objectives as follows:

> • *Objective 1: Modernize existing terminal facilities to optimize safety and security for passengers and workers*.
>
> • *Objective 2: Provide replacement and new terminal facilities that are sized to efficiently accommodate the market-based passenger demand at industry standard levels of service and designed to improve the passenger experience.*
>
> • *Objective 3: Modify and replace existing non-terminal facilities at OAK to accommodate the market-based demand.*
>
> • *Objective 4: Provide adequate aircraft gates, aircraft parking, and terminal facilities that re sized and configured to accommodate the larger-sized aircraft fleet forecast at the Airport. (emphasis added)*

In addition to modernizing the airport, the Port proposes to build a third passenger terminal that would include 16 new, additional gates. This would increase the overall number of gates by 55%. The justification is the "market-based demand" for more air travel. The DEIR and FEIR base the projected demand on outdated, pre-Covid data. Port financial reports for the last three years show that passenger demand has not achieved pre-Covid levels as predicted.

The recently published Final Environmental Impact Report (FEIR) includes, in Appendix C, the same "Comprehensive Aviation Activity Forecast" from the DEIR, published in July 2023. The data, dating from July 2022, is over two years old and has not been updated. The projection is that air passenger traffic will more than double between 2023 and 2038. This would require an average of 5% growth per year, in each of those 15 years. Instead, in 2023 and 2024 passenger traffic did not reach pre-Covid levels. (See the Stop OAK Expansion Coalition's letter requesting a Recirculated Environmental Impact Statement for details.)

Historic Data and Methodology

In FEIR Chapter 2, Project Description, Section 2.3.4 describes Airport Operations with historic data as follows:

> *In 2019, OAK accommodated about 6.7 million enplanements, or about 13.4 million annual passengers (MAP) including both arriving and departing passengers, and about 242,000 total aircraft operations (takeoffs and landings). These included operations by passenger airlines, cargo airlines, general aviation aircraft, and military (see Table 2-1). Most of the operations were by passenger airlines (about 46.7 percent) and general aviation (about 44.4 percent).*

In 2019, OAK accommodated approximately 642,000 annual tons of air cargo. This included belly cargo carried in passenger aircraft and freighter cargo carried in cargo aircraft.

Sec. 2.4 of Chapter 2 gives a basic description of the methodology used for the forecasts. It used 2019 as a baseline "to provide a conservative analysis" and projects out to 2028 and 2038, giving a three-year adjustment for the Covid-19 pandemic.

The results of the forecast are summarized in Table 2-1 (see below).

TABLE 2-1
FORECAST SUMMARY FOR OAK

	Forecast in Calendar Years		
	2019 (Base Year)	2028 (Planning Activity Level 1)	2038 (Planning Activity Level 2)
Passenger Activity			
Passenger Enplanements	6,689,457	8,792,855	12,342,518
Million Annual Passengers (MAP)	**13.4**	**17.6**	**24.7**
Cargo Tonnage			
Belly Cargo (US Tons)	9,678	16,905	24,650
Freighter Cargo (US Tons)	632,727	757,987	859,437
Total Air Cargo Tonnage (US Tons)	**642,405**	**774,892**	**884,087**
Aircraft Operations			
Passenger Airline Operations	113,272	132,830	181,270
Cargo Airline Operations	20,698	23,200	24,800
Business/General Aviation	107,861	110,758	116,431
Military	926	1,000	1,000
Total Aircraft Operations	**242,757**	**267,788**	**323,501**

Source: InterVISTAS - Oakland International Airport Comprehensive Aviation Activity Forecast Report (2019-2038), July 28, 2020, updated June 2021 (**Appendix C**).

This section makes the claim that "The OAK aviation activity projected in these forecasts would occur regardless of whether the Proposed Project is implemented." No explanation of the reasoning or data to support this claim is given. It says its *"forecasting methodologies are consistent with industry practice, meet FAA requirements, and are reflective of regional dynamics."*

Forecast Details: Appendix P

The Port includes copies of all public comments and its response to those comments in Appendix P. In Section P.3.1 Global Responses (pages P-38-41) it notes that "*Many commenters indicated that additional gates would equate to additional flights at OAK."*

The FEIR gives a misleading impression of Federal Aviation Administration (FAA) approval, saying, *"This forecast was approved by the FAA on December 29, 2022."* It fails to disclose that a December 2022 FAA letter to the Port cautions against using the passenger projections that were included in the DEIR as a basis for expansion planning, given the uncertainty of the impact of the pandemic at the time of that letter. That FAA letter also cautions that actual passenger volume not meeting projections will put the funding from the FAA Airport Improvement Program (AIP) funding out of reach.

