CHAPTER 2 INVENTORY

2.1 INTRODUCTION

This report replaces the 2007 Ontario Municipal Airport Master Plan and includes current and comprehensive inventory data. Data from on-site inspections, research, and Airport staff has been included in this chapter to illustrate current conditions where available.

2.2 REGIONAL SETTING

Regional features provide a better understanding of the social, economic, and environmental impacts the Ontario Municipal Airport (ONO) has in its region, county, and city.

2.2.1 LOCATION AND VICINITY

The Ontario Municipal Airport is located near 44° 01' 09.7" N 117° 00' 46.9" W, along the western edge of Ontario, Oregon. The Airport is approximately four miles west of the Oregon-Idaho Border and is owned and operated by the City of Ontario.

Airport elevation is 2,192 feet above mean sea level (MSL), with nearby terrain rising to more than 6,482 feet MSL within 30 nautical miles. The Airport property approximates 480 acres with undeveloped land bordering the western edge and aviation and industrial development bordering the eastern side of the property.

The City of Ontario is in Malheur County in eastern Oregon. The county seat is in Vale, which is approximately 14 miles west of Ontario. **Figure 2.1** depicts the Airport's location in relation to Ontario, Malheur County, and Oregon.

2.2.2 COMMUNITY SOCIO-ECONOMIC DATA

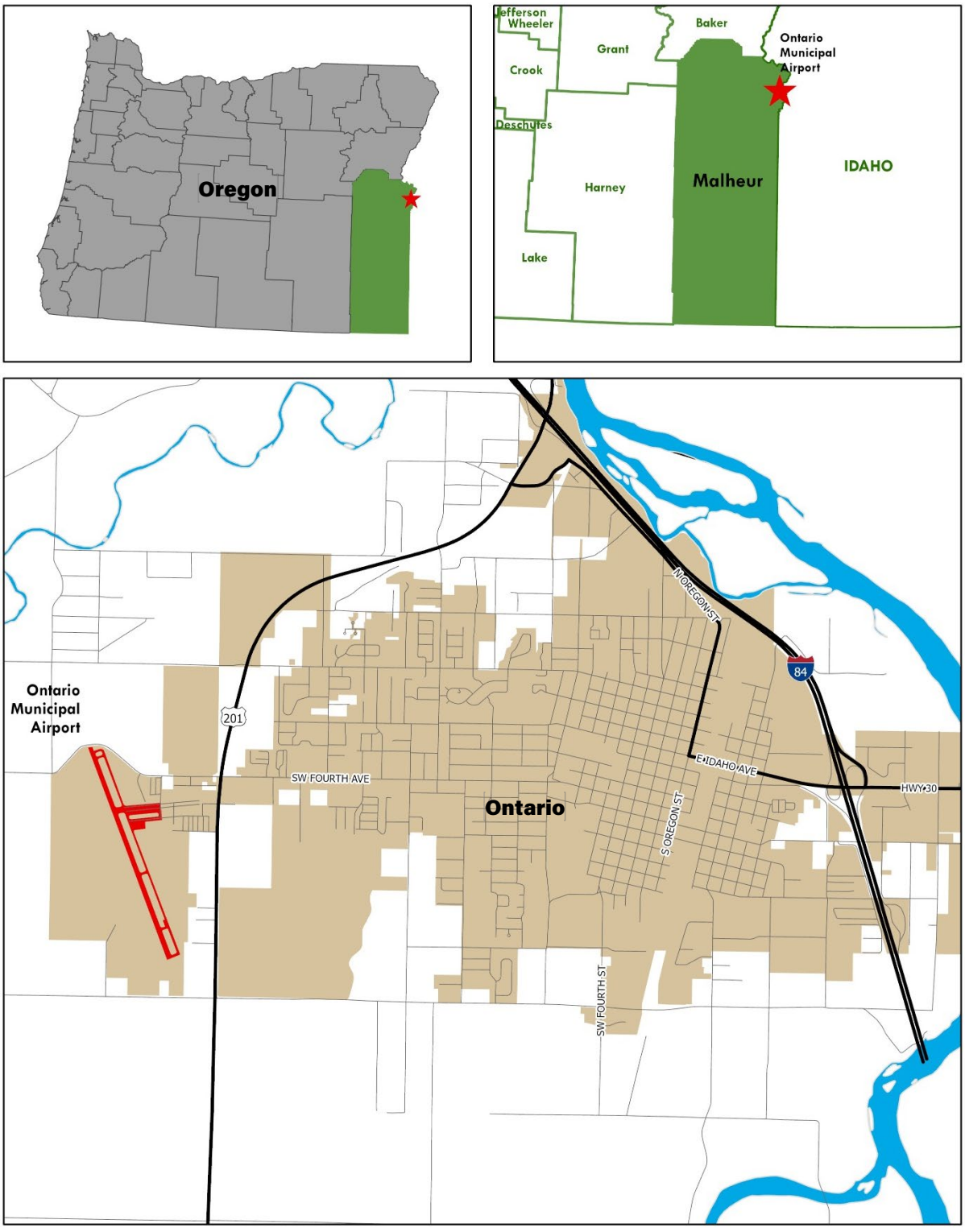
The U.S. Census Bureau and Population Research Center at Portland State University (PRC-PSU) provided population data for the state, county, and city; additional demographic information for the Ontario, OR-ID Micropolitan Statistical Area (MSA) came from Woods and Poole Economics Inc. (WPE).

The U.S. Office of Management and Budget (OMB) delineates metropolitan and micropolitan statistical areas based on data provided by the U.S. Census Bureau. MSAs include a substantial population center and their adjacent communities; the City of Ontario, and a majority of Malheur County, fall within the Ontario, OR-ID Micropolitan Statistical Area. For purposes of this planning effort, demographic information has been provided for the Ontario, OR-ID MSA to represent the airport service area.

2.2.2.1 Population

The state of Oregon, Ontario OR-ID MSA, and City of Ontario have all undergone consistent population growth in each census year since 1990. Over the three decades, the population of Oregon has grown at a compound annual growth rate (CAGR) of 1.3 percent and the Ontario, OR-ID MSA at a rate of one percent. Historic population trends for Malheur County, however, have not been as consistent. The County had a minor downward shift between 2000 and 2010, but overall, from 1990 to 2020, grew at a CAGR of 0.6 percent. The City of Ontario has experienced a steadier increase in population, but at a lower CAGR (0.7 percent) than the state and the Ontario, OR-ID MSA. Since 1990, the City accounts for approximately 36 percent of county population, second in size only to unincorporated Malheur County at 47 percent. **Table 2.1** compares historical population data for Oregon, Ontario OR-ID MSA, Malheur County, Ontario, Vale, and Unincorporated Malheur County.

FIGURE 2.1
LOCATION AND VICINITY MAP



SOURCE: J-U-B

TABLE 2.1 *HISTORIC POPULATION*					
	1990	2000	2010	2020	CAGR (1990-2020)
Oregon	2,842,321	3,421,399	3,831,074	4,237,256	1.3%
Ontario, OR-ID MSA	42,595	52,193	53,936	56,957	1.0%
Malheur County	26,038	31,615	31,313	31,571	0.6%
Unincorporated Malheur County	12,029	15,105	14,448	15,010	0.7%
Ontario	9,392	10,985	11,366	11,645	0.7%
Vale	1,491	1,976	1,874	1,894	0.8%

SOURCE: U.S. CENSUS BUREAU, PRC-PSU (APRIL 2021) / WPE / J-U-B
**CAGR: Compound Annual Growth Rate*

2.2.2.2 Area Demographics

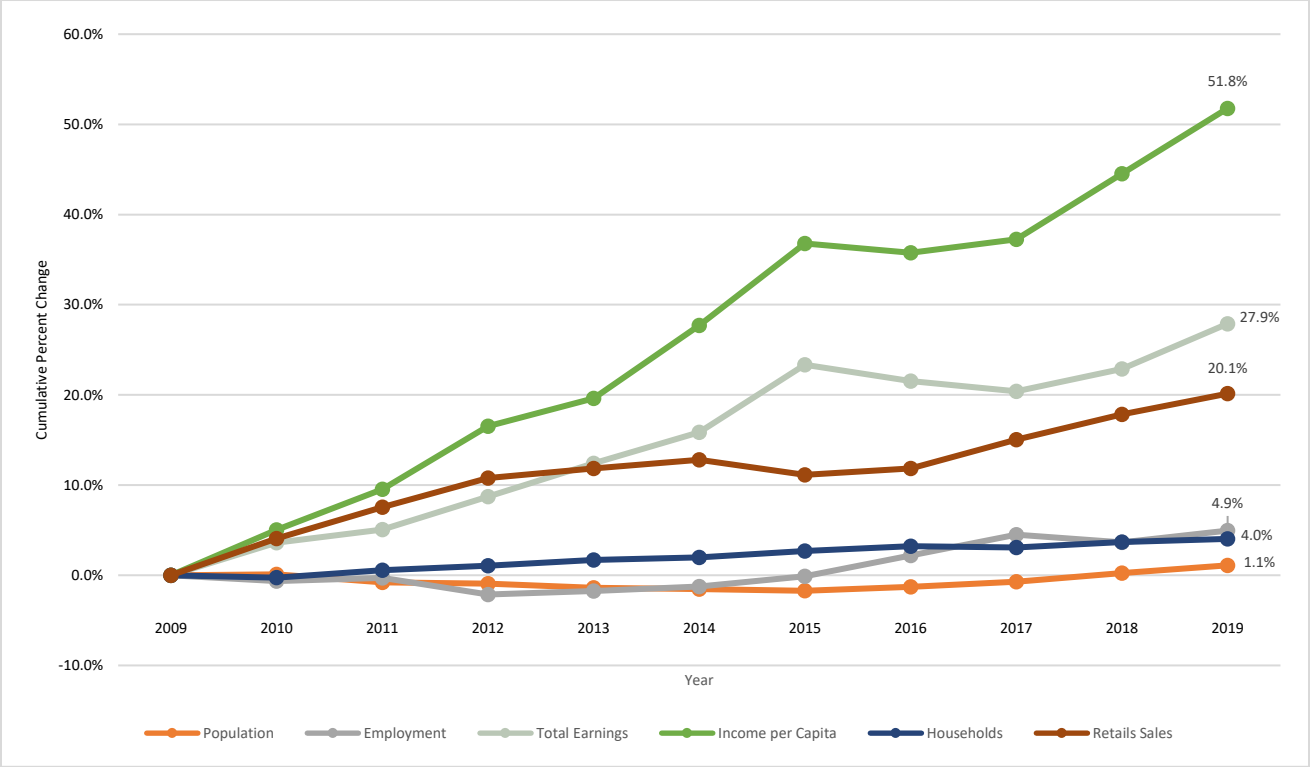
Historical socioeconomic data can show the growth dynamics, economic strength, and ability of a region to sustain a strong economic base over time. The characteristics included in this analysis for the Ontario Municipal Airport service area include population, employment, earnings, personal income per capita, households, and retail sales.

In the Ontario, OR-ID MSA, 80 percent of the jobs are in the private sector and 20 percent are in government. The personal per capita income for the MSA, in 2012 dollars, has increased at a CAGR of three percent between 2010 and 2020; and, for the same ten-year period, it has seen the greatest cumulative percent change (51.8 percent) out of the included characteristics. Additional cumulative percent change data is depicted in the graph in **Figure 2.2**, while additional historical data and CAGR trends are listed in **Table 2.2**.

TABLE 2.2 *ONTARIO, OR-ID MSA HISTORIC SOCIOECONOMICS DATA*						
Characteristic	Unit	2010	2015	CAGR (2010-2015)	2020	CAGR (2010-2020)
Population	Persons	53,936	53,001	-0.3%	56,957	0.5%
Employment	Jobs	26,580	26,724	0.1%	28,398	0.7%
Earnings	2012 Dollars	$974M	$1,160M	3.5%	$1,199M	2.1%
Personal Income Per Capita	2012 Dollars	$27,322	$33,055	3.9%	$36,727	3.0%
Households	Single House	18,682	19,235	0.6%	19,661	0.5%
Retail Sales	2012 Dollars	$692M	$739M	1.3%	$779M	1.2%

SOURCE: WPE / J-U-B
**CAGR: Compound Annual Growth Rate*

FIGURE 2.2
ONTARIO, OR-ID MSA HISTORIC SOCIOECONOMICS PERCENT CHANGE



Source: WPE / J-U-B
**Cumulative percent change calculated using 2010 as the base year*

2.3 AIRPORT ROLE

The Ontario Municipal Airport is a general aviation (GA) airport that supports the commuter, agricultural, flight training, emergency medical, and firefighting operations in the wider Ontario area. As of November 2021, *basedaircraft.com* reports 89 validated based aircraft at the Airport.

2.3.1 NATIONAL ROLE

The Ontario Municipal Airport is included in the national airport system and is one of 3,304 existing airports identified in the FAA's National Plan of Integrated Airport Systems (NPIAS) for fiscal years 2021 to 2025. In the plan, the FAA uses current activity measures to classify GA airports into one of five categories: national, regional, local, basic, and unclassified. The 2021-2025 NPIAS lists the Ontario Municipal Airport as a publicly owned local airport.

As sponsor of a NPIAS participating airport, the City is eligible and has received Federal grant-in-aid for airport improvements under the Airport Improvement Program (AIP). Funds to pay for NPIAS improvements originate with the AIP program and are distributed through non-primary entitlements, state appropriations, and national discretionary funds. The AIP is a user-fee based program established by the Airport and Airways Trust Fund in 1971 and amended by the Airport and Airway Improvement Act of 1982. This grant-in-aid program provides a large portion of funding for much of the federal, state, and local airport planning and improvements.

Through the AIP, the FAA provides a maximum of $150,000 in annual aid to each airport sponsor. Airport sponsors can bank roll annual entitlements up to a maximum of $600,000 before the FAA requires expenditure of funds. Grants through the AIP typically cover up to 90 percent of total project cost, with the airport sponsor contributing the remainder as match. The state may choose to contribute toward the project and split costs with the airport sponsor, depending on available funds.

This planning effort, along with planning done by the Oregon Department of Aviation (ODA), may be used to consider the extent of funding available to the City of Ontario.

2.3.2 STATE ROLE

The Ontario Municipal Airport is also eligible to receive funding through the Oregon Department of Aviation (ODA) and other state agencies. The latest *Oregon Aviation Plan v6.0* (OAP v6.0) classifies airports in the Oregon system as commercial, urban, regional, local, and remote depending on function. The Ontario Municipal Airport is identified as a Category III Regional General Aviation Airport. **Table 2.3** lists the OAP v6.0 basic and target performance metrics for a regional classified airport. The Airport meets and/or exceeds each performance metric.

The OAP v6.0 economic impact analysis estimates the Ontario Municipal Airport contributes 7 on-airport jobs and $222,591 worth of annual labor earnings, $177,112 of which is attributed to visitor spending.

In accordance with the Oregon Revised Statutes (ORS), the ODA has developed model code, template documents, formal consultation for land use protection, an online mapping application for visualization, and comprehensive planning guidance for sponsors to follow through a master plan process or for stand-alone needs.

