2.1 BACKGROUND DATA

The City of Cottage Grove is located in Lane County in southwestern Oregon (Figure 2B). The City is approximately 135 miles south of Portland and 20 miles south of Eugene. Cottage Grove is bisected by I-5, the primary north-south interstate in Oregon.

2.1.1 Area Topography

Cottage Grove State Airport is bounded on three sides by the Row River. It is situated at the end of the Willamette Valley. The Airport has a recorded elevation of 641 feet MSL.

2.1.2 Climate and Weather

The area around Cottage Grove State Airport has a predominantly modified marine climate with relatively cool summers and mild, wet winters. The average annual participation is 45 inches, with less than 5 inches of snow. November through February is when the majority of the precipitation falls. The number of days with any measurable precipitation is 104. The mean maximum temperature of 81°F occurs in July. The January low is 34°F. Prevailing winds at Eugene Airport, the nearest airport with available historic wind information, are typically out of the south or north (Figure 2A).

2.1.3 Community and Airport History

Cottage Grove State Airport was originally established in 1965 on 40 acres of land purchased by donations from the Woodard Foundation, a local charitable organization. The Federal Aviation Administration and State of Oregon funded the construction of the Airport, which, since inception, has been publicly owned and operated by ODA.

Improvements and additions to the Airport continued since its opening. In 1969, the Village Green donated a taxiway and tie-down area, and constructed a road from Bowling Green to intersect with Thornton Road South. In 1977 the local community worked in conjunction with the City and ODA to upgrade the Airport. During this effort, both sides and ends of the runway were cleared, the east-west taxiway was graded, the tie-down area was fenced, and the ground was treated for dust control.

In the last 20 years over $4.4 million in Federal Grants have been invested in safety and improvement projects on the Airport (Table 2A). These improvements, and more, have been the result of an ongoing and successful partnership between the FAA, ODA, and the local community.

In 2015 the State Aviation Board unanimously passed a petition to request the City of Cottage Grove annex the Airport into the City. On August 8, 2016 the Cottage Grove City Council voted unanimously to adopt ordinance number 3065 and annexed the Airport into the City limits.
### Table 2A: FAA Grant Funded Airport Improvements

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<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Total Dollars</th>
<th>Grant Number</th>
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<td>Improve RSA, Install Runway Lighting</td>
<td>$1,314,207</td>
<td>002-1997</td>
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<td>2007</td>
<td>Improve RSA, Install Apron Lighting, Install Perimeter Fencing</td>
<td>$199,000</td>
<td>003-2007</td>
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<td>2008</td>
<td>Improve RSA, Install Apron Lighting, Install Perimeter Fencing, Remove Obstructions</td>
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<td>004-2008</td>
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<tr>
<td>2009</td>
<td>Remove Obstructions</td>
<td>$80,000</td>
<td>005-2009</td>
</tr>
<tr>
<td>2012</td>
<td>Remove Obstructions, Improve RSA</td>
<td>$95,757</td>
<td>006-2012</td>
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<tr>
<td>2013</td>
<td>Install Taxiway Lighting, Rehab Runway, Install Beacon, Install Guidance Signs</td>
<td>$359,751</td>
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<tr>
<td>2014</td>
<td>Install Taxiway Lighting, Rehab Runway, Install Beacon, Install Guidance Signs</td>
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<tr>
<td>2017</td>
<td>Master Plan Update</td>
<td>$288,551</td>
<td>009-2017</td>
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</table>

#### 2.1.4 Community Data

The following section provides an overview of the community including a summary of relevant studies and socioeconomic conditions.

**Relevant Studies**

Development and implementation of the Airport Master Plan will be in alignment with other local and regional plans and studies including:

- Comprehensive Plan (City of Cottage Grove, adopted 1980, most recent update 1993)
- Vision and Action Plan 2037 (City of Cottage Grove, 2008)
- Transportation System Plan (City of Cottage Grove, 2015)
- Natural Hazards Mitigation Plan (City of Cottage Grove, 2016)

These existing plans provide community data and direction that will be utilized throughout the development of the Airport Master Plan when and where appropriate.

#### Socio-Economic

Socioeconomic characteristics of a population such as employment, income, and population, aid in determining the growth of a community and its overall economic status within the state.

**Employment Data**

The unemployment rate in Lane County has decreased by approximately 6 percent over the last 6 years, matching the statewide trend (Figure 2C). The number of employed persons has added approximately 12,000 jobs over the same period.

**Income Data**

Figure 2D shows that the average annual income in Lane County has increased steadily since 2010 and in 2016 was approximately $41,000, representing a $5,000 increase since 2010. The State of Oregon has a higher average income, with the 2016 average being approximately $50,000.

**Population Data**

The population in Cottage Grove remained nearly the same between 2010 and 2016 and is currently 9,800. In the last 3 years the population of Lane County has grown much more quickly at 0.90% compared to Cottage Grove which has grown at 0.3% (Figure 2E).
Chapter 2. Inventory

2.2 EXISTING FACILITIES

Airport facilities generally are classified as either Airside or Landside facilities. Airside facilities include the runway, taxiways, aircraft parking aprons, airfield signage/lighting, weather instruments, and navigational equipment. Although not an airport facility, the airspace can also be described as an airside element that requires protection. Landside facilities include hangars and other buildings, vehicle parking, the main access road, and other roadways on the Airport. Also included are support facilities such as fueling systems, utilities, and fencing. Each is described in further detail in the next two sections.