The FAA letter stated that:

This forecast was prepared at the same time as the evolving impacts of the COVID-19 public health emergency. Forecast approval is based on the methodology, data, and conclusions at the time the document was prepared. However, consideration of the impacts of the COVID-19 public health emergency on aviation activity is warranted to acknowledge the reduced confidence in growth projections using currently-available data. Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

The FEIR then goes on to present data on four medium-hub airports that have built new terminals without increasing enplanements. It says:

> *In the past sixteen years, there have been four other medium-hub airports (Indianapolis International, Jacksonville International, Louis Armstrong New Orleans International, and Sacramento International) that have opened new passenger terminal buildings (see Table P-4). The national number of enplanements is included in this table as a reference to show national trends in enplanements both before and after these four terminal buildings were opened. In comparing the number of passengers prior to and after the opening of the passenger terminal building, it is evident that there is no correlation between the construction of the passenger terminal building and an increase in annual enplanements. This data shows that the passenger terminal building is not of significance in determining the operations capacity of an airport. The demand for air transportation is a function of the socioeconomic conditions of the region served by the airport, not the attractiveness of a new passenger terminal building.* (emphasis added)

It also argues that the project *"would not increase runway capacity but would rather accommodate forecast market demand while meeting FAA safety standards at industry standard levels of service."* It goes on to say:

> *Construction of new facilities are also not elements or factors that affect aviation demand. Rather, as the Transportation Research Board (TRB) Airport Cooperative Research Board (ACRP) outlined in research they conducted, aviation demand is a function of the market. The ACRP was established as an industry-driven, applied research program that develops near-term, practical solutions to problems faced by airport operators. ACRP is managed by the TRB of the National Academies of Sciences, Engineering, and Medicine and is sponsored by the FAA among other sponsors....Additionally, the report discusses the drivers of airport aviation activity, including the following: macroeconomic and demographic factors, airline market factors, air transport production costs and technology, regulatory factors, and substitutes for air travel. The report does not include as a driver of aviation activity specifically the construction or replacement of a passenger terminal building."*

The section concludes with this statement:

> *Additionally, the report discusses the drivers of airport aviation activity, including the following: macroeconomic and demographic factors, airline market factors, air transport production costs and technology, regulatory factors, and substitutes for air travel. The*

report does not include as a driver of aviation activity specifically the construction or replacement of a passenger terminal building.

This section does not tackle the inherent contradiction between the "market demand" for increased passenger flights that drives the project objectives and that fact that it the FEIR is saying a new terminal does not equal more enplanements.

In the rest of Appendix P comments about the induced travel effect of expansion are referred to Appendix C.

Appendix C Oakland International Airport Comprehensive Aviation Activity Forecast Report, July 28, 2020, <u>Updated July 2022</u>

This forecast was prepared by InterVistas Consulting Inc. and Landurm & Brown Incorporated. It is 89 pages long plus Appendices. This summary is based on information in the Executive Summary and Introduction (p. 1-13)

The Executive Summary describes the methodology used and the resulting forecast through 2038. It covers both domestic and international passenger traffic and aircraft operations, which "*include Air Carrier, Commuter Air Taxi, General Aviation ("GA"), Military, and Cargo activity.*"

It goes into some detail about the impact of the Covid-19 pandemic, but then notes that:

> *The forecasts presented in this report are long-term forecasts. While the COVID-19 Pandemic has had a significant impact on aviation demand since 2020, the impact of the pandemic is not expected to change future aviation trends over the long term. Passengers are forecast to recover to pre-pandemic levels in 2023. Passenger operations are forecast to recover to pre-pandemic levels in 2025. Passenger operations recovery is expected to lag total passengers due to higher load factors and up-gauged aircraft. Air cargo and general aviation demand was not negatively impacted by the COVID-19 Pandemic, so those forecasts have not been changed*.

The report then has a series of tables showing "planning activity levels", or PALS. PAL 1 is for 2028 and PAL 2 is for 2038. Table 1-1 summarizes the forecast by both CALENDAR and FISCAL year.

