Wilson Creek Municipal Airport

Airport layout plan and narrative report

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Chapter 1: Introduction

This airport layout plan and narrative report (ALP) for Wilson Creek Municipal Airport is sponsored by the town of Wilson Creek and Grant County Port District 6 (GCPD#6). It examines existing conditions at Wilson Creek Municipal Airport, forecasts future aviation activity over a 20-year time period, recommends improvements to ensure that the airport can serve projected demand and identifies sources of funds to pay for those improvements.

This report focuses on:

- The size and layout as well as the existing and planned uses of Wilson Creek Municipal Airport.
- The extent to which the airport conforms to Federal Aviation Administration (FAA) design recommendations and, where such recommendations are not met, whether they can be met considering site constraints.
- Projected facility development and whether that development can be accomplished in conformance with FAA design recommendations.
- Enhancements at Wilson Creek Municipal Airport that will increase the airport's value to the community and the surrounding area.

In preparing this ALP, Airside has reviewed the following:

- Washington State Department of Transportation/Aviation Division airport database.
- Federal Aviation Administration (FAA) Form 5010.
- Applied Pavement Technology, Inc. pavement report dated February 2006.
- A survey and site plan accomplished for this project by Knudsen Land Surveying LLC.

During preparation of this report, meetings were held with a steering committee that was seated by the town of Wilson Creek. A briefing was also conducted for the Wilson Creek Town Council, Grant County Port District Six (GCPD#6), which leases the airport from the town, and local citizens. Preliminary, draft and final narratives and diagrams were posted on a website titled Airside.net so that interested parties could review and comment on this plan as it was being developed.

Primary funding for this report has been provided by the Washington State Department of Transportation's Aviation Division (WSDOT/AD).

Review of the interim report, as well as ongoing technical assistance, has been provided by WSDOT/AD. This ALP has been prepared according to WSDOT/AD guidelines contained in Appendix E of the aviation division's Grant Procedures Manual.

Table 1: Wilson Creek ALP Steering Committee

MEMBER	Affiliation
Kathy Bohnet	Mayor, Wilson Creek
Sheldon Ralston	Commissioner, GCPD#6
Susan James	Clerk-treasurer, Wilson Creek
Howard Thorson	Council member, Wilson Creek
Roger Blackman	Citizen

In writing this report we have followed the guidelines of the *Chicago Manual of Style* and the *AP Stylebook*, the two most widely used stylebooks in American publishing. These stylebooks call for different practices than are sometimes used in these kinds of plans, particularly with respect to capitalization of cities, as well as government agencies and offices.

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Chapter 2:
Inventory and current activity

2.1 GENERAL

Grant County

Grant County is in central Washington. The county consists of 2,675 square miles of land. It is the fourth-largest county in Washington. The county is bordered on the west by Douglas and Kittitas counties, on the southwest by Yakima County, on the south by Benton and Franklin counties, on the east by Adams and Lincoln counties and on the north by Okanogan County. Grant County is generally rural. Approximately 65 percent of the county is productive farmland. County topography ranges in elevation from 380 feet above sea level along the Columbia River to 2,882 feet above sea level at the crest of a hill near Quincy in the west part of the county.

Wilson Creek

The town of Wilson Creek is adjacent to Washington State Route 28 and is 20 miles east of Ephrata, the county seat, and 20 miles north northeast of Moses Lake, Grant County's largest city.

Climate

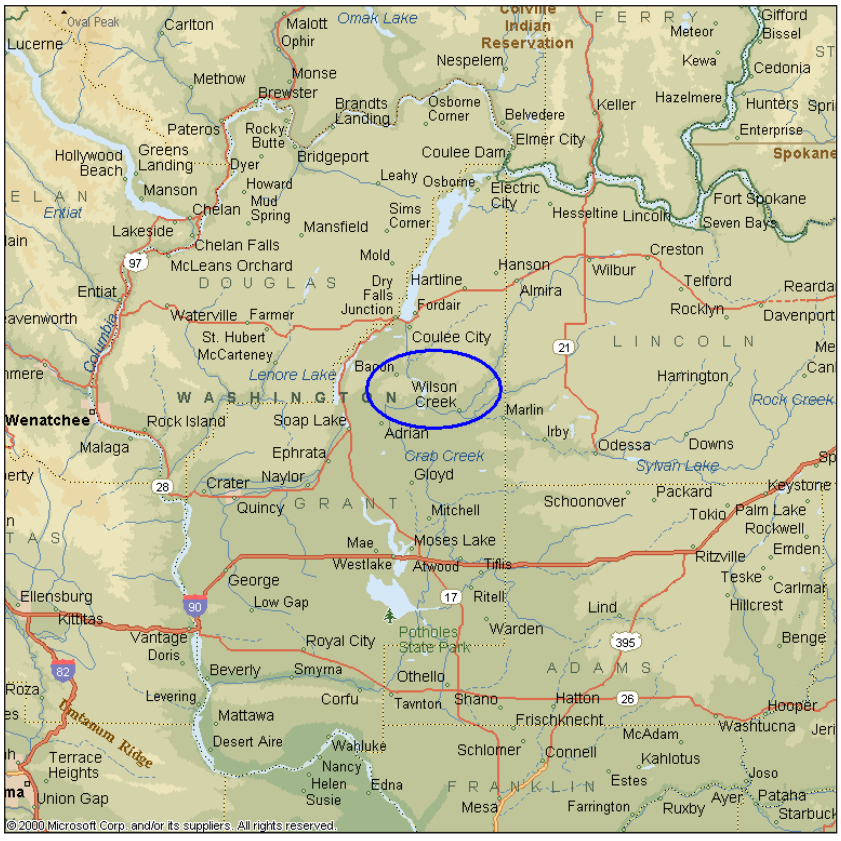
The climate in the Wilson Creek area is the same as in most of Grant County. It is in Washington's Central Basin climatological region, which is semi-arid. Winters are cold. Summers are hot. The average annual temperature is 52 degrees Fahrenheit. The mean maximum temperature is 90 degrees Fahrenheit. Average annual rainfall in Grant County is 8.42 inches.

2.2 SOCIOECONOMIC DATA

Population

In 1910, one year after becoming a county, Grant County's population was 8,698. Over the next 20 years the population was at times as low as 5,666. From 1930 to 1962 the county experienced rapid growth to over 54,000. During the 1960s, Washington State followed a nationwide rural-to-urban migration pattern. Population growth in Grant County slowed during this period. Population growth was erratic during the 1970s

Map 1: Wilson Creek regional location



and 1980s. During the 1990s, county population increased considerably. Population in 2000 was 74,698.

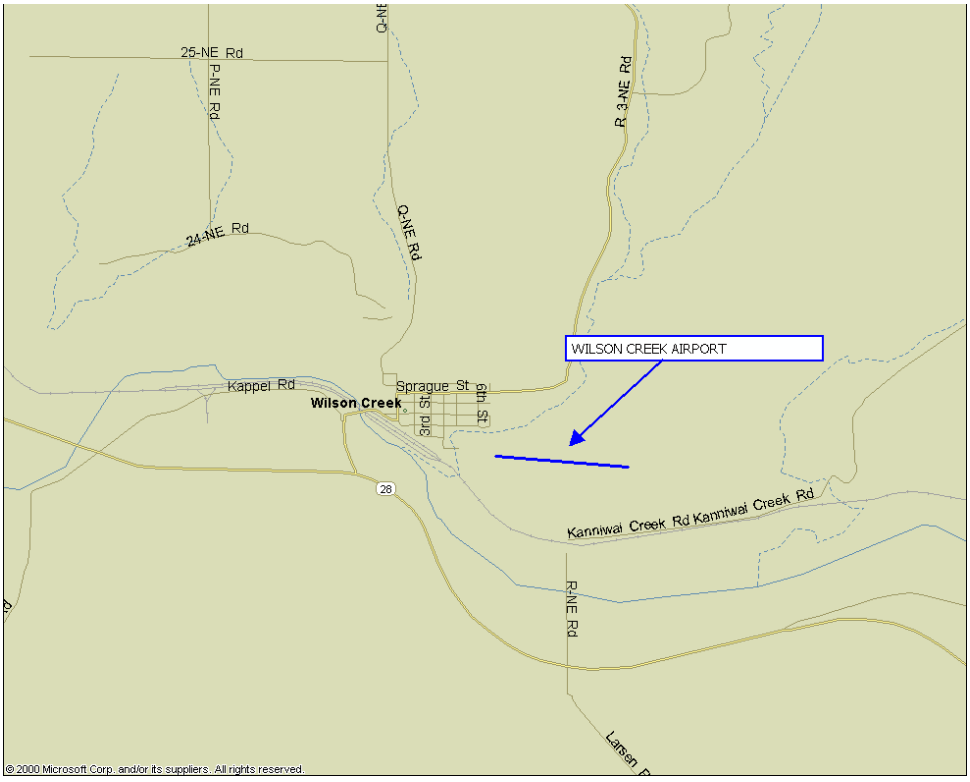
Economy

Between 1969 and 1996, total employment in Grant County grew by 97 percent. Agriculture, including production, distribution and processing, is and has been for many years the anchor of Grant County's economy, employing about 5,000 people. The only sectors employing larger numbers of people are services (6,272) and local government (5,533).

2.3 AIRPORT SITE – GENERAL

Wilson Creek Municipal Airport is located on in the southeast portion of the town of Wilson Creek. There is one structure on the airport. It is a covered fire protection reservoir.

Map 2: Wilson Creek Municipal Airport



2.4 LAND-USE AND ZONING

Purpose

This section describes existing land use, comprehensive plans, and zoning on and in the vicinity of Wilson Creek's airport. Recommendations related to these elements are contained in Chapter 4. Additional information is contained in the existing conditions diagram, further in this chapter, and in drawings C1.6 and C1.7 of the airport layout plan drawing set.

Area description

Wilson Creek Airport property is comprised of three tax parcels that total 119.74 acres. The easternmost, 30-acre parcel is owned by the town but is outside of its corporate limits. The airport's runway encroaches approximately 270 feet onto a fourth parcel to the southeast that is not owned by the town. At some time in the past the town paved this portion of the runway in an area that it evidently believed it owned.

Grant County is responsible for unincorporated lands outside of the town of Wilson Creek. The town has jurisdiction over land use controls, development regulations, and zoning for all town property including two of the airport's three parcels.

