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Air Quality Improvement Plan
Ontario International Airport

Prepared For:

Ontario International Airport Authority
1923 E Avion St, Ontario, CA 91761

Prepared By:

Alta Environmental
3777 Long Beach Blvd, Long Beach, CA 90807

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LIST OF ACRONYMS

A4A	Airlines for America
ADD	Average Daily Departures
AEDT	Aviation Environmental Design Tool
AOA	Air Operations Area
AQIP	Air Quality Improvement Plan
AQMP	Air Quality Management Plan
ARFF	Aircraft Rescue and Fire Fighting
ATCM	Airborne Toxics Control Measure
BACT	Best Available Control Technology
CARB	California Air Resources Board
DOORS	Diesel Offroad Online Reporting System
EIN	Equipment Identification Number
FAA	Federal Aviation Administration
GHG	greenhouse gas
GPU	ground power unit
GSE	ground support equipment
GVWR	Gross Vehicle Weight Rating
hp	horsepower
HVAC	heating, ventilation, and air conditioning
I	Initiative
LAX	Los Angeles International Airport
LEED	Leadership in Energy and Environmental Design
LSI	Large Spark-Ignition
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NOx	oxides of nitrogen
OFD	Ontario Fire Department
OFFROAD	CARB Off-road Diesel Analysis & Inventory Database
OIAA	Ontario International Airport Authority
ONT	Ontario International Airport
PERP	Portable Equipment Registration Program
PM	particulate matter
RM	Reduction Measure
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
TAF	Terminal Area Forecast
USBGC	United States Green Building Council
VDECS	Verified Diesel Emission Control Strategies
VMT	vehicle miles traveled
VOC	volatile organic compound
ZEAS	Zero-Emission Airport Shuttles

1.0 INTRODUCTION

The Ontario International Airport (ONT or Airport) has developed this voluntary Air Quality Improvement Plan (AQIP) as part of a collaborative effort with the South Coast Air Quality Management District (SCAQMD) and other airports in the South Coast Air Basin (SCAB or Basin) (i.e., Long Beach, John Wayne, Burbank, and Los Angeles, collectively Basin airports) to minimize and reduce air emissions related to mobile source activities at the Airport. This AQIP was developed specifically as it relates to MOB-04 from the 2016 Air Quality Management Plan (2016 AQMP). The AQIP is an additional document that identifies the efforts related to MOB-04 and is an additional effort relative to other Airport programs to address air quality and related issues.

1.1 2016 AQIP Background

The 2016 AQMP is the SCAQMD's regional blueprint for achieving the National Ambient Air Quality Standards (NAAQS) in the Basin. The 2016 AQMP provides an analysis of existing and potential regulatory control options for the Basin and seeks to achieve multiple goals in partnership with other entities to reduce greenhouse gases and toxic risk, as well as provide efficiencies in energy use, transportation, and goods movement in a cost-effective manner. The 2016 AQMP provides the approach for the Basin to achieve attainment of the ozone and PM2.5 NAAQS within the latest statutory attainment date (SCAQMD, 2016). The 1997 8-hour ozone attainment date is 2023 and the 2008 8-hour ozone attainment date is 2031.

The 2016 AQMP lists various measures to reduce NOx and VOC emissions to achieve attainment of the ozone standards. One of those measures requires Basin airports to reduce non-aircraft emission sources at their facilities (i.e., Facility-Based Measure for Mobile Sources Measure (MOB-04) for the Emissions Reductions at Commercial Airports). MOB-04, which was included in the final 2016 AQMP approved in March 2017, was approved by SCAQMD on April 7, 2017. As stated in the meeting minutes, the goal of MOB-04 is: to undertake a stakeholder process for Governing Board consideration in which commercial airports within the Basin control emissions of NOx, PM2.5, lead, and diesel particulate matter from non-aircraft sources (SCAQMD, 2017). The California Air Resources Board ultimately approved the 2016 AQMP including MOB-04 on March 23, 2017. As further described below, the workshops and public outreach resulted in the SCAQMD shifting to a Memorandum of Understanding (MOU) approach to address the emission reduction objective of MOB-04.

1.1.1 Workshops and Public Outreach

In response to the SCAQMD Governing Board's approval and direction of the facility based mobile source control measures (notably MOB-04), SCAQMD held a series of working group meetings. The meetings were noticed and open to the public. The first introductory meeting for all facility based mobile source control measures occurred on May 8, 2017. More than 100 stakeholders, including representatives from industry, government, environmental and community groups participated in the first working group meeting. The first MOB-04 Working Group meeting was held on May 31, 2017, where the SCAQMD presented MOB-04, including the background, working group process, metrics used to evaluate progress, measure development framework, emission sources, existing and future regulations, State Implementation Plan (SIP) credit

requirements, example emission reduction opportunities, technologies currently available, and stakeholder input. There were a total of five open public meetings during the evaluation of MOB-04 culminating on February 1, 2018 (SCAQMD, 2019a). In the fifth MOB-04 working group meeting, SCAQMD presented staff's recommendation that the Governing Board pursue a MOU approach with the airports to implement MOB-04. The Governing Board approved this approach in June 2018 (SCAQMD, 2019b). Specifically, the Governing Board moved to "direct staff to pursue the approach for development of facility-based emission reduction strategies for commercial airports through voluntary measures only." ONT participated in the public meetings and working group meetings in this initial MOB-04 process.

Consistent with MOB-04, ONT has engaged in a collaborative process with SCAQMD, Airlines for America (A4A), airlines not part of A4A (Delta and Frontier), and Basin airports to develop an AQIP and an MOU with SCAQMD for implementation of the AQIP. As part of this process, ONT has been involved in discussions with SCAQMD and Basin Airports in order to evaluate and identity possible initiatives and measures to achieve emission reductions consistent with the requirements of MOB-04. The SCAQMD has scheduled four working group meetings as part of the public outreach process in the development of the MOU and AQIP. On February 28, 2019, the first Airport MOU Working Group was held. At this meeting, SCAQMD presented an update on the MOU approach and the Basin Airports provided a brief summary of the framework they would follow to implement MOB-04, including the development of AQIPs for each Basin airport with initiatives and measures to reduce emissions from non-aircraft mobile sources related to the airport.

1.1.2 AQIP Monitoring and Reporting

ONT understands that emission reductions must be verifiable in order to obtain SIP credit. As such, ONT proposes to prepare and submit an Annual AQIP Report (Annual Report) each year. As part of each Annual Report, ONT will request and obtain updated mobile source data from Airport staff, tenants, and contractors and perform emission calculations incorporating the updated data. Updated emission calculations will be compared to estimates prepared as part of this AQIP to measure progress and effectiveness of each reduction measure.

Many proposed reduction measures involve projects that are in early stages of design, which makes accurate emissions quantification impossible at this time. As part of each Annual Report, ONT will address the progress on each proposed measure. In cases where project designs have reached substantial completion, emission reduction estimates will be quantified to the extent possible. If additional projects or policies that are not included in this AQIP are implemented, these items will be included as reduction measures as applicable. These additional measures will be included and analyzed as part of each Annual Report.

Emissions are calculated on a per-year basis. Therefore, Annual Reports will be submitted for each calendar year, starting with 2020. The Annual Reports will be submitted to SCAQMD on or before June 1 of the following year. For example, the 2020 Annual Report will be submitted to SCAQMD on or before June 1, 2021.

1.2 Regulatory Framework

The California Air Resources Board (CARB) has the primary authority for regulating mobile sources of emissions within the State of California. In addition to CARB regulations and requirements, SCAQMD has adopted a handful of rules that apply to mobile sources within the district. The following sections summarizes the current and potential future regulations applicable to mobile sources found at airports.

