

CHAPTER SIX: RECOMMENDED SYSTEM OF AIRPORTS

OVERVIEW

Previous chapters of the Idaho Airport System Plan (IASP) analyzed performance measures and benchmarks selected specifically for Idaho to determine how well the state's system of airports is currently performing. Based on an assessment of the current system's adequacies, deficiencies, and overlaps, each benchmark was analyzed individually to determine what is needed to meet future system performance targets. This chapter identifies specific actions that are desirable to raise the overall level of system performance. Targeted actions will enhance the overall performance of the airport system in Idaho and will enable system airports to better fulfill their system roles.

Certain benchmarks provide information only while others offer the opportunity for action to improve the performance. For example, an airport can install an Automated Weather Observing System (AWOS) thereby increasing the number of airports with on-site reporting facilities, increasing the system performance of this benchmark. However, the benchmark that analyzed the percent of airports that support aerial application activities does not have a specific project associated with changing the performance and is considered informational. By monitoring the ability of the Idaho airport system to satisfy or meet each of the benchmarks, the Idaho Transportation Department's (ITD) Division of Aeronautics can compare and monitor current, target, and future system performance. As subsequent federal, state, and local investments are made at airports in Idaho, it will be possible to determine how this investment has raised the overall performance of the system.

The responsibility for implementing projects and taking actions identified in the system plan remains with local airport owners and sponsors in coordination with ITD Division of Aeronautics and the Federal Aviation Administration (FAA). It is possible that local constraints (financial, man-made, political, or environmental) may make it impossible for individual airports to meet all targets outlined in this portion of the system plan. Final recommendations of the IASP will be a blend of airport initiatives and system plan recommendations.

This chapter is divided into the following sections:

- ✈ Development of benchmark targets
- ✈ Actions to respond to benchmark targets
- ✈ System actions summary to respond to benchmark targets
- ✈ Airport actions
- ✈ Development costs

DEVELOPMENT OF BENCHMARK TARGETS

Targets have been developed for many of the benchmarks by reviewing current performance, future performance, facility and service objectives for each of the role categories, and through discussions with the Division of Aeronautics. These targets are established to provide reasonable achievement goals that can then be used to determine the best methods and costs of reaching those targets. As noted previously, informational benchmarks will not have a specific target performance. It is recommended that performance for informational benchmarks be monitored over time.

ACTIONS TO RESPOND TO BENCHMARK TARGETS

The following sections provide a summary of actions that are recommended to be undertaken to reach targets for each of the benchmarks, assuming the target is not already met.

Performance Measure: Geographic Coverage

Benchmark: Percent of Population and Area Within 90 Minutes of a Commercial Service Airport With Multiple Airlines or 60 Minutes of a Commercial Service Airport With a Single Airline

<u>Current Performance</u>	<u>Target Performance</u>
Area: 27%	Area: 30%
Population: 78%	Population: 90%

Ideally, the Division of Aeronautics strives to have an airport system in which 90 percent of the state’s population and 30 percent of its area have adequate access to commercial airline service. The type of access provided by commercial airports varies based on the number of airlines serving the airport. Therefore, different drive times were assigned to airports based on the level of service or number of airlines providing service to determine if the coverage provided was considered adequate. The following drive times for commercial service airports in Idaho and commercial airports in neighboring states were used to determine coverage provided by airports with airline service. Two airports were assigned 120 minute drive times as those airports have greater service and it is recognized that people are willing to drive the distance to utilize those airports.

- ✈ Commercial service airports in Idaho
 - 60 minute drive time: Pullman/Moscow Regional, Joslin Field-Magic Valley Regional, and Pocatello Regional
 - 90 minute drive time: Lewiston-Nez Perce County, Boise Air Terminal/Gowen Field, Friedman Memorial, and Idaho Falls Regional
- ✈ Commercial service airports outside of Idaho
 - 90 minute drive time: Missoula International (MT) and Jackson Hole (WY)
 - 120 minute drive time: Spokane International (WA) and Salt Lake City International (UT)

Based on coverage provided by Idaho’s seven commercial service airports 78 percent of Idaho’s population and 27 percent of its area is served. However, when the four commercial airports in neighboring states are included, 90 percent of Idaho’s population and 30 percent of its area are currently 120 minutes or less from either a commercial service airport in Idaho

or a commercial service airport in a neighboring state. With the inclusion of commercial service airports in Washington, Montana, Wyoming, and Utah, the target will be met. There are no recommendations for additional Commercial Service airports at this time.

Benchmark: Percent of Population and Area Within 30 Minutes of a NPIAS Airport

<u>Current Performance</u>	<u>Target Performance</u>
Area: 15%	Area: 15%
Population: 86%	Population: 87%

Prior analysis showed that 15 percent of the state’s area and 86 percent of its population are within a 30-minute drive time of an airport currently included in the NPIAS.

As indicated in Chapter Five, of the 75 airports being analyzed in this system plan, 38 are included in the NPIAS. The remaining 37 airports are not currently included in the NPIAS. FAA Order 5090.3C – Field Formulation of the National Plan of Integrated Airport Systems states that an existing or proposed airport may be included in the NPIAS if it meets all of the following:

- ✦ It is included in the State Airport System Plan.
- ✦ It serves a community more than 30 minutes from the nearest NPIAS airport.
- ✦ It is forecast to have 10 or more based aircraft within the short-term planning period (5-years).
- ✦ There is an eligible public sponsor willing to undertake the ownership and development of the airport.

Review was undertaken to consider the potential eligibility of airports that are not currently in the NPIAS. Based on the noted entry criteria, four current non-NPIAS airports were identified as candidates for possible inclusion. These airports include:

- ✦ American Falls
- ✦ Emmett
- ✦ Garden Valley
- ✦ Rigby

Additional analysis and significant coordination with the FAA and the airport sponsors would be required to enter the airports into the NPIAS, however, these four airports do appear to meet the criteria based on current conditions.

If these four airports were added to the NPIAS, future coverage of population and area would increase to 87 percent and 15 percent, respectively. Thus, target performance for this benchmark would be met.

Benchmark: Percent of Population and Area Within 30 Minutes of Any Airport

<u>Current Performance</u>	<u>Target Performance</u>
Area: 22%	Area: 22%
Population: 89%	Population: 89%

The established target for this benchmark is to have 22 percent of Idaho’s area and 89 percent of its population within 30 minutes of any airport. This is the existing performance of the system, and improvement is not suggested at this time. It should be noted that no new airports are recommended as part of the IASP.

Benchmark: Percent of Population and Area Within 30 Minutes of an Idaho Airstrip Network (IAN) Airport

<u>Current Performance</u>	<u>Target Performance</u>
Area: 1%	Monitor
Population: 7%	

ITD Division of Aeronautics has established the Idaho Airstrip Network (IAN) based on airstrips that have turf and dirt surfaces and limited facilities. These airports provide various types of access (recreational, emergency, natural resource management, etc.) to Idaho’s backcountry and are considered to be an important feature of Idaho’s transportation system. At the discretion of the Division of Aeronautics, airports can be added to the IAN as they are believed to support the entire aviation system in Idaho. However, no specific target has been set for system performance relative to this benchmark at this time as the current system of IAN airports appears adequate based on existing and anticipated needs.

Performance Measure: Facility Support

Benchmark: Percent of Population and Area Within 30 Minutes of an Airport With an Instrument Approach

<u>Current Performance</u>	<u>Target Performance</u>
Area: 10%	Area: 15%
Population: 79%	Population: 86%

Prior analysis indicated that 79 percent and 10 percent of Idaho’s population and area, respectively, are currently within 30 minutes of an airport with an instrument approach. The target for this benchmark is to have 86 percent of Idaho’s population and 15 percent of its area within 30 minutes of an airport with a precision, near-precision, or non-precision instrument approach.

Facility and service objectives established for the system plan call for all Commercial Service airports to have a precision or near-precision approach. It is an objective for Regional Business and Community Business airports to have at least a non-precision approach. If all Commercial Service, Regional Business, and Community Business airports meet their facility objectives to have an appropriate instrument approach (precision, near-precision, or non-precision), population and area coverage within 30 minutes from an airport with an instrument approach will increase to 86 percent of population and 15 percent of area. This performance would meet the target for this benchmark. It is important to note that a precision approach is currently defined as an instrument landing system (ILS) approach and a near-

precision approach is defined as a non-precision approach with vertical guidance (LPV) approach. This latter system provides ceilings/visibility approach minima comparable to those associated with an ILS/precision approach. Additionally, these objectives are closely aligned with the FAA’s *Next Generation Air Transportation System* (NextGen). NextGen will provide the opportunity for many airports in Idaho to receive a global positioning system (GPS) based approach.

Benchmark: Percent of Population and Area Within 30 Minutes of an Airport With On-site Weather Reporting

<u>Current Performance</u>	<u>Target Performance</u>
Area: 8%	Area: 15%
Population: 77%	Population: 86%

According to analysis conducted as part of the system evaluation in Chapter Five, 77 percent of Idaho’s population and 8 percent of its area are currently within 30 minutes of an airport that has on-site weather reporting in the form of an Air Traffic Control Tower (ATCT), ASOS, or AWOS. The target for this benchmark is to have 86 percent of the state’s population and 15 percent of its land area within 30 minutes of an airport with on-site weather reporting.

The IASP established objectives for all Commercial Service, Regional Business, and Community Business airports in the system to have on-site weather reporting capabilities. If all airports within these roles meet their objective, the performance for this benchmark will increase to 86 percent for population and 15 percent for land area, and will meet the target.

Benchmark: Percent of Airports Meeting Minimum Facility Objectives

Appendix A summarizes the current facility and service objective compliance. It is a target that all airports meet their respective facility and service objectives. In subsequent sections of this chapter, airport-specific recommendations are made relative to meeting these targets.

Performance Measure: Preservation

Benchmark: Percent of Airports With an Overall Pavement Condition Index (PCI) of 81 or Greater

<u>Current Performance</u>	<u>Target Performance</u>
37% of Applicable Airports	100% of Applicable Airports

For this benchmark, only the condition of pavements on paved primary runways was considered. The target for this benchmark is to have 100 percent of all applicable airports meet the state standard of having a PCI of 81 or greater for their paved runways. It is important to note that the PCI for all pavements at airports in Idaho continually change. In states that experience extremes in temperature, as does Idaho, PCI ratings can change from year-to-year. Findings presented in this section are based on the most current information available from July 2008. Constant monitoring and investment is needed to meet the established targets.

Airports with paved primary runways currently in need of a project to increase the PCI rating on their primary runway are shown in **Figure 6-1**. It is worth noting that since data was collected and analyzed, Emmett Municipal, Driggs-Reed Memorial, and Burley Municipal had a construction projects which increased their PCI scores to 100.

