
5.0 Performance Analysis of Typical Facility and Service Attributes

5.1 Overview

Airport facilities and services largely define the types of aircraft and users that operate at an airport. The Wisconsin State Airport System Plan, Airport Classification Review and Update (2010) identified typical facility and service attributes (FSAs), and these attributes were reviewed and updated as part of this plan. The FSAs have been established to identify typical and safe facilities and services that meet the attributes established for each classification. **These attributes are not a requirement, rather they provide guidance on items each airport should have in place to best fill its system role and meet the needs of its users. Any investment in an FSA at an airport needs to be justified and approved through the local master planning and environmental processes. When an airport updates its airport layout plan (ALP) or master plan, it should reference these FSAs.** Airport FSAs are subdivided by airside, landside, services and administration.

The FSAs by airport classification appear in **Tables 5-1** through **5-4**. The FSAs have been applied to each airport and are documented on the individual airport report cards included in **Chapter 7**. Supporting documentation for each FSA, airports that do not meet an FSA and system performance related to each FSA is presented following **Tables 5-1** through **5-5**.

The term ‘not an objective’ is included in the FSAs, which means that a service or facility was not evaluated for a particular classification. In regards to the overall system analysis, the percentage of airports meeting or not meeting an FSA only takes into account the airports for which the FSA applies.



**Table 5-1
Commercial Service Airports - Typical Facility and Service Attributes**

Attribute	Airside Facilities
Airport reference code (ARC)	C or greater
Primary runway length	6,700 feet or greater (actual runway dimensions are determined by each airport's *critical aircraft)
Primary runway width	150 feet (actual runway dimensions are determined by each airport's *critical aircraft)
Taxiway type (primary runway)	Full parallel
Pavement condition	Area-weighted PCI of 75 or greater
Runway/taxiway lighting	HIRL and MITL
Visual aids and approach light configuration	Rotating beacon Wind cone MALSR REILs VGSI (PAPI or VASI)
Approach capability	Visibility minimum 1/2 mile or less
Weather reporting	ASOS or AWOS
Attribute	Landside Facilities and Services
Fixed Base Operator (FBO)	FBO(s) available
Maintenance	Major airframe and powerplant
Fuel	100LL and Jet A to itinerant aircraft
GA Terminal/admin building	GA terminal/administrative building
GA terminal building services	Phone, restrooms, flight planning room/lounge
Ground transportation	On-site rental car
Auto parking	Lighted auto parking
Ramp space	Tiedowns for 50% of average daily transient aircraft
Operations/maintenance building	Operations/maintenance building
Snow removal and deicing	Snow removal and deicing
Security	Not an objective
Attribute	Administrative
Land use zoning ordinance	Recommended
Height limitation zoning ordinance	Recommended
Vehicle pedestrian ordinance	Recommended
Wildlife hazard assessment	Recommended
Stormwater management plan	Recommended
Fee/easement ownership of existing RPZs	Recommended

*The airport must be designed to standards to accommodate the most demanding airplane (critical aircraft), currently using or forecast to use the facility on a regular basis (defined as 500 annual operations or more). The weight, wingspan and performance characteristics of these aircraft, in conjunction with site-specific conditions, determine an airport's geometry in terms of runway/taxiway configuration, length and separation.
Note: Each FSA is discussed in detail in associated sections of Chapter 5.



**Table 5-2
Large General Aviation Airports - Typical Facility and Service Attributes**

Attribute	Airside Facilities
ARC	B or greater
Primary runway length	5,500 feet or greater (actual runway dimensions are determined by each airport's *critical aircraft)
Primary runway width	100 feet (actual runway dimensions are determined by each airport's *critical aircraft)
Taxiway type (primary runway)	Full parallel
Pavement condition	Area-weighted PCI of 70 or greater
Runway/taxiway lighting	HIRL and MITL
Visual aids and approach light configuration	Rotating beacon Wind cone MALSR REILs VGSI (PAPI or VASI)
Approach capability	Visibility minimum 1/2 mile
Weather reporting	ASOS or AWOS
Attribute	Landside Facilities and Services
FBO	FBO(s) available
Maintenance	Major airframe and powerplant
Fuel	100LL and Jet A to itinerant aircraft
GA Terminal/admin building	GA terminal/administrative building
GA terminal building services	Phone, restrooms, flight planning room/lounge
Ground transportation	Rental car availability
Auto parking	½ space per based aircraft
Ramp space	Tiedowns for 50% of average daily transient aircraft
Operations/maintenance building	Operations/maintenance building
Snow removal and deicing	Snow removal
Security	Meet BOA airport security recommendations for large GA airports
Attribute	Administrative
Land use zoning ordinance	Recommended
Height limitation zoning ordinance	Recommended
Vehicle pedestrian ordinance	Recommended
Wildlife hazard assessment	Recommended
Stormwater management plan	Recommended
Fee/easement ownership of existing RPZs	Recommended

*The airport must be designed to standards to accommodate the most demanding airplane (critical aircraft), currently using or forecast to use the facility on a regular basis (defined as 500 annual operations or more). The weight, wingspan and performance characteristics of these aircraft, in conjunction with site-specific conditions, determine an airport's geometry in terms of runway/taxiway configuration, length and separation.
Note: Each FSA is discussed in detail in associated sections of Chapter 5.



**Table 5-3
Medium General Aviation Airports - Typical Facility and Service Attributes**

Attribute	Airside Facilities
ARC	A or greater
Primary runway length	4,000 feet to 5,499 feet or greater (actual runway dimensions are determined by each airport's *critical aircraft)
Primary runway width	75 feet (actual runway dimensions are determined by each airport's *critical aircraft)
Taxiway type (primary runway)	Full parallel
Pavement condition	Area-weighted PCI of 70 or greater
Runway/taxiway lighting	MIRL and taxiway reflectors
Visual aids and approach light configuration	Rotating beacon Wind cone MALSF REILs VGSI (PAPI or VASI)
Approach capability	Visibility minimum 3/4 mile
Weather reporting	ASOS or AWOS
Attribute	Landside Facilities and Services
FBO	FBO(s) available
Maintenance	Minor airframe and powerplant
Fuel	100LL and Jet A to itinerant aircraft
GA Terminal/admin building	GA terminal/administrative building
GA terminal building services	Phone and restrooms
Ground transportation	Courtesy car/loaner car
Auto parking	½ space per based aircraft
Ramp space	Tiedowns for 25% of average daily transient aircraft
Operations/maintenance building	Operations/maintenance building
Snow removal and deicing	Snow removal
Security	Meet BOA airport security recommendations for medium GA airports
Attribute	Administrative
Land use zoning ordinance	Recommended
Height limitation zoning ordinance	Recommended
Vehicle pedestrian ordinance	Recommended
Wildlife hazard assessment	Recommended
Stormwater management plan	Recommended
Fee/easement ownership of existing RPZs	Recommended

*The airport must be designed to standards to accommodate the most demanding airplane (critical aircraft), currently using or forecast to use the facility on a regular basis (defined as 500 annual operations or more). The weight, wingspan and performance characteristics of these aircraft, in conjunction with site-specific conditions, determine an airport's geometry in terms of runway/taxiway configuration, length and separation. Note: Each FSA is discussed in detail in associated sections of Chapter 5.



**Table 5-4
Small General Aviation Airports - Typical Facility and Service Attributes**

Attribute	Airside Facilities
ARC	A or greater
Primary runway length	3,200 to 3,999 feet or greater (actual runway dimensions are determined by each airport's *critical aircraft)
Primary runway width	60 feet (actual runway dimensions are determined by each airport's *critical aircraft)
Taxiway type (primary runway)	Turnarounds and parallel taxiway desired
Pavement condition	Area-weighted PCI of 70 or greater
Runway/taxiway lighting	MIRL and taxiway reflectors
Visual aids and approach light configuration	Rotating beacon Wind cone REILs VGSI (PAPI or VASI)
Approach capability	Visibility minimum 1 mile
Weather reporting	Not an objective
Attribute	Landside Facilities and Services
FBO	Not an objective
Maintenance	Not an objective
Fuel	100LL to itinerant aircraft
GA Terminal/admin building	GA terminal/administrative building
GA terminal building services	Phone and restrooms
Ground transportation	Courtesy car/loaner car
Auto parking	Not an objective
Ramp space	Tiedowns for 25% of average daily transient aircraft
Operations/maintenance building	Not an objective
Snow removal and deicing	Snow removal
Security	Meet BOA airport security recommendations for small GA airports
Attribute	Administrative
Land use zoning ordinance	Recommended
Height limitation zoning ordinance	Recommended
Vehicle pedestrian ordinance	Recommended
Wildlife hazard assessment	Recommended
Stormwater management plan	Recommended
Fee/easement ownership of existing RPZs	Recommended

*The airport must be designed to standards to accommodate the most demanding airplane (critical aircraft), currently using or forecast to use the facility on a regular basis (defined as 500 annual operations or more). The weight, wingspan and performance characteristics of these aircraft, in conjunction with site-specific conditions, determine an airport's geometry in terms of runway/taxiway configuration, length and separation. Note: Each FSA is discussed in detail in associated sections of Chapter 5.



