# Chapter 1 Introduction

The state of Oregon has an extensive aviation system spread throughout the state, providing valuable transportation options for the public which range from small emergency use airports in remote regions to the extensive passenger enplanements at Portland International. Managing such a large and diverse system of airports can be a daunting task if a comprehensive plan isn't in place to serve as a guide. In addition, with the ever increasing demands for project funding, it is imperative that the Oregon Department of Aviation (ODA) have a solid inventory, understanding of need, and plan for development for the entire state aviation system to meet the needs of existing and future development.

This report is a combination of three studies which will guide the development of the aviation system in Oregon for years to come. This document is organized into three distinct sections. *Chapter Two* summarizes the overall study goals, roles, and methodologies used to develop the study. *Chapter Three* is a summary of the various inventory efforts associated with the individual airport facilities. *Chapter Four* contains specific roles, recommendations, and funding options for the airport. This report will provide each community with information which can guide the development of each facility in an orderly, economic, and environmentally friendly manner.

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# Chapter 2

The growing aviation demand in Oregon has prompted the Oregon Department of Aviation (ODA) to update the previous State Aviation System Plan published in 2000 and develop economic impact assessments that gauge the benefits of aviation to the state. Oregon is currently experiencing an unprecedented growth in population as well as aircraft operations. In order for the state to continue to provide a safe and efficient aviation system while accommodating growth, it is important to evaluate what facilities and capabilities are here today and what will be needed for tomorrow.

This chapter is organized into the following sections:

2.1 *Oregon Aviation Plan 2007* (*OAP 2007*) Study Components
2.2 Overall Study Goals & Objectives
2.3 Airport Functional Roles
2.4 Performance Measures
2.5 Summary

## 2.1 *Oregon Aviation Plan 2007 (OAP 2007)* Study Components

Three unique studies were originally undertaken which resulted in the development of the *OAP 2007*. This included a traditional state aviation system plan update which was developed to meet Federal Aviation Administration (FAA) requirements. An economic impact study was completed to assess the economic value of the aviation system at the state and local levels. The state aviation master plan component evaluated airports not included within the traditional state system plan criteria, as well as evaluating additional areas of interest or special consideration topics. The aforementioned goals were originally distributed over these three separate studies as outlined above, however, since there were numerous commonalities between the studies, they were combined into a single report for greater ease of use. Additional detail on each of these three studies is listed below. The information contained in the *OAP 2007* is the compilation of information, findings, and recommendations for all three studies.

### 2.1.a State Aviation System Plan

The *OAP 2007* addresses many different issues related to each individual airport and regional and state aviation system components. It is important to have a comprehensive understanding of the existing facilities, the need for future facilities, and the feasibility of reaching future goals. A state aviation system plan update is based upon sound evaluation of existing facilities, coupled with a clear understanding of the state and nation aviation interests, as well as the needs of the general public. The methodology used to evaluate the state system is consistent with that advocated for use by the FAA in Advisory Circular (AC) 150/5070-7 — *The Airport System*

*Planning Process*, issued November 10, 2004. All 97 public-use airports are listed in **Table 2.1 – Public-Use Airports in Oregon**. Their associated city, FAA classification, and their type of ownership are noted within the table.

The *OAP 2007* includes 66 public-use airports, which are part of the National Plan of Integrated Airport Systems (NPIAS). The study group of airports was based upon extensive coordination with the ODA and the FAA. The study group includes the 57 airports currently listed on the NPIAS, eight state-owned airports which serve either a recreational/tourism base or have more than two based aircraft, and one privately owned airport, which serves a significant number of based aircraft.

### 2.1.b State Aviation Master Plan

The state aviation master plan element of the *OAP 2007* was included to ensure a comprehensive evaluation of all public-use airports within Oregon and was funded independently by the ODA. There are an additional 31 public-use airports in Oregon that were not included in the federally funded state aviation system plan component (NPIAS). These airports were evaluated using the same methodology of the state aviation system plan to provide the ODA a complete inventory of the state's aviation system resources. In addition to the evaluation of individual airports, the state aviation master plan was designed to evaluate broader, more conceptual issues related to the entire state aviation system. The evaluation of these issues will help the ODA better manage and improve the state system of airports.

### 2.1.c State Aviation Economic Impact Study

With the movement towards a global economy, it is now recognized that airports are no longer just another mode of transportation. Airports are vital components of the economic engine that drives the state, regional, and local economic climate and it is essential the state system of airports support these economies by providing adequate facilities and services. This study will provide the ODA, individual communities, airports and governmental agencies, and politicians the opportunity to assess the economic value of the aviation system as a whole as well as each individual airport. All 97 public-use airports, as shown in **Table 2.1**, are included in the analysis.

**Table 2.1 Public-Use Airports in Oregon**

| *Associated City* | *Airport Name* | *NPIAS Status* | *Ownership* |
|---|---|---|---|
| Albany | Albany Municipal Airport | Yes | Publicly Owned |
| Alkali Lake | Alkali Lake State Airport | No | Publicly Owned |
| Arlington | Arlington Municipal Airport | No | Publicly Owned |
| Ashland | Ashland Municipal Airport - Sumner Parker Field | Yes | Publicly Owned |
| Astoria | Astoria Regional Airport | Yes | Publicly Owned |
| Aurora | Aurora State Airport | Yes | Publicly Owned |
| Baker City | Baker City Municipal Airport | Yes | Publicly Owned |
| Bandon | Bandon State Airport | Yes | Publicly Owned |
| Beaver Marsh | Beaver Marsh Airport | No | Privately Owned |
| Bend | Bend Municipal Airport | Yes | Publicly Owned |
| Boardman | Boardman Airport | Yes | Publicly Owned |
| Brookings | Brookings Airport | Yes | Publicly Owned |
| Burns | Burns Municipal Airport | Yes | Publicly Owned |
| Cascade Locks | Cascade Locks State Airport | No | Publicly Owned |
| Cave Junction | Illinois Valley Airport | Yes | Publicly Owned |
| Chiloquin | Chiloquin State Airport | Yes | Publicly Owned |
| Christmas Valley | Christmas Valley Airport | Yes | Publicly Owned |
| Clearwater | Toketee State Airport | No | Publicly Owned |
| Condon | Condon State Airport – Pauling Field | Yes | Publicly Owned |
| Cornelius | Skyport Airport | No | Privately Owned |
| Corvallis | Corvallis Municipal Airport | Yes | Publicly Owned |
| Cottage Grove | Cottage Grove State Airport – Jim Wright Field | Yes | Publicly Owned |
| Crescent Lake | Crescent Lake State Airport | No | Publicly Owned |
| Creswell | Creswell Hobby Field | Yes | Publicly Owned |
| Culver | Lake Billy Chinook Airport | No | Privately Owned |
| Denmark | Cape Blanco State Airport | No | Publicly Owned |
| Enterprise | Enterprise Municipal Airport | No | Publicly Owned |
| Estacada | Valley View Airport | No | Privately Owned |
| Eugene | Eugene Mahlon Sweet Field | Yes | Publicly Owned |
| Florence | Florence Municipal Airport | Yes | Publicly Owned |
| Florence | Lake Woahink Seaplane Base - *closed* | No | Privately Owned |
| Gates | Davis Field | No | Privately Owned |

