

# **WSDOT-Managed Airports: System Evaluation and Strategic Plan**

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Independent Assessment  
October 2007

**STATE-MANAGED AIRPORTS: WORKING PAPER #1**

**Final Draft**

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### EXECUTIVE SUMMARY

In association with the Washington State Long-Term Air Transportation Study (LATS), the Washington State Department of Transportation's (WSDOT) Aviation Division has commissioned a planning study of the 17 airports within the state-managed aviation system. This Working Paper, representing the first submission of that effort, encompasses an system inventory overview and an independent system assessment designed to gauge how each of the state-managed airports serve Washington's pilots, its residents, and government agencies.

Sponsored by WSDOT Aviation, who is charged on behalf of the state to "encourage, foster, and assist in the development of aeronautics in (the) state and to encourage the establishment of airports and air navigation facilities," this study's approach is directly based on the state's 1998 Aviation Policy. Combined with a recent bill to clarify the goals and objectives of WSDOT, five points of interest with regard to aviation have been identified:

- Preservation
- Safety
- Mobility
- Environmental Protection
- Stewardship

In consideration of these points of interest, this Working Paper's two-part inventory effort was comprised first of a collection of the physical characteristics of each of the state-managed airports, including surrounding land use/ownership, airspace obstructions, operational costs, and replacement costs. In addition to record searches, data was collected in large part through personal interviews with individual airport stakeholders.

The second element of the inventory effort focused on aviation activities accommodated by the state-managed airports that are considered to bring benefit and value to the state. The determination of value for these activities was through the application of the above-noted points of interest and included the following:

- Support forest fighting activity
- Provide transportation access to remote communities
- Provide access for emergency medical operations
- Provide access to recreational areas

- Enhance the overall level of safety for the state aviation system

Each of the 17 state-managed airports was reviewed and analyzed within the context of these inventory efforts and the resulting data was used as critical input for the independent system assessment component of this Working Paper. Specifically, this assessment was designed to provide a basis by which an initial determination could be made for each airport in terms of how and where they provide value to the state. Within the context of the overall study, this determination will ultimately be utilized to help provide recommendations to the state for each airport.

The 1998 State Aviation Policy was utilized as the basis by which to weigh the merits or “value” of each airport since the primary function of any state-managed airport should reasonably be expected to fulfill some elements of this policy. For the first three points of interest noted above, specific goals were identified and quantifiable factors derived from the inventory effort were associated with those goals. Simply put, if those quantifiable factors were to help a particular airport meet one of those goals, that airport would be recognized as helping the state aviation system fulfill the state policy, and therefore would also be considered to be bringing “value” to the state.

This independent assessment resulted in a stratification of the state-managed airport system into four categories, reflected by high, medium, low and no value. Specifically, one airport was recognized as having “high” value, seven airports had “medium” value, eight airports were rated as having “low” value, and one airport was identified as having a value of “none.”

It is important to note that this assessment is preliminary and is subject to change based on the particular circumstances of each airport, as well as the goals of WSDOT Aviation. Moving forward in this planning effort, considerations must also be given to future state aviation system policies, financial concerns and limitations, and specific facility requirements for each of these airports. However, based on the efforts to date within this planning study, it is evident that the vast majority of the airports managed by WSDOT Aviation do bring a level of value and benefit to the state in terms of enhancing the overall level of safety and accessibility within Washington State.

With the conclusion of this independent assessment of the state-managed airport system, the next phase of this planning effort will focus on developing frameworks for future system policies, the development of specific facility requirements, the definition of future airport operating procedures, and the final establishment of a recommended development plan.

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## STATE-MANAGED AIRPORTS: WORKING PAPER #1

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### I. INTRODUCTION

The Washington State Department of Transportation's (WSDOT) Aviation Division has requested that Wilbur Smith Associates (WSA) conduct an analysis of the 17 state-managed airports. This Working Paper, representing the first submission to WSDOT by WSA for that effort, incorporates the work completed to date in the form of an inventory overview and an independent determination of how each of the state-managed airports serve Washington pilots, residents, and government agencies.

#### **Study Background**

In 2005, the State of Washington authorized a long-term air transportation planning study for all general aviation and commercial airports located within the State of Washington. Known as the Washington State Long-Term Air Transportation Study (LATS), the purpose of this study is to evaluate the current capacity of the state's aviation system to determine what facilities will be needed to meet the future demand for air transportation. Responsible for protecting and preserving Washington State's 139 public-use airports, WSDOT Aviation has been charged with shepherding this initiative to a successful conclusion, scheduled for July 2009.

As part of this overall planning effort, it has become apparent that there is a need for more detail regarding the purpose and role of the 17 state-managed airports within Washington State. Specifically, due to growing uncertainty in traditional airport funding sources, it has become necessary for WSDOT Aviation, who manages these airports, to examine why it maintains them and what role these airports serve in the statewide aviation system. As such, WSDOT Aviation has requested that an additional planning study be conducted to evaluate, analyze and develop a strategic plan for those 17 state-managed airports.

This additional planning effort will answer the questions as to why WSDOT Aviation operates and manages these airports, and what role that these airports play today as well as their adequacy for serving the state in the future. Additionally, this study will provide evaluations, analysis and recommendations with regard to these airports on where improvements are needed to meet future demand for aviation facilities and services. In addition, follow-on sections of the independent evaluation will attempt to standardize airport operating agreements and identify best practices for standardizing policies and operating procedures. The results of this study are to be directly integrated into the overall LATS effort to add more detail and help define the comparative benefits of the state-managed airports in relation to other airports within the state.

## Study Sponsor

In addition to its responsibility for the management of these 17 airports, WSDOT Aviation's primary function as a state agency is to fulfill the purposes of Chapter 47.68 of the Revised Code of Washington (RCW) whose intent is:

*to further the public interest and aeronautical progress by providing for the protection and promotion of safety in aeronautics; by cooperating in effecting uniformity of the laws and regulations relating to the development and regulation of aeronautics in the several states consistent with federal aeronautics laws and regulations; by granting to a state agency such powers and imposing upon it such duties that the state may properly perform its functions relative to aeronautics and effectively exercise its jurisdiction over persons and property within such jurisdiction, assist in the development of a statewide system of airports, cooperate with and assist the municipalities of this state and others engaged in aeronautics, and encourage and develop aeronautics; by establishing only such regulations as are essential in order that persons engaged in aeronautics of every character may so engage with the least possible restriction, consistent with the safety and the rights of others; and by providing for cooperation with the federal authorities in the development of a national system of civil aviation and for coordination of the aeronautical activities of those authorities and the authorities of this state. (RCW 47.68.010, Statement of Policy)*

As such, WSDOT Aviation provides vital financial assistance to public-use airports across the State of Washington in the form of airport development and maintenance grants. This assistance also extends to sponsoring planning efforts such as master plans and system plans, such as LATS and this state-managed airport system plan. The agency is also responsible for the management of air search and rescue operations, as well as for providing education and training in relation to the value and protection of general aviation airports. Specifically, WSDOT Aviation's role within the state is detailed in the following.

*The department has general supervision over aeronautics within this state. It is empowered and directed to encourage, foster, and assist in the development of aeronautics in this state and to encourage the establishment of airports and air navigation facilities. It shall cooperate with and assist the federal government, the municipalities of this state, and other persons in the development of aeronautics, and shall seek to coordinate the aeronautical activities of these bodies and persons. (RCW 47.68.070, General Powers)*

Note that a full description of WSDOT Aviation's state authority is included in both RCW 47.68, *Aeronautics*, and Washington Administrative Code (WAC) 468-250. Relevant regulations will be referenced throughout this study.

In 1996, the Washington State Transportation Commission convened a group of aviation stakeholders to develop a set of policy recommendation that was eventually

adopted as the state's aviation policy in 1998. This policy provided overall guidance to the agency when working in partnership with the state's various airport sponsors (including municipalities and county governments) since the vast majority of airports within the state are owned and operated by others. Briefly this policy notes that the State of Washington has the following four points of interest with regard to aviation:

- **Preservation** - *It is the State's interest that aviation facilities and services be preserved that provide access for all regions of the State to the nation's air transportation system, provide for emergency management, and support local economies.*
- **Safety** - *It is the State's interest that transportation by air be safe.*
- **Capacity** - *It is the State's interest that there be sufficient airport capacity to respond to growth in demand to ensure access across the State, the nation and the world.*
- **Environmental Protection** - *It is the State's interest that negative environmental impacts of airports on people and the natural environment be mitigated.*

The strategic plan recommends strategies to guide future operation, maintenance and development of the state-managed airports. Additionally, in 2007 new legislation to update RCW 47.01.012(1) was introduced that affects WSDOT transportation planning in the form of SSB 5412, "Realigning Goals and Objectives of Certain Transportation Agencies." In making recommendations as to the future operation and maintenance of the state-managed airports, consideration is given to the overall transportation policy's and goals of WSDOT as well as the overall policy's and goals of the WSDOT Aviation Division.