1.2.1 Existing Mobile Source Regulations

SCAQMD Fleet Rules

SCAMQD has multiple rules that are applicable to vehicle emission sources at airports. For example, Rule 1191, Clean On-Road Light- and Medium-Duty Public Fleet Vehicles, controls vehicle emissions by requiring certain fleets operating in the SCAB to utilize lower emitting vehicles (SCAQMD, 2000a). This rule applies to fleets operated by government agencies (including special districts like water, air, sanitation, school, etc.) with 15 or more non-exempt light- and medium-duty on-road gasoline, diesel, and alternative fueled vehicles. It requires applicable fleets operating within the SCAB (including those owned by or servicing the Airport) to acquire low-emitting gasoline or alternative fuel vehicles. Similarly, Rule 1196, Clean On-road Heavy-Duty Public Fleet Vehicles, is regulation with the same requirements that applies to fleets of on-road heavy duty gasoline, diesel, and alternative fueled vehicles (SCAQMD, 2008). Both rules include similar exemptions for certain fleets, such as those used for emergency response or law enforcement.

Airport vendors must also comply with Rule 1194, Commercial Airport Ground Access, which requires all public and private fleets providing passenger transportation services out of commercial airports operating in the SCAQMD to acquire cleaner burning or alternative-fueled vehicles (SCAQMD, 2000b). This rule applies to passenger cars, light-duty trucks, and medium- and heavy-duty transit vehicle fleets of 15 or more vehicles. Contracted passenger shuttle buses and taxi cabs serving airports must comply with this rule, as well as shuttles and other fleet operations not contracted by airports.

CARB In-Use Off-Road Diesel-Fueled Fleets Regulation

CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation applies to all self-propelled off-road diesel vehicles 25 horsepower or greater used in California. The purpose of the regulation is to reduce emissions of NOx and PM from off-road equipment by implementing the following requirements for equipment fleet owners:

- Emission reduction achieved by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS)
- Written idling policy
- Reporting and labeling
- Prohibitions against adding old equipment to fleets (CARB, 2016a).

Off-road equipment used at airports, such as ground support equipment (GSE) and construction equipment, are subject to this regulation.

CARB Large Spark Ignition (LSI) Engine Fleet Requirements Regulation

The Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation applies to operators of forklifts, sweepers, and other off-road equipment with LSI engines of 25 horsepower or greater. The regulation requires applicable equipment to be labeled with an Equipment Identification Number (EIN) and reported in the Diesel Off-road Online Reporting System (DOORS). In addition, fleet owners must replace or repower aging equipment to meet fleet-wide average NOx emission limits (CARB, 2016b). Similar to the off-road diesel regulation, off-road LSI equipment commonly used at airports, including forklifts, sweepers, and manlifts, are subject to this regulation.

CARB On-Road Heavy-Duty Diesel-Fueled Fleets Regulation

The CARB On-Road Heavy-Duty Diesel-Fueled Fleets Regulation, also known as the Truck and Bus Regulation calls for modernization of the state's diesel heavy-duty fleet by adopting incentives and phase-in requirements that result in retrofitting and replacing diesel trucks. Replacement has been occurring on a tiered schedule starting in 2015. By 2023, nearly all trucks and buses will be required to have model year 2010 engines (or equivalent) or newer. The compliance schedule for vehicle replacement is based on factors like the existing engine model year, type of vehicle (e.g., school bus, drayage truck), and gross vehicle weight (CARB, 2019). Thus, depending on these factors, certain heavy-duty vehicles operating at the Airport may already be subject to the regulation, with the remaining requiring compliance by 2023. Exemptions to this regulation include emergency response vehicles and low-weight trucks for personal use.

1.2.2 Potential Future Mobile Source Regulations

CARB Zero-Emission Airport Shuttle (ZEAS) Regulation

The CARB Zero-Emission Airport Shuttle (ZEAS) Regulation is under development to help CARB achieve the emission reduction strategies outlined in the Mobile Source Strategy, SIP, and Sustainable Freight Action Plan by requiring the use of zero-emission technology for vehicles, including airport shuttles that travel on fixed routes. Although exact requirements have not been adopted, draft proposed regulations would require 33% ZEAS by 2027, 66% by 2031, and 100% by 2035 (CARB, 2018). Final rulemaking is expected prior to the first AQMD target year of 2023.

CARB Zero-Emissions Airport Ground Support Equipment Regulation

CARB is currently in the process of developing a zero-emission initiative for ground support equipment (GSE) at airports around California. GSE is utilized for various functions such as refueling aircraft, transporting cargo and passengers to and from aircraft, and providing maintenance. This new regulation would help CARB achieve the emission reduction strategies included in the state's Mobile Source Strategy, State Implementation Plan, and Sustainable Freight Action Plan. This rule is intended to advance GSE conversion to zero-emission (i.e., electric) technologies while accelerating the goals and requirements provided in the current Large Spark Ignition (LSI) Engine Fleet Requirements Regulation (CARB, 2016c). The rule will apply to the tenant airlines at the Airport and their GSE contractors.

1.3 Ontario International Airport

ONT is a medium-hub airport serving the Inland Empire and the Greater Los Angeles Area. Constructed in 1923, the Airport was officially named the Ontario International Airport in 1946 as a result of the initiation of transpacific cargo flights. The City of Ontario and San Bernardino

County formed the OIAA in August 2012, and in November 2016, the OIAA obtained control of the Airport.

ONT's service area includes a population of 6 million in San Bernardino and Riverside counties, plus portions of Orange and Los Angeles counties. The Airport consists of two primary commercial terminals with a total of 26 passenger loading bridges, an international arrivals terminal with 9 aircraft parking positions, air cargo handling facilities, general aviation operators, support facilities, and administration buildings. ONT's primary runways, 26R/8L and 26L/8R, have respective lengths of approximately 12,200 and 10,200 feet. The Airport has approximately 350,000 square feet of hangar space and four on-airport passenger parking lots with a total of approximately 6,800 spaces.

Current operations include approximately 61 average daily departures (ADD). In 2017, the Airport supported a total of 94,901 aircraft operations [Federal Aviation Administration (FAA), 2019] and 4,555,225 total passengers. In addition, over 654,000 tons of freight, including U.S. Mail, were transferred through the Airport in 2017 (OIAA, 2019a).

1.3.1 Growth at ONT

Demand for passenger air travel and air cargo operations is expected to increase over the next decade. Located between Interstate 10 and California State Route 60 near their intersections with Interstate 15, ONT is highly accessible to a large geographical area, which is growing in terms of population and economic output. Current facilities support 10 million annual passengers, and the Airport's ultimate capacity can reach 31 million through expansion and surface infrastructure development (OIAA, 2019b). This combination of location and expansion opportunity results in significant growth potential for ONT. Other airports within the region are constrained by real

estate, capacity, and noise limitations, but ONT is equipped to meet the region's increased demand for air operations.

For purposes of this Air Quality Improvement Plan (AQIP), growth projections are based on FAA Terminal Area Forecast (TAF) data. Projected total operations and total enplanements for 2017, 2023 and 2031 are summarized in the Table 1 below.