5.2 Airside Facilities

5.2.1 Airport Reference Code (ARC)

The ARC represents the typical design characteristics of each airport classification. As discussed in **Section 3.2.1**, the design ARC for each airport should be determined at the master planning level and include the most demanding or critical aircraft that uses, or is forecast to use, the airport. The ARC FSAs for each airport classification are presented in the following sections.

5.2.1.1 Commercial Service Airports

Commercial service airports are designed to accommodate regularly-scheduled, year-round commercial air service and the full range of GA activity to domestic and international destinations.

It was determined that in order to meet current and future commercial aircraft demands, commercial service airports should typically be designed to an ARC that has an aircraft approach category of at least C. This standard allows these airports to accommodate popular business-sized jet aircraft including Lear Jets 35 and 60; Falcon 50; and Gulfstreams 100, 150 and 200. Some commercial service airports may have a need to serve aircraft in a larger aircraft approach category, which should be included in the airport master plan.

An aircraft approach category of C allows an airport to serve aircraft with approach speeds of 121 knots or more, but less than 141. **Table 5-5** includes the primary commercial service aircraft that currently serve Wisconsin and their associated aircraft approach category.

Table 5-5
2011 Primary Commercial Service Aircraft Operating in Wisconsin

Aircraft Identifier	Description	Aircraft Approach Category
CRJ	CRJ 200	C
CRJ7	CRJ 700	C
EMB-135	Embraer 135	C
EMB-140	Embraer 140	C
EMB-145/ERJ 145	Embraer 145	C
MDC-DC-9-50	DC-9	C
B717-200	Boeing 717-200	C
B737-700	Boeing 737-700/LR	C
A319	Airbus 319	C

Source: Official Airline Guide, Boeing (www.boeing.com), *Jane's All the World's Aircraft* (2004-2005)



5.2.1.2 Large General Aviation (GA) Airports

Large GA airports are intended to support all GA aircraft. Primarily, these airports serve as domestic transportation centers but also may serve international business activity.

To meet current and future demands of a large GA airport, the typical aircraft approach category for the critical aircraft should be at least a B. As with the commercial service airports, some large GA airports may serve critical aircraft with an approach category larger than what may be typical for their classification, which should be included in the airport master plan.

5.2.1.3 Medium GA Airports

Medium GA airports are intended to serve mostly single and multi-engine GA aircraft to support regional and in-state air transportation needs. To meet this intended use, an aircraft approach category of at least an A is typical for the critical aircraft in this classification. This design standard accommodates many smaller twin-engine aircraft including the Beech Barron.

5.2.1.4 Small GA Airports

Small GA airports are intended to support single-engine GA aircraft but may also accommodate small twin-engine aircraft. To meet this intended use, an aircraft approach category of at least an A is typical for the critical aircraft in this classification. This design standard accommodates most popular single-engine aircraft including the Cessna 172, Piper Warrior, Cirrus SR22 and the Beech Bonanza.

The ARC FSA for each classification is listed in **Table 5-6**.

Table 5-6
Airport Reference Code FSA

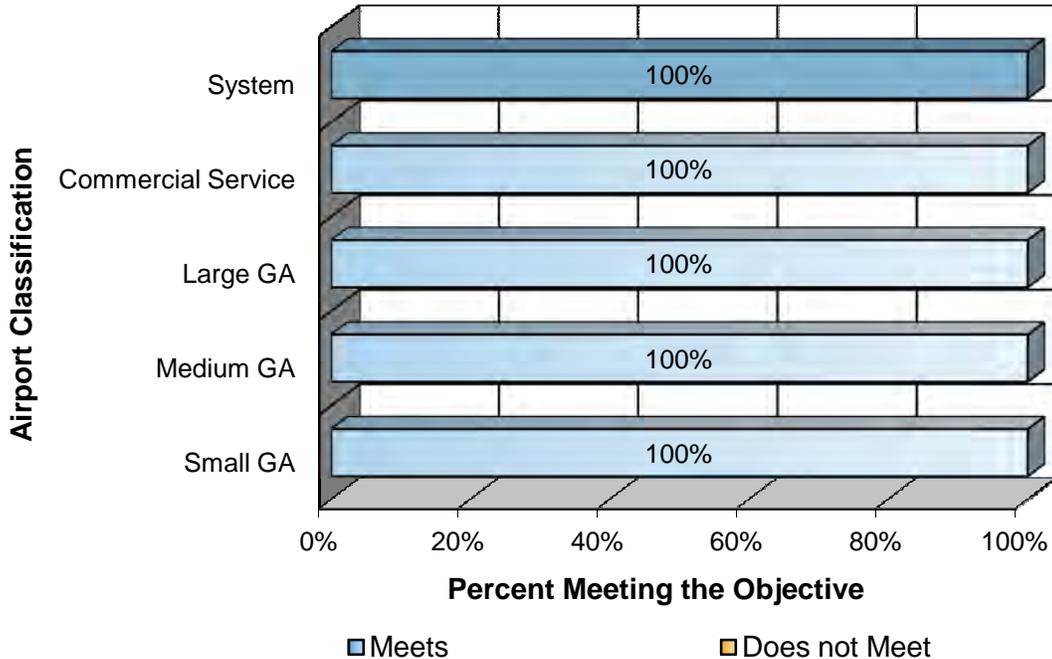
Classification	Facility and Service Attribute
Commercial Service	Aircraft approach category of C or greater
Large GA	Aircraft approach category of B or greater
Medium GA	Aircraft approach category of A or greater
Small GA	Aircraft approach category of A or greater



5.2.1.5 System Performance – ARC

Currently, all airports in the system meet the ARC FSA as shown in **Chart 5-1**.

Chart 5-1
System Performance - Airport Reference Code



5.2.2 Primary Runway Length

The length of a runway is a determining factor in the type of aircraft that can operate at a particular airport. Many factors can determine the required runway length including runway gradient, mean maximum temperature, relative humidity and airport elevation. FAA Advisory Circular (AC) 150/5325-4B, Runway Length Requirements for Airport Design, outlines runway length requirements for different groups of aircraft and other runway considerations.

It is important to note that other factors can affect an aircraft’s required runway length including engine performance and aircraft takeoff weight. Larger, heavier aircraft can require a longer runway to operate at full capacity. Aircraft may be able to operate on shorter runway lengths if they compensate by reducing the takeoff weight by carrying less fuel, passengers and/or cargo. A policy included in Connections 2030, WisDOT’s long-range multi-modal transportation plan, is to “*Improve airport facilities and infrastructure to create more business airplane capable airports.*” Providing adequate runway length is one way airports can help the state system meet this policy.



Table 5-7 summarizes the runway length FSA for each airport classification.

**Table 5-7
Primary Runway Length FSA**

Classification	Facility and Service Attribute
Commercial Service	6,700 feet or greater
Large GA	5,500 feet or greater
Medium GA	4,000 feet to 5,499 feet or greater
Small GA	3,200 feet to 3,999 feet or greater

5.2.2.1 System Performance – Primary Runway Length

Runway extensions can require a great deal of planning, land use protection, property acquisition, environmental review and cost. Conditions specific to each airport may preclude a runway extension, warrant a shorter runway extension or demand an extension that exceeds the runway length FSA. Other factors that may prevent a runway extension include funding, environmental features, terrain and public opposition. The local master planning process should include a more detailed analysis of runway length requirements, runway feasibility and runway extension cost/benefits. In addition, aircraft flight manuals can be used to help evaluate the required runway length for critical aircraft at each airport. It is important to note operational insurance requirements also play a role in the runway length required for many aircraft operators. Many business-size aircraft are restricted to runway lengths of 5,000 feet or longer. In addition, many flight management systems on board jet aircraft do not provide data for airports with less than 5,000 feet. Ramp strength is also an important factor in determining the type of aircraft that operate at an airport.

Currently, 70 airports (71%) meet the FSA for primary runway length. **Table 5-8** lists the 28 airports that do not meet the FSA, their runway length and associated FSA. Two airports that do not meet the FSA have a primary runway length within 100 feet of the FSA, and an additional six airports have a primary runway length within 200 feet of the FSA. Of the 28 airports not meeting this FSA, three airports are identified as potential sites for runway extensions in WisDOT *Connections 2030*. If an airport is within five feet of meeting the typical length, the airport is considered to meet the FSA.