### **Working Paper #1 Process**

The efforts reflected in Working Paper #1 encompass the collection of data in order to conduct an independent assessment of the purpose and role of the state-managed airports in Washington's multi-modal transportation system. The focus of this effort was to identify how the system of 17 state-managed airports are currently serving Washington State's transportation system, and determine which airports are best positioned to provide significant benefit. The study began with the collection of data through a review of historical airport records provided by WSDOT Aviation and discussions with WSDOT Aviation personnel. Additional information was obtained from interviews with stakeholders at each state-managed airport.

Two primary types of data were gathered or generated for each of the 17 state-managed airports. The first data set, described in *Section II – System Inventory*, includes information that is specifically defined and reflects the type of data typically

gathered as part of any inventory process. These data elements include history, property ownership, physical airport facilities, airspace obstructions, and operational data, among others. The second data set, described in *Section III – Airport Evaluations*, is actually an assessment of how well each airport fulfills various needs or purposes that have been determined, based on the previously discussed State Aviation Policy, to have value for the state. These needs or purposes include the following:

- Support forest fighting activity
- Provide transportation access to remote communities
- Provide access for emergency medical operations
- Provide access to recreational areas
- Enhance the overall level of safety for the state aviation system

Once this data had been collected, an independent assessment of each of the 17 airports was conducted to establish the relative “value” each airport to the state in terms of their ability to serve the transportation system. This assessment, described in *Section IV – System Assessment*, was based on the State Aviation Policy and utilized the collected data as the primary determinant factors. The results of these efforts are included in the following sections.

Note that this independent assessment will serve as the basis for future tasks within this overall system planning effort. These tasks will include defining broad policies that address the purpose of the state-managed airport system, as well as developing performance measures that define the role of individual airports and set general standards for each airport in the system. Specific facility requirements will also be developed for the system airports as will general operating procedures. This latter effort will focus on preparing guidelines that communicate general standards and rules that should be used to govern agreements with volunteers, airport maintenance, use of airport property for non-aviation uses, etc. Ultimately, all of these tasks will result in the development of a recommended development plan that will list the desired capital improvements based on the performance measures and standards.

## II. SYSTEM INVENTORY

As stated in the Introduction, the Inventory effort for this planning study was focused on collecting two distinct types of data. The first data set, which is reflected within this section, includes information that is specifically defined and includes information that is traditionally gathered as part of a planning study. The second data set reflects the results of a series of assessments and is described in *Section III. – Airport Evaluations*.

Generally, this section will present the data collected for each of the 17 state-managed airports as system summaries. These summaries include the following data elements:

- History of State-Managed Airports
- WSDOT Aviation System
- Airport Functionality
- Airport Land Ownership
- Surrounding Area Land Use
- Airport Facilities
- Airspace Obstructions
- Airport Operational Data
- Airport Operating Expenses
- Airport Replacement Cost

### **History of State-Managed Airports**

The history of the state-managed airports was established through a review of WSDOT Aviation historical records and discussions with WSDOT Aviation personnel. WSDOT Aviation became involved in the management and operation of airports for many reasons and through a variety of circumstances. Several of the state-managed airports were constructed by the WSDOT Aviation Division in partnership with the FAA between 1940 and 1960. These airports were constructed for the specific purpose of providing emergency landing facilities in remote areas of the state. With the exception of Avey State, all of these airports are located in the Cascade Mountain range along major airways utilized by smaller general aviation aircraft traveling between eastern and western Washington. Avey State Airport is located in the northeastern corner of the state on the border between the U.S. and Canada.

The remaining eleven state-managed airports were originally constructed by other organizations and/or individuals as private-use facilities, primarily for the purposes of providing transportation access to remote areas of the state. Over time, WSDOT has assumed responsibility for these airports for two primary reasons: the owner\sponsor

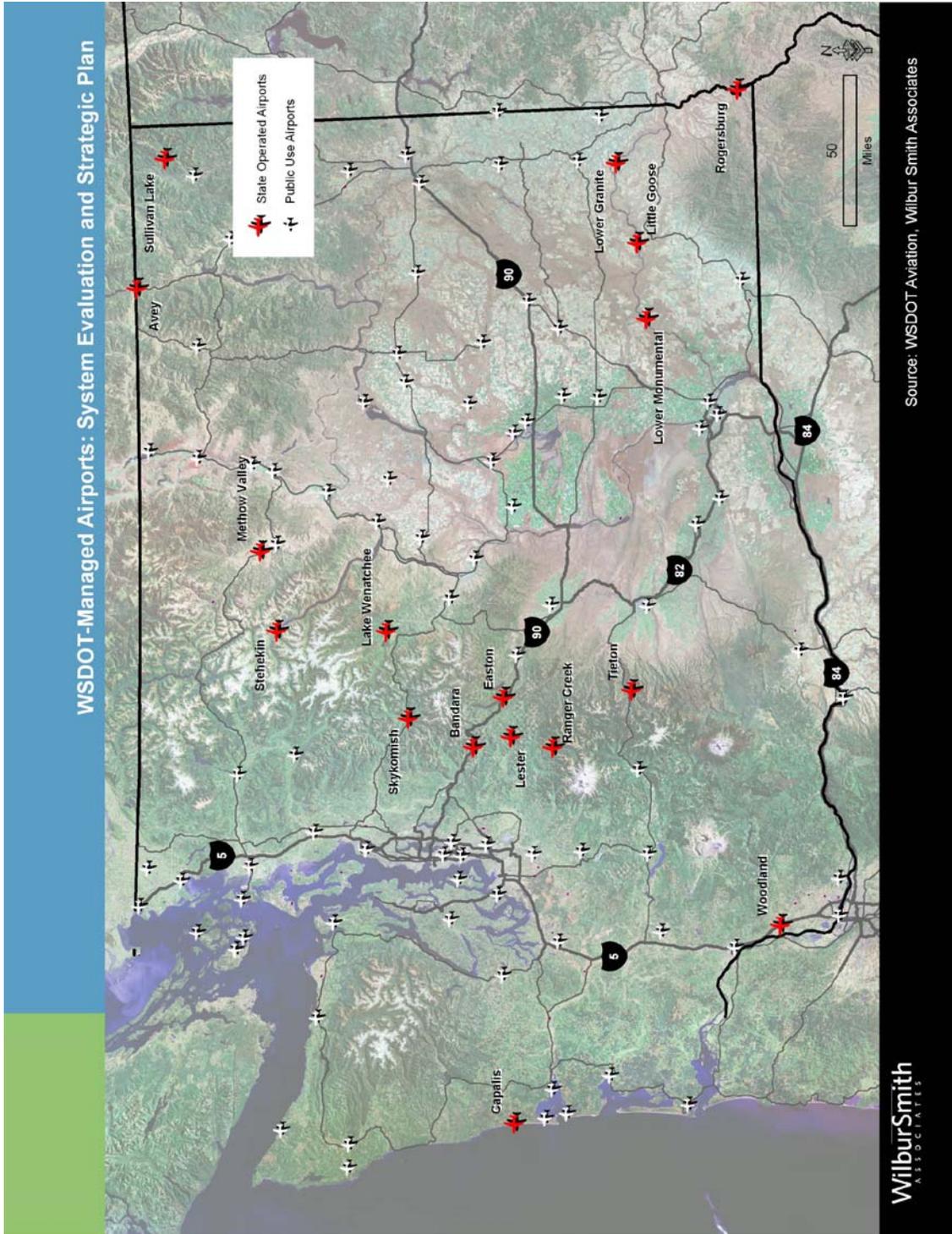
was unwilling or unable to continue operating the airport; or the owner\sponsor lacked the ability or experience to operate the airport as a public-use facility. Without the participation of WSDOT Aviation, these airports would have almost certainly been abandoned and closed.

### **WSDOT Aviation System**

The State of Washington's aviation system is currently comprised of 139 public use airports that range in size from small, general aviation facilities to large hub commercial service airports. Of these airports, the vast majority are owned, operated and managed by entities other than the state, such as counties, municipalities, authorities, as well as private interests.