TABLE 2.3 *OREGON AVIATION PLAN V6.0; REGIONAL PERFORMANCE CRITERIA*		
Facilities	**Basic Criteria**	**Current Performance**
Airside Facilities		
FAA-ARC	B-II	B-II
NPIAS	Yes	Yes
Based Aircraft	≥10 (NPIAS Standard)	89
Runway Orientation	≥95% wind coverage (combined primary/secondary rwy)	≥97% wind coverage
Runway Length	4,000 feet	5,006 feet
Runway Width	75 feet	100 feet
Runway Pavement Type	Bituminous, Concrete	Bituminous
Runway Pavement Strength	Varies by Airport* (≥12,500 lbs.)	Single-wheel gear (30,000 lbs.) Dual-wheel gear (60,000 lbs.)
Runway Pavement PCI	60	70-85
Taxiways	Partial or Turnarounds	Full Parallel
Approach Type	Non-Precision	Non-Precision
Visual Approach Aids	One Runway End	Rotating Beacon, Lighted Wind Cone, Wind Cone, PAPI, REIL
Instrument Approach Aids	Not an Objective	PAPI
Runway Lighting	MIRL	MIRL
Taxiway Lighting	MITL	MITL
General Facilities		
Rotating Beacon	Yes	Yes
Lighted Wind Indicator	Yes	Yes
Weather Reporting	AWOS/ASOS	ASOS
Hangared Aircraft Storage	75% of Based Aircraft	80 (90% of Based Aircraft)
Apron Parking/Storage	30% of Daily Transient	37 (7 Daily Transient)
Terminal Building	Small Meeting Area	Conference Room
Auto Parking	Minimal (tenant/public)	Yes
Fencing	Terminal Area; controlled access	Perimeter fencing; controlled access at all 3 entry points
Cargo	Space on Existing Apron	Space on Existing Apron
Deicing Facility	Not an Objective	No
Services		
Fuel	100 LL (24-hour self-service) & Jet A	100 LL & Jet A 24-hour self-service
FBO	Full Service (normal business hours)	Full Service
Ground Transportation	Courtesy Car/ Offsite Rental Car	Courtesy Car
Food Service	Vending	Yes
Restrooms	Yes	Yes
Pilot Lounge	Yes w/ Weather Reporting Station	Yes w/ Weather
Snow Removal	Yes (Coastal airports exempt)	Yes
Telephone	Yes	Yes
SOURCE: OREGON AVIATION PLAN V6.0, TABLE 4-4, PP.4-6 TO 4-7 **Varies by Airport: Indicates airport-specific requirements defined by airport master plan/ALP and design aircraft*		

2.3.3 PREVIOUS AIRPORT PLANNING

The most recent planning document on file for the Ontario Municipal Airport is the 2007 Airport Master Plan. The ALP has since been updated as development has occurred at the Airport. **Table 2.4** identifies the FAA and ODA grant history at the Ontario Municipal Airport, starting from 2003.

TABLE 2.4
FAA AND ODA GRANTS FOR THE ONTARIO AIRPORT

AIP Number	Year	Project Description	ODA Funds	AIP Federal Funds	Coronavirus Act Funds
3-41-0044-004	2003	Rehabilitate Taxilanes, Rehabilitate Apron Taxiway, Rehabilitate Runway 14/32*, Install Perimeter Fencing	$0	$941,400	$0
3-41-0044-005	2005	Construct Apron, Construct Runway 14/32*, Construct Taxiway, Install Miscellaneous NAVAIDS	$0	$350,000	$0
3-41-0044-006	2006	Update Airport Master Plan Study	$0	$111,765	$0
3-41-0044-007	2007	Install Perimeter Fencing	$0	$200,000	$0
N/A	2007	Extend Runway 32* End and Parallel Taxiway	$1,040,000	$0	$0
3-41-0044-008	2009	Install Runway 14/32* Lighting, Rehabilitate Runway 14/32*, Expand Apron, Rehabilitate Apron, Rehabilitate Taxiway	$0	$124,168	$0
3-41-0044-009	2010	Install Runway 14/32* Lighting, Rehabilitate Runway 14/32*, Expand Apron, Rehabilitate Apron, Rehabilitate Taxiway	$0	$168,913	$0
3-41-0044-010	2011	Install Runway 14/32* Lighting, Rehabilitate Runway 14/32*, Expand Apron, Rehabilitate Apron, Rehabilitate Taxiway	$3,566,377	$553,168	$0
3-41-0044-011	2013	Rehabilitate Taxiway, Install Miscellaneous NAVAIDS	$0	$617,655	$0
3-41-0044-012	2015	Install Runway 14/32* Vertical/Visual Guidance System, Install Taxiway Lighting	$19,547	$196,371	$0
3-41-0044-013	2017	Install Runway 14/32* Vertical/Visual Guidance System, Install Taxiway Lighting	$74,712	$747,900	$0
3-41-0044-014	2018	Install Perimeter Fencing (not Required by 49 CFR 1542)	$21,325	$347,423	$0
3-41-0044-015	2019	Construct Apron, Construct Taxiway	$9,000	$83,800	$0
3-41-0044-016	2020	Coronavirus Aid, Relief, and Economic Security Act (CARE) Funds	$0	$0	$30,000
3-41-0044-017	2020	Construct Apron, Construct Taxiway	$58,500**	$623,725	$69,302
3-41-0044-018	2021	Update Airport Master Plan Study	$0	$150,000	$0
3-41-0044-019	2021	American Rescue Plan Act Funds	$0	$0	$13,000
		Grant Total	**$4,789,461**	**$5,216,288**	**$112,302**

SOURCE: FAA GRANT HISTORY; ODA COAR APPROVED PROJECT LISTS
**Due to magnetic drift, Runway 14/32 changed to 15/33 in 2018*
***Funds not required*

2.4 AREA AIRSPACE

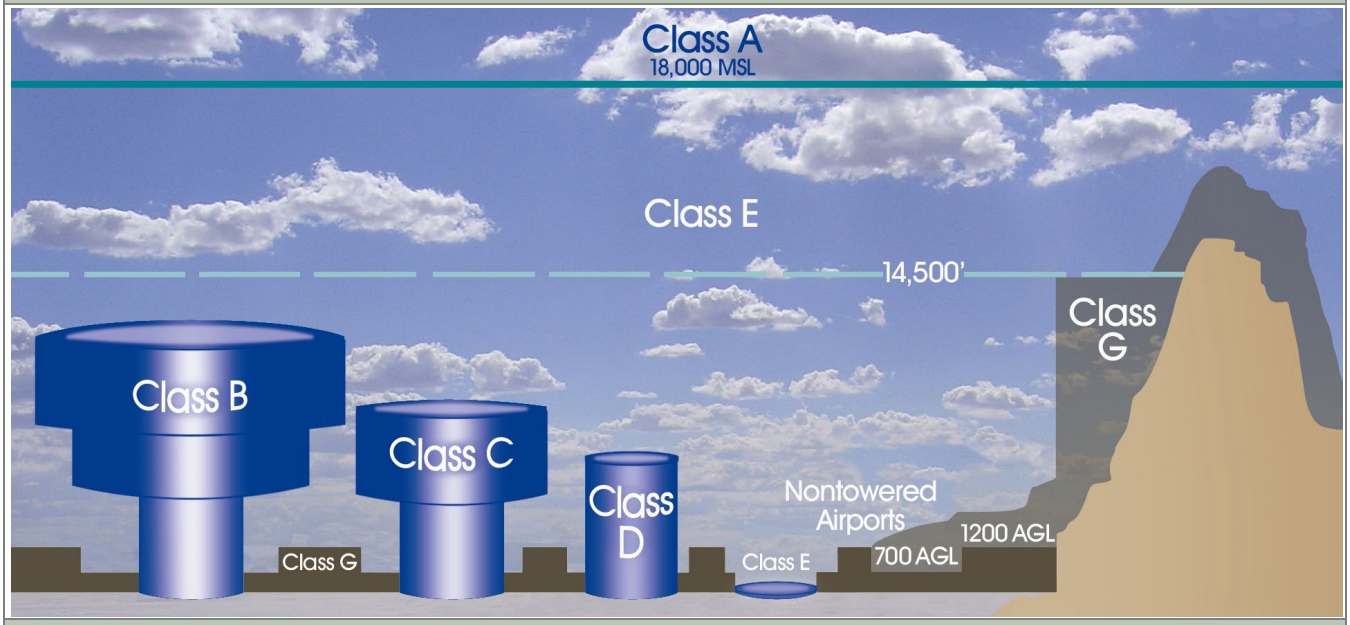
The operating airspace environment surrounding the Ontario Municipal Airport is important as it is part of the national and state system of airports. A description of the surrounding local airspace, nearby public-use airports, and navigational aids is as follows.

2.4.1 AIRSPACE CLASSIFICATIONS

In the U.S., airspace consists of classes A, B, C, D, E, and G as shown in **Figure 2.3**. The National Airspace System (NAS) includes both controlled and uncontrolled airspace.

A flight through the NAS typically begins and ends at an airport which may be controlled by a tower or uncontrolled airspace. On departure, the aircraft is in one of five of the six classes of airspace administered by the FAA, and different flight rules apply to each class. Depending on the class of airspace and flight conditions, communication with controllers may or may not be required.

FIGURE 2.3
U.S. NATIONAL AIRSPACE CLASSIFICATIONS



SOURCE: J-U-B

Class A begins and includes 18,000 feet MSL and continues up to 60,000 feet MSL. It is the most controlled airspace and requires a pilot to carry an Instrument Flight Rating and proper clearance no matter what type of aircraft is being flown.

Class B airspace extends from the surface up to 10,000 feet AGL and is the area above and around the busiest airports (e.g., LAX, MIA, CVG) and is also heavily controlled. Class B's layers are designed individually to meet the needs of the airport they overlay.

Class C airspace reaches from the surface to 4,000 feet AGL above the airport it surrounds. Class C airspace only exists over airports with an operational control tower, are serviced by a radar approach control, and have a certain number of instrument flight operations. Class C

is also individually designed for airports but usually covers a surface area of about five nautical miles around the airport and up to 1,200 feet AGL. At 1,200 feet, the airspace extends to 10 nautical miles in diameter, which continues to 4,000 feet. Pilots are required to establish two-way radio communications with the ATC facility providing air traffic control service to the area before entering the airspace. Within Class C, Visual and Instrument pilots are separated.

Class D airspace exists from the surface to 2,400 feet AGL above an airport. Class D airspace only surrounds airports with an operational control tower. Class D airspace is also tailored to meet the needs of the airport. Pilots are required to establish and maintain two-way radio communications with the ATC facility providing air traffic control services prior to entering the airspace. Pilots using Visual Flight Reference must be vigilant for traffic as there is no positive separation service in the airspace.

Class E airspace is the airspace that lies between Classes A, B, C, and D. Class E extends from either the surface or the roof of the underlying airspace and ends at the floor of the controlled airspace. Class E Exists for those planes transitioning from the terminal to en route state. It also exists as an area for instrument pilots to remain under ATC control without flying in a controlled airspace. Under visual flight conditions, Class E can be considered uncontrolled airspace.

Airports without operational control towers are uncontrolled airfields. Pilots in these areas are responsible for position and separation and may use a specified Common Traffic Advisory Frequency (CTAF) or UNICOM for that airport, although no-radio flight is also permitted.

Class G airspace is uncontrolled airspace which extends from the surface to either 700 or 1,200 feet AGL depending on the floor of the overlying Class E, or to the floor of the Class A where there is no overlying Class E. In the vicinity of an uncontrolled airport, the CTAF for that airport is used for radio communication among pilots. No towered or in-flight control services are provided.

2.4.2 LOCAL AIRSPACE

The FAA is charged with oversight of the nation's civil navigable airspace and has established various regulatory and non-regulatory airspace classifications and areas to create a safe operating environment for all types of aviation users.

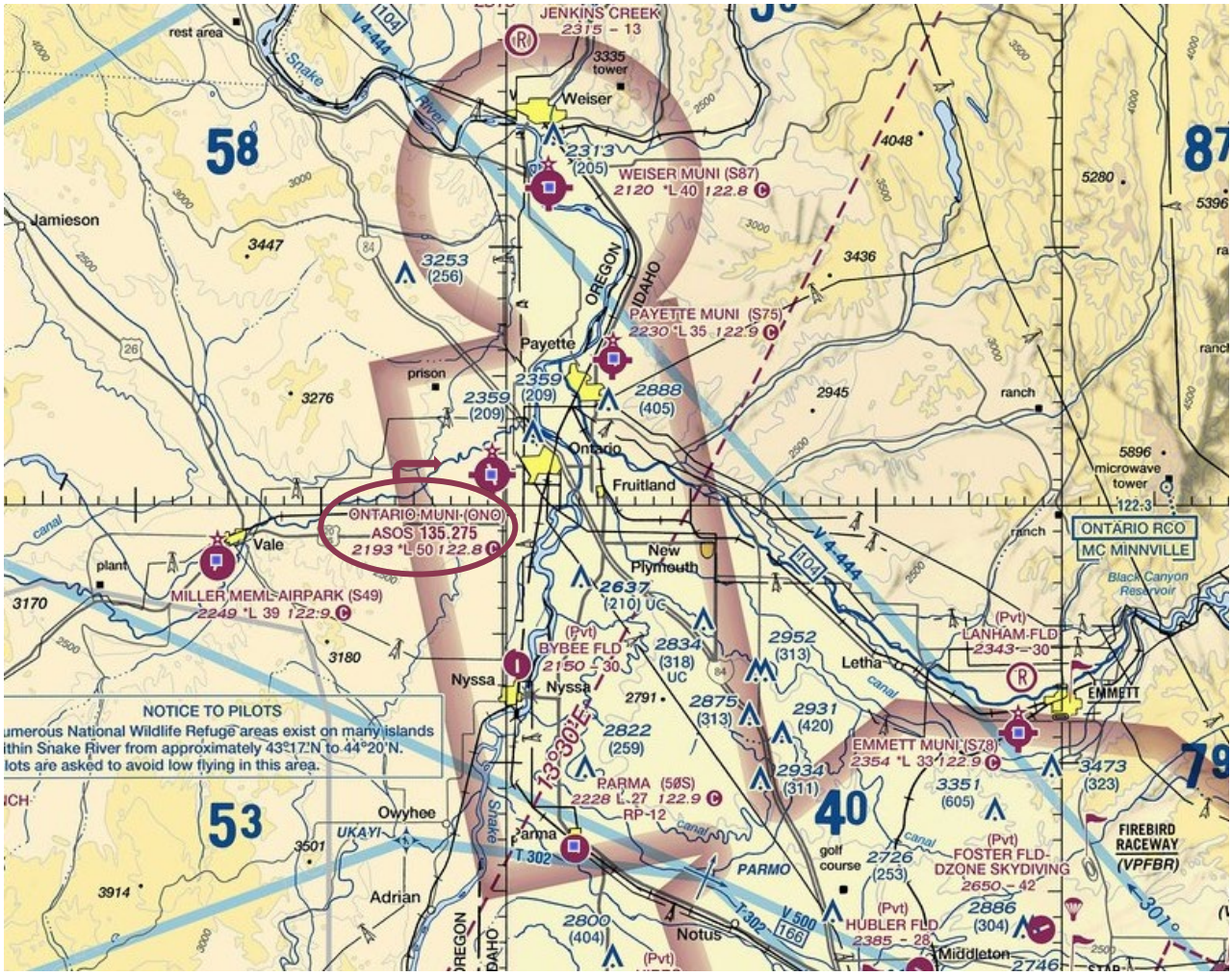
The Ontario Municipal Airport is an uncontrolled facility; that is, no local air traffic control tower is available. Airspace surrounding the Airport is depicted on the sectional chart in **Figure 2.4**. A sectional chart, often called sectional for short, is a type of aeronautical chart designed for navigation under visual flight rules.

Ontario Municipal Airport is found near the center of **Figure 2.4** as indicated by the white arrow. The area around the Airport is Class E Airspace and is located within the thick maroon line. **Figure 2.3** identifies Class E airspace, above the airfield, between 700 feet above ground level (AGL) and 17,999 feet above mean sea level (MSL). Due to the airport's elevation of 2,192.3 feet, this Class E airspace starts at 2,892.3 feet. This airspace provides a buffer and transitional airspace from en route to local airspace for aircraft. Two Class E Airspace low altitude Federal Victor Airways are depicted (blue line) in **Figure 2.4**. One is located to the north of the Ontario Municipal Airport (V 4-444) and another to the south (V 500). Both Victor Airways are associated with the Boise VHF omnidirectional range and tactical air navigation system (VORTAC) beacons.

In order to land an aircraft at the Ontario Municipal Airport under general aviation, visual flight rules, the pilot must have flight visibility of greater than 3 miles and at a minimum, maintain cloud clearance of no less than 500 feet below, 1,000 feet above and 2,000 feet horizontal of the aircraft. Below 700 feet AGL, the aircraft operator must have flight visibility of greater than 1-mile and maintain the aircraft clear of clouds during day operations. During nighttime operations, they must also have flight visibility greater than three miles and maintain clouds no less than 500 feet below, 1,000 feet above and 2,000 feet horizontal of the aircraft.

Aircraft operators may remotely control airfield lighting systems via the Common Traffic Advisory Frequency (CTAF) at 122.8 MHz. This frequency has been assigned to the Ontario Municipal Airport by the FAA as the frequency pilots may elect to use to announce location and intentions for air-to-air communication at non-towered airports.