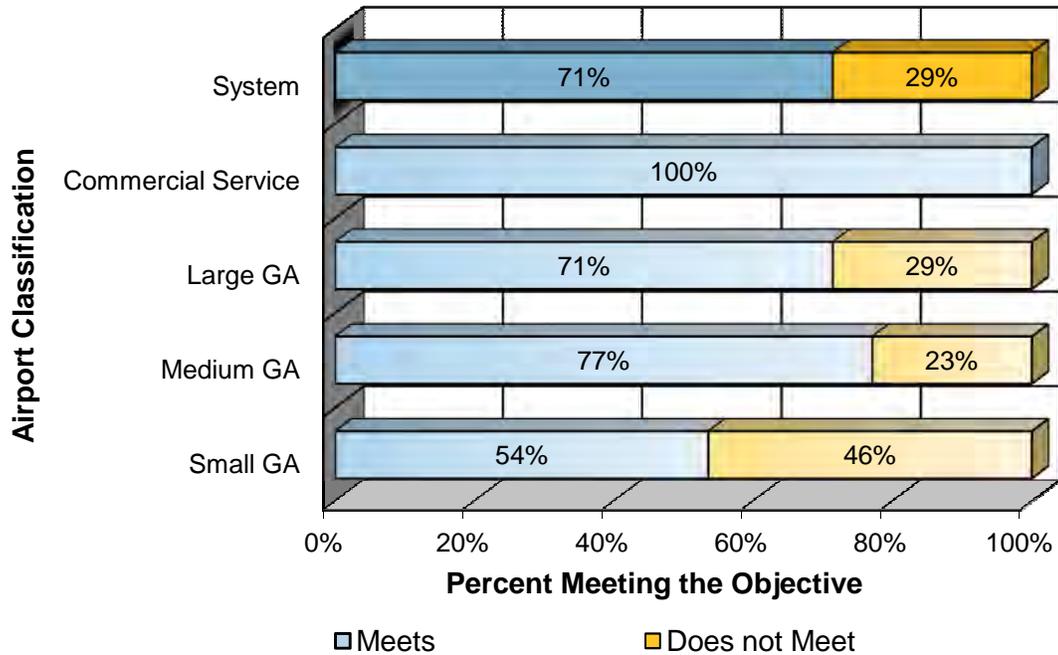
**Table 5-8
Primary Runway Length FSA - Airports Not Meeting FSA**

Airport	Runway Length	
	Existing (in feet)	FSA
East Troy***	3,900	5,500 feet or greater
Middleton	4,000	5,500 feet or greater
Milwaukee-Timmerman	4,103	5,500 feet or greater
West Bend***	4,494	5,500 feet or greater
Brookfield	3,501	4,000 feet to 5,499 feet or greater
Chetek	3,400	4,000 feet to 5,499 feet or greater
Fort Atkinson**	3,800	4,000 feet to 5,499 feet or greater
Friendship-Adams	3,398	4,000 feet to 5,499 feet or greater
Hartford***	3,000	4,000 feet to 5,499 feet or greater
Palmyra	2,800	4,000 feet to 5,499 feet or greater
Portage	3,775	4,000 feet to 5,499 feet or greater
Prairie du Sac	2,936	4,000 feet to 5,499 feet or greater
Shawano**	3,899	4,000 feet to 5,499 feet or greater
Shell Lake	3,711	4,000 feet to 5,499 feet or greater
Viroqua	3,346	4,000 feet to 5,499 feet or greater
Barron	2,010	3,200 feet to 3,999 feet or greater
Boulder Junction*	3,170	3,200 feet to 3,999 feet or greater
Cassville**	3,000	3,200 feet to 3,999 feet or greater
Crivitz	2,620	3,200 feet to 3,999 feet or greater
Ephraim-Gibraltar	2,700	3,200 feet to 3,999 feet or greater
Grantsburg**	3,000	3,200 feet to 3,999 feet or greater
Hillsboro**	3,070	3,200 feet to 3,999 feet or greater
La Pointe**	3,000	3,200 feet to 3,999 feet or greater
Madison-Blackhawk	2,814	3,200 feet to 3,999 feet or greater
Necedah	2,700	3,200 feet to 3,999 feet or greater
Solon Springs*	3,100	3,200 feet to 3,999 feet or greater
Washington Island	2,230	3,200 feet to 3,999 feet or greater
Wild Rose	2,990	3,200 feet to 3,999 feet or greater
Notes: *airports within 100 feet of FSA **airports within 200 feet of FSA ***airports identified as potential sites for runway extension as outlined in <i>Connections 2030</i>		



The system performance for this FSA is shown in **Chart 5-2**.

**Chart 5-2
System Performance - Primary Runway Length**



5.2.3 Primary Runway Width

The runway width FSAs coincide with the aircraft approach category and airport approach capability FSAs for each classification. The runway width requirements are directly related to the aircraft design groups and runway approach visibility minimums.

Table 5-9 summarizes the runway width FSA for each airport classification.

**Table 5-9
Primary Runway Width FSA**

Classification	Facility and Service Attribute
Commercial Service	150 feet
Large GA	100 feet
Medium GA	75 feet
Small GA	60 feet



5.2.3.1 System Performance – Primary Runway Width

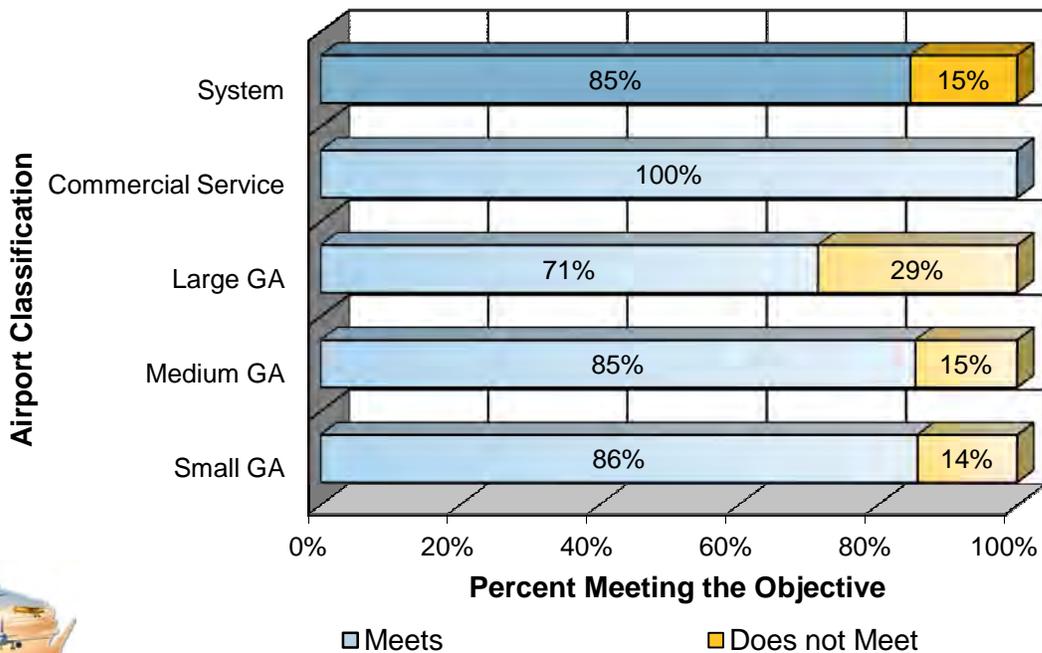
Currently, 85 percent of all airports meet the primary runway width FSA. The airports not meeting this FSA are listed in **Table 5-10**.

Table 5-10
Primary Runway Width FSA - Airports Not Meeting FSA

Airport	Runway Width	
	Existing (in feet)	FSA (in feet)
East Troy	75	100
Milwaukee-Timmerman	75	100
New Richmond	75	100
West Bend	75	100
Brookfield	44	75
Chetek	60	75
Fort Atkinson	60	75
Friendship-Adams	60	75
Portage	60	75
Prairie du Sac	60	75
Viroqua	60	75
Cassville	50	60
Hillsboro	46	60
Lancaster	45	60
Madison-Blackhawk	57	60

The system performance for this FSA is shown in **Chart 5-3**.

Chart 5-3
System Performance - Primary Runway Width



5.2.4 Taxiway Type

Taxiways are used by pilots to move aircraft on the ground from one part of the airport to another. Each runway is accessed using a taxiway or taxiway system. At larger commercial service airports, a taxiway system can be extensive. At smaller GA airports, a single taxiway may simply provide a short connection from the terminal/hangar area to the runway. Taxiways can be a full-length parallel taxiway, partial parallel or a connector taxiway. In addition, turnaround areas may be located at runway ends. Turnarounds are used by pilots to perform “run-ups” prior to takeoff and to turnaround when a taxiway facility is not available. Also, they may be used as a staging area when another aircraft is landing or taking off. A full parallel taxiway is required for runways with approach procedures with visibility minimums of less than one mile. A full parallel taxiway is a requirement for an airport to achieve the FSA for approach minimums for commercial service, large GA and medium GA airports (see Section 5.2.11). Figure 5-1 includes examples of each taxiway type.

Figure 5-1 – Taxiway Types

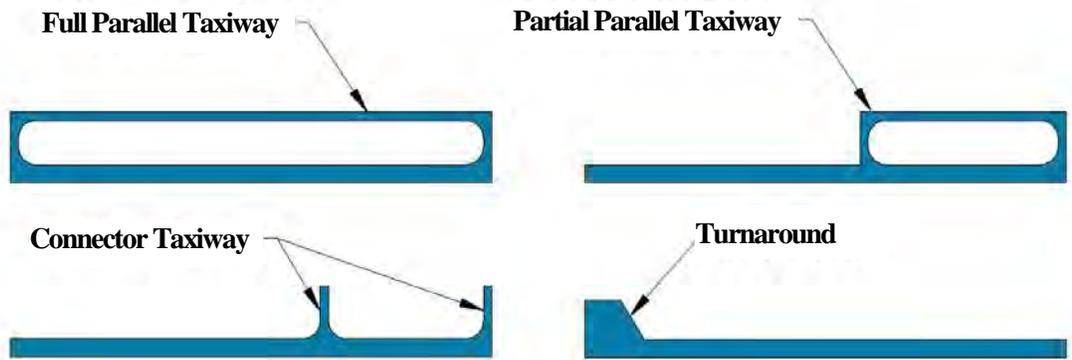


Table 5-11 summarizes the FSA for taxiways by classification.