Table 1: TAF Growth Projections

Year	Total Operations	% Increase vs 2017	Total Enplanements	% Increase vs 2017
2017	94,901	--	2,198,009	--
2023	112,134	18%	2,875,779	31%
2031	127,930	35%	3,451,509	57%

Source: FAA TAF, February 2019

Currently, ONT competes with Los Angeles International Airport (LAX) for business. If a passenger who lives near ONT chooses to fly out of LAX, they may potentially drive significantly more miles than if they were to fly out of ONT. As ONT adds new destinations and additional options for existing destinations, local passengers may choose to depart from ONT instead of LAX, which will result in a reduction of vehicle miles traveled (VMT) on a per passenger basis. Increased market share in freight operations may also reduce VMT per ton as ONT is located in close proximity to the warehouse and distribution industries within the Inland Empire and the eastern portion of Los Angeles County. In addition, any cargo with a destination east of Interstate 15 would have a significant decrease in VMT if arriving at ONT vs. LAX.

2.0 REDUCTION MEASURES AND INITIATIVES

As part of this AQIP, OIAA proposes to establish and implement a set of voluntary Emission Reduction Measures and Initiatives with the goal of reducing emissions compared to Business-as-Usual (BAU) operations. There are two types of programs: Reduction Measures and Initiatives. Reduction Measures contain concrete measures or goals that result in quantifiable emission reductions, and Initiatives are policies that provide infrastructure, incentives, or other tools that promote emission reductions, but do not contain specific requirements. The list of proposed reduction measures (RMs) and Initiatives (Is) is presented below, and details of each measure are provided in the following subsections.

- RM1 - Ground Support Equipment (GSE) Policy
- RM2 - Fuel Truck Operations
- RM3 - Crash Truck Replacement
- RM4 - Airport Fleet Policy
- RM5 - Maintenance Vehicle Reduction
- RM6 - Sally Port
- RM7 - Construction Equipment Policy
- I8 - CalGreen and LEED Silver Requirement
- I9 - Electric Vehicle Charging Infrastructure in Passenger Parking Lots

2.1 Airside Emission Sources

2.1.1 RM1 - GSE Policy

Tenants of ONT operate GSE as part of their airside operations. GSE includes off-road equipment used to support aircraft operations and includes, tugs, ground power units (GPUs), and loaders.[1] Each tenant at ONT operates a unique GSE fleet depending on the scale and nature of their operations. Each GSE operator's "Airport GSE fleet" is comprised solely of GSE operated at ONT.

Under Reduction Measure 1 (RM1), ONT will establish and implement a GSE policy that

[1] GSE is defined as any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the CARB In-Use Off-Road Diesel Vehicle Regulation Program, CARB Off-Road LSI Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program (PERP) and associated Portable Diesel Engine Airborne Toxic Control Measure (ATCM). Furthermore, GSE as defined here only includes equipment that is not subject to compliance with SCAQMD Rule XX – RECLAIM or included in a mobile source emission reduction credit program under SCAQMD Rule XVI.

will promote the use of newer, cleaner equipment at ONT. The goal of the GSE Policy is to achieve a reduction in the overall fleet average NOx emission factor, in terms of grams of NOx emitted per horsepower-hour (g/hp-hr), compared to BAU levels. The fleet-wide average emission factor can be achieved using a combination of approaches including, but not limited to, replacing or repowering old equipment with newer, cleaner engines, replacing traditional-fueled equipment with alternative fuel equipment, and replacing equipment with combustion engines with electric or other zero-emission equipment. Although RM1 applies exclusively to NOx emissions, actions taken to comply with the Measure (e.g., replacing or repowering equipment) will likely have the effect of reducing emissions of pollutants such as particulate matter (PM), volatile organic compounds (VOCs) and greenhouse gases (GHGs).

2.1.2 RM2 - Fuel Truck Operations

ONT utilizes diesel-fueled tanker trucks to fuel aircraft before takeoff. Fuel trucks travel from the loading rack to their destinations, which include the commercial terminals and the cargo operators. Currently, all fueling operations at ONT originate from one loading rack on the north side of the Air Operations Area (AOA). Under RM2, ONT plans to develop a second jet fuel loading rack located on the south side of the AOA. The additional loading rack will reduce emissions in two ways:

- Reduction of vehicle miles traveled (VMT) by fuel trucks with destinations on the south side of the AOA.
- Reduction in the time required per delivery to the south side of the airfield. This may reduce the total number of fuel trucks required at ONT, which in turn would have the potential to eliminate trucks from the fleet.

A reduction in total fuel truck VMT will result in a reduction of all criteria and GHG pollutants. In addition, if the truck fleet can be reduced, older trucks may be retired, which will result in reduced fleet-wide emission factors in terms of emissions per VMT. The exact location, layout, and capacity of the proposed second loading rack has not been determined at this time. Various alternatives are under development and assessment for feasibility and cost-effectiveness will be conducted. As such, the expected date of initial operations is also unknown at this time.

2.1.3 RM3 - Crash Truck Replacement

The Ontario Fire Department (OFD) operates an Aircraft Rescue and Fire Fighting (ARFF) Station, Fire Station 10, within the AOA of ONT. Fire Station 10 has an inventory of rescue vehicles, including multiple heavy-duty diesel vehicles designed to approach a fire or other emergency area and dispense water and/or fire-fighting foam. These emergency response vehicles are commonly referred to as "Crash Trucks." Although incidents that require the use of these vehicles are few and far between, Fire Station 10 routinely performs maintenance and training with the Crash Trucks, which results in frequent use of the trucks' diesel engines.

The Crash Trucks at Fire Station 10 are aging, including one vehicle that has a 1988 model year engine. Under RM3, ONT and OFD propose to implement a policy to ensure that when heavy-duty diesel emergency vehicles need replacement, they will be replaced with vehicles with Tier 4 engines. If Tier 4 engines are not readily available at the time of replacement, the best available engine tier will be selected.

2.2 Landside Emission Sources

2.2.1 RM4 - Airport Fleet Policy

The OIAA and Airport Maintenance Fleet includes on-road vehicles owned or leased by OIAA, maintenance trucks driven by OIAA staff and contractors, and off-road equipment operated by OIAA or maintenance contractors. OIAA currently owns or leases 21 on-road vehicles, including maintenance trucks, that are used on an off airport property. As of 2017, this fleet of vehicles is comprised of 11 gasoline-fueled vehicles and 13 natural gas-fueled vehicles. Under RM4, OIAA will implement a policy where leased vehicles are turned over every three years, which will result in newer model years compared to BAU. In addition, OIAA will maintain their current CNG vehicles and look to purchase/lease additional CNG and hybrid vehicles as current vehicles need replacement.

OIAA proposes to install electric vehicle charging stations in the OIAA Administration Building parking lot. Once constructed, these chargers will be available for OIAA employees or visitors. OIAA will also look to incorporate electric vehicles into its fleet of owned/leased vehicles.

2.2.2 RM5 - Maintenance Truck Reduction

In 2017, OIAA maintained a fleet of 25 maintenance trucks, plus three maintenance vans, with an average model year of 2000. In 2018 and as part of RM5, OIAA sold all but three of these vehicles in an effort to reduce the size of their maintenance fleet as well as eliminate aging vehicles from the fleet. As a result, the current OIAA fleet contains four maintenance trucks and three vans with an average model year of 2008. The smaller, newer fleet results in fewer overall emissions as well as a lower fleet average emission factor in terms of emissions per VMT. In addition, the ONT maintenance contractors have begun replacing aging trucks with leased trucks of newer model year. Under RM5, maintenance contractors will continue to replace aging vehicles with newer model years as existing maintenance vehicles require replacement.

2.2.3 RM6 - Sally Port

Supplies and materials for the commercial terminals and other airside locations are delivered directly to their final destinations by third party-operated trucks. The primary delivery location for airside-bound materials are two loading docks, one of which is located at each terminal. When deliveries arrive, they are queued up in a driveway where they wait until they pass a security screening. Each loading dock can support one or two trucks at one time, depending on the size of the trucks.