Figure 6-1: Airports to be Considered for Improved PCI Ratings

<i>Associated City</i>	<i>Airport Name</i>	<i>Current Primary Runway PCI</i>
Commercial Service		
Pullman	Pullman-Moscow Regional	80
Regional Business		
Caldwell	Caldwell Industrial	80
Gooding	Gooding Municipal	64
Grangeville	Idaho County	56
McCall	McCall Municipal	78
Nampa	Nampa Municipal	80
Rexburg	Rexburg-Madison County	74
Salmon	Lemhi County	57
Sandpoint	Sandpoint	62
Community Business		
American Falls	American Falls	35
Cascade	Cascade	77
Downey	Downey/Hyde Memorial	62
Homedale	Homedale Municipal	80
Preston	Preston	80
Soda Springs	Allen H Tigert	34
Weiser	Weiser Municipal	56
Local Recreational		
Aberdeen	Aberdeen Municipal	46
Payette	Payette Municipal	35
Priest River	Priest River Muni.	60
Rockford	Rockford Municipal	80
Basic Service		
Glenns Ferry	Glenns Ferry Municipal	44
Malad City	Malad City	35
Murphy	Murphy	71

Source: ITD records, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Benchmark: Percent of Airports With Master Plans or ALP Reports

Current Performance	Target Performance
43% of all Airports have a Master Plan	100% of Commercial Service, Regional Business, Community Business, and Local Recreational should have a Master Plan
64% of all Airports have an ALP	100% of Commercial Service, Regional Business, Community Business, and Local Recreational should have an ALP

Proactive planning is one means that ITD Division of Aeronautics has at its disposal to preserve mobility and enhance the airport system. Local needs and conditions, changes in demand levels, and/or changes in FAA design standards most frequently dictate when it is necessary to update a master plan or ALP.

The target established for this benchmark is to have 100 percent of all Commercial Service, Regional Business, Community Business, and Local Recreational airports with an approved master plan. It is also an objective to have all Commercial Service and Regional Business airports have an ALP that has been approved within the last 10 years. The ALP objective for Community Business and Local Recreational airports is to have an ALP that has been approved within the last 15 years. Based on information that was collected in August 2008, airports included in **Figure 6-2** should have planning studies in order for the system to be in compliance for the target that was established for this benchmark.

Figure 6-2: Airports to be Considered for a Master Plan or Updated ALP

<i>Associated City</i>	<i>Airport Name</i>	<i>Master Plan</i>	<i>Airport Layout Plan Year</i>
Community Business			
American Falls	American Falls	None	None
Arco	Arco-Butte County	None	2000
Cottonwood	Cottonwood Municipal	None	Unknown
Council	Council Municipal	None	1998
Downey	Downey/Hyde Memorial	None	None
Homedale	Homedale Municipal	None	2008
Kellogg	Shoshone County	None	2008
Orofino	Orofino Municipal	None	2003
Preston	Preston	None	1998
Soda Springs	Allen H Tigert	None	None
St. Anthony	Stanford Field	Yes	1997
St. Maries	St. Maries Municipal	None	1997
Local Recreational			
Big Creek	Big Creek	None	None
Coolin	Cavanaugh Bay	None	None
Craigmont	Craigmont Municipal	Yes	1991
Emmett	Emmett Municipal	None	1990
Galena	Smiley Creek	None	None
Garden Valley	Garden Valley	None	None
Kamiah	Kamiah Municipal	None	None
Kooskia	Kooskia Municipal	None	None
Porthill	Eckhart International	None	None
Priest River	Priest River Muni.	None	2008
Rockford	Rockford Municipal	None	None
Stanley	Stanley	None	None
Yellow Pine	Johnson Creek	None	None

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc.
Prepared: October 2009.

Benchmark: Percent of Airports With Compatible Land Use Zoning Adopted

<u>Current Performance</u>	<u>Target Performance</u>
28% of all Airports	Monitor

As reported in Chapter Five, only 28 percent of airports report having adopted compatible land use zoning. During the airport inventory process when this data was gathered, it was noted that many of the airport sponsors who participated in the inventory process were unsure of the compatible land use zoning issue and that additional information was needed to compile more accurate data, as well as provide education on the importance of compatible land use zoning. The Division of Aeronautics is currently developing Compatible Land Use Guidelines for airports in Idaho. These guidelines will serve as a tool for airports, sponsors, and communities in being proactive to protect the investments that have been made in the airports to date as well as for the future. The target for this information-oriented benchmark is for the Division of Aeronautics to monitor the future performance of airports that have adopted compatible land use zoning until better data is available to evaluate.

Benchmark: Percent of Airports That Have a Spill Prevention, Control and Countermeasures (SPCC) Plan

<u>Current Performance</u>	<u>Target Performance</u>
19% of all Airports	Monitor

As reported in Chapter Five, 19 percent of airports report having a Spill Prevention, Control, and Countermeasures (SPCC) Plan. Similar to the compatible land use planning benchmark, during the inventory process, sponsors were unsure of the need for an SPCC plan and whether or not one was in place. At this time it is recommended that the Division of Aeronautics monitor the performance of this benchmark. Additional education on the need for SPCC plans, especially their purpose and use, would be helpful to airport sponsors. It is recommended that more in-depth analysis be conducted in the future to better evaluate existing programs in place.

Benchmark: Percent of Airports That Have a Storm Water Pollution Prevention Plan (SWPPP)

<u>Current Performance</u>	<u>Target Performance</u>
16% of all Airports	Monitor

Similar to the previous benchmark, only a limited number of airports (16 percent) reported having a Storm Water Pollution Prevention Plan (SWPPP). Sponsors were also unsure of the need for an SWPPP, the purpose, and use. It is recommended that the Division of Aeronautics monitor the performance of this benchmark, assist in educating sponsors on the SWPPP, and conduct more in-depth analysis to better evaluate existing plans and programs that are in place at airports.

Performance Measure: Transportation Support

Benchmark: Number of Remote Communities Not Served by an IASP Airport

<u>Current Performance</u>	<u>Target Performance</u>
34 Communities	Monitor

As discussed in Chapter Five, many of Idaho’s remote and rural communities (those communities with a population between 10 and 2,000) do not have access to interstate or four-lane highways. For these communities, access to air transportation becomes even more critical. Of the 124 remote communities identified in Idaho based on the population criteria selected, currently only 34 are beyond a 30 minute drive of an IASP airport. However, further analysis indicates that if IAN, private, and United States Forest Service (USFS) airports are considered in addition to those airports in the IASP, only 20 remote communities are beyond 30 minutes of any airport. This is an informational benchmark, and therefore no additional action is required. It is recommended that the Division of Aeronautics continue to monitor the performance of this benchmark over time as airports open, close or other actions are taken that impact this benchmark.

Benchmark: Percent of Airports With a Courtesy Car and/or Rental Car Available

<u>Current Performance</u>	<u>Target Performance</u>
74% of All Airports	Monitor

Currently, 74 percent of system airports have a courtesy car and/or rental cars available for pilots who arrive at their airport and need transportation away from the airport. Based on facility and service objectives, all role categories except Basic Service airports should have either rental cars or a courtesy car available to serve this important function. While no specific target has been set for this benchmark, it is recommended that the Division of Aeronautics monitor the future performance. If all applicable airports meet their service objectives as identified in the IASP, the airports shown in **Figure 6-3** should consider making rental cars and/or a courtesy car available.

Figure 6-3: Airports to be Considered for a Courtesy Car and/or Rental Car

Associated City	Airport Name
Community Business	
Cottonwood	Cottonwood Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Nez Perce	Nez Perce Municipal
Parma	Parma
St. Anthony	Stanford Field
Local Recreational	
Craigmont	Craigmont Municipal
Kooskia	Kooskia Municipal
Porthill	Eckhart International
Priest River	Priest River Muni.
Stanley	Stanley

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc.
Prepared: October 2009.

Benchmark: Percent of Airports With Public Transportation Available

<u>Current Performance</u>	<u>Target Performance</u>
13% of All Airports	Monitor

As reported in Chapter Five, 13 percent of airports report having access to public transportation from the airport. For the purposes of this analysis, public transportation is defined includes public bus service and taxi service. No specific public transportation projects are recommended as part of the IASP. Therefore, this benchmark is considered informational and has no specific target attached to it. It is recommended that the Division of Aeronautics continue to monitor the performance of this benchmark over time. Airports are still strongly urged to provide transportation links to their communities through courtesy cars, rental car availability, or public transportation.

Benchmark: Percent of Airports With On-Demand Air Taxi Flights Serving IAN Airports

<u>Current Performance</u>	<u>Target Performance</u>
12% of All Airports	Monitor

Currently, 12 percent of system airports with on-demand air taxi operators are serving IAN airports. This coverage is considered adequate and may improve in the future if demand warrants and air taxi service changes to include more IAN airports. However, this is an information-oriented benchmark, and therefore has no specific recommendation beyond monitoring the performance over time.

Performance Measure: Safety & Security

Benchmark: Percent of Airports With Height Zoning

<u>Current Performance</u>	<u>Target Performance</u>
51% of All Airports	100% of All Airports

Currently, 51 percent of airports included in the IASP have adopted height zoning to protect their airport in terms of airspace. Similar to compatible land use zoning and several other benchmarks, during the inventory process when data was gathered related to height zoning availability, some airport sponsors are unsure of the zoning that is in place to protect the airport. The target established for this benchmark is that 100 percent of system airports have height zoning in place. It is recommended that the Division of Aeronautics collect more detailed data regarding the height zoning in place at airports, including working with airports using the Land Use Guidelines developed as part of this study to ensure that all airports are meeting FAR Part 77 regulations that control allowable structure or natural vegetation heights around airports.

Benchmark: Percent of Airports Controlling all Runway End RPZs

<u>Current Performance</u>	<u>Target Performance</u>
28% of All Airports	100% of All Airports

Twenty-eight percent of airports included in the IASP currently reported having control of both ends of their primary runway’s runway protection zone (RPZ) through either fee simple ownership or an aviation easement. The target set for this benchmark is that all system airports have complete control of all runway RPZs, however, only the control of the RPZ for the primary runway is measured in this analysis. Partial control or control of only one runway end

does not qualify for meeting this benchmark. **Figure 6-4** provides information on primary runways at airports which do not currently have complete control of their primary RPZs.

Figure 6-4: Airports Recommended to Gain Full Control of Primary Runway RPZs

<i>Associated City</i>	<i>Airport Name</i>	<i>Current Level of RPZ Control</i>
Commercial Service		
Hailey	Friedman Memorial Airport	Partial
Idaho Falls	Idaho Falls Regional	Partial
Regional Business		
Challis	Challis Airport	None
Coeur D'Alene	Coeur D'Alene – Pappy Boyington Field	Partial
Driggs	Driggs-Reed Memorial	Partial
McCall	McCall Municipal	Partial
Mountain Home	Mountain Home Municipal	Partial
Nampa	Nampa Municipal	Partial
Rexburg	Rexburg-Madison County	Partial
Salmon	Lemhi County	Partial
Community Business		
American Falls	American Falls	None
Burley	Burley Municipal	Partial
Cottonwood	Cottonwood Municipal	None
Downey	Downey/Hyde Memorial	None
Homedale	Homedale Municipal	Partial
Kellogg	Shoshone County	Partial
Paris	Bear Lake County	Partial
Parma	Parma	Partial
Rigby	Rigby-Jefferson	Partial
Soda Springs	Allen H Tigert	None
St. Anthony	Stanford Field	None
St. Maries	St. Maries Municipal	Partial
Weiser	Weiser Municipal	Partial
Local Recreational		
Big Creek	Big Creek	None
Coolin	Cavanaugh Bay	Partial
Craigmont	Craigmont Municipal	None
Emmett	Emmett Municipal	None
Galena	Smiley Creek	None
Kamiah	Kamiah Municipal	None
Kooskia	Kooskia Municipal	None
Payette	Payette Municipal	Partial
Porthill	Eckhart International	None
Priest River	Priest River Muni.	Partial
Rockford	Rockford Municipal	None
Stanley	Stanley	None

Figure 6-4: Airports Recommended to Gain Full Control of Primary Runway RPZs (cont.)