**Table 5-11
Taxiway Type FSA**

Classification	Facility and Service Attribute
Commercial Service	Full parallel taxiway
Large GA	Full parallel taxiway
Medium GA	Full parallel taxiway
Small GA	Not an Objective (Turnarounds and/or parallel taxiway desired)



5.2.4.1 System Performance – Taxiway Type

Airports not meeting the taxiway type FSA are shown in **Table 5-12**. Thirty-nine airports (56%) in the system meet the taxiway type FSA (Small GA airports are excluded from this analysis). All of the airports that do not meet this objective are medium GA airports. Of the 31 medium GA airports that do not have a full parallel taxiway, 14 airports have a partial parallel taxiway, while the remaining 17 airports have connector taxiways.

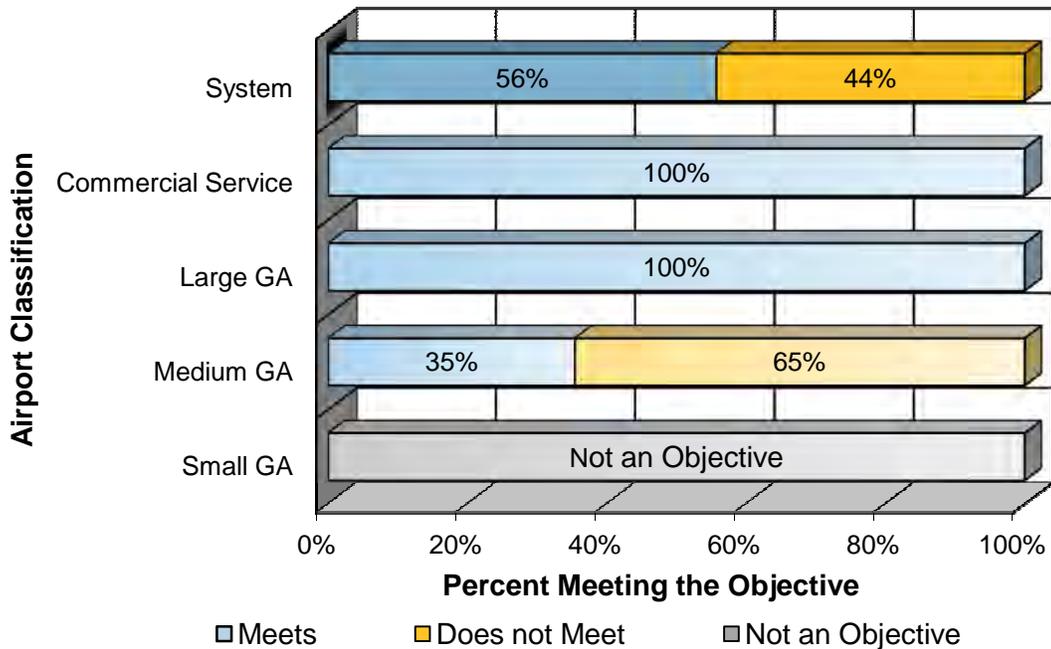
**Table 5-12
Taxiway Type FSA - Airports Not Meeting FSA**

Airport	Taxiway Type	
	Existing	FSA
Amery	Partial parallel taxiway	Full parallel taxiway
Antigo	Partial parallel taxiway	Full parallel taxiway
Ashland	Connectors only	Full parallel taxiway
Black River Falls	Connectors only	Full parallel taxiway
Boscobel	Partial parallel taxiway	Full parallel taxiway
Chetek	Partial parallel taxiway	Full parallel taxiway
Cumberland	Connectors only	Full parallel taxiway
Eagle River	Connectors only	Full parallel taxiway
Fort Atkinson	Partial parallel taxiway	Full parallel taxiway
Friendship-Adams	Connectors only	Full parallel taxiway
Hayward	Connectors only	Full parallel taxiway
Ladysmith	Connectors only	Full parallel taxiway
Land O'Lakes	Connectors only	Full parallel taxiway
Lone Rock	Partial parallel taxiway	Full parallel taxiway
Marshfield	Connectors only	Full parallel taxiway
Medford	Connectors only	Full parallel taxiway
Mineral Point	Partial parallel taxiway	Full parallel taxiway
Palmyra	Connectors only	Full parallel taxiway
Phillips	Partial parallel taxiway	Full parallel taxiway
Platteville	Partial parallel taxiway	Full parallel taxiway
Portage	Connectors only	Full parallel taxiway
Prairie du Chien	Partial parallel taxiway	Full parallel taxiway
Prairie du Sac	Connectors only	Full parallel taxiway
Siren	Partial parallel taxiway	Full parallel taxiway
Shawano	Connectors only	Full parallel taxiway
Shell Lake	Connectors only	Full parallel taxiway
Superior	Partial parallel taxiway	Full parallel taxiway
Tomahawk	Partial parallel taxiway	Full parallel taxiway
Viroqua	Connectors only	Full parallel taxiway
Wausau	Partial parallel taxiway	Full parallel taxiway
Wisconsin Rapids	Connectors only	Full parallel taxiway



System performance of taxiway type is depicted in **Chart 5-4**.

Chart 5-4
System Performance - Taxiway Type



5.2.5 Pavement Condition

The FSA for commercial service airports is an area-weighted PCI of 75; while the FSA for large, medium and small GA airports is an area-weighted PCI of 70. The area-weighted pavement condition index (PCI) includes a weighted average of all airport pavements including runways, taxiways, aprons and taxilanes. An area weighted average PCI that falls below 70 indicates the potential for aircraft damage from foreign object debris (FOD) and is considered unacceptable. An area weighted average PCI that is above 70 is generally considered adequate to support airport operations with regular maintenance such as crack sealing.

The grant assurances that are associated with FAA grants require airport sponsors to operate and maintain their facility safely and efficiently according to certain standards. These assurances include the requirement for airport sponsors to implement an effective pavement maintenance-management program. As such, this FSA is considered “not an objective” for non-National Plan of Integrated Airports System (NPIAS) airports. Also, this FSA is “not an objective” for non-paved airports as pavement condition is not assessed at those airports. The FSA for pavement condition by classification appears in **Table 5-13**.



**Table 5-13
Pavement Condition FSA**

Classification	Facility and Service Attribute
Commercial Service	75 PCI or greater
Large GA	70 PCI or greater
Medium GA	70 PCI or greater
Small GA	70 PCI or greater

Note: This FSA is “Not an Objective” for Non-NPIAS airports and airports without a paved runway or taxiway(s).

5.2.5.1 System Performance – Pavement Condition

Table 5-14 lists the airports that do not meet the pavement condition FSA. The existing pavement condition at these airports is also listed in this table. Seventy-two percent (72%) of system airports currently meet this FSA.

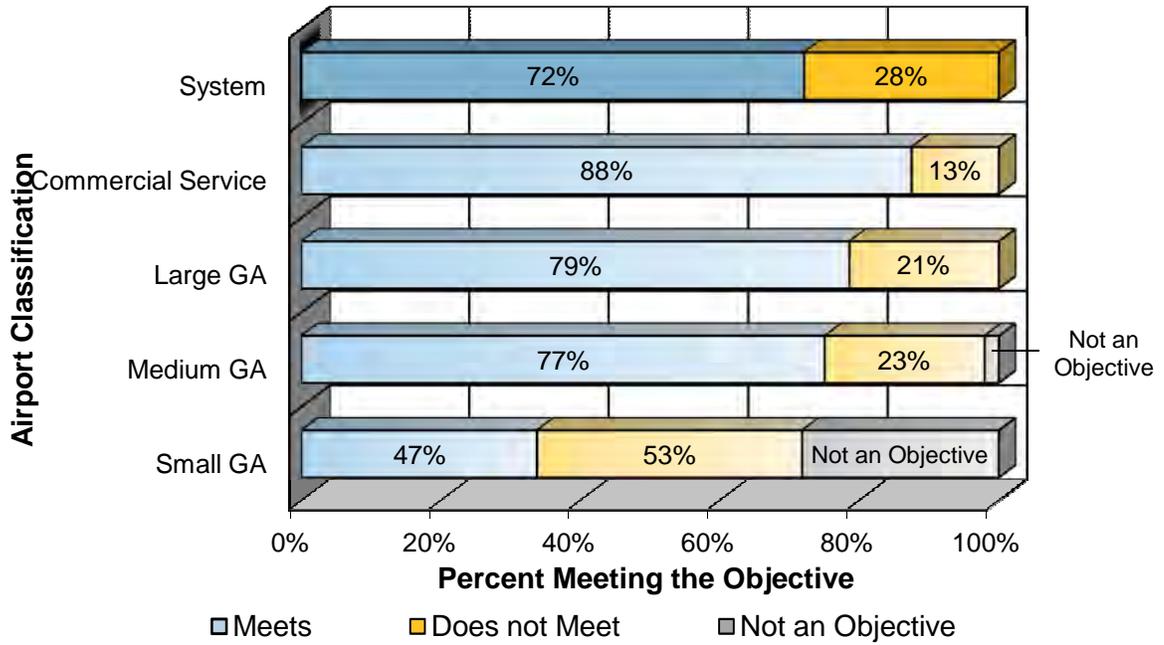
**Table 5-14
Pavement Condition - Airports Not Meeting FSA**

Airport	Pavement Condition	
	Existing	FSA
Milwaukee	71	75
Kenosha	69	70
Milwaukee-Timmerman	67	70
West Bend	62	70
Baraboo	67	70
Brookfield	35	70
Cumberland	68	70
Eagle River	69	70
Fort Atkinson	65	70
Hartford	35	70
Land O’Lakes	69	70
Platteville	54	70
Portage	59	70
Prairie du Sac	Unavailable	70
Viroqua	60	70
Boyceville	69	70
Cable	51	70
Crandon	58	70
Grantsburg	67	70
Lancaster	36	70
Manitowish Waters	62	70
Neillsville	62	70
New Holstein	67	70
Solon Springs	64	70



System performance of the pavement condition FSA is depicted in **Chart 5-5**.