However, as noted previously, WSDOT Aviation operates and manages 17 of these airports for the benefit of the general public. The following map (**Figure 1**) identifies the location of each of these state-managed airports, as well as the location of all other public-use airports in Washington State. **Table 1** also lists these airports, the location of the nearest population center to each airport, and the general setting of each. Of the state-managed airports, eleven are located in densely forested mountainous regions, four are located in the southeast region of the state in deep river valleys and canyons surrounded by semi arid desert, one is located in a semi-urban area, and another on a coastal beach.

Figure 1  
WSDOT STATE-MANAGED AIRPORTS



**Table 1  
WSDOT STATE-MANAGED AIRPORTS**

<b>Airport</b>	<b>Nearest Municipality</b>	<b>General Setting</b>
Avey State Airport	Laurier	Mountain \ Forest
Bandera State Airport	North Bend	Mountain \ Forest
Copalis Beach State Airport	Copalis Beach	Rural Coastal Area Beach
Easton State Airport	Easton	Mountain \ Forest
Lake Wenatchee State Airport	Coles Corner	Mountain \ Forest
Lester State Airport	Easton	Mountain \ Forest
Little Goose State Airport	Starbuck	River Canyon Surrounded by semi arid desert
Lower Granite State Airport	Almota	River Canyon Surrounded by semi arid desert
Lower Monumental State Airport	Clyde	River Canyon Surrounded by semi arid dessert
Methow Valley State Airport	Methow	Mountain \ Forest
Ranger Creek State Airport	Greenwater	Mountain \ Forest
Rogersburg State Airport	Rogersburg	River Canyon Surrounded by semi arid desert
Skykomish State Airport	Skykomish	Mountain \ Forest
Stehekin State Airport	Stehekin	Mountain \ Forest
Sullivan Lake State Airport	Metaline Falls	Mountain \ Forest
Tieton State Airport	Rimrock	Mountain \ Forest
Woodland State Airport	Woodland	Urban Area

Source: Wilbur Smith Associates

### **Airport Functionality**

As described above, the 17 airports operated and managed by the state were constructed for a variety of purposes, ranging from emergency use to general aircraft activities. Each airport has also experienced their own individual development circumstances, which may or may not have resulted in that airport functioning in the manner that it was intended. Through discussions with WSDOT Aviation personnel, a general description of the existing functionality of each airport was determined, and is included in **Table 2** below.

**Table 2**  
**STATE-MANAGED AIRPORTS EXISTING FUNCTIONALITY**

<b>Airport</b>	<b>Existing Functionality Description</b>
Avey State Airport	Mountain backcountry airport providing transportation access to recreational opportunities and the local community. Limited emergency medical and forest fire fighting activity.
Bandera State Airport	Mountain backcountry turf airport providing access to recreational opportunities. Limited emergency medical and forest fire fighting activity.
Copalis Beach State Airport	Coastal beach airport providing access to recreational opportunities.
Easton State Airport	Mountain backcountry turf airport providing access to recreational opportunities and remote communities. Moderate level of emergency medical and forest fire fighting activity.
Lake Wenatchee State Airport	Mountain backcountry turf airport providing access to recreational opportunities. Moderate usage supporting forest fire fighting activity.
Lester State Airport	Limited role or function due to runway damage. Suitable for helicopter and ultralight operations only.
Little Goose State Airport	Airport provides access to limited recreational opportunities associated with the adjacent Snake river. Could possibly serve a role in responding to emergencies associated with the Little Goose Lock and Dam.
Lower Granite State Airport	Airport provides access to limited recreational opportunities associated with the adjacent Snake river. Could possibly serve a role in responding to emergencies associated with the Lower Granite Lock and Dam.
Lower Monumental State Airport	Airport provides access to limited recreational opportunities associated with the adjacent Snake river. Could possibly serve a role in responding to emergencies associated with the Lower Monumental Lock and Dam.
Methow Valley State Airport	Traditional GA airport providing aircraft basing facilities and transportation access to the local community. Airport hosts a significant number of forest firefighting operations and a number of emergency medical operations.
Ranger Creek State Airport	Mountain backcountry airport providing access to recreational opportunities. Limited emergency medical and forest fire fighting activity.
Rogersburg State Airport	Remote backcountry turf airport providing access to recreational opportunities to a limited number of pilots.
Skykomish State Airport	Mountain backcountry turf airport providing access to recreational opportunities and remote communities. Airport supports a significant number of emergency medical aircraft operations annually.
Stehekin State Airport	Remote backcountry turf airport providing transportation access to the village of Stehekin and recreational opportunities. The airport also provides significant benefit to forest fire fighting operations and is used on a limited basis for emergency medical operations.
Sullivan Lake State Airport	Remote backcountry turf airport providing access to recreational opportunities and a limited number of emergency medical operations.
Tieton State Airport	Remote backcountry turf airport providing access to recreational opportunities and a limited number of forest fire fighting operations.
Woodland State Airport	Traditional GA airport providing aircraft basing facilities and transportation access to the local community

Source: WSDOT Aviation, Wilbur Smith Associates

## Airport Land Ownership

Since the state's management and operation of these 17 airports have been assumed through a variety of circumstances, the land on which these airports are located is not necessarily owned in fee simple by WSDOT Aviation in all instances. Only eight of the 17 airports are located on land owned by WSDOT Aviation. Of the remaining nine airports, eight are owned by some type of government agency other than WSDOT. Avey State Airport is the only state-managed airport located on land leased from a private individual. **Table 3** below identifies the land owner for each of the state-managed airports.

**Table 3**  
**STATE-MANAGED AIRPORT LAND OWNERSHIP**

<b>Airport</b>	<b>Land Owner</b>
Avey State Airport	Private Individual
Bandera State Airport	WSDOT Aviation
Copalis Beach State Airport	State Parks Department
Easton State Airport	WSDOT Aviation
Lake Wenatchee State Airport	WSDOT Aviation
Lester State Airport	WSDOT Aviation
Little Goose State Airport	Army Corps of Engineers
Lower Granite State Airport	Army Corps of Engineers
Lower Monumental State Airport	Army Corps of Engineers
Methow Valley State Airport	WSDOT Aviation
Ranger Creek State Airport	U.S. Forest Service
Rogersburg State Airport	Bureau of Land Management
Skykomish State Airport	WSDOT Aviation
Stehekin State Airport	National Parks Service
Sullivan Lake State Airport	U.S. Forest Service
Tieton State Airport	WSDOT Aviation
Woodland State Airport	WSDOT Aviation

Source: Wilbur Smith Associates

## Surrounding Area Land Uses

Each of the state-managed airports, with the exception of Woodland, are located in remote rural areas of the state. The surrounding land uses include the following: Public Lands, National Forest, National Recreation Areas, Wilderness Areas, and low density rural residential development. The Woodland airport is located in an urban setting surrounded by residential, commercial and industrial development.

**Table 4**  
**STATE-MANAGED AIRPORT SURROUNDING LAND AREAS**

Airport	Surrounding Land Area
Avey State	National Forest
Bandera State	National Forest
Copalis Beach State	Public Lands, Rural Residential
Easton State	National Forest, Rural Residential
Lake Wenatchee State	National Forest
Lester State	National Forest
Little Goose State	Public Lands
Lower Granite State	Public Lands
Lower Monumental State	Public Lands
Methow Valley State	National Forest, Rural Residential
Ranger Creek State	Wilderness Area
Rogersburg State	Public Lands, Rural Residential
Skykomish State	National Forest, Rural Residential
Stehekin State	National Recreation Area
Sullivan Lake State	National Forest
Tieton State	National Forest
Woodland State	Residential, Commercial, Industrial
Source: WSDOT 2006 Highway Map, WSDOT Aviation	

### Airport Facilities

Each of the 17 state-managed airports has its own distinct facilities and services profile that has been shaped by its primary functions and use. For example, traditional general aviation airports, which accommodate based aircraft and provide transportation access to local communities, have significantly different facilities than airstrips used solely for emergency and/or recreational purposes. **Table 5** provides a summary of the facilities found at each state-managed airport. Note that of these airports, eight have turf runways, four have gravel runways, three have asphalt runways, and one is a sand\beach landing area.