Associated City	Airport Name	Current Level of RPZ Control
Yellow Pine	Johnson Creek	None
Basic Service		
Bancroft	Bancroft Municipal	None
Carey	Carey	None
Donnelly	Donald D Coski Memorial	None
Dubois	Dubois Muni.	None
Elk City	Elk City	None
Fairfield	Camas County	None
Glenns Ferry	Glenns Ferry Municipal	Partial
Howe	Howe Municipal	None
Leadore	Leadore	None
Mackay	Mackay	None
Malad City	Malad City	None
Midvale	Lee Williams Memorial	None
Oakley	Oakley Municipal	None

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
Prepared: October 2009.

Benchmark: Percent of Airports That Support Life Flight Activities

Current Performance
69% of All Airports

Target Performance
Monitor

Sixty-nine percent of airports included in the IASP currently support life flight activities according to data provided as part of the inventory process. Life flight or air ambulance activities are vital services provided to communities. No specific life flight projects are recommended as part of the IASP. Therefore, this benchmark is considered informational and has no specific target attached to it. It is recommended that the Division of Aeronautics continue to monitor the performance of this benchmark over time.

Benchmark: Percent of Airports That Have Written GA Airport Security Procedures

Current Performance
16% of All Airports

Target Performance
Monitor

According to data gathered as part inventory effort for the IASP, 16 percent of Idaho system airports have written general aviation security procedures in place. It is important to note that currently the FAA does not require general aviation airports to have a security plan. However, in May 2004, the Transportation Security Administration (TSA) issued their "Security Guidelines for General Aviation Airports" to provide guidance on federally endorsed security measures. A target has not been established at this time for this benchmark due to lack of detailed data. It is recommended that the Division of Aeronautics monitor this benchmark and gather more information on the types of security procedures in place at system airports. It is also important for ITD to monitor changes in TSA regarding general aviation security as ITD serves as an important resource for information for many of Idaho's general aviation airports.

Benchmark: Percent of Airports That Support Fire Fighting

Current Performance

69% of All Airports

Target Performance

Monitor

Sixty-nine percent of airports included in the IASP currently support aerial fire fighting operations. Aerial firefighting is conducted purely on an as-needed basis, and thus operators make specific decisions as to where they base their operations. Largely because of these reasons, this is also an informational benchmark, and has no specific target set or system changes recommended.

Performance Measure: Economic Support

Benchmark: Percent of Population Within 30 Minutes of an Airport Capable of Meeting Business User Needs (5,000' Runway, Jet Fuel, Instrument Approach)

Current Performance

Area: 7%
Population: 70%

Target Performance

Area: 11%
Population: 79%

As stated in Chapter Five, business user needs have been defined as the following three airport facilities and/or capabilities: a 5,000-foot long runway, jet fuel, and an instrument approach. Currently, 70 percent of Idaho's population and 7 percent of its area are within 30 minutes driving time of an airport meeting all three of these criteria. As part of the facility and service objectives, airports in the Commercial Service, Regional Business, and Community Business roles should have these facilities and services. If all airports in these role categories met these objectives, performance for this benchmark would be 79 percent of Idaho's population and 11 percent of its area. Therefore, these have been set as the target for this benchmark. **Figure 6-5** shows those additional Regional Business and Community Business airports that are targeted to upgrade their facilities or services to meet business user needs.

Figure 6-5: Airports Recommended to Meet Business User Needs

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Blackfoot	McCarley Field
Buhl	Buhl Municipal
Mountain Home	Mountain Home Municipal
Rexburg	Rexburg-Madison County
Community Business	
Arco	Arco-Butte County
Council	Council Municipal
Kellogg	Shoshone County
Preston	Preston
St. Anthony	Stanford Field
St. Maries	St. Maries Municipal

Source: Wilbur Smith Associates and T-O Engineers Inc
Prepared: October 2009.

If these airports meet their minimum facility and service objectives, the target is set for this benchmark will be met.

Benchmark: Percent of Businesses With the Propensity to Use Aviation Within 30 Minutes of a System Airport

<u>Current Performance</u>	<u>Target Performance</u>
100% of Businesses	Monitor

Currently, 100 percent of businesses with a propensity to use aviation (as described in Chapter Five) are located within a 30-minute drive of a system airport. This is an informational benchmark, and has no recommendation as a result. The 100 percent coverage is considered very successful, and will likely stay constant in the future, as new businesses that have a likelihood of using aviation will likely locate within these areas already served by airports that meet their needs.

Benchmark: Percent of Airports That Accommodate Aerial Application Services

<u>Current Performance</u>	<u>Target Performance</u>
47% of All Airports	Monitor

Forty-seven percent of system airports reported accommodating aerial application services. This benchmark is informational. It is likely that additional airports may support these types of operations in the future as aerial applicator operators have a tendency to relocate often, but there are no targets set for this benchmark at the current time.

Benchmark: Airports Accommodating Instrument Flight Rules (IFR) Operations From Outside Idaho

<u>Current Performance</u>	<u>Target Performance</u>
45% of All Airports	Monitor

Instrument approach data available for the last calendar year indicate that 45 percent of system airports currently accommodate instrument flight rules (IFR) operations from outside of Idaho. This is an informational performance measure with no associated actions beyond monitoring the performance over time. It is important to note that pilots make their own decisions regarding which airport they will operate at. Further, this benchmark is influenced by the number of airports that have instrument approaches (currently 23 of the study airports) and the needs of the pilots. The Division of Aeronautics has no influence over pilot decisions, other than providing more access by increasing the number of approaches that are available to study airports.

Benchmark: Percent of Airports With Air Cargo/Freight Activities

<u>Current Performance</u>	<u>Target Performance</u>
25% of All Airports	Monitor

Twenty-five percent of system airports currently accommodate air cargo/freight activities. Similar to commercial airlines, air cargo/freight operators make their own decisions regarding which airports they will operate at. The Division of Aeronautics has little influence over these activities other than providing facilities that might attract air cargo/freight operators as demand is what drives where operators will operate. Therefore, this is an informational

performance measure with no associated actions beyond monitoring the performance over time.

Benchmark: Recreational Areas Served by "Portal" Airports

<u>Current Performance</u>	<u>Target Performance</u>
50% of Recreational Areas are within Close Proximity to a Portal Airport	Monitor

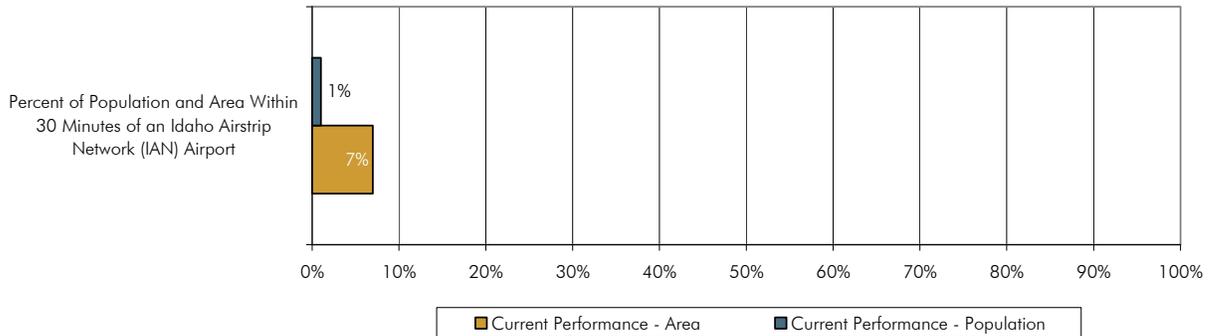
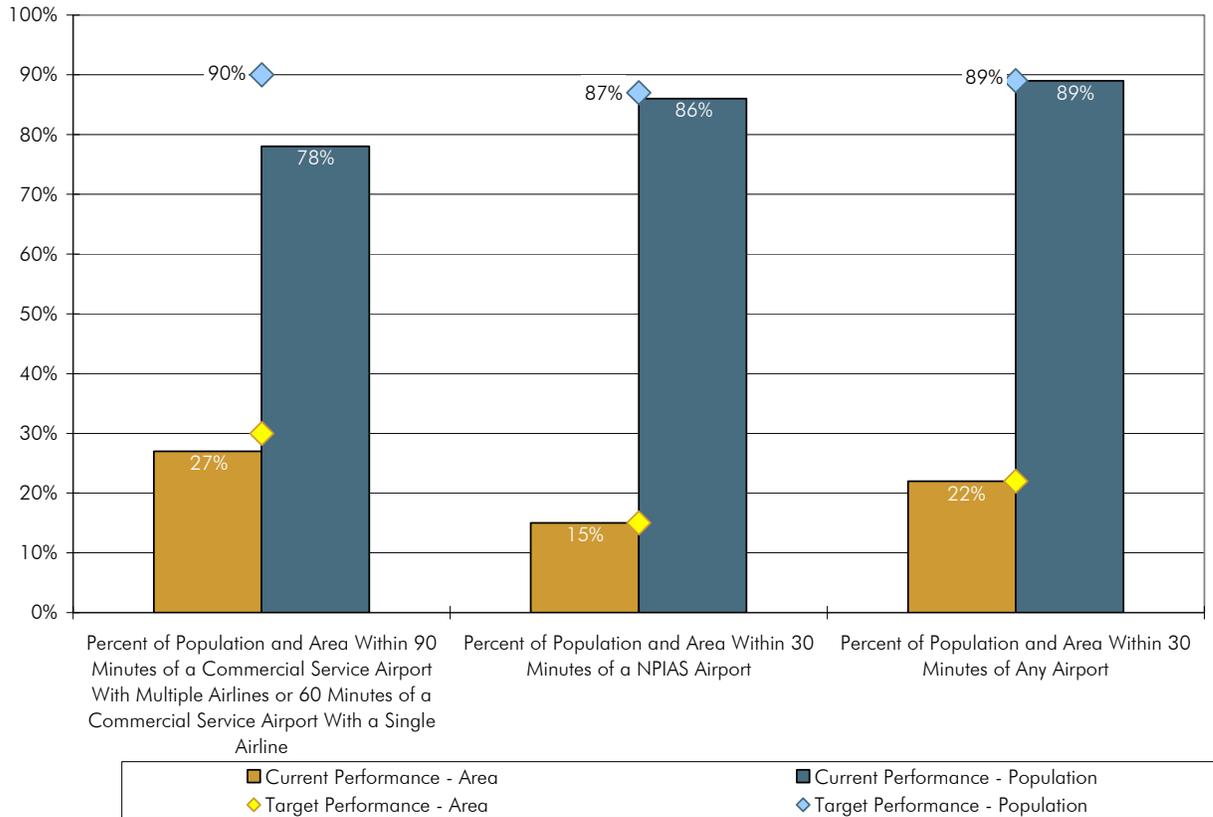
Idaho's backcountry and recreational areas are the pride and joy of its citizens and it is important to ensure that those areas have access by air. Many of those areas have limited highway access and air is the only option. Within the Idaho network of airports, there is a hub-and-spoke system of airports that serve as a jumping off point to Idaho's recreational airports. These "portal" airports are vital to the state. GIS analysis indicates that currently, 50 percent of all recreational areas are within close proximity to a "portal" airport. This coverage is considered adequate. However, this is an information-oriented benchmark, and therefore has no specific target or recommendations.