FIGURE 2.4
SECTIONAL AERONAUTICAL CHART



SOURCE: U.S. NATIONAL CHARTING OFFICE (OCT 2021)

2.4.3 INSTRUMENT APPROACH

Instrument Approach Procedures (IAPs) have been published to accommodate aircraft operations to Runway 15 and 33 Ends. IAPs are three-dimensional paths in the sky designed and prescribed by the FAA for safe aircraft landing during Instrument Meteorological Conditions (IMC). These paths are designed to avoid terrain, tall towers and other obstructions and allow safe aircraft operation to the airport or to a given runway end. Area Navigation (RNAV) GPS IAPs are published for both the Runway 15 End and Runway 33 End. Inclement weather takeoff instructions only exist for the Runway 33 End. **Table 2.5** identifies instrument approach and departure procedures and their lowest ceiling and visibilities.

TABLE 2.5
ONTARIO INSTRUMENT APPROACH AND DEPARTURE REQUIREMENTS

Category	Lowest Minima (Cloud Ceiling AGL/Lowest Statue Mile Visibility)			
	A	B	C	D
	RNAV (GPS) Runway 15			
LPV DA	2769-2			
LNAV/VNAV DA	2,814-2½			
LNAV MDA	2780-1		2,780-1¾	
Circling	2760-1	2800-1	3,120-2¾	3240-3
Missed Approach	Climbing right turn to 9,000 direct HOVEL and hold, continue climb-in-hold to 9,000			
	RNAV (GPS) Runway 33			
LPV DA	2443-⅞			
LNAV/VNAV DA	2443-⅞			
LNAV MDA	2560-1			
Circling	2760-1	2800-1	3120-2¾	3240-3
Missed Approach	Climb to 9,000 direct ZEMTI and on track 327 to HOVEL and hold, continue climb-in-hold to 9,000			
Runway 33 Takeoff Minimums	Climb at 240’ ROC to 3,800 or 1300-3 in Visual Conditions			
Runway 33 Departure Procedure	Climb on a heading between 033° CW 145° from DER, or minimum climb of 270’ per NM to 3,600 for all other courses			

SOURCE: FAA
AGL: Feet Above Ground Level, ROC: Minimum Required Foot Per Minute Rate of Climb

2.5 AREA AIRPORTS AND NAVAIDS

Ontario Municipal Airport is near several public general aviation (GA) and commercial service airports along with en route and local navigational facilities. **Figure 2.5** illustrates the nearby airports, and this section describes them in further detail.

FIGURE 2.5
ONTARIO NEARBY AIRPORTS

SOURCE: J-U-B

Weiser Municipal Airport (S87) near Weiser, Idaho is a publicly owned GA airport for the City of Weiser. S87 is approximately 11 nautical miles (NM) north of the Ontario Municipal Airport. The current FAA Form 5010 record for Weiser Municipal Airport indicates 5,150 general aviation operations for 2020. S87 has 22 based aircraft with 21 single engine (SE) aircraft and 1 multi engine (ME) aircraft. S87 is uncontrolled and accommodates visual and instrument aircraft operations.

Caldwell Industrial Airport (EUL) near Caldwell, Idaho is a publicly owned airport approximately 28 NM southeast of the Ontario Municipal Airport. The current FAA Form 5010 record for Caldwell Industrial Airport indicates 147,325 general aviation operations for 2017. EUL has 421 based aircraft with 374 SE, 23 ME, 4 jets, and 20 helicopters. EUL is uncontrolled and accommodates both visual and instrument aircraft operations.

Nampa Municipal Airport (MAN) near Nampa, Idaho is a publicly owned and operated GA airport approximately 34 NM southeast of Ontario Municipal Airport. The current FAA Form 5010 record for the Nampa Municipal Airport indicates 72,000 general aviation operations for 2018. MAN has 262 based aircraft with 251 SE, 7 ME and 4 helicopters. MAN is uncontrolled and accommodates both visual and instrument aircraft operations.

Boise Air Terminal (BOI) near Boise, Idaho is a joint-civil military, commercial service, and GA airport owned and operated by the City of Boise. The Boise Air Terminal is approximately 44 NM southeast of the Ontario Municipal Airport. The current FAA Form 5010 record for BOI indicates 137,459 general aviation operations for 2018. BOI has 223 based aircraft with 147 SE, 22 ME, 37 jets, and 17 helicopters. BOI is controlled and accommodates both visual and instrument aircraft operations.

Baker City Municipal Airport (BKE) near Baker City, Oregon is a GA airport publicly owned and operated by the City of Baker. The Baker City Municipal Airport is approximately 60 NM northwest of Ontario Municipal Airport. The current FAA Form 5010 record for BKE indicates 16,200 general aviation operations for the 12 months ending September 2019. BKE has 38 based aircraft with 32 SE, 3 ME, and 3 helicopters. BKE is uncontrolled and accommodates both visual and instrument aircraft operations.

Boise Very High-Powered H-VORTAC (BOI) navigational facility, located in Boise, ID, is owned, and operated by the FAA and approximately 45.3 NM southeast of the Ontario Municipal Airport. This navigational facility provides 360-degree VOR azimuth radio interrogation capability for aircraft en route and terminal navigation up to 130 nautical miles. It also provides TACAN azimuth.

Ontario NDB (ONO) is a navigational facility that has been decommissioned. The structure is still located at the Ontario Municipal Airport.

Table 2.6 summarizes additional details for each nearby facility.

TABLE 2.6
AREA AIRPORTS AND NAVIGATIONAL AIDS

Airport	Runways	Approach Capability	Airspace Restrictions	Services	Distance/ Direction
Weiser Municipal Airport (S87)	Runway 12/30; 4,000'x60'	RNAV Non-Precision Instrument Airfield	Uncontrolled	Fuel, Minor Maintenance	11 NM North
Caldwell Industrial Airport (EUL)	Runway 12/30 5,500'x100'	RNAV Non-Precision Instrument Airfield	Uncontrolled	Fuel, Major Maintenance	28 NM Southeast
Nampa Municipal Airport (MAN)	Runway 11/29; 5,000'x75'	RNAV Non-Precision Instrument Airfield	Uncontrolled	Fuel, Major Maintenance	34 NM Southeast
Boise Air Terminal (BOI)	Runway 10L/28R; 10,000'x150' Runway 10R/28L; 9,763'x150'	RNAV Non-Precision Instrument Airfield, ILS and VOR Precision Instrument Airfield	Controlled	Fuel, Major Maintenance, Commercial	44 NM Southeast
Baker City Municipal Airport (BKE)	Runway 08/26; 3,670'x140' Runway 13/31; 5,085'x100' Runway 17/35; 4,359'x75'	RNAV Non-Precision and VOR Precision Instrument Airfield	Uncontrolled	Fuel, Minor Maintenance	60 NM Northwest

Navigational Aid	Facility Frequency	Distance/Direction
Boise VORTAC (BOI)	113.3 MHz	45.3 NM Southeast
Ontario NDB (ONO)	Decommissioned	At Ontario Municipal Airport

SOURCE: FAA 5010/AIRPORT GUIDE/AIRNAV

2.6 AIRPORT INVENTORY

This section describes the existing facilities, as depicted in **Figure 2.6** and **Figure 2.7**, and the conditions at the Ontario Municipal Airport.

A detailed inventory of the buildings and facilities on the airport is listed in **Table 2.7** and runway signage in **Table 2.8**. These tables identify existing facility use, occupant, and approximate size in addition to adjacent ground and top of facility elevations.

FIGURE 2.6
INVENTORY OF EXISTING CONDITIONS – AIRPORT SITE

SOURCE: J-U-B

FIGURE 2.7
INVENTORY OF EXISTING CONDITIONS – TERMINAL AREA

SOURCE: J-U-B

TABLE 2.7
INVENTORY OF EXISTING CONDITIONS

Bldg No.	Use	Top (Feet, MSL)	(7:1, V)	Ground (Feet, MSL)	Approx. Size (Square Feet)
1	Airport Terminal	2,204	17	2,193	3,115
2	Hangar	2,214	25	2,193	4,062
3	FBO Hangar	2,220	30	2,193	5,026
4	Hangar	2,216	20	2,193	2,134
5	Hangar	2,206	20	2,193	1,340
6	Hangar	2,210	20	2,193	1,415
7	Hangar	2,213	20	2,193	5,130
8	Hangar	2,205	20	2,193	1,304
9	Hangar	2,212	20	2,193	3,224
10	Hangar	2,212	20	2,193	3,295
11	Hangar	2,211	20	2,193	4,419
12	Hangar	2,218	25	2,193	3,921
13	Hangar	2,211	15	2,193	1,500
14	Hangar	2,209	15	2,193	6,983
15	Lighted Beacon	2,223	40	2,193	45
16	Electrical Vault	2,204	10	2,193	98
17	Small Wooden Building Structure	2,209	15	2,193	758
18	Hangar	2,219	15	2,193	2,986
19	Hangar	2,223	30	2,193	12,894
20	Experimental Aircraft Club Building	2,212	15	2,193	4,171
21	Hangar	2,212	15	2,193	2,674
22	Hangar	2,208	15	2,193	1,933
23	Hangar	2,207	15	2,193	1,140
24	Hangar	2,204	10	2,193	2,172
25	Hangar	2,207	15	2,193	1,419
26	Hangar	2,211	15	2,193	1,605
27	Hangar	2,213	15	2,193	2,865
28	Hangar	2,193	0	2,193	2,684
29	Hangar	2,206	15	2,193	1,576
30	Hangar	2,209	25	2,193	4,644
31	Hangar	2,216	25	2,193	3,067
32	Hangar	2,205	25	2,193	2,986
33	Hangar	2,212	25	2,193	3,187
34	Hangar	2,210	25	2,193	11,788
35	Hangar	2,210	25	2,193	2,396
36	Hangar	2,210	25	2,193	2,505
37	Hangar	2,210	25	2,193	1,798
38	Life Flight Hangar	2,218	25	2,193	9,369
39	Fire Station	2,218	25	2,193	6,771

Bldg No.	Use	Top (Feet, MSL)	(7:1, V)	Ground (Feet, MSL)	Approx. Size (Square Feet)
40	BLM SEAT Base	2,220	30	2,193	2,383
41	Maintenance Building	2,210	21	2,193	10,488
42	Golf Cart Storage Building	2,201	12	2,189	13,091
43	Wooden Structure	2,195	6	2,189	908
44	Wooden Structure	2,195	6	2,189	2,306
45	Wooden Structure	2,198	9	2,189	7,539
46	Wooden Structure	2,204	15	2,189	536
47	Advertising Sign	2,218	25	2,193	N/A
48a	Wind Cone	2,200	7	2,193	N/A
48b	Lighted Wind Cone	2,196	7	2,189	N/A
49	ASOS	N/A	N/A	2,193	N/A
50	REIL x 4	N/A	N/A	2,193	N/A
51	PAPI Light x 2	N/A	N/A	2,193	N/A
59	Fuel Tank Farm	N/A	N/A	N/A	N/A
60	Surface Electrical Posts and Wires	N/A	N/A	N/A	N/A
61	Fire Hydrants x5	N/A	N/A	N/A	N/A
62	Ontario Decommissioned NDB Facility	N/A	N/A	2,189	100
63	Taxiway A	N/A	N/A	2,193	N/A
64	Blast Pad	N/A	N/A	2,193	11,300
SOURCE: J-U-B					

TABLE 2.8
RUNWAY SIGNAGE

Feature. No.	Feature Use	Type/Category	Style	Size	Class
52	Taxiway/Runway Hold Position Signs x 6	L858-M3	2	1	2
53	Direction Sign Array x 3	L858-M2	2	1	2
54	Taxiway Location Signs x 5	AL-858L	2	1	2
55	Taxiway Location/ Runway Exit Sign x 3	L-858-M2/M3	2	1	2
56	Runway Exit Sign x 3	L858-M2	2	1	2
57	Inbound Destination/ Taxiway Location Sign	L858-M4	2	1	2
58	Outbound Destination Sign	L858-M4	2	1	2
SOURCE: J-U-B					

2.6.1 VISUAL AIDS

The airport rotating beacon (No. 15) is located on the eastern side of the mid-field. The beacon alternates green and white to indicate nighttime availability at a public-use, civilian airport.

Ontario rotating beacon

The Automated Surface Observing System (ASOS) (No. 49) is positioned southeast of the mid-field. Hourly ASOS atmospheric observations are available via 135.275 MHz and (541) 889-7388.

Ontario Automated Surface Observing System (ASOS)

2.6.2 RUNWAY 15/33

Runway 15/33 is a single-runway design and 5,006 feet long by 100 feet wide.

2.6.2.1 Flight Rule Capabilities

Runway 15/33 is predominantly used during the day under Visual Flight Rules (VFR) weather conditions by pilots and aircraft operating under FAA VFR guidance and regulations. The runway is also designed and equipped to support flight operations during Instrument Flight Rules (IFR) weather conditions. The IFR capabilities of Runway 15/33 allow appropriately equipped aircraft and pilots to conduct takeoff, approach, and landing operations in low visibility weather conditions prohibited by VFR flight regulations.

The runway is appropriately configured, lighted, and marked for an aircraft's safe approach, landing, or execution of a missed approach procedure. FAA line-of-site criteria requires that, for runways with a full parallel taxiway, any two points above the runway centerline by five feet shall be mutually visible within a distance that is half the length of the runway. Runway 15/33 meets the runway longitudinal line-of-site standard.

The authorized procedure for Ontario Municipal Airport is the FAA's ONO RNAV (GPS) RWY 15 and RNAV (GPS) RWY 33 Approach Procedures.

2.6.2.2 Runway Orientation

The runway orientation is sufficient to meet the FAA's recommended 95 percent coverage of wind in all-weather conditions. The FAA objective for wind coverage states that a runway, or runways, should have a crosswind component more than a given threshold 95 percent of the time. The crosswind thresholds are 10.5 knots for small aircraft; 13 knots for larger general aviation aircraft; 16 knots for larger turboprop and many commercial airline aircraft; and 20 knots for the largest turbine commercial, cargo, and general aviation turbine aircraft.

Runway 15/33 has 97.37 percent all-weather crosswind coverage in 10.5-knot crosswinds, 98.65 percent wind coverage in 13-knot crosswinds, and 99.85 percent in 20-knot

crosswinds. This wind study considered data from the Ontario Municipal Airport (ONO), ASOS station. Wind observations were made from 2011 to 2020 to meet the FAA's 10-year historical data requirement guidance.

2.6.2.3 Pavement Design

The airport pavements are constructed of asphalt with an estimated design pavement strength of 30,000 pounds for single-wheel gear (SWG) and 60,000 pounds for dual-wheel gear (DWG).

Whether the wheel gear is single, double, or dual tandem is determined by a pavement design methodology that cross references pavement strength with the number of wheels on a given aircraft strut. Other criteria used to determine pavement design include soil type, soil characteristics, subgrade/base soil improvements, pavement type, pavement composition, planned pavement life, loading, frequency of use, mix of airport users, and more.

Pavements are designed to accommodate a limited number of aircraft operations over time without substantial surface rehabilitation. It is worth noting that the design does allow for a limited number of aircraft operations with weights greater than identified.

The effective longitudinal runway gradient is 0.09 percent, which is less than the maximum longitudinal runway gradient of 2 percent. The Runway 15 End is 2193.04 feet above mean sea level (MSL) and the Runway 33 End elevation is 2188.64 MSL. FAA design standards require that the effective and maximum runway longitudinal gradients do not exceed certain percentages to ensure a runway is not too steep.

2.6.2.4 Lighting Aids

Runway 15/33 is equipped with a Medium Intensity Runway Lighting (MIRL) system. This lighting consists of a series of incandescent edge lights, generally located 10 feet from the edge of pavements for the length of the runway. The lights are sequentially spaced at regular 200-foot intervals. Lights are frangible mounted at the base and can easily break to avoid substantial damage to the aircraft in the event of a deviation from the runway. Runway threshold lights are part of the MIRL system and, up until the last 2,000 feet, are directionally lighted red and green to indicate runway limits. The final 2,000 feet of lights are amber lit to indicate an approaching runway end.