Airport and adjacent parcels

Wilson Creek Airport is located

in the southeast part of the town. There is not any development of properties immediately surrounding the airport. Properties to the east and south are used for agricultural purposes. Properties to the north, south, and west are within town limits. While the western and southern properties are each 30 acres and larger, the properties to the north are subdivided into smaller parcels. The majority of these northern properties are taxed as "Residential-Single Unit" by the Grant County assessor's office, however they do not have any taxed structures on them as of the publication of this plan.

Property ownership

The town of Wilson Creek, GCPD#6 and an individual are the major landowners in the area. GCPD#6 owns an adjacent 30 acre parcel west of the airport, which is classified as undeveloped and unused. The town owns 4.8 acres of land directly north of the airport. An individual owns nearly 500 acres of agricultural land northeast, east and south of the airport.

Since 1988 the town has leased the airport to GCPD#6. Prior to that, the town leased the airport to the Wilson Creek Flying Club, Inc. The current lease to the port expires in 2018.

Easements

The property on which the southeast end of the airport's runway encroaches is subject to a conservation easement. A conservation easement is an agreement made by a property owner with either a governmental agency or a non-profit organization that removes certain development rights from the property in perpetuity. The overall objective of a conservation easement is to prohibit development and conserve the natural or agricultural resources that are found on the property, even as the property is inherited or sold. Each conservation easement is unique and tailored to meet individual landowner objectives.

Table 2: Industry sectors

North American Industry Classification System (NAICS) Sector	Estab.	Employees
Agriculture, Forestry, Fishing and Hunting	635	4,856
Mining		
Utilities		
Construction	226	753
Manufacturing	71	3,778
Wholesale Trade	88	943
Retail Trade	235	2,816
Transportation and Warehousing	95	719
Information	16	176
Finance and Insurance	5638	417
Real Estate and Rental and Leasing	1,277	217
Services		6,272
Federal Government	12	615
State Government	21	741
Local Government	67	5,533
Not Elsewhere Classified	10	119

Source: Covered Employment & Wage Data, First Quarter 2004 Washington State Employment Security Department.
Note: The North American Industry Classification System (NAICS) was developed jointly by the United States., Canada, and Mexico. It is a comprehensive classification system which groups establishments into industries based on their primary activity, both goods-producing and service-producing.

Specific development rights may be retained by landowners in easement agreements.

The conservation easement adjacent to Wilson Creek Municipal Airport involves assessor's tax parcel number 18-1505-000. The easement was granted by Mr. Kenneth Friend of Wilson Creek to the United States Natural Resources Conservation Service in June of 2002.

Part III of the easement lists obligations of Mr. Friend or those who may own the property after him. Among the obligations are the following prohibitions.

There shall be no:

- Haying, mowing, or seed harvesting for any reason.
- Alterations by burning, digging, plowing, disking or any other activity that would destroy vegetation.
- Dumping of any kind.
- Harvesting of any kind.
- Draining, filling, leveling or any similar activity.
- Diverting of water.
- Placement of any structures.
- Planting.
- Grazing by livestock.
- Disturbing or interfering with nesting birds.

A copy of the easement document is contained in the appendix to this plan.

Comprehensive planning and zoning

Washington Growth Management Act

Chapter 36.70A of the Revised Code of Washington (RCW) titled "Growth Management – Planning by Selected Counties and Cities" (GMA) imposes planning requirements on counties and cities based on their population or rates of population growth. Twenty-nine counties and the cities in those counties currently plan under the GMA. These primary goals of GMA are best described by what the GMA calls its basic steps. These are:

1. Identification and protection of critical areas and resource lands
2. Designation of county-wide planning policies and urban growth areas
3. Preparation and adoption of comprehensive plans
4. Adoption of development regulations to carry out comprehensive plans
5. Evaluation and updating of comprehensive plans and development regulations

Grant County and its municipalities plan under GMA.

RCW Chapter 36.70.547 states:

> *Every county, city, and town in which there is located a general aviation airport that is operated for the benefit of the general public, whether publicly owned or privately owned public use, shall, through its comprehensive plan and development regulations, discourage the siting of incompatible uses adjacent to such general aviation airport. Such plans and regulations may only be adopted or amended after formal consultation with: Airport owners and managers, private airport operators, general aviation pilots, ports, and the aviation division of the department of transportation. All proposed and adopted plans and regulations shall be filed with the aviation division of the department of transportation within a reasonable time after release for public consideration and comment. Each county, city, and town may obtain technical assistance from the aviation division of the department of transportation to develop plans and regulations consistent with this section. Any additions or amendments to comprehensive plans or development regulations required by this section may be adopted during the normal course of land-use proceedings.*

Grant County Comprehensive Plan and zoning

Grant County has made a consistent effort to protect public-use airports within the county through the adoption of development regulations and comprehensive plan policies. Within the county's zoning ordinance and development standards, policies and regulations have been codified to protect its airports from adjacent incompatible development and to

ensure that airports are protected as essential public facilities.

Chapter 23.04.645 of the county ordinance describes an Airport Safety Overlay (ASO) that protects critical airspace around public use airports from airspace obstructions and hazards, and discourages incompatible land uses. This chapter of the county ordinance recognizes Federal Air Regulation Part 77 "Objects Affecting Navigable Airspace." It also states that when there is a conflict between the regulations set forth in the underlying zoning ordinance and the overlay district, the regulations stated in the overlay district prevail. The underlying zoning for the properties that surround the airport is agriculture, however the portions of land that lie wholly or in part within the airport's imaginary surfaces defined in accordance with FAR Part 77 must comply with the ASO regulations.

Wilson Creek Comprehensive Plan and zoning

Land uses and development within the town are regulated by Wilson Creek's zoning ordinance, found in Chapter 16 of the town's municipal code titled "Airport Development Zone." The stated purpose of this designation is "to assure that the property comprising Wilson Creek Airport will continue to be used in a manner that is compatible with a general aviation airport and aircraft operations."

Light industrial and commercial uses that are either aviation-related or compatible non-aviation related are permitted, however, uses that may impair visibility or otherwise interfere with the operation of the airport are prohibited. Automobile and aircraft wrecking yards, residences, and the treatment or storage of any hazardous or nuclear waste on the airport site are specifically prohibited. The ordinance also addresses development standards, noise issues, and lighting, parking, loading area, landscaping, and setback requirements.

Chapter 16 of Wilson Creek's zoning code also prohibits penetration of FAR Part 77 surfaces and encroachment into the airport's object free area as defined in FAA Advisory Circular 150/5300-13.

A copy of relevant portions of Chapter 16 is contained in the appendix to this plan.

Land use and zoning assessment and summary

This plan concludes that existing zoning policies as promulgated by Grant County are adequate to protect the airport from incompatible land use as long as appropriate oversight is applied to future development.

For a number of reasons including topography, property ownership, the above-described conservation easement, county land use and zoning regulations and the town of Wilson Creek's zoning document, Wilson Creek Airport is in an advantageous position with respect to protection from encroachment and airspace protection.

Wilson Creek's urban growth boundary, which will contain the growth of the town for the foreseeable future, extends south of the airport. Urbanized development is prohibited east of the airport. Additionally, in its comprehensive plan, Grant County has not planned for growth and development surrounding the airport. Future land use designations for surrounding properties in the county are identified as rangeland and dryland. Both are intended to preserve the county's agricultural properties. The property to the southwest is tied to a conservation easement further protecting its agricultural use.

Additional information is contained in the existing conditions diagram, further in this chapter, and in drawings C1.6 and C1.7 of the airport layout plan drawing set.

2.5 RECENT AIRPORT REVITALIZATION

Between 2002 and 2005 the GCPD#6 self-funded several paved-surface maintenance projects at Wilson Creek Airport. These projects are listed in Table 3.

2.6 AIRPORT CLASSIFICATION – THE ARC SYSTEM

Both the FAA and WSDOT/AD use what is termed the "airport reference code," or ARC system, to categorize airports. The ARC system provides a method for applying dimensional safety and protection standards to airports according to the aircraft those airports generally serve. Dimensional standards include such items as runway-to-taxiway separation distances, sizes of runway safety areas (RSAs) and sizes of runway object-free areas (ROFAs). The ARC system uses the concept of a critical or design aircraft, described as an aircraft that controls one or more airport design features based on the aircraft's approach speed and wingspan. Five hundred annual itinerant operations consisting of either a landing or a take-off are required for an aircraft to be considered the critical aircraft for an airport.

Letter designations from A to E represent five aircraft approach speed categories ranging from less than 91 nautical miles per hour (knots) to 166 knots or more. Roman numeral designations from I to VI represent aircraft wingspans of from less than 49 feet to 261 feet. There is a special designation, used in ARC categories A and B, for airports that serve aircraft weighing less than 12,500 pounds. This designation attaches the term "small" to the ARC letter/numeral combination.

Table 3: Recent capital projects

Year	Project	Port portion	WSDOT/ Aviation Division portion	Total cost
2002	Seal runway	$37,773	0	$37,773
2003	No work	0	0	0
2004	No work	0	0	0
2005	Survey Striping Excavation Seal apron	$3,090 $3,623 $13,415 $2,668	 0	$3,090 $3,623 $13,415 $2,668
Five-year period		$60,569	0	$60,569

Source: Town of Wilson Creek/GCPD#6.

The Washington State Continuous Airport System Plan (WSCASP) database shows Wilson Creek Airport as having an ARC classification of A-I (small). This category includes aircraft with approach speeds of less than 91 nautical miles (knots) per hour and wingspans of less than 49 feet and weights under 12,500 pounds.

A review of Wilson Creek Municipal Airport's operations conducted for this plan indicates that it does in fact generally serve aircraft in the A-1 (small) category.

Table 4: The ARC system

AIRCRAFT APPROACH CATEGORY APPROACH SPEED IN KNOTS			AIRPLANE DESIGN GROUP WINGSPAN IN FEET		
CATEGORY	AT OR MORE THAN	LESS THAN	WINGSPAN	AT OR MORE THAN	LESS THAN
A		91	I		49
B	91	121	II	49	79
C	121	141	III	79	118
D	141	166	IV	118	171
E	166		V	171	214
			VI	214	262

Source: FAA A/C 150/5300-13.