SYSTEM ACTIONS SUMMARY TO RESPOND TO BENCHMARK TARGETS

A comprehensive analysis has been completed to determine how well Idaho's aviation system is performing relative to established performance measures and benchmarks. **Figures 6-6 through 6-11** summarize the current status for the performance measures and benchmarks that were used in this study to evaluate Idaho's aviation system.

In addition to presenting current performance for each of the benchmarks, target performance has also been established and is shown on Figures 6-6 through 6-11. Targets have been developed for many of the benchmarks by reviewing current performance, future performance, and through discussions with the Division of Aeronautics. These targets are established to provide reasonable achievement goals that can then be used to determine the best methods and costs of reaching those targets. As noted previously, informational benchmarks will not have a specific target performance. It is recommended that performance for these benchmarks be monitored over time.

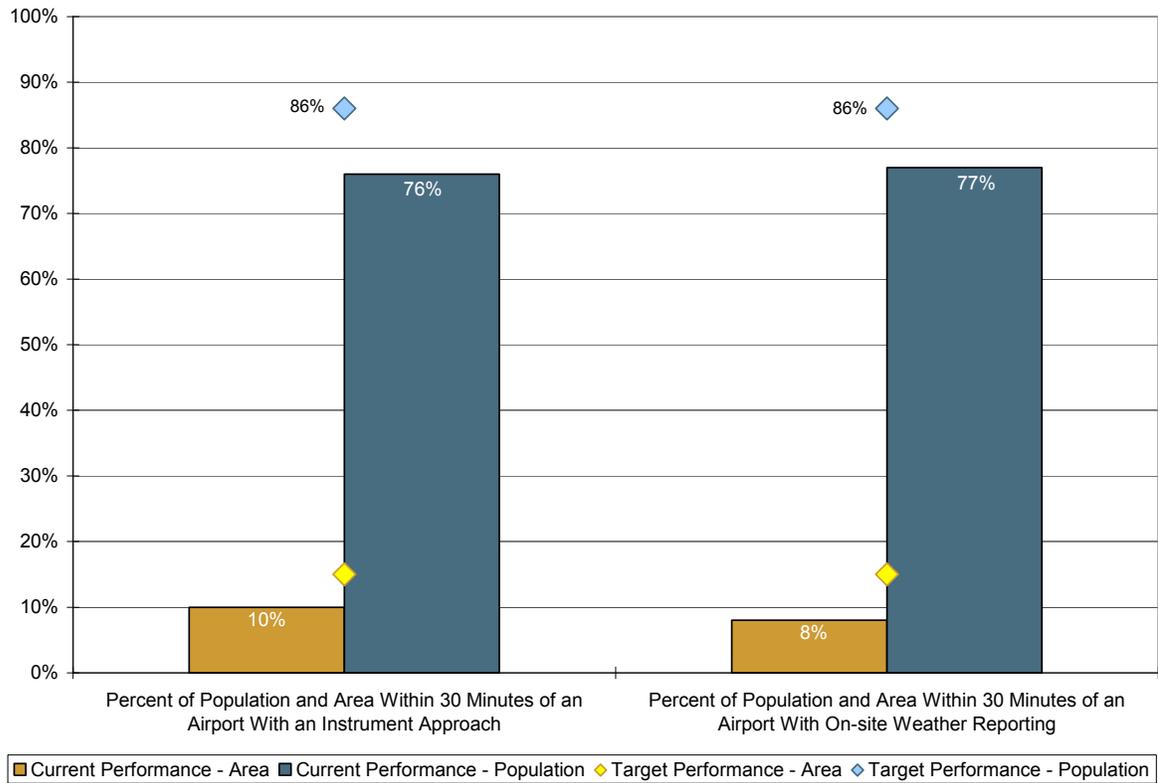
Figure 6-6: Performance Measure – Geographic Coverage – Summary



No target was established. This benchmark will be monitored over time.

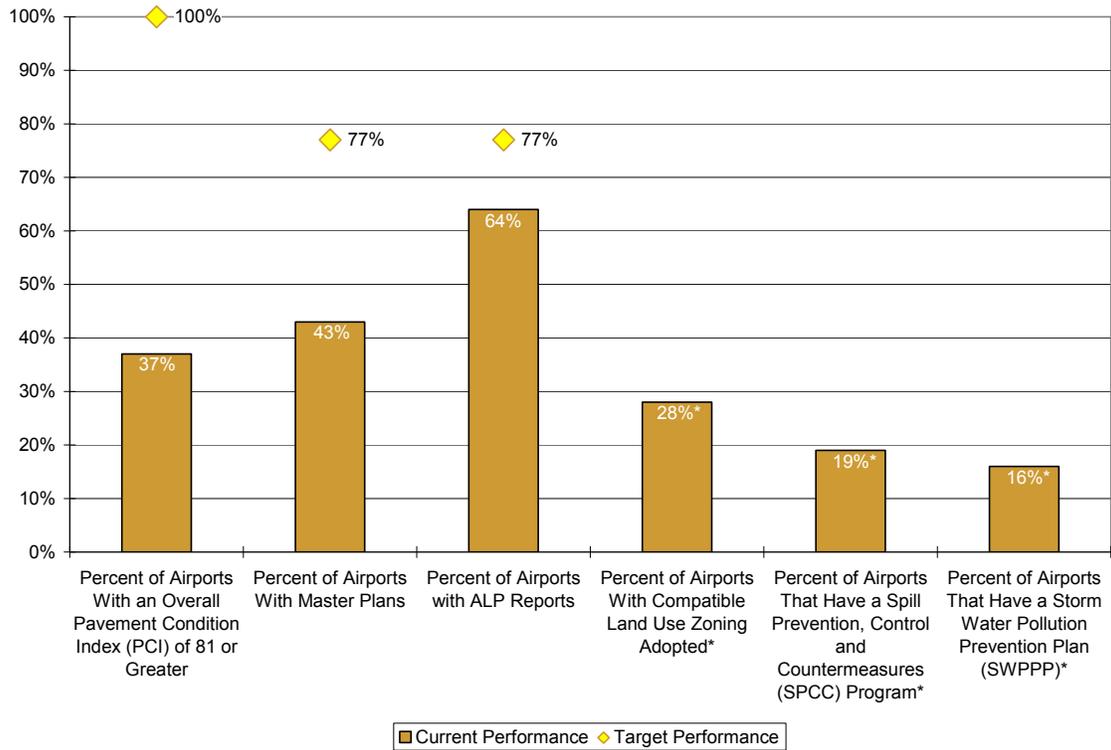
Source: Wilbur Smith Associates
Prepared: October 2009

Figure 6-7: Performance Measure – Facility Support – Summary



Source: Wilbur Smith Associates
 Prepared: October 2009

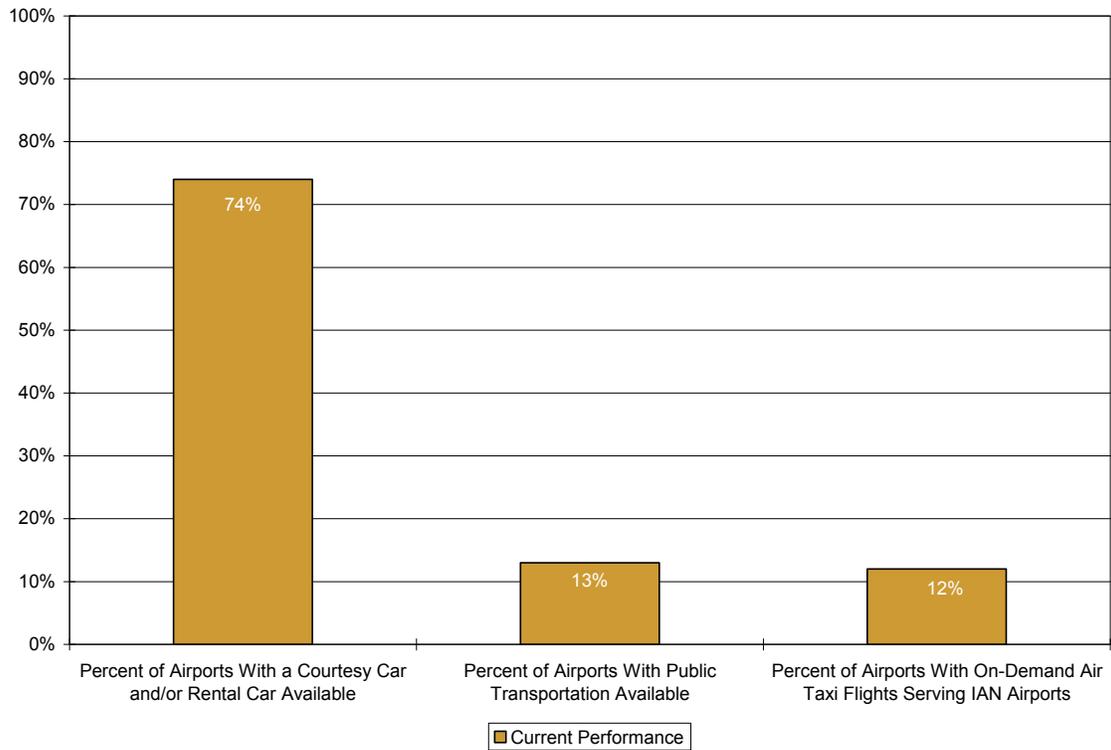
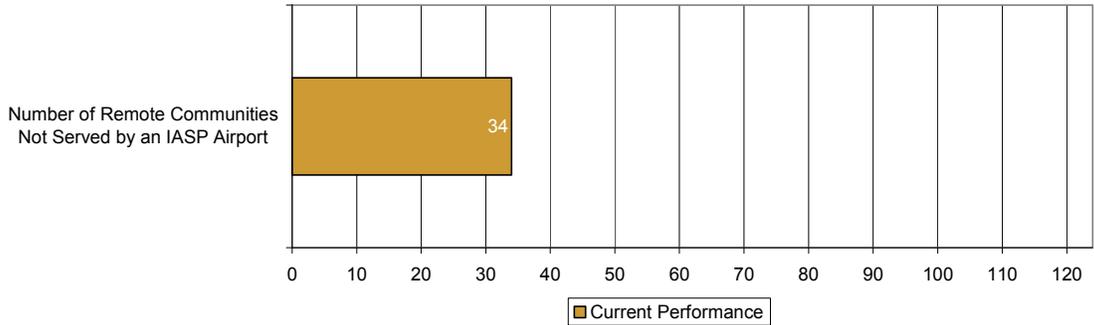
Figure 6-8: Performance Measure – Preservation – Summary



Source: Wilbur Smith Associates
 Prepared: October 2009

Note: *No target was established. The benchmark will be monitored over time.

