

April 12, 2021

Samantha Bricker
Chief Sustainability & Revenue Management Officer
Los Angeles World Airports
1 World Way
Los Angeles, CA 90045

Dear Ms. Bricker,

This letter is in response to your letter dated February 26, 2021 requesting for confirmation that the anticipated emissions from the Los Angeles International Airport Airfield and Terminal Modernization Project (ATMP) are within the Air Quality Management Plan (AQMP)/State Implementation Plan (SIP) emissions budget for general conformity purposes.

The general conformity determination process is intended to demonstrate that a proposed Federal action will not: (1) cause or contribute to new violations of a national ambient air quality standard (NAAQS); (2) interfere with provisions in the applicable SIP for maintenance of any NAAQS; (3) increase the frequency or severity of existing violations of any standard; or (4) delay the timely attainment of any standard. As such, for general conformity determination, the proposed federal action needs to conform to the latest approved SIP/AQMP.

The South Coast Air Basin (Basin) is designated as an extreme non-attainment area for ozone, serious non-attainment for PM_{2.5} and maintenance area for Carbon Monoxide. In order to accommodate projects subject to general conformity requirements and to streamline the review process, general conformity budgets for NO_x and VOC emissions are established in the AQMP. The 2016 AQMP (<https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>), which is the latest plan approved by U.E. EPA, established set aside accounts to accommodate emissions subject to general conformity requirements. The set-aside accounts include 2 tons per day (tpd) or 730 tons per year (tpy) of NO_x and 0.5 tpd or 182.5 tpy of VOC each year starting in 2017 through 2030, and 0.5 tpd (182.5 tpy) of NO_x and 0.2 tpd (73 tpy) of VOC each year in 2031 and thereafter.

The anticipated emissions from the proposed project exceed the General Conformity de minimis thresholds of NO_x, VOC and CO in years 2023 and 2024 as indicated in Table 3-6, Proposed Project Direct and Indirect Emissions Through 2033, of your letter. These emissions are from construction equipment and increased aircraft taxi time associated with delay due to construction

activities. Los Angeles World Airports (LAWA) has indicated that detailed information on emissions calculations (source inputs, assumptions and emission results) included in the general conformity analysis are available on LAWA's ATMP project website (<https://www.lawa.org/atmp/documents>)¹.

South Coast AQMD staff has reviewed the proposed project emissions and determined that NOx and VOC emissions above de minimis thresholds can be accommodated within the general conformity budgets established in the 2016 AQMP. The emissions accommodated in the general conformity budgets for 2023 and 2024 are listed in Table 1 below. Table 2 shows the annual average operating day emissions converted from annual emissions using the number of days expected to occur for each construction segment and its impact on increased aircraft taxi time (Table 5-1 of your letter).

Table 1. Proposed Project Emissions Accommodated in 2016 AQMP General Conformity Budgets (tons per year)

Pollutants	Emission Phase	2023	2024
NOx	Construction	53.0	58.0
VOC	Construction	25.0	27.0

Table 2. Annual Average Operating Day Emissions from the Proposed Project Accommodated in 2016 AQMP General Conformity Budgets (tons per day)

Pollutants	Emission Phase	2023	2024
NOx	Construction	0.353	0.376
VOC	Construction	0.172	0.181

In addition to NOx and VOC emissions, CO emissions are also anticipated to exceed the de minimis threshold in 2023 and 2024. However, the results of the air dispersion modeling included in your request letter indicate that the increased emissions from the construction phase would result in ground level concentrations not exceeding the NAAQS, as shown in Attachment 5 of your request letter. Therefore, even though CO emissions are above the *de minimis* threshold, the project is not expected to interfere with the CO maintenance status of the Basin. LAWA has indicated that detailed information on CO emissions calculations, including the emission source

¹ Available under National Environmental Policy Act (NEPA) documents at <https://www.lawa.org/atmp/documents>. Refer to page 8 of LAWA's request letter for detailed instructions to access data.

inputs to the dispersion model during construction, and CO modeling results as well as the dispersion modeling protocol are available at LAWA's ATMP website².

In summary, based on our evaluation, the proposed project will conform to the latest EPA approved AQMP as the emissions from the project are accommodated within the AQMP's emissions budgets, and the proposed project is not expected to result in any new or additional violations of the NAAQS or impede the projected attainment of the NAAQS.

If you have any questions, please contact me at (909) 396-2856 or srees@aqmd.gov or Sang-Mi Lee, Program Supervisor at (909)-396-3169 or slee@aqmd.gov.

Sincerely,

Sarah Rees

Sarah L. Rees, Ph.D.
Deputy Executive Officer
Planning, Rule Development & Area Sources
South Coast Air Quality Management District

Attachment:

Letter from Los Angeles World Airports dated February 26, 2021

cc: Tom Kelly, US EPA Region IX
Rongsheng Luo, SCAG
Barbara Baird, South Coast AQMD
Zorik Pirveysian, South Coast AQMD
Sang-Mi Lee, South Coast AQMD
Jillian Wong, South Coast AQMD
Lijin Sun, South Coast AQMD

ZP:SL

² Available under CEQA Environmental documents at <https://www.lawa.org/atmp/documents>. Refer to page 16 of LAWA's request letter for detailed instructions to access data.