2.3 AIRSIDE FACILITIES

2.3.1 Pavement Condition Index

In 2015 the Airport’s Pavement Condition Index (PCI) was updated for those airfield pavements located on Airport property as part of a three-year rotation. The condition of the Airport pavements were rated on a scale of 0-100, with 0 being an unusable paved surface and 100 reflecting a just-constructed paved surface. Generally, ratings with a PCI above 70 require only preventative maintenance in the short term, while ratings between 40 and 70 require major rehabilitation and ratings less than 40 typically require reconstruction.

PCI ratings at Cottage Grove State Airport range from a low of 71 (“Satisfactory”) to a high of 100 (“Good”). The area-weighted average PCI for all Airport pavements is 90, corresponding to an overall rating of “Good”. Current and forecasted PCI classifications are displayed in Figure 2F.

2.3.2 Runway 15-33

The single runway at Cottage Grove State Airport (Runway 15-33) is 3,188 feet long by 60 feet wide. The Runway is asphalt and in good condition. The weight rating is 12,500 pounds for Single Wheel Gear (SWG).

2.3.3 Taxiways and Taxilanes

There is one existing full-length parallel taxiway (Taxiway A) on the west side of Runway 15-33. This taxiway is 25 feet wide and has four connector taxiways and an aircraft run-up area at the Runway 33 threshold. The majority of the pavement on Taxiway A is considered to be in satisfactory condition.

2.3.4 Aprons and Aircraft Parking

The total aircraft apron area at the Airport is approximately 12,300 square yards, or an estimated 2.54 acres. Thirty tiedowns are provided on the apron serving both based and transient aircraft. The apron has the lowest rated pavement on the airfield and will need to be
addressed within the next 10 years. The PCI is predicted to fall to "Fair" to "Poor" in the next decade.

Additionally there are 13 tiedown spaces located outside the Oregon Aviation History Center on the far west side of the airfield. That pavement is rated in satisfactory condition.

### 2.3.5 Airfield Lighting and Signage

Airfield edge lighting systems are categorized as low, medium, or high intensity. The color of the lights is also important as it indicates to pilots where they are in the airport environment.

Runway 15-33 is equipped with white medium intensity runway edge lighting (MIRL). Taxiway A is currently unlit and marked with blue reflectors. There is lighted signage on the connector taxiways at the hold positions.

### 2.3.6 Airport Navigational Aids (NAVAIDS)

NAVAIDS provide navigational assistance to aircraft for instrument approaches to an airport. NAVAIDS are classified as visual approach aids or instrument approach aids; the former providing a visual navigational tool and the latter being an instrument-based navigational tool. The types of approaches available at an airport are based on the NAVAIDS provided.

#### Visual Approach Aids

Runway 15-33 is established as a visual approach runway. There is a segmented circle containing a lighted wind indicator to the east of Runway 15-33 at mid-field. A rotating beacon is located on a tower west of Runway 15-33.

Both ends of Runway 15-33 have a four-light Precision Approach Path Indicator (PAPI). A PAPI provides
glideslope information to pilots on final approach by displaying sequences of different colored lights to maintain a safe glide path for landing.

**Instrument Approach Aids**
Instrument approach aids include the equipment associated with the Airport’s instrument approach. At this time, the Airport does not have an instrument approach.

**2.3.7 Automated Weather Observing System (AWOS)**
Many GA airports have weather reporting equipment. There is not an Automated Weather Observing System (AWOS) at Cottage Grove State Airport. An AWOS updates weather observations every minute, continually reporting significant weather changes as they occur. This system also reports cloud ceiling, visibility, temperature, dew point, wind direction, wind speed, altimeter setting, and density altitude (airfield elevation corrected for temperature).

**2.3.8 FAA Airfield Design Standards**
FAA AC 150/5300-13, Airport Design, sets forth the FAA’s recommended standards for airport design. A few of the more critical design standards are those for runways and the areas surrounding runways, including:

- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Obstacle Free Zone (OFZ)
- Runway Protection Zone (RPZ)

Each of these standards, as they apply to a B-1 (small) airport, is described in greater detail below and a graphical representation of the areas are displayed in Figure 2G.

The RSA is a defined surface surrounding the runway that is prepared or suitable for reducing the risk of damage to airplanes in the event of an airplane undershoot, overshoot, or an excursion from the runway.

The OFA is an area on the ground centered on the runway or taxiway centerline that is provided to enhance the safety of aircraft operations. No above ground objects are allowed except for those that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

The OFZ is a volume of airspace that is required to be clear of obstacles, except for frangible items required for the navigation of aircraft. It is centered along the runway and extended runway centerline.