**Table 2.1 Public-Use Airports in Oregon (Continued)**

| *Associated City* | *Airport Name* | *NPIAS Status* | *Ownership* |
|---|---|---|---|
| Gleneden Beach | Siletz Bay State Airport | Yes | Publicly Owned |
| Gold Beach | Gold Beach Municipal Airport | Yes | Publicly Owned |
| Grants Pass | Grants Pass Airport | Yes | Publicly Owned |
| Hermiston | Hermiston Municipal Airport | Yes | Publicly Owned |
| Hillsboro | Stark's Twin Oaks Airpark | No | Privately Owned |
| Hood River | Ken Jernstedt Airfield | Yes | Publicly Owned |
| Hubbard | Lenhardt Airpark | No | Privately Owned |
| Imnaha | Memaloose Airport (USFS) | No | Publicly Owned |
| Independence | Independence State Airport | Yes | Publicly Owned |
| John Day | Grant County Regional Airport – Ogilvie Field | Yes | Publicly Owned |
| Joseph | Joseph State Airport | Yes | Publicly Owned |
| Klamath Falls | Klamath Falls Airport | Yes | Publicly Owned |
| La Grande | La Grande / Union County Airport | Yes | Publicly Owned |
| Lakeside | Lakeside Municipal Airport | No | Publicly Owned |
| Lakeview | Lake County Airport | Yes | Publicly Owned |
| Lebanon | Lebanon State Airport | Yes | Publicly Owned |
| Lexington | Lexington Airport | Yes | Publicly Owned |
| Madras | Madras City - County Airport | Yes | Publicly Owned |
| Malin | Malin Airport | No | Publicly Owned |
| Manzanita | Nehalem Bay State Airport | No | Publicly Owned |
| McDermitt | McDermitt State Airport | Yes | Publicly Owned |
| McKenzie Bridge | McKenzie Bridge State Airport | No | Publicly Owned |
| McMinnville | McMinnville Municipal Airport | Yes | Publicly Owned |
| Medford | Rogue Valley International – Medford Airport | Yes | Publicly Owned |
| Monument | Monument Municipal Airport | No | Publicly Owned |
| Myrtle Creek | Myrtle Creek Municipal Airport | Yes | Publicly Owned |
| Newberg | Chehalem Airpark | No | Privately Owned |
| Newberg | Sportsman Airpark | Yes | Privately Owned |
| Newport | Newport Municipal Airport | Yes | Publicly Owned |
| North Bend | Southwest Oregon Regional Airport | Yes | Publicly Owned |
| Oakridge | Oakridge State Airport | No | Publicly Owned |
| Ontario | Ontario Municipal Airport | Yes | Publicly Owned |
| Owyhee | Owyhee Reservoir State Airport | No | Publicly Owned |

**Table 2.1 Public-Use Airports in Oregon (Continued)**

| *Associated City* | *Airport Name* | *NPIAS Status* | *Ownership* |
|---|---|---|---|
| Pacific City | Pacific City State Airport | No | Publicly Owned |
| Paisley | Paisley Airport | No | Publicly Owned |
| Pendleton | Eastern Oregon Regional Airport at Pendleton | Yes | Publicly Owned |
| Pinehurst | Pinehurst State Airport | No | Publicly Owned |
| Portland | Portland Downtown Heliport | Yes | Publicly Owned |
| Portland | Portland International Airport | Yes | Publicly Owned |
| Portland | Portland Hillsboro Airport | Yes | Publicly Owned |
| Portland | Portland Mulino Airport | Yes | Publicly Owned |
| Portland | Portland Troutdale Airport | Yes | Publicly Owned |
| Powers | Powers Hayes Field | No | Publicly Owned |
| Prineville | Prineville Airport | Yes | Publicly Owned |
| Prospect | Prospect State Airport | No | Publicly Owned |
| Redmond | Redmond Municipal Airport - Roberts Field | Yes | Publicly Owned |
| Rome | Rome State Airport | No | Publicly Owned |
| Roseburg | Roseburg Regional Airport | Yes | Publicly Owned |
| Roseburg | George Felt Airport | No | Privately Owned |
| Salem | Salem McNary Field | Yes | Publicly Owned |
| Sandy | Country Squire Airpark | No | Privately Owned |
| Sandy | Sandy River Airport | No | Privately Owned |
| Santiam Junction | Santiam Junction State Airport | No | Publicly Owned |
| Scappoose | Scappoose Industrial Airpark | Yes | Publicly Owned |
| Seaside | Seaside Municipal Airport | Yes | Publicly Owned |
| Silver Lake | Silver Lake Strip (USFS) | No | Publicly Owned |
| Sisters | Sisters Eagle Air Airport | No | Privately Owned |
| Sunriver | Sunriver Airport | Yes | Privately Owned |
| The Dalles | Columbia Gorge Regional Airport – The Dalles Municipal Airport | Yes | Publicly Owned |
| Tillamook | Tillamook Airport | Yes | Publicly Owned |
| Toledo | Toledo State Airport | No | Publicly Owned |
| Vale | Miller Memorial Airpark | No | Publicly Owned |
| Vernonia | Vernonia Municipal Airport | No | Publicly Owned |
| Waldport | Wakonda Beach State Airport | No | Publicly Owned |
| Wasco | Wasco State Airport | Yes | Publicly Owned |

## 2.2 Overall Study Goals & Objectives

The primary goal of the three studies is to provide a comprehensive plan which addresses all public-use airports in the state of Oregon and which identifies how to improve individual airports as part of the larger state system, to meet the needs of tourism, economic development, and transportation services for each community and the state as a whole.

This information provides the framework that supports informed decisions related to planning and developing the Oregon aviation system. The objectives of these studies are to:

- Assess aviation facilities: including airside, landside, and ground facilities and services, and general aviation needs
- Assess the economic value of airport facilities to the host community as well as the overall importance to the state
- Provide guidance for the development of the Oregon system of airports to meet the state's future aviation needs to ensure the safety and efficiency of the state aviation system
- Enhance communication opportunities among ODA, airport sponsors, local government, other state and federal agencies, and airport users so that the future development of the state aviation system can be more readily accomplished
- Provide each airport the direction to develop their airport to meet the needs of the state aviation system and local community as well as promote the airport for the purposes of economic development and tourism

Each of these individual studies is a portion of the overall process necessary to create a systematic approach to meeting the improvements which are identified, as well as proposing development strategies. This report provides a summary of the results of three planning studies undertaken by ODA to assess the condition of the existing aviation infrastructure, the economic benefit of the aviation industry, and the passenger demands for air service.

## 2.3 Airport Functional Roles

Each airport in the state impacts the overall operational capacity and efficiency of the state aviation system by supporting different types and levels of aviation activity. The types of facilities and services that should be provided at each category of airport were determined throughout the development of this plan. Airport functional roles have been broken out into five categories and the following criteria were utilized to classify the airports:

- Current airport infrastructure, facilities, and services
- Aviation activity levels and type of aviation demand served
- Ability to accommodate future growth
- Accessibility and geographic service area

The five airport functional roles are defined on the following page.

**Category I – Commercial Service Airports**

These airports support some level of scheduled commercial airline service in addition to a full range of general aviation aircraft. This includes both domestic and international destinations.

**Category II – Urban General Aviation Airports**

These airports support all general aviation aircraft and accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activity. These airports' primary users are business related and service a large geographic region or they experience high levels of general aviation activity.

**Category III – Regional General Aviation Airports**

These airports support most twin- and single-engine aircraft and may also accommodate occasional business jets. These airports support a regional transportation need.

**Category IV – Local General Aviation Airports**

These airports support primarily single-engine, general aviation aircraft, but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities.

**Category V – RAES (Remote Access/Emergency Service) Airports**

These airports support primarily single-engine, general aviation aircraft, special use aviation activities, and access to remote areas or provide emergency service access.

Volume I of the *OAP 2007* displays all airports within their various categories.