**Chart 5-5
System Performance - Pavement Condition**



Note: This FSA is “Not an Objective” for Non-NPIAS airports and airports without a paved runway or taxiway(s). Due to rounding, total performance of some classifications may exceed 100%.

5.2.6 Runway and Taxiway Edge Lighting

Runway edge lighting is required for night operations, and the type of runway edge lighting is linked to the type of instrument approach and the desired visibility minimums. Runway edge lighting is named based on the intensity of the light and includes; high intensity runway lights (HIRL), medium intensity runway lights (MIRL) and low intensity runway lights (LIRL). FAA requires HIRL installations at Federal Aviation Regulations (FAR) Part 139 airports with a precision approach, and HIRL is typically combined with precision instrument installations. Airports with runway visibility range (RVR) equipment, Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) and centerline and touchdown zone lights can achieve lower runway visibility minimums. HIRL combined with a precision approach provides for greater runway visibility and allows for future upgrades to achieve lower visibility minimums.



The FSA for commercial service and large GA airports is to have HIRL. MIRL are a required minimum to achieve the approach visibility FSA for medium GA airports (3/4 mile) and also can be installed at locations with a non-precision instrument approach. The FSA for small GA airports is MIRL, which accommodates non-precision approaches and allows airports to accommodate night operations.

A policy identified in *Connections 2030* is to improve standards for infrastructure. As stated, one of the ways this can be accomplished is to continue to support safety-engineering improvements at airports. These improvements may include simple treatments such as improving or adding runway and taxiway lighting.

Taxiway lighting delineates the taxiway during night operations and periods of inclement weather. Medium intensity taxiway lights (MITL) are the FSA for commercial service and large GA airports. Taxiway reflectors are a more economical way to delineate the edge of taxiway pavement and are the FSA for medium and small GA airports.

The runway and taxiway edge lighting FSA is summarized in **Table 5-15**.

**Table 5-15
Runway and Taxiway Edge Lighting FSA**

Classification	Facility and Service Attribute
Commercial Service	HIRL and MITL
Large GA	HIRL and MITL
Medium GA	MIRL and taxiway reflectors
Small GA	MIRL and taxiway reflectors

5.2.6.1 System Performance – Runway and Taxiway Lighting

Currently, 61 percent of the airports meet the runway and taxiway lighting FSA. The 38 airports that do not fulfill this FSA are listed in **Table 5-16**.



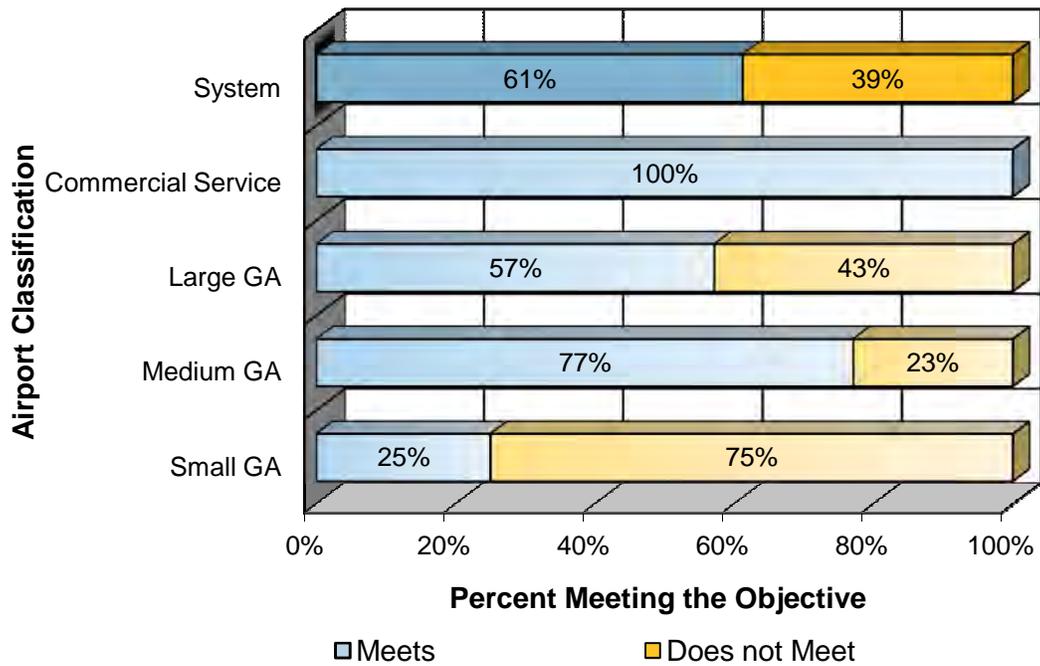
**Table 5-16
Runway and Taxiway Lighting - Airports Not Meeting FSA**

Airport	Runway and Taxiway Lighting	
	Existing	FSA
East Troy	MIRL and MITL	HIRL and MITL
Middleton	MIRL and MITL	HIRL and MITL
Milwaukee-Timmerman	MIRL and MITL	HIRL and MITL
New Richmond	MIRL and MITL	HIRL and MITL
Rice Lake	MIRL and MITL	HIRL and MITL
West Bend	MIRL	HIRL and MITL
Ashland	MIRL	MIRL and taxiway reflectors
Brookfield	MIRL	MIRL and taxiway reflectors
Chetek	MIRL	MIRL and taxiway reflectors
Ladysmith	MIRL	MIRL and taxiway reflectors
Land O'Lakes	MIRL	MIRL and taxiway reflectors
Palmyra	LIRL	MIRL and taxiway reflectors
Portage	MIRL	MIRL and taxiway reflectors
Friendship-Adams	MIRL	MIRL and taxiway reflectors
Prairie du Sac	MIRL	MIRL and taxiway reflectors
Shell Lake	MIRL	MIRL and taxiway reflectors
Viroqua	HIRL	MIRL and taxiway reflectors
Barron	Runway edge markers	MIRL and taxiway reflectors
Boulder Junction	Runway edge markers	MIRL and taxiway reflectors
Cable	LIRL and MITL	MIRL and taxiway reflectors
Cassville	LIRL and MITL	MIRL and taxiway reflectors
Crandon	LIRL	MIRL and taxiway reflectors
Crivitz	LIRL and MITL	MIRL and taxiway reflectors
Ephraim-Gibraltar	MIRL	MIRL and taxiway reflectors
Grantsburg	MIRL	MIRL and taxiway reflectors
Hillsboro	LIRL	MIRL and taxiway reflectors
La Pointe	LIRL	MIRL and taxiway reflectors
Lancaster	LIRL	MIRL and taxiway reflectors
Madison-Blackhawk	None	MIRL and taxiway reflectors
Necedah	LIRL and MITL	MIRL and taxiway reflectors
Neillsville	LIRL and MITL	MIRL and taxiway reflectors
New Holstein	MIRL	MIRL and taxiway reflectors
Prentice	MIRL	MIRL and taxiway reflectors
Richland Center	MIRL	MIRL and taxiway reflectors
Solon Springs	LIRL and taxiway reflectors	MIRL and taxiway reflectors
Three Lakes	LIRL	MIRL and taxiway reflectors
Washington Island	LIRL	MIRL and taxiway reflectors
Wild Rose	LIRL	MIRL and taxiway reflectors



System performance of the pavement condition FSA is depicted in **Chart 5-6**.

Chart 5-6
System Performance - Runway and Taxiway Lighting



5.2.7 Visual Aids and Approach Lighting Configuration

Improving visual aids and approach lighting is another example of how airports can implement safety-engineering improvements to help fulfill the *Connections 2030* policy of improving standards for infrastructure. Several types of visual aids may be present at an airport. The FSA for visual aids includes a rotating beacon, wind cone, runway end identifier lights (REIL) and a visual guide slope indicator (VGSI) for all classifications. These types of equipment provide visual guidance to pilots. REIL identify the runway threshold, VGSI (PAPI and VASI) provide visual approach path guidance to the runway threshold, beacons visually aid pilots in locating an airport from a distance, and wind cones help pilots determine wind direction and velocity to aid in identifying the preferred runway for landing or takeoff.