The RPZ is defined a trapezoidal area off each runway end intended to enhance the protection of people and property on the ground. The dimensions of an RPZ are a function of the runway ARC and approach visibility.
Figure 2G: Existing Airport Facilities

Legend:
- RPZ
- RSA
- OFA
- Property Line
- Security Fence
- Building/Hangar

- Middlefield Golf Course
- Row River
- I-5
- Jim Wright Way
- East Palmer Ave
- Oregon Aviation History Center
- Tiedown Apron and Hangars
- Main Airport Access
- Hangar Row
- Visitor Center
- Medical Center
- Helipad
- Object Free Area (OFA)
- Runway Safety Area (RSA)
- Runway 33 Visual Approach RPZ
- Runway 15 Visual Approach RPZ
- Runway
- PAPI
- Segmented Circle & Windsock
- Airport Property Line
- Airport Security Fence
- Row River Rd
- I-5

Client Name: PROJECT NAME
- DESIGNED
- CHECKED
- DRAWN
- APPROVED
- PLOT DATE
- LAST EDIT
- SCALE
- MAGNETIC

240'
200'
250'
120'

Scale: 1 inch = 200 feet

Chapter 2. Inventory

I-5
Row River Rd
Jim Wright Way
East Palmer Ave
Middlefield Golf Course
Row River
Oregon Aviation History Center
Tiedown Apron and Hangars
Main Airport Access
Hangar Row
Visitor Center
Medical Center
Helipad
Object Free Area (OFA)
Runway Safety Area (RSA)
Runway 33 Visual Approach RPZ
Runway 15 Visual Approach RPZ
Airport Property Line
Airport Security Fence
PAPI
Segmented Circle & Windsock
Object Free Area (OFA)
minimums. The FAA recommends that RPZs be clear of all residences and places of public assembly (churches, schools, hospitals, etc.) and that airports own the land within the RPZs.

Generally speaking, all of the design standards mentioned above are met at Cottage Grove State Airport. However, there is a potential issue with the Runway RPZs that may need to be addressed as the plan progresses. Both runway RPZ’s extend off of Airport property and past the Urban Growth Boundary onto property within Lane County. It is preferred that the Airport own the full extents of the property within the RPZ in fee simple. However, if an airport does not own those properties in fee, and cannot secure acquisition of the land, land use control can be achieved through avigation easements. An evaluation of future standards to meet will be provided in Chapter 4, Facility Requirements.

2.3.9 Airspace

Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace defines and establishes the standard for determining obstructions that affect airspace in the vicinity of an airport. FAR Part 77 is published separately and is primarily concerned with the identification of objects on and near airports that could be hazards to air navigation. Airports are responsible for identifying FAR Part 77 imaginary surfaces and protecting them through land ownership or other means of land use controls (such as zoning, easements, etc.).

The imaginary surfaces are geometric shapes that surround the runways of an airport and vary in size and slope depending on the category of the runway. The five imaginary surfaces are the Primary, Approach, Horizontal, Conical, and Transitional. Any object that penetrates these surfaces is considered an obstruction and may affect navigable airspace. Unless these obstructions undergo additional aeronautical study to conclude they are not a hazard, obstructions are presumed to be a hazard. Hazards to air navigation may include terrain, trees, construction equipment, or permanent or temporary structures.

The five surfaces are depicted in Figure 2H and more detailed definition follows:

**Primary Surface.** The primary surface is longitudinally centered on a runway that extends 200 feet beyond each end of the runway. The width of a primary surface ranges depending on the existing or planned approach and runway type.

**Horizontal Surface.** The horizontal surface is a horizontal plan located 150 feet above the established airport elevation, covering an area from the transitional surface to the conical surface. The perimeter is constructed by swinging arcs from the center end of the primary surface and connecting the adjacent arcs by lines tangent to those areas. For approaches to runways supporting aircraft smaller than 12,500 pounds, like Cottage Grove State Airport, the radius of each arc used to construct the horizontal surface is 5,000 feet.

**Conical Surface.** The conical surface extends upward and outward from the periphery of the horizontal surface at a slope of one foot for every 20 feet (20:1) for a horizontal distance of 4,000 feet.

**Transitional Surface.** Transitional surfaces extend outward and upward at right angles to the runway centerline, with the runway centerline extended at a slope of seven feet horizontally for each foot vertically (7:1) from the sides of the primary and approach surfaces. The transitional surfaces extend to where they intercept the horizontal surface at a height of 150 feet above the runway elevation.

**Approach Surface.** Longitudinally centered on the extended runway centerline, the approach surface extends outward and upward from the end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach. FAA approach surfaces have an inclined slope of 20:1 for visual and approaches and circling instrument procedures, 34:1 for non-precision approaches, and 50:1 for precision approaches.

The Cottage Grove State Airport has a significant amount of obstacles according to a cursory review of publicly available LiDAR data from the Oregon Department of Geology and Mineral Industries (DOGAMI) that displays highest hit, bare earth, and bare earth slope imagery.

The DOGAMI data, when compared to the modeled PART 77 surfaces for the Airport, identified obstructions throughout the Airport’s airspace due to terrain and trees, which are predominately the result of the areas topography.

As a part of the master planning process, an Airport Geographic Information Survey (AGIS) will be conducted to provide better and more accurate survey data that will allow the planning team to better analyze potential obstruction data. The updated data from the AGIS survey and the FAR Part 77 surfaces will be illustrated as part of the Airport Layout Plan (ALP) drawing set. FAR Part
77 surfaces will be evaluated during the development of the ALP and any penetrations will be noted and recommended for removal or marking, as appropriate.

### 2.3.10 Protection of Airport Airspace

The FAA requires that airport sponsors – to the extent of their ability – restrict zoning on adjacent lands and lands within an airport’s immediate vicinity to compatible land uses. Lane County Zoning Code (Chapter 16.245) and the City of Cottage Grove Development Code (Section 2.6.200) have established Airport Overlay Zones to protect the Airport and its airspace from hazards to air navigation, such as tall structures or non-compatible land uses. An overlay zone may restrict the height of buildings and other structures or trees. Airport overlay zones also may restrict any land use that would create such hazards as electrical interference with airport radio communications, cause glare or impair visibility near the Airport or would attract wildlife.