Both the Runway 15 End and Runway 33 End have a sited-to-standard, two-light Precision Approach Path Indicator (PAPI) Visual Glide Slope Indicator (VGSI) lighting system (No. 51) on the left side of the runway and a 3-degree glide path. The PAPI is a type of VGSI used to provide lighted visual information to the pilot as a descent toward a runway end is made. The PAPI indicates a color when an aircraft is on the correct glideslope to either runway end. Both runway ends are equipped with a Runway End Identifier Lighting (REIL) System (No. 50). REILs are frangible-mounted, strobe-type lights situated near each runway end. These lighting systems facilitate day or night runway end identification in clear or semi-obscured weather conditions.

A lighted wind cone (No. 48b) can be found in the standard configuration for the Runway 15 End, in a segmented circle marker. There is also an unlighted wind cone (No. 48a) at the Runway 33 End.

Ontario Runway 33 End Unlighted Windcone

2.6.2.5 Runway Markings Aids and Signs

Each runway end is marked with elements appropriate for straight-in, non-precision aircraft operations on instrument runways longer than 4,200 feet. A blast pad marked with yellow chevrons complements the Runway 15 End (No. 64).

Runway markings include designations, threshold bars, aiming points, edge stripes, and the runway centerline. Runway markings are white.

Signs at the Airport mark taxiway/runway hold positions (No. 52), taxiway locations (No. 54), taxiway location/runway exits (No. 55), runway exits (No. 56), inbound destination/taxiway locations (No. 57), outbound destinations (No. 58), in addition to direction sign arrays (No. 53).

Foxtrot Taxiway / Runway 33/15 location sign

2.6.3 TAXIWAYS AND LANDSIDE AREAS

2.6.3.1 Taxiway Facilities

Runway 15/33 is equipped with a full-parallel Taxiway A (No. 63) and six connecting taxiways, designated B through G from south to north. Taxiway centerlines are marked for Taxilane Object Free Area (OFA) clearances. Taxiway A centerline is separated 245 feet from Runway 15/33's centerline. Taxiway E is 130 feet wide, and all other taxiways are 35 feet wide, at the narrowest point. Holdlines and lighted airfield signage are located no closer than 125 feet from runway centerline in compliance with Obstacle Free Zone Standards. Taxiway C holdlines are the farthest apart at 200 feet with holdlines at all other taxiways no more than 160 feet apart. Parallel Taxiway A features a standard 575-square-foot run-up area; a run-up area is also located at Taxiway C.

2.6.3.2 GA Facilities and Support Services

The Main Terminal Building (No. 1) is 3,115 square feet and located to the east of Parallel Taxiway A. The Airport has tenants that provide essential GA services. One of those is the EMS Life Flight service which has a hangar north of the Main Terminal Building that is 9,369 square feet (No. 38). The BLM also operates Single Engine Airtanker (SEAT) base aircraft and has a 2,383-square-foot office building (No. 40) and parking area and uses a portion of the apron just south of their facilities to load their aircraft.

Silverhawk Aviation Academy is a tenant with a 5,026-square-foot hangar (No. 3) previously occupied by Frazier Aviation.

Ontario Main Terminal

2.6.3.3 Other General Aviation Facilities

The Ontario Municipal Airport has two formal apron areas. The Main Apron is adjacent to and east of Runway 15/33 and can be accessed from Parallel Taxiway A (No. 63). This apron area is approximately 17,668 square yards and provides 31 aircraft tiedowns.

A series of taxiways connect Parallel Taxiway A to a second, smaller apron southeast of the Main Apron. The southeast apron is 5,445 square yards and can accommodate three large aircraft tiedowns. Apron pavement strengths are approximately 30,000 pounds single-wheel gear (SWG) and 60,000 pounds dual-wheel gear (DWG).

2.6.3.4 Support Facilities

General aviation operations are not charged landing fees, and airport fuel prices are comparable to other airports in the region. Both Jet-A and 100 low lead (LL) fuel are available with full service or self-service pricing. The fuel is supplied by an airport owned fuel farm with three above-ground tanks (No. 59).

Fuel sales have been managed by Frazier Aviation, the previous Fixed Based Operator (FBO), now Silverhawk Aviation Academy, but the infrastructure is owned by the City of Ontario. Fuel purchases are facilitated by a Syntech Card Reader.

Ontario Aviation Fueling Equipment

There are also two fuel trucks, one has a 4,000 USG capacity and is used for Jet-A fuel and the other has a 2,000 USG capacity and is used for 100LL fuel.

Table 2.9 lists City equipment assigned to the Ontario Municipal Airport.

TABLE 2.9
INVENTORY OF EQUIPMENT/ ASSETS

Year	Make	Model
2019	JRB	12' Hydraulic Angle Broom
2001	Ford	Ranger Truck
2000	John Deere	Loader
1985	Ford	Dump Truck
1984	Chevrolet	K30 Utility Truck
N/A	John Deere	Gator Utility
N/A	Case	Backhoe

SOURCE: CITY OF ONTARIO

2.6.3.5 Access, Circulation, and Parking

The Main Terminal Building (No. 1) and hangar areas can be directly accessed from Highway 201 (Cairo Blvd) via Airport Way and SW 6th Avenue. A third entry point exists off SW 33rd Street, which connects to Highway 201 via SW 4th Avenue. The three entrances have vehicle access gates that require keypad entry. A 4,262-square-foot airport maintenance building (No. 41) is located south of the developed hangar areas. There are 12 designated vehicle parking spots adjacent to the Main Terminal Building that are accessible from SW 33rd Street.

Ontario entry point access keypads

2.6.3.6 Utilities

Airport utilities, including water, sewer, and broadband are provided by the City of Ontario. Power is provided by Idaho Power and natural gas by Cascade Natural Gas.

2.6.3.7 Lighting and Fencing

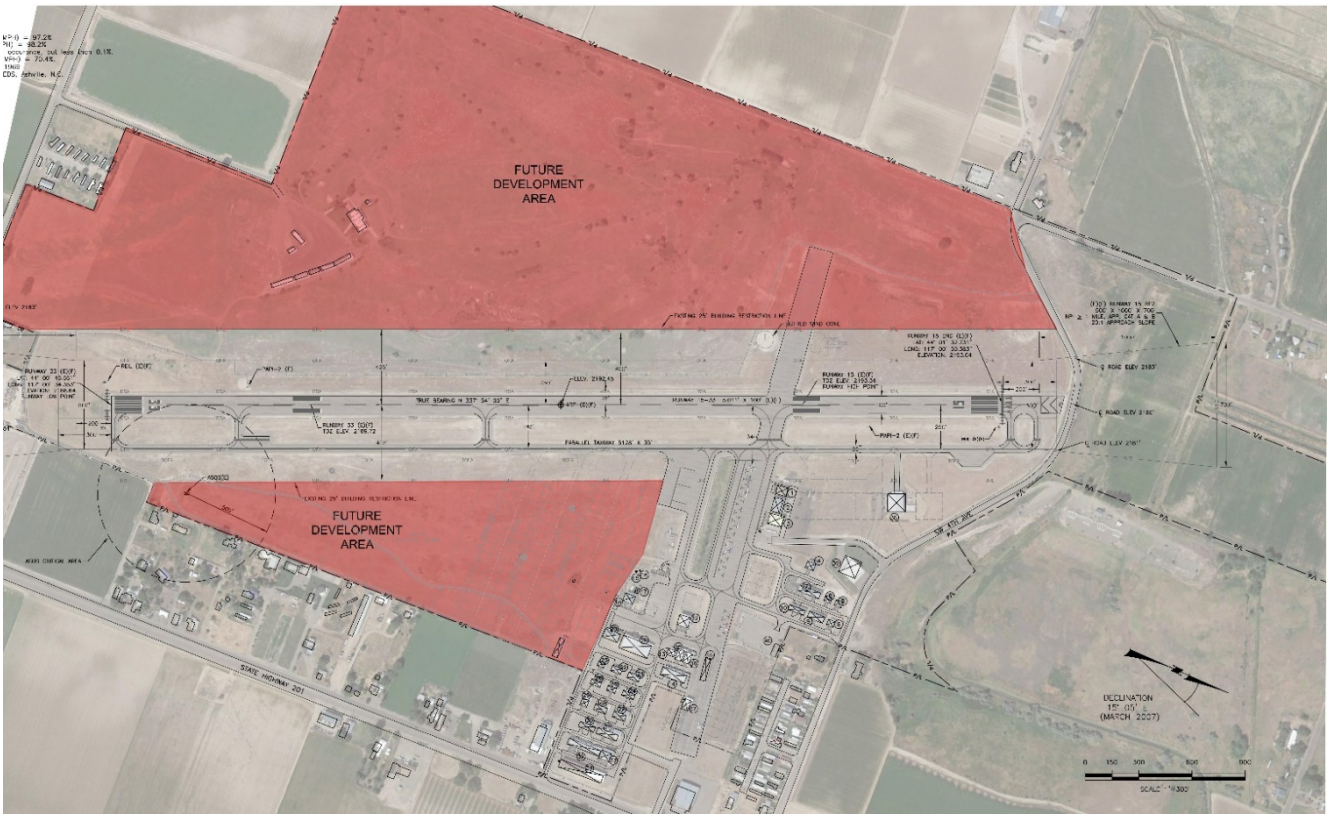
Perimeter fencing is built to FAA specifications and consists of an 8-foot chain-linked security fence, topped by an additional 2 feet of barbed wire, along the north and east side of the Airport property. There is a 3-foot wired field fence along the southwest and southern sides of the property; however, some areas are not fenced along this area. Security cameras with live streaming capabilities provide 24-hour surveillance of the west, east, and south areas of the Airport parking lot. Several overhead lights are located midfield of the two formal apron areas to illuminate aircraft tie-down positions.

Ontario perimeter fencing

2.6.3.8 Areas for Potential Development

There is a significant amount of undeveloped land on the west of the Airport. A large 164-acre parcel contains derelict wooden structures and vacant golf course. There is a smaller 47.1-acre parcel to the east. Both have great development potential. The two parcels are depicted in red in **Figure 2.8**.

FIGURE 2.8
FUTURE DEVELOPMENT AREAS



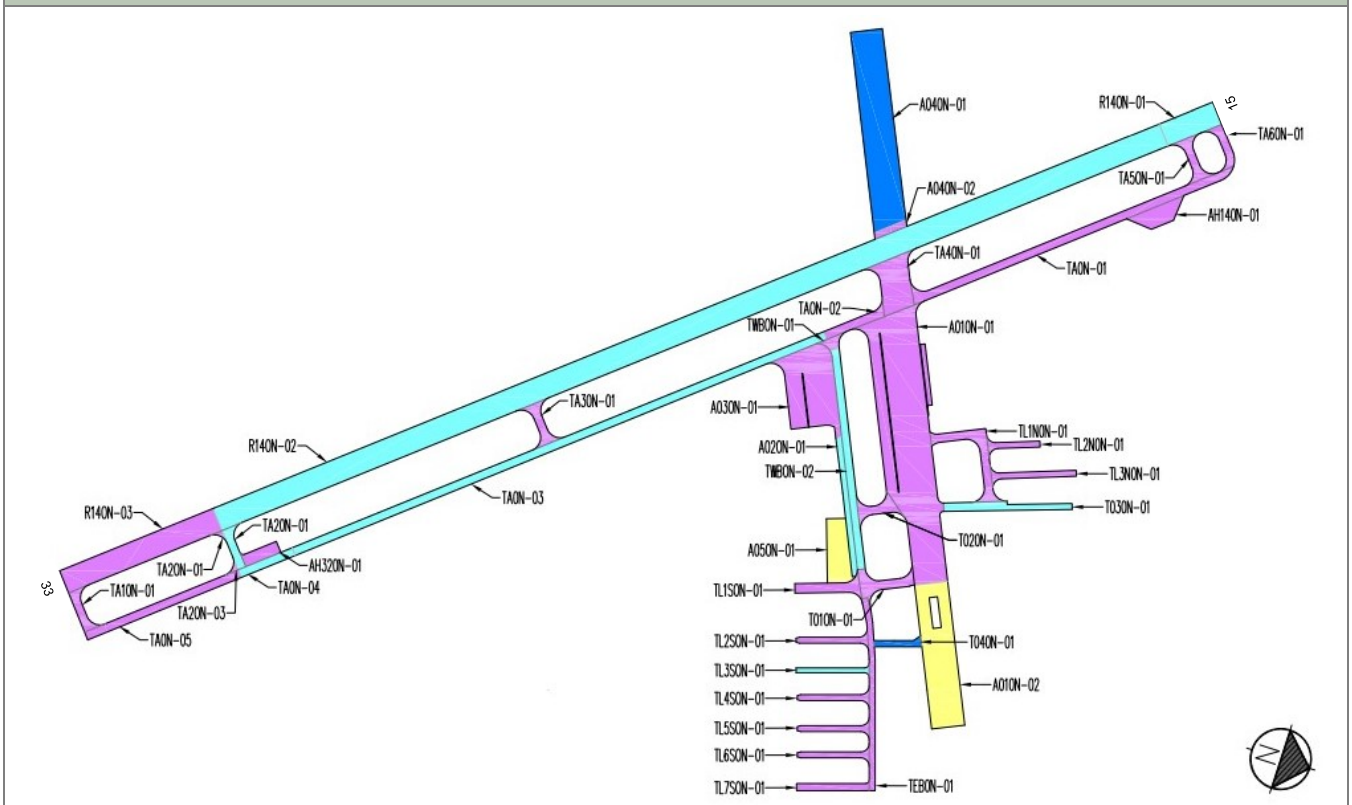
SOURCE: ONTARIO MUNICIPAL AIRPORT LAYOUT PLAN

There are residential, industrial, commercial, and agriculture designated lands to the north and east sides of the Airport. Residential zoned parcels can be found to the north and east, industrial to the north, and commercial and agriculture to the northeast.

2.7 AIRFIELD PAVEMENT CONDITIONS

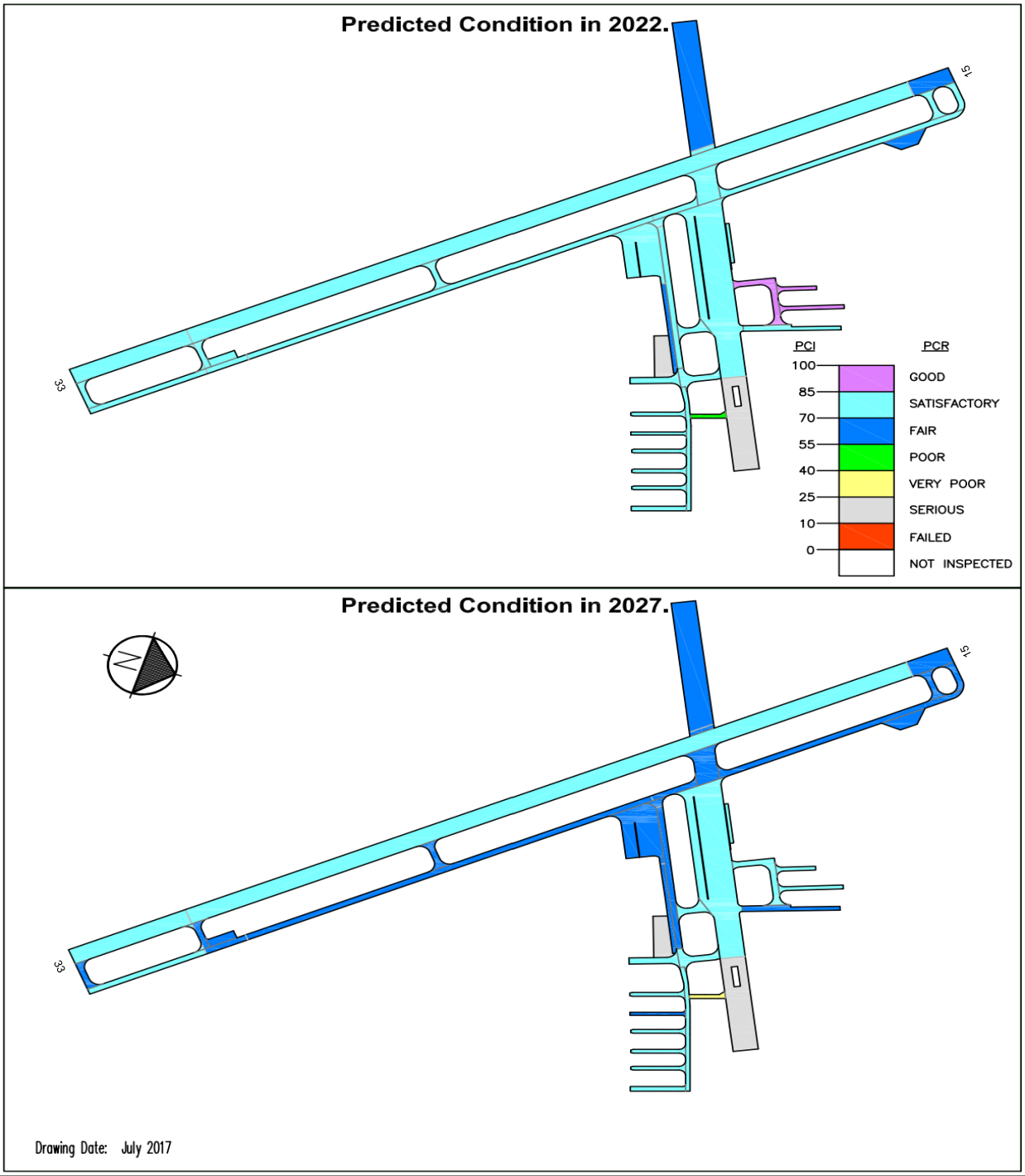
Ontario Department of Aviation (ODA) performed an evaluation of the airfield pavement conditions in July 2017. **Figure 2.9** indicates the baseline values of the evaluation and **Figure 2.10** gives a 2022-2027 forecast. Forecast predictions were based on deterioration models from the Pavement Maintenance Management System (PAVER) generated from pavement inspection data collected at airports of a similar category, climate region, and surface. Pavement conditions are given a Pavement Condition Index (PCI) rating and classification. Most pavement conditions fell within the good to fair range; however, pavement near the eastern hangered areas were classified as very poor and in need of reconstruction.