## 2.4 Performance Measures

Airport performance measures were developed for the functional roles. These objectives were developed in cooperation with ODA and the state aviation system plan and master plan Advisory Committee. The purpose of the performance measures is to compare existing airport facilities to the minimum and desired facility criteria for each functional role. The performance measures should not be considered a requirement for development standards and any development would require additional support and justification through the airport master planning process as well as environmental documentation.

The performance measures for each functional role are defined below. Many airports have multiple runways; therefore, the primary runway for each airport was used to evaluate the facility against the performance measures.

**Category I – Commercial Service Airports**

These airports support some level of scheduled commercial airline service in addition to a full range of general aviation aircraft. This includes both domestic and international destinations.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

| Airside Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| FAA - ARC | C-II | Varies |
| NPIAS | Yes | Yes |
| Based Aircraft | Not an Objective | Not an Objective |
| Runway Orientation | Varies by Airport | Varies by Airport |
| Runway Length | 6,000 feet | Varies by Aircraft |
| Runway Width | 100 feet | Varies by Aircraft |
| Runway Pavement Type | Bituminous, Concrete | Bituminous, Concrete |
| Runway Pavement Strength | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | Varies by Airport | Varies by Airport |
| Taxiways | Full Parallel | Full Parallel/High Speed Exits |
| Approach Type | Precision | Precision |
| Visual Approach Aids | Both Runway Ends | Both Runway Ends |
| Instrument Approach Aids | One Runway End | Both Runway Ends |
| Runway Lighting | MIRL/HIRL | MIRL/HIRL |
| Taxiway Lighting | MITL/HITL | MITL/HIT |

| General Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| Rotating Beacon | Yes | Yes |
| Lighted Wind Indicator | Yes | Yes |
| Weather Reporting | AWOS/ASOS | AWOS/ASOS |
| Hangared Aircraft Storage | 75% of Based Aircraft | 100% of Based Aircraft |
| Apron Parking/Storage | 75% of Daily Transient | 100% of Daily Transient |
| Terminal Building | Yes | Yes, Gates and Covered Walkways |
| Auto Parking | Moderate | Adequate |
| Fencing | Perimeter | Perimeter |
| Cargo | Small Handling Facility w/ Apron | Handling Facility w/ Apron |
| Deicing Facility | Yes | Yes, 24 hour |

| Services | Minimum Criteria | Desired Criteria |
|---|---|---|
| Fuel | 100 LL & Jet A | 100 LL & Jet A, 24 hour service |
| FBO | Full Service, 24 hour service | Full Service, 24 hour service |
| Ground Transportation | Rental Car, Taxi, or Other | Rental Car, Taxi, or Other |
| Food Service | Coffee Shop/Deli & Cold Foods | Restaurant |
| Restrooms | Yes | Yes |
| Pilot Lounge | Yes w/ Weather Reporting Station | Yes w/ Weather Reporting Station |
| Snow Removal | Yes | Yes |
| Telephone | Yes | Yes |

**Category II – Urban General Aviation**

These airports support all general aviation aircraft and accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activity. These airports' primary users are business related and service a large geographic region or they experience high levels of general aviation activity.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

| Airside Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| FAA - ARC | C-II | Varies |
| NPIAS | Yes | Yes |
| Based Aircraft | Not an Objective | Not an Objective |
| Runway Orientation | Varies by Airport | Varies by Airport |
| Runway Length | 5,000 feet | Varies by Aircraft |
| Runway Width | 100 feet | Varies by Aircraft |
| Runway Pavement Type | Bituminous, Concrete | Bituminous, Concrete |
| Runway Pavement Strength | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | Varies by Airport | Varies by Airport |
| Taxiways | Full Parallel | Full Parallel/High Speed Exit |
| Approach Type | Precision | Precision |
| Visual Approach Aids | One Runway End | Both Runway Ends |
| Instrument Approach Aids | Not an Objective | One Runway End |
| Runway Lighting | MIRL/HIRL | MIRL/HIRL |
| Taxiway Lighting | MITL/HITL | MITL/HITL |

| General Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| Rotating Beacon | Yes | Yes |
| Lighted Wind Indicator | Yes | Yes |
| Weather Reporting | AWOS/ASOS | AWOS/ASOS |
| Hangared Aircraft Storage | 75% of Based Aircraft | 100% of Based Aircraft |
| Apron Parking/Storage | 75% of Daily Transient | 100% of Daily Transient |
| Terminal Building | Yes | Yes |
| Auto Parking | Moderate | Adequate |
| Fencing | Perimeter | Perimeter |
| Cargo | Designated Apron Area | Small Handling Facility w/ Apron |
| Deicing Facility | Not an Objective | Yes |

| Services | Minimum Criteria | Desired Criteria |
|---|---|---|
| Fuel | 100 LL & Jet A | 100 LL & Jet A, 24 hour service |
| FBO | Full Service | Full Service, 24 hour service |
| Ground Transportation | Offsite Rental Car, Taxi, or Other | Rental Car, Taxi, or Other |
| Food Service | Vending | Coffee Shop/Deli & Cold Foods |
| Restrooms | Yes | Yes |
| Pilot Lounge | Yes w/ Weather Reporting Station | Yes w/ Weather Reporting Station |
| Snow Removal | Yes | Yes |
| Telephone | Yes | Yes |

**Category III – Regional General Aviation**

These airports support most twin- and single-engine aircraft and may also accommodate occasional business jets. These airports support a regional transportation need.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

| Airside Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| FAA - ARC | B-II | Varies |
| NPIAS | Not an Objective | Not an Objective |
| Based Aircraft | Not an Objective | Not an Objective |
| Runway Orientation | Varies by Airport | Varies by Airport |
| Runway Length | 4,000 feet | Varies by Aircraft |
| Runway Width | 75 feet | Varies by Aircraft |
| Runway Pavement Type | Bituminous, Concrete | Bituminous, Concrete |
| Runway Pavement Strength | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | Varies by Airport | Varies by Airport |
| Taxiways | Partial or Turnarounds | Full Parallel |
| Approach Type | Non-Precision | Precision |
| Visual Approach Aids | One Runway End | Both Runway Ends |
| Instrument Approach Aids | Not an Objective | Not an Objective |
| Runway Lighting | MIRL | MIRL/HIRL |
| Taxiway Lighting | MITL | MITL/HITL |

| General Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| Rotating Beacon | Yes | Yes |
| Lighted Wind Indicator | Yes | Yes |
| Weather Reporting | AWOS/ASOS | AWOS/ASOS |
| Hangared Aircraft Storage | 75% of Based Aircraft | 100% of Based Aircraft |
| Apron Parking/Storage | 30% of Daily Transient | 50% of Daily Transient |
| Terminal Building | Small Meeting Area | Yes |
| Auto Parking | Minimal | Moderate |
| Fencing | Terminal Area | Perimeter |
| Cargo | Space on Existing Apron | Designated Apron Area |
| Deicing Facility | Not an Objective | Not an Objective |

| Services | Minimum Criteria | Desired Criteria |
|---|---|---|
| Fuel | 100 LL & Jet A | 100 LL & Jet A, 24 hour service |
| FBO | Full Service | Full Service, 24 hour service |
| Ground Transportation | Courtesy Car / Offsite Rental Car | Rental Car, Taxi, or Other |
| Food Service | Vending | Vending |
| Restrooms | Yes | Yes |
| Pilot Lounge | Yes w/ Weather Reporting Station | Yes w/ Weather Reporting Station |
| Snow Removal | Yes | Yes |
| Telephone | Yes | Yes |