The City’s Airport Overlay District (2.6.200) applies to properties that lie within the air approaches. Compliance with Federal Aviation Administration and Oregon State Aviation Department requirements is also required within this overlay.

The City prohibits the following uses:

- New residential development
- Public assembly uses
- Building or expanding industrial uses that would emit smoke, dust, or steam that would obscure visibility within Airport approach corridors.
- Building or expanding outdoor lighting that would project directly onto an existing runway, taxiway or into an existing airport approach corridor.
- Height limitations specific to each underlaying zone

Figure 2H: FAR Part 77 Airspace surrounding Cottage Grove State Airport. Existing penetrations to surfaces are shown in solid red. Obstruction mitigation will be addressed in Chapter 4, Facility Requirements and in the Airport Layout Plan set that will accompany this report.
2.4 LANDSIDE FACILITIES
The landside area of the Airport generally encompasses the land areas within the Airport that support its operations but are not dedicated to aircraft operations. However, due to the economic and land-use impacts, airports can have in a region, the landside area will include an analysis of those land areas and facilities immediately outside of the Airport boundary.

2.4.1 Hangars/Airport Buildings
At Cottage Grove State Airport there are 28 buildings/structures. There are 25 privately-owned hangars built on leased lots. Of those hangars, there are 23 box hangars, 1 single-unit T-hangar and 1 seven-unit, nested T-hangar. In addition to the hangars, a visitor center and two sheds supporting the fueling system and airport beacon are on the property and are owned by ODA. There are two 10,000 gallon Avgas underground fuel tanks (one has been abandoned), a fuel pumping station, one pilot lounge/terminal building, and the Oregon Aviation History Center.

2.4.2 Hangar and Airport Access
The hangars are accessed from East Palmer Ave, which also serves as the main Airport entrance to the pilot lounge. Once on Airport property, vehicles use the taxi lane to the hangars. The Oregon Aviation History Center and parking lot can be accessed off of Jim Wright Way.

2.4.3 Vehicle Parking
There are two ODA-owned vehicle parking lots at the Airport for airport users and visitors to the Aviation History Center. The primary parking lot for airport users is the paved parking lot located on the west side of the airfield near the visitor center, which provides approximately 10 parking spaces. Additionally, there is a paved parking lot at the Oregon Aviation History Center which provides approximately 20 parking spaces.

2.4.4 Aviation Services/Support Facilities
A fixed based operator (FBO) is an individual or a business that offers aviation-related services such as a pilot lounge, restroom facilities, flight instruction, aircraft rental, aircraft maintenance, hangar/tiedown storage, and aircraft fueling to Airport users.

There is currently not an FBO at the Airport. There is however a visitor center with a pilot lounge and restroom for itinerant pilots. The building is maintained by the local pilot community. A self-fueling area with Low Lead aviation fuel (Avgas) is provided for aircraft with piston engines. The fueling area and equipment are owned and managed by ODA. The Airport does not provide aircraft maintenance or flight training.

2.4.5 Airport Fencing
The Airport is partially fenced on the west side and unfenced along the eastern boundary where the property abuts the Row River. The unfenced areas on the west side of the airfield border several homes as well as the City's public golf course. There is one approved Residential Through the Fence (RTTF) on the west side of the airfield with an existing access agreement with ODA in place.

2.4.6 Utilities
The Airport is currently connected to water and sanitary sewer services provided by the city, and electric service provided by Emerald People's Utility District. Sewer service is provided to the terminal area only.

2.5 ADMINISTRATION
The management of the Cottage Grove State Airport is administered by ODA. The ODA mission is three-fold and includes focusing on advocating for the economic growth, infrastructure improvement, and safe operation of aviation in Oregon. As the owner, operator, and sponsor of 28 airports, including Cottage Grove State Airport, ODA is responsible for the day-to-day maintenance and upkeep of aviation facilities as well as managing the capital improvements required to satisfy demand and FAA requirements.

2.5.1 Airport Administration and Maintenance
ODA State Airports Division is responsible for the management of the Airport. The State Airports Division manages lease agreements for hangars, access/egress, financial records, and maintenance of facilities. The administration and maintenance of the Airport falls under the purview of both state and federal law. Oregon Revised Statutes (ORS) dictate much of what the Airport can achieve through comprehensive planning (ORS Chapter 197), aviation fuel taxes (ORS Chapter 319), airports and landing field regulations (ORS Chapter 836), and aircraft operations (ORS Chapter 837). The Oregon Administrative Rules (OAR) provide guidance on the Airport Planning Rule (OAR 660-013) and the ODA Rule (OAR 738-140), which specifies certain standards.
required of airports throughout the state including a minimum standards policy, residential through the fence access, commercial and non-commercial leasing policies, and more.

Additionally, ODA is responsible for ensuring compliance with federal grant assurances and regulatory standards. This Master Plan is one element to help ensure ODA is planning for the long-term facility development needs safely and efficiently according to current FAA design standards.

2.5.2 Airport Financial Data

Part of the planning for an airport involves assessing its financial condition. To accomplish this, it is important to collect data related to the Airport’s operation, beyond physical and activity-related attributes. As part of the inventory collection effort, recent financial data are summarized and presented in Table 2B below, and will be used later in the Master Plan as inputs to the Capital Improvement/Financial Plan.