FIGURE 2.9
ODA PAVEMENT CONDITION VISUALIZATION (2017)



SOURCE: ODA

FIGURE 2.10
ODA PAVEMENT CONDITION VISUALIZATION (2022-2027)



SOURCE: ODA

2.8 ENVIRONMENTAL OVERVIEW

2.8.1 INTRODUCTION

The purpose of this section is to document known critical resources and environmentally sensitive features at the Ontario Municipal Airport. This environmental overview provides the public, federal, state, and local officials with an understanding of the baseline environmental conditions. This environmental baseline inventory evaluates the area within the existing Airport property, which encompasses approximately 480 acres.

This environmental overview section has been developed in accordance with the President's Council on Environmental Quality (CEQ), Title 40 CFR §1500-1508; FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions; FAA Order 1050.1F, Policies and Procedures for Considering Environmental Impacts; and the FAA's *Environmental Desk Reference for Airport Actions*.

As identified in FAA Order 1050.1F and 5050.4B, this section addresses the following environmental resource categories:

- Air Quality
- Biological Resources (including fish, wildlife, and plants)
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects (including light emissions)
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

2.8.2 NEPA AND THE ENVIRONMENTAL PLANNING PROCESS

NEPA was signed into law on January 1, 1970 and, as a procedural statute, requires federal agencies to consider the environmental impacts of projects prior to implementation. Airport projects are required to go through the NEPA process to comply with federal policy.

Under FAA Order 1050. 1F, proposed airport actions are evaluated based on type of action and its potential impacts on the environment. To determine the significance of a proposed action's environmental impacts and how compliance with NEPA analysis is documented, CEQ regulations establish the following three classes of action:

Categorically Excluded (CATEX):
Categorically excluded projects include actions that are found to have no potential for significant environmental impacts under normal conditions. The individual actions considered as categorical exclusions are listed in FAA Orders 1050.1F and 5050.4B.

Requiring an Environmental Assessment (EA): EAs are prepared to determine the significant impacts of the proposed action. The analysis and documentation of an EA is similar to an Environmental Impact Statement (EIS). If an EA determines that the proposed action will not cause significant environmental impacts, then a Finding of No Significant Impact (FONSI) will be prepared. If the EA identifies significant

impacts that will result from the proposed action, an EIS will be initiated.

Requiring an Environmental Impact Statement (EIS): Actions typically requiring an EIS are those projects that are found to have significant impacts. For example, actions that normally require an EIS include, but are not limited to, site selection for a new airport location and approval for the location.

Information presented in this document is not intended to meet NEPA requirements. The information contained in this overview identifies resource categories that may potentially be impacted by future developments at the Ontario Municipal Airport. Environmental considerations will be used by the project team during the analysis and development of airport project alternatives in the Ontario Municipal Airport Master Plan.

2.8.3 METHODOLOGY

Airport policies, procedures, facilities, operations, and improvements have been evaluated in addition to existing and expected plans and permits. Baseline environmental conditions for the environmental impact categories were determined by reviewing existing data, conducting literature searches, reviewing databases, field visits, and consulting aerial photography and maps.

2.8.4 EXAMINATION OF ENVIRONMENTAL RESOURCE CATEGORIES

The following sections provide environmental context for the Ontario Municipal Airport and briefly discuss the potential environmental impacts related to baseline conditions.

2.8.4.1 Air Quality

The Clean Air Act (CAA) sets the general policy for regulating air quality throughout the United States. Under the CAA, the Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) in the interest of protecting human health and the environment against the detrimental effects of outdoor air pollution. NAAQS exist for the following criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), particulate matter (PM 2.5 ad PM 10), and lead (Pb).

Under the CAA, air quality conditions are assessed within all areas of a state with respect to NAAQS. Areas that do not exceed NAAQS are designated “attainment” areas, while areas exceeding standards are considered “nonattainment” areas. Areas that were once considered nonattainment areas, but currently meet the NAAQS and CAA requirements, are designated “maintenance” areas.

As of August 2021, the EPA’s Green Book lists Malheur County, Oregon in attainment for all criteria pollutants.

2.8.4.2 Biological Resources (Including Fish, Wildlife, And Plants)

The Endangered Species Act (ESA) provides protection of plants, animals, and habitats listed as either endangered, threatened, or of special concern by the federal and state governments. An animal or plant species in danger of extinction throughout all or a significant portion of its range is considered endangered and is protected from harm pursuant to federal and state law. A threatened species is one that is likely to become endangered. Species of special concern are not formally afforded regulatory protection, but any reduction in their numbers and habitat is of concern. In compliance with the ESA, agencies overseeing Federally-funded projects coordinate with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) concerning listed, or proposed to be

listed, species with the potential to occur within the area of any future development projects.

According to the USFWS Information for Planning and Consultation (IPaC) database, no ESA-listed species have the potential to exist at the Ontario Municipal Airport.

Additionally, the Oregon Explorer Natural Resources Digital Library Database Biodiversity Map Viewer Report identified occurrences of a variety of species within and adjacent to the Airport property (see **Table 2.10**).

Habitat considerations influence the observed occurrence of ESA and PHS-listed species identified in the table below. According to recent aerial imagery, the area surrounding the airport is highly disturbed by previous agricultural, residential, and industrial development. The Airport is surrounded by several agricultural fields and some small residences to the east. The Airport property does not contain any aquatic features and there is no documented essential fish habitat (EFH) in the vicinity of the Airport.

TABLE 2.10
DOCUMENTED SPECIES WITH RECORDS OF OCCURRENCE AT ONTARIO MUNICIPAL AIRPORT

Cooper's Hawk (Accipiter cooperii)	Prairie falcon (Falco mexicanus	Lazuli bunting (Passerina amoena)
Sharp-shinned hawk (Accipiter striatus)	Macgillivray's warbler (Geothlypis tolmiei)	Short-horned lizard (Phrynosoma douglasii)
Golden eagle (Aquila chrysaetos)	Northern pygmy-owl (Glaucidium gnoma)	Downy woodpecker (Picoides pubescens)
Black-chinned hummingbird (Archilochus alexandri)	Bullock's oriole (Icterus bullockii)	Green-tailed towhee (Pipilo chlorurus)
Sagebrush sparrow (Artemisiospiza nevadensis)	Loggerhead shrike (Lanius ludovicians)	Vesper sparrow (Pooecetes gramineus)
Long-eared owl (Asio otus)	Bobcat (Lynx rufus)	Mountain bluebird (Sialia currucoides)
Swainson's hawk (Buteo swainsoni)	Yellow-bellied marmot (Marmota flaviventris)	Preble's shrew (Sorex preblei)
Racer (Coluber constrictor)	Striped whipsnake (Masticophis taeniatus)	Western spotted skunk (Spilogale gracilis)
Western wood-pewee (Contopus sordidulus)	Western screech-owl (Megascops kennicottii)	Brewer's sparrow (Spizella breweri)
Western rattlesnake (Crotalus oreganus)	Lewis' woodpecker (Melanerpes lewis)	Chipping sparrow (Spizella passerine)
White-headed woodpecker (*Dryobates albolarvatus*)	Ash-throated flycatcher (Myiarchus cinerascens)	Western meadowlark (Sturnella neglecta)
Dusky flycatcher (Empidonax oberholseri)	Western small-footed myotis (Myotis ciliolabrum)	American badger (Taxidea taxus)
Gray flycatcher (Empidonax wrightii)	Least chipmunk (Neotamias minimus)	Red Fox (Vulpes vulpes)

SOURCE: OREGON DEPARTMENT OF FORESTRY; OREGON BIODIVERSITY INFORMATION CENTER

The general habitat conditions observed at the Airport are fragmented and disturbed upland grass habitat with rabbit brush, bitter brush, Indian ryegrass, and cheatgrass spread throughout Airport property. The Airport is immediately surrounded on all sides by agricultural fields and a few residences to the east along Highway 201 (Cairo Blvd). While a number of species have been shown to occur on or adjacent to Airport property, there is an absence of nesting and roosting opportunities, lack of surface water features, and no trees or riparian areas within the study area. Ample amounts of riparian and aquatic habitat are readily available along the nearby Snake River.

Given the number of documented species occurrences within and adjacent to the Airport property, a biological evaluation would be required before the implementation of any projects.

2.8.4.3 Climate

As described in FAA Order 1050.1F, the CEQ has indicated that climate and greenhouse gases (GHGs) should be considered in NEPA analysis due to the established effects of GHG emissions on climate. However, the CEQ also states that there is currently no useful way to analyze the effects of GHGs on climate.

Given the relatively small size of the Ontario Municipal Airport, GHG emissions from the Airport would be negligible and are not likely to cause adverse effects to the climate.

The latest available data indicates that the Airport currently supports 18,062 annual aviation operations. Forecasted 20-year airport operations will be discussed further in Chapter 3. The airport improvements identified in this MPU are not anticipated to significantly increase annual airport operations but will help meet future airport demands.

2.8.4.4 Coastal Resources

Malheur County is inland; therefore, this category is not applicable to the Ontario Municipal Airport.

2.8.4.5 Department of Transportation Act: Section 4(f)

Section 4(f) resources protected by the Department of Transportation Act include publicly owned lands from public parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance. Also protected are publicly or privately owned land from any historic sites of national, state, or local significance.

Additional information pending further environmental review.

2.8.4.6 Farmlands

Farmlands are protected under the Farmland Protection Policy Act (FPPA), which requires federal agencies to minimize the conversion of farmland to nonagricultural uses so that federal programs do not unnecessarily contribute to the loss of valuable farmlands. The FPPA categorizes farmland as prime, unique, and of statewide or local importance. Farmland subject to the FPPA requirements does not have to currently be used in agricultural production; it can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

The FPPA defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor. Unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops. Unique farmland has soil and climatic conditions that can adequately supply economical yields of high-quality crops when

managed appropriately. Farmland of statewide or local importance is land other than prime or unique farmland that is determined and designated as such by state or local governments.

As depicted by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, soils at the Ontario Municipal Airport consist of a variety of silt loams, described in more detail in **Table 2.11** and in **Figure 2.11**

The FPPA does not apply to land that has already been developed for urban or built-up uses. Currently, all the land on the Airport property has already been developed for either Airport, industrial, or recreational uses. While the land in the northernmost segment off the Airport contains active agricultural land, it is already owned by the Airport and should be considered developed land due to it being existing Airport property. Therefore, no lands on Airport property should be considered prime farmland or farmland of statewide importance.

If, in the future, the Airport was to expand to the surrounding area, existing farmlands would be impacted, requiring the Airport sponsor to initiate formal coordination with the USDA/NRCS and complete Form AD-1006.

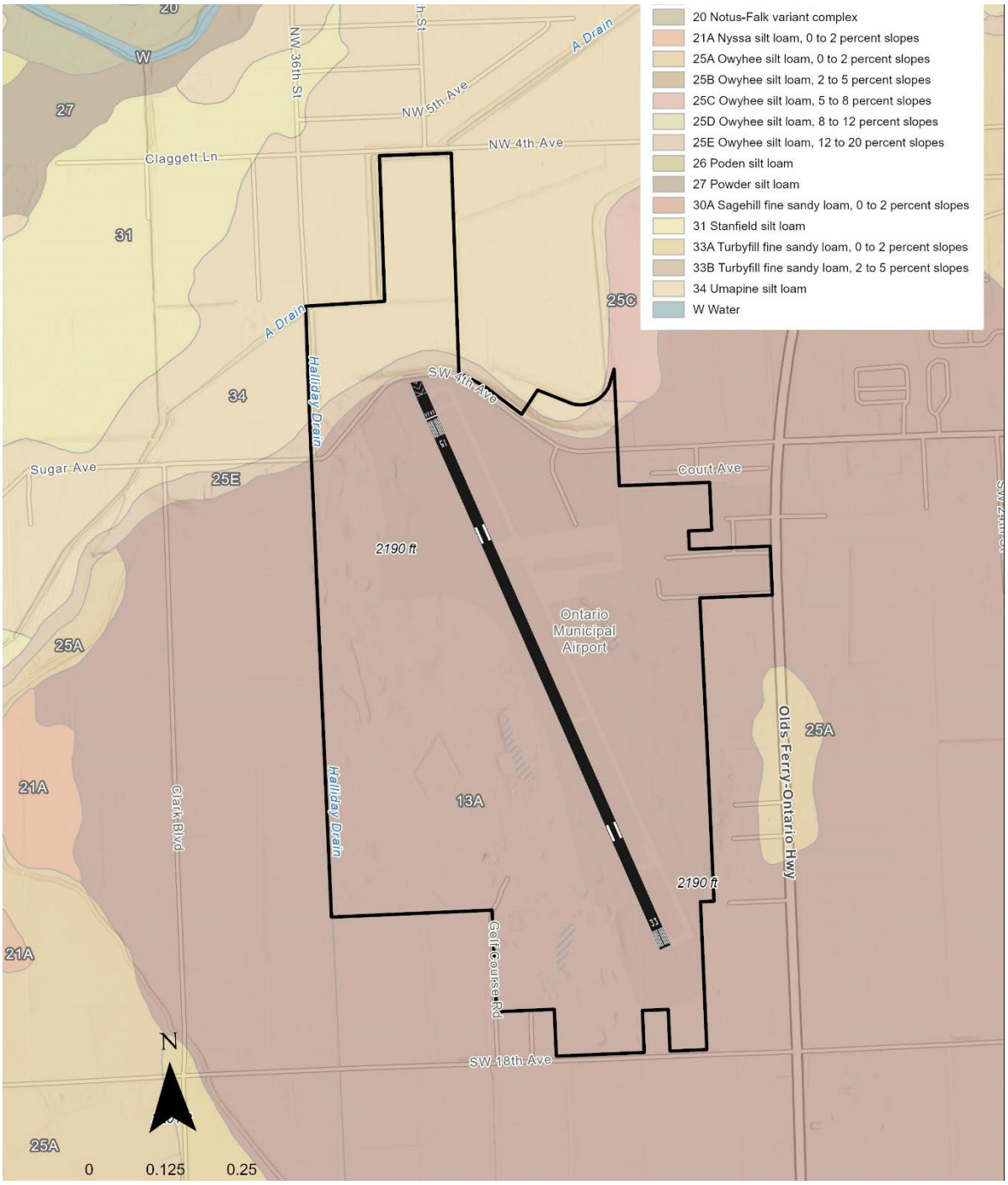
After receiving NRCS's input, the sponsor would perform additional analysis and calculate a site assessment score to determine the site's fitness for protection under the FPPA.