Table 1-1 PAL Forecast Summary

	Forecast in Calendar Years				
	2019	2020	2021	PAL 1 2028	PAL 2 2038
Passenger Activity					
Passenger Enplanements	6,689,457	2,306,666	4,083,962	8,792,855	12,342,518
CAGR (%) (a)				*11.6%*	*6.7%*
Million Annual Passengers ("MAP")	13.4	4.6	8.1	17.6	24.7
CAGR (%) (a)				*11.6%*	*6.7%*
Freighter Cargo Tonnage					
Belly Cargo (U.S. Tons)	9,678	8,902	9,406	16,905	24,650
Freighter Cargo (U.S. Tons)	632,727	630,133	685,279	757,987	859,437
Total Air Cargo Tonnage (U.S. Tons)	*642,405*	*639,035*	*694,685*	*774,892*	*884,087*
CAGR (%) (a)				*1.6%*	*1.4%*
Aircraft Operations					
Passenger Airline Operations	113,272	61,544	72,922	132,830	181,270
Freighter Operations	20,698	21,444	22,142	23,200	24,800
Business/General Aviation	107,861	74,631	90,194	110,758	116,431
Military	926	832	837	1,000	1,000
Total Aircraft Operations	*242,757*	*158,451*	*186,096*	*267,788*	*323,501*
CAGR (%) (a)				*5.3%*	*3.3%*

	Forecast in Federal Fiscal Years				
	2019	2020	2021	PAL 1 2028	PAL 2 2038
Passenger Activity					
Passenger Enplanements	6,708,620	3,460,280	3,368,590	8,757,199	12,252,702
CAGR (%) (a)				*14.6%*	*7.9%*
Million Annual Passengers ("MAP")	13.4	6.9	6.7	17.5	24.5
CAGR (%) (a)				*14.6%*	*7.9%*
Freighter Cargo Tonnage					
Belly Cargo (U.S. Tons)	10,478	9,096	8,995	16,715	24,450
Freighter Cargo (U.S. Tons)	638,909	630,782	671,493	754,835	856,857
Total Air Cargo Tonnage (U.S. Tons)	*649,387*	639,878	680,488	*771,550*	*881,307*
CAGR (%) (a)				*1.8%*	*1.5%*
Aircraft Operations					
Passenger Airline Operations	115,752	74,475	70,077	131,614	180,022
Freighter Operations	20,691	21,258	21,968	23,150	24,775
Business/General Aviation	106,996	79,311	84,167	109,836	115,128
Military	1,002	811	690	1,000	1,000
Total Aircraft Operations	*244,441*	175,855	176,902	*265,600*	*320,925*
CAGR (%) (a)				*6.0%*	*3.6%*

(a) CAGR: Compound annual growth rate. CAGRs shown are for 2021-2028 and 2021-2038.
Source: Airport statistics; InterVISTAS analysis

The Executive Summary then presents the FAA's "Terminal Area Forecast" (TAF) from March 2022 and compares the results to the Port's findings, noting factors is says explain variations. (p. 6-7) The FAA TAF passenger forecasts are lower than the OAK forecast. It says "A full discussion of the comparison to the FAF can be found in section 7, and Appendix B).

Table 1-2 is a summary comparing the two forecasts.

Table 1-2 Summary of Oakland International Airport Forecast

	Forecast in Federal Fiscal Years						
	2019	2020	TAF Base Year 2021	TAF Base Year+1 2022	TAF Base Year+5 2026	TAF Base Year+10 2031	TAF Base Year+15 2036
Passenger Enplanements							
Air Carrier	6,569,964	3,323,325	3,203,202	4,955,681	8,096,989	9,563,927	11,334,299
Commuter/Air Taxi	138,656	136,955	165,388	157,425	164,656	182,189	198,420
Total Enplanements	**6,708,620**	**3,460,280**	**3,368,590**	**5,113,106**	**8,261,645**	**9,746,116**	**11,532,719**
Aircraft Operations							
Air Carrier	131,544	94,914	86,716	103,132	141,848	167,112	192,458
Commuter/Air Taxi	31,622	26,123	25,876	26,579	28,650	31,789	34,695
Subtotal	*163,166*	*121,037*	*112,592*	*129,711*	*170,498*	*198,901*	*227,153*
General Aviation	80,273	54,007	63,620	77,488	81,929	81,833	81,517
Military	1,002	811	690	959	1,000	1,000	1,000
Total Operations	**244,441**	**175,855**	**176,902**	**208,158**	**253,427**	**281,734**	**309,670**
Cargo/Mail							
Enplaned and Deplaned Tons	655,441	639,878	680,488	701,602	747,638	803,373	859,070
Operational Factors: Air Carrier – Passenger							
Average Aircraft Size (Seats)	149	151	152	157	162	165	167
Average Enplaning Load Factor	79.3%	49.2%	72.3%	79.5%	80.2%	80.3%	80.8%