Under RM6, ONT plans to construct and operate a Sally Port, which is a centralized delivery location for materials with destinations within the AOA or security perimeter, including the commercial terminals. The Sally Port will be used in lieu of the terminal loading docks, which may result in a reduction of emissions from delivery trucks in the following ways:

- Reduction in idling emissions by reducing required stops per trip and reduce wait time per stop.
- Reduction in trips by combining deliveries destined for multiple destinations within the AOA or security perimeter.

Furthermore, once the Sally Port is established, ONT plans to execute final-mile delivery within the AOA or security perimeter using electric vehicles, which will be dedicated to the Sally Port. Potential electric vehicles to be utilized include small trucks, cargo vans, and other light-duty vehicles with relatively large cargo capacities. These vehicles will transport the materials from the Sally Port and deliver them to their final destinations.

In addition to air emission reductions, the Sally Port will significantly reduce waste. Instead of being delivered to two or more separate locations in two separate packages, materials will be delivered to the Sally Port in one combined package. In addition, packing materials not needed for final-mile delivery can be removed at the Sally Port and segregated for recycling. The proposed Sally Port is expected to provide additional security benefits, as well.

2.2.4 RM7 - Construction Equipment Policy

Construction contractors executing projects on airport property are subject to CARB's In-Use Off-Road Diesel Fueled Fleets and Large Spark Ignition Regulations, which require fleets to meet NOx emission targets in terms of grams per horsepower-hour. Although the requirements provide flexibility, contractor fleets will need to be comprised of approximately 50-66% Tier 4 Final equipment to comply with the 2023 fleet average requirements.

Under RM7, OIAA would require that contractors performing work under contract with OIAA to utilize Tier 4 Final construction equipment. In certain cases where Tier 4 equipment is not available, the best available engine Tier must be used. RM7 would result in a reduction of NOx and PM emissions from construction activities. This policy would be achieved by including a requirement in specification and contract language for each future construction project.

2.2.5 I8 - CalGreen and LEED Silver Requirement

Title 24 is part of the State of California's Code of Regulations that establish energy efficiency standards for residential and non-residential structures. The Title 24 standards, commonly known as CalGreen, were established in 1978 to reduce energy consumption in new buildings and

additions. Building components such as heating, ventilation, and air conditioning (HVAC) systems, insulation, roofing materials, and electrical systems, are subject to these standards, which are updated periodically to incorporate new technology and methods.

Under I8, future structures constructed on airport property will meet the Title 24 standards for non- residential buildings. In doing so, new buildings will also meet Leadership in Energy and Environmental Design (LEED) Silver requirements in most cases. Although meeting CalGreen requirements does not automatically certify a building under LEED, The United States Green Building Council (USGBC) recently streamlined LEED certification for CalGreen projects (USGBC, 2018). I8 will be implemented during the design phase of future projects, and LEED Certification will be applied for upon completion of each project. Although meeting the CalGreen standards does not result in a direct reduction of NOx or other criteria pollutant emissions, energy efficient structures reduce fuel and energy required to heat, cool, and light the building, which has a net reduction in regional emissions.

2.2.6 I9 - EV Infrastructure in Passenger Parking Lots

Electric vehicle chargers are available in ONT Parking Lots 2 and 4. Use of the charging stations is free for each user, but standard parking fees do apply. As part of I9, ONT plans to expand its electric vehicle charging capacity to keep up with the growing demand for electric vehicles and associated infrastructure and to promote the use of zero emissions vehicles when traveling to the Airport. Potential plans for electric vehicle charging infrastructure will be developed and implemented over the course of this AQIP.

3.0 EMISSIONS INVENTORY

3.1 Introduction

The emissions inventory prepared as part of this AQIP includes emission sources for which reduction measures have been proposed. Emissions for each source category were estimated for a baseline year, 2017, and two future years, 2023 and 2031. For 2017, the baseline inventory was based on available site-specific data, which were obtained through data requests, database analysis, and operator knowledge. When site-specific data were not available, data gaps were filled with publicly available data and assumptions from databases including the Aviation Environmental Design Tool (AEDT) and the CARB Off-road Diesel Analysis & Inventory (OFFROAD2017).

Using data obtained for the baseline year and growth projections for ONT, emissions were estimated for two future years 2023 and 2031. These emissions were estimated assuming a BAU approach, which means the Airport and various other owners and operators of emissions sources at ONT would comply with regulations currently adopted and nothing further. As part of this assumption, fleet age is expected to be maintained, and therefore, average vehicle and equipment model year will increase as time goes on. For example, if the average model year of a set of vehicles is 2007 for the 2017 scenario, then it is assumed that the average model year for the 2023 scenario will be 2013. The BAU 2023 and 2031 emission inventories were used to quantify emission reductions, which are discussed in Section 4.

Emissions were calculated based on source type, which are categorized as airside (primarily operating within the AOA) or landside (primarily operating outside of the AOA). Airside and landside are further broken down into source types, including, ground support equipment (GSE), fuel trucks, airport fleet vehicles, and construction equipment. Certain source types operate both within and outside the AOA. These source types were assigned airside or landside based on their primary operating locations.

3.2 Emissions Summary

Baseline (2017), 2023, and 2031 emissions from each emission source type are summarized below in Table 2 through Table 4. Detailed calculation methodology for each source type are provided in the following sections, as well as Attachment A.

Table 2: Emissions Summary – Baseline 2017

2017	Pollutant Emissions (tons per year [tpy])				
Emission Source Type	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Airside					
- GSE	103.02	0.17	20.61	913.68	1.73
- Fuel Trucks	2.21	1.70E-03	0.12	0.53	0.14
- Crash Trucks	7.45	0.00	0.38	3.07	0.28
Landside					
- OIAA and Maintenance Vehicles	1.37	1.74E-03	0.16	4.25	0.07
- Delivery Trucks	0.72	1.58E-03	0.04	0.15	0.02
- Passenger Vehicles	39.20	1.11	11.44	469.93	22.60

Table 3: Emissions Summary – Business as Usual 2023

2023	Pollutant Emissions (tpy)				
Emission Source Type	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Airside					
- GSE	91.10	0.17	18.43	1,095.95	1.87
- Fuel Trucks	1.98	2.03E-03	0.13	0.59	0.20
- Crash Trucks	7.45	0.00	0.38	3.07	0.28
Landside					
- OIAA and Maintenance Vehicles	0.81	1.65E-03	0.06	3.48	0.05
- Delivery Trucks	0.30	1.59E-03	0.01	0.09	1.58E-03
- Passenger Vehicles	20.96	1.22	5.42	329.02	29.21

Table 4: Emissions Summary – Business as Usual 2031

2031	Pollutant Emissions (tpy)				
Emission Source Type	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Airside					
- GSE	79.84	0.19	15.95	1,280.05	1.51
- Fuel Trucks	0.60	2.16E-03	0.01	0.17	0.04
- Crash Trucks	7.45	0.00	0.38	3.07	0.28
Landside					
- OIAA and Maintenance Vehicles	0.52	1.65E-03	0.07	3.35	0.03
- Delivery Trucks	0.35	1.62E-03	0.01	0.11	1.90E-03
- Passenger Vehicles	12.74	1.18	2.72	267.05	34.43

3.3 Airside Emissions Sources

3.3.1 Ground Support Equipment (GSE)

As part of this AQIP, a data request was sent out to each tenant that operates GSE to identify the quantity and types of GSE at ONT. Tenants' responses were used to create an inventory that includes equipment type, fuel type, horsepower, and model year. CARB's OFFROAD2017 database was used to fill in data gaps in the tenant-provided information. Emission factors and activity data (hours of operation per year) were obtained from the OFFROAD database based on equipment type, fuel type, horsepower, and model year established in the GSE inventory. Table 5 summarizes the GSE inventory by equipment type. Based on the definition of GSE established in Section 2.1.1, mobile equipment with combustion engines of less than 25 horsepower (hp) and

portable equipment with combustion engines of less than 50 hp were excluded from the inventory and analysis. Consistent with the CARB Off-Road and PERP Regulations, equipment with electric engines below the respective hp thresholds are included in the analysis when the electric equipment replaced combustion equipment with hp above the respective thresholds.