TABLE 2.11
FARMLAND RATINGS OF MAPPED SOILS AT ONTARIO MUNICIPAL AIRPORT

Soil Name	Map Symbol	Farmland Rating	Percent of Airport Property
Greenleaf Silt Loam, 0 to 2 Percent Slopes	13A	Prime farmland if irrigated	88.3%
Owyhee Silt Loam, 5 to 8 Percent Slopes	25C	Farmland of Statewide importance	0.001%
Owyhee Silt Loam, 12 to 20 Percent Slopes	25E	Farmland of Statewide Importance	2.2%
Umapine Silt Loam	34	Farmland of Statewide Importance	9.5%

SOURCE: USDA, NATIONAL RESOURCES CONSERVATION SERVICE

FIGURE 2.11
MAPPED FARMLANDS AT ONTARIO MUNICIPAL AIRPORT



SOURCE: USDA, NATIONAL RESOURCES CONSERVATION SERVICE
**See Table 2.12 for legend*

TABLE 2.12 *HAZARDOUS WASTE SITE LOCATIONS AT ONTARIO MUNICIPAL AIRPORT*		
Facility/Site Name	**DEQ Site ID**	**Description**
Ontario Municipal Airport	90	Site Screening Recommended (Enviro. Eval)
Ontario Flight Service	511	Site Screening Recommended (Enviro. Eval)
Farmers Supply Co-op	532	No further State action required – no risk to human health or environment
Beck's Spray Service – Ontario	961	No further State action required – no risk to human health or environment
Ralston Aviation	4112	Site Screening Recommended (Enviro. Eval)
SOURCE: OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)		

2.8.4.7 Hazardous Materials, Solid Waste, and Pollution Prevention

The Airport is required to follow applicable laws and regulations regarding hazardous materials and/or solid waste management. Review of the Oregon Department of Environmental Quality (DEQ) database has indicated that there are several listed sites on the Ontario Municipal Airport property, see **Table 2.12**.

Any planned projects that would impact the sites listed below would likely require additional coordination with DEQ. Baseline conditions at the Ontario Municipal Airport, however, are not anticipated to adversely affect human health or the environment, as pertinent best management practices (BMPs) have been and would be followed during any construction projects.

2.8.4.8 Historical, Architectural, Archaeological, and Cultural Resources

NEPA requires agencies to consider the effects of any planned federal undertaking upon the cultural environment, including historical, archaeological, and paleontological resources. In additional to NEPA, planned federal actions must also comply with the National Historic Preservation Act (NHPA) (16.U.S.C. 470, as amended). Section 106 of the NHPA and its implementing regulations (36 CFR 800) require federal agencies to analyze the effects of their undertakings on historic properties. According to these regulations, a historic property is "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP)…" (36 CFR 800.16).

Additional information pending Cultural Resources Survey.

2.8.4.9 Land Use

Ontario Municipal Airport is located within the City of Ontario limits, southwest of the city core. The Airport is bordered by agricultural fields to the north, south, and west, with some residential and industrial development along the east side. According to the Ontario Comprehensive Plan (1992), the Ontario Municipal Airport is located within the Airport Development (AD) Zone. The AD Zone maintains noise decibel sensitivity, protects airport facilities from incompatible uses, and prevents non-compatible development in the vicinity of the airport and electrical interference to operating aircraft. Ontario Planning and Zoning Development Standards Chapter 10A-45 – AD further describes the land use policies pertaining to this zone. The Airport is also bordered by two distinct zoning districts, the Urban Growth Area Zone (UGA) and the Urban Reserve Area Zone (URA). Conceptually,

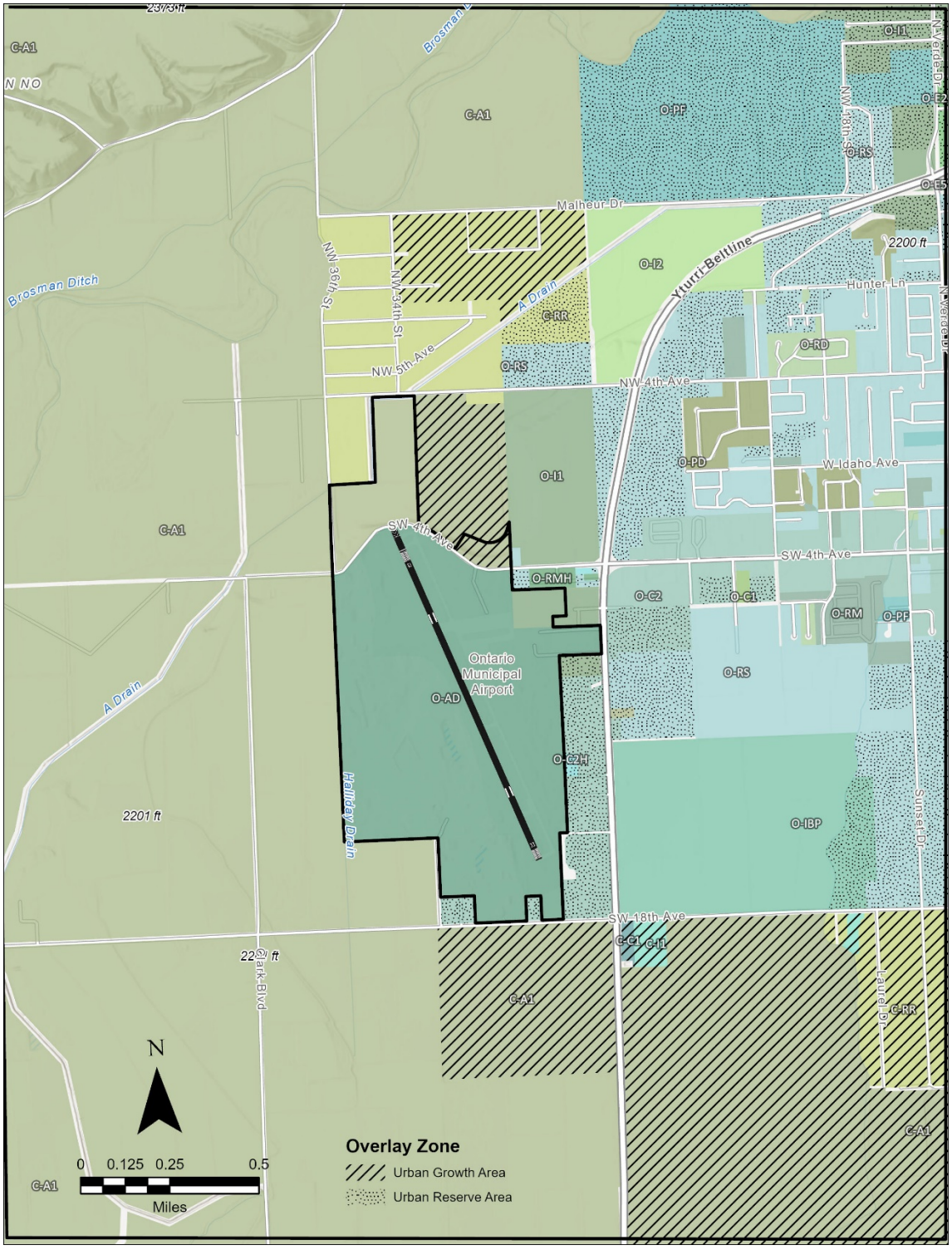
the City will develop the UGA first before moving on to the URA.

Under the UGA, the future land uses along the eastern border of the Airport along Highway 201 will be Commercial (C-UGA). The URA-zoned land, located to the north and south of the Airport, is planned for Industrial (I-URA) uses.

Figure 2.12 illustrates generalized land use and zoning designated in the Ontario Official Planning and Zoning Map and the Malheur County Land Use Map.

The 1050.1F Environmental Desk Reference for Land Uses explains the compatibility of land uses and aviation are typically related to noise impacts. Section 2.4.4.10 of the 1050.1F discusses noise and noise sensitive areas in the vicinity of the Airport.

FIGURE 2.12
CITY OF ONTARIO FUTURE LAND USE MAP



SOURCE: CITY OF ONTARIO/J-U-B

2.8.4.10 Noise and Compatible Land Use

Noise is defined as unwanted sound that can disturb routine activities and cause annoyance. A variety of factors influence an individual's perception of noise, such as volume, frequency, atmospheric conditions, ambient sound, and the type of activity generating noise. Generally, aircraft noise is one of the more intrusive environmental impacts for a given project in an airport environment.

Existing and future noise impacts at an airport should be assessed based on current industry standards as they relate to the human environment and, potentially, to sensitive species and historic properties. Airport noise is measured in Day Night Average Sound Level (DNL). DNL represents the average total accumulation of all noise, measured in decibels (dB), over a 24-hour period. The average total noise accumulation arises from noise associated with all aircraft operations over the course of the 24-hour period, which represents the airport's average annual operations per day.

The established FAA noise significance threshold for most general aviation airports is 65 dB DNL. When considering noise at airports, noise sensitive areas are those found within the 65 dB DNL contour. In these areas, the DNL threshold does not sufficiently encompass the impact noise would have on quiet areas such as national parks, wildlife refuges, schools, or hospitals. A review of aerial imagery illustrates that agricultural land surrounds the majority of the Airport. There are a few residential areas and Highway 201 to the east of the Airport.

Background noise is already relatively high in the vicinity of the Airport due to the proximity to Highway 201. Any future construction noise at the Airport is unlikely to surpass airport noise or background noise in the Airport's vicinity.

Additionally, FAA guidance in the 1050.1F Desk Reference for Airport Actions states that no quantitative noise analysis is required for projects involving Design Group I and II in Approach Categories A through D operating at airports whose forecast operations do not exceed 90,000 annual propeller operations or 700 jet operations; below these operations numbers the 65 DNL generally does not extend beyond Airport property limits. Current operations at the Ontario Municipal Airport do not exceed, and are not expected to exceed, 90,000 average operations or 700 annual jet-powered operations within the 20-year time frame of this planning process (see Chapter 3). A quantitative noise analysis is not an anticipated requirement for future developments at the Ontario Municipal Airport. Therefore, a qualitative noise analysis was not performed for the development of this MPU.

2.8.4.11 Natural Resources and Energy Supply

Malheur County covers approximately 9,930 square miles, with 94 percent of that area occupied by rangeland and 72 percent controlled by the Bureau of Land Management (BLM). Irrigated fields in the county's northeastern corner form what is known as the Western Treasure Valley.

Agriculture and rural communities make up much of the land within the county. Ontario is the largest city in Malheur County and is located along the Snake River at the nearby Idaho state border. There are no mineral resource lands and no forest resources within the City or near the Airport.

Water and wastewater services at the Airport are provided by the City of Ontario, and electricity is provided by Idaho Power. Future operations or development projects at the Ontario Municipal Airport are not anticipated to cause demand to exceed available or future supplies of any of the described resources.

2.8.4.12 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

Due to the amount of available farmland and rangeland, agriculture makes up the primary economic sector in Malheur County. Currently, the county's two largest employers are Ore-Ida, a frozen potato-based food producer based in Ontario, and the Snake River Correctional Institution, located five miles north of Ontario.

The U.S. Census Bureau states the median household income in Ontario was approximately $36,922 in 2019. According to the Oregon Employment Department, the average unemployment rate in the Malheur County area was approximately 4.2 percent as of August 2021, slightly lower than the Oregon State average of 4.9 percent and the U.S. average of 5.2 percent. Development at the Ontario Municipal Airport has the potential to result in short-term increased economic activity in the Ontario community because construction projects generally increase local business demand.

Between 1990 and 2020, the Decennial Census conducted by the U.S. Census Bureau has documented a 24 percent change increase in the overall population of the City of Ontario. The 2020 Decennial Census indicates Ontario has a population of 11,645 people.

The EPA's Environmental Justice Screening and Mapping tool (EJSCREEN) was referenced to determine the population within a 1-mile radius of Ontario Municipal Airport. This report states that approximately 2,864 individuals live in the area surrounding the Airport. Of those individuals, approximately 46 percent identify as Hispanic, 49 percent identify as white alone, 0.01 percent identify as black alone, 1 percent identify as Asian alone, 0.01 percent identify as American Indian alone, 0.01 percent identify as Pacific Islander alone, and 3 percent identify as two or more races alone. Overall, approximately 51 percent of the population identify as Persons of Color.

It is unlikely that future development projects at Ontario Municipal Airport would result in any residential relocations as the Airport is unable to expand east because of Highway 201 or north, west, and south due to developed agricultural and industrial land.

Children's environmental health and safety risks are usually impacted by the introduction of new physical hazards into the existing environment. Future development projects at the Ontario Municipal Airport are not likely to exceed significant thresholds for air quality, noise, and water quality, and there are no other environmental impacts that would negatively impact the health and safety of children. Food, drinking water, recreational water, soil, and other products children might encounter would not be influenced by future development projects at the Airport.

2.8.4.13 Visual Effects (Including Light Emissions)

Visual effects, visual resources, and visual characteristics can be subjective because each category includes personal aesthetic preferences. Visual impacts can include contrasts between a specific area, the existing environment, and the general perception of the community concerning any change in lighting or visual characteristics.

At the Ontario Municipal Airport, the primary light sources consist of existing buildings, facilities, and runway lighting. Any lighting associated with future development at the Airport would be comparable to what currently exists; therefore, no special lighting studies have been performed as part of this planning.

2.8.4.14 Water Resources (Including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

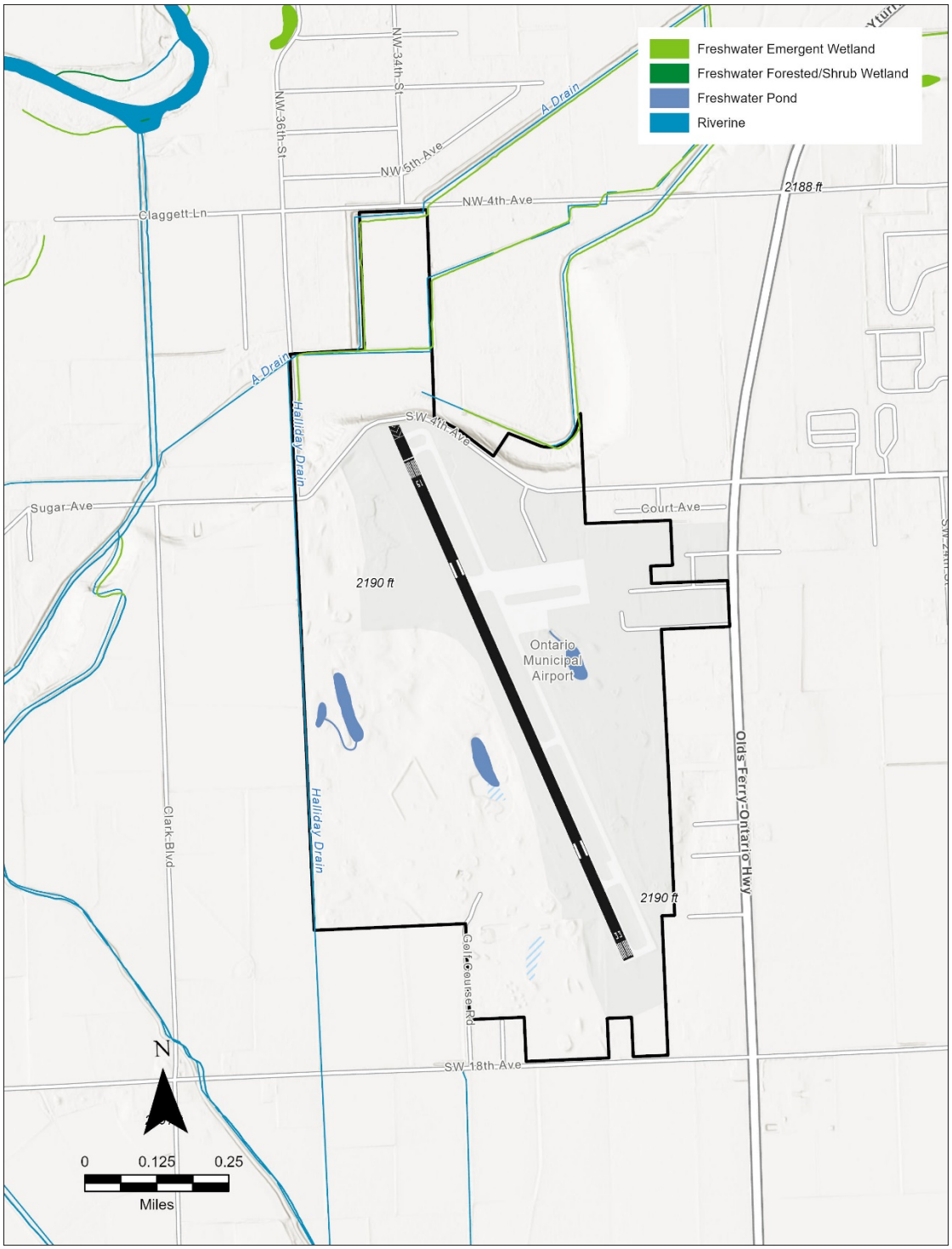
Wetlands

Wetlands are defined in the Clean Water Act (CWA) as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include swamps, marshes, bogs, and similar areas.