February 26, 2021

Dr. Sarah Rees
Acting Deputy Executive Director
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

LAX
Van Nuys
City of Los Angeles

Subject: Los Angeles International Airport Airfield and Terminal Modernization Project
Proposed Project Construction Emissions and General Conformity Budgets

Eric Garcetti
Mayor

Board of Airport
Commissioners

Sean O. Burton
President

Valeria C. Velasco
Vice President

Gabriel L. Eshaghian
Beatrice C. Hsu
Nicholas P. Roxborough
Dr. Cynthia A. Telles
Karim Webb

Justin Erbacci
Chief Executive Officer

Thank you for the ongoing discussions and for the information provided on the federal Clean Air Act (CAA) general conformity process under the 2016 Air Quality Management Plan (2016 AQMP) and how it applies to the Los Angeles International Airport (LAX) Airfield and Terminal Modernization Project (Proposed Project).¹ Los Angeles World Airports (LAWA) formally requests confirmation from the South Coast Air Quality Management District (SCAQMD) that emissions associated with the Proposed Project are within the State Implementation Plan (SIP) budgets established in the approved 2016 AQMP.

The following information regarding this request are included in the attachments to this letter:

- Attachment 1 – Proposed Project Overview
- Attachment 2 – General Conformity Rules and Criteria
- Attachment 3 – Summaries of Proposed Project Construction and Operational Emissions
- Attachment 4 – Summary of Carbon Monoxide (CO) Concentrations Under the Proposed Project
- Attachment 5 – Summary of Nitrogen Oxides (NO_x) and Volatile Organic Compound (VOC) Construction Emissions Subject to the Requested Confirmation

We respectfully request that the SCAQMD confirm that the emissions in Attachment 5 are within the General Conformity Budgets identified in the 2016 AQMP (Appendix III, Chapter 2). Please contact me at sbricker@lawa.org or (310) 259-5798 with any questions regarding this request.

Sincerely,

Samantha Bricker

Samantha Bricker
Chief Sustainability & Revenue Management Officer
Los Angeles World Airports

¹ Conference calls regarding CAA general conformity for projects in the South Coast Air Basin, including the Proposed Project, were held between SCAQMD and LAWA on December 4, 2020; January 12, 2021; January 22, 2021, February 5, 2021, and February 11, 2021.



ATTACHMENT 1

Proposed Project Overview

LAWA is pursuing the Proposed Project to implement airfield, terminal, and landside roadway improvements at LAX as part of LAWA's continuing commitment to maintain LAX as a world class airport. The Proposed Project consists of several primary elements, including airfield improvements that would enhance management of aircraft movements and safety within the airfield, new terminal facilities to upgrade passenger processing capabilities and enhance the passenger experience, and an improved system of roadways to provide better access to and egress from the Central Terminal Area (CTA) and all terminals and reduce congestion on nearby public roadways. Key components of these elements are summarized below:

- Airfield Elements
 - Remove and replace Runway 6L 24R acute-angled runway exit Taxiways Y and Z between Runway 6R 24L and parallel Taxiway E with four new acute-angled runway exit taxiways
 - Extend parallel Taxiway D from Taxiway C14 west to meet Taxiway E17 and relocate a vehicle service road (VSR) south according to Airplane Design Group (ADG) VI FAA separation design standards
 - Construct improvements and an easterly extension of Taxiway C from Taxiway C3 to Taxiway B1 and relocate VSR C to meet ADG VI FAA separation standards
- Terminal/Concourse-Related Airfield Elements
 - Extend Taxiway E east of Taxilane D7 for access to Concourse 0 and maintain unrestricted ADG V and restricted ADG VI capability
 - Extend Taxiway D east of Taxilane D7 and relocate the VSR between Taxiway E and Taxiway D south of the extended Taxiway D for access to Concourse 0 and provide simultaneous unrestricted ADG VI movement on Taxiway E and unrestricted ADG V movement on Taxiway D
 - Construct paved area located at the eastern ends of extended Taxiway D and Taxiway E that could be used for aircraft pushbacks for the northeastern gate at Concourse 0 and temporarily hold departing aircraft waiting to access Runway 6R 24L for takeoff
 - Construct aircraft parking apron and taxilanes connecting Concourse 0 to the north airfield
 - Construct aircraft parking apron and a taxilane connecting Terminal 9 to the south airfield
- Terminal Area Elements
 - Remove 15 of the existing 18 West Remote Gates and construct Concourse 0 and Terminal 9
 - Decommission 15 passenger gates and associated holding areas located at the West Remote Gates in the western part of LAX
 - Construct Concourse 0 east of Terminal 1 with up to 11 narrowbody aircraft passenger gates servicing domestic and international passengers and remove two existing passenger gates at Terminal 1 resulting in a net gain of nine new narrowbody aircraft passenger gates at the northeast area of the CTA