**Table 5  
STATE-MANAGED AIRPORT GENERAL FACILITIES**

<b>Airport</b>	<b>Runway Surface</b>	<b>Runway Length</b>	<b>Infrastructure \ Facilities</b>
Avey State	Gravel	1,975'	Hangar, Windsock, Non-standard runway reflectors
Bandera State	Turf	2,344'	Windsock, Runway markers
Copalis Beach State	Sand\Beach	4,500'	Windsock
Easton State	Turf	2,640'	Windsocks, Phone, Electrical power, Water, Electrical equipment shed, Maintenance building
Lake Wenatchee State	Turf	2,474'	Windsocks, Tie downs, Phone, Electrical Power, Water, Privately owned meeting hall
Lester State	Turf	400'	None
Little Goose State	Gravel	3,400'	Windsocks, Tie downs
Lower Granite State	Gravel	3,400'	Windsocks, Tie downs
Lower Monumental State	Gravel	3,300'	Windsocks, Tie downs
Methow Valley State	Asphalt	5,049'	Hangars, Runway Lighting, Electricity, Phone, Water, Forest Service Smoke-Jumper Base
Ranger Creek State	Asphalt	2,876'	Windsocks, Tie downs
Rogersburg State	Improved Turf	1,500'	Windsock, Runway markers
Skykomish State	Turf	2,048'	Windsocks, Tie downs, Portable solar helipad lighting, Restrooms, Picnic tables, Web-cam
Stehekin State	Turf	2,630'	Windsock, Tie downs, Irrigation system
Sullivan Lake State	Turf	1,765'	Windsock
Tieton State	Turf	2,509'	Windsocks, Tie downs
Woodland State	Asphalt	1,953'	Hangars, Runway lighting

Source: WSDOT Aviation, Wilbur Smith Associates

## Airspace Obstructions

Federal Aviation Regulation (FAR) Part 77 establishes standards for determining obstructions to airspace around all public-use airports in the U.S. Maintaining a clear airspace for air navigation as aircraft transition from the air to the ground or from the ground to the air is a fundamental and critical component in maximizing the level of safety at any airport. Through Part 77, airspace surfaces, also known as “imaginary surfaces,” are defined for all airports and each runway end, depending on the several variables, including the nature of the runway, the type of approach found at the airport, and the type of operations. The state-managed airports, all of which have Visual approach procedures, have imaginary surfaces for the runway approaches that have a slope of 20:1. This surface starts 200 feet beyond the end of all paved runways, and at the runway end for all other surfaced runways.

**Table 6** below presents a summary of Part 77 airspace obstructions at each state-managed airport. The table identifies the “controlling,” or worst obstruction for each runway end, the obstruction location, and the actual clear approach slope to each runway end. As shown below, nearly every runway end of the state-managed airports have obstructions to their approach surfaces, with those airports located in forested areas generally having the most severe surface penetrations. Of the 34 runway ends at the state-managed airports, only 2 have clear visual approach surfaces.

It is important to note that these obstructions effectively reduce the operational capability of these airports as well as their overall level of safety, thereby reducing their usefulness and value to the state. (Note that this listing has been generated by visual inspections conducted by the FAA and only includes those obstructions that are visible from the runway surface. Also note that WSDOT Aviation is currently undertaking an update of these inspections and therefore the following listing will likely change.)

**Table 6  
STATE-MANAGED AIRPORT APPROACH SURFACE OBSTRUCTIONS**

<b>Airport</b>	<b>Runway End</b>	<b>Controlling Approach Surface Obstruction</b>	<b>Height</b>	<b>Distance from Runway End</b>	<b>Distance from Extended Runway Centerline</b>	<b>Actual Approach Slope</b>
Avey State	17	Trees	28'	1'	72' right	0:1
	35	Trees	13'	1'	56' right	0:1
Bandera State	18	Trees	33'	16'	125' right	0:1
	26	Trees	32'	0'	0'	0:1
Copalis Beach State	14	Rock	2'	0'	0'	0:1

	32	None	na	na	na	50:1
Easton State	09	Trees	46'	252'	7' right	5:1
	27	Trees	62'	300'	53' right	4:1
Lake Wenatchee State	09	Road	16'	0'	105' left	0:1
	27	Road	16'	0'	104' right	0:1
Lester State	na	na	na	na	na	na
	na	na	na	na	na	na
Little Goose State	07	Road	16'	0'	0'	0:1
	25	Hill	262'	420'	120' left	16:1
Lower Granite State	14	Sign	2'	0	50' left	0:1
	32	Hill	3'	0	50' right	0:1
Lower Monumental State	01	None	na	na	na	20:1
	19	Tower	680'	6,800'	0'	10:1
Methow Valley State	13	Fence	6'	231'	46' right	5:1
	31	Road	12'	200'	0'	0:1
Ranger Creek State	15	Trees	44'	212'	87' right	0:1
	33	Trees	20'	223'	45' right	1:1
Rogersburg State	09	Terrain	na	na	na	na
	27	Terrain	na	na	na	na
Skykomish State	06	Trees	100'	50'	98' left	0:1
	24	Trees	80'	0'	90' left	0:1
Stehekin State	13	Trees	30'	0'	0'	0:1
	31	Trees	60'	0'	75' right	0:1
Sullivan Lake State	16	Trees	181'	1,763'	45' left	9:1
	34	Road	15'	28	0'	1:1
Tieton State	02	Trees	402'	3,760'	475' right	9:1
	20	Trees	52'	0'	75' right	0:1
Woodland State	14	Pole	40'	245'	114' left	1:1
	32	Trees	244'	2,086'	90' right	7:1

Source: WA State Aviation System Plan (WSASP) Airport Data Condition Assessment Database

## Airport Operational Data

Airport operational data represents an estimate of the total annual activity that occurs at an airport. Because the state-managed airports are unattended and do not have air traffic control towers, the total number of annual operations (i.e. take-offs and landings) at each airport represent an estimate at best. The operations data detailed below for these airports were obtained from two sources: the WA State Aviation System Plan (WSASP), and through discussions with WSDOT Aviation personnel.

For the purposes of this study, the WSASP estimates, which generally tend to be more conservative, will be utilized as being the operational totals of record. The WSDOT estimates have been included to provide an additional first-hand source to serve as a sensitivity test for the WSASP data. It should be noted that typically airports with higher levels of operations are presumed to provide a greater benefit to an air transportation system. However, in the case of the WSDOT managed airports, it must also be understood that the primary functions of some of these airports (i.e. as an emergency use airfield) do not lend themselves to being weighed solely on the basis of aircraft activity since safety, and not capacity, may be their primary function.

**Table 7** below presents the airport operational totals from both of the two sources identified above. Estimates from WSDOT Aviation are presented in ranges. The Methow Valley State and the Woodland State Airports, both having based aircraft, are the most active of the state-managed airports.

**Table 7  
STATE-MANAGED AIRPORT ANNUAL OPERATIONS**

<b>Airport</b>	<b>Annual Operations (WSASP 2005 estimate)</b>	<b>Annual Operations (WSDOT Aviation Estimate)</b>
Avey State	920	<500
Bandera State	350	500 - 1,000
Copalis Beach State	230	500 - 1,000
Easton State	350	1,000 - 2000
Lake Wenatchee State	650	500 - 1,000
Lester State	NA	<500
Little Goose State	350	<500
Lower Granite State	0	<500
Lower Monumental State	300	<500
Methow Valley State	9,821	9,000 - 10,000
Ranger Creek State	500	500 - 1,000
Rogersburg State	NA	<500
Skykomish State	600	1,000 - 2000
Stehekin State	285	1,000 – 2000
Sullivan Lake State	350	1,000 – 2000
Tieton State	350	500 - 1,000
Woodland State	4,275	4,000 - 5,000

Source: WA State Aviation System Plan (WSASP) Airport Data Condition Assessment Database

As shown, both estimates of operational levels are similar and are assumed to be a good representation of annual traffic levels.

### Airport Operating Expenses

The total biennial (two-year) expenses for the operation and maintenance of the 17 state-managed airports is presented below in **Table 8**. The expenses include costs associated with personnel, insurance, utilities, maintenance, and capital improvements. More detailed operation and maintenance costs for each of the state-managed airports is presented in the individual airport assessments found in **Appendix 1**.

**Table 8**  
**STATE-MANAGED AIRPORT**  
**OPERATION AND MAINTENANCE COSTS**

Biennium	Operations and Maintenance Cost
1995 – 1997	\$1,791,458.93*
1997 – 1999	\$201,790.50
1999 – 2001	\$274,044.66
2001 – 2003	\$258,647.67
2003 – 2005	\$411,703.48
2005 – 2007	\$254,417.82
<b>1995 - 2007 Total</b>	<b>\$3,192,063.06</b>
<b>1995 – 2007 Annual Average</b>	<b>\$245,543.31</b>
<b>1995 – 2007 Annual Average per Airport</b>	<b>\$14,443.72</b>
<b>1997 – 2007 Annual Average per Airport</b>	<b>\$7,489.86</b>

Source: WSDOT Aviation

\* includes capital expenditures at Methow State Airport (runway paving)

It should be noted that volunteers provide maintenance and other services at over half of these airports, significantly lowering overall maintenance costs. In fact, WSDOT Aviation has volunteer groups in place at the majority of the state-managed airports, providing significant assistance to WSDOT Aviation with the maintenance of these airports. The volunteer groups are organized under the “Adopt-An-Airport” program managed by WSDOT Aviation, and are primarily comprised of local pilot groups and clubs. However, the program is open to any civic club or other group seeking an opportunity to contribute to their community and the state while helping to preserve and enhance the state-managed airports. **Table 9** identifies the airports that are currently served by a volunteer group.