Due to the presence of irrigated agricultural fields in the vicinity of the Airport, a number of irrigation canals and ditches exist in the surrounding area and are illustrated on the USFWS National Wetland Inventory (NWI) map (see **Figure 2.13**). On the Airport property, three freshwater pond features are also illustrated near the center of the Airport; the two west of the runway are likely associated with the golf course previously present in the area, while the one east of the runway is likely associated with runoff. A wetland delineation should be completed to verify the presence of these mapped features prior to any construction activities.

The Airport is dominated almost entirely by disturbed upland habitat interspersed with ornamental grasses and trees in the southwestern quarter associated with the old golf course. The mapped soils on the Airport property have a hydric rating of zero out of 100.

FIGURE 2.13
ONTARIO MUNICIPAL AIRPORT NATIONAL WETLANDS INVENTORY MAP

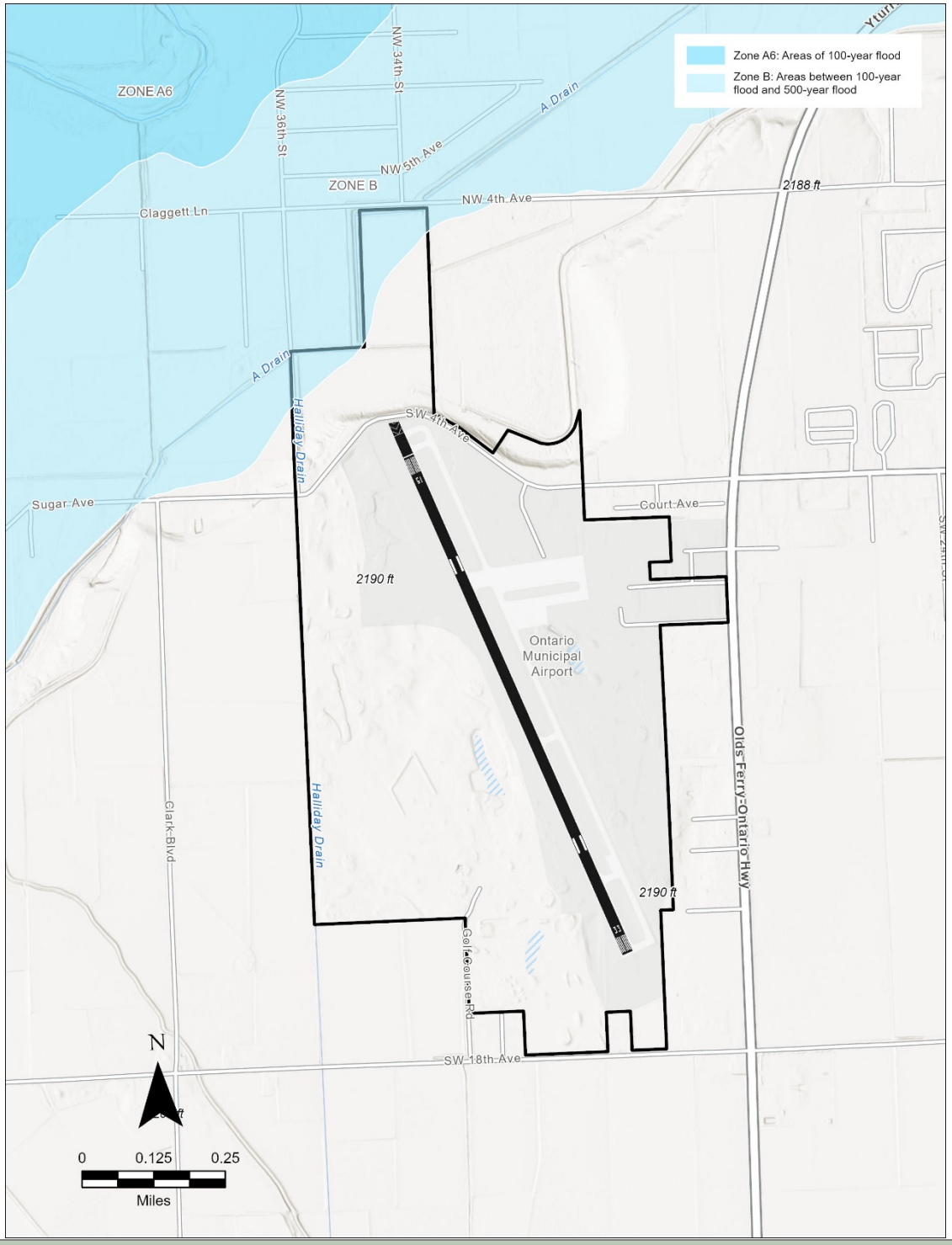


SOURCE: US FISH AND WILDLIFE

Floodplains

The FAA Order 1050.1F Environmental Desk Reference for Water Resources describes floodplains as "lowland areas adjoining inland and coastal waters which are periodically inundated by flood water, including flood-prone areas of offshore islands." Generally, floodplains are discussed in terms of the 100-year flood, or a flood having a one percent chance of occurring in any given year. After review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel #410149050B, the majority of the Airport property is within Flood Zone C, "areas of minimal flooding." However, a small portion of land in the northern portion of the Airport property falls within Flood Zone B, "areas between 100-year flood and 500-year flood" (see **Figure 2.14**). These areas have not been developed for Airport use. If future airport development were needed in these areas, floodway impacts would need to be evaluated and will require coordination with the Malheur County Planning Department.

FIGURE 2.14
FEMA FLOOD ZONES



SOURCE: FEMA

Surface Waters

Rivers, streams, lakes, oceans, ponds, and estuaries are examples of surface waters. The USFWS NWI Map identified a series of canals and small water features in the vicinity of the Airport, including the A Drain, the Halliday Drain, and a number of associated irrigation canals. Additionally, the NWI map documents three small ponded areas in the middle of the Airport, likely associated with the previous golf course and aircraft parking apron drainage.

Development in or adjacent to any of the aforementioned canals would require coordination with the local irrigation district. A field delineation to document the presence of the mapped pond features would also be required prior to any construction activities (see **Figure 2.13**).

Groundwater

Section pending additional environmental review.

Wild and Scenic Rivers

The purpose of the Wild and Scenic Rivers Act is to preserve certain rivers that *"possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values"* in a free-flowing condition. While Oregon has a number of Wild and Scenic River segments, none are in the vicinity of the Airport. Therefore, *there are no designated Wild and Scenic Rivers that would be impacted by future airport development projects at Ontario Municipal Airport.*

2.8.5 ENVIRONMENTAL SUMMARY

Airport improvements typically require environmental processes and documentation prior to implementation. Communication with agencies prior to improvement projects would allow Ontario Municipal Airport to support and maintain its local community and the environment while completing necessary actions to meet existing and future needs.

Overall, the current baseline environmental conditions at the Ontario Municipal Airport suggest that future development would not likely result in significant environmental impacts.

2.9 AIRFIELD DESIGN STANDARDS

The City of Ontario accepted federal grant-in-aid funding from the FAA, making the Ontario Municipal Airport an obligated airport. The design standards criteria described herein helps the planners to establish a design critical aircraft for evaluation. The airport must then meet the design standards established by the FAA for this design critical aircraft. The existing ALP indicates the current design aircraft at the Ontario Municipal Airport is a B-II Runway Design Category (RDC) - Raytheon King Air B-200.

The FAA specifies a coding scheme for airport design that relates airfield design criteria to the operational and physical characteristics of aircraft and Instrument Approach Procedure (IAP) visibility. Standards compliance relates to individual runway ends and other movement areas at certificated and/or obligated airports.

2.9.1 DESIGN STANDARDS CRITERIA

The first portion of the overall evaluation of design critical aircraft has three criteria related to a given runway and runway end referred to as the Runway Design Code (RDC).

The first, represented by a letter, is the Aircraft Approach Category (AAC). It relates to aircraft approach speed, which is an aircraft operational characteristic (1.3 x Vso/Vref [the speed of an aircraft in the landing configuration]). The second designator, Airplane Design Group (ADG), is represented by a Roman numeral. This is related to aircraft wingspan and aircraft tail height which are physical characteristics. Thirdly, a given runway end may accommodate an IAP with various FAA-approved visibilities. These visibilities are segregated and expressed in terms of Runway Visual Range (RVR). RVR is a real-time meteorological measurement noted in feet and related to ¼-mile visibility increments.

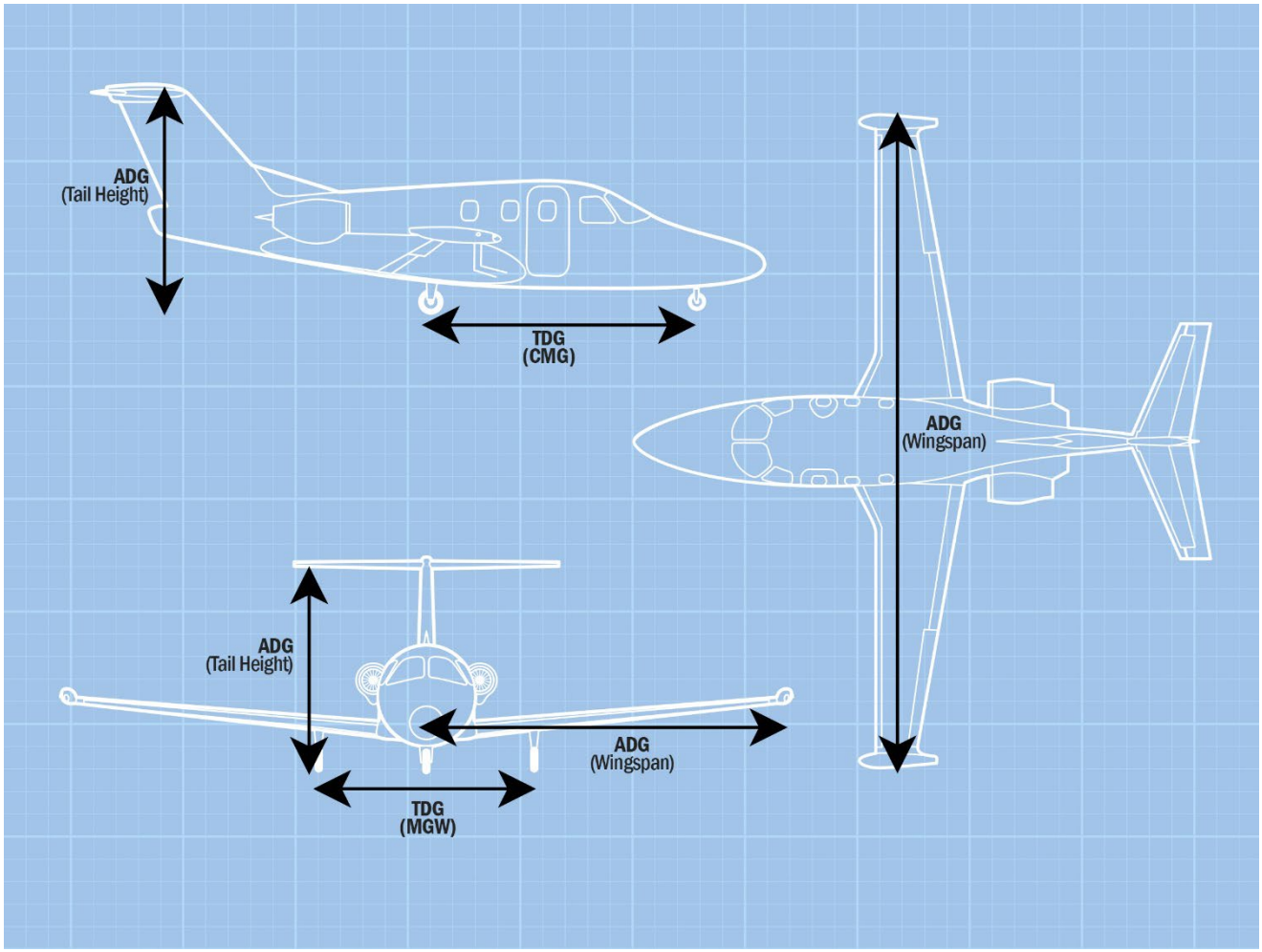
These criteria — the AAC speed, ADG wingspan and tail height, and IAP capability — combine to identify each runway's RDC and classify design standards primarily related to runway safety and protection. An RDC is associated with a particular runway end. One runway may have a different RDC for each end, and an airport with multiple runways may have multiple RDCs.

In addition to the RDC, the Taxiway Design Group (TDG) is another element of the FAA coding scheme. It is based upon the dimensions of aircraft undercarriage, specifically the distance between the outer edges of the main gear, termed Main Gear Width (MGW), and the distance between the cockpit and main gear, termed Cockpit to Main Gear (CMG). Note that if the nose wheel fronts the cockpit, the CMG distance increases. MGW and CMG ranges combine to make TDG's 1A through 7, with 7 accommodating the largest ranges and aircraft. The visualization on **Figure 2.15** shows the physical aircraft characteristics associated with ADG and TDG. In many instances ADG and TDG for individual airplanes will be within the same grouping; for example, ADG-I with TDG-1A, ADG-II with TDG-2, and AGD-III with TDG-3. Notable exceptions generally include aircraft with a relatively long fuselage.

Finally, aircraft weight is used by the FAA in airport planning and design at the Ontario Municipal Airport. Aircraft which weigh less than 12,500 pounds (maximum certificated gross), regardless of wheel configuration, are termed utility or small aircraft. Those which weigh more are termed non-utility, or large aircraft. The runway, taxiway, and the main apron pavement strengths are currently constructed for 30,000 pounds SWG and 60,000 pounds DWG.

The most demanding aircraft, or group of aircraft, with similar physical and operational characteristics that use the airport regularly, that is, to FAA's guideline of 500 annual takeoffs or landings, is termed the design or critical aircraft.

FIGURE 2.15
RUNWAY AND TAXIWAY DESIGN CRITERIA VISUALIZED ON AN AIRCRAFT



SOURCE: FAA/J-U-B

2.9.2 FAA DESIGN STANDARDS

FAA design standards dictate the dimensions of various areas, zones, surface gradients, and separations standards at an airport. Select standards are described below and listed in **Table 2.13** based on the Ontario Municipal Airport's current design aircraft, a B-II RDC Raytheon King Air B-200.