NPIAS

Wilson Creek Municipal Airport is not listed on the 2005–2009 National Plan of Integrated Airport Systems (NPIAS) and is therefore not eligible to apply for federal grant funds from the Federal Aviation Administration. The Washington State Department of Transportation's Aviation Division is Wilson Creek Municipal Airport's primary source of grant funds.

Wind Coverage

Information regarding prevailing wind is not available from the National Oceanic and Atmospheric Administration (NOAA) for Wilson Creek Municipal Airport. Due to the absence of wind data, a windrose was not constructed for the airport. Local observers note that prevailing winds are from the west/northwest and that, as in many areas of Washington State, strong south winds are sometimes experienced. Since the runway is oriented almost directly east-west and prevailing winds are from the west/northwest, pilots using Runway 28 experience varying degrees of right-side quartering cross winds.

Photo 1: Wilson Creek's based Cessna 150

2.7 EXISTING AIRSIDE FACILITIES

Paved surfaces

Runway and taxiways

Wilson Creek Municipal Airport has a single runway oriented on magnetic headings 100 and 280 degrees (Runway 10/28). It is 3,074 feet long and 50 feet wide. The runway is constructed of asphalt. Wilson Creek Airport does not have a taxiway.

Aircraft apron

A 85,995 square-foot apron is located south of the runway, immediately east of the Runway 10 threshold.

Paved surface condition

Table 6 indicates the condition of paved surfaces at Wilson Creek Municipal Airport as reported by Applied Pavement Technology Inc. (APT) in a pavement management report

Table 5: Airport data

Name	Wilson Creek Municipal Airport
Location number	5W1
FAA Designation	26471.5*A
Owner	Town of Wilson Creek
Acreage	119 acres
Service level (on the NPIAS system)	General aviation (GA)
Reference code existing	A-I (Small)
Design aircraft	Cessna 182
Elevation	1,422 feet
Reference point (location) NAD83 NAVD88	Latitude: 47° 25' 06.47307"N Longitude: 119° 06' 32.77631"W
Mean maximum temperature	90 degrees (July)
Approach category	Visual
Navigation aids	None
Approach guidance	None
Wind coverage	n/a

published in February 2006. The table shows both the designations given to pavement sections by APT and pavement designations that have been determined for this plan. A diagram of the paved surface conditions is included in the appendix to this plan. Pavement condition index (PCI) numbers indicate overall condition of each section of pavement using a numerical system of 0 (failed) to 100 (excellent).

Pavement markings

Pavement markings include runway-end numerals at both ends of the runway, a dashed centerline and threshold bars.

Airport lighting and navigation aids

Runway lights

There are no runway lights, threshold lights or reflectors installed at Wilson Creek Airport.

Precision approach path indicator (PAPI)

The airport does not have a precision approach path indicator (PAPI) system.

Photo 2: Runway 28 looking west

Wind indication

Wilson Creek Municipal Airport has two unlighted wind indicators. One is located on top of the structure southwest of the west end the runway. The other indicator is located north of the runway and east of midfield.

Airport rotating beacon

The airport does not have a rotating beacon.

Signage

There is no signage at the airport.

Table 6: Pavement summary

Airport layout plan designation	Applied Pavement Technology Inc. designation	Total square feet	Surface material	Pavement condition PCI 2005
Runway	R10WC-01	170,500	AC	89
Apron	A01WC-01	85,995	AC	100

Source: Applied Pavement Technology, Inc.
Notes: PCC = Portland cement concrete, AC = Asphalt cement concrete, ACC = Asphalt overlay on asphalt cement.

2.8 EXISTING LANDSIDE FACILITIES

Structures

The structure located within the boundary of Wilson Creek Municipal Airport is used to protect a water reservoir, which serves as an auxiliary water supply for fighting fires. The structure is approximately 50 feet by 60 feet in size. It is owned by the town of Wilson Creek and maintained by town and the port district. Local sources indicate that the reservoir is also used to supply water to an agricultural aircraft operator who is occasionally based at Wilson Creek Airport.

Aircraft fuel

There is no aircraft fuel system at Wilson Creek Airport.

Access road and gates

Airport Road provides access to the airport. It approaches the south side of the west end of the airport and terminates at the apron. Airport Road is unimproved. A gate which can be locked is located near the airport apron at the terminus of the road.

Table 7: Airport facility data

Airport feature		Information
Runway		
	Dimensions	3,074' X 50'
	Gradient	0.007 percent (23' over 3,074')
	Surface	Asphalt concrete
	Pavement strength	6,000 pounds
	Marking	End numerals
	Lighting	None
Taxiway		
	Dimensions	NA
	Surface	NA
	Marking	NA
	Lighting/reflectors	NA
Aircraft aprons		
	Dimensions	Irregular shape, 85,995 sq. ft.
	Surface	Asphalt concrete
	Marking	None
	Lighting/reflectors	None
	Tie-downs	None
Fuel system		
	Available fuel	NA
	Tank size	NA

Utilities

Power

An electrical transformer is located near the water reservoir. Its only purpose at this time is to provide power to the reservoir. Local sources indicate that this transformer has sufficient electrical capacity to provide power to runway and hangar lights.

Telephone

No public telephone service is available at Wilson Creek Municipal Airport.

Water/Sewage

A well is located on the airport near the water reservoir. Local sources indicate that water from the well is not potable.

Airport maintenance equipment

No equipment is dedicated entirely to airport use.

Fencing

Wilson Creek Municipal Airport's property is partially fenced. Fence locations are indicated on the existing conditions diagram near the end of this chapter.

Airport maintenance

Wilson Creek Municipal Airport is primarily

2.9 COMPARISON OF EXISTING CONDITIONS TO FAA STANDARDS

An important aspect of this planning program is comparison of FAA-recommended standards to existing conditions at Wilson Creek Airport. Dimensional standards published by the FAA are intended to provide an acceptable level of airport safety. This section defines specific FAA standards and relates them to existing conditions. Information related to FAA standards has been obtained from FAA Advisory Circular (AC) 150/5300-13.

Airport information is from the WSDOT/AD database and from on-site measurements.

Standards definitions

Runway length – A distance that is adequate to accommodate all aircraft within a specific ARC group.

Runway width – A width considered adequate to provide for safe aircraft operations.

Runway safety area (RSA) – A defined rectangular surface centered on a runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot or excursion from the runway. Runway safety areas shall be: 1) cleared and graded and have no potentially hazardous ruts, humps, depressions or other surface variations; 2) drained by grading or storm sewers to prevent water accumulation; 3) capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and aircraft without causing structural damage to the aircraft; and 4) free of objects, except for objects that need to be located in the RSA because of their function. Objects higher than 3 inches above grade should be constructed, to the extent practicable, on low-impact resistant supports (frangible mounted structures) of the lowest practical height with the frangible point no higher than 3 inches above grade.

Other objects, such as manholes, should be constructed at grade. In no case should their height exceed 3 inches above grade. Runway safety areas, including their conditions and their protection, are one of the highest priorities of both the FAA and WSDOT/AD.

Runway object-free area (ROFA) – An area on the ground centered on a runway provided to enhance the safety of aircraft operations by being free of objects, except for objects that need to be located within the ROFA for air navigation or aircraft ground maneuvering purposes.

Runway obstacle-free zone (OFZ) – A defined volume of airspace centered above a runway centerline. The runway OFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline.

(Note: It is important to understand the differences between the RSA and the ROFA/ROFZ standards. RSAs are to be prepared to accommodate aircraft at runway elevation. ROFAs and ROFZs are to be clear of objects relative to runway elevations. Therefore, a steep dropoff within an RSA area will cause the runway to not be in compliance with the RSA standard whereas a dropoff within an ROFA or ROFZ dimension will not cause the runway to be out of compliance.)

Shoulder – An area adjacent to the edge of runways, taxiways or aprons providing a transition between pavement and the adjacent surface, support of aircraft running off the pavement, enhanced drainage and blast protection.

Taxiway width – A width considered adequate to accommodate aircraft in an airport's design group.

Taxiway safety area (TSA) – A defined rectangular surface centered on a taxiway prepared or suitable for reducing the risk of damage to airplanes unintentionally departing from the taxiway.

Taxiway object-free area (TOFA) – An area on the ground centered on a taxiway provided to enhance the safety of aircraft operations by being free of objects, except for objects that need to be located within the TOFA for air navigation or aircraft ground maneuvering purposes.

Runway-to-taxiway separation – A distance between a runway centerline and an adjacent taxiway centerline considered adequate to protect operating aircraft.

Runway centerline-to-holding-position marking – A distance considered adequate to provide

protection between aircraft using an active runway and aircraft waiting for takeoff from that runway.

Runway centerline-to-aircraft-parking area – A distance considered sufficient to protect operating aircraft, parked aircraft and activities occurring around parked aircraft.

Runway protection zone (RPZ) – RPZs enhance the protection of people and property on the ground. This is achieved through airport owner control over RPZs. Such control includes clearing of RPZ areas of incompatible objects and activities. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ.

Building restriction line – A line that identifies suitable building area locations on airports.

2.10 ASSESSMENT OF EXISTING CONDITIONS RELATIVE TO FAA DESIGN STANDARDS

Runway length

Wilson Creek Municipal Airport's runway is 3,074 feet long. Considering its elevation above mean sea level (1,422 feet) and the average mean/maximum temperature (90 degrees), the airport's runway would need to be 4,150 feet long to accommodate all aircraft in the A-1 (small) category. This distance has been determined by using information provided in FAA Advisory Circular 150/5325-4B, Figure 2, a copy of which is in the appendix to this narrative.

Runway width

At 50 feet, the width of the airport's runway is 10 feet less than the FAA standard.

Runway safety area

At Wilson Creek Municipal Airport the FAA recommended runway safety area (RSA) extends 60 feet on both sides of the runway centerline and extends 240 beyond each end of the runway's pavement. The total recommended RSA length is therefore 3,554 feet.

Wilson Creek's RSA is not in conformance with the FAA standard. This is due to steep reductions in terrain north of the runway's west end and south of the runway's east end. The actual RSA length available is approximately 2,954 feet. This is 600 feet less than the 3,554-foot FAA standard.

Photo 3: Aircraft shelter in runway object-free area

Runway object-free area

The FAA-recommended runway object free area (ROFA) standard extends 125 feet from centerline on both sides of the runway and, as with the RSA, 240 feet beyond the runway pavement ends.