Figure 6-9: Performance Measure – Transportation Support – Summary

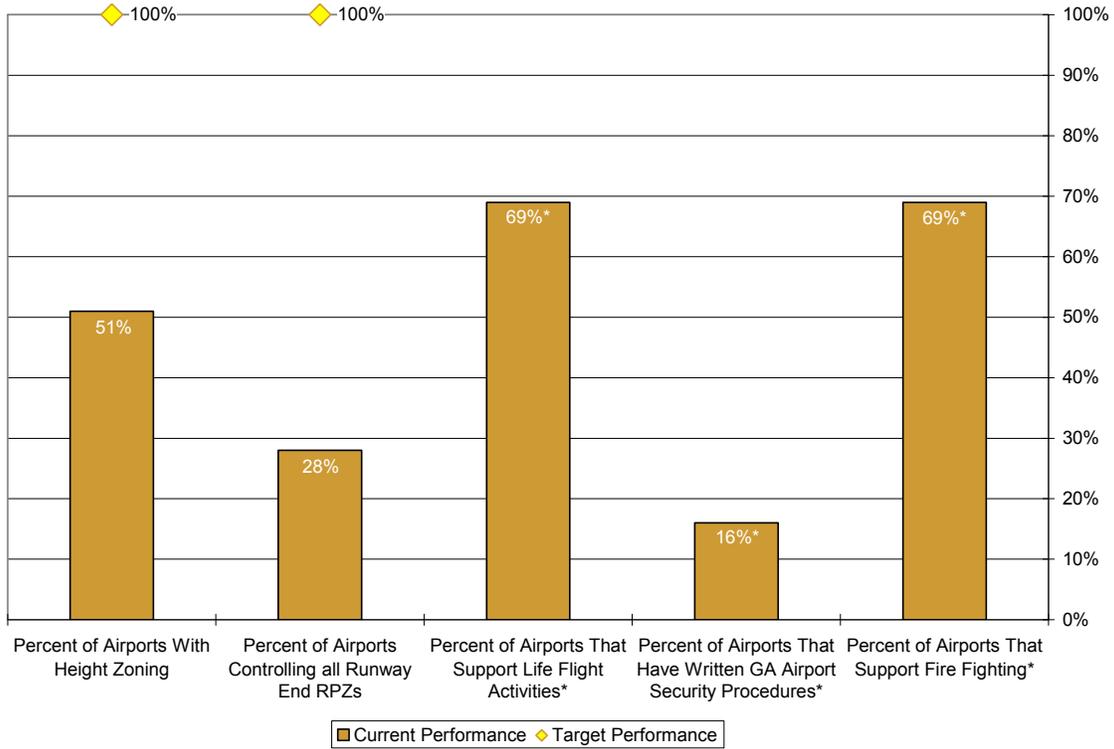


Source: Wilbur Smith Associates

Prepared: October 2009

Note: No targets were established for the benchmarks within this performance measure. The benchmarks will be monitored over time.

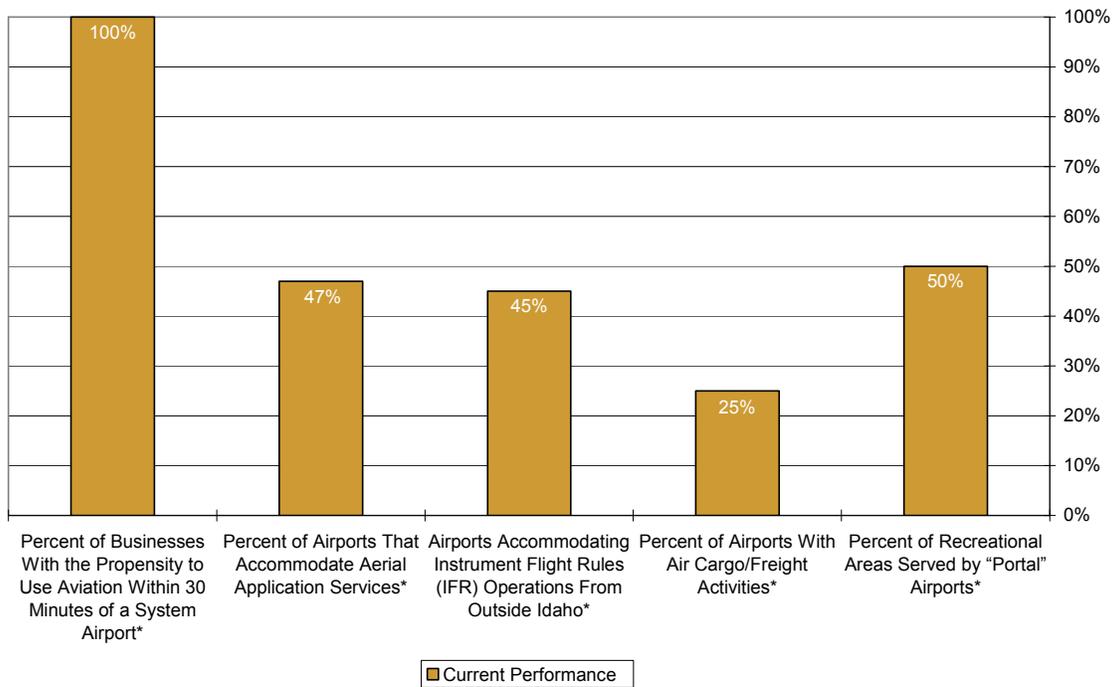
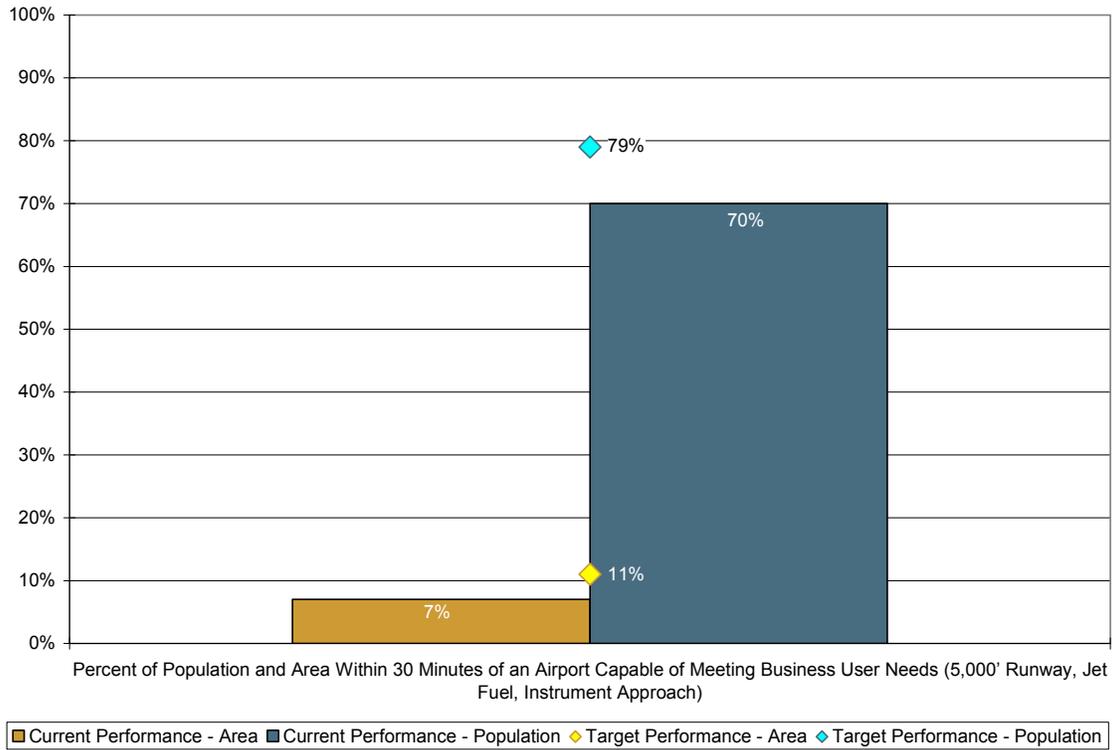
Figure 6-10: Performance Measure – Safety & Security – Summary



Source: Wilbur Smith Associates
Prepared: October 2009

Note: *No target was established. The benchmark will be monitored over time.

Figure 6-11: Performance Measure – Economic Support – Summary



Source: Wilbur Smith Associates

Prepared: October 2009

Note: *No target was established. The benchmark will be monitored over time.

AIRPORT ACTIONS

As mentioned previously, a task of the IASP was to develop minimum facility and service objectives for each airport role category. These objectives should be used as a starting point by each airport when updating its master plan or ALP as they consider the role the airport plays in the overall statewide system. Based on each airport's future assigned role (Commercial Service, Regional Business, Community Business, Local Recreational, or Basic Service), the facility and service objectives provide guidance on items each airport should have in place to best fill its system role and meet the needs of its projected users. The facility and service objectives for each airport role were developed using input from ITD Division of Aeronautics and the study's Project Advisory Committee. Facility and service objectives developed and discussed in Chapter Three are shown in **Figure 6-12**.

Individual airport summary brochures have been developed for each airport and provide comparisons that enable each airport to view the facilities and services that it should have to meet its system role as well as the estimated development costs. The tables in these brochures also enable the airports to compare their objectives to the actual facilities and services that they have in place. Through this comparison, each airport can identify which facility and service upgrades are desirable for their individual airport.

The next sections of this chapter summarize recommendations identified from the facility and service objective analysis. Through discussions with ITD, each airport's recommendations underwent a review to determine feasibility of construction/installation. This review evaluated issues such as safety, terrain, and environmental concerns. The recommendations that have been identified still need to provide sufficient justification to be eligible to receive federal and state funding. Further, many of these projects will also need to have appropriate environmental analyses completed prior to construction.

Figure 6-12: Facility and Service Objectives

Objective	Commercial Service	Regional Business	Community Business	Local Recreational	Basic Service
Primary Runway Length (ft)	Accommodate 75% of large aircraft at 90% useful load	Accommodate 75% of large aircraft at 60% useful load	Accommodate 95% of small aircraft	Accommodate 75% of small aircraft	Maintain Existing
Primary Runway Width (ft)	100	75	75 (60 for State-Owned)	60 (50 for State-Owned)	Maintain Existing
Primary Runway Strength (lbs)	60,000	30,000	12,500	12,500	Maintain Existing
Taxiway Type	Full Parallel	Full or Partial Parallel	Partial Parallel Connectors, Turnarounds	Turnarounds	Not an Objective
Approach Type	Precision/LPV	Non-Precision	Non-Precision	Visual, Non-Precision desired	Visual
Rotating Beacon	Rotating Beacon	Rotating Beacon	Rotating Beacon	Rotating Beacon	Rotating Beacon
Wind Cone	Lighted Wind Cone	Lighted Wind Cone	Wind Cone	Wind Cone	Wind Cone
GVGI	PAPI/VASI and REILs	PAPI/VASI and REILs	PAPI/VASI and REILs	Not an Objective	Not an Objective
Approach Lighting System	MALSR	MALSR	Not an Objective	Not an Objective	Not an Objective
Runway Lighting	MIRL, HIRL desired	MIRL, HIRL desired	MIRL	MIRL	Maintain Existing
Weather	ATCT, ASOS or AWOS	ASOS or AWOS	ASOS or AWOS	ASOS or AWOS as required	Not an Objective
Phone	Phone	Phone	Phone	Phone	Phone
Restroom	Restroom	Restroom	Restroom	Restroom	Restroom
FBO	FBO	FBO	Not an Objective	Not an Objective	Not an Objective
Maintenance	Maintenance	Maintenance	Not an Objective	Not an Objective	Not an Objective
Fuel	AvGas and Jet A	AvGas and Jet A	AvGas and Jet A as needed	AvGas as desired	Not an Objective
Ground Transportation	Rental Car Access	Rental Car Access	Courtesy/loaner car	Courtesy/loaner car	Not an Objective
Terminal	Terminal	Terminal	Terminal	Facility with restrooms	Not an Objective
Hangar Spaces	80% of Based Aircraft /25% of Transient	60% of Based Aircraft/ 25% of Transient	60% of Based Aircraft	50% of Based Aircraft	Not an Objective
Apron Spaces	20% of Based Aircraft/50% of Transient	40% of Based Aircraft/50% of Transient	40% of Based Aircraft/50% of Transient	50% of Based Aircraft/50% of Transient	100% of Based Aircraft/50% of Transient
Auto Parking	Auto Parking	Auto Parking	Auto Parking	Auto Parking	Auto Parking

Source: Wilbur Smith Associates
Prepared: June 2009

Recommended Primary Runway Lengthening Projects

Facility and service objectives established for Idaho’s airports as part of this system plan identify specific objectives for primary runway length that are based on each airport’s assigned system role. Review of the facility and service objectives shows that several of the system airports are recommended for a primary runway lengthening project to support the facility and service objectives.