Table 5: GSE Inventory Summary

GSE Type	Total	Diesel	Gasoline	Propane	Electric	% Electric	Avg HP	Avg Model Year
Air Conditioner	7	6	1	0	0	0%	130	2013
Air Start	16	16	0	0	0	0%	497	2013
Aircraft Tug	71	21	40	0	10	14%	181	2004
Bag Tug	49	9	16	0	24	49%	80	2007
Belt Loader	51	10	13	0	28	55%	68	2008
Cargo Loader	43	35	8	0	0	0%	140	2010
Cargo Tractor	208	12	144	2	50	24%	91	2009
Deicer	1	1	0	0	0	0%	200	2012
Fork Lift	5	1	1	2	1	20%	51	2009
Golf Cart	4	0	0	0	4	100%	50	2007
GPU	55	55	0	0	0	0%	167	2011
Lavatory Cart	2	0	0	0	2	100%	43	2009
Lavatory Truck	4	1	1	0	2	50%	123	2002
Lift	16	4	5	0	7	44%	93	2004
Other	79	1	78	0	0	0%	152	2002
Passenger Stairs	2	0	2	0	0	0%	150	1995
Service Truck	2	0	2	0	0	0%	181	1995
Total	**615**	**172**	**311**	**4**	**128**	**21%**	**128**	**2008**

Baseline (2017) emissions were calculated using the information established in the GSE inventory. Emission factors were obtained from engine-specific information, engine family data, or engine tier certifications when available. If engine-specific emission factors were not available, emission factors were obtained from OFFROAD2017 for each engine's respective GSE category, fuel type, horsepower, and model year.

Future years 2023 and 2031 BAU emissions were calculated assuming the average fleet age remained constant. Model year for each piece of equipment was increased by future year minus baseline year, and emission factors for the adjusted model year were obtained from OFFROAD2017. In addition, it is assumed that GSE activity will increase linearly with aircraft activity. Therefore, total GSE emissions for 2023 and 2031 were scaled up according

to the FAA TAF total operations projections presented in Table 1. GSE Emissions are summarized in Table 6.

Table 6: GSE Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	103.02	0.17	20.61	913.8	1.73
Business-as-Usual 2023	91.10	0.17	18.43	1,095.95	1.87
Business-as-Usual 2031	79.84	0.19	15.95	1,280.05	1.51

Based on the 2017 Baseline Inventory, the current GSE at ONT has an average NOx emission factor of approximately 3.62 g/hp-hr. For the future years BAU scenarios, ONT is projected to have average NOx emission factors of 2.93 and 2.36 g/hp-hr, respectively, and percentage electric is expected to remain constant.

3.3.2 Fuel Trucks

ONT utilizes diesel-fueled tanker trucks to fuel aircraft before takeoff. There is currently one fuel loading rack from which all fuel truck trips originate. Fuel trucks travel from the loading rack to their destinations, which include the commercial terminals and the cargo operators. To estimate emissions, total annual VMT for 2017 were estimated using the total of number of departures, distances from the loading rack to the various destinations, and estimated number of truck trips per departure. In addition, idling emissions were added for each truck trip.

Emission factors were obtained from CARB's EMFAC 2017 database. Model year information for the trucks utilized at ONT were obtained from the fuel service contractor. The average model year of existing equipment was used for 2017. For the BAU 2023 and 2031 scenarios, the average fleet age was assumed to remain constant. To account for growth between 2017, 2023, and 2031, total VMT were scaled up according to Total Operations projected in ONT's FAA TAF. Fuel truck emissions are summarized in Table 7.

Table 7: Fuel Truck Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	2.21	1.70E-03	0.12	0.53	0.14
Business-as-Usual 2023	1.98	2.03E-03	0.13	0.59	0.20
Business-as-Usual 2031	0.60	2.16E-03	0.01	0.17	0.04

3.3.3 Crash Trucks

An inventory of existing equipment at Fire Station 10 was obtained from OFD. Activity data in terms of hours per year or miles per year were also provided. Emission factors for each Crash Truck were obtained from the corresponding engine certificate found on California Air Resources Board Off-Road Certification Database and On-Road New Vehicle & Engine Certification Program. These emission certifications are specific to each engine make, model, and model year. If engine certification data were not available, emission factors were obtained from CARB's OFFROAD and EMFAC databases. Growth or expansion of Fire Station 10 or its fleet of vehicles

is not expected. Therefore, 2023 and 2031 BAU emissions were assumed to be the same as Baseline. Crash Truck emissions are summarized in Table 8.

Table 8: Crash Truck Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	7.45	--	0.38	3.07	0.28
Business-as-Usual 2023	7.45	--	0.38	3.07	0.28
Business-as-Usual 2031	7.45	--	0.38	3.07	0.28

Note: Reliable SOx emission factors not available for Crash Trucks

3.4 Landside Emissions Sources

3.4.1 OIAA and Airport Maintenance Fleet

The OIAA and Airport Maintenance Fleet includes on-road vehicles owned or leased by OIAA, maintenance trucks driven by OIAA staff and contractors, and off-road equipment operated by OIAA or maintenance contractors. An inventory of this equipment was obtained from OIAA staff and maintenance contractor personnel. Emission factors for each vehicle were obtained from EMFAC2017 based on vehicle type, make, model, model year, and Gross Vehicle Weight Rating (GVWR). Similarly, emission factors for each piece of off-road equipment were obtained from the OFFROAD database using equipment type, fuel type, horsepower, and model year.

Fuel usage for OIAA and Airport Maintenance Vehicles is tracked by vehicle operators. Vehicle or equipment ID number, mileage or hours, and fuel dispensed are entered at the time of each fill-up. These usage logs were analyzed to determine the annual usage of each vehicle or piece of equipment. Average usage data were used for vehicles or equipment that had insufficient data in the fuel usage logs.

The size and facilities at ONT under the responsibility of OIAA and its maintenance contractors are expected to be similar between 2017, 2023, and 2031. However, due to anticipated growth at ONT based on FAA TAF projections, additional maintenance activities may be required during 2023 and 2031 compared to 2017. To account for these additional maintenance activities, equipment activity levels were assumed to increase by 5% in 2023 compared to 2017 levels and 10% in 2031 compared to 2017 levels. OIAA and Maintenance Fleet Emissions are summarized in Table 9.

Table 9: OIAA and Maintenance Fleet Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	1.37	1.74E-03	0.16	4.25	0.07
Business-as-Usual 2023	0.81	1.65E-03	0.06	3.48	0.05
Business-as-Usual 2031	0.52	1.65E-03	0.07	3.35	0.03

3.4.2 Delivery Trucks

Supplies and materials for the commercial terminals and other airside locations are delivered directly to their final destinations by third parties using trucks. The primary delivery location for airside-bound materials are two loading docks, one of which is located at each terminal. The quantity of deliveries per day was determined by observing the loading dock during a routine weekday. Most deliveries occur during the weekday. Therefore, trips per year were based on a 5/52 schedule. Roundtrip distance for each delivery was assumed to be approximately 25 miles and idling emissions were added to each trip. Emission factors for delivery trucks were obtained from CARB's EMFAC database. Aggregate fleet emission factors were used for baseline and future year emissions.