The object-free area at Wilson Creek Municipal Airport is consistent with FAA recommendations at both the Runway 10 and Runway 28 ends. An aircraft shelter south of the runway and an aircraft

that is occasionally parked in it are within the ROFA.

Runway obstacle-free zone

The FAA-recommended runway OFZ extends 200 beyond each end of the runway. Its width for a runway serving this airport is 250 feet (125 feet on both sides of centerline). The ROFZ at Wilson Creek Airport is consistent with the FAA standard.

Runway shoulder

Runway shoulder areas should be graded and compacted to 10 feet from runway edges. Portions of the shoulder areas at Wilson Creek have been mowed but they have not been completed and prepared to meet the runway shoulder standard.

Taxiway width

Not applicable.

Taxiway safety area

Not applicable.

Taxiway object-free area

Not applicable.

Taxiway shoulder

Not applicable.

Runway centerline-to-taxiway separation

Not applicable.

Runway centerline to holding position marking

There is no holding position marking at the airport. Were there one marked on the existing apron area there would be sufficient space

Table 8: Comparison of existing conditions to FAA standards

FAA design standard	Design standard dimension relative to Wilson Creek Municipal Airport	Existing condition at Wilson Creek Municipal Airport
Runway length	4,150 feet to accommodate 100 percent of A-1 (small) fleet	3,074′ 1,076′ less than standard
Runway width	60′	50′ 10′ less than standard
Runway safety area length (based on existing runway length)	3,034′	520 feet less than the FAA standard
Runway safety area width	120′	The RSA meets the FAA standard within the area where it meets the length standard
Runway object-free area length (based on existing runway length)	3,554′	3,554′
Runway object-free area width	250′	250′ Meets FAA standard except for aircraft shelter south of the runway
Runway obstacle free zone (based on existing runway length)	3,474′	3,474′ Meets FAA standard except for aircraft shelter south of the runway
Runway shoulder	10′	Does not meet the FAA standard
Taxiway width	N/A	N/A
Taxiway safety area	N/A	N/A
Taxiway object-free area	N/A	N/A
Taxiway shoulder	N/A	N/A
Runway-to-taxiway separation	N/A	N/A
Runway centerline-to-hold position marking	N/A	No holding position markings are on the apron.
Runway centerline-to-aircraft parking area	N/A	No specific aircraft parking areas are identified on the apron.
Runway protection zone	250′ X 1,000′ X 450′	Runway 10 and 28 RPZ are compliant in terms of usage. Airport does not have control over RPZ properties.

Note: Runway length standard computed using average mean/max. temperature of hottest month (90 degrees) and 1,422 feet mean sea level elevation.

between it and the runway to allow it to meet this standard.

Runway centerline to aircraft parking

This standard can be met depending on where aircraft are parked on the apron. There are not any currently identified parking spaces.

Runway protection zone (RPZ)

The Runway 10 and Runway 28 RPZs are not under the control of the town of Wilson Creek. The Runway 10 RPZ extends over a steep slope and a road. The Runway 28 RPZ extends over arid, empty land. The uses to which these RPZs are put are not likely to draw large groups of people. Both RPZs are therefore in conformance with the FAA's recommendations regarding RPZ activity.

Page reserved for existing conditions diagram

2.11 INFORMATION SOURCES

Sources of information provided in this chapter include:

- Washington State Department of Transportation/Aviation Division airport database.
- Federal Aviation Administration (FAA) Form 5010.
- Applied Pavement Technology, Inc. pavement report dated February 2006.
- Survey by Knudsen Land Surveying LLC dated October 2006.

Chapter 3: Forecasts

3.1 INTRODUCTION

This chapter forecasts the numbers of based aircraft and annual aircraft operations at Wilson Creek Municipal Airport in five-year intervals over a 20-year planning period. A future airport reference code (ARC) based on forecast data is identified.

The forecasting process is an important one for a number of reasons. Primarily, forecasts will help the town of Wilson Creek and Grant County Port District Six plan the airport's future. Understanding future demand will help the town and the port make better decisions about airport capital improvements.

Forecasts are also vital to the funding of those improvements. As stated, Washington State Aviation is Wilson Creek Municipal Airport's primary source of grant funds for the airport's operational areas. Though the Aviation Division has made considerable progress over the past few years with respect to the grant process and to the amount of funds available, the division continues to have less money than is needed to meet project demands. Consequently, the division must carefully prioritize grants. Forecasts assist WSDOT/AD with these funding decisions.

Capital projects that are necessary to correct conditions that negatively impact safety, as well as projects that maintain investment in infrastructure, especially paved surfaces, should be funded as money is available regardless of forecasts. However, major development that enhances airport operational capability will be made only after careful evaluation of necessity based on logically quantified future need.

Forecasts are also important to organizations interested in financing features of airports that are not generally funded by WSDOT/AD. Both the Washington State Department of Community Trade and Economic Development (CTED) and the U.S. Department of Commerce's Economic Development Administration offer financial resources for projects, such as utility infrastructure and road construction, that are necessary to support development of airport-related and airport-compatible business on and adjacent to airport property. These entities are interested in funding projects that create jobs and that improve incomes.

It is a primary recommendation of this plan that, after it is published, the town of Wilson Creek update and communicate its activity level forecast as conditions indicate it is appropriate to do so. For instance, if a new manufacturing business that operates one or more aircraft moves to the area the resulting increase in based aircraft and annual operations should be added to the forecast and communicated to WSDOT/AD. This will help Wilson Creek Municipal Airport maintain its appropriate place on the Aviation Division's priority list. Also, this information will be useful during the next update to this airport layout plan. Forecasting by professionals has become a highly refined art but it is still, in the end, guessing. Tracking and noting actual conditions that alter forecasts help refine this process.

3.2 TERMINOLOGY

Terms used in this section that require definition are:

Aircraft operation: A takeoff or a landing.

Local aircraft operation: Aircraft operating in an airport's traffic pattern or aircraft known to be departing to or arriving from local areas used for flying practice.

Itinerant aircraft operation: All other operations.

3.3 FORECASTING METHODS

Forecasts in these kinds of plans usually begin by in-depth analyses of existing based aircraft and flight operations. Forecasting operations at Wilson Creek Airport is an interesting exercise. Only one aircraft is currently based at the airport. One additional aircraft occasionally uses the airport as a base for agricultural flight operations. Remaining flight operations are itinerant flights conducted during flight training by local flight schools. We must begin then by clearly stating these minimal operations as the baseline for this forecast.

Next, factors that are likely to influence future demand are identified. These factors include population projections for Grant County over the planning period as well as projections made by state agencies about economic development in the region served by Wilson Creek Municipal Airport. Forecast information produced by WSDOT/AD and the FAA is also considered.

Other issues that may impact changes in airport activity are then evaluated. These include: 1) changes to pilot rules recently promulgated by the FAA; and 2) the impacts of airport development.

Table 10: WSDOT/AD database

Fleet Mix Based Aircraft 2006		Estimated Annual Operations 2006	
Single-engine	1	GA local	200
Multi-engine	0	GA itinerant	0
Turboprop	0	Air carrier	0
Glider	0	Air taxi	0
Ultralight	0	Commuter	0
Rotorcraft	0	Military	0
Total	1	Total	200

Source: WSDOT/AD.

3.4 EXISTING DATA

Existing published data about based aircraft and annual flight operations are available from three sources: the FAA's Airport Master Record, also called Form 5010, last updated in December 2005, the WSDOT/Aviation Division database, last updated in 2006 and recently published data from the in-process Washington State Long Term Air Transportation Study (LATS). Information from these sources is shown in tables 9, 10 and 11.

Table 9: FAA Form 5010

Fleet Mix Based aircraft 2005		Estimated Operations 2005	
Single-engine	1	GA local	30
Multi-engine	0	GA itinerant	110
Turboprop	0	Air carrier	0
Glider	0	Air taxi	0
Ultralight	0	Commuter	0
Rotorcraft	0	Military	0
Total	1	Total	140

Source: FAA Form 5010

Determination of based aircraft baseline

Both FAA and WSDOT/AD recognize the single aircraft that is based at Wilson Creek Airport. Observations by Airside confirm this single aircraft as a Cessna 150.

Determination of flight operations activity baseline

The FAA and WSDOT/AD databases estimate 30 and 200 local flight operations respectively. The FAA estimates 130 itinerant flight operations. The LATS program estimates 54 local operations and 196 itinerant operations for a total annual operations of 250.

Table 11: WSDOT/AD LATS

Fleet Mix			Estimated Annual Operations		
Based A/C	Forecast base year 2005	Projected 2030	Operations	Existing 2005	Projected 2020
Single-engine	1	1	GA local	54	54
Multi-engine	0	0	GA itinerant	196	196
Turboprop	0	0	Air carrier	0	0
Glider	0	0	Air taxi	0	0
Ultralight	0	0	Commuter	0	0
Rotorcraft	0	0	Military	0	0
Total	1	1	Total	250	250

Source: WSDOT/AD (LATS) data was collected in 2006 for a base year of 2005.

Generally, flight operations activity levels at small, general aviation airports are difficult to determine. Wilson Creek is a small community and those individuals that are associated with the airport are generally aware of operations at the airport. This plan, based on local observations and information from the owner of the single aircraft based at the airport identifies 100 annual flight operations and 100 annual itinerant operations as its baseline.

Table 13 recaps based aircraft and flight operations used as the baseline for this report.

Table 12: Currently based operational aircraft

Aircraft	ARC category	General use
Cessna 150	A-1 (small)	Personal

Source: Wilson Creek Municipal Airport Steering Committee.

3.5 FORECASTS

WSDOT/AD

In 2002 WSDOT/AD published a document that extensively analyzed and forecast Washington aviation activity through the year 2020. This document is part of the Washington State Continuous Airport System Plan, or WSCASP. The plan concluded that numbers of based aircraft and flight operations activity for all airports in Grant County would change very little through the year 2020. The study estimates that 225 aircraft were based in the county in the year 2000 and that based aircraft would increase at an even pace to 229, a net increase of just four aircraft throughout the planning period. A forecast of based aircraft at Wilson Creek Airport was not included in the WSDOT/AD study.

Federal Aviation Administration

As stated, the FAA does not project future numbers of based aircraft or flight activity levels at Wilson Creek Municipal Airport. The FAA does, however, publish other useful forecasting information.