**Category IV – Local General Aviation Airport**

These airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

| Airside Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| FAA - ARC | B-I | B-II |
| NPIAS | Not an Objective | Not an Objective |
| Based Aircraft | Not an Objective | Not an Objective |
| Runway Orientation | Varies by Airport | Varies by Airport |
| Runway Length | 3,000 feet Paved; 2,500 feet Turf | Varies by Aircraft |
| Runway Width | 60 feet Paved; 120 feet Turf | Varies by Aircraft |
| Runway Pavement Type | Bituminous, Concrete, Turf | Bituminous, Concrete |
| Runway Pavement Strength | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | Varies by Airport | Varies by Airport |
| Taxiways | Exits Needed | Partial or Turnarounds |
| Approach Type | Visual | Non-Precision |
| Visual Approach Aids | Not an Objective | One Runway End |
| Instrument Approach Aids | Not an Objective | Not an Objective |
| Runway Lighting | LIRL | MIRL |
| Taxiway Lighting | LITL | MITL |

| General Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| Rotating Beacon | Yes | Yes |
| Lighted Wind Indicator | Yes | Yes |
| Weather Reporting | Not an Objective | AWOS/ASOS |
| Hangared Aircraft Storage | 75% of Based Aircraft | 100% of Based Aircraft |
| Apron Parking/Storage | 30% of Daily Transient | 50% of Daily Transient |
| Terminal Building | Not an Objective | Small Meeting Area |
| Auto Parking | Minimal | Minimal |
| Fencing | Not an Objective | Terminal Area |
| Cargo | Not an Objective | Not an Objective |
| Deicing Facility | Not an Objective | Not an Objective |

| Services | Minimum Criteria | Desired Criteria |
|---|---|---|
| Fuel | 100 LL | 100 LL & Jet A |
| FBO | Not an Objective | Limited |
| Ground Transportation | Not an Objective | Courtesy Car/Offsite Rental Car |
| Food Service | Not an Objective | Vending |
| Restrooms | Yes | Yes |
| Pilot Lounge | Not an Objective | Yes w/ Weather Reporting Station |
| Snow Removal | Yes | Yes |
| Telephone | Not an Objective | Yes |

**Category V – RAES (Remote Access/Emergency Services)**

These airports support primarily single-engine general aviation aircraft, special use aviation activities, access to remote areas, or provide emergency service access.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

| Airside Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| FAA - ARC | A-I | B-I |
| NPIAS | Not an Objective | Not an Objective |
| Based Aircraft | Not an Objective | Not an Objective |
| Runway Orientation | Varies by Airport | Varies by Airport |
| Runway Length | 2,500 feet Turf | 3,000 feet Paved; 2,500 feet Turf |
| Runway Width | 60 feet Turf | 60 feet Paved; 120 feet Turf |
| Runway Pavement Type | Turf, Gravel | Bituminous, Concrete |
| Runway Pavement Strength | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | Varies by Airport | Varies by Airport |
| Taxiways | Not an Objective | Exits Needed to an apron |
| Approach Type | Visual | NPIA |
| Visual Approach Aids | Not an Objective | One Runway End |
| Instrument Approach Aids | Not an Objective | One Runway End |
| Runway Lighting | Not an Objective | LIRL |
| Taxiway Lighting | Not an Objective | LITL |

| General Facilities | Minimum Criteria | Desired Criteria |
|---|---|---|
| Rotating Beacon | Not an Objective | Yes |
| Lighted Wind Indicator | Not an Objective | Yes |
| Weather Reporting | Not an Objective | AWOS/ASOS |
| Hangared Aircraft Storage | Not an Objective | 75% of Based Aircraft |
| Apron Parking/Storage | Not an Objective | 100 X 100 foot Apron |
| Terminal Building | Not an Objective | Small Meeting Area |
| Auto Parking | Not an Objective | Minimal |
| Fencing | Not an Objective | Limited |
| Cargo | Not an Objective | Not an Objective |
| Deicing Facility | Not an Objective | Not an Objective |

| Services | Minimum Criteria | Desired Criteria |
|---|---|---|
| Fuel | Not an Objective | 100 LL |
| FBO | Not an Objective | Not an Objective |
| Ground Transportation | Not an Objective | On-Call Service |
| Food Service | Not an Objective | Not an Objective |
| Restrooms | Not an Objective | Yes |
| Pilot Lounge | Not an Objective | Yes |
| Snow Removal | Not an Objective | Yes |
| Telephone | Not an Objective | Yes |

**Table 2.2 *OAP 2007* Recommended Airport Classification**

Category I – Commercial Service Airports
Eastern Oregon Regional Airport at Pendleton
Eugene Airport - Mahlon Sweet Field
Klamath Falls International Airport
Portland International Airport
Redmond Municipal Airport - Roberts Field
Rogue Valley International - Medford Airport
Salem McNary Field
Southwest Oregon Regional Airport

Category II – Urban General Aviation Airports
Astoria Regional Airport
Aurora State Airport
Bend Municipal Airport
Corvallis Municipal Airport
McMinnville Municipal Airport
Newport Municipal Airport
Portland Downtown Heliport
Portland - Hillsboro Airport
Portland - Troutdale Airport
Scappoose Industrial Airpark

Category III – Regional General Aviation Airports
Ashland Municipal Airport - Sumner Parker Field
Baker City Municipal Airport
Bandon State Airport
Burns Municipal Airport
Columbia Gorge Regional - The Dalles
Grant County Regional Airport
Grants Pass Airport
Hermiston Municipal Airport
La Grande / Union County Airport
Lake County Airport
Ontario Municipal Airport
Roseburg Regional Airport
Tillamook Airport

Category IV – Local General Aviation Airports
Albany Municipal Airport
Boardman Airport
Brookings Airport
Chehalem Airpark
Christmas Valley Airport
Condon State Airport - Pauling Field
Cottage Grove State Airport - Jim Wright Field
Creswell Hobby Field Airport
Florence Municipal Airport
Gold Beach Municipal Airport
Illinois Valley Airport
Independence State Airport
Joseph State Airport
Ken Jernstedt Airfield
Lebanon State Airport
Lenhardt Airpark

Category IV – (Continued)
Lexington Airport
Madras/City-County Airport
Myrtle Creek Municipal Airport
Portland - Mulino Airport
Prineville Airport
Seaside Municipal Airport
Siletz Bay State Airport
Sisters Eagle Air Airport
Sportsman Airpark
Sunriver Airport
Wasco State Airport

Category V – Remote Access/Emergency Service Airports
Alkali Lake State
Arlington Municipal
Beaver Marsh
Cape Blanco State Airport
Cascade Locks State Airport
Chiloquin State Airport
Country Squire Airpark
Crescent Lake State Airport
Davis Field
Enterprise Municipal
George Felt
Lake Billy Chinook
Lake Woahink Seaplane Base - *Closed*
Lakeside State Airport
Malin
McDermitt State Airport
McKenzie Bridge State
Memaloose (USFS)
Miller Memorial Airpark
Monument Municipal
Nehalem Bay State Airport
Oakridge State
Owyhee Reservoir State
Pacific City State Airport
Paisley
Pinehurst State Airport
Powers Hayes Field
Prospect State Airport
Rome State
Sandy River
Santiam Junction State
Silver Lake Strip (USFS)
Skyport
Stark's Twin Oaks Airpark
Toketee State
Toledo State Airport
Valley View
Vernonia Municipal Airport
Wakonda Beach State

Source: Mead & Hunt, Inc.

## 2.5 Summary

Each of these study efforts will provide valuable information to the state as well as the individual airports as stand alone documents. Combined together, these studies provide a comprehensive resource for airport development throughout the entire state.

# Chapter 3

As outlined in the Federal Aviation Administration (FAA) Advisory Circular 150/5070-7, *The Airport System Planning Process*, the process of system planning for aviation is based upon the collection and evaluation of information about each airport within the overall system and the area they serve. The inventory task is accomplished through physical inspection of the facilities, field interviews and surveys, telephone conversations, and review of previous studies.