In addition, this FSA includes approach lighting facilities (MALSR or MALSF) for commercial service, large GA and medium GA airports. These systems provide visual guidance to the approaching pilot to aid in runway alignment, lead-in guidance and roll guidance. Airport approach lighting increases the capability of airport users to operate during inclement weather and allows for increased use of business aircraft, a policy outlined in *Connections 2030*.



The visual aids and approach lighting FSA for each classification is listed in **Table 5-17**.

**Table 5-17
Visual Aids and Approach Lighting Configuration FSA**

Classification	Facility and Service Attribute
Commercial Service	Rotating beacon, wind cone, MALSR or better, REILs, VGSI (VASI/PAPI)
Large GA	Rotating beacon, wind cone, MALSR, REILs, VGSI (VASI/PAPI)
Medium GA	Rotating beacon, wind cone, MALSF, REILs, VGSI (VASI/PAPI)
Small GA	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)

5.2.7.1 System Performance – Visual Aids and Approach Lighting Configuration

Of the 98 system airports, 22 (22%) meet the visual aids and approach lighting FSA for their classification. The 76 airports that do not meet this FSA are listed in **Table 5-18**.

**Table 5-18
Visual Aids and Approach Lighting - Airports Not Meeting FSA**

Airport	Visual Aids and Approach Lighting	
	Existing	FSA
East Troy	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
Middleton	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
Milwaukee-Timmerman	Beacon, wind cone, REIL, VASI	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
New Richmond	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
Racine	Beacon, wind cone, REIL, PAPI, MALSF	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
Stevens Point	Beacon, wind cone, REIL, PAPI, MALS	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
West Bend	Beacon, wind cone, REIL, VASI	Rotating beacon, wind cone, MALSR , REILs, VGSI (VASI/PAPI)
Amery	Beacon, wind cone, REIL, VASI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Antigo	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Ashland	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)



Table 5-18 (Continued)
Visual Aids and Approach Lighting - Airports Not Meeting FSA

Airport	Visual Aids and Approach Lighting	
	Existing	FSA
Baraboo	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Black River Falls	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Boscobel	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Brookfield	Beacon, wind cone, REIL, VASI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Burlington	Beacon, wind cone, REIL, VASI, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Chetek	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Clintonville	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Cumberland	Beacon, wind cone, REIL, VASI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Eagle River	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Fort Atkinson	Beacon, wind cone, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Friendship-Adams	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Hartford	Beacon, wind cone	Rotating beacon, wind cone, MALSF , REILs , VGSI (VASI/PAPI)
Hayward	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Ladysmith	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Land O'Lakes	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Lone Rock	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Medford	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Menomonie	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Merrill	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Mineral Point	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Monroe	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)



Table 5-18 (Continued)
Visual Aids and Approach Lighting - Airports Not Meeting FSA

Airport	Visual Aids and Approach Lighting	
	Existing	FSA
Osceola	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Palmyra	Wind cone	Rotating beacon , wind cone, MALSF , REILs , VGSI (VASI/PAPI)
Phillips	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Platteville	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Portage	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Prairie du Chien	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Prairie du Sac	Beacon, wind cone, REIL	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Reedsburg	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Shawano	Beacon, wind cone	Rotating beacon, wind cone, MALSF , REILs , VGSI (VASI/PAPI)
Shell Lake	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Siren	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Sparta	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Sturgeon Bay	Beacon, wind cone, REIL, PAPI, LDIN	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Superior	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Tomahawk	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Viroqua	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Watertown	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Waupaca	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Wausau	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)
Wisconsin Rapids	Beacon, wind cone, REIL, PAPI	Rotating beacon, wind cone, MALSF , REILs, VGSI (VASI/PAPI)



Table 5-18 (Continued)
Visual Aids and Approach Lighting - Airports Not Meeting FSA

Airport	Visual Aids and Approach Lighting	
	Existing	FSA
Barron	Wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Boulder Junction	Wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Cable	Wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Cassville	Wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Crandon	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Crivitz	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Ephraim-Gibraltar	Beacon, wind cone, PAPI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Grantsburg	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Hillsboro	Wind cone, VASI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
La Pointe	Beacon, wind cone, PAPI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Lancaster	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Madison - Blackhawk	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Manitowish Waters	Beacon, wind cone, PAPI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Necedah	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Neillsville	Beacon, wind cone, VASI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
New Holstein	Beacon, wind cone, REIL	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
New Lisbon	Beacon, wind cone, VASI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Oconto	Beacon, wind cone, REIL	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Park Falls	Beacon, wind cone, PAPI	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)
Prentice	Beacon, wind cone	Rotating beacon, wind cone, REILs, VGSI (VASI/PAPI)



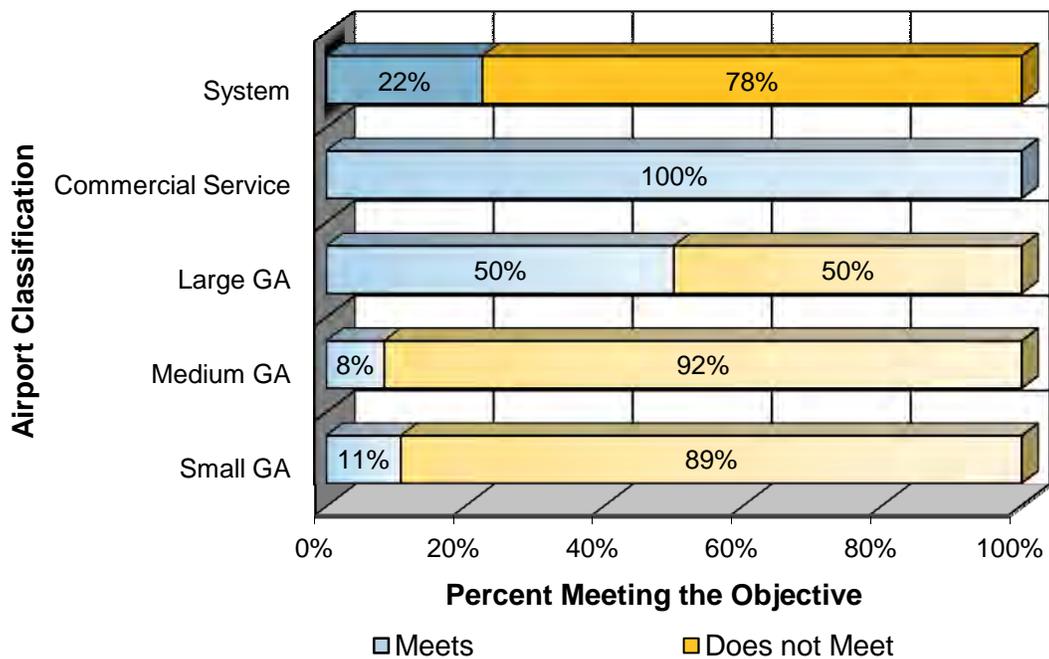
Table 5-18 (Continued)
Visual Aids and Approach Lighting - Airports Not Meeting FSA

Airport	Visual Aids and Approach Lighting	
	Existing	FSA
Solon Springs	Beacon, wind cone	Rotating beacon, wind cone, REILs , VGSI (VASI/PAPI)
Three Lakes	Beacon, wind cone, PAPI	Rotating beacon, wind cone, REILs , VGSI (VASI/PAPI)
Washington Island	Beacon, wind cone	Rotating beacon, wind cone, REILs , VGSI (VASI/PAPI)
Wautoma	Beacon, wind cone	Rotating beacon, wind cone, REILs , VGSI (VASI/PAPI)
Wild Rose	Beacon, wind cone	Rotating beacon, wind cone, REILs , VGSI (VASI/PAPI)

Note: The item(s) an airport is lacking is bolded

The system performance of the visual aids and approach lighting FSA appears in **Chart 5-7**.

Chart 5-7
System Performance - Visual Aids and Approach Lighting



5.2.8 Approach Capability

Airport instrument approaches can increase a pilot’s ability to land and takeoff during inclement weather and reduced visibility. Pilots operate under either visual flight rules (VFR) or instrument flight rules (IFR).

The three main types of airport approaches include visual, non-precision and precision approaches. Visual approaches are completed under the visual guidance of the pilot in VFR conditions only. A non-precision instrument approach provides course guidance to the facility and allows a pilot to operate under either VFR or IFR conditions. A precision instrument approach also allows a pilot to operate under VFR or IFR conditions and provides course and vertical guidance. For precision and non-precision approaches, varying combinations of approach lighting systems, runway edge lighting and other airport facilities can provide differing visibility minimums. In order to improve airport infrastructure and create more business airplane-capable airports, one action item outlined in *Connections 2030* is to increase the inclement weather capability of system airports. **Table 5-19** lists the approach capability FSA by classification.

**Table 5-19
Approach Capability FSA**

Classification	Facility and Service Attribute
Commercial Service	Visibility minimum 1/2 mile or less
Large GA	Visibility minimum 1/2 mile
Medium GA	Visibility minimum 3/4 mile
Small GA	Visibility minimum 1 mile

5.2.8.1 System Performance – Approach Capability

Of the 98 system airports, 34 (35%) meet the approach capability FSA. The airports that do not meet this FSA appear in **Table 5-20**.