According to the FAA, the number of U.S.-based active general-aviation aircraft is expected to increase at an average annual growth rate of 0.5 percent per year through the year 2025. Most of this growth is attributed to business-type aircraft. Single-engine piston aircraft, those most applicable to Wilson Creek Municipal Airport, are expected to increase in numbers at a rate of 0.2 percent per year. Flight hours are expected to increase at a faster rate than the aircraft fleet, 1.5 percent annually through 2014 and then 1.2 percent annually through 2025. These modest numbers, when applied to Grant County and to Wilson Creek Municipal Airport, parallel estimates by WSDOT/AD.

Conclusions based on WSDOT/AD, FAA and actual data

Projections by WSDOT/AD and the FAA indicate almost no growth in Grant County's based aircraft and flight operations over the planning period. No projections were made by WSDOT/AD at Wilson Creek for the planning period.

Population and income projections

Grant County has experienced slow and at times erratic growth in population over the past

Table 13: Aircraft and operations baseline

Fleet Mix Based Aircraft 2007		Estimated Annual Operations 2007	
Single-engine	1	GA local	100
Multi-engine	0	GA itinerant	100
Turboprop	0	Air carrier	0
Glider	0	Air taxi	0
Ultralight	0	Commuter	0
Rotorcraft	0	Military	0
Total	1	Total	200

Source: Wilson Creek Municipal Airport Steering Committee.

decade. Washington State analysts project that the county's population will continue to grow and do so more steadily into the foreseeable future. The Washington State Office of Financial Management estimates the current Grant County population to be 80,600. This is 48.5 percent more than the 32,440 citizens the county had in 1990. State analysts, in their intermediate projections, estimate that the county will gain another 18,335 people to almost 99,000 by year 2025.

Grant County has also experienced steady growth in household income. In current dollars, median household income has risen from $24,217 in 1990 to $36,083 in 2004. (Washington State Office of Financial Management, "Median Household Income estimates by County: 1989 to 2003 and Projection for 2004"). Per capita personal income in the county has risen from $19,408 in 1999 to $21,756 in 2003, according to the U.S. Department of Commerce's Bureau of Economic Analysis. (http://www.bea.doc.gov/bea/regional/reis/drill.cfm) While the average annual growth rate in personal income has been 7.7 percent since 1990, the rate has slowed in recent years, and managed only 3.4 percent in 2002-2003.

Though Grant County's personal income growth rate has recently slowed, it is important to note that during the period from 1990 to 2003 it grew, in current dollars from $14,621 to $21,756. Average income is less in Grant County than it is in more populated areas of Washington state but there is evidence of relatively consistent improvement.

If, as expected, Grant County's population and income continue to grow they will almost certainly entail greater demands for airport services.

Conclusions about population and income

According to Washington State economists and planners, Grant County's population will increase between now and 2025 by just over 22 percent. Washington State data indicates that the state's population as a whole will increase by almost 28 percent. There is no data that indicates that Grant County will experience other than slow, steady growth that will be somewhat less than that expected statewide.

Table 14: Grant County population

Year	*Population*
1990	*54,798*
2000	*74,698*
2003	*77,100*
2006	*80,600 (estimated)*
2010	*88,331 (projected)*
2015	*92,806 (projected)*
2020	*95,715 (projected)*
2025	*98,395 (projected)*

Source: Office of Financial Management, 2006.

Data from the BEA indicate that personal income will also continue to rise in Grant County. Expected increases, however, are consistent with increases that are projected for Washington State and the rest of the United States.

No data related to population or personal income indicates that the numbers of based aircraft or level of flight operations will increase to other than a slight degree in Grant County over the planning period.

Additional factors

Airport forecasts should take into account specific local conditions and factors other than official population and income projections as long as the information used is logical, reasonable and credible. The factors included in this section are considered to meet this test. These local conditions and factors relate to:

- Unique factors in rural upper Grant County
- Alterations to FAA rules regarding pilots
- Airport improvements and marketing

Upper Grant County

Upper Grant County has a very sparse population. Wilson Creek, according to Washington State analysts, has only 240 residents. The only factor related to the location of Wilson Creek Airport that appears to have a bearing on this forecast is that airspace that surrounds the airport in all directions is relatively inactive and clear of obstructions. Opportunities therefore may exist for the town and port district to encourage use of Wilson Creek Airport for recreation-based aeronautical activities that are often conducted by those who prefer to operate in areas that do not have high levels of flight activity.

Alterations to FAA Rules regarding pilots

Rules recently promulgated by the FAA allow owners of several categories of ultralight aircraft to register those aircraft in a new category called "light sport." Light-sport aircraft are expected to substantially add to the numbers of based aircraft and flight operations at U.S. airports. It is logical to assume that pilots in this category will, in general, prefer to operate from airports such as Wilson Creek that, again, have low-activity levels, are non-towered and that have an abundance of adjacent, uncontrolled airspace.

Airport Improvements

Though typical planning procedures call for airport improvements, especially those that increase airport capacity, to be justified by demand it is also logical to assume that such improvements might in turn have some impact on actually generating demand.

Development strategy

Local citizens and officials have expressed interest in increasing usage at Wilson Creek Airport in order to improve the economy of the community. One of the strategies that this plan suggests is to take advantage of the clear, unobstructed and uncontrolled airspace in the vicinity of the airport by working to attract unconventional aircraft, both those that would be based at the airport as well as those that would come to the airport to take part in scheduled events. Individuals who operate sport aircraft, ultralight aircraft, hot air balloons, paragliders and who engage in sport parachuting are attracted to airports such as Wilson Creek, not simply due to the availability of open airspace but because it is beneficial to not have to commingle with conventional aircraft that have very different operating parameters.

Plans such as this one are not intended to be marketing documents. Airside, however, is aware of the local interest in improving the economy of Wilson Creek and its immediate surroundings and cannot overlook the potential of largely unused Wilson Creek Airport. If the town of Wilson Creek and the Port district pool their efforts to develop facilities for unconventional aeronautical activities and create a marketing program to attract them it is logical to assume that conventional as well as unconventional aircraft will be attracted.

Forecast of based aircraft and operations

If one were to consider only FAA and WSDOT/AD based aircraft and flight operations projections and growth expected generally in Grant County by Washington State analysts, one could only come to the conclusion that Wilson Creek Airport will be nearly unused throughout the 20-year planning period that this report covers.

In this forecast, Airside assumes that the town of Wilson Creek and Grant County Port District 6 will engage in a cooperative effort to attract legitimate, if unconventional, aeronautical activities to Wilson Creek Airport. We further assume that those activities will pay either activity-based or recurring lease fees for use of the airport. Elements of the marketing program may involve a name change to "Wilson Creek Recreational Aerodrome" or a similar identification that will communicate the airport's general purpose to the public.
Well established organizations such as the Experimental Aircraft Association (EAA), the United States Parachuting Association (USPA) and others will be used as resources in this effort. It is further assumed that the town and the port will also encourage the use of the airport by conventional aircraft.

To state the obvious, if the recommendations contained in this section are pursued, it will be necessary for the town and the port to recognize the inherent challenges of co-mingling a divergent group of aircraft. Operating policies and procedures that will help ensure a safe airport environment are very important to the success of such a program.

Based conventional aircraft

There is no evidence that suggests that based aircraft at Wilson Creek Airport will increase. If one considers the slow but steady growth predicted for Grant County and the general activity that may result from recommendations in the prior section of this plan, it is logical to assume an increase of at least one based conventional aircraft during each of this plan's four, five-year planning periods. This plan therefore forecasts four additional aircraft in the A-1 (small) category between 2007 and 2026.

Based light sport aircraft

There is no doubt that light sport aircraft are gaining in popularity. They are simple to operate, relatively inexpensive to buy or build and inexpensive to operate. This plan assumes that Wilson Creek Airport will be an attractive base for this category of aircraft. We therefore forecast two additional aircraft per five-year cycle over the planning period. Additions of light sport aircraft to Wilson Creek's based aircraft forecast is dependent on activation of an airport marketing program.

Flight operations by conventional and light sport aircraft

The single aircraft based at Wilson Creek Municipal Airport currently operates an average of approximately 100 times per year. Itinerant operations that are conducted by area flight schools and agricultural firms currently also amount to about 100 annual operations. Airside estimates that the additional aircraft (three per planning period) that are predicted to be based at Wilson Creek Municipal Airport will operate between 50 and 75 operations per year. Light Sport Category aircraft are likely to operate more frequently than conventional aircraft.

Itinerant flight operations conventional and light sport aircraft

Flight operations by agricultural and training aircraft are likely to continue whether or not the airport is marketed as a recreational facility. This plan assumes future use by agricultural aircraft and training aircraft will remain at the same level as past use. This use is estimated to be about 100 itinerant operations per year.

Unconventional aeronautical activities

No estimates of activity levels by unconventional aircraft are included in this report.

Tables 15, 16 and 17 indicate growth in based aircraft and flight operations over the planning period.

Table 15: Additions to based aircraft and increases in flight operations over the planning period

2007-2011				2012-2016			2017-2021			2022-2026		
A/C	Aircraft	Local Ops Per/yr	Itinerant Ops Per/yr	Aircraft	Local Ops Per/yr	Itinerant Ops Per/yr	Aircraft	Local Ops Per/yr	Itinerant Ops Per/yr	Aircraft	Local Ops Per/yr	Itinerant Ops Per/yr
SE	1	50	0	1	50	0	1	50	0	1	50	0
SESP	2	150	0	2	150	0	2	150	0	2	150	0
ME	0	0	0	0	0	0	0	0	0	0	0	0
Heli	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**200**	**0**	**3**	**200**	**0**	**3**	**200**	**0**	**3**	**200**	**0**

Note: Additions to based aircraft in the 2007-2012 period are not projected to occur until one-half way into the period.
A/c = Aircraft
SE = Conventional Single-engine aircraft
SESP = Single-engine sport category aircraft
ME – Multi-engine aircraft
Heli = Helicopter

Table 16: Forecast based aircraft 2007-2026

Based A/C by type	2007	2012	2017	2022	2026
SE	1	2	3	4	5
SESP	0	2	4	6	8
ME	0	0	0	0	0
Heli	0	0	0	0	0
Total	**1**	**4**	**7**	**10**	**13**

Table 17: Forecast annual flight operations 2007-2026

Operations	2007 (1)	2012	2017	2022	2026
SE	200	250	300	350	400
SESP	0	150	300	450	600
ME	0	0	0	0	0
Heli	0	0	0	0	0
Total operations	200	400	600	800	1,000
Average annual increase in total operations		40 percent	30 percent	27 percent	25 percent

(1) Estimated current

Chapter 4:
Development alternatives and recommended projects

4.1 INTRODUCTION

This chapter discusses development alternatives at Wilson Creek Airport. It then describes a preferred alternative and identifies projects related to that alternative.