- Construct Terminal 9 east of S. Sepulveda Boulevard and south of W. Century Boulevard with up to 12 widebody aircraft passenger gates servicing domestic and international passengers resulting in a net gain of 12 new widebody aircraft passenger gates at the southeast area of the CTA
- Net Change in Passenger Gates – Concourse 0 and Terminal 9 would provide up to 21 new passenger gates. Of the 21 passenger gates, 15 would serve as replacements to the decommissioned West Remote Gates, which is a net increase of 6 passenger gates. The net increase in six passenger gates would provide additional international and domestic connectivity between Terminal 8 and Terminal 9 and between Terminal 1 and Concourse 0. All of the new passenger gates would be connected to concourse and terminal facilities contiguous to the CTA.
- Construct a pedestrian corridor over S. Sepulveda Boulevard to connect Terminal 8 and Terminal 9
- Construct an APM station at Terminal 9
- Construct a parking facility at Terminal 9
- Roadway Elements
 - Construct connecting roadways for Terminal 9 to and from off airport roadways and the CTA
 - Construct roadway improvements in the vicinity of the W. Century Boulevard / S. Sepulveda Boulevard interchange to improve efficient movement into and out of the CTA

Before construction can begin on the key components of the Proposed Project, a number of facilities must be either relocated or new facilities constructed. These actions are enabling projects, which are part of the Proposed Project and emissions associated with them are included in the inventories provided in Attachment 5. Various enabling projects that allow for construction of the Proposed Project elements include, but are not limited to, removal of various airfield support facilities, removal of aircraft parking positions, removal of vehicle parking spaces, reconfiguration of vehicle service roads, and utility relocation.

Figure 1 provides an overview of the Proposed Project element locations at LAX.

ATTACHMENT 2

General Conformity Rules and Criteria

LAWA is asking the Federal Aviation Administration (FAA) for unconditional approval of the portion of the Airport Layout Plan (ALP) that would include the airside, terminal, and landside facilities of the Proposed Project. Section 176(c) of the CAA (42 U.S.C. 7506(c)) requires the FAA to demonstrate that the Proposed Project conforms to the applicable State Implementation Plan (SIP) required under Section 110(a) of the CAA (42 U.S.C. 7410(a)) before the action is otherwise approved. In this context, conformity means that such Proposed Project must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. The FAA must determine if the Proposed Project is subject to the general conformity regulations and, if so, if the action "conforms" to the applicable SIP by ensuring that the action does not:

- cause or contribute to any new violation of any NAAQS;
- increase the frequency or severity of any existing violations of any NAAQS; or
- delay the timely attainment of any NAAQS or any required interim emission reductions or other milestones.

The process of evaluating projects under the General Conformity Regulations generally involves the following steps:

- determining if the project is exempt from conformity regulations;
- determining if the project is presumed to conform;
- preparation of an applicability analysis, if the project is not exempt or presumed to conform, including an evaluation of whether project emissions would exceed *de minimis* thresholds under the regulations; and
- for projects with pollutant emissions that exceed *de minimis* levels, a General Conformity Determination is required.

The Proposed Project is neither exempt from nor presumed to conform with the General Conformity Regulations.

General conformity applies to any criteria pollutant for which an area is in nonattainment or maintenance status. An applicability analysis under general conformity consists of preparing an emissions inventory for all project-related direct and indirect emissions and comparing that result with the *de minimis* thresholds. The regulation defines the thresholds based on pollutant and attainment/non-attainment designation. The thresholds applicable at LAX under the General Conformity Rules are shown in **Table 2-1**.

Emissions for the Proposed Project will be compared to these *de minimis* thresholds. Regulation 40 CFR § 93.159(d) notes that when comparing emissions to *de minimis* thresholds, the following scenarios must be considered:

- emissions in the year of attainment or the farthest year for which emissions are projected in the maintenance plan;
- the year in which the total of direct and indirect project-related emissions are expected to be the greatest on an annual basis; and
- any year for which the SIP has an applicable emissions budget.

Table 2-1. General Conformity *de minimis* Thresholds in the South Coast Air Basin

Pollutant (Precursor)	Area Designation/Classification	<i>de minimis</i> Threshold (tons per year)
CO	Attainment/Maintenance	100
PM ₁₀	Attainment/Maintenance	100
PM _{2.5} (NO _x , VOC, SO _x , or Ammonia)	Nonattainment/Serious	70
Ozone (NO _x or VOC)	Nonattainment/Extreme	10
Lead (Pb)	Nonattainment	25
NO ₂ (NO _x)	(See Note 1)	Not applicable

Sources: U.S. Environmental Protection Agency, *Green Book Nonattainment Areas*. Available: <https://www.epa.gov/green-book>, accessed October 2019; California Air Resources Board, *Area Designations Maps/State and National*. Available: <https://www.arb.ca.gov/desig/adm/adm.htm>, accessed October 2019.

Note 1: The South Coast Air Basin was designated a maintenance area for the annual NO₂ NAAQS in September 1998. As of September 2018, more than two consecutive maintenance periods had lapsed without an exceedance; therefore, the region is no longer subject to General Conformity for NO₂.