Deliveries per day are expected to increase according to aircraft activity. Therefore, deliveries per day for 2023 and 2031 were scaled by the percent increase in total operations between the baseline and future years. Delivery truck emissions are summarized in Table 10.

Table 10: Delivery Truck Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	0.72	1.58E-03	0.04	0.15	0.02
Business-as-Usual 2023	0.30	1.59E-03	0.01	0.09	1.58E-03
Business-as-Usual 2031	0.35	1.62E-03	0.01	0.11	1.90E-03

3.4.3 Passenger Vehicles

To calculate emissions from passenger travel to and from ONT, airport staff provided data based on air travel ticket purchases. The data provided included a list of zip codes and the number of passengers originating from each respective zip code. The distance from the center of each zip code area to the Airport was calculated and multiplied by 2 to estimate round-trip distances. Total VMT were calculated using the weighted average round trip distance multiplied by the total number of round trips, which were determined based on a traffic study performed in 2002. Average daily trips observed in 2002 were scaled according to the ratio of total passengers between 2017 and 2002. Average daily tips, passengers, and VMT between 2002 and 2017 are summarized below.

Table 11: Baseline Passenger VMT

	2002	**2017**
Total Annual Passengers	6,517,050	4,552,225
Average Daily Trips	33,001	23,052
Annual Trips	12,045,365	8,413,809
One-way Distance (mi)	32.00	36.64
Total Annual VMT (mi)	770,903,360	616,563,898

CARB EMFAC2017 Web Database was used to determine applicable vehicle types and associated emission factors. Total VMT were divided based on the ratio of each vehicle type's total VMT over the total VMT for all vehicle types contained within the EMFAC2017 database. For example, light duty gasoline vehicles account for approximately 69% of total VMT in 2017, according to EMFAC2017. Therefore, 69% of the Airport passengers' VMT was assigned to light duty gasoline vehicles for 2017 emissions.

For future years 2023 and 2031, respective emission factors and vehicle category ratios were applied for each year. The total passenger VMT for 2023 and 2031 were calculated by multiplying the 2017 value by the ratio of number of total enplanements in the future year compared to 2017, which is provided by FAA TAF projections. Passenger vehicle emissions are summarized in Table 12.

Table 12: Passenger Vehicle Emissions

	Pollutant Emissions (tpy)				
Inventory Year	**NOx**	**SOx**	**VOC**	**CO**	**PM**
Baseline 2017	39.20	1.11	11.44	469.93	22.60
Business-as-Usual 2023	20.96	1.22	5.42	329.02	29.21
Business-as-Usual 2031	12.74	1.18	2.72	267.05	34.43

4.0 EMISSION REDUCTION SUMMARY

Each measure discussed in Section 2 has the potential to reduce emissions of NOx as well as other pollutants. Certain measures have established goals and timelines which allow for quantification of emission reductions. However, other measures are less defined, and therefore, their respective emission reductions cannot be quantified. Where possible, emission reductions for each measure in terms of percentage reduction compared to BAU levels are provided in the following sub-sections.

Table 13: Emission Reduction Summary (NOx Emissions)

RM #	Reduction Measure Name	2017 (tpy)	2023 (tpy)			2031 (tpy)		
			BAU	After RM	Reduction	BAU	After RM	Reduction
1	GSE Policy	103.02	91.10	68.44	22.66	79.84	33.81	46.03
2	Fuel Truck Operation	2.21	1.98	--	--	0.60	--	--
3	Crash Truck Replacement	7.45	7.45	4.19	3.26	7.45	4.19	3.26
4/5	Airport Fleet Policy	1.37	0.81	0.77	0.05	0.52	0.47	0.05
6	Sally Port	0.72	0.30	--	--	0.35	--	--
7	Construction Equipment Policy	--	--	--	--	--	--	--
8	CalGreen Requirement	--	--	--	--	--	--	--
9	EV Infrastructure in Passenger Parking Lots	39.20	20.96	--	--	12.74	--	--

Note: "--" indicates that the source type and/or reduction measure cannot be quantified at this time.

4.1 Airside Emission Sources

4.1.1 RM1 - GSE Policy

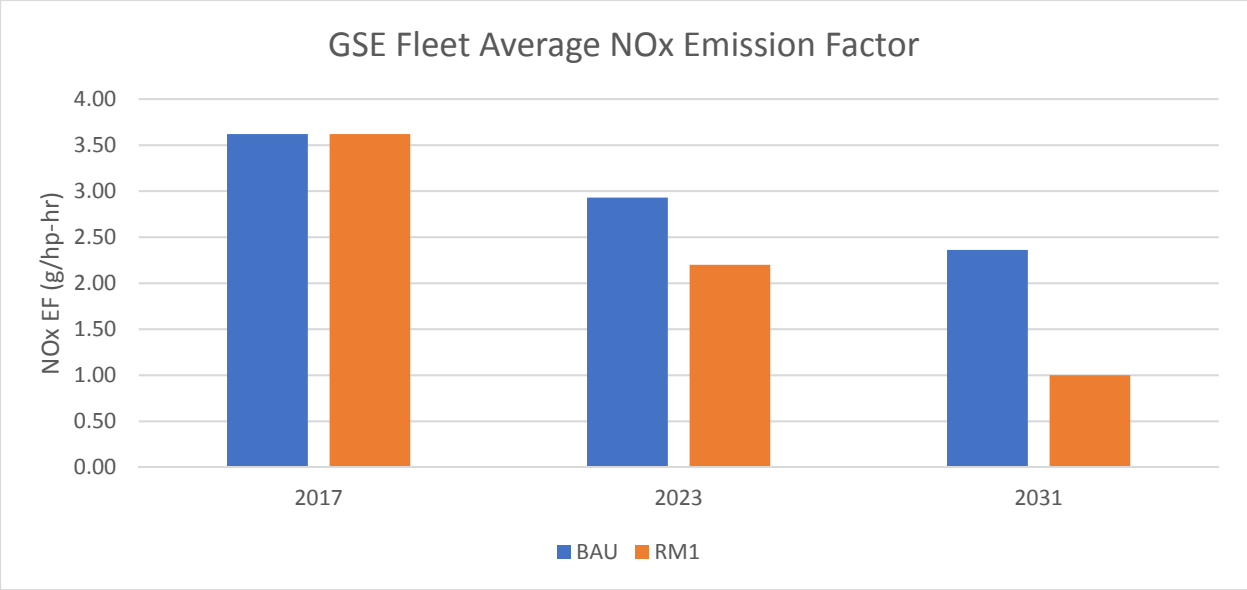
Under RM1, ONT will establish, implement, and track on an annual basis a GSE policy with the goal of reducing the overall fleet average NOx emission factor compared to BAU levels. Specifically, the GSE policy will require that all GSE associated with commercial operations achieve a fleet average NOx emissions factor of 2.20 g/hp-hr by January 1, 2023 and 1.00 by January 1, 2031. The reduced average emission factor can be met using a combination of approaches including, but not limited to, replacing or repowering old equipment with newer, cleaner engines, replacing traditional-fueled equipment with alternative fuel equipment, and replacing equipment with combustion engines with electric or other zero-emission technology.

The NOx emission factor goals for January 1, 2023 and 2031 are provided in Table 14 and the chart below.