Information contained in this chapter is derived from this report's Chapters 2 and 3, data gathered during site visits and suggestions from the ALP steering committee. Recommended improvements at Wilson Creek Airport extend over the 20-year planning period. Projects listed are intended to increase safety, accommodate forecast demand, facilitate the recreational activities described and provide a transportation facility that is efficient and attractive. Information about the timing of projects is at the end of this chapter. Estimated expenses associated with recommendations are contained in Chapter 5.

As stated in Chapter 3, the Cessna 182 and the A-1 (small) group of aircraft it represents is identified as the design aircraft throughout the planning period. Additional kinds of aircraft that may use Wilson Creek Airport are light sport aircraft, variations of aircraft based on advancing aircraft technologies, paragliders, ultralight aircraft and hot air balloons.

FAA recommendations related to design standards that are contained in Advisory Circular 150/5300-13 "Airport Design" have been applied in this chapter.

4.2 AIRPORT FEATURES

Runway length

The existing runway at Wilson Creek Airport is 3,074 feet long and 50 feet wide.

Figure 2-1 in FAA Advisory Circular 150/5325-4B provides a method for determining runway lengths that are adequate to accommodate both 95 percent and 100 percent of what the FAA terms "small airplanes." According to the FAA, small airplanes are those that have certificated gross weights of less than 12,500 pounds and that have fewer than 10 passenger seats.

The graph in Figure 2-1 provides a method for using temperature and airport elevation to compute runway length calculations since both of these factors affect aircraft performance. According to this graph, which is included in the appendix to this report, runway lengths of 3,550 feet and 4,150 feet are required to accommodate 95 percent and 100 percent, respectively, of the small airplane fleet at Wilson Creek Airport considering the mean temperature of the area's hottest month (90 degrees in July) and the mean sea level elevation of 1,422 feet. This means that the airport's runway is 476 feet less than that needed for 95 percent of the fleet and 1,076 feet less than that needed for 100 percent of the fleet.

Before concluding that Wilson Creek's runway is inadequate it is important to put the runway length requirements contained in the FAA's advisory circular in perspective. Specifically, some of the aircraft in the small airplane category are high-performance, multi-engine turboprops that are larger and faster than those that use Wilson Creek Airport or that are expected to use it during the forecast period.

This plan concludes that Wilson Creek's airport is sufficiently long to safely accommodate the aircraft that are generally forecast to use it.

4.3 DEVELOPMENT ALTERNATIVES

During preparation of this report, two alternatives related to the general conformation of Wilson Creek Airport were considered. These alternatives are described in this section.

Alternative 1: Do nothing

Wilson Creek Airport has existed in its current conformation for many years. It is logical to assume that it could continue to serve its purpose for several years to come. The "do nothing" alternative is therefore worth consideration.

Two issues at Wilson Creek Airport reduce safety. One is the absence of runway lighting; the other is the absence of a taxiway. Doing nothing would fail to address these important safety issues. Further, if the community decides to pursue marketing of the airport for aeronautical activities as described in Chapter 3, improvements to the airport's overall conformation will be necessary. Doing nothing will not address this plan's forecast and is therefore not deemed by this plan to be a viable alternative.

Alternative 2: Construct taxiway and additional unpaved runways

Absence of a parallel taxiway makes it necessary for pilots to "back-taxi," that is, to use the runway as a taxiway either before or after takeoff or landing operations. Back-taxi operations reduce safety because they increase the risk of accident through use of an active runway for activities other than those directly related to landing and taking off.

The degree of risk associated with back-taxi operations is dependent on a number of factors, such as whether aircraft using the airport have radios and, if they do have them, whether they use them to communicate with other aircraft in the area. Other factors include weather conditions such as visibility, signage, pilot skill levels and pilot awareness. Another key aspect is an airport's activity level. The busier an airport is the more risk is associated with back-taxi operations.

Some of the light sport aircraft and variations of aircraft based on new technologies that are expected to use Wilson Creek Airport will not have radios with which to listen to other air traffic and to announce their intentions. The degree to which communications issues relating to light sport aircraft will reduce safety in a non-taxiway environment is not known but it is reasonable to assume some negative impact.

Both the Federal Aviation Administration and Washington State Aviation have indicated their intent to reduce inadvertent runway incursions by taxiing aircraft since these events are known to be major causes of accidents. Back-taxi operations are arguably the ultimate runway incursion since they require operations on active runways that do not relate to landing and taking off.

This alternative therefore includes construction of a taxiway parallel to the existing paved runway even though activity levels at Wilson Creek Airport are low. Additional improvements to the runway and taxiway system include installation of a runway light system, taxiway reflector system and painting of all markings related to the runway/taxiway system.

Widening of the runway from its existing width of 50 feet to meet the FAA standard of 60 feet is also part of this alternative.

The *Wilson Creek Airport 2005 Pavement Management Report* published by Applied Pavement Technology, Inc. (APT) indicates that the runway had a pavement condition index of 89 in 2005. The APT report states that a "fog seal" or light coat of asphalt oil be placed on the runway in 2007. Based on a site visit conducted in February 2007, this plan recommends crack sealing prior to any fog-sealing or other sealing effort if one is accomplished.

Alternatively, rather than fog sealing, this plan recommends a 2-inch overlay of Class A/B asphalt sometime within the next five-year period. This recommendation is made because, even though the airport's runway is structurally sound, it is rougher than it should be considering the kinds of aircraft this plan forecasts will use it. Further, the $36,177 that the pavement management report estimates will be necessary for a fog seal, which would not contribute to the runway's wearing surface, is estimated by Airside to be approximately 25 percent of the cost of an overlay.

Alternative 2 would reduce runway length by 600 feet from 3,074 feet to 2,474 feet to conform to the FAA-recommended runway safety area design standard and to move the east end of the runway off of un-owned property.

To support unconventional aeronautical activities, two additional, unpaved runways will be developed. These, together with the existing runway will form a triangle shape that will allow light aircraft to operate more safely in varying wind conditions.

This alternative also includes construction of facilities that will support aeronautical events, access road improvements and installation of support utilities.

Alternative 2 is depicted on the following diagram.

Alternative 2 drawing

4.4 PREFERRED DEVELOPMENT ALTERNATIVE

This plan identifies Alternative 2 as the preferred alternative.

Alternative 1, doing nothing, is not considered feasible for safety and liability reasons. Alternative 1 will also not support the community's goals for future airport use.

Alternative 2

- Construct a partial, parallel, paved taxiway. Paint markings. Install reflectors.
- Repaint markings on the paved runway. Relocate thresholds at both ends of runway to provide conforming runway safety area.
- Install runway edge and threshold lights and an airport beacon.
- Prepare two, unpaved runways to be used by light sport and unconventional aircraft.
- Install several small, wind indicators at various locations.
- Construct a multi-use building to be used by aviation organizations for meetings and that will serve as a welcome center for those visiting the Wilson Creek Area.
- Improve the airport access road.
- Install utilities.
- Prepare aircraft tie-downs.
- Plan area for aircraft hangars.
- Accomplish detailed planning for area to be used for commercial and light industrial development.
- Install off-airport signage that provides visitors with directions to the airport.

All construction on the airport should be accomplished so that it is consistent with FAA design standards related to runway and taxiway safety and object-free areas. Painted markings and light installation should be consistent with relevant FAA advisory circulars.

4.5 DETAIL AND TIMING OF IMPROVEMENTS

This section lists the recommended timing of Alternative 2 improvements and additional actions recommended over the planning period.

Development, rather than being shown on an annual basis, is divided into four five-year time periods. Experience has shown that indicating specific years during which projects will be accomplished is counterproductive. Oftentimes airport sponsors are not able to maintain detailed time schedules and/or availability of grants from WSDOT/AD or other agencies that are necessary to fund projects are not available at the times indicated. Establishing five-year cycles and then prioritizing projects within these periods provides flexibility to the town, the port and WSDOT/AD. It also helps maintain the validity of this report.

Improvements described in this section are depicted on the airport layout plan (drawing C1.1), the Building Area Plan (drawing C1.2) or both.

PROJECTS 2007 - 2011

Following is a list of prioritized projects recommended for completion between 2007 and 2011.

A1. Accomplish detailed planning

Using this plan as a basis, accomplish survey and engineering work necessary to draft a detailed site plan. Seek permits as necessary.

A2. Light structure and pole

Place red obstruction lights at two locations at the peak of the roof of the reservoir structure. Either lower by at least six feet or light the power pole that is adjacent to the structure.

A3. Runway improvements

- Apply 2-inch hot-mix (Class A/B asphalt) to runway.
- Paint and light runway (relocate thresholds).
- Install lighted wind indicator.
- Grade and compact the runway safety area to conform to the RSA standard. This area is 120 feet wide, centered on the runway and extends 240 feet from each threshold toward each end of the runway.

All painted markings should conform to recommendations contained in FAA Advisory Circular 150/5340-1J.

A4. Plan, specify and develop bid and contract documents intended to implement taxiway paving

During this period, accomplish engineering plans, cost estimates and other documents necessary to support future taxiway construction.

A5. Prepare two unpaved runways

These, as indicated on the airport layout plan, will form a triangle shape when connected to the airport's primary runway.

A6. Install unlighted wind indicators

Locate these at the north and east ends of the unpaved runways and in the center of the triangle that the runway system forms.

PROJECTS 2012 - 2016

B1. Construct taxiway. Install reflectors, hold-line signs and paint markings.

Paint hold lines at all access locations at 125 feet from the runway's centerline. Hold-line markings should be consistent with those indicated in FAA advisory circular 150/5340-1J.

Install standard 2-foot by 4-foot retroreflective hold-line signs at all access locations. Signs should be on frangible mountings and should be located adjacent to their respective hold lines. Ensure that the non-frangible portions of all hold-line signs extend no more than 2 inches above grade.

B2. Install utilities

Install utilities to support construction of a multi-use building and future hangars.

B3. Prepare aircraft tie-downs

Install tie-downs and paint markings.