**Table 9  
VOLUNTEER AGREEMENTS**

<b>Airport</b>	<b>Sponsoring Organization</b>
Avey State Airport	<i>None</i>
Bandera State Airport	Seattle Chapter of the Washington Pilots Association
Copalis Beach State Airport	<i>None</i>
Easton State Airport	Skykomish Chapter of the Washington Pilots Association
Lake Wenatchee State Airport	Wenatchee Chapter of the Washington Pilots Association and Lake Wenatchee Recreation Club
Lester State Airport	<i>None</i>
Little Goose State Airport	Starbucks Coffee Flying Club
Lower Granite State Airport	Spokane Chapter of the Washington Pilots Association
Lower Monumental State Airport	<i>None</i>
Methow Valley State Airport	<i>None</i>
Ranger Creek State Airport	Green River Chapter of the Washington Pilots Association
Rogersburg State Airport	No formal agreement with individual volunteers
Skykomish State Airport	Paine Field Chapter of the Washington Pilots Association
Stehekin State Airport	The Cessna 180/185 owners group
Sullivan Lake State Airport	Deer Park Chapter of the Washington Pilots Association
Tieton State Airport	Drift Away Snowmobile Club
Woodland State Airport	No formal agreement with Woodland based pilots

Source: WSDOT Aviation

### **Airport Replacement Costs**

As stated previously, the 17 airports that the State of Washington manages and operates are located on lands which are either owned by the state or some other entity. In either case, it must be recognized that the airports themselves are valuable assets, with considerable value tied up not just in the land that they occupy, but also in the labor and materials invested to develop and maintain them, as well as the facilities that exist on the airports. As such, the resources necessary to replace any of these airports, both in terms of money and effort, are considerable.

For the purposes of this planning effort, the value of each airport was approximated by estimating the cost that would be required to replace the existing airport with a new

airport that met all relevant safety regulations. The costs included assumptions related to land, runway surface preparation costs, fencing, and costs associated with constructing a gravel or asphalt runway, if one currently existed at the airport. No costs were estimated for equipment or facilities on the airport, nor were planning, engineering, and construction management costs included.

It must be noted that a significant cost component of building a new airport in today's setting is the approval and permitting process necessary to overcome environmental hurdles. Because the cost associated with this process can vary greatly depending upon a wide range of factors, it was not included as a component of the replacement cost estimate. This means that the estimates shown are very likely significantly lower than a complete cost of a replacement.

**Table 10** below shows an order of magnitude estimate of the cost to replace each of these 17 airports. The airports in the table are broken down into two groups – those owned in simple fee by WSDOT and those owned by parties other than WSDOT. A detailed explanation of these estimates can be found in **Appendix 3**.

**Table 10**  
**ESTIMATED COST-TO-REPLACE STATE-MANAGED AIRPORTS**

<b>Airport</b>	<b>Estimated Replacement Cost*</b>
<b>Airports Owned by WSDOT</b>	
Bandera State Airport	\$ 614,000
Easton State Airport	\$ 1,143,000
Lake Wenatchee State Airport	\$ 1,723,000
Methow Valley State Airport	\$ 5,733,000
Skykomish State Airport	\$ 971,000
Tieton State Airport	\$ 607,000
Woodland State Airport	\$ 3,779,000
<i>Subtotal</i>	\$ 14,921,000
<b>Airports Owned by Other Entities</b>	
Rogersburg State Airport	\$ 392,000
Little Goose State Airport	\$ 1,101,000
Lower Granite State Airport	\$ 991,000
Lower Monumental State Airport	\$ 1,037,000
Sullivan Lake State Airport	\$ 816,000
Stehekin State Airport	\$ 624,000
Avey State Airport	\$ 669,000
Copalis Beach State Airport	\$ 4,500,000
Ranger Creek State Airport	\$ 881,000
<i>Subtotal</i>	\$ 11,011,000
<b>Total</b>	<b>\$ 25,932,000</b>

Source: Wilbur Smith Associates

\* Includes cost estimates for facilities and land. Does not include costs for planning and permitting.

### III. AIRPORT EVALUATION

The inventory effort for this planning study focused on collecting two distinct types of data. The first data set, described in the previous section, included standard airport information. The second data set, reflected in the following section, reflects the results of an assessment of how well each airport fulfills various needs or purposes that have been determined to have value for the state, generally based on State Aviation Policy guidelines.

#### Evaluation Overview

As noted previously, the state-managed airports have been determined to provide benefit or value to the state in five main areas:

- Support of forest fire fighting activity
- Transportation access to remote communities
- Support of emergency medical operations
- Transportation access to recreational areas
- Flight safety enhancement

Unlike the previous Inventory section which is based on objective data collection, the evaluation of each airport's benefits to the state is an assessment based on discussions with WSDOT Aviation personnel, interviews with airport stakeholders, and a review of WSDOT Aviation Policy. The follow sections provide more detailed information on each of the areas determined to provide benefit to the state. Additional information can be found in **Appendix 1**, which contains individual airport assessments.

#### Forest Firefighting Activity

Among the 17 state-managed airports, 10 are located in remote, densely forested mountain areas of the state, and are consequently oftentimes in close proximity to forest fires. Three of those ten airports (Methow Valley, Sullivan Lake, and Stehekin) were in fact originally constructed by the U.S. Forest Service for the specific purpose of supporting forest firefighting operations by providing bases for air operations in and around high-risk areas. The usage of airports in support of forest firefighting operations has a long history in Washington State, beginning with the construction of the Methow Valley State Airport in the 1930's. Today several of the state-managed airports continue to play vitals role in support of forest firefighting operations.

**Table 11** lists the state-managed airports that provide support for firefighting operations on a regular basis. The Methow Valley State Airport is the most active

airport in terms of fire fighting operations, typically used for several weeks every year by both helicopter and fixed-wing firefighting aircraft. The remaining eight airports are primarily support helicopter fire fighting operations.

While it isn't essential that forest firefighting helicopter operations be conducted at an airport, the facilities available at the state-managed airports provide additional utility, convenience and safety to forest firefighting operations. As such, it is important to note that if these types of operations are to continue at these airports, it would be prudent to address any airspace obstruction concerns that they may have. Currently, airspace obstructions have typically been identified prior to operations commencing at which point pilots are supposed to avoid them. This is obviously not the ideal operational scenario.

**Table 11**  
**STATE-MANGED AIRPORTS**  
**FOREST FIREFIGHTING ACTIVITY FREQUENCY**

<b>Airport</b>	<b>Activity Level (estimated)</b>
Methow Valley State	Several weeks annually
Easton State	Annually
Lake Wenatchee State	Annually
Skykomish State	Annually
Stehekin State	Annually
Avey State	Biannually
Bandera State	Biannually
Ranger Creek State	Biannually
Tieton State	Biannually

Source: WSDOT Aviation

### **Transportation Access to Remote Community**

One of the primary benefits that all airports generally provide is quick and efficient transportation access to local communities. This section identifies to what level each of the state-managed airports provides that convenient access to the residents and business located near one of these airports. Specifically, considerations have been given to the location of each airport in relation to surrounding communities, as well as to other non-state managed public-use airports in the overall aviation system that also provide facilities and services.

Note that many of the state-managed airports, especially those in extremely remote areas of the state, are located considerable distances from any residences or businesses. Additionally, some of the state-managed airports that are located near other more developed, non-WSDOT airports that provide a higher level of service in terms of providing transportation access. In cases such as these, the state-managed airports were generally determined to provide limited benefit in terms of transportation access. Moreover, the seasonal operation of many of these airports, combined with the challenges associated with operating at them, was also weighed in the analysis.

**Table 12** identifies the state-managed airports that were determined to provide a basic level of transportation access to remote and local communities. The Methow Valley State and Woodland State Airports were determined to provide the highest level of access in comparison to the other airports. Each of these airports is open on a year-round basis, is capable of accommodating a wider range of general aviation aircraft, supports based aircraft, and is located near a relatively large community. The Stehekin State Airport was also determined to have significant value in terms of transportation access since it provides the only transportation link to a local community (approximately 50 residents in the winter and over 200 residents in the summer), other than transportation by barge or boat.