On average, from 2012-2017 the average annual revenue for the Airport was $379,275. It is worth noting that 87% of the annual revenues come from federal revenue, 8.85% from fuel income, and 3.5% from land lease fees. In 2017, ODA returned an unused portion of a prepaid environmental testing grant to the FAA. The Airport accepted no other grant funding that year which resulted in a total Federal revenue of -$16,103.

Expenditures on average during the same period averaged approximately $433,166. 80% of annual expenditures go to capital construction, 8% to fuel stations, 5% to GA entitlement, and 2% to Airport maintenance.

The Cottage Grove State Airport currently requires additional funds from ODA to meet current operational and capital requirements. This will be factored into the financial feasibility evaluation in a later chapter of this study.

### Table 2B: Cottage Grove State Airport Financial Data

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Source: ODA
2.6 ENVIRONMENTAL INVENTORY
The purpose of this section is to summarize the environmental setting of the Airport and identify any potential environmental constraints to the future development and normal operations of the Airport. FAA methodology for master plan development has planners examine the environmental factors early in the process so that projects and alternatives can be proposed with avoidance of environmental resources or impacts in mind.

The Airport property is located between residential and commercial areas, to the west, and agricultural fields, to the east. The Airport is located about 1.25 miles east of the historic center of downtown Cottage Grove and about 0.5 miles west of the main highway exit from Interstate 5 for the city. The Row River flows northward along the eastern side of the Airport. The Row River Nature Park is located along the Row River immediately south of the Airport.

Environmental constraints for airports typically fall into two general categories: human environment and natural environment. Human factors that can constrain airports include existing settlements and incompatible land use, noise, social or socioeconomic conditions, light and glare, and the general controversial nature of airports. Natural environmental elements include various aspects of air quality, water resources, fish and wildlife, hazardous materials, energy and other resource issues.

2.6.1 Human Environment
Human factors that can constrain airports include existing settlements and incompatible land use, noise, social or socioeconomic conditions, light and glare, and the general controversial nature of airports.

Noise
The Airport currently supports an average of 8,900 aircraft operations per year, which are mostly (57%) transient general aviation aircraft. Twenty-six single engine aircraft are based at the Airport.

The federal threshold of concern for noise is when the 65 DNL contour extends over noise-sensitive land uses. The State of Oregon has established a threshold of 55 DNL in noise-sensitive land uses. Noise contours typically mirror the shape of the runway, and extend beyond the runway ends in the dominant take-off direction. Areas surrounding the Airport include a wide variety of uses, including residential, commercial, industrial, and educational activities, some of which may be sensitive to noise. However, the Airport has no documented noise complaints.

The Airport's operations count falls below the 90,000 annual adjusted propeller operations threshold under which a noise study is recommended. Therefore, noise modeling has not been prepared for Cottage Grove and estimates for the 65 or 55 DNL threshold cannot be provided.

Most of the adjacent uses are residential and agricultural areas, though a commercial salvage yard is located 200 feet west of the runway. The nearest school is located 1.5 miles southwest of the runway. The school campus includes an elementary school and associated recreational sports fields. The residential areas to the north of the runway include a cluster of homes and an associated golf course (built circa 1994) approximately 500 feet northeast of the end of the runway, east of the approach zone. Additional, older homes are located 200 feet west of the runway.

Aircraft landing and approach is over agricultural fields or a water treatment facility from both directions for a minimum of 0.5 miles. No structures are located along the north or south approach zones for at least 2,500 feet with the exception of an agricultural outbuilding on a property to the north of the Airport. This structure is located on the opposite side of the Row River from the Airport. The nearest homes are part of a small residential area located approximately 200 feet west of the runway and under the FAR Part 77 transitional airspace surface. Aircraft approaching from the north will pass approximately 400 feet from the nearest home in the golf course residential development. Aircraft approaching from the south will pass directly over the Row River Nature Park, but the park contains no structures. Maintenance staff reported that there have been no noise-related complaints registered in the last year.

Land Use
On November 9, 2016 the 74 acres of Airport property were annexed into the City of Cottage Grove city limits and urban growth boundary. The annexation required a change in zoning, changing the property zoning code from Lane Code Chapter 10 AO - Airport Operations to Cottage Grove PR - Parks & Recreation District.

The entirety of Cottage Grove State Airport is within both the Urban Growth Boundary and Cottage Grove City limits, with the exception of the RPZs which extend off City property. The Parks & Recreation (PR) zone
is compatible to surrounding land uses to the Airport property.

Surrounding properties within the Cottage Grove Urban Growth Boundary and City limits are designated either Industrial (I) or Community Commercial (C). The eastern boundary of the property is the Row River and its floodplain.

Additionally, the City’s Airport Overlay District, Chapter 2.6.200 applies to the Airport property, as it does to the surrounding area within the Airport’s imaginary surfaces. It is intended to prevent airspace obstructions through height restrictions on structures and vegetation. Compliance with Federal Aviation Administration and Oregon State Aviation Department requirements is also required within this overlay.

Lane County also has an Airport Safety Combining Zone, which is applied to lands adjacent to the Cottage Grove State Airport. The Airport Safety Combining Zone (AS-RCP) serves several purposes, including:

- Prevent the creation or establishment of obstructions that are a hazard to air navigation and flight.
- Prevent the creation or establishment of other hazards to air navigation and flight such as distracting light and glare producing surfaces, radio interference, smoke, steam and dust, areas which attract birds and hazards of a similar nature.
- Limit the height of structures or objects.