Table 14: GSE Reduction Measure Summary

Year	2017	2023	2031
Business-as-Usual EF (g/hp-hr)	3.62	2.93	2.36
Target EF (g/hp-hr)	N/A	2.20	1.00
Business-as-Usual NOx Emissions (tpy)	103.02	91.10	79.84
After RM NOx Emissions (tpy)	N/A	68.44	33.81
% Reduction in NOx Emissions	N/A	25%	58%

The proposed GSE policy will be implemented with cooperation from the various GSE operators at ONT. To track the progress of RM1, OIAA will require each GSE operator to provide an updated inventory each year. Data obtained from each year's progress update will be used to calculate the average fleet-wide NOx emission factor and for comparison to the goals of RM1.



ONT recognizes that successful electrification of GSE at the airport depends on: (1) adequate, reliable power generating capacity; (2) adequate, reliable on-airport infrastructure to deliver electric power to GSE (e.g., substations, conduits and chargers); and (3) the commercial availability of reliable electric GSE on the market at reasonable prices that is capable of performing the tasks required of it safely, reliably and efficiently. Parallel requirements condition the deployment of other types of alternatively fueled vehicles. ONT understands that the GSE fleet data provided by airlines and third parties may incorporate (1) low-use exceptions (consistent with CARB rules and regulations), (2) allowance for GSE to reach useful life of at least 12 years (consistent with state law), and (3) cost-effectiveness demonstrations regarding GSE electrification and the calculation of average NOx emissions factors will incorporate these items.

Consistent with the CARB Off-Road Diesel compliance requirements the measure will allow, in the event that an annual emissions target is not achieved by a fleet owner, alternative compliance strategies such as application of Best Available Control Technology (BACT) and vehicle "turnover" (i.e., vehicle retirement, conversion to "low- use," repowering, or rebuilding engines to comply with

more stringent emission limits). ONT may adopt CARB alternative compliance strategies when evaluating a GSE operator's status and efforts towards achieving these targets.

To encourage and support the conversion to and/or use of alternative fuel, low emissions GSE technology, ONT staff, in consultation with GSE operators, will analyze the extent to which additional infrastructure to support the use of alternative fuel low-emission GSE technology is needed. Where appropriate and in consultation with GSE operators, ONT may make available such additional infrastructure. ONT acknowledges that some of the GSE operators have already installed electricity infrastructure and charging stations on their own and that some GSE operators may desire to use their own electricity infrastructure and charging stations or may be required as part of lease renewals to help upgrade such infrastructure.

ONT, in consultation with the GSE operators, shall develop an agreed upon reporting approach, related rules and regulations, and lease and license agreements to carry out this policy.

4.1.2 RM2 - Fuel Truck Operations

Currently, all fueling operations at ONT originate from one loading rack on the north side of the AOA. Under RM2, ONT plans to develop a second loading rack located on the south side of the AOA. The additional loading rack will reduce emissions in two ways:

- Reduction of vehicle miles traveled by fuel trucks with destinations on the south side of the AOA.
- Reduce the time required per delivery to the south side of the airfield. This may reduce the total number of fuel trucks required at ONT, which in turn would have the potential to eliminate trucks from the fleet.

The exact location, layout, and capacity of the proposed second loading rack has not been determined at this time. Therefore, exact emission reductions cannot be quantified at this time. However, emission reductions will be quantified as part of the AQIP annual reporting once plans have been finalized.

4.1.3 RM3 - Crash Truck Replacement

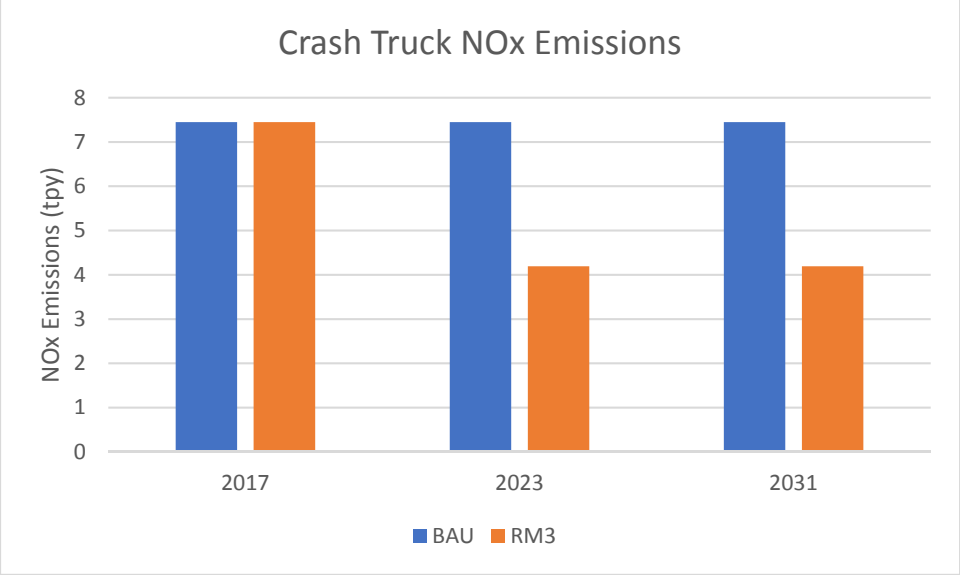
The Crash Trucks at Fire Station 10 are aging, including one vehicle that has a 1988 model year engine. Under RM3, ONT and OFD propose to implement a policy to ensure when heavy-duty diesel emergency vehicles need replacement, they will be replaced with vehicles with Tier 4 engines. If Tier 4 engines are not readily available at the time of replacement, the best available engine tier will be selected.

OFD plans to replace 7 of the existing 12 vehicles at Fire Station 10 before 2023. These 7 replacements will follow the Tier 4 policy discussed above. As a result of these replacements,

NOx emissions from Crash Trucks are expected to be reduced by 44% compared to BAU levels for years 2023 and 2031.

Table 15: Crash Truck Reduction Summary

Year	2017	2023	2031
Business-as-Usual NOx (tpy)	7.45	7.45	7.45
Post-fleet Reduction NOx (tpy)	N/A	4.19	4.19
% Reduction	N/A	44%	44%



4.2 Landside Emission Sources

4.2.1 RM4 - Airport Fleet Policy

OIAA currently owns or leases 21 on-road vehicles, including maintenance trucks that are used on and off airport property. As of 2017, this fleet of vehicles comprises of 11 gasoline-fueled vehicles and 13 natural gas-fueled vehicles. Under RM4, OIAA will implement a policy where leased vehicles are turned over every three years, which will result in newer model years compared to BAU. In addition, OIAA will maintain their current CNG vehicles and look to purchase/lease additional CNG vehicles as owned vehicles need replacement.

In addition, OIAA proposes to install electric vehicle charging stations in the OIAA Administration Building parking lot. Once constructed, these chargers will be available for OIAA employees or visitors, plus OIAA will look

to incorporate electric vehicles into its fleet of owned/leased vehicles. Emission reductions for RM4 are included in the reductions quantified as part of RM5.