B4. Improve the airport access road

Widen, pave and provide edge barriers.

B5. Construct a multi-use building and welcome center

The welcome center (terminal) will be used for meetings of aviation groups. It will also serve as a visitor center where those flying to the Wilson Creek area can be accommodated in clean, comfortable and functional surroundings. This building will provide increased opportunities for the town of Wilson Creek and the port district to display information about their individual and mutual economic development and tourism efforts. Those flying to Wilson Creek will have a place to await ground transportation. Pilots will use this building for flight planning. This new structure will serve as the focal point for the airport.

B6. Accomplish paved surface maintenance

Crack seal, seal coat and repaint all paved surfaces.

B7. Lease land and allow construction of hangars according to plan

PROJECTS 2017 - 2021

Following is a list of prioritized projects recommended for completion between 2017 and 2021.

C1. Conduct paved surface maintenance

Seal cracks, apply high-quality seal coat and repaint all paved surfaces.

C2. Sponsor commercial and/or light industrial development

To be conducted in the area identified in the building area plan, drawing C1.2.

PROJECTS 2022 - 2026

Following is a list of prioritized projects recommended for completion between 2022 and 2026.

D1. Conduct paved surface maintenance

Seal cracks, apply high-quality seal coat and repaint all paved surfaces.

D2. Continue overall landscaping, lighting, signage and other functional and aesthetic improvements.

4.6 HANGAR AND TIE-DOWN DEVELOPMENT

This section relates existing and expected numbers of based and itinerant aircraft to development of aircraft tie-downs and construction of aircraft hangars over the planning period.

Chapter 3 indicates that one aircraft is currently based at Wilson Creek Airport. No hangars are at the airport.

Chapter 3 also forecasts that 10 aircraft will be based at the airport at the end of the planning period — the year 2026.

This plan indicates locations for T-hangars and a community hangar that are expected to meet forecast demand during the planning period. Note that accommodations for aircraft that will use the airport only during planned events are indicated as shelters rather than as fully enclosed hangars.

4.7 BUILDING RESTRICTION LINES (BRLS)

Building restriction lines (BRLs) are lines parallel to runways that are established to identify permissible locations for structures. Generally, BRLs are located so that FAR Part 77 transitional surfaces will not be penetrated by planned structures. Maximum structure heights are typically considered to be 15 feet for planning purposes.

Transitional surfaces rise at a ratio of 7:1 (horizontal to vertical) perpendicular to an airport's runway. Outward and upward slopes begin at another FAR 77 surface called the "primary surface," which at Wilson Creek Airport is 125 feet from centerline on both side of the runway. Primary surfaces rise and decrease in elevation with the nearest point of the runway so differences in runway elevations relative to adjacent proposed building sites must be taken into consideration.

It should be noted that FAR 77 is not a legal restriction of structure heights. Instead, it is a federal regulation that identifies a method for determining existing and proposed penetrations of airspace and their disposition. Penetrations

are considered by the FAA to be obstructions to navigable airspace unless a study by the FAA determines otherwise. FAA studies may result in one of three conclusions: 1) no objection to the penetration; 2) objection unless mitigation, such as lighting, is accomplished; and 3) objection. FAA airspace determinations are not binding on local jurisdictions since the FAA does not have authority over local zoning. Nevertheless, it is a good idea, and WSDOT/AD policy, to avoid FAR Part 77 penetrations, thus the logic behind showing BRLs on airport plans. FAR 77 requires the filing of documents related to proposed construction on and near airports, depending on the height and location of the proposed construction.

BRLs related to both existing and ultimate runway conditions are depicted on the airport layout plan.

4.8 ZONING AND LAND USE

Forecasting usage and scheduling improvements at Wilson Creek Airport will ultimately prove to be fruitless exercises unless meaningful efforts continue to be used to protect this facility. Airports in the United States close routinely – not because of a lack of funds to keep them open but because municipalities and counties did not anticipate and address the negative impacts of encroachment and the insidious advance of incompatible land uses. It is easy to overlook the need for airport-protective zoning and land use planning at rural airports that do not have existing adjacent development. It is at such a time, when the need is not obvious, to address this subject – before protective actions must be used to try to reverse active development.

Incompatible pressures on airports come in two forms: (1) those that restrict airspace necessary to maintain operational viability and (2) those that place incompatible development so close to airports that it becomes a risk to the facility and its neighbors.

This section recommends actions to be taken by the town of Wilson Creek and Grant County that will help protect Wilson Creek Airport and that will help maintain the airport as a good neighbor. We strongly suggest that they be carefully reviewed and implemented.

Recommended actions are depicted in drawings C 1.6, titled "Zoning and Land Use," and C 1.7, titled "Exhibit A."

Zoning

Within the town of Wilson Creek, this plan recommends the following, based on the chosen alternative for implementation:

- Create and adopt new districts in the town's zoning ordinance that regulate commercial and light industrial development uses on or adjacent to airport properties. Each zoning district should address compatible uses and operations and development standards that protect that airport's operations and airspace.
- Update the Airport Development Zone's language to provide more specific setback, building, and permitted use requirements for a multi-use building on the premise.
- Annex the third parcel of the airport property (parcel 181505001) to eliminate confusion regarding jurisdiction over the property and to allow the town to have the ability to include that property in its zoning documents.

Land Use

As noted in section 2.4, topography, property ownership, a conservation easement and existing land use characteristics create a beneficial environment that helps prevent uses on land near the airport that are inconsistent with airport operations. Both runway protection zones are over property that is unlikely to ever see development either because of the conservation

easement southeast of the runway or steeply sloping topography northeast of the airport. These conditions as well as the airport's location on top of a hill will continue to protect the airport's airspace.

Wilson Creek's urban growth boundary, which will contain the growth of the town for the foreseeable future, extends south of the airport. Urbanized development is prohibited east of the airport. Additionally, in its comprehensive plan, Grant County has not planned for growth and development surrounding the airport. Future land use designations for surrounding properties in the county are identified as rangeland and dryland. Both are intended to preserve the county's agricultural properties. The property to the southwest is tied to a conservation easement further protecting its agricultural use.

This plan encourages recreation-related aviation activities at Wilson Creek airport. The growth and land use policies adopted by the county are supportive of this concept. As Wilson Creek designates the future land uses within its urban growth boundary, compatibility between the airport and surrounding uses should be a continuing consideration.

It is particularly beneficial that the town and the port own land that is adjacent to the airport and within town limits. This ownership provides both entities with increased control over future development adjacent to the airport and establishes the potential for cooperative, economic development opportunities.

Recommendations for Grant County that are related to Wilson Creek Airport are:

- Designate an "airport influence area" on the county comprehensive plan map. This area would include the property underlying the FAR Part 77 surfaces as depicted in drawing C1.3.
- Include a description of the airport, as generally provided in the inventory chapter of this plan, in the transportation system inventory of the county comprehensive plan.
- Require an aviation activity notice as a condition for approval of new development within the airport influence area. Example language of such a notice follows. Additional information about aviation activity notice procedures is included in the appendix to this plan.

A notice shall be recorded with the county auditor prior to final approval of new subdivisions, short subdivisions, building permits, conditional use permits, special use permits or similar permits, unless said notice is already recorded on a property. Said notice shall state: This property is located adjacent to an airport and routinely subject to overflight activity by aircraft using the airport. Residents and tenants may experience inconvenience, annoyance, or discomfort from noise, smell or other effects of aviation activities."

Chapter 5: Financial

Chapter 4 contains information about airport improvements that are intended to meet forecast demand and increase safety, utility and efficiency at Wilson Creek Airport. This chapter identifies the cost of those improvements and establishes a plan for paying for them. Also included in this chapter is data related to current and projected airport income and expenses.

5.1 GENERAL FINANCIAL INFORMATION

Cost estimates

Project cost estimates are in 2007 dollars. A 30 percent contingency has been incorporated into projects where applicable to cover engineering, administration and unforeseen circumstances. As this portion of this plan is updated, the town of Wilson Creek and/or Grant County Port District No. 6 will need to adjust the 2007-based dollar amounts as they are affected by inflation. These estimates are for planning purposes only and should not be used as construction cost estimates. The following formulas were applied to estimates for other paved surfaces.

Base course and top course rock

The amount of compacted rock needed is determined by multiplying the area to be paved by the depth of compacted rock. For a 2-inch depth, the area to be paved is multiplied by .167 (of a foot). For a 3-inch depth the area to be paved is multiplied by .25 (of a foot).

Class A/B asphalt (ACP)

A yield of 8.25 square yards per ton of asphalt is estimated for a 2-inch mat depth. A yield of 17 square yards per ton of asphalt is estimated for a 1-inch mat depth. Note: One-inch mats of asphalt should only be applied in very favorable weather conditions, with qualified construction oversight and continuous testing for appropriate compaction.

Organization

This capital improvement program (CIP) has been organized by scheduling specific projects in four five-year time periods. As stated, using this five-year system will provide planning and funding flexibility. It will also allow for periods when grant funds requested by the town and/or the port may not be available from WSDOT/AD. It is important to review and adjust this CIP on at least an annual basis.

Funding sources

This capital improvement program makes assumptions that some funding will be available from sources other than WSDOT/AD. Actual availability of funds as identified herein will depend on a number of factors, including the level of funds available to WSDOT/AD and to other agencies to distribute and the needs of other airports as compared to the needs of Wilson Creek.

Planning ahead

One factor that plays a material role in the successful receipt of grant funds from WSDOT/AD and other sources, such as the Washington State Department of Community Trade and Development, is communication. Granting agencies are more likely to respond positively to grant requests when they are given plenty of advance notice about intentions to apply for funds. This helps granting agencies to do their own advance planning. Informing grant sources of plans three to four years in advance and each

year thereafter until funds are requested is an effective strategy.

Third-party financing

Airports often use third-party financing for development of facilities that are to be used primarily by private businesses or organizations. Projects of this kind include hangars and industrial structures. Some portions of this CIP identify no cost to the town of Wilson Creek or GCPD#6 because of assumed third-party financing.

Rates and charges

It is very important at Wilson Creek Airport, as with all airport facilities, that careful attention be paid to determinations of rates and charges. Small airports have limited abilities to collect revenue. It is often the case that fees that sponsors of small airports charge for based aircraft tie-downs, land leases, overnight tie-downs, fuel and other services are lower than what might be considered market value. In some cases, fees — with the exception of those associated with fuel — are not charged at all.