To meet the system plan’s facility and service objectives, there are 15 system airports that are recommended to lengthen their primary runway. At a macro level, analysis evaluated the airports ability to actually extend their runway based on current topography, politics, and other limitations and those airports that should be considered for runway lengthening projects are shown in **Figure 6-13**. Analysis for this objective used the FAA’s Runway Design Model 4.2d to determine the runway length needed at each study airport. As mentioned previously, in order to receive federal funding additional justification will need to be gathered prior to receiving funding.

During project recommendations review, it was determined that the likelihood of a runway extension was not attainable to meet the goals of the IASP and therefore, no recommendation was made for: Friedman Memorial, Lewiston-Nez Perce County, Pullman-Moscow Regional, McCarley Field, Caldwell Industrial, Nampa Municipal, Burley Municipal, Homedale Municipal, Shoshone County, Nez Perce Municipal, Orofino Municipal, Preston, Allen H Tigert, St. Maries Municipal, Big Creek, Hazelton Municipal, Kooskia Municipal, and Rockford Municipal airports.

Figure 6-13: Recommended Development – Primary Runway Lengthening

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Bonnars Ferry	Boundary County
Buhl	Buhl Municipal
Challis	Challis Airport
Gooding	Gooding Municipal
Jerome	Jerome County
Mountain Home	Mountain Home Municipal
Rexburg	Rexburg-Madison County
Salmon	Lemhi County
Community Business	
American Falls	American Falls
Cascade	Cascade
Rigby	Rigby-Jefferson
Weiser	Weiser Municipal

Figure 6-13: Recommended Development – Primary Runway Lengthening (cont.)

<i>Associated City</i>	<i>Airport Name</i>
Local Recreational	
Aberdeen	Aberdeen Municipal
Craigmont	Craigmont Municipal
Priest River	Priest River Muni.

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Runway Widening Projects

The facility and service objectives shown in Figure 6-12 identify minimum objectives for primary runway width by each airport’s role. Review of the facility and service objectives shows that 14 of the system’s airports should have a primary runway widening project to meet the minimum objectives for each role category. **Figure 6-14** lists those airports to be considered for primary runway widening projects.

During project recommendations review, it was determined that the likelihood of a runway widening project was not attainable to meet the goals of the IASP and therefore, no recommendation was made at Homedale Municipal and St. Maries Municipal airports.

Figure 6-14: Recommended Development – Primary Runway Widening

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
American Falls	American Falls
Challis	Challis Airport
Rigby	Rigby-Jefferson
Salmon	Lemhi County
Community Business	
Buhl	Buhl Municipal
Cascade	Cascade
Council	Council Municipal
Nez Perce	Nez Perce Municipal
Orofino	Orofino Municipal
Preston	Preston
Weiser	Weiser Municipal
Local Recreational	
Aberdeen	Aberdeen Municipal
Craigmont	Craigmont Municipal
Priest River	Priest River Muni.

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Primary Runway Strengthening Projects

Due to the frequent physical contact between aircraft and runway pavement, airports must ensure that pavement is capable of sustaining anticipated loads under varying climatic conditions and pressure. Runway strength values determined in the IASP represent the estimated load projected from a single wheel landing gear on a paved surface. A review of the facility and service objectives indicates that five of Idaho’s airports with available runway strength data need a paving or strengthening project to meet the minimum objectives on their primary runway for their respective role. **Figure 6-15** lists those airports where existing paved primary runways are recommended to be strengthened.

Figure 6-15: Recommended Development – Runway Strengthening

Associated City	Airport Name
Regional Business	
Blackfoot	McCarley Field
Gooding	Gooding Municipal
Jerome	Jerome County
Salmon	Lemhi County
Community Business	
Homedale	Homedale Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
Prepared: October 2009

Recommended Taxiway Projects

The facility and service objectives shown in Figure 6-12 identify the required type of taxiway to the primary airport for each airport role. The objective for Commercial Service airports is to have a full parallel taxiway system for at least the primary runway, while Regional Business and Community Business should have a partial parallel, connector, or turnaround taxiway system to serve the primary runway. The minimum objective for Local Recreational is turnarounds. There is not an objective for Basic Service airports to have any type of taxiways. Review of the facility and service objectives reveals that 8 of Idaho’s airports are recommended to have a taxiway project to meet the minimum objectives for each role category. It should be noted that airports with an unpaved primary runway are not included in this analysis. **Figure 6-16** lists those airports that are recommended for taxiway construction projects to their primary runway. While Sandpoint meets the taxiway objectives for its role, it is recommended for a taxiway project due to the proximity of a major tenant (Quest Aircraft) and limited taxiway access to the runway. Additionally, Sandpoint’s current runway-taxiway system does not meet separation standards and should be upgraded to meet standards.

Figure 6-16: Recommended Development – Taxiways

<i>Associated City</i>	<i>Airport Name</i>
Commercial Service	
Hailey	Friedman Memorial Airport
Lewiston	Lewiston-Nez Perce County
Regional Business: Objective	
Sandpoint	Sandpoint
Community Business: Objective	
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Paris	Bear Lake County
Preston	Preston
Local Recreational: Objective	
Rockford	Rockford Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Approach Capabilities

Facility and service objectives recommend that Commercial Service airports be supported by precision approaches, and Regional Business and Community Business to have at least non-precision approaches to their primary runways. **Figure 6-17** shows airports that are recommended to upgrade or install the type of approach specified to the primary runway for their respective airport role. There are a total of 20 airports in Idaho’s airport system that need upgraded approach capabilities to meet this study’s facility and service objectives for their primary runway.

During project recommendations review, it was determined that the likelihood of improved approach capabilities at Friedman Memorial was not attainable to meet the goals of the IASP and therefore, no recommendation was made.

Figure 6-17: Recommended Development – Approaches

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Bonnors Ferry	Boundary County
Buhl	Buhl Municipal
Challis	Challis Airport
Community Business	
American Falls	American Falls
Cascade	Cascade
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Kellogg	Shoshone County
Nez Perce	Nez Perce Municipal

Figure 6-17: Recommended Development – Approaches (cont.)

<i>Associated City</i>	<i>Airport Name</i>
Community Business	
Orofino	Orofino Municipal
Paris	Bear Lake County
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field
St. Maries	St. Maries Municipal
Weiser	Weiser Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Runway Lighting Projects

Another facility objective is for airports to have appropriate runway/taxiway lighting. As shown in Figure 6-12, all airports in the Idaho system, with the exception of the Basic Service airports, are recommended to have some type of runway lighting for their primary runway at a minimum. Airports in the Commercial Service, Regional Business, Community Business, and Local Recreational role categories are also recommended to have medium intensity taxiway lighting (MITL). **Figure 6-18** lists 16 airports in Idaho where runway lighting is recommended to be installed or improved. It should be noted that certain runway projects at some airports may require relocation or replacement of lighting systems; these are included in Figure 6-18.

During project recommendations review, it was determined that the likelihood of the installation of runway lights at Big Creek, Cavanaugh Bay, Smiley Creek, Garden Valley, Donald D Coski Memorial, and Elk City were not attainable therefore, no recommendations were made.

Figure 6-18: Recommended Development – Runway Lighting

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Buhl	Buhl Municipal
Community Business	
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Nez Perce	Nez Perce Municipal
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert

Figure 6-18: Recommended Development – Runway Lighting (cont.)

<i>Associated City</i>	<i>Airport Name</i>
Local Recreational	
Hazelton	Hazelton Municipal
Rockford	Rockford Municipal
Basic Service	
Bancroft	Bancroft Municipal
Carey	Carey
Dubois	Dubois Muni.
Fairfield	Camas County
Howe	Howe Municipal
Murphy	Murphy

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Rotating Beacon Projects

The facility and service objectives shown in Figure 6-12 indicate that all IASP airports except Basic Service should possess a rotating beacon for identification of airports from the air. Review of the airport system’s performance relative to the beacon objective indicates that four of Idaho’s airports should have a beacon to meet the minimum objectives for each role category. **Figure 6-19** lists those airports.

Figure 6-19: Recommended Development – Rotating Beacons

<i>Associated City</i>	<i>Airport Name</i>
Community Business	
Nez Perce	Nez Perce Municipal
Parma	Parma
Local Recreational	
Hazelton	Hazelton Municipal
Rockford	Rockford Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Wind Cone Projects

A facility objective for Idaho’s airports is for airports in the Commercial Service and Regional Business roles to have lighted wind cones; while Community Business, Local Recreational, and Basic Service airports should have unlighted wind cones. **Figure 6-20** lists the airports in Idaho where wind cones are recommended to be installed and/or upgraded.

Figure 6-20: Recommended Development – Wind Cones

<i>Associated City</i>	<i>Airport Name</i>
Local Recreational	
Hazelton	Hazelton Municipal
Rockford	Rockford Municipal
Basic Service	
Bancroft	Bancroft Municipal
Donnelly	Donald D Coski Memorial
Dubois	Dubois Muni.
Elk City	Elk City
Fairfield	Camas County
Howe	Howe Municipal
Leadore	Leadore
Mackay	Mackay
Midvale	Lee Williams Memorial
Murphy	Murphy
Oakley	Oakley Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
Prepared: October 2009

Recommended Runway End Identifier Lighting (REILs) Projects

To ensure the highest degree of safety, runway end identifier lights (REILs) provide a positive identification of the approach end at a particular runway. A facility objective for Idaho’s airports is for airports in the Commercial Service, Regional Business, and Community Business roles to have REILs on both ends of the primary runway. **Figure 6-21** lists the 23 airports in Idaho where REILs are recommended to be installed.

Figure 6-21: Recommended Development – REILs

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Blackfoot	McCarley Field
Bonnars Ferry	Boundary County
Buhl	Buhl Municipal
Caldwell	Caldwell Industrial
Challis	Challis Airport
Gooding	Gooding Municipal
Jerome	Jerome County
Nampa	Nampa Municipal
Community Business	
American Falls	American Falls
Cascade	Cascade
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Kellogg	Shoshone County
Nez Perce	Nez Perce Municipal
Orofino	Orofino Municipal
Paris	Bear Lake County
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Generic Visual Glideslope Indicator (GVGI) Projects

A facility objective set forth for Idaho’s airports is for airports in the Commercial Service, Regional Business, and Community Business roles to have GVGI on both ends of the primary runway. GVGI can be precision approach path indicators (PAPIs) in newer equipment or visual approach slope indicators (VASIs) in older equipment. GVGIs are not objectives for Local Recreational and Basic Service airports. **Figure 6-22** lists the 17 Regional Business and Community Business airports in Idaho where GVGI systems are recommended to be installed on the primary runway.