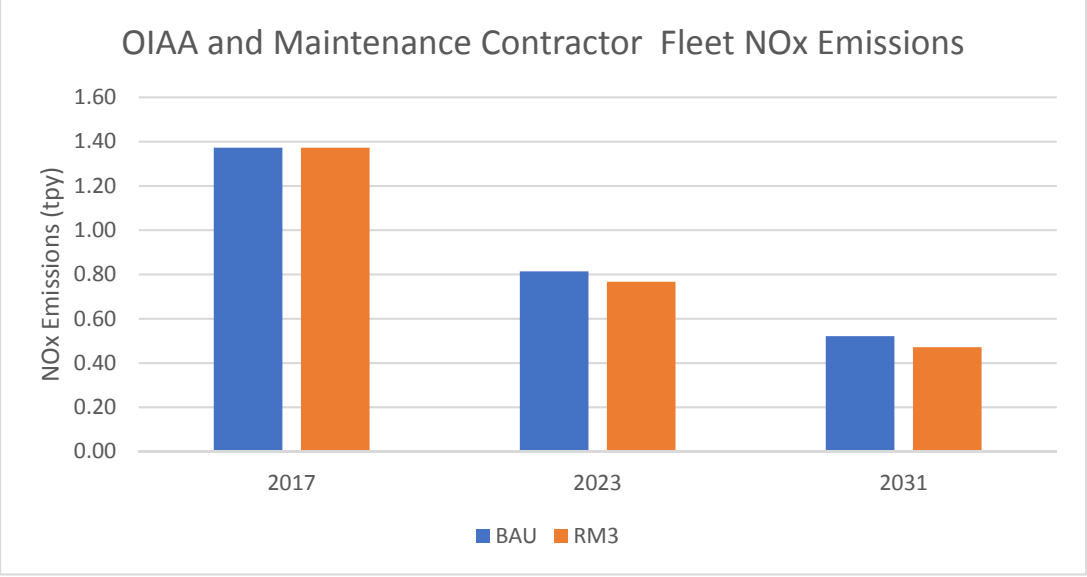
4.2.2 RM5 - Maintenance Truck Reduction

In 2017, OIAA maintained a fleet of 25 maintenance trucks, plus three maintenance vans, with an average model year of 2000. In 2018 and as part of RM5, OIAA sold all but three of these vehicles to reduce the size of their maintenance fleet as well as eliminate aging vehicles from the fleet. As a result, the current OIAA fleet contains four maintenance trucks and three vans with an average model year of 2008. Assuming constant fleet age between 2017, 2023, and 2031, pre- and post-fleet reduction emissions were calculated. NOx emission reductions achieved for the combined OIAA and maintenance contractor fleet achieved by RM5 are summarized below.

Table 16: Maintenance Fleet Reduction Summary

Year	2017	2023	2031
Business-as-Usual NOx (tpy)	1.37	0.81	0.52
Post-fleet Reduction NOx (tpy)	N/A	0.77	0.47
% Reduction	N/A	6%	10%

In addition, the ONT maintenance contractors have begun replacing aging trucks with leased trucks of newer model year. Under RM5, maintenance contractors will continue to replace aging vehicles with newer model years. Emission reduction estimates will be performed each year using updated fleet inventories.



4.2.3 RM6 - Sally Port

Under RM6, ONT plans to construct and operate a Sally Port, which is a centralized delivery location for materials with destinations within the AOA or security perimeter, including the

commercial terminals. The Sally Port will be used in lieu of the terminal loading docks, which may result in a reduction of emissions from delivery trucks in the following ways:

- Reduction in idling emissions by reducing required stops per trip and reduce wait time per stop
- Reduction in trips by combining deliveries destined for multiple destinations within the AOA or security perimeter

The exact location, layout, and operations of the Sally Port are under development. Therefore, exact emission reductions cannot be quantified at this time. However, emission reductions will be quantified as part of the AQIP annual reporting once plans have been finalized.,

4.2.4 RM7 - Construction Equipment Policy

Construction emissions were not included in the emissions inventory due to uncertainty in what type and scale of construction projects will take place in 2023 and 2031. However, ONT would require that contractors performing work under contract with OIAA utilize Tier 4 Final equipment. In certain cases where Tier 4 equipment is not available, the best available engine Tier must be used. This policy would be achieved by including a requirement in project specification and contract language for each future construction project.

Since no specific projects have been identified for 2023 or 2031, potential NOx emission reductions from RM8 were estimated using emission factors for the BAU vs. Tier 4 operating scenarios. BAU emission factors are based on the default fleet mix for construction and mining equipment for San Bernardino County for calendar years 2023 and 2031, respectively. Potential NOx emission reductions from RM8 are summarized in Table 16.

Table 17: Construction Equipment Policy

	NOx Emission Factors (g/hp-hr)		
HP Bin	**2023 BAU**	**2031 BAU**	**Tier 4**
< 25	2.0	1.8	5.6
25 - 50	1.5	1.3	3.5
50 – 75	1.1	0.9	3.5
75 – 100	1.0	0.7	0.3
100 – 175	0.9	0.4	0.3
175 - 300	0.9	0.4	0.3
300 – 600	0.7	0.4	0.3
600 – 750	0.9	0.4	0.3
> 750	1.4	1.1	2.6

4.2.5 I8 - CalGreen and LEED Silver Requirement

Title 24 is part of the State of California's Code of Regulations that establish energy efficiency standards for residential and non-residential structures. The Title 24 standards, commonly known as CalGreen, were established in 1978 to reduce energy consumption in new buildings and additions. Building components such as heating, ventilation, and air conditioning (HVAC) systems, insulation, roofing materials, and electrical systems, are subject to these standards, which are updated periodically to incorporate new technology and methods.

Under I8, future structures constructed on airport property will meet the Title 24 standards for non-residential buildings. In doing so, new buildings will also meet Leadership in Energy and Environmental Design (LEED) Silver requirements in most cases. Although meeting CalGreen requirements does not automatically certify a building under LEED, The United States Green Building Council (USGBC) recently streamlined LEED certification for CalGreen projects (USGBC, 2018). I8 will be implemented during the design phase of future projects, and LEED Certification will be applied for upon completion of each project. Although meeting the CalGreen standards does not result in a direct reduction of NOx or other criteria pollutant emissions, energy efficient structures reduce fuel and energy required to heat, cool, and light the building, which has a net reduction in regional emissions.

4.2.6 I9 - EV Infrastructure in Passenger Parking Lots

Electric vehicle chargers are available in ONT Parking Lots 2 and 4. Use of the charging stations is free for each user, but standard parking fees do apply. As part of I9, ONT plans to expand its electric vehicle charging capacity to keep up with the growing demand for electric vehicles and associated infrastructure and promote the use of zero emissions vehicles when traveling to the Airport. Potential plans for electric vehicle charging infrastructure will be developed and implemented over the course of this AQIP.

5.0 CONCLUSION

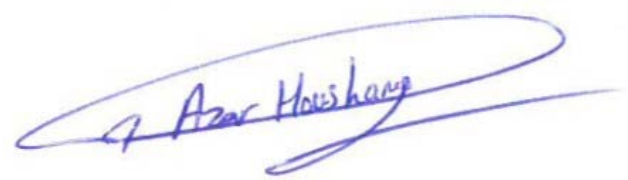
ONT is committed to implementing the reduction measures and initiatives proposed in this AQIP and will continue to comply with and exceed the requirements of applicable SCAQMD and CARB mobile source regulations. ONT will work to develop a strong relationship between Airport staff, tenants, vendors and contractors to facilitate smooth and efficient implementation of each measure. Cooperation from all parties will be required in order to meet the goals of this AQIP, and the collaborative development process has laid the foundation for successful action going forward.

Progress of each measure and updated emission reduction estimates will be provided each year as part of the Annual AQIP Report. In addition, the Annual Report will incorporate any new projects or emission reduction techniques that were not included in this AQIP. ONT is committed to providing the tracking and verification required to receive SIP credits for emission reductions achieved at the Airport.

As time progresses and air travel and freight demand continues to grow, ONT looks forward to meeting the region's demand while staying committed to environmental stewardship. This AQIP is one piece of ONT's overall plan to update and modernize the facility, which will result in increased operational and energy efficiency. The ultimate goal is to meet the regions aviation needs and be a valued, responsible member of the Inland Empire community.

Respectfully submitted by:

Chris Waller, CPP
Director, EHS & Air
Alta Environmental



Yasaman Azar Houshang
Air Quality Specialist
Alta Environmental

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Attachment A:
Emission Calculations