1. A Runway Protection Zone (RPZ) is a trapezoidal area off each runway end, established to enhance protection of people and property by clearing incompatible land uses. Ontario Municipal Airport RPZ's are currently partially owned in fee or easement.
2. The Runway Safety Area (RSA) and Taxiway Safety Area (TSA) are established to ensure that the ground surface adjacent to runways and taxiways is suitably prepared to reduce the risk of damage in the event of an aircraft deviation from paved surfaces. Safety area specifications are dimensional, grade-specific and material-specific.
3. The Runway Object Free Area (ROFA) and Taxiway Object Free Area (TOFA) are established to ensure the safety of aircraft operations by having an area free of objects, except those frangible-mounted objects, necessary for air navigation or ground maneuvering purposes.
4. The Obstacle Free Zone (OFZ) is a volume of airspace up to 150 feet above airport elevation, centered on runway centerline, primarily established to preclude taxiing and parked aircraft in the area where aircraft are landing and taking off. The runway hold line is sometimes located to coincide with limits of the OFZ. Inner-Approach OFZs protect approach lighting systems with a 50:1 sloped surface.
5. The purpose of the Approach and Departure Clearance Surfaces (AOCS/DOCS) is to provide obstacle clearance for visual approaches and instrument approach procedures. These are generally three-dimensional trapezoids with 20:1 or 34:1 surface extending upward and outward away from each end of runway.

Note that the design standard values shown in **Table 2.13** are the minimum specifications. Exceeding the specifications for an individual project is generally acceptable but may not be eligible for federal or state funds.

TABLE 2.13 *SELECT ONTARIO MUNICIPAL AIRPORT DESIGN STANDARDS*		
Standard/Specifications	**Standard**	**Existing**
Runway Design Code (Runway 15/33)	(B-II, NP, Large, TDG2)*	(B-II, NP, Large, TDG2)*
Runway Width	75 Feet	100 Feet
Effective Runway Longitudinal Grade	Within ±2% max	0.09%
Runway Pavement Strength (SWG/Pounds)	30/60	30/60
Runway Protection Zones (RPZ): Rwy 15 End	500'x700'x1,000'	500'x700'x1,000'
Runway Protection Zones (RPZ): Rwy 33 End	1,000'x1,510'x1,700'	1,000'x1,510'x1,700'
Runway Safety Area Width/Beyond End	150'/300'	150'/300'
Runway Object Free Area Width/Beyond End	500'/300'	500'/300'
Taxiway Width/Safety Area Width	35'/79'	35'/79'
Taxiway/Taxilane Object Free Area Width	131'/115'	131'/115'
Runway to Parallel Taxiway	240'	245'
Runway to Aircraft Hold line on Taxiway	200'	200'
Runway to Aircraft Parking	250'	>250'
Obstacle Free Zone Width/Beyond End	400'/200'	400'/200'
Approach Surface (20:1): Rwy 15 End	Table 3-2; Rows 1-4**	Table 3-2; Rows 1-4**
Approach Surface (20:1): Rwy 33 End	Table 3-2; Rows 1-4**	Table 3-2; Rows 1-4**
Part 77 Primary Surface Width/Beyond End	500'/3,500'	500'/3,500'
Runway 15-33 Part 77 Approach Surface Dims/Slope	500'x3,500'x10,000'; 34:1	500'x3,500'x10,000'; 34:1
Runway 15-33 Departure Surfaces Dims/Slope	100'x450'x7,512'x12,152'x6,160'; 40:1	100'x450'x7,512'x12,152'x6,160'; 40:1
SOURCE: J-U-B **NP: Non-Precision, Large: >12,500SWG* ***Table 3-2 in FAA Advisory Circular 150/5300-13a (1)*		

2.10 FAR PART 77

Title 14 of the Code of Federal Regulations, Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace specifies various imaginary surfaces considered to protect the airspace around the Ontario Municipal Airport from objects of natural growth or man-made features, termed obstructions. These surfaces are identified as primary, approach, transitional, horizontal, and conical in the Code of Federal Regulations Section 77.25 and described as follows:

1. The primary surface is longitudinally centered on the runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the centerline. The width of the primary surface is based on the type of approach available or planned for each runway.
2. The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach available or planned for that runway end.

3. The transitional surfaces extend outward and upward at right angles to the runway centerline and runway centerline extended at a slope of 7:1 (±8.13 degrees) from the sides of the primary surface and from the sides of the approach surfaces.
4. The horizontal surface is a level horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of 10,000 feet from the center of each end of the primary surface of each runway and connecting the adjacent arcs with lines of tangency.
5. The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 (±2.86 degrees) for a horizontal distance of 4,000 feet.

Upcoming chapters contain a depiction of these surfaces and **Table 2.13** lists dimensional information for Part 77 primary and approach surfaces. In addition to these surfaces, parts of CFR14. Section 77.23 of the Code of Federal Regulations provides for additional obstruction identification guidance. An object is considered an obstruction if it is over 200 feet from the ground within three nautical miles of the geometrical center of the airfield, or over 500 feet tall within the terminal instrument airspace. The FAA makes the determination and records it in *FAA Form 7460: Notice of Proposed Construction or Alteration.*

2.11 BASED AIRCRAFT AND AIRCRAFT OPERATIONS

The number of based aircraft and operations at an airport are an integral component of forecasting aviation demand. This section includes the historical aviation activity at Ontario Municipal Airport determined by data from various sources.

2.11.1 BASED AIRCRAFT

Aircraft must be “operational and airworthy” and based at an airport for more than six months of the year to be considered a based aircraft. The FAA maintains the following records of based aircraft at NPIAS airports:

***FAA Form 5010: Airport Master Record* (5010)** is an assessment of airport facilities and activity completed by the FAA during periodic inspections. The current 5010 for Ontario Municipal Airport was completed on September 18, 2019 and reports 58 based aircraft.

The **Terminal Area Forecast (TAF)**, an official FAA forecast of aviation activity, maintains a database of based aircraft and aircraft operations. As of May 2021, the TAF indicates little growth in based aircraft at the Ontario Municipal Airport from 2011 to 2021. TAF data from the same ten-year period is listed in **Table 2.14**.

TABLE 2.14
TAF BASED AIRCRAFT COUNT

Year	Number
2011	69
2012	68
2013-2014	69
2015-2016	66
2017	38
2018	32
2019-2020	57
2021	59

SOURCE: TAF

Basedaircraft.com is a self-reported database updated by airport staff and maintained by the FAA. Reliability of this database is much higher than the TAF’s based aircraft data. As of November 2021, *basedaircraft.com* shows 89 validated based aircraft (see **Table 2.15**). Note that Ultralight aircraft are not part of the official counts.

TABLE 2.15 ACTUAL BASED AIRCRAFT		
Aircraft	**Reported**	**Validated**
Single Engine Piston	100	84
Multi-Engine Piston	3	0
Jet	1	1
Helicopters	4	4
Ultralight	0	0
Numbers Not Found	6	0
Total Validated	**114**	**89**
SOURCE: BASED AIRCRAFT.COM REPORT DATED 12/6/2021		

The **89 validated based aircraft** reported on *basedaircraft.com* will be the baseline value used to prepare aviation activity forecasts in the following chapter.

2.11.2 AIRCRAFT OPERATIONS

An operation at an airport is considered the landing or takeoff of an aircraft. The exact number of operations can be difficult to determine at an uncontrolled airport because aircraft takeoffs and landings are not routinely recorded. Information from different sources, therefore, must be used to estimate the number of annual operations at the Ontario Municipal Airport.

The same records the FAA maintains for based aircraft include an estimated number of operations at the Airport. The current 5010 for Ontario Municipal Airport reports a total of 12,930 annual aircraft operations. Of those total reported operations, 8,080 (62 percent) are itinerant GA operations, 4,850 (38 percent) local GA operations, and no military or air taxi operations.

Similar to the based aircraft records, the TAF shows little growth in aircraft operations from 2011 to 2021. The data for this ten-year period is listed in **Table 2.16**.

TABLE 2.16 TAF AIRCRAFT OPERATIONS	
Year	**Number**
2011-2019	12,930
2020	13,034
2021	13,138
SOURCE: TAF	

The airport master planning consultant took additional measures to capture the most accurate operation numbers at Ontario Municipal Airport using motion activated cameras. The cameras were strategically placed to capture images of aircraft taxiing for takeoff from October 2019 to September 2020. The photos were then analyzed to generate the type and number of aircraft taking off from the Airport. Including estimations of touch and goes from on-site observations and of possible uncaptured operations, an estimated 18,062 annual operations take place at the Airport annually.

The number of itinerant and local operations can be derived from the 18,062 operations using the percentages recorded on the 5010. **Table 2.17** lists the estimates for each type of operation.

TABLE 2.17 ITINERANT AND LOCAL OPERATIONS		
Type	**Historical %± of Total Operations**	**Total Operations**
Local	38%	6,864
Itinerant	62%	11,198
Total	100%	18,062
SOURCE: TAF		

The estimated **18,062 annual operations** will be used as the aircraft operations baseline for the purpose of this planning effort.

2.12 DESIGN/CRITICAL AIRCRAFT

The design/critical aircraft is an aircraft, or group of aircraft with similar design or performance characteristics, that completes a minimum of 500 annual operations. Design standards for airport facilities are based on the characteristics of the design/critical aircraft. The FAA uses aircraft approach speeds, wingspan, and tail height to establish design groups. Approach categories range from A to E, with Category E having the greatest approach speeds. Categories I-VI further classify aircraft by wingspan and tail height. See Section 2.9.1 for further explanation. **Figure 2.16** identifies and visualizes representative aircraft grouped by AAC and ADG.

A&B-I aircraft include those weighing less than 12,500 pounds, with approach speeds up to 121 knots, and wingspans up to 49 feet. Example aircraft include:

- Cessna 152,182, 210, 340, 414, 425
- Beech Baron 55
- Beech Bonanza 33, 35, 36
- Raytheon Premier 1
- Raytheon/Beech Beechjet 400/T-1
- All Helicopters

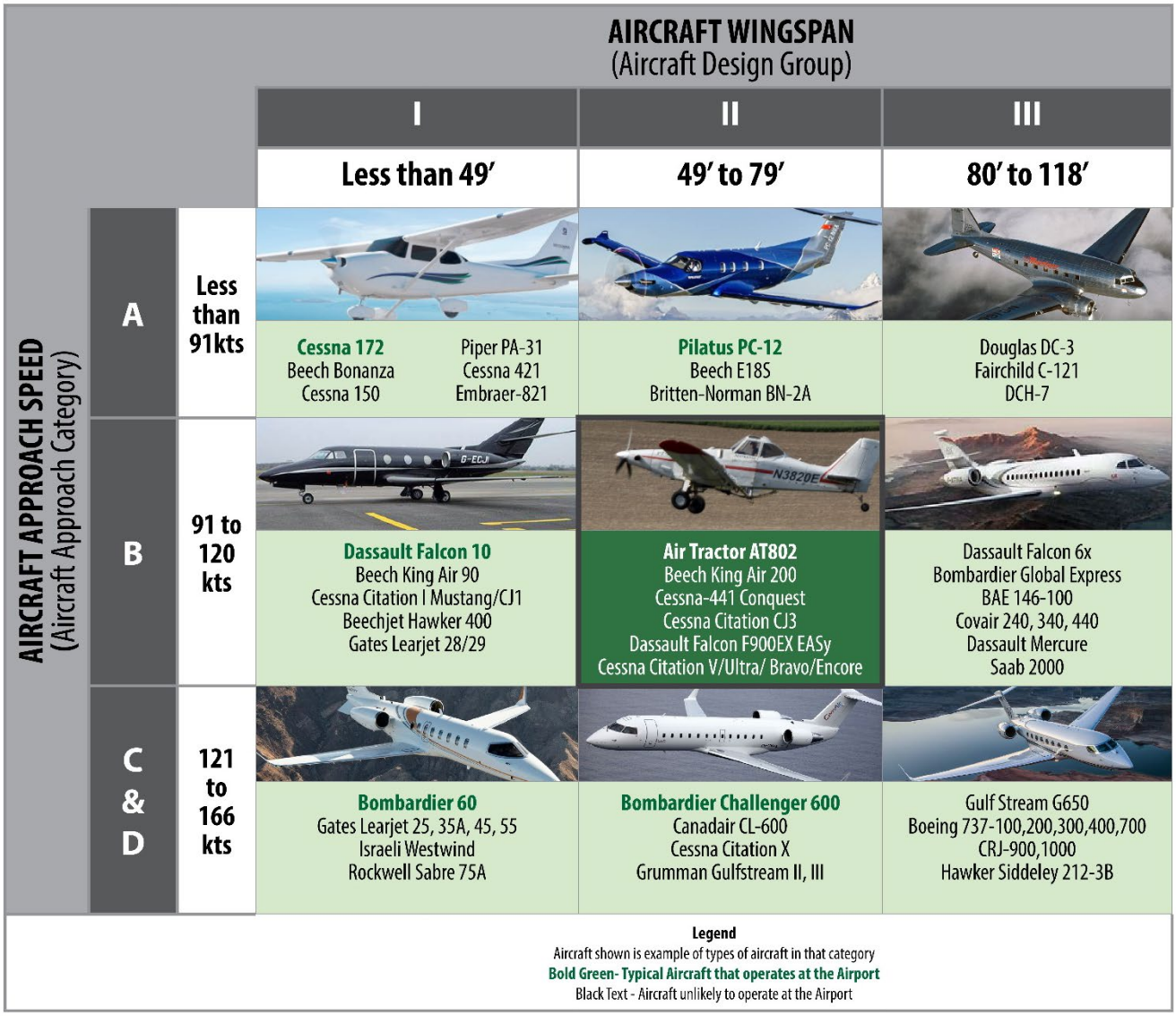
A&B-II small aircraft include those weighing less than 12,500 pounds, with approach speeds up to 121 knots, and wingspans up to 79 feet. Example aircraft include:

- Pilatus PC-12
- BE9L Beech King Air 90
- Cessna Citation 525A

A&B-II Large aircraft include those weighing greater than12,500 pounds, with approach speeds up to 121 knots, and wingspans up to 79 feet, inclusive. Example aircraft include:

- Raytheon King Air B-200
- BE-20 Beech 200 Super King
- BE-40 Raytheon Beechjet 400
- E50P – Embraer Phenom 100
- Cessna Citation 550, 56X, 650, Sovereign
- SR20 – Cirrus SR-20
- Dassault Falcon 20,50,200

FIGURE 2.16
RUNWAY AND TAXIWAY DESIGN CRITERIA REPRESENTATIVE AIRCRAFT



SOURCE: FAA/J-U-B

The based aircraft at the Ontario Municipal Airport are primarily in Design Group A/B-I and A/B-II and will make up the majority of operations. BLM firefighting efforts have accounted for a significant number of these operations and the BLM has begun facility improvements to continue to support its increasing flight activity at the Airport.

The FAA Traffic Flow Management System Counts (TFMSC) provide additional operational data; however, operations are only recorded when pilots file flight plans and/or when flights are detected by the National Airspace System (NAS), usually via RADAR. Additional data from Flight Aware and motion activated cameras provides a more complete picture of the types of aircraft using the Airport.

The TFMSC, Flight Aware report, and analysis of camera images recorded significant operations by Design Group A/B-I and A/B-II aircraft, including the Beechcraft King Air 200, the Air Tractor AT-602 and AT-802F Fire Boss, and other aircraft in the B aircraft approach category. The King Air 200 is also a Taxiway Design Group (TDG)-2 airplane.

These Group II operations along with the existing critical design aircraft, Beechcraft King Air 200, substantiate the existing Runway Design Code (RDC) of B-II and TDG-2.

Available records and the history of development at the Ontario Municipal Airport provide evidence in support of:

- An existing RDC of B-II
- An update to the Critical Aircraft Design Group to include the Air Tractor AT-802F Fire Boss along with a Beechcraft King Air 200
- Pavement design standards for taxiways and aprons of TDG-2

Historic and future operations data will be examined further in Chapter 3.

2.13 INVENTORY SUMMARY

The Ontario Municipal Airport plays an important role as a Category III Regional General Aviation Airport in the State of Oregon and as a national local airport. The existing conditions and findings reported in the Inventory chapter will be used to support subsequent studies and recommendations throughout the development of the airport master plan. These findings include:

- Population and socioeconomic growth trends that strengthen the role of the Airport, both regionally and nationally.
- Facilities and equipment that support the operations of a publicly owned general aviation airport.
- Available land and zoning ordinances that support future development and growth.
- Environmental conditions that are unlikely to be significantly impacted by future development.
- Records of based aircraft and aircraft operations that show evidence to support:
  - 89 validated based aircraft and an estimated 18,062 total annual operations
  - A B-II Runway Design Code with an Air Tractor AT-802F Fire Boss and Beechcraft King Air 200 as the critical design aircraft group
  - A TDG-2 for pavement design standards