During project recommendations review, it was determined that the likelihood of the installation of GVGI at Orofino Municipal was not attainable therefore, no recommendation was made.

Figure 6-22: Recommended Development – GVGI

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Buhl	Buhl Municipal
Gooding	Gooding Municipal
Grangeville	Idaho County
Jerome	Jerome County
Community Business	
Cascade	Cascade
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Kellogg	Shoshone County
Nez Perce	Nez Perce Municipal
Paris	Bear Lake County
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Approach Lighting System (ALS) Projects

In addition to the approach and airfield lighting requirements established in the facility and service objectives, it is an objective for Commercial Service and Regional Business airports to have a medium intensity approach lighting system with runway alignment indicator (MALSR) in place to support precision and near precision approaches on their primary runways. These systems compliment a published approach by giving the approach lower visibility minimums which are very important at airports in Idaho. There are two airports that are recommended to install a MALSR or an ALS, as shown in **Figure 6-23**.

Figure 6-23: Recommended Development – Approach Lighting Systems

<i>Associated City</i>	<i>Airport Name</i>
Commercial Service	
Hailey	Friedman Memorial Airport
Pullman	Pullman-Moscow Regional

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Weather Reporting Projects

It is recommended that Commercial Service, Regional Business, and Community Business airports have on-site weather reporting. Additionally, on-site weather reporting is required for Local Recreational airports if they have an instrument approach. As shown in **Figure 6-24**, 24 airports within Idaho are recommended to have on-site weather reporting in the form of an AWOS or ASOS as a part of the facility and service objectives.

Figure 6-24: Recommended Development – Weather Reporting

Associated City	Airport Name
Regional Business	
Blackfoot	McCarley Field
Bonnars Ferry	Boundary County
Buhl	Buhl Municipal
Gooding	Gooding Municipal
Grangeville	Idaho County
Community Business	
American Falls	American Falls
Cascade	Cascade
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Kellogg	Shoshone County
Nez Perce	Nez Perce Municipal
Orofino	Orofino Municipal
Paris	Bear Lake County
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field
St. Maries	St. Maries Municipal
Weiser	Weiser Municipal
Local Recreational	
Garden Valley	Garden Valley
Stanley	Stanley

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Phone Projects

It is recommended that all IASP airports have a public pay phone available for airport users. As shown in **Figure 6-25**, 25 airports within Idaho are recommended to provide phone service as a part of the facility and service objectives.

Figure 6-25: Recommended Development – Phone

Associated City	Airport Name
Regional Business	
Sandpoint	Sandpoint
Community Business	
American Falls	American Falls
Arco	Arco-Butte County
Downey	Downey/Hyde Memorial
Preston	Preston
Local Recreational	
Kooskia	Kooskia Municipal
Priest River	Priest River Muni.
Rockford	Rockford Municipal
Basic Service	
Bancroft	Bancroft Municipal
Carey	Carey
Coeur D'Alene	Brooks SPB
Donnelly	Donald D Coski Memorial
Dubois	Dubois Muni.
Elk City	Elk City
Fairfield	Camas County
Glenns Ferry	Glenns Ferry Municipal
Howe	Howe Municipal
Leadore	Leadore
Lewiston	Snake River SPB
Mackay	Mackay
Malad City	Malad City
Midvale	Lee Williams Memorial
Mud Lake	Mud Lake/W Jefferson Cnty
Murphy	Murphy
Oakley	Oakley Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Restroom Projects

It is an objective for all airports in Idaho to provide restroom facilities for their users. As shown in **Figure 6-26**, there are 18 airports where the construction of restrooms is recommended if the objective is to be met. Several of these restroom projects could be completed in concert with recommended terminal projects.

Figure 6-26: Recommended Development – Restrooms

<i>Associated City</i>	<i>Airport Name</i>
Local Recreational	
Hazelton	Hazelton Municipal
Rockford	Rockford Municipal
Basic Service	
Bancroft	Bancroft Municipal
Carey	Carey
Coeur D'Alene	Brooks SPB
Donnelly	Donald D Coski Memorial
Dubois	Dubois Muni.
Elk City	Elk City
Fairfield	Camas County
Glenns Ferry	Glenns Ferry Municipal
Howe	Howe Municipal
Leadore	Leadore
Lewiston	Snake River SPB
Mackay	Mackay
Midvale	Lee Williams Memorial
Mud Lake	Mud Lake/W Jefferson Cnty
Murphy	Murphy
Oakley	Oakley Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended FBO Projects

Fixed base operators (FBOs) provide services for general aviation aircraft, pilots, and passengers. FBOs typically provide fuel, aircraft maintenance, and storage for aircraft. The facility and service objectives set a minimum objective for all Commercial Service and Regional Business airports to have an FBO. While many FBOs are private businesses, some of these services are provided by the airport’s sponsor. Services provided by FBOs could be offered by the sponsor of each airport at reasonable cost.

According to the airport-specific facility and service objective analysis just one airport, Idaho County, is recommended to have an FBO operation. Upon completion of this new facility/service, the state will be in full compliance with this service objective.

Recommended Maintenance Projects

A service objective for both Commercial Service and Regional Business airports is that they provide a maintenance facility to support aircraft users. In addition to FBO services, having adequate maintenance service is critical in meeting the demands of airport users within Idaho. According to the facility and service analysis just one airport, Idaho County, is recommended to add maintenance service.

Recommended Fuel Facility Projects

The facility and service objectives shown in Figure 6-12 show that all airports in the Commercial Service and Regional Business airport roles should have both AvGas and Jet A fueling facilities; and that Community Business and Local Recreational airports should have AvGas at a minimum, and Jet-A as needed. Review of the system’s performance relative to this objective indicates that 28 of Idaho’s airports require augmentation to their fueling facilities to meet the minimum objectives for their role categories. **Figure 6-27** lists those 28 airports.

Figure 6-27: Recommended Development – Fuel Facility

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Buhl	Buhl Municipal
Mountain Home	Mountain Home Municipal
Community Business	
Arco	Arco-Butte County
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Kellogg	Shoshone County
Nez Perce	Nez Perce Municipal
Orofino	Orofino Municipal
Parma	Parma
Preston	Preston
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field
St. Maries	St. Maries Municipal
Weiser	Weiser Municipal
Local Recreational	
Aberdeen	Aberdeen Municipal
Craigmont	Craigmont Municipal
Garden Valley	Garden Valley
Hazelton	Hazelton Municipal
Kamiah	Kamiah Municipal
Kooskia	Kooskia Municipal
Payette	Payette Municipal
Priest River	Priest River Muni.
Rockford	Rockford Municipal
Stanley	Stanley

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Ground Transportation Projects

An objective for the Idaho system of airports is for all airports except Basic category airports to have a ground transportation link. As described previously, ground transportation allows visitors to leave the airport to conduct business in the local community. Ground transportation linkages at airports come most frequently in the form of courtesy/loaner cars or rental cars at larger facilities. To meet this objective, 14 system airports are recommended to acquire ground transportation capabilities as demand warrants. These airports are listed in Figure 6-28.

Figure 6-28: Recommended Development – Ground Transportation

Associated City	Airport Name
Regional Business	
Blackfoot	McCarley Field
Challis	Challis Airport
Community Business	
Cottonwood	Cottonwood Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Nez Perce	Nez Perce Municipal
Parma	Parma
St. Anthony	Stanford Field
Local Recreational	
Craigmont	Craigmont Municipal
Hazelton	Hazelton Municipal
Kooskia	Kooskia Municipal
Priest River	Priest River Muni.
Rockford	Rockford Municipal
Stanley	Stanley

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Terminal/Facility Projects

A facility objective for Idaho’s airports is for airports in the Commercial Service, Regional Business, and Community Business roles to have public terminal buildings with public restrooms. Thirteen airports should consider the addition of a terminal building to meet the facility and service objectives for their respective roles. Figure 6-29 lists these 13 airports.

Figure 6-29: Recommended Development – Terminal/Facility

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Challis	Challis Airport
Salmon	Lemhi County
Community Business	
Cottonwood	Cottonwood Municipal
Council	Council Municipal
Homedale	Homedale Municipal
Nez Perce	Nez Perce Municipal
Parma	Parma
Rigby	Rigby-Jefferson
Soda Springs	Allen H Tigert
St. Anthony	Stanford Field
Local Recreational	
Aberdeen	Aberdeen Municipal
Craigmont	Craigmont Municipal
Hazelton	Hazelton Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
Prepared: October 2009

Recommended Hangar Projects

The facility and service objectives shown in Figure 6-12 show that all airports in Idaho’s airport system should have enough hangar space to house a certain percentage of their based fleet and transient aircraft, depending on their role in the system. Review of the system’s performance relative to the hangar objective shows that 10 of Idaho’s airports are recommended to have additional hangar space to meet demand. **Figure 6-30** lists those airports.

During project recommendations review, it was determined that the likelihood of additional hangar storage at Friedman Memorial was not attainable therefore, no recommendation was made.

Figure 6-30: Recommended Development – Hangar

Associated City	Airport Name
Commercial Service	
Boise	Boise Air Terminal/Gowen Field
Pocatello	Pocatello Regional
Pullman	Pullman-Moscow Regional
Twin Falls	Joslin Field - Magic Valley Regional
Regional Business	
Challis	Challis Airport
Community Business	
Nez Perce	Nez Perce Municipal
St. Anthony	Stanford Field
Weiser	Weiser Municipal
Local Recreational	
Garden Valley	Garden Valley
Stanley	Stanley

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

Recommended Apron Projects

The IASP’s facility and service objectives set an objective for all airports to have a specific number of paved aircraft parking spaces on their aprons. As shown in **Figure 6-31**, there are 32 airports that do not currently meet the objective and are recommended to provide additional apron parking spaces. Since demand for apron space was determined by role category, an individual airport’s need for additional apron or tie-down space may vary greatly.

Figure 6-31: Recommended Development – Apron

Associated City	Airport Name
Commercial Service	
Boise	Boise Air Terminal/Gowen Field
Idaho Falls	Idaho Falls Regional
Lewiston	Lewiston-Nez Perce County
Pocatello	Pocatello Regional
Regional Business	
Bonnors Ferry	Boundary County
Buhl	Buhl Municipal
Caldwell	Caldwell Industrial
Coeur D’Alene	Coeur D’Alene - Pappy Boyington Field
Driggs	Driggs-Reed Memorial
Gooding	Gooding Municipal
Nampa	Nampa Municipal
Community Business	
American Falls	American Falls
Arco	Arco-Butte County

Figure 6-31: Recommended Development – Apron (cont.)

<i>Associated City</i>	<i>Airport Name</i>
Homedale	Homedale Municipal
Kellogg	Shoshone County
Orofino	Orofino Municipal
Rigby	Rigby-Jefferson
St. Anthony	Stanford Field
St. Maries	St. Maries Municipal
Weiser	Weiser Municipal
Local Recreational	
Aberdeen	Aberdeen Municipal
Craigmont	Craigmont Municipal
Basic Service	
Bancroft	Bancroft Municipal
Carey	Carey
Coeur D'Alene	Brooks SPB
Donnelly	Donald D Coski Memorial
Fairfield	Camas County
Leadore	Leadore
Mackay	Mackay
Mud Lake	Mud Lake/W Jefferson Cnty
Murphy	Murphy
Oakley	Oakley Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
Prepared: October 2009

Recommended Auto Parking Projects

This study's facility and service objectives set an objective for all IASP airports to have paved auto parking for its employees and users. As shown in **Figure 6-32**, there are 33 airports that are recommended to provide additional paved auto parking spaces.