Clearly, sponsors of most small airports do not have the ability to collect revenue that is sufficient to pay for major capital improvements. It is important that airport sponsors do their best to maximize revenue while being cognizant of the ability of those engaged in general aviation to pay. In this way, airport sponsors can show that they are doing their best to contribute to the needs of their airports. When establishing rates and charges, airport sponsors should consider the potential of volunteerism. Efforts by individuals who volunteer their time — local pilots, for example — are very important to airports such as Wilson Creek Airport. It is important, though, to strike a fiscally sound balance between recognizing (applying a value to) volunteer efforts and charging rates that help airports remain financially viable. It is particularly important for the town and port to carefully consider the value of Wilson Creek Airport property as it looks forward to growth and major capital improvements. A periodic review of airport-related property lease fees is recommended. Fees should be adjusted to reflect real market conditions.

A challenge specifically related to this plan for Wilson Creek Airport will involve determinations about fees related to events. This plan indicates that Wilson Creek Airport will be used occasionally by a number of groups that will conduct aeronautical events and will then leave the airport. Sources available for event-fee determinations include other airports that are similarly used as well as national associations such as the Experimental Aircraft Association (EAA), the Aircraft Owners and Pilots Association (AOPA), and the United States Parachute Association (USPA).

Financing of this development program

As stated, the Washington State Department of Transportation's Aviation Division (WSDOT/AD) is Wilson Creek Airport's primary source of grant funds for airside improvements. Airside improvements are those that relate to the runway/taxiway system, the aircraft parking apron and navigational aids, including signage. Planning and engineering for projects that are eligible for WSDOT/AD construction grants are also eligible for grant funds. For additional information about eligibility of projects for WSDOT/AD grants, as well as the division's project priority system and application process, see their website: http://www.wsdot.wa.gov/aviation/grants/default.htm. Under the Grant Program tab see the Grant Procedures Manual.

CTED and EDA

Sources of grant funds for landside-related projects such as structures, roads and utilities are the Washington State Department of Community Trade and Development (CTED) and the United

States Department of Commerce/Economic Development Administration (DOC/EDA).

CTED's contact information is:

Washington State Department of Community Trade and Economic Development
RAAD Building
MS: 42525
128 – 10th Avenue
PO Box 42525
Olympia, WA 98504
Business and Project Development Office
(360) 725-4100

EDA's contact information is:

United States Department of Commerce
Economic Development Administration
Jackson Federal Building, Room 1856
915 Second Avenue
Seattle, WA 98174
(206) 220-7682

The runway safety grant program

WSDOT/AD has a grant program specifically designed to address runway safety improvements, especially those improvements that reduce the likelihood of inadvertent runway incursions. Information about this program is included in the appendix to this plan. Projects such as hold-line repainting and hold-line sign installation — as specified in Chapter 4 — would qualify for funding under this specific program. This is an excellent program that targets a high-priority safety issue.

Grant eligibility

Both the town of Wilson Creek and Grant County Port District Number 6, as public entities, qualify to apply for grants from Washington State Aviation. As explained, the town leases the airport to the port district. The entity most likely to carry out development projects at the airport is the port district due to its economic development mandate and the likelihood that it has grant-matching funds in excess of those available to the town. It is recommended that the town and the port district discuss the roles they intend to play with regard to grants and adopt policies that allow development to be carried out in an organized and cooperative manner.

Table 18: Expenses

Expense category	2004	2005	2006	Three-year total	Three-year average
Administration and planning	0	0	0	0	0
Electricity *	$300	$300	$300	$900	$300
Insurance	$2,000	$2,000	$2,000	$6,000	$2,000
Maintenance	0	0	0	0	0
Snow removal	0	0	0	0	0
Total	$3,200	$3,200	$3,200	$6,900	$3,200

** Security lighting, pump for agricultural spraying operations and pump for fire reservoir*

5.2 EXISTING REVENUE AND EXPENSES

Wilson Creek Airport does not have any sources of revenue as of the production of this report. All expenses at the airport are borne by GCPD#6 according to its lease of the airport from the town of Wilson Creek.

Expenses for the three-year period of 2004 through 2006 are indicated in Table 18. There have been no grants from WSDOT/AD during the 2004 through 2006 time period.

A local individual has volunteered his time and equipment to accomplish maintenance and improvement projects at the airport for over 12 years.

5.3 RECOMMENDED PROJECTS

This section estimates costs of projects over the 20-year planning period that are included in Chapter 4. Table 19 provides details about how project costs have been calculated. Table 20 indicates planned sources of funds for the projects. Table 21 recaps expected capital expenditures by five-year phase.

Capital project cost information has been detailed where possible. Costs associated with some items, such as a future welcome center, have been generally estimated because such costs can only be determined once design work has been accomplished.

Minor maintenance expenses are not specifically identified.

Table 19: 20-year capital improvement program details

Item	2007 – 2011 projects	Detail cost
A1	**Detailed planning** **Engineering for taxiways and building area development**	 **$20,000**
A2	**Light structure and pole** **Obstruction lights and conduit** **Labor** **Sales tax** **Subtotal**	 **$600** **$500** **$87** **$1,187**
A3	**Runway improvements** • Apply two-inch hot-mix (Class A/B asphalt) to runway and widen Paint and light runway (relocate thresholds) Install lighted wind indicator • Grade and compact the runway safety area to conform to the RSA standard. This area is 120 feet wide, centered on the runway and extends 240 feet from each threshold toward each end of the runway. **Update FAA 5010 record** **Sales tax** **Subtotal**	 **$180,000** **$3,000** **$2,000** **$5,000** **$0** **$15,200** **$205,200**
A4	**Plan, specify and develop bid and contract documents intended to implement taxiway paving**	 **$20,000**
A5	**Prepare two unpaved runways**	**$10,000**
A6	**Install three unlighted wind indicators** **Indicators** **Labor** **Sales tax** **Subtotal**	 **$3,000** **$500** **$277** **$3,777**
	Total 2007 – 2011 projects	**$260,164**
	2012 – 2016 projects	
B1	**Construct taxiway** **Construction** **Reflectors** **Hold line signs** **Paint markings** **Sales tax** **Subtotal**	 **$100,000** **$1,500** **$750** **$2,500** **$8,380** **$113,130**
B2	**Install utilities**	**$30,000**

Table 19: 20-year capital improvement program details (continued)

Item	2007-2011 projects	Detail cost
	2002-2016 projects (continued)	
B3	Plan and construct a multi-use building and welcome center Plan welcome center, fuel area, vehicle access, vehicle parking, near-term and mid-term aircraft tie-downs, landscaping and utilities	$200,000
B4	Improve the airport access road	$250,000
B5	Prepare aircraft tie-downs	$10,000
B6	Accomplish paved surface maintenance	$12,000
B7	Lease land and allow construction of hangars according to plan	$0
	Total 2012 – 2016 projects	$615,130
	2017 – 2021 projects	
C1	Accomplish paved surface maintenance	$12,000
C2	Sponsor commercial and/or light industrial development	$5,000
	Total 2017 – 2021 projects	$17,000
	1. 2022 – 2026 projects	
D1	2. Accomplish paved surface maintenance	$12,000
D2	3. Continue overall landscaping, lighting, signage and other functional and aesthetic improvements	$20,000
	Total 2017 – 2021 projects	$32,000
	Total CIP 2007 - 2026	$924,294

Table 20: 20-year capital improvement program recommended cost distribution

Item	Project	Total cost	WSDOT/AD	GCPD#6/town of Wilson Creek	Private or other grant agency	Volunteer labor, materials and equipment
	2007-2011					
A1	Planning	$20,000	$10,000	$5,000	$5,000	0
A2	Structure and pole	$1,187	$1,100	$87	0	0
A3	Runway improvements	$205,200	$194,940	$10,260	0	0
A4	Taxiway documents	$20,000	$19,000	$1,000	0	0
A5	Develop unpaved runways	$10,000	0	$5,000	0	$5,000
A6	Unlighted wind indicators	$3,777	0	$3,277	0	$500
	Subtotal	$260,164	225,040	$24,624	$5,000	$5,500
	2012-2016					
B1	Construct taxiway	$113,130	$107,474	$5,656	0	0
B2	Utilities	$30,000	0	$15,000	$15,000	0
B3	Multi-use building	$200,000	$100,000	$30,000	$70,000	0
B4	Access road	$250,000	0	$50,000	$200,000	0
B5	Aircraft tie-downs	$10,000	$9,000	$1,000	0	0
B6	Paved surface maintenance	$12,000	$11,400	$600	0	0
B7	Lease land construct hangars	$0	0	0	0	0
	Subtotal	$615,130	$227,874	$102,256	$285,000	0
	2017-2021					
C1	Paved surface maintenance	$12,000	$11,400	$600	0	0
C2	Commercial and light industrial development	$5,000	0	$5,000	0	0
	Subtotal	$17,000	$11,400	$5,600	0	0
	2022-2026					
D1	Paved surface maintenance	$12,000	$11,400	$600	0	0
D2	Functional and aesthetic improvements	$20,000	$5,000	$5,000	$10,000	0
	Subtotal	$32,000	$16,400	$5,600	$10,000	0
	Totals	$924,294	$480,714	$138,080	$300,000	$5,500

Notes to Table 21: Items that relate to paving, signage and lighting projects assume 95-percent participation from WSDOT/AD. Items that relate to access roads, on-airport roads, vehicle parking areas, general landscaping and utilities assume minimal or no participation from WSDOT/AD but do assume participation from CTED and other grant sources. South side development shown in the Building Area Plan (Drawing C1.2) assumes that some of these projects will be related to aircraft tie-downs and aircraft taxilanes that will be appropriate for WSDOT/AD participation.

1. Table 21: Capital improvement program expenditure by phase

Phase	CIP total cost	WSDOT/AD	GCPD#6/town of Wilson Creek	Private or other grant agency	Volunteer labor, materials and equipment
2007 – 2011	$260,164	$225,040	$24,624	$5,000	$5,500
2012 – 2016	$615,130	$227,874	$102,256	$285,000	0
2017 – 2021	$17,000	$11,400	$5,600	0	0
2022 - 2026	$32,000	$16,400	$5,600	$10,000	0
Total	$924,294	$480,714	$138,080	$300,000	$5,500