The objective of the inventory task is to document existing conditions, thereby providing the background information essential to the development and recommendations for the *Oregon Aviation Plan 2007 (OAP 2007)*. The inventory information covers a broad spectrum and includes information on the following elements of the Airport:

- Airside and landside facilities and their uses
- Navigational aids
- Auxiliary support facilities and services
- Environmental observations
- Air traffic activity data
- Survey analyses

A large volume of data was collected, reviewed, and analyzed during the inventory effort. This chapter presents an overall summary of this information and is organized in the following sections:

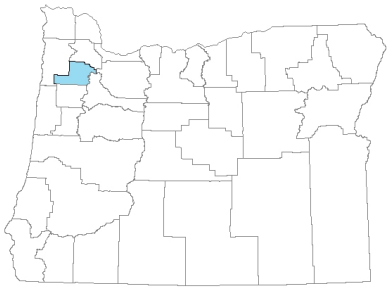
3.1 General Airport Description and Location
3.2 Existing Airport Facilities
3.3 Current and Forecast Demand
3.4 Survey Responses

## 3.1 General Airport Description and Location

Chehalem Airpark is located near the city of Newberg, within Yamhill County, in northwest Oregon (**Figure 3.1**). Yamhill County is bordered by Washington County to the north, Marion and Clackamas Counties to the east, Polk County to the south, and Tillamook County to the west. Newberg is 25 miles southwest of Portland, on State Highway 99W. The Airport is 4 miles west of town, north of State Highway 240.

According to the State of Oregon Office of Economic Analysis, Yamhill County contained 92,196 residents in 2005, up 8.5 percent from 84,992 in 2000. Oregon has grown from 3,436,750 residents in 2000 to 3,618,200 residents in 2005, up 5.3 percent. This indicates that Yamhill County is growing at a faster pace than the state as a whole.

**Figure 3.1**
**Yamhill County Location Map**



The Airport is privately owned and operated, and is not included in the National Plan of Integrated Airport Systems (NPIAS), and therefore, is not eligible for federal funding. Chehalem Airpark is designated by the airport identifier code 17S, and occupies approximately 20 acres of land.

## 3.2 Existing Airport Facilities

Existing airport facilities are presented in three categories: airside, landside, and support facilities. The airside facilities include such areas as the runways, taxiways, aprons, aircraft parking and storage areas, airfield lighting, and navigational aids. The landside facilities include items such as the airport terminal building, vehicular access, auto parking, and support facilities. The support facilities may include fuel facilities, aircraft rescue and firefighting (ARFF) facilities, airport maintenance, snow removal equipment (SRE) and facilities, and utilities. The existing airside, landside, and support facilities are detailed below.

### 3.2.a Airside Facilities

The airfield consists of many components that are required to accommodate safe aircraft operations. This consists of runways, taxiways, and an apron network; the visual and electronic navigational aids associated with runways; runway protection zones; and general aviation facilities.

**Runways.** Chehalem Airpark has one runway, Runway 07-25, which is 2,285 feet in length and 40 feet wide. The runway has a bituminous surface. Additional runway information such as pavement strength and condition is located in **Section 4.2**, *Definition of Airport System Role*.

**Taxiways.** The Airport has a partial parallel taxiway, with connectors and exits, and with a bituminous surface.

**Aprons.** The Airport has an apron, with bituminous surface, and parking for 10 aircraft.

**Lighting and Navigational Aids.** The Airport lighting and navigational systems extend the Airport's usefulness into night and/or poor visibility conditions.

The Airport has non-standard pavement edge lighting, a lighted wind indicator, and pavement marking.

The Airport has no published approach procedures.

### 3.2.b Landside Facilities

**General Aviation Facilities.** The Airport has a full service fixed based operator (FBO), hangar storage for 26 aircraft, and a terminal building, with pilot lounge, restroom, and telephone.

### 3.2.c Support Facilities

**Parking.** The Airport has minimal automobile parking that is located adjacent to the FBO building on the southwest side of the airfield.

**Fuel Facilities.** The FBO offers aviation fuel, both 100 LL and Jet A.

**Chehalem Airpark**

Source: 2003 Oregon Airport Directory

## 3.3 Current and Forecast Demand

This element of the report provides projections of future aviation demand at the Airport. Projections of short-, intermediate-, and long-term activity at the Airport are based on 5-, 10-, and 20-year milestones, using 2005 as the base year of analysis as it is the most recent year for which a full year of activity data is currently available.

Projections of aviation demand are an important element of the system planning process as they provide the basis for several key analyses, including:

- Determining the role of the Airport with respect to the type of aircraft to be accommodated in the future
- Evaluating the capacity of existing airport facilities and their ability to accommodate projected aviation demand
- Estimating the extent of airside and landside improvements required in future years to accommodate projected demand

This analysis uses the most recent aircraft activity available to project future levels of aviation demand through the year 2025. The forecast analysis contained in this section includes methodologies based on historical aviation trends at the Airport, as well as other socioeconomic trends related to the state of Oregon. National projections of aviation activity developed by the FAA were also reviewed within the context of this forecast analysis, where available.

This section provides discussions of the methodologies and findings used for projecting passenger enplanements, aircraft operations, and based aircraft at the Airport. The projections of aviation demand are documented below in **Table 3.1**.

### 3.3.a Forecasting Approach

There are a number of different forecasting techniques available for use in the projection of aviation activity, ranging from subjective judgment to sophisticated mathematical modeling. Due to the fact that a large number of variables affect a facility plan, it is important that each variable be considered in the context of its use in the plan. For variables that significantly affect the nature and extent of facilities, redundancy has been achieved through the utilization of several forecasting techniques so as to minimize the uncertainty associated with the range of the forecast variable.

The analysis includes the assessment of historical trends on aviation activity data at the local, regional, and national level. Aviation activity statistics on such items as passenger enplanements, aircraft operations, and based aircraft are collected, reviewed, and analyzed. Similarly, socioeconomic factors such as population and income are analyzed for the effect they may have on aviation growth. The comparison of relationships among these various indicators provides the initial step in the development of realistic forecasts of aviation demand.

The following general methodologies were used in projecting various components of aviation demand at the Airport.

**Time Series Methodology.** Historical trend lines and linear extrapolation are some of the most widely used methods for forecasting. These techniques utilize time-series types of data and are most useful for a pattern of demand that demonstrates a historical relationship with time. In

utilizing this technique, an assumption is made that the same factors that have influenced demand will continue to affect future demand. While this is a rather broad assumption, it often provides a reliable benchmark for comparing the results of other analyses. Linear extrapolation established a linear trend by fitting a straight line using the least squares method to known historical data. Historic trend lines, as utilized in these analyses, examine historic compounded annual growth rates and extrapolate future data values by assuming a similar compounded annual growth rate in the future.