Figure 6-32: Recommended Development – Auto Parking

<i>Associated City</i>	<i>Airport Name</i>
Regional Business	
Challis	Challis Airport
Coeur D'Alene	Coeur D'Alene-Pappy Boyington Field
Grangeville	Idaho County
McCall	McCall Municipal
Salmon	Lemhi County
Community Business	
Burley	Burley Municipal
Council	Council Municipal
Downey	Downey/Hyde Memorial
Homedale	Homedale Municipal
Nez Perce	Nez Perce Municipal

Figure 6-32: Recommended Development – Auto Parking (cont.)

<i>Associated City</i>	<i>Airport Name</i>
Paris	Bear Lake County
Parma	Parma
St. Anthony	Stanford Field
Local Recreational	
Aberdeen	Aberdeen Municipal
Hazelton	Hazelton Municipal
Kamiah	Kamiah Municipal
Kooskia	Kooskia Municipal
Payette	Payette Municipal
Basic Service	
Bancroft	Bancroft Municipal
Carey	Carey
Coeur D’Alene	Brooks SPB
Donnelly	Donald D Coski Memorial
Dubois	Dubois Muni.
Fairfield	Camas County
Glenns Ferry	Glenns Ferry Municipal
Howe	Howe Municipal
Leadore	Leadore
Mackay	Mackay
Malad City	Malad City
Midvale	Lee Williams Memorial
Mud Lake	Mud Lake/W Jefferson Cnty
Murphy	Murphy
Oakley	Oakley Municipal

Source: 2008 Airport Inventory & Data Survey, Wilbur Smith Associates, and T-O Engineers Inc
 Prepared: October 2009

DEVELOPMENT COSTS

Costs that are discussed in the final section of this chapter are those that may be incurred to raise the performance of the system to meet identified targets, to resolve deficiencies noted for facility and service objectives, and to implement current CIPs. The scope of this plan does not allow for detailed cost estimates to be developed, however, a systematic approach was utilized to develop cost estimates to a planning level of detail for each airport in the IASP.

To develop cost estimates, average unit costs were used based on recent projects occurring throughout the state. These costs are not reflective of airport-specific conditions which might cause costs to be higher or in some limited instances lower. It is most likely that cost estimates provided in this chapter are conservative and that actual costs will exceed these estimates. Further, inclusion of a project in this document does not commit state or federal funding for that project. It is the role of the airport master plan to justify specific projects and develop detailed cost estimates.

To fully fund all projects identified by this plan, to meet deficiencies related to system performance measures and benchmarks, and planned capital improvement projects that have

been identified by study airports, an estimated \$738.8 million in federal, state, and local funds would be needed over 20 years. **Figure 6-33** reflects these costs by airport role. As previously mentioned, costs provided in this section have not been developed to the level of detail that would result from master planning, a financial feasibility study, or an engineering study. The costs discussed in this section do provide ITD Division of Aeronautics with an understanding of the general cost range that could be associated with achieving higher compliance ratings for the applicable system performance measures for which projects are appropriate. Cost shown in Figure 6-33 would also enable study airports to act on their existing CIPs.

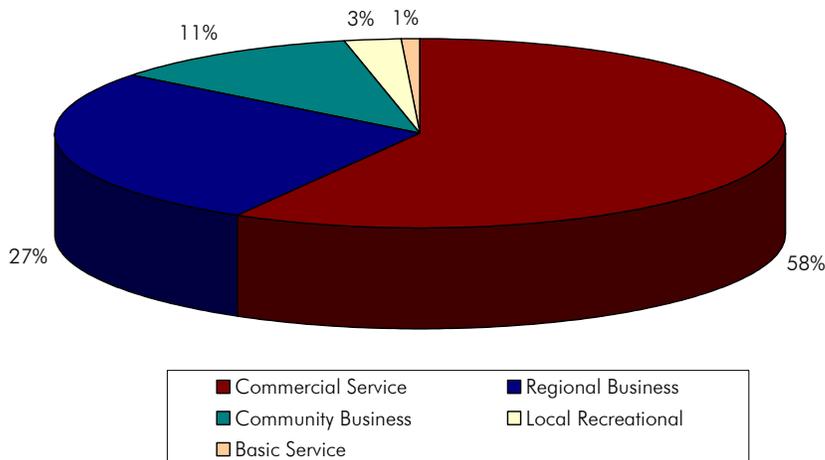
Figure 6-33: Total 20-Year Development Costs by Airport Classification

<i>Airport Role</i>	<i>Estimated 20-Year Development Costs</i>	<i>Percent of Total Development Costs</i>
Commercial Service	\$432,207,500	58%
Regional Business	\$199,892,200	27%
Community Business	\$82,698,400	11%
Local Recreational	\$19,249,000	3%
Basic Service	\$5,787,200	1%
Total	\$738,834,300	

Source: Wilbur Smith Associates and T-O Engineers Inc
Prepared: December 2009

Figure 6-34 summarizes the estimated 20-year costs by airport role. As shown in Figure 6-34, 96 percent of these costs could be incurred to raise the level of performance for Commercial Service, Regional Business and Community Business airports in Idaho. The remaining 4 percent would be needed to raise the level of performance of Local Recreational and Basic Service airports.

Figure 6-34: 20-Year Development Costs by Airport Role



Source: Wilbur Smith Associates and T-O Engineers Inc
Prepared: December 2009

Figure 6-35 identifies estimated costs by project type. It is also worth noting that the costs shown in Figure 6-35 will continually change over the planning period. Each time that an airport updates its CIP and each time system plan or airport-specific projects are completed,

the estimates shown in Figure 6-35 will change. It is often difficult to determine when specific projects will occur beyond the Short Term (five-year) planning horizons. Therefore, estimated costs for the Long Term planning horizon have been summarized by airside and landside development estimated costs and not specific project type. Additionally, airport CIP projects that fell outside of the IASP were included as a separate line item. These other CIP projects can include but are not limited to land acquisition, security improvements, studies, access road projects, and equipment. Three airports (Pullman-Moscow Regional, Friedman Memorial, and Burley Municipal) are currently in the process of evaluating relocating or redesigning their airfields for more efficient use. For the purpose of the IASP, the costs for these major projects are also shown as a separate line item. The costs identified for the relocated/redesigned airports were developed using the most current and available data from the airports as well as development costs from other recent relocation projects at airports across the country.

Figure 6-36 reflects 20-year development costs by project type. As Figure 6-36 indicates, the largest project type are CIP Projects (projects that fall outside of IASP project categories) with 37 percent of the total development costs. The estimated major projects costs included in the CIP Projects category include:

- ✈ \$117 million at Boise Air Terminal/Gowen Field for a new cargo facility, terminal expansion/enhancements, access road improvements, and security enhancements
- ✈ \$45 million at McCall Municipal for a runway and taxiway extension, and terminal complex
- ✈ \$40 million for land acquisition at general aviation airports
- ✈ \$8 million for terminal area improvements and equipment at other commercial service airports
- ✈ The estimated costs included for replacement airports account for 28 percent of the total development and include the following costs:
 - \$140 million for Friedman Memorial
 - \$45 million for Pullman-Moscow Regional
 - \$24 million for Burley Municipal

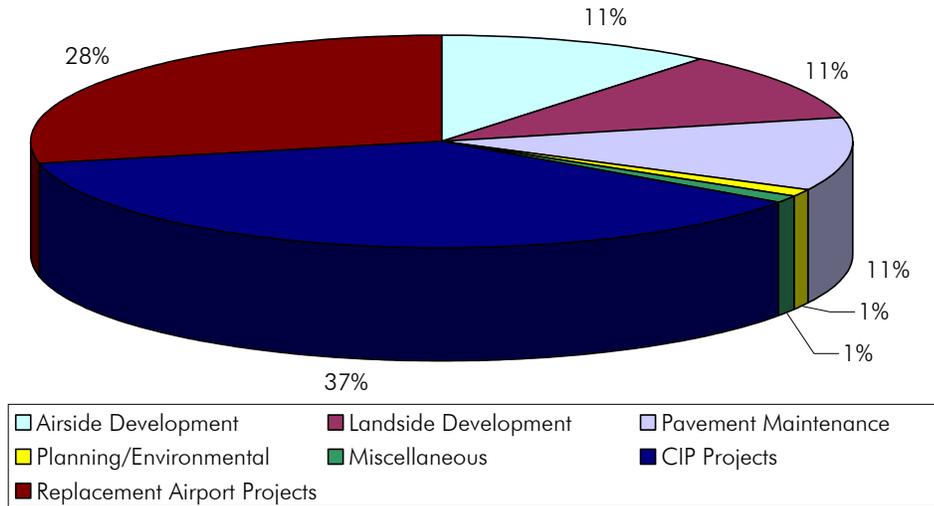
Airside development, landside development and pavement maintenance projects account for 33 percent of the total estimated development costs, while other costs would account for 2 percent of the \$738.8 million total.

Figure 6-35: Total 20-Year Development Costs by Specific Project Types

<i>Short Term (2008-2013)</i>	
<i>Project Description:</i>	<i>Total Estimated Cost</i>
Airside Development	
Runway Projects	\$13,246,600
Taxiway Projects	\$6,190,000
NAVAIDS/Lighting/Approaches	\$6,217,300
Pavement Maintenance	
Pavement Maintenance	\$52,649,800
Landside Development	
Hangar Projects	\$17,738,000
Apron Projects	\$19,426,900
Auto Parking Projects	\$836,000
Terminal (including pilots lounge restrooms and phone)	\$1,945,000
Fueling Facilities	\$3,400,000
Planning/Environmental	
Master Plan/ALP	\$1,640,000
Miscellaneous	
Snow Removal Equipment	\$2,602,000
Subtotal Short Term Costs	\$125,891,600
<i>Long Term (2014-2028)</i>	
<i>Project Description:</i>	<i>Total Estimated Cost</i>
Airside Development	
	\$48,021,900
Pavement Maintenance	
	\$27,872,500
Visual Aids/NAVAIDS/Approach	
	\$6,176,000
Landside Development	
	\$35,844,000
Planning/Environmental	
	\$7,600,000
Miscellaneous	
	\$4,400,000
Subtotal Long Term Costs	\$129,914,400
<i>CIP Projects</i>	
CIP Projects/Costs	\$274,028,300
<i>Replacement Airport Costs</i>	
Replacement Airport Costs	\$209,000,000
Total Cost (2008-2028)	\$738,834,300

Source: Wilbur Smith Associates and T-O Engineers Inc
Prepared: December 2009

Figure 6-36: 20-Year Development Costs by Project Type



Source: Wilbur Smith Associates and T-O Engineers Inc
 Prepared: December 2009

SUMMARY

The IASP has identified costs to elevate the overall performance of the state’s airport system and to enable individual airports in the system to fulfill their designated roles. Through 2028, the cost to raise the level of performance of airports throughout Idaho to meet IASP recommendations and airport CIP projects will be at least \$738.8 million. The importance of Idaho’s airports to the economies of the state, cities, and counties is undeniable. The system must be maintained and justifiably expanded not only to meet the needs of the aviation community but also the economic objectives of the state.