**Table 12**  
**STATE-MANAGED AIRPORTS**  
**PROVIDING TRANSPORTATION ACCESS**

Avey State	Methow Valley State
Bandera State	Ranger Creek State
Easton State	Skykomish State
Lake Wenatchee State	Stehekin State
Little Goose State	Sullivan Lake State
Lower Granite State	Tieton State
Lower Monumental State	Woodland State

Source: WSDOT Aviation

### Emergency Medical Usage

Following a serious or traumatic injury, the first hour is the most time-critical period during which an injured person's mortality rate can be significantly reduced if immediate and appropriate medical care can be provided. The benefits of immediate treatment by medical personnel at an on-scene emergency and rapid transport of the patient have been well-documented, resulting in hospitals and medical centers utilizing aircraft for quickly reaching critically-injured or seriously-ill patients.

Through discussions with WSDOT Aviation personnel and interviews with airport stakeholders, it was recognized that several of the state-managed airports are routinely used by emergency medical service (EMS) helicopter operators to transport accident victims to surrounding medical facilities. The injuries were oftentimes associated with automobile accidents and recreational activities including skiing, camping and hunting.

As with firefighting helicopter operations, an airport is not an essential element for EMS helicopters to operate. However, airports generally provide safer, and more defined landing facilities, particularly since potentially hazardous airspace obstructions (i.e. trees, towers, powerlines, etc.) around airports are typically identified and published on aeronautical charts. Note that this is rarely the case for typical EMS helicopter landing zones, which can range from federal highways to mountain meadows. Additionally, many of the state-managed airports have lighting systems in place that provide an additional level of safety during night-time operations.

**Table 13** lists the airports most commonly used by EMS operators and the estimated annual frequency of use. The Skykomish State Airport is by far the most frequently used facility, transporting many people with injuries sustained at a nearby ski resort. Airlift Northwest, a company that provides medical airlift services, said that it has never used about half of the state-managed airports, but it is ready to use any of those airports if an emergency were to occur in that location.

**Table 13**  
**STATE-MANAGED AIRPORT**  
**EMERGENCY MEDICAL USAGE**

Airport	Emergency Medical Usage (estimated annual operations)
Bandera State	< 5
Easton State	5 - 15
Methow Valley State	< 5
Ranger Creek State	< 5
Skykomish State	200+
Stehekin State	< 5
Sullivan Lake State	< 5
Woodland State	< 5

Source: WSDOT Aviation

## Recreational Usage

Overall, the majority of state-managed airports are currently most commonly used as access to recreational areas and opportunities in the state. In analyzing these airports, it was determined that each state-managed airport provides some level of access to recreational areas or opportunities. In fact, many of these airports are located in some of the most beautiful and remote areas of the county and the ability to access these areas using general aviation aircraft provide residents of Washington and surrounding states with a very unique recreational experience. As noted above, volunteer groups, comprised primarily of pilots and aviation enthusiasts, annually donate hundreds of hours of labor for the maintenance and improvement of these state-managed airports. This high level of support is indicative of the high value pilots and local aviation groups place on these facilities. **Table 14** identifies the estimated annual frequency that each of the airports is used for recreational related access.

**Table 14**  
**STATE-MANAGED AIRPORTS**  
**RECREATIONAL USAGE**

<b>Airport</b>	<b>Recreational Usage</b>
Avey State	<300 annual visits
Bandera State	100 - 300 annual visits
Copalis Beach State	100 - 300 annual visits
Easton State	100 - 300 annual visits
Lake Wenatchee State	<300 annual visits
Lester State	<100 annual visits
Little Goose State	100 - 300 annual visits
Lower Granite State	100 - 300 annual visits
Lower Monumental State	<100 annual visits
Methow Valley State	<300 annual visits
Ranger Creek State	<300 annual visits
Rogersburg State	<100 annual visits
Skykomish State	100 - 300 annual visits
Stehekin State	100 - 300 annual visits
Sullivan Lake State	100 - 300 annual visits
Tieton State	100 - 300 annual visits
Woodland State	100 - 300 annual visits

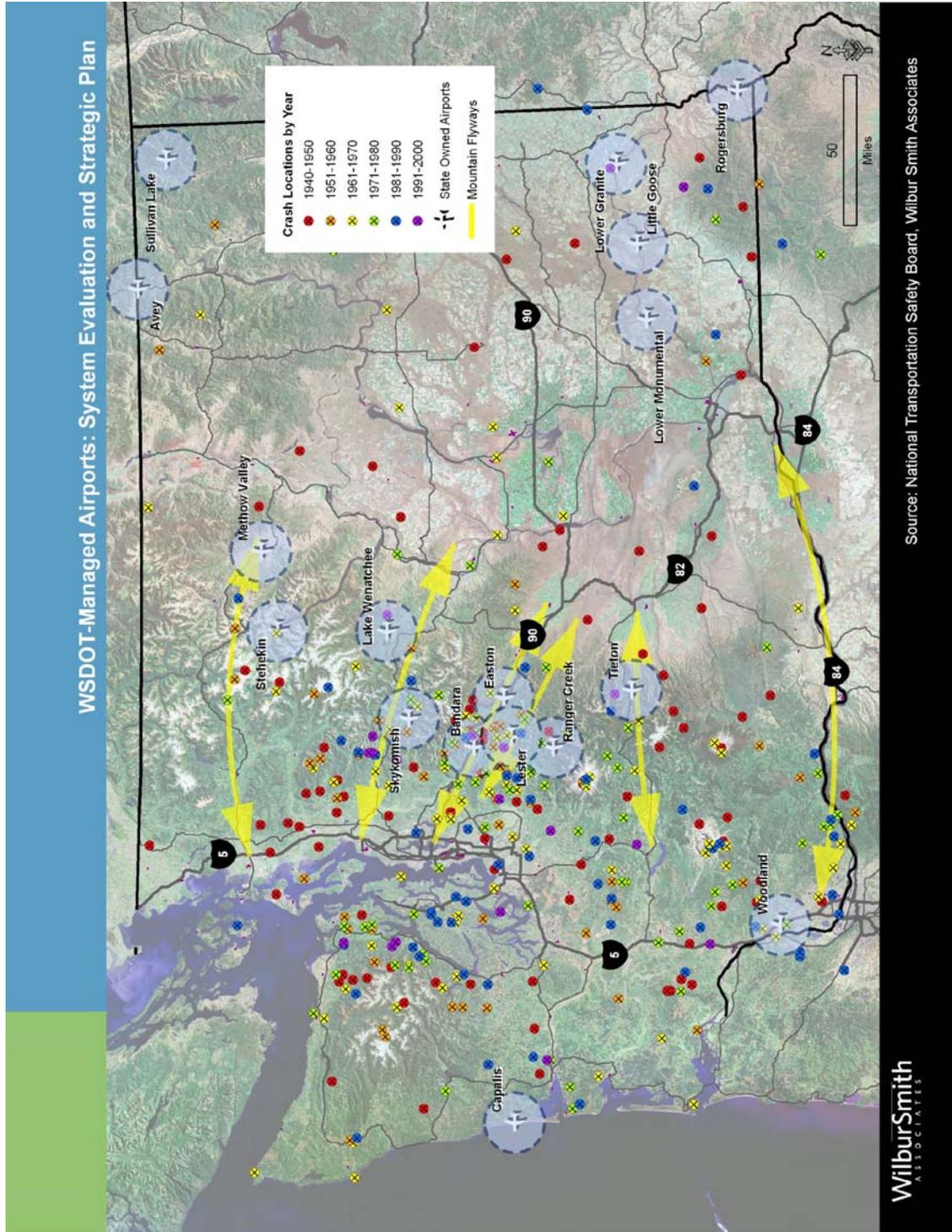
Source: WSDOT Aviation

## Flight Safety Enhancement

One of the primary purposes for the construction of many of the state-managed airports was to provide emergency landing facilities for smaller general aviation aircraft traveling in remote areas of Washington State. For the purposes of this planning effort, statewide aircraft accident data was reviewed and interviews with local airport stakeholders were conducted to identify the state-managed airports that afford utility as an emergency landing facility and to what level that utility is provided.

**Figure 2** depicts the locations of aircraft accidents throughout Washington State in relation to the state-managed airports and mountain flyways. (Note that the mountain flyways are routes commonly used by smaller general aviation aircraft traveling between eastern and western Washington.) Accident data for this analysis was obtained from National Transportation Safety Board (NTSB) records for the period of 1940 – 2000, which contained a total of 431 accident records across the state. The accident locations are grouped in ten-year increments, and **Table 15** identifies the number of aircraft accidents that occurred statewide during each of those year increments. The data indicates that the overall number of accidents occurring statewide is trending lower.