Social Impact/Induced Socioeconomic Issues

Proposed airport development actions must be evaluated to determine whether they would cause social impacts. These include consequences to health and safety risks to children and socioeconomic impacts. Socioeconomic impacts are typically related to relocation of businesses, residences or the alteration of established patterns of life (e.g. roadway changes, new facilities that divide a community, etc.) Access to the Airport is from Palmer Avenue from Row River Road and Airport Road through mixed use commercial and industrial area. Hangar access is also available from Jim Wright Way through the grounds of the Oregon Aviation Historical Society. The Oregon Aviation Historical Society facility consists of a single hangar which opens onto the Airport grounds and a public parking lot which opens onto Jim Wright Way.

Children may be present in residential areas and the golf course (circa 1994) west of the runway. The residential areas and the golf course are under the FAR Part 77 transitional airspace surface. The nearest park, school, or similar public space to the Airport is Gateway Park, located 0.8 miles west of the runway. An elementary school is located 1.5 miles southwest of the runway. Gateway Park and the school are located outside the FAR Part 77 transitional airspace surface.

Socioeconomic issues include the potential for the Airport to continue providing economic attraction to the community, including on-airport jobs, off-airport jobs that are supported by the Airport, or some attraction that provides incentive to use the Airport. According to the 2014 Oregon Aviation Plan Economic Impact Study, the Airport provides positive economic benefit to the community through the provision of aircraft flights and aircraft repair. The Oregon Aviation Historical Society provides a regional attraction which depends on the Airport.

Environmental justice is a specific aspect of socioeconomic impact that addresses whether a proposed action places a disproportionate burden on a low-income or minority population. The closest census block group including and surrounding the Airport is 410390013.012. Based on 2010 data, 26.9% of families are below the poverty line, in contrast to 11.51% in Oregon as a whole and 11.47 nationwide.

When projects are identified in the future, specific impacts from construction and implementation of those projects will be evaluated further under FAA National Environmental Policy Act review to determine what, if any potential impacts to children, socioeconomic issues, or environmental justice concerns are present at that time.

Historic Properties and Cultural Resources (Section 106 Resources)

The Airport was constructed in 1964. Disturbance at this property includes pre-airport use as agricultural fields then the construction of the airport runways and associated buildings.

A formal review for Section 106 resources has not been prepared for the site. A review of the Oregon State Historical Preservation Office (SHPO) database indicates that cultural resources survey of the Airport property is of small areas and over a decade old. The majority of Airport property has not been subjected to a cultural resources evaluation. Airport property is located on the west bank of the Row River roughly 1 mile south of the confluence of the Row with the Coast Fork of the Willamette River.
this suggests a moderate to high probability for historic and prehistoric cultural resources. Archaeological sites and isolates have been identified within a 2-mile radius of the Airport. Furthermore, the age of the airport places it within the range of buildings subject to consideration for the National Register of Historic Places.

At the time of any development action a formal cultural resources determination assessment will need to be prepared, with Section 106 consultation with applicable Native American tribes, local governments and interested organizations and individuals to discuss areas or properties of religious or cultural significance and the potential adverse impacts or other effects that may ensue from a specific proposed activity.

**Recreational Lands - Section 4(f) Resources**

Section 4(f) requires that transportation projects limit their impact on public recreation. The Row River flows along the eastern side of the Airport but does not have any designated recreational status. Row River Nature Park is owned by the City of Cottage Grove and is located near the southern end of the runway. The park includes a dock with fishing access to a pond stocked with trout and walking trails through a large wooded area along the Row River. Aircraft approaching the Airport from the south pass directly over the park but the aircraft traffic is unlikely to substantially impact the use of the Row River Nature Park. Airport operations currently do not affect usage of any of these areas and are unlikely to do so in the future. The City of Cottage Grove has not received any complaints regarding Airport operations near the park.

**Wild and Scenic Rivers**

The Row River is not a designated wild and scenic river. No other wild and scenic rivers are located near the Airport and thus the Airport is not expected to impact any designated wild and scenic rivers.

**Farmland Preservation**

Certain types of soils are considered prime farmland because of their drainage, mineral, and other characteristics. These soils, when in urbanized or developed areas, are not considered prime due to the compaction and other activities that degrade the potential for farm use. The Natural Resources Conservation Service on-line soil database map (Soil Survey of Lane County, Oregon) found seven soil types in the Airport area.

The majority (60%) of the soils mapped within the property are designated as a version of Prime Farmland. Approximately half of these soils are designated as “All Areas are Prime Farmland” and half are “Farmland of Statewide Importance”. The remaining soils mapped on the property are designated as “Not Prime Farmland”. These areas are soils near the Row River and low enough in the floodplain that regular flooding reduces agricultural productivity.

FAA Guidelines state that the Farmland Protection Policy Act (FPPA) is not applicable and no formal coordination with the Natural Resource Conservation Service (NRCS) is required if any of the following conditions apply:

- The land was purchased prior to August 6, 1984, for purposes of being converted.
- Acquisition does not directly or indirectly convert farmland (e.g., land acquired for clear zones or noise compatibility). Indirect conversion includes any use of land or operation of the facility which would prohibit the land from being farmed.
- The land is not prime farmland as defined in the FPPA.
- The land is not unique farmland.
- The soils are not considered prime farmland.
- The land has not been determined by a state or local government agency, with concurrence of the Secretary of Agriculture, to be of statewide or local importance.