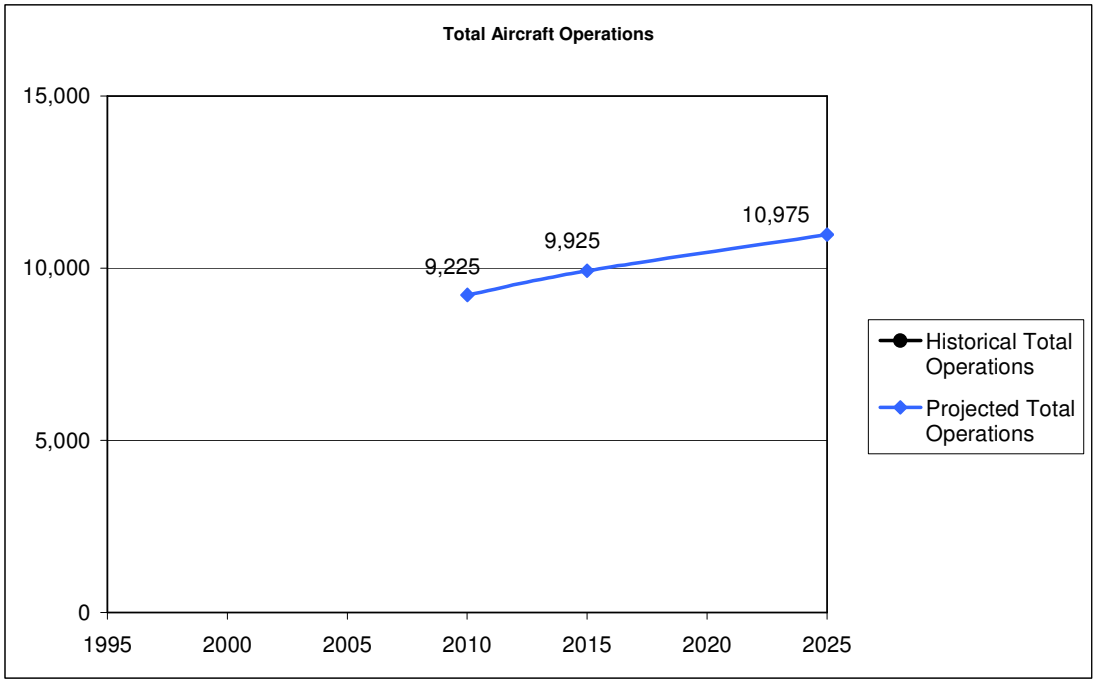
**Market Share Methodology.** Market share, ratio, or top-down models are utilized to scale large-scale aviation activity down to a local level. Inherent to the use of such a method is the demonstration that the proportion of the large-scale activity that can be assigned to the local level is a regular and predictable quantity. This method has been used extensively in the aviation industry for aviation demand forecasting at the local level. Its most common use is in the determination of the share of total national traffic activity that will be captured by a particular region or airport. Historical data is examined to determine the ration of local airport traffic to total national traffic. From outside data sources, in this case the FAA, projected levels of national activity are determined and then proportioned to the Airport based upon the observed and projected trends.

**Socioeconomic Methodology.** Socioeconomic or correlation analysis examines the direct relationship between two or more sets of historical data. In this case, socioeconomic analyses have been performed, relating historical aviation activity to historical population levels within the Airport region. Based upon the observed and projected correlation between historical aviation activity and the socioeconomic data sets, future aviation activity projections are developed based upon the projected socioeconomic data sets. In this case, projected population levels were obtained from Woods & Poole Economics, Inc. (W&P), an independent firm that specializes in long-term economic and demographic projections. This forecasting methodology is subject to how accurately an airport's activity reflects local demographic makeup.

**Table 3.1 Summary of Aviation Projections**

Chehalem Airpark (17S)

| Year | Operations: Commercial Air Carrier | General Aviation | Military | Total | Based Aircraft |
|---|---|---|---|---|---|
| **Historical:** | | | | | |
| 1995 | 0 | | | | 0 |
| 1996 | 0 | | | | 0 |
| 1997 | 0 | | | | 0 |
| 1998 | 0 | | | | 0 |
| 1999 | 0 | 7,500 | 50 | 7,550 | 9 |
| 2000 | 0 | 12,500 | 10 | 12,510 | 22 |
| 2001 | 0 | 17,000 | | 17,000 | 27 |
| 2002 | 0 | | | | 0 |
| 2003 | 0 | | | | 0 |
| 2004 | 0 | 10,700 | | 10,700 | 24 |
| 2005 | 0 | 10,700 | | 10,700 | 24 |
| **Projected:** | | | | | |
| 2010 | 0 | 9,225 | 0 | 9,225 | 26 |
| 2015 | 0 | 9,925 | 0 | 9,925 | 28 |
| 2025 | 0 | 10,975 | 0 | 10,975 | 31 |
| *CAGR (2005-2025)* | *0.00%* | *0.13%* | *0.00%* | *0.13%* | *1.29%* |




Source: Historical Operations ODA
Historical Based Aircraft ODA
Projections Mead & Hunt, Inc.

## 3.4 Survey Responses

As previously discussed, surveys were a critical part of the data collection effort. Below is a summary of the surveys and staff interviews that provide the context that surrounds the *OAP 2007*. Surveys were sent to state, local, and county government officials, businesses, airport managers, pilots, chamber of commerce members, and host communities to solicit input of the state aviation system from diverse interests groups.

### 3.4.a Community Information

Currently, tourism, timber, and agriculture were noted as the primary industries in the Chehalem Airpark area. The Airport is perceived to be a valuable economic asset to the community. If there was no longer an airport available to the public, the community would substitute with other transportation modes or use the next closest airport. Expansion of the Airpark was noted as the main concern regarding the Airport.

### 3.4.b Economic Development

The importance of aviation for growth from an economic perspective is ranked average. According to the respondents, airport upgrades would increase economic growth for the surrounding communities. It was identified that the most important items that Chehalem Airpark could do to promote economic growth are to increase runway length, terminal amenities, aircraft parking/storage, and availability of fuel. Also, it was perceived that the impact to the economy would be negative if the Airport was no longer available. Respondents believe businesses would substitute with other transportation modes, would close, depreciate in size, or relocate, or use the next closest airport. Based upon respondent surveys it is not certain if the owners of Chehalem Airpark and the officials of Yamhill County would be supportive of a funding mechanism to finance future airport developments.

### 3.4.c Airport Development and Use

The airport users for Chehalem Airpark are local business, agriculture, out-of-town business, and recreation.

There are two perceived operational limitations which include:

- Runway length
- Inclement weather significantly reduces the “usability” of the Airport

### 3.4.d Air Shuttle

Upon the request of ODA, Mead & Hunt is investigating the feasibility of a state operated and subsidized air shuttle service. This air shuttle service would link various communities within the

state. Traditionally, air shuttle services do not compete with regular commercial service, their intent is to commute between smaller local communities instead of large regional airports, therefore, they are viewed as a supplement to air service for airports. The air shuttle concept is not intended to compete with scheduled air service.

Some form of an air shuttle service would fulfill a community need and would likely promote economic growth for communities. Businesses, transportation of cargo, higher education, general public, and governmental services are a few of the segments that may benefit from the air shuttle service. The order of importance of issues for travelers according to respondents includes cost, schedule, reliability, comfort, and type of aircraft. Three of the destinations within the state that users are expected to want to travel to include Portland, Eugene, and Medford. Providing service on a daily basis is desired, with preferred arrival times at the destination of 8:00 a.m. and a desired departure time from the destination of 6:00 p.m. The Chehalem Airpark and Yamhill County would not be willing to "guarantee" seats for their community on the air shuttle service. If they were to invest in the air shuttle service they would expect users to pay between $0 and $50 per seat, with a potential of over 20 users per flight.

Significant improvements would be necessary to accommodate the type of aircraft required to provide an air shuttle service at this Airport. Even though there is an interest from the survey respondents, it is unlikely that this Airport could support this activity.

## 3.5 Summary

Providing a comprehensive summary of the existing airport facility is an essential part of the planning process. The information contained in this chapter provides the foundation for the recommendations found in *Chapter Four*.