**Figure 2**  
**HISTORICAL AIRCRAFT ACCIDENT LOCATIONS**



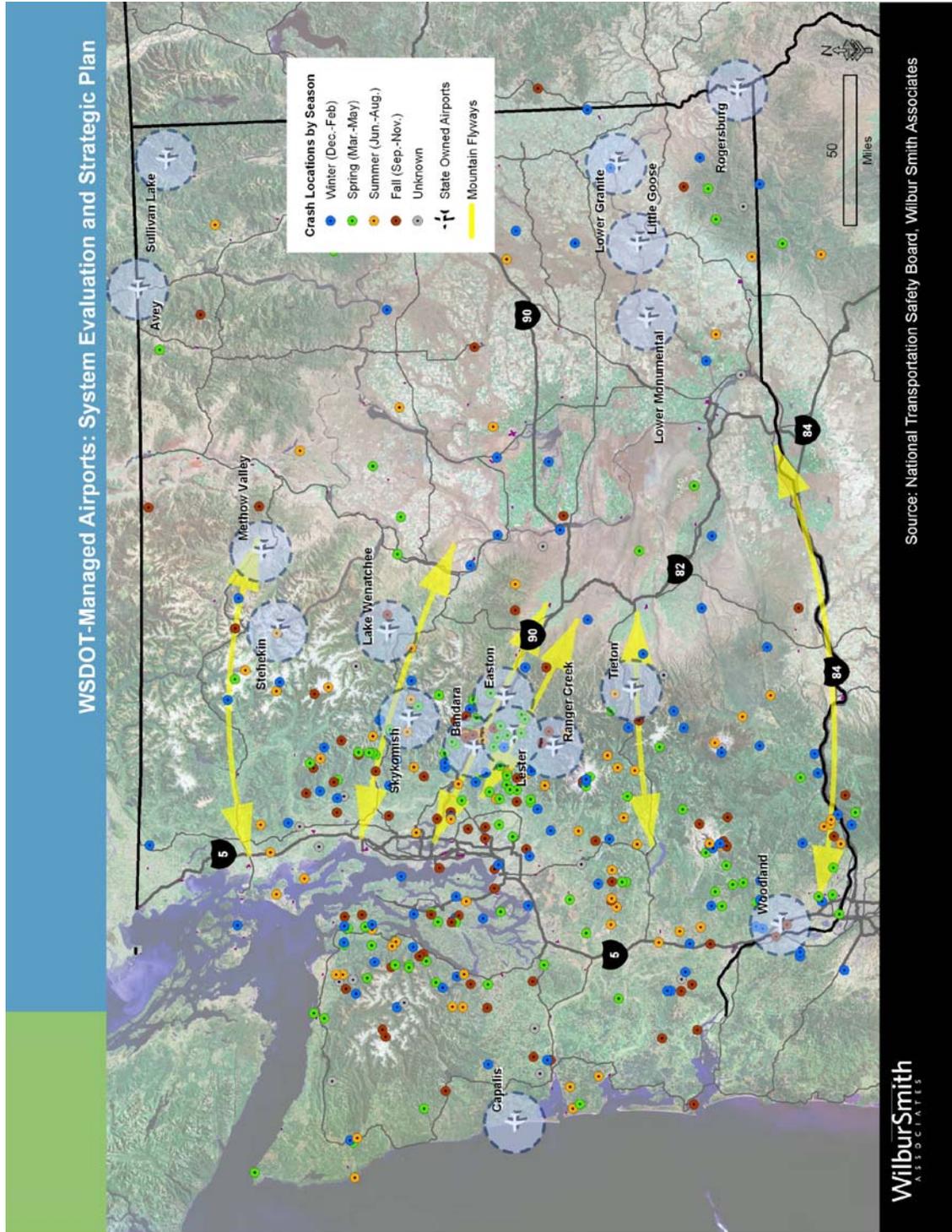
**Table 15**  
**HISTORICAL AIRCRAFT ACCIDENTS**  
**WITHIN WASHINGTON STATE**

<b>Date</b>	<b>Accidents</b>	<b>Percent of Accidents</b>
1940-1949	85	20%
1950-1959	86	20%
1960-1969	80	19%
1970-1979	68	16%
1980-1989	66	15%
1990-2000	34	8%
Unknown	12	3%
<b>Total</b>	<b>431</b>	<b>100%</b>

Source: National Transportation Safety Board, Wilbur Smith Associates

Because a large portion of the state-managed airports are only accessible during non-winter conditions, the accident data was analyzed on a seasonal basis. **Figure 3** depicts the historical locations of accidents that have occurred across the state seasonally (i.e. winter, summer, spring, and fall), and **Table 16** identifies the total number of accidents that have occurred during each season. The number of accidents that occurred during each season is relatively comparable; with winter have slightly more accidents than the other seasons.

**Figure 3**  
**HISTORICAL AIRCRAFT ACCIDENT LOCATIONS BY SEASON**



**Table 16**  
**AIRCRAFT ACCIDENTS**  
**WITHIN WASHINGTON STATE BY SEASON**

Season	Accidents	Percent of Accidents
Spring (Mar.-May)	108	25%
Summer (Jun.-Aug.)	87	20%
Fall (Sept.-Nov.)	99	23%
Winter (Dec.-Feb.)	110	26%
Unknown	27	6%
<b>Total</b>	<b>431</b>	<b>100%</b>

Source: National Transportation Safety Board, Wilbur Smith Associates

**Table 17** lists the number of accidents that have historically occurred within a 10-mile radius of each state-managed airport. Through examination of this data, it is evident that the airports with the highest concentration of aircraft accidents within a 10-mile radius of them are all located east of Seattle and in the Cascade Mountain Range. While the presence of accidents in an area does not in itself constitute an overriding need for an emergency landing facility, a reasonable conclusion can be made that areas with higher concentrations of aircraft accidents have higher levels of activity and/or are in areas that present greater challenges to safe aircraft operations. The Cascade Mountain range east of Seattle has one of the highest concentrations of accidents in Washington State primarily because the area presents significant challenges to operators of smaller general aviation aircraft in the form of rising terrain, and adverse and rapidly changing weather conditions.

**Table 17  
HISTORICAL AIRCRAFT ACCIDENTS WITHIN A  
10-MILE RADIUS OF STATE MANAGED AIRPORTS**

<b>FAA ID</b>	<b>Airport Name</b>	<b>Accidents within 10-mile radius</b>
4W0	Bandera	23
15S	Lester	12
S43	Skykomish	7
ESW	Easton	4
W27	Woodland	4
21W	Ranger Creek	3
27W	Lake Wenatchee	2
4S6	Tieton	2
00W	Lower Granite	1
6S9	Stehekin	1
09S	Sullivan Lake	0
16W	Little Goose State	0
69S	Avey	0
D69	Rogersburg	0
S16	Copalis	0
S52	Methow	0
W09	Lower Monumental State	0
Total accidents within 10-mile radius of a state-managed airport		59 (14%)
Total accidents statewide		431 (100%)
Source: National Transportation Safety Board, Wilbur Smith Associates		

Interviews with airport stakeholders indicate that during recent times, state-managed airports are seldom used by aircraft during emergency situations caused by mechanical problems, such as engine failures. However, many of the airports in the Cascade Mountains are used by pilots as alternative landing areas during deteriorating weather conditions. While improvements in aircraft reliability and dissemination of more accurate weather information to pilots have lessened the need for emergency landing facilities in the state, these improvements have not completely eliminated the need for alternative landing facilities, particularly in the Cascade Mountain Range, where weather conditions can change very quickly. The absence of the state-managed airports would leave large areas of the Cascade Mountain Range, as well as other areas in Washington State, without any type of landing facility. This would leave pilots traveling through the Cascade Mountain Range and other remote areas of the state with limited options when deteriorating weather conditions are experienced.

## IV. SYSTEM ASSESSMENT

### Assessment Purpose

This section presents general conclusions for the assessment of the system's airports as related to their utility and benefit to the State of Washington. The overall intent of this effort is to provide a basis by which an initial determination could be made for each airport in terms of how and where they provide value to the state. Within the context of the overall study, this determination will ultimately be utilized to help provide recommendations to the state for each airport.