**Table 5-20
Approach Capability - Airports Not Meeting FSA**

Airport	Approach Capability	
	Existing	FSA
East Troy	Visibility minimum 1 mile	Visibility minimum 1/2 mile
Middleton	Visibility minimum 1 mile	Visibility minimum 1/2 mile
Milwaukee-Timmerman	Visibility minimum 1 mile	Visibility minimum 1/2 mile
New Richmond	Visibility minimum 1 mile	Visibility minimum 1/2 mile
Racine	Visibility minimum 1 mile	Visibility minimum 1/2 mile
Stevens Point	Visibility minimum 3/4 mile	Visibility minimum 1/2 mile
West Bend	Visibility minimum 1 mile	Visibility minimum 1/2 mile
Amery	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Antigo	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Ashland	Visibility minimum 1 mile	Visibility minimum 3/4 mile



Table 5-20 (Continued)
Approach Capability - Airports Not Meeting FSA

Airport	Approach Capability	
	Existing	FSA
Baraboo	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Black River Falls	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Boscobel	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Brookfield	None (VFR)	Visibility minimum 3/4 mile
Burlington	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Chetek	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Clintonville	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Cumberland	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Eagle River	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Fort Atkinson	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Friendship-Adams	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Hartford	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Hayward	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Juneau	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Land O'Lakes	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Lone Rock	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Medford	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Menomonie	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Merrill	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Mineral Point	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Minocqua-Woodruff	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Monroe	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Osceola	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Palmyra	None (VFR)	Visibility minimum 3/4 mile
Phillips	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Platteville	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Portage	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Prairie du Chien	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Prairie du Sac	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Reedsburg	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Shawano	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Shell Lake	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Siren	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Sparta	Visibility minimum 7/8 mile	Visibility minimum 3/4 mile
Sturgeon Bay	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Superior	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Tomahawk	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Viroqua	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Watertown	Visibility minimum 1 mile	Visibility minimum 3/4 mile

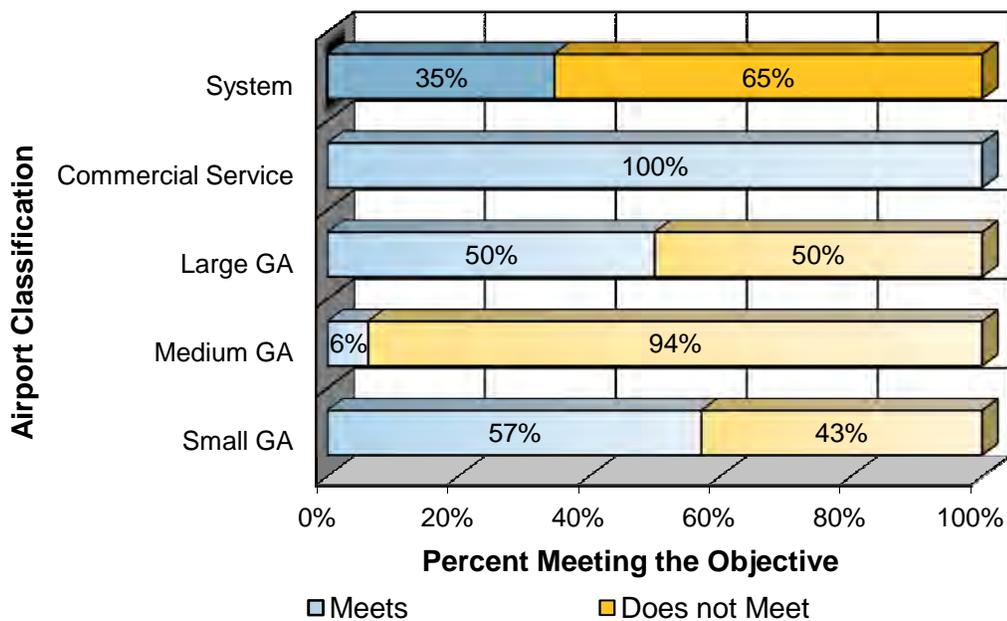


**Table 5-20 (Continued)
Approach Capability - Airports Not Meeting FSA**

Airport	Approach Capability	
	Existing	FSA
Waupaca	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Wausau	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Wisconsin Rapids	Visibility minimum 1 mile	Visibility minimum 3/4 mile
Barron	None (VFR)	Visibility minimum 1 mile
Boulder Junction	None (VFR)	Visibility minimum 1 mile
Cassville	None (VFR)	Visibility minimum 1 mile
Crandon	None (VFR)	Visibility minimum 1 mile
Crivitz	None (VFR)	Visibility minimum 1 mile
Hillsboro	None (VFR)	Visibility minimum 1 mile
Lancaster	None (VFR)	Visibility minimum 1 mile
Prentice	None (VFR)	Visibility minimum 1 mile
Three Lakes	None (VFR)	Visibility minimum 1 mile
Tomah	None (VFR)	Visibility minimum 1 mile
Washington Island	None (VFR)	Visibility minimum 1 mile
Wild Rose	None (VFR)	Visibility minimum 1 mile

The system performance of the visual aids and approach capability FSA is shown in **Chart 5-8**.

**Chart 5-8
System Performance - Approach Capability**



5.2.9 Weather Reporting

AWOS and ASOS are weather stations located on airports. These weather reporting facilities broadcast weather information over a radio frequency for pilots to use when operating on, and in the vicinity of, an airport.

Weather reporting facility FSAs are presented in **Table 5-21**.

**Table 5-21
Weather Reporting FSA**

Classification	Facility and Service Attribute
Commercial Service	ASOS or AWOS
Large GA	ASOS or AWOS
Medium GA	ASOS or AWOS
Small GA	Not an objective

5.2.9.1 System Performance – Weather Reporting

Currently, 58 airports (83%) meet or exceed the weather reporting FSA. The 12 airports that do not meet this FSA are listed in **Table 5-22**. Eleven of these are medium GA airports.

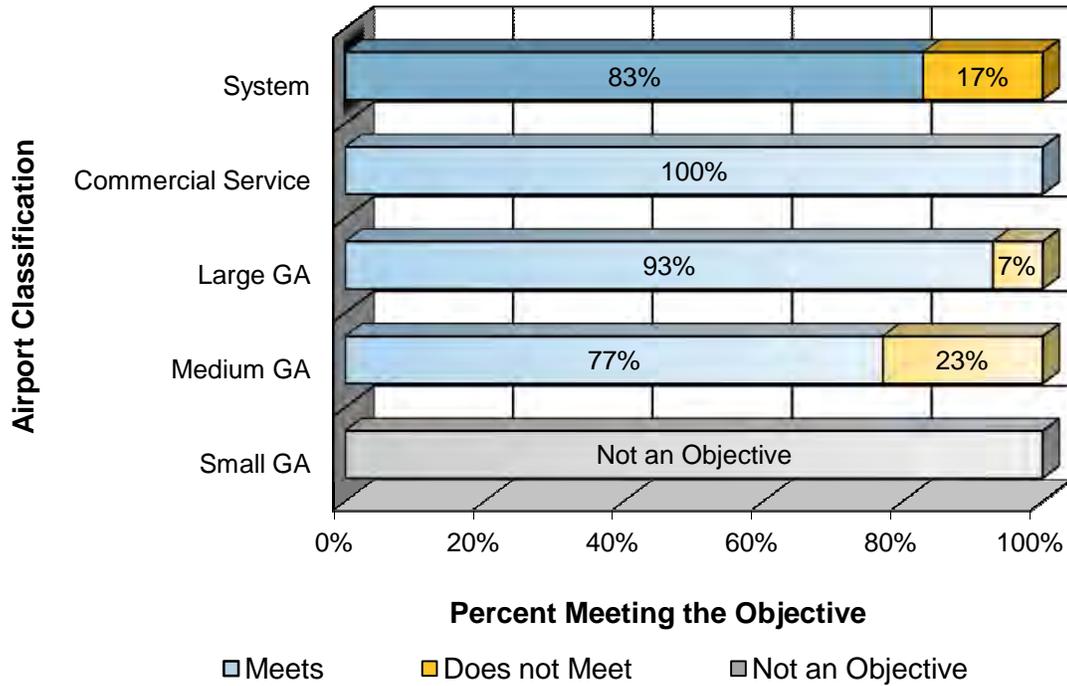
**Table 5-22
Weather Reporting - Airports Not Meeting FSA**

Airport	Approach Capability	
	Existing	FSA
East Troy	None	ASOS or AWOS
Amery	None	ASOS or AWOS
Brookfield	None	ASOS or AWOS
Chetek	None	ASOS or AWOS
Fort Atkinson	None	ASOS or AWOS
Friendship-Adams	None	ASOS or AWOS
Hartford	None	ASOS or AWOS
Palmyra	None	ASOS or AWOS
Portage	None	ASOS or AWOS
Prairie du Sac	None	ASOS or AWOS
Reedsburg	None	ASOS or AWOS
Shell Lake	None	ASOS or AWOS



The system performance of the weather reporting FSA is shown in **Chart 5-9**.