Note: Data is reflected in Federal Fiscal Years

Source: Airport statistics data for historical; U.S. DOT T100 data; InterVISTAS analysis for forecasts.

The Introduction (in p. 11-13) says:

> *The forecasts presented herein are "unconstrained" and as such do not take facility constraints or other outside limiting factors into consideration. In other words, for the purposes of estimating future demand, the forecast assumes facilities can accommodate the projected demand.*

It then notes the impact the Covid-19 pandemic had on passenger traffic. It dropped 96% in March 2020 compared to March 2019. By the end of 2020 it was 70% below pre-pandemic levels and by the beginning of 2022 was 27% below pre-pandemic levels. It is not updated beyond that point.

Since early 2022 Port data shows that passenger levels failed to recover at the expected levels.

The Introduction also shows post-pandemic migration trends in the Bay Area that increase the number of people in OAK's "catchment area," giving it more potential passengers:

> *While the COVID-19 Pandemic has had a significant impact on aviation demand since 2020, the impact of the pandemic is not expected to change future aviation trends over the long term. Those trends have resulted in a strong recovery in demand at OAK compared to other Bay Area airports, and is similar to OAK's performance following the events and aftermath of September 11, 2001. OAK benefits from migration patterns within the Bay Area, the growth*

strategies of low-cost and ultra low-cost airlines that use OAK for their primary operation in the Bay Area, and a lower reliance on international long-haul demand than SFO and SJC.

Through the Pandemic, migration within the Bay Area has shifted from the Peninsula and the South Bay to the East Bay toward Sacramento, which means that more residents have moved to OAK's catchment area from the catchment areas of SFO and SJC. United States Postal Service Data reports that approximately 30,500 people have relocated from San Francisco, San Mateo, and Santa Clara counties to Alameda and Contra Costa counties. (emphasis added)

IV. ALTERNATIVES PRESENTED AND CONSIDERED

The California Environmental Quality Act (CEQA) requires consideration of alternatives to a project, including a no-project alternative. Chapter 4 of the Final Environmental Impact Report (FEIR) for the proposed project provides this discussion, introduced at 4.1 thus:

> *As required under Section 15126(d) of the CEQA Guidelines, an Environmental Impact Report (EIR) must discuss a range of reasonable alternatives to a project that would feasibly attain most of the basic objectives of the project while avoiding or lessening significant environmental effects. An evaluation of the comparative merits of the project alternatives also is required.*

FEIR 4.2 lists eight project alternatives and a no-project alternative, each measured against 4 criteria:

1. Safety and security
2. Terminal facilities to accommodate the market-based passenger demand [see Summary and comments on FEIR Aviation Activity Forecast information] at industry standard levels of service [which it never defines but references 6 sources used to determine a standard level] and improve the passenger experience [also not defined]
3. Non-terminal facilities to accommodate the market-based demand [see Summary Air quality and Greenhouse gases]
4. Facilities sized and configured to accommodate the larger-sized aircraft fleet forecast

Since the forecast market-based passenger demand is so inflated that it appears to require growth, any alternative not accommodating increased enplanements fails criterion or "factor" 2.

Section 4.3 shows its evaluation of project alternatives grouped by location:

1. On-Airport terminal development areas

Alternative 1. Central basin [currently largely wetlands]: meets only factor 1

Alternative 2. Current hangar area, proposed project: meets all 3 factors, so Proposed Project

Alternative 3. Eastern [edge largely in the bay]: meets only factor 3

2. On-Airport environmental avoidance alternatives,

Alternative 4. Retain Terminal 1 Ticketing and Baggage Claim Building (M101): meets only factor 3

Alternative 5. Use of Hardstands [paved areas] with No New Terminal [buses passengers to planes]: meets only factor 3

3. Off-Airport alternatives

Alternative 6. Develop New Airport Site in the Region and Close OAK: meets only factor 1

Alternative 7. Relocate Operations to an Existing Airport and Close OAK: meets only factor 1

Of the 8 alternative projects, only Alternative 2 meets the now 3 OAK objectives (the larger-sized aircraft fleet factor has dropped out) because it lacks specific drawbacks of other alternatives and provides for accommodating the forecast inflated market demand.