### Assessment Assumptions

For the purposes of this assessment, the conclusions have been framed within the context of determining the "value" of each airport for the state. However, it is important to note that establishing a "value" for each airport could have multiple connotations that range from financial implications to subjective determinations. Therefore, in determining the process by which this initial evaluation was to be conducted, the current State Aviation Policy was selected to be the basis by which to weigh the merits or "value" of each airport. This assumption was made since the primary function of any state-managed airport should be reasonably expected to fulfill some elements of this policy. As described in detail previously, the State Aviation Policy identifies four points of interest for the state in regards to aviation. However, in addition to the policy, the Washington State Legislature has recently updated the goals and objectives of certain state transportation agencies, including WSDOT (SSB 5412). As such, these updated goals and objectives were incorporated into this planning study through modifying the State Aviation Policy's points of interest to be the following:

- **Preservation** - *To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;*
- **Safety** - *To provide for and improve the safety and security of transportation customers and the transportation system;*
- **Mobility** - *To improve the predictable movement of goods and people throughout Washington State;*
- **Environment** - *To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and*
- **Stewardship** - *To continuously improve the quality, effectiveness and efficiency of the transportation system.*

For the first three points of interest, specific goals were identified and quantifiable factors from the Inventory were associated with those goals. Simply put, if those

quantifiable factors were to help a particular airport meet one of those goals, that airport would be helping the state aviation system fulfill the state policy. The airport would therefore be considered to be bringing “value” to the state.

For the purposes of this assessment, the fourth and fifth points of interest, Environment and Stewardship, have been elevated to that of a state level consideration. Since there is limited, quantifiable environmental data available for each airport, it has been assumed that it is the general approach of WSDOT Aviation that any negative environmental impacts resulting from its airports on people and the natural environment should be minimized. Similarly, on the policy goal of Stewardship, it is assumed that quality, effectiveness and efficiency are overriding goals for development of the state-operated airport system. This includes the fact that all airports should conform to appropriate local, state and federal regulations. As a result, these fourth and fifth points will be considered to have an equal level of importance for each airport in the assessment. Environment and Stewardship will play a greater role in detailed facility planning for each individual airport.

### **Assessment Process**

The process utilized for this assessment generally consists of assigning individual goals to the three state policy points of interest, and then relating specific Inventory data elements to those goals. How an airport fared in relation to a particular goal is therefore a direct function of its Inventory results. The compilation of all of these results and the degree to which they helped fulfill the goals of the state policy was then used to determine an overall “value” of the airport for the state.

**Table 18** shows the state policies, their related goals and the specific inventory data elements or “benchmarks” that were used in this assessment.

**Table 18**  
**ASSESSMENT GOALS AND BENCHMARKS**

<b>Aviation Policy</b>	<b>Aviation Goals</b>	<b>Inventory Benchmark</b>
<b>Preservation</b>	<i>Provide transportation access to remote communities</i>	– Access to remote communities
	<i>Provide for emergency management</i>	– Support forest fighting activity – Access for emergency medical operations
	<i>Support local economies</i>	– Access for recreational and tourist opportunities
<b>Safety</b>	<i>Enhance the overall level of safety for the state aviation system</i>	– Flight safety enhancement
<b>Mobility</b>	<i>Provide sufficient airport capacity to support air transportation</i>	– Based Aircraft – Airport Operations – WSDOT Aviation internal airport assessment
<b>Environment</b>	<i>State Level Consideration</i>	
<b>Stewardship</b>	<i>State Level Consideration</i>	

Source: Wilbur Smith Associates

It should be noted that financial considerations must ultimately play a role in determining long-term value of an airport. However, these considerations are more appropriately addressed in the ultimate recommendations.

### **Assessment Results**

Each of the 17 state-managed airports was analyzed within the context of the aforementioned process. Specifically, for each Inventory Benchmark listed in the previous table, an individual score (ranging from 0 to 3) was given to each airport based on how well it performed in relation to that particular benchmark. The scores were determined through use of both quantitative and qualitative inputs, and were generally structured such that a higher number reflected a greater value of an airport with respect to that benchmark. For example, a score of “3” for firefighting activity would indicate that an airport is used consistently for such operations, while a score of “0” would indicate little to no use, indicating little value for the airport with respect to that activity. Once an airport’s individual Inventory Benchmark scores were finalized, an overall airport score (also ranging from 0 to 3) was determined simply by averaging and rounding up all of a given airport’s results.

It is important to note that much of the scoring with regards to the benchmarks is largely subjective. In most cases, due to the relatively low level of operations that exist at the airports, the quality or importance of the benefits that the airport can bring to the state and its population (i.e. air transportation access to a remote community, increased factors of safety for pilots and passengers, etc.) were generally weighed as being more significant than that of just quantity of operations. Therefore, the individual circumstances of each airport had to be considered as part of the assessment process.

For this assessment, the overall score for each airport is used as the primary means of establishing an initial “value” of the airport to the state. Essentially, a higher score indicates that the airport is meeting its Inventory Benchmarks to a degree that is helping the state meet its goals and the statewide aviation policy. Therefore, an airport in that case is viewed as having greater “value” to the state. A lower score indicates less or potentially no value. Note that this is only an initial assessment and that results could change based on individual considerations.

Additionally, for the purposes of discussion, general development/maintenance recommendations were also associated with each score. Generally, those with a higher score should be maintained and developed to a higher degree than those with a lower score. The values and recommendations for each score are shown in **Table 19**.

**Table 19**  
**ASSESSMENT VALUES AND RECOMMENDATIONS**

<b>Overall Airport Score</b>	<b>Value Assessment</b>	<b>Maintenance / Development Recommendation</b>
<b>0</b>	None	None; Facility has potential to be closed.
<b>1</b>	Lower	Facility should be maintained to its present condition
<b>2</b>	Medium	Facility should be maintained and developed to better fulfill its primary function and purpose
<b>3</b>	High	Facility should be maintained and developed to better fulfill its primary function and purpose; Facility also has a high potential to be developed to fulfill a higher function and purpose

Source: Wilbur Smith Associates

Based on the process and assumptions described above, an assessment of the 17 state-managed airports was conducted in relation to the overall scoring system. The results

of this assessment are shown below in **Table 20**, and a table containing the full scoring assessment has been included in **Appendix 4**.

**Table 20**  
**ASSESSMENT RESULTS**

<b>Airport Overall Scores</b>			
<b>0</b> (Value: None)	<b>1</b> (Value: Lower)	<b>2</b> (Value: Medium)	<b>3</b> (Value: High)
Lester State Airport	Avey State Airport	Bandera State Airport	Methow Valley State Airport
	Copalis Beach State Airport	Easton State Airport	
	Little Goose State Airport	Lake Wenatchee State Airport	
	Lower Granite State Airport	Ranger Creek State Airport	
	Lower Monumental State Airport	Skykomish State Airport	
	Rogersburg State Airport	Stehekin State Airport	
	Sullivan Lake State Airport	Woodland State Airport	
		Tieton State Airport	

Source: Wilbur Smith Associates

Of the 17 airports, only one (Lester State) seems to provide little to no value to the state in meeting its goals and policies, while the remaining 16 provide benefit. However, with regard to Lester State, it is important to note that this airport currently adds no value to the state since most of its facilities have been rendered unusable. If those facilities could be restored, Lester State would certainly bring value to the state, particularly in the area of safety enhancement.

### **Conclusions**

As stated previously, this assessment of the 17 state-managed airports is preliminary and is subject to change based on the particular circumstances of each airport, as well as the goals of WSDOT Aviation. Moving forward in this planning effort, considerations must also be given to future state aviation system policies, financial concerns and limitations, and specific facility requirements for each of these airports. However, based on the efforts to date within this planning study, it is evident that the vast majority of the airports managed by WSDOT Aviation do bring a level of value and benefit to the state in terms of enhancing the overall level of safety and accessibility within Washington State.

As discussed above, the state-managed airports as a whole provide the following benefits to pilots, airport users, surrounding communities, and the State of Washington:

- Transportation access to local communities
- Support of forest fire fighting operations
- Flight safety enhancement
- Support of Emergency Medical operations
- Transportation access to recreational areas and opportunities

In addition, each of these airports has a relatively high facility value in terms of replacement cost, and relatively low annual operations and maintenance cost. Should any of these airports be closed or abandoned, it would likely be cost prohibitive to reopen the majority of these facilities.

### **Issues for Further Consideration**

With the conclusion of this independent assessment of the state-managed airport system, this planning effort will proceed into tasks related to developing frameworks for future system policies, the development of specific facility requirements, the definition of future airport operating procedures, and the final establishment of a recommended development plan. Specific airport system questions to be answered as part of these tasks are anticipated to include the following:

- Should the state-managed airports be developed to support based aircraft?
- Should the state-managed airports allow commercial aviation activities?
- Under what conditions should WSDOT Aviation consider adding new airports to the state-managed system?
- Under what circumstances should WSDOT Aviation consider selling or decommissioning existing airports within the state-managed system?