Key:

CO – carbon monoxide

NO_x – nitrogen oxides

PM₁₀ – respirable particulate matter

PM_{2.5} – fine particulate matter

SO_x – sulfur oxides

VOC – volatile organic compounds

If emissions in all of these scenarios are less than *de minimis*, no further analysis is needed. If emissions are above *de minimis* levels, a General Conformity Determination is required. In a General Conformity Determination, the regulations allow for the following avenues to show conformity:

- A written determination from the State/local air quality agency stating that the project emissions, together with all other emissions in the non-attainment or maintenance area, would not exceed the emissions budget in the SIP;
- A written commitment from the Governor, or the Governor’s designee for SIP actions, to include the emissions in a revised SIP (this automatically results in a call for a SIP revision);
- Offsetting or mitigating project emissions so that there is no net increase within the non-attainment or maintenance area; or
- The applicable Metropolitan Planning Organization (MPO) determines that the emissions from the project, or portion thereof, are included in a conforming transportation plan and transportation improvement program.

The currently approved SIP for ozone in the South Coast Air Basin is referred to at the 2016 South Coast Ozone SIP and includes the SCAQMD Final 2016 Air Quality Management Plan, the Revised Proposed 2016 State Strategy for the State Implementation Plan, the 2018 Updates to the California State Implementation Plan, the Updated Federal 1979 1-Hour Ozone Standard Attainment Demonstration, and a local emissions statement rule.² Therefore, the 2016 South Coast Ozone SIP is the applicable SIP for this General Conformity Determination.

The SCAQMD has adopted by reference the federal General Conformity Regulations as SCAQMD Rule 1901. In addition, to streamline the review process and facilitate General Conformity Determinations, SCAQMD established separate NO_x and VOC General Conformity Budget set-aside accounts in the 2016 AQMP (Appendix III, Chapter 2), which provides the currently approved SIP budgets for the South Coast Air Basin. The initial budgets in the set-aside accounts were 2.0 tons per day (TPD) of

² U.S. Environmental Protection Agency. “Approval of Air Quality Implementation Plans; California; South Coast Air Basin; 1-Hour and 8-Hour Ozone Nonattainment Area Requirements – Final Rule.” 84 FR 52005. October 1, 2019.

NO_x and 0.5 TPD of VOC each year from 2017 through 2030 and changed to 0.5 TPD of NO_x and 0.2 TPD of VOC in 2031.³ Projects that are confirmed by the SCAQMD to be accommodated within these General Conformity Budget set-aside accounts conform with the SIP per the first bullet above.⁴

³ South Coast Air Quality Management District. Final 2016 Air Quality Management Plan, Appendix III, Chapter 2, pp. III-2-87 (March 2017). Available at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iii.pdf?sfvrsn=6>.

⁴ General Conformity Regulations at 40 CFR 93.158(a)(5)(i)(A).

ATTACHMENT 3

Proposed Project Construction and Operational Emissions

Proposed Project emissions during construction and operations are in the tables below. The emissions from construction equipment, construction haul and delivery trucks, and worker vehicle trips are considered “direct” emissions under the General Conformity definitions, while emissions from operations (aircraft, ground support equipment, passenger traffic, etc.) are considered “indirect” emissions under the definitions. As noted in the LAX Airfield and Terminal Modernization Project Final Air Quality Impact Analysis Protocol for NEPA and General Conformity, dated February 4, 2020,⁵ Proposed Project operational (i.e., indirect) emissions are the incremental emissions determined by subtracting each future year emissions under the No Action Alternative from the corresponding future year emissions under the Proposed Project. Since the airport passenger activity level and aircraft operations are estimated to be the same for each year under the Proposed Project and No Action Alternative, operational emissions are only nominally different between the two scenarios, with a caveat regarding aircraft operations during the construction period discussed below.

The Final Air Quality Impact Analysis Protocol for NEPA and General Conformity as well as detailed information on direct construction emission source inputs, assumptions and emission results (Draft Air Quality Data Files) are included on LAWA’s ATMP Project website under NEPA Environmental Documents at: <https://www.lawa.org/atmp/documents/>. [Note: Once on the www.lawa.org/atmp/documents site, scroll down to find the “NEPA Environmental Documents” heading. Below the heading will be a link for several items including the NEPA and General Conformity Air Quality Modeling Protocol, and an expansion button (+/-) for the Draft Air Quality Data Files. Click on the “+” symbol to the left of “Draft Air Quality Data Files” to expand the link and list the emission and dispersion modeling files.] Additional information and calculations will be included in the LAX ATMP Draft Environmental Assessment and Draft General Conformity Determination scheduled to be released in mid-2021.