# Chapter 4

As discussed, the inventory and forecasts provide a basis from which recommendations can be made for future development. The recommendations illustrated within the *Oregon Aviation Plan 2007 (OAP 2007)* reflect the Oregon Department of Aviation's (ODA) desire to create a comprehensive aviation system that adequately services the aviation needs of the state and the various interest groups associated with this resource. This chapter is organized in the following sections:

4.1 Airport Facility and Service Needs
4.2 Definition of Airport System Role
4.3 Economic Impact Analysis

## 4.1 Airport Facility and Service Needs

A primary focus of this report is to identify and evaluate airside, landside, and other general facility needs and deficiencies at the Airport utilizing information collected through the physical inspection of the facility, field interviews and surveys, telephone conversations, review of previous studies, and review of appropriate airport records. The following section presents the recommended airport facility and service needs identified during the study process.

### 4.1.a Recommendations Based on Performance Criteria

The Chehalem Airpark has been classified as a *Category IV – Local General Aviation Airport* and should provide appropriate facilities and services commensurate with its system role. The existing airport facilities were compared to the minimum and desired criteria for a Category IV airport which identified the following airport facility and service needs:

- Improve facility to accommodate B category aircraft
- Improve runway to 3,000 feet x 60 feet
- Install low intensity runway lighting (LIRL)
- Install low intensity taxiway lighting (LITL)
- Make available a courtesy car
- Procure snow removal equipment
- Install rotating beacon

### 4.1.b General Observations and Recommendations

Several trees, power lines, and a large hill are located in proximity of the Runway 07 end. These obstructions are all located off airport property. The Airport owner should attempt to minimize

obstructions to improve the safety of aircraft operations at the Airport through avigation easements or a fee-simple acquisition.

The locations of aircraft storage buildings and apron areas are in close proximity to the runway centerline. The layout of these areas is nonconforming to FAA design standards outlined within *FAA Advisory Circular 150/ 5300-13 Change 11* and should be considered for relocation.

#### 4.1.c Airport Capital Improvement Program

The Airport Capital Improvement Program (ACIP) is the primary planning tool the FAA utilizes to identify, prioritize, and assign funds to capital airport development and associated capital needs for all NPIAS airports. Chehalem Airpark is a privately owned airport and not part of the NPIAS and therefore is not required to complete an ACIP.

#### 4.1.d Other Potential Improvements for Consideration

No other airport improvement projects were known at the time of publication.

## 4.2 Definition of Airport System Role

**Category IV – Local General Aviation Airport**
These airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located in **Section 3.2**, *Existing Airport Facilities*.

| **Airside Facilities** | **Existing Facilities** | **Minimum Criteria** | **Desired Criteria** |
|---|---|---|---|
| FAA - ARC | A-I | B-I | B-II |
| NPIAS | No | Not an Objective | Not an Objective |
| Based Aircraft | 17 | Not an Objective | Not an Objective |
| Runway Orientation | 07/25 | Varies by Airport | Varies by Airport |
| Runway Length | 2,285 feet | 3,000 feet Paved; 2,500 feet Turf | Varies by Aircraft |
| Runway Width | 40 feet | 60 feet Paved; 120 feet Turf | Varies by Aircraft |
| Runway Pavement Type | Bituminous | Bituminous, Concrete, Turf | Bituminous, Concrete |
| Runway Pavement Strength | Not an Objective | Varies by Airport | Varies by Airport |
| Runway Pavement PCI | 81 | Varies by Airport | Varies by Airport |
| Taxiways | Partial Parallel | Exits Needed | Partial or Turnarounds |
| Approach Type | Visual | Visual | Non-Precision |
| Visual Approach Aids | None | Not an Objective | One Runway End |
| Instrument Approach Aids | None | Not an Objective | Not an Objective |
| Runway Lighting | Non-Standard | LIRL | MIRL |
| Taxiway Lighting | None | LITL | MITL |

| **General Facilities** | **Existing Facilities** | **Minimum Criteria** | **Desired Criteria** |
|---|---|---|---|
| Rotating Beacon | No | Yes | Yes |
| Lighted Wind Indicator | Yes | Yes | Yes |
| Weather Reporting | No | Not an Objective | AWOS/ASOS |
| Hangared Aircraft Storage | 26 | 75% of Based Aircraft | 100% of Based Aircraft |
| Apron Parking/Storage | 10 | 30% of Daily Transient | 50% of Daily Transient |
| Terminal Building | Yes | Not an Objective | Small Meeting Area |
| Auto Parking | Minimal | Minimal | Minimal |
| Fencing | Partial Perimeter | Not an Objective | Terminal Area |
| Cargo | None | Not an Objective | Not an Objective |
| Deicing Facility | No | Not an Objective | Not an Objective |

| **Services** | **Existing Facilities** | **Minimum Criteria** | **Desired Criteria** |
|---|---|---|---|
| Fuel | 100 LL & Jet A | 100 LL | 100 LL & Jet A |
| FBO | Full Service | Not an Objective | Limited |
| Ground Transportation | None | Not an Objective | Courtesy Car/ Offsite Rental Car |
| Food Service | No | Not an Objective | Vending |
| Restrooms | Yes | Yes | Yes |
| Pilot Lounge | Yes | Not an Objective | Yes w/ Weather Reporting Station |
| Snow Removal | No | Yes | Yes |
| Telephone | Yes | Not an Objective | Yes |

## 4.3 Economic Impact Analysis

The economic impact analysis of airports in Oregon was developed for each airport, measuring economic impacts of airport facilities, within regions and throughout the state. Airports that are part of the Port of Portland were not part of this study, except for the regional-based analysis of aviation dependent businesses. This study used the five regions of *ConnectOregon* to measure local/regional economic impacts of airports and for dependent non-aviation businesses. The regions are shown by the accompanying map.

Total economic impacts are the sum of on-airport economic activities, off-airport spending by visitors who arrive by air, and spin-off impacts (multiplier effect). Airport impacts are provided by region and state to show the contribution of each airport to the regional and state economies. In addition, aviation dependent impacts are provided by region to show the importance of airports in each region to non-aviation businesses. All impacts reported represent a base year of 2005. Each type of impact is defined in the following paragraphs.

On-Airport direct impacts represent economic activities that occur on airport grounds. By separating aviation related activities from non-aviation activities, The *OAP 2007* illustrates the regional economic contribution of aviation by airport in the regional and state economies, as well as the overall impact of each airport as a facility. Aviation related activities are those that would not occur without the airport, such as airlines, fixed base operators (FBO), government, and other tenants located at the airport or directly dependent on the airport. This category also includes airport management and other individuals employed directly by the airport, as well as retail and service operations for passengers, pilots, and other airport employees. In some cases, airports provide land or building space for companies that are not affiliated with aviation. These tenants are not related to the aviation mission of the airport, but are using the facility as a convenient and affordable business or industrial parks.

Off-Airport visitor spending (Direct Impacts) are expenditures made by air travelers who are visiting from outside the region, and occurs off the airport-in the regional economy. Visitor spending includes lodging, food, entertainment, retail purchases and ground transportation (retail purchases and on-airport car rentals are captured by on-airport impacts). Visitor spending is analyzed for commercial passengers as well as for general aviation pilots and passengers. Visitors flying into Oregon from another state or nation contribute to the airport's regional economy as well as to the state. However, passengers flying within Oregon, from one region to another, contribute to the region of their destination airport, but are not bringing additional money into Oregon. Therefore, in regions with air carrier airports, the direct impact of visitor spending for the region is higher than the impact of visitor spending for the state.

Airport dependent impacts represent area businesses that are dependent on an airport for incoming and outgoing, and for business travel. These businesses may relocate or suffer substantial loss if the airport were not available. This impact is not included in traditional economic impact methodology and is analyzed and reported by region for this study. Thus the

economic dependence of a region on aviation represents the cumulative impacts of all airports within a region. The analysis is provided as an indicator of the importance of airports to regional economies.