The current property has been in Airport ownership since before the 1984 threshold (i.e. 1964), therefore the FPPA is not applicable.
Light and Glare
Cottage Grove State Airport accommodates both day and nighttime operations. The runway is equipped with edge lighting and runway end identifier lights (REIL). Lights are pilot-activated. Taxiways have edge reflectors. Overhead lighting is present in the Airport hangar/apron area and other landside areas.

On-airport lighting is focused for visibility to aviators, without creating a disturbance or distraction. Current on-airport lighting is pilot-activated. Any additional facilities will need to consider the impact of light or glare, including the use of windows or roofing material, on aviation. With the proximity of residential uses, additional lighting or structures will need to be focused such that light or glare is not projected into the community.

2.6.2 Natural Environment
Natural environmental elements include various aspects of air quality, water resources, fish and wildlife, hazardous materials, energy and other resource issues.

Air Quality
The EPA has developed National Ambient Air Quality Standards (NAAQS) for seven pollutants, including two sizes of particulate material. The pollutants include carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), sulfur dioxide (SO2), lead (Pb), and particulate matter (PM). Two size classes of particulate matter are monitored, PM10 and PM2.5. Areas that have consistent violations of air quality standards are considered “non-attainment.” Areas that have been in “non-attainment” but have improved conditions are considered “maintenance.” The Cottage Grove State Airport is in an area that is currently in attainment (i.e. does not have any air quality monitoring violations) for air quality. Air quality monitoring is conducted on a continual basis by the Oregon Department of Environmental Quality using automated monitoring stations located throughout the state.

Any proposed projects will need to consider the impact of particulate material on the local environment, including water quality and other resources. The Airport does not currently generate a significant amount of surface traffic, and that is anticipated to continue in the future.

Water Quality
The Airport site is on an upland plain near the Row River. Drainage across the site is general east towards the river. Airport staff have stated that flooding is a periodic issue largely in the northern end of the runway where it is closest to the river. When flooding occurs, it is driven by the Row River overflowing into adjacent low lying areas, not from insufficient drainage of the Airport. The wooded areas between the runway and the river contain areas of impounded water and wetlands which receive drainage
from the Airport. Because of the proximity of the Airport to the Row River, it would be difficult to add additional water filtration or impoundment measures between the paved surfaces and the Row River.

**Plants and Animals, Including Coastal Resources, Endangered and Threatened Species, and Essential Fish Habitat**

The Airport is not in a Coastal Zone and does not include any Coastal Resources. According to the Oregon Biodiversity Information Center (ORBIC), eight federal or state listed species have been documented in a 2-mile radius of Cottage Grove State Airport. This list includes six aquatic species and two terrestrial species.

One of the species is federally listed as endangered and state listed as sensitive, Columbia White-tailed Deer (Odocoileus virginianus leucurus). However, the last documented record is from 1897 and the species is considered locally extinct in Lane County. Another species, Chinook Salmon (Oncorhynchus tshawytscha) is federally listed as threatened and state listed as sensitive, but is entirely aquatic and not expected to occur on Airport property outside the Row River.

The remaining species are federally and state listed as species of concern, sensitive-critical, or sensitive-vulnerable, which are listings which have lower levels of protection than formal endangered or threatened status. Streaked Horned Lark (Eremophila alpestris strigata) did not appear in the ORBIC listing but is included below because the Airport is within the range for the species and has been identified as potential habitat in past state-wide reviews for the species. Specific listing status appear in the descriptions for each species below.

- **Streaked Horned Lark (Eremophila alpestris strigata)** is a ground-nesting bird about 6-8 inches in length which prefers open prairies with no trees and few or no shrubs. ORBIC data did not include any species sightings within a 2-mile radius of the Airport. The Airport is located at the southern edge of the range of the species. The nearest airport with a known presence for the species is the Eugene Airport, approximately 23 miles to the north. Habitat for species is present around runway and taxiway areas. No surveys for the species have been conducted at the Cottage Grove State Airport. However, surveys will take place in Spring/Summer 2018.

- **Western Pond Turtle (Actinemys marmorata)** is a freshwater turtle found in streams, lakes, and wetlands. They spend most of their time in the water, but travel on land between water bodies and when nesting. The pond turtle is a federal species of concern and a state sensitive-critical species. The species was sighted multiple times at the nearby Row River Nature Park and other areas along the
Row River as recently as 2006. Though the species could use areas within the Airport for nesting or travel, expected use would be limited to the forested riparian area to the east of the runway.

- Oregon floater (Anodonta oregonensis) is a freshwater mussel found low gradient and low elevation rivers, lakes, and reservoirs. The species is federally classified as G5Q (Global, Abundant, Taxonomic Questions) and state classified S3 (Sensitive, Rare but not immediately imperiled). The species is entirely aquatic and is not expected to occur on property outside of the Row River. The species was last sighted in 1967 downstream from the Airport in the Row River.

- Ringtail (Bassariscus astutus) is a small mammal which is related to a raccoon. It occurs in low elevation forests and riparian areas. The species is federally classified as G5 (Global, Abundant) and state classified as sensitive-vulnerable. The ringtail was last sighted in 1978 along the Row River north of the Airport and may occur in the riparian areas east of the runway.