Proposed Project Construction Impacts on Operational Activity

Construction of the airfield improvements would require the temporary closures of Runways 6L-24R and 6R-24L for approximately 4.5 months each, to safely tie-in the new runway exits to these runways. Only one of these runways would be closed in a given year. During these times, aircraft operations at LAX would occur on three runways (i.e., one runway in the north airfield and two runways in the south airfield). The temporary closure of each runway would increase the distances that aircraft would taxi, as some aircraft activity that would normally occur on the closed runway would be shifted to either the other north airfield runway, or to one of the south airfield runways (Runways 7L-25R or 7R-25L). Moreover, three-runway operations would be less efficient, resulting in a temporary increase in aircraft taxi-idle times and corresponding air pollutant emissions.

⁵ Federal Aviation Administration, LAX Airfield and Terminal Modernization Project Final Air Quality Impact Analysis Protocol for NEPA and General Conformity, February 4, 2020. The final protocol was reviewed and accepted by SCAQMD, California Air Resources Board, and U.S. Environmental Protection Agency in early 2020. The final protocol was submitted to SCAQMD via email from FAA on January 13, 2020, re - Los Angeles International Airport - Airfield and Terminal Modernization Project - Updated Air Quality Modeling Protocol; and from CDM Smith on December 7, 2020, Re – LAX ATMP Conformity Discussion with SCAQMD.

Two SIMMOD analyses of the airport, based on Design Day Flight Schedules, were conducted to develop an estimate of the increased taxi idle times due to the closure of Runway 6R-24L (i.e., the inboard runway). (These analyses were conducted assuming that Runway 6R-24L would be closed in 2023. It was later determined that Runway 6R-24L would be closed in 2024. The implications of this change are discussed below.) The closure of Runway 6R-24L was selected for the analysis since its closure would require any aircraft using the north airfield to taxi in or out from Runway 6L-24R (i.e., the outboard runway), and for all heavy aircraft (e.g., Boeing 747, Airbus A380, etc.) departing from LAX north airfield terminals to taxi down to the south airfield because Runway 6L-24R is not long enough to accommodate the heavy aircraft departures during the closure of Runway 6R-24L. One SIMMOD run was used to calculate taxi and delay times with Runway 6R-24L closed in 2023, and the other run was used to calculate taxi and delay times with all runways opened (i.e., normal operations) in 2023. The incremental taxi-idle times between the two runs represented the additional delay during proposed Project construction that would occur if Runway 6R-24L were closed in 2023.

Subsequent to completion of the SIMMOD analyses, the proposed construction schedule was modified, with the closure of Runway 6R-24L occurring in 2024 instead of 2023. This later year was forecasted to have approximately 1 percent more total aircraft operations than 2023, which would increase the incremental taxi-idle times relative to the closure in 2023. This increase is two-fold: (i) the taxi-idle times per aircraft operation would increase due to more operations occurring each day, which would increase the delay times per operation; and (ii) the total number of delayed operations would also increase. The increase in taxi-idle times per operation was estimated to be approximately 2.9 percent, which was combined with the increase in total operations (1 percent) to indicate a total increase in daily taxi-idle times of 3.9 percent due to the shutdown of Runway 6R-24L in 2024 compared to the shutdown in 2023. This 3.9 percent increase was added to the incremental results of the SIMMOD runs for 2023 to estimate incremental taxi-idle times for the shutdown of Runway 6R-24L in 2024.

The Proposed Project aircraft increased ground delay times per operation during these runway closures are noted in **Table 3-1**, and the associated incremental operational emissions in 2023 and 2024 are presented in **Table 3-2** and **Table 3-3**, respectively, as Proposed Project indirect emissions. The values in these tables are the same as those reported in the LAX Airfield and Terminal Modernization Project Draft Environmental Impact Report, dated October 2020; specifically, in Appendix C.1. [Note: Appendix C can be accessed from <https://www.lawa.org/atmp/documents/> by scrolling down to “CEQA Environmental Documents,” clicking the “+” symbol next to “Draft Environmental Impact Report (DEIR)” to expand the selection, then clicking the “+” symbol next to “Main Documents and Appendices (as individual sections):” to list the sections and appendices. Pages 176 and 177 of the Appendix C pdf file contains the calculation of increased ground delay emissions during the runway closures in 2023 and 2024].

Direct construction emissions for the Proposed Project are provided for each year of construction (2021 through 2028) in **Table 3-4**. Proposed Project indirect operational emissions in 2028 (year the project is expected to be completed and implemented) and 2033 (five-year outlook from the implementation year) is presented in **Table 3-5**. Total direct and indirect emissions for the Proposed Project from start of construction through 2033 are summarized in **Table 3-6**, which also compares the Proposed Project totals to the General Conformity *de minimis* thresholds. The operational emissions for years 2029 through 2032 were interpolated from the 2028 and 2033 results.

Table 3-1. Increased Aircraft Delay Times Due to Runway Closure During Construction

Activity	Proposed Project	No Action	Taxi Time Increment
<u>2023 Construction Impact on Operations - Closure of Runway 6L-24R</u>			
Average Taxi-Out Time per Departure (min)	22.76	19.82	2.95
Average Taxi-In Time per Arrival (min)	17.91	15.33	2.57
Average Taxi Time per LTO (min)	40.67	35.15	5.52
<u>2024 Construction Impact on Operations - Closure of Runway 6R-24L</u>			
Average Taxi-Out Time per Departure (min)	23.40	20.37	3.03
Average Taxi-In Time per Arrival (min)	18.41	15.76	2.65
Average Taxi Time per LTO (min)	41.81	36.14	5.67

Source: CDM Smith 2021.