Spin-off impacts (Multiplier Affect) are calculated using impact multipliers, which are used to reflect the recycling of dollars through both the regional and state economy. A dollar spent in the economy does not disappear; rather, it continues to move through the local economy in successive rounds until it is incrementally exported from the community. As the expenditures described above are released into the economy, they circulate among other industry sectors, creating successive waves of additional economic benefit in the form of jobs, payroll, and output (expenditures). These successive rounds of spending are known as spin-off impacts, and help to represent the full impact of each dollar spent in a region. An example would be an airport employee spending his or her salary for housing, food, and other services. Spending occurring outside the area is considered economic leakage and is not reflected in the multiplier. Spin-off impacts are often reported as indirect and induced impacts. Indirect impacts reflect the purchase of goods and services by businesses. Induced impacts reflect worker making consumer purchases.

The project team analyzed the economic contributions of 91 airports under the jurisdiction of the Oregon Department of Aviation (ODA). In addition, the Port of Portland commissioned a separate economic impact studies of Portland International Airport, Portland Hillsboro Airport and Portland Troutdale Airport, which are administered by the Port. The sum of economic impacts derived from the OAP 2007 and the Port of Portland studies account for economic impacts generated by all public use airports in Oregon.

#### 4.3.a Contribution of Airports to the Economy of Oregon

As shown in **Table 4.1**, Oregon public-use airports contributed a total economic impact of $8.3 billion to the state economy, including $3 billion from ODA airports and more than $5 billion from Port of Portland airports. Following Table 4.1 is a summary entitled *Airport Role in Economy*, which illustrates the individual airport economic impact.

Additional study highlights include:

- Oregon ODA public-use airports, including airport tenants, directly employ 7,000 people for aviation related activities and expend $259 million in wages
- Oregon ODA public-use airport employees and tenants earned an average annual salary of $36,000 per year for aviation activities and $35,000 per worker, when including non-aviation jobs
- Off-airport visitor industry employees earn an average annual salary of $15,000 per year

**Table 4.1 Economic Contribution of Airports to the Oregon Economy**

| | Jobs | Wages | Business Sales |
|---|---|---|---|
| **Direct Effects of ODA On-Airport Aviation Activities and Visitor Spending** | | | |
| On-Airport, including FBO & air related tenants | 7,273 | $262,147,000 | $827,475,000 |
| Off-Airport: visitor spending | 6,762 | $101,641,000 | $324,097,000 |
| Subtotal of Direct Effects From ODA Airports | 14,035 | $363,788,000 | $1,151,572,000 |
| **ODA Spin-off Effects of Supplier and Income Re-spending** | | | |
| Due to On-Airport Aviation | 12,029 | $305,851,000 | $883,988,000 |
| Due to Visitor Spending | 3,558 | $94,459,000 | $310,756,000 |
| Subtotal of Spin-off Effects | 15,587 | $400,310,000 | $1,194,744,000 |
| Total ODA Airport Aviation Related Impacts | 29,621 | $764,098,000 | $2,346,316,000 |
| **ODA Airport Generated Impacts of Non-Aviation Activities** | | | |
| On Airport Non-Aviation Activities | 2,177 | $67,294,000 | $320,530,000 |
| Spin-offs due to Non-Aviation Activities | 3,374 | $96,239,000 | $332,084,000 |
| Total ODA Airport Non-Aviation Impacts | 5,551 | $163,533,000 | $652,614,000 |
| ODA Airports Total Aviation and Non-Aviation Related | 35,172 | $927,631,000 | $2,998,930,000 |
| **Port of Portland Totals*** | | | |
| Airport Generated | 20,005 | $941,244,000 | $3,533,456,000 |
| Visitor Generated | 39,418 | $907,718,000 | $1,740,344,000 |
| Total Impact Port of Portland Airports | 59,423 | $1,848,862,000 | $5,273,800,000 |
| Grand Total – All Airports | 94,595 | $2,776,493,000 | $8,272,630,000 |

Source: Airport and Tenant Surveys, EDR Group and Mead & Hunt Analyses, IMPLAN econometric package.
Note: Numbers may not add due to rounding.
*Port of Portland Airports include Portland International Airport, ,Portland Hillsboro Airport and Portland Troutdale Airport. Data for the Port of Portland airports was provided by the Port.

# Oregon Aviation Plan 2007

Version OR 2.1 5/22/07

## Airport Role in Economy

Airport: Chehalem Airpark
Airport Code: 17S

County: Yamhill

Region: Willamette Valley and Coast

Evaluated for Year: 2005

**Activity Data**

| | |
|---|---|
| Total Commercial Operations: | 0 |
| Total Commercial Emplanements: | 0 |
| Total Commercial Visitors: | 0 |
| Total GA Operations: | 11,203 |
| Total GA Passengers: | 22,406 |
| Total GA Visitors: | 7,003 |
| Total Military Operations: | 0 |

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**On-going Contribution to the Regional and State Economies**

| | Jobs | | Wages | | Business Sales | |
|---|---|---|---|---|---|---|
| | **Local** | **State** | **Local** | **State** | **Local** | **State** |
| **Direct Effects of On Airport Activities and Visitor Spending** | | | | | | |
| **1. On Airport (incl. FBO and air related tenants)** | 81 | 81 | $1,908,000 | $1,908,000 | $5,209,000 | $5,209,000 |
| **2. Off-Airport: Visitor Spending** | 16 | 16 | $224,000 | $224,000 | $735,000 | $735,000 |
| **Total Direct** | 97 | 97 | $2,132,000 | $2,132,000 | $5,944,000 | $5,944,000 |
| **Spin-off Effects: Supplier and Income Re-spending** | | | | | | |
| **3. Due to On Airport Aviation** | 149 | 154 | $2,075,000 | $2,668,000 | $4,179,000 | $5,101,000 |
| **4. Due to Visitor Spending** | 7 | 8 | $186,000 | $215,000 | $608,000 | $730,000 |
| **Total Spin-off** | 157 | 162 | $2,261,000 | $2,883,000 | $4,787,000 | $5,831,000 |
| **Total Airport Aviation Related Impacts** | 253 | 259 | $4,393,000 | $5,015,000 | $10,731,000 | $11,775,000 |
| **Total Airport Generated Impacts - Not Aviation** | | | | | | |
| **5. On Airport Non-aviation Activities** | 0 | 0 | $0 | $0 | $0 | $0 |
| **6. Spin-offs due to Non-aviation Activities** | 0 | 0 | $0 | $0 | $0 | $0 |
| **Total Airport Non-aviation Impacts** | 0 | 0 | $0 | $0 | $0 | $0 |
| **Total Aviation and Non-aviation Related** | 253 | 259 | $4,393,000 | $5,015,000 | $10,731,000 | $11,775,000 |
| **Regional Off-Airport Aviation Dependent Business Activity** | | | | | | |
| **7. Direct Business Activity** | 8,061 | 8,061 | $368,349,000 | $368,349,000 | $2,142,913,000 | $2,142,913,000 |
| **8. Spin-offs due to Dependent Activity** | 14,509 | 17,423 | $425,253,000 | $518,828,000 | $1,468,166,000 | $1,788,387,000 |
| **Total Off-airport Aviation Dependent Activity** | 22,570 | 25,484 | $793,602,000 | $887,177,000 | $3,611,079,000 | $3,931,300,000 |

*Note: Regional Off-airport Aviation Dependent Business Activities account for business activity in the region that rely on aviation for business travel and cargo, and do not reflect a specific airport.*

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