- Townsend’s Big-eared Bat (Corynorhinus townsendii) is a cave roosting bat species which uses hollow trees and bridges for short-term roosting. The bat is a federally species of concern and state sensitive-critical species. Roosting habitat for the species could occur in the forested riparian area east of the runway. The species is too small to present a collision risk to aircraft.

- Pacific Lamprey (Entosphenus tridentatus) is a fish species which occurs in freshwater and marine environments. It is a federal species of concern and state sensitive-vulnerable species. The species is entirely aquatic and not expected to occur on Airport property outside of the Row River. The last sighting was 2011 downstream from the Airport in the Row River.

- Chinook Salmon is a fish species known to spawn in the Willamette River basin and expected in the Row River. The species is federally listed as threatened and state listed as sensitive-critical. The species is entirely aquatic and not expected to occur on Airport property outside of the Row River.

- Oregon Chub (Oregonichthys crameri) is a small fish which inhabits still areas of rivers in the Willamette Valley. It was federally delisted, due to population recovery, in 2015. It remains state-listed as sensitive. The species is entirely aquatic and is not expected to occur on Airport property outside of the Row River.

The Cottage Grove State Airport property includes site conditions typical of an airport facility, with regard to the maintenance of the grounds and vegetation. The Airport is located on a flat floodplain adjacent to the Row River. Areas to the west are a mix of residential and agricultural land uses with limited natural habitat. Natural habitat present on the Airport is limited to the grassland areas around the runway and taxiway which are largely undisturbed except for periodic mowing and an area of mixed riparian woodland and shrubs between the runway and the Row River. Depressional and riparian wetlands are present throughout the woodland/shrub area between the runway and the Row River. An extensive mowing schedule maintains all vegetation for airport safety and visibility as required by FAA regulations. The Row River may attract migratory waterfowl or other wildlife hazards to aviation. Both the northern and southern approaches pass directly over the river a short distance from the end of the runway. Other wetlands areas on the Airport are forested or shrub areas and
are less likely to attract migratory waterfowl due to tall vegetation.

The FAA wildlife strike database recorded one wildlife strike at the Airport in January 1992 which resulted in minor damage to the aircraft from a collision with a grouse, a species not considered migratory waterfowl. This single event, over 25 years ago, does not indicate issues with wildlife or bird strikes at the Airport.

Any activity on the Airport would need to consider impacts to these species under the Endangered Species Act and Migratory Bird Treaty Act. A survey to investigate possible presence of Streak Horned Lark at the Airport is scheduled to be completed in the Spring of 2018, as part of this Master Plan update.

Wetlands and Floodplains
Based on the national and local wetland inventories, the Airport contains wetlands in areas along the edge of the Row River. Site observations indicated that a wooded drainage along the northwestern side of the Airport may also contain some wetland areas. However, this drainage is outside the Airport boundary. The majority of the wetland areas are located in a mixed wooded and shrub area between the runway and the Row River. This area contains multiple depressional wetlands and riverine oxbow areas in addition to a wooded riparian wetland fringe along the river. At the time of any development action a formal wetland determination will need to be prepared to identify any changes in condition or regulatory status.

FEMA floodplain mapping indicates that nearly the entire airport is within a FEMA Floodplain (FIRM 2009). The northern half of the runway and taxiway areas and the runway protection zone at the southern end of the runway are in the 1% annual chance flood hazard area (FEMA Flood Insurance Rate Map AE zone). The remainder of the Airport, including all airport structures is in the 0.2% annual chance flood hazard zone. ODA has indicated that the northern end of the runway has recently been flooded during high rain events by the Row River.

Energy Supply and Natural Resources
This category focuses on the impact of airport actions on energy and natural resources used in construction materials. In general, construction materials are not in short supply. Fuel for construction equipment is available nearby. The site has adequate electrical supply to provide power to navigation aids and security lighting on the Airport.

Solid Waste
Typically, general aviation airports do not generate significant amounts of solid waste. Often materials include food and beverage containers, or packaging for aircraft maintenance products. There are no dump sites or areas of potential aggregation of solid waste in or around the Airport.

Hazardous Materials
The Airport has one commercial fueling site. There is potential for additional contamination anywhere maintenance or fueling takes place, as a result of accidental spills.

In addition to fueling, aircraft maintenance activities may also have contributed to spills. No detailed exploration of spill or contamination history has occurred on the Airport. Any such areas where construction is proposed would need to undergo some level of due diligence, such as an Environmental Site Assessment, to identify any history of possible contamination.

Construction Impacts
Construction impacts typically include temporary noise, dust or traffic impacts, as well as the potential for erosion and water quality impacts associated with material spills, associated with construction. Once construction activities are identified, construction timing, phasing and mitigation measures need to be considered.

Controversy
Controversy is typically associated with off-airport impacts. In the case of Cottage Grove State Airport, there appears to be minimal, if any, controversy surrounding the Airport.

Other Issues
There do not appear to be any other environmental-related issues on or around the Airport.

2.6.3 Environmental Analysis Conclusion
There may be significant environmental issues on the Airport or in the Airport vicinity related to species listed under the Federal and state Endangered Species List, wetland impacts, and flooding. Possible hazardous material issues may also be present if fuel spills have occurred in the past. Additional study regarding these issues should be conducted once a project is defined. Alternatives examined in subsequent chapters of this study will refer to this inventory in order to identify ways to meet aviation demand with the least possible environmental consequences.