The no-project alternative is analyzed at 4.5.1., where the FEIR admits that the current facilities could accommodate the inflated market demand. However, the "industry-standard level of service"—avoiding overcrowding and providing a more comfortable "passenger experience"—has become the key factor causing need for the expansion project with its attendant air pollution and greenhouse gas harms.

> *Although the No Project Alternative would consist of no new, expanded, or modernized facilities, operation levels at the Airport are forecast to continue to increase above the 2019 existing conditions, as discussed in Chapter 2." [see Summary and comments on FEIR Aviation Activity Forecast information.] "Without any development of a new terminal, the existing terminals, gates, and aprons could accommodate the market-based demand but not at the industry-standard levels of service. Congestion during times of peak activity would degrade the passenger level of service experienced within multiple terminal functions including the check-in halls, holdrooms, baggage screening, outbound and inbound baggage handling, baggage claims, and the international arrivals facilities. Gates and aprons would operate with increasing inefficiencies due to gate constraints and changes to fleet mix. (Emphasis added)*

Almost as an afterthought, under the no-project alternative,

> *"Additionally, the Terminal 1 ticketing and baggage claim building (M101) would not be upgraded to meet current seismic and fire code requirements."*

No explanation is given for why upgrading Terminal 1 to meet seismic and fire code requirements could not be done without also building a new terminal with additional gates; these would seem to be separate projects in different buildings which could possibly be accomplished more efficiently together but do not necessarily have to be combined into a single project. That possibility is not evaluated.

Analyzing further, 4.6 states,

"The environmentally superior alternative is the No Project Alternative. It would have the fewest environmental impacts but would not meet any of the project objectives."

Thus, by using an inflated forecast of market demand as a driving objective and the industry-standard level of service as a further requirement, the airport predetermines the failures of all the alternatives it has devised to the Proposed Project.

Section P of the FEIR provides the airport's responses to comments on the Draft Environmental Impact Report (DEIR). P.3.9 gives a global response to comments on project alternatives.

> *Some of the alternatives suggested by commenters, such as high-speed rail, investment in electricity-based modes of transportation, and conferencing, include actions that are not*

under the control of the Port because the Port cannot require air travelers to use other modes of transportation instead of aircraft and cannot require businesses to use conferencing as an alternative to business travel.

There is a glaring refusal to acknowledge in this public document, as it did in the Port's financial report to the Port Commissioners, the fact that business travel to OAK has already declined because of remote work and online meetings and conferences.

> *The surge in business air travel demand between major destination cities in Northern and Southern California did not materialize in the same way leisure travel demand increased post pandemic. Historically a primary driver of passenger traffic at the Airport, business travel demand within the State continues to lag behind pre-pandemic levels. This decline is attributed in part to the widespread adoption of web-based virtual meeting applications such as Zoom and Teams, coupled with the adoption of permanent or flexible work arrangements aimed at enhancing work-life balance, thereby reducing the need and frequency of travel. The trajectory of this trend, whether it will revert or persist in the foreseeable future, remains uncertain. (Port of Oakland (A Component Unit of the City of Oakland) Management's Discussion and Analysis (unaudited) June 30, 2023 and 2022)*

Consumer interest in electricity-based transportation of all kinds is increasing. Ignoring such trends now and not planning for the diversion of business to high-speed rail when the California project is completed can land OAK with a stranded asset. The FEIR response to such realities is short-sighted.

The global response to commenters reiterates Chapter 4:

> *Any alternatives that contemplated fewer gates and corresponding holdrooms and passenger processing facilities than identified for the Proposed Project would not meet the level of service criteria because it would not provide OAK with industry standard levels of service and, therefore, were not considered for further evaluation in the EIR. The EIR evaluates alternatives to accommodate the increase in enplanements and aircraft operations that would occur with or without the implementation of the Proposed Project.*

With this familiar statement, OAK summarily dismisses anything other than plowing ahead with the project it has been planning for 20 years.