LTO = Landing and Takeoff Operation

Table 3-2. Aircraft Emissions Due to Increased Taxi/Delay Times During Runway 6L-24R Closure

<i>[ASSUMES ONE RUWAY (6L-24R) IS SHUTDOWN FOR 4.5 MONTHS]</i>							
LAX 2023 Proposed Project - All Weather Conditions							
Emissions by Mode (short tons/year)							
Operation Group	Mode	Emissions in 2023, tons					
		CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	57.2	0.0	0.0	0.0	0.0
	Taxi Out	979.6	81.0	163.8	43.3	2.5	2.5
	Takeoff	11.7	1.0	917.6	36.4	2.6	2.6
	Climbout	6.2	0.4	371.8	15.7	1.1	1.1
	Approach	74.9	2.6	226.0	26.0	2.1	2.1
	Taxi In	910.7	77.1	148.3	39.5	2.4	2.4
Total LTO Cycle		1,983.1	219.4	1,827.5	160.9	10.7	10.7
All Operation Groups	APU	43.7	3.9	55.5	7.0	7.2	7.2
Grand Total		2,026.8	223.4	1,883.0	167.9	17.9	17.9
LAX 2023 No Action Alternative - All Weather Conditions							
Emissions by Mode (short tons/year)							
Operation Group	Mode	Emissions in 2023, tons					
		CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	57.2	0.0	0.0	0.0	0.0
	Taxi Out	852.9	70.6	142.6	37.7	2.2	2.2
	Takeoff	11.7	1.0	917.6	36.4	2.6	2.6
	Climbout	6.2	0.4	371.8	15.7	1.1	1.1
	Approach	74.9	2.6	226.0	26.0	2.1	2.1
	Taxi In	779.8	66.0	127.0	33.9	2.0	2.0
Total LTO Cycle		1,725.5	197.8	1,785.0	149.6	10.0	10.0
All Operation Groups	APU	43.7	3.9	55.5	7.0	7.2	7.2
Grand Total		1,769.2	201.8	1,840.5	156.6	17.3	17.3
LAX 2023 Project Project Increment - All Weather Conditions							
Emissions by Mode (short tons/year)							
Operation Group	Mode	Emissions in 2023, tons					
		CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	0.0	0.0	0.0	0.0	0.0
	Taxi Out	126.8	10.5	21.2	5.6	0.3	0.3
	Takeoff	0.0	0.0	0.0	0.0	0.0	0.0
	Climbout	0.0	0.0	0.0	0.0	0.0	0.0
	Approach	0.0	0.0	0.0	0.0	0.0	0.0
	Taxi In	130.9	11.1	21.3	5.7	0.3	0.3
Total LTO Cycle		257.6	21.6	42.5	11.3	0.7	0.7
All Operation Groups	APU	0.0	0.0	0.0	0.0	0.0	0.0
Grand Total		257.6	21.6	42.5	11.3	0.7	0.7

Source: CDM Smith 2021.

Notes:

Delay sequence modeling (DSQM) with default taxiway speeds.

Taxi in/out times based on average times per aircraft, operation type, gate, runway combination, and stage length.

Emissions represent weighted average from four weather conditions (VFRW, MVFRW, IFRW, and MVFRE).

Stage lengths based on SIMMOD results (AEDT requires approach to always be equal to 1).

Engine modifications made to reflect improved/cleaner engine technology.

AEDT 3b used for emissions inventory.

Table 3-3. Aircraft Emissions Due to Increased Taxi/Delay Times During Runway 6R-24L Closure

[ASSUMES ONE RUWAY (6R-24L) IS SHUTDOWN FOR 4.5 MONTHS]

LAX 2024 With Project - All Weather Conditions

Emissions by Mode (short tons/year)

		Emissions in 2024, tons					
Operation Group	Mode	CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	57.8	0.0	0.0	0.0	0.0
	Taxi Out	1,017.9	84.2	170.2	45.0	2.6	2.6
	Takeoff	11.9	1.0	927.4	36.8	2.7	2.7
	Climbout	6.3	0.4	375.7	15.9	1.1	1.1
	Approach	75.7	2.6	228.4	26.3	2.1	2.1
	Taxi In	946.2	80.1	154.1	41.1	2.4	2.4
Total LTO Cycle		2,057.9	226.2	1,855.8	165.0	10.9	10.9
All Operation Groups	APU	44.1	4.0	56.1	7.1	7.3	7.3
Grand Total		2,102.0	230.2	1,911.9	172.1	18.3	18.3

LAX 2024 Without Project - All Weather Conditions

Emissions by Mode (short tons/year)

		Emissions in 2024, tons					
Operation Group	Mode	CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	57.8	0.0	0.0	0.0	0.0
	Taxi Out	886.2	73.3	148.1	39.2	2.3	2.3
	Takeoff	11.9	1.0	927.4	36.8	2.7	2.7
	Climbout	6.3	0.4	375.7	15.9	1.1	1.1
	Approach	75.7	2.6	228.4	26.3	2.1	2.1
	Taxi In	810.2	68.6	131.9	35.2	2.1	2.1
Total LTO Cycle		1,790.2	203.8	1,811.6	153.3	10.3	10.3
All Operation Groups	APU	44.1	4.0	56.1	7.1	7.3	7.3
Grand Total		1,834.4	207.8	1,867.7	160.3	17.6	17.6

LAX 2024 Project Project Increment - All Weather Conditions

Emissions by Mode (short tons/year)

		Emissions in 2024, tons					
Operation Group	Mode	CO	VOC	NOx	SOx	PM 2.5	PM 10
All Operation Groups	Startup	0.0	0.0	0.0	0.0	0.0	0.0
	Taxi Out	131.7	10.9	22.0	5.8	0.3	0.3
	Takeoff	0.0	0.0	0.0	0.0	0.0	0.0
	Climbout	0.0	0.0	0.0	0.0	0.0	0.0
	Approach	0.0	0.0	0.0	0.0	0.0	0.0
	Taxi In	136.0	11.5	22.1	5.9	0.4	0.4
Total LTO Cycle		267.7	22.4	44.2	11.7	0.7	0.7
All Operation Groups	APU	0.0	0.0	0.0	0.0	0.0	0.0
Grand Total		267.7	22.4	44.2	11.7	0.7	0.7

Source: CDM Smith 2021

Table 3-4. Direct Proposed Project Construction Emissions by Year

Construction Year	CO (tpy)	VOC (tpy)	NO _x (tpy)	SO _x (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
2022	20	2	6	<1	1	1
2023	32	4	11	<1	2	1
2024	41	4	14	<1	2	1
2025	25	5	8	<1	1	1
2026	16	4	5	<1	1	<1
2027	17	3	6	<1	1	<1
2028	6	1	2	<1	<1	<1
Maximum	41	4	14	<1	2	1
Source: CDM Smith 2021 Key: tpy – tons per year PM ₁₀ – respirable particulate matter VOC – volatile organic compounds CO – carbon monoxide PM _{2.5} – fine particulate matter NO _x – nitrogen oxides SO _x – sulfur oxides						

Table 3-5. Proposed Project Incremental Operational Emissions

Year	CO (tpy)	VOC (tpy)	NO _x (tpy)	SO _x (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
2028 ¹	46	7	0	(1) ²	7	1
2033	24	9	(14) ²	(2) ²	5	(1) ²
Source: CDM Smith 2021. Note: 1. 2028 Incremental emissions include contribution from Proposed Project construction activities in 2028 (see Table 3-4 above). 2. Net emissions shown in parentheses are negative values. Key: tpy – tons per year PM ₁₀ – respirable particulate matter VOC – volatile organic compounds CO – carbon monoxide PM _{2.5} – fine particulate matter NO _x – nitrogen oxides SO _x – sulfur oxides						

Table 3-6. Proposed Project Direct and Indirect Emissions Through 2033

Year	CO (tpy)	VOC (tpy)	NO _x (tpy)	SO _x (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
2022 ¹	20	2	6	<1	1	1
2023 ²						
2023 Construction Equip	32	4	11	<1	2	1
2023 Aircraft Taxi Delays	258	22	43	11	1	1
2023 Total^{2,4}	289	25	53	11	3	1
2024 ²						
2024 Construction Equip	41	4	14	<1	2	1
2024 Aircraft Taxi Delays	268	22	44	12	1	1
2024 Total^{2,4}	308	27	58	12	3	2
2025 ¹	25	5	8	<1	1	1
2026 ¹	16	4	5	<1	1	<1
2027 ¹	17	3	6	<1	1	<1
2028 ²						
2028 Construction Equip	6	1	2	<1	<1	<1
2028 Operations	40	6	(2) ⁵	(1) ⁵	7	1
2028 Total^{2,4}	46	7	0	(1)⁵	7	1
2029 ³	42	7	(3) ⁵	(1) ⁵	7	1
2030 ³	37	8	(6) ⁵	(1) ⁵	6	0
2031 ³	33	8	(8) ⁵	(2) ⁵	6	0
2032 ³	28	9	(11) ⁵	(2) ⁵	5	(1) ⁵
2033 ³	24	9	(14) ⁵	(2) ⁵	5	(1) ⁵
Maximum	308	27	58	12	7	2
General Conformity <i>de minimis</i> Threshold	100	10	10	70	100	70
Exceeds Threshold? [Years that thresholds were exceeded]	Yes [2023, 2024]	Yes [2023, 2024]	Yes [2023, 2024]	No	No	No
Source: CDM Smith 2021						
Notes:						
1. Emissions include only direct emissions associated with project-related construction activity.						
2. Emissions include both direct emissions associated with project-related construction activity and indirect aircraft emissions from the temporary construction-related runway closures in 2023 and 2024.						
3. Emissions include only indirect operational emissions.						
4. Totals may not add exactly because of rounding.						
5. Net emissions shown in parentheses are negative values.						
Key:						
tpy – tons per year		CO – carbon monoxide		NO _x – nitrogen oxides		
PM ₁₀ – respirable particulate matter		PM _{2.5} – fine particulate matter		SO _x – sulfur oxides		
VOC – volatile organic compounds						

As can be seen in Table 3-6, emissions of CO, VOC, and NO_x would exceed the *de minimis* thresholds in 2023 and 2024 (the years when one or the other of the north airfield runways would be closed temporarily during construction). Therefore, a General Conformity Determination is required for CO, and ozone (due to emissions of the precursors VOC and NO_x).

The conformity determination for CO relies on the local air quality modeling option authorized in 40 CFR 93.158(a)(4)(i). For the ozone precursors VOC and NO_x, the conformity determination relies on the set-aside budgets in the currently approved SIP, as authorized in 40 CFR 93.158(a)(5)(i)(A). These two assessments are discussed in **Attachment 4** and **Attachment 5**, respectively.

ATTACHMENT 4

Summary of Carbon Monoxide (CO) Concentrations Under Proposed Project Construction

Air dispersion modeling of CO emissions during the peak year of construction (2024) was conducted for the LAX Airfield and Terminal Modernization Project. The modeling analysis included emissions from both the direct construction emissions and indirect aircraft operations during the runway closure in 2024. The methodology used to conduct the modeling is discussed in the LAX Airfield and Terminal Modernization Project Final Air Quality Impact Analysis Protocol for NEPA and General Conformity, dated February 4, 2020.⁶ The results of this modeling, shown in **Table 4-1**, indicate that CO concentrations would be substantially below (i.e., better than) the CO 1-hour and 8-hour NAAQS. The values in Table 4-1 are the same as those reported in the LAX Airfield and Terminal Modernization Project Draft Environmental Impact Report, dated October 2020; specifically, in Appendix C.3. [Note: Appendix C can be accessed from <https://www.lawa.org/atmp/documents/> by scrolling down to “CEQA Environmental Documents,” clicking the “+” symbol next to “Draft Environmental Impact Report (DEIR)” to expand the selection, then clicking the “+” symbol next to “Main Documents and Appendices (as individual sections):” to list the sections and appendices. Concentration summaries and details begin on page 529 of the Appendix C pdf file.] Additional information and calculations will be included in the LAX ATMP Draft Environmental Assessment and Draft General Conformity Determination scheduled to be released in mid-2021.

Table 4-1. Proposed Project Peak (2024) CO Concentrations During Construction

Pollutant	Averaging Period	Concentration Units	Construction (µg/m ³) ¹	Background (µg/m ³) ²	Total (µg/m ³) ³	NAAQS (µg/m ³)	Conforms with SIP?
CO	1-Hour	(µg/m ³)	817	2,406	3,223	40,000	Yes
		ppmv	0.7	2.1	2.8	35	
CO	8-Hour	(µg/m ³)	137	1,833	1,970	10,000	Yes
		ppmv	0.1	1.6	1.7	9	

Source: CDM Smith 2021.

Notes:

- Includes direct emissions associated with project-related construction activity and indirect aircraft emissions from the temporary construction-related runway closures in 2024. Values shown are for the highest 1st-high Proposed Project construction concentrations, which is more stringent than the form of the CO NAAQS (highest 2nd-high value, which allows one exceedance of the standard per year at each location).
- Background CO concentrations obtained from South Coast Air Quality Management District, *Historical Data by Year*. Available: <https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year>. Highest value in the period from 2016-2018 for Station No. 820 – Southwest Coastal LA County was used.
- Values may not add exactly due to rounding.

Key:
µg/m³ – micrograms per cubic meter ppmv – parts per million by volume CO – carbon monoxide

⁶ Federal Aviation Administration, LAX Airfield and Terminal Modernization Project Final Air Quality Impact Analysis Protocol for NEPA and General Conformity, February 4, 2020. The final protocol was reviewed and accepted by SCAQMD, California Air Resources Board, and U.S. Environmental Protection Agency in early 2020. The final protocol was submitted to SCAQMD via email from FAA on January 13, 2020, re - Los Angeles International Airport - Airfield and Terminal Modernization Project - Updated Air Quality Modeling Protocol; and from CDM Smith on December 7, 2020, Re – LAX ATMP Conformity Discussion with SCAQMD.

The total values in Table 5-1 represent the final requested NO_x and VOC set-aside budgets for the Proposed Project in 2023 and 2024. It should be noted that the requested NO_x and VOC set-aside budgets are needed only for construction-related emissions, including those associated with aircraft operations during the temporary runway closures when the north airfield improvements are being constructed. No set-aside budgets are needed for the otherwise normal airport operations after construction is completed, as the nominal differences in emissions between No Action and the Proposed Project are below the applicable *de minimis* levels, as indicated above in Attachment 3, Table 3-6.