Chart 5-9
System Performance - Weather Reporting



5.3 Landside Facilities and Services

5.3.1 Fixed Base Operator (FBO)

An FBO is an aviation business located at an airport. An FBO can serve in a number of capacities and offer different combinations of services. Typically, an FBO offers some combination of flight instruction and flight ground school, fuel services, pilot flight planning facilities, lounges, restrooms, phones, food, conference centers, aircraft rental and sales, aircraft maintenance and inspection services, charter operations, deicing services, etc. The availability of these services can help attract pilots to the airport thereby adding to the economic viability of the airport. These amenities not only aid in attracting pilots but also are considered attractants for businesses when selecting which airport to frequent or where to base their aircraft.



FBO FSAs are presented in **Table 5-23**.

**Table 5-23
Fixed Base Operator FSA**

Classification	Facility and Service Attribute
Commercial Service	FBO(s) available
Large GA	FBO(s) available
Medium GA	FBO(s) available
Small GA	Not an objective

5.3.1.1 System Performance – Fixed Base Operator

Seventy-seven percent of the system airports meet the FBO FSA. All of the airports that do not meet this FSA are medium GA airports and are listed in **Table 5-24**.

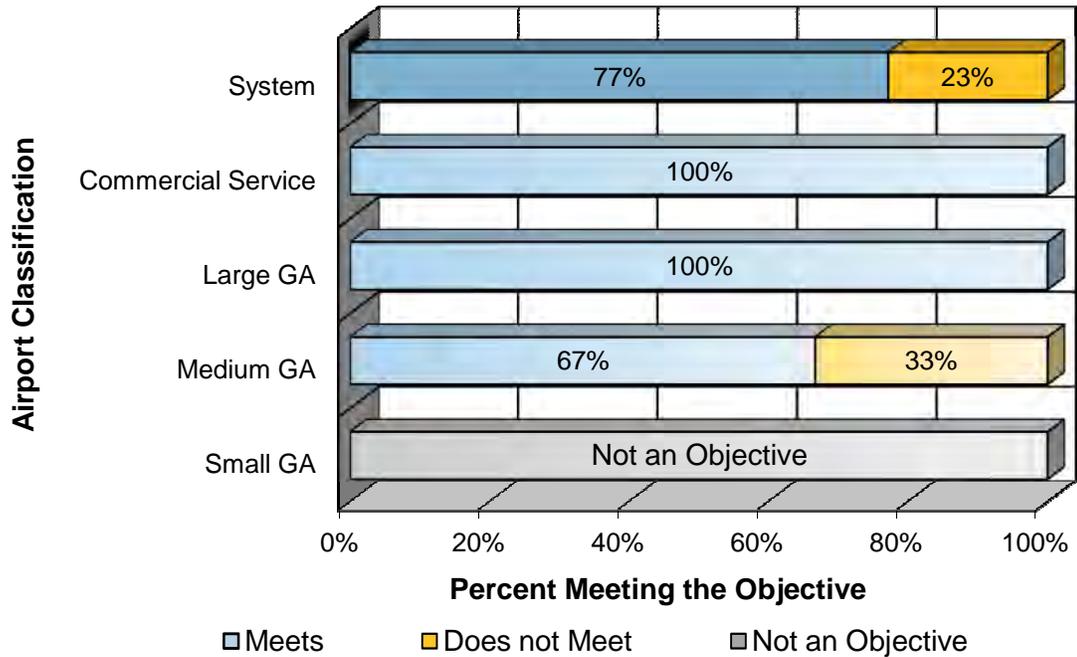
**Table 5-24
FBO - Airports Not Meeting FSA**

Airport	Existing FBO	FSA
Amery	None	FBO(s) available
Ashland	None	FBO(s) available
Black River Falls	None	FBO(s) available
Burlington	None	FBO(s) available
Chetek	None	FBO(s) available
Clintonville	None	FBO(s) available
Cumberland	None	FBO(s) available
Fort Atkinson	None	FBO(s) available
Friendship-Adams	None	FBO(s) available
Hartford	None	FBO(s) available
Medford	None	FBO(s) available
Prairie du Sac	None	FBO(s) available
Shell Lake	None	FBO(s) available
Siren	None	FBO(s) available
Sparta	None	FBO(s) available
Viroqua	None	FBO(s) available



The system performance of the FBO FSA is shown in **Chart 5-10**.

**Chart 5-10
System Performance - FBO**



5.3.2 Maintenance

Aircraft maintenance is most often offered by FBOs located on an airport who perform major or minor airframe and/or powerplant services. The availability of this service helps attract pilots and adds to the economic viability of the airport. The maintenance FSAs by classification are listed in **Table 5-25**.

**Table 5-25
Maintenance FSA**

Classification	Facility and Service Attribute
Commercial Service	Major airframe and powerplant
Large GA	Major airframe and powerplant
Medium GA	Minor airframe and powerplant
Small GA	Not an objective



5.3.2.1 System Performance – Maintenance

Currently, 74 percent of the airports meet the maintenance FSA. The airports that do not meet this FSA are summarized in **Table 5-26**.

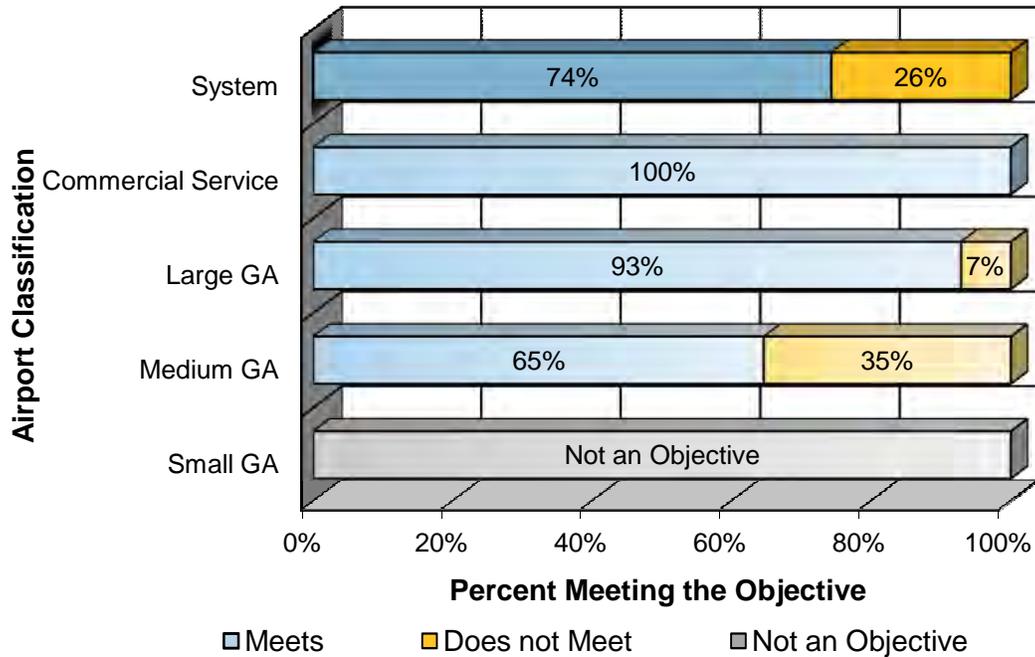
**Table 5-26
Maintenance - Airports Not Meeting FSA**

Airport	Existing Maintenance	FSA
Racine	Minor airframe and powerplant	Major airframe and powerplant
Amery	Major airframe	Minor airframe and powerplant
Ashland	None	Minor airframe and powerplant
Baraboo	None	Minor airframe and powerplant
Black River Falls	None	Minor airframe and powerplant
Brookfield	None	Minor airframe and powerplant
Fort Atkinson	None	Minor airframe and powerplant
Friendship-Adams	None	Minor airframe and powerplant
Hayward	None	Minor airframe and powerplant
Medford	None	Minor airframe and powerplant
Platteville	None	Minor airframe and powerplant
Portage	None	Minor airframe and powerplant
Prairie du Chien	None	Minor airframe and powerplant
Shell Lake	None	Minor airframe and powerplant
Siren	None	Minor airframe and powerplant
Sparta	None	Minor airframe and powerplant



The system performance of the FBO FSA is shown in **Chart 5-11**.

**Chart 5-11
System Performance - Maintenance**



5.3.3 Fuel

The fuel FSA includes both jet A and 100LL fuel for commercial service, large GA and medium GA airports. Jet A fuel is important to these two airport classifications because commercial aircraft and a large majority of business aircraft require jet A fuel. Smaller GA aircraft often use 100LL fuel. In addition, fuel services and facilities at an airport, especially when owned by the airport sponsor, add to the economic viability of an airport.

The fuel FSA for each classification is presented in **Table 5-27**.

**Table 5-27
Fuel FSA**

Classification	Facility and Service Attribute
Commercial Service	100LL and jet A to itinerant aircraft
Large GA	100LL and jet A to itinerant aircraft
Medium GA	100LL and jet A to itinerant aircraft
Small GA	100LL to itinerant aircraft



5.3.3.1 System Performance – Fuel

Currently, 68 percent of the airports meet the fuel FSA. The airports that do not meet the FSA are listed in **Table 5-28**.

**Table 5-28
Fuel - Airports Not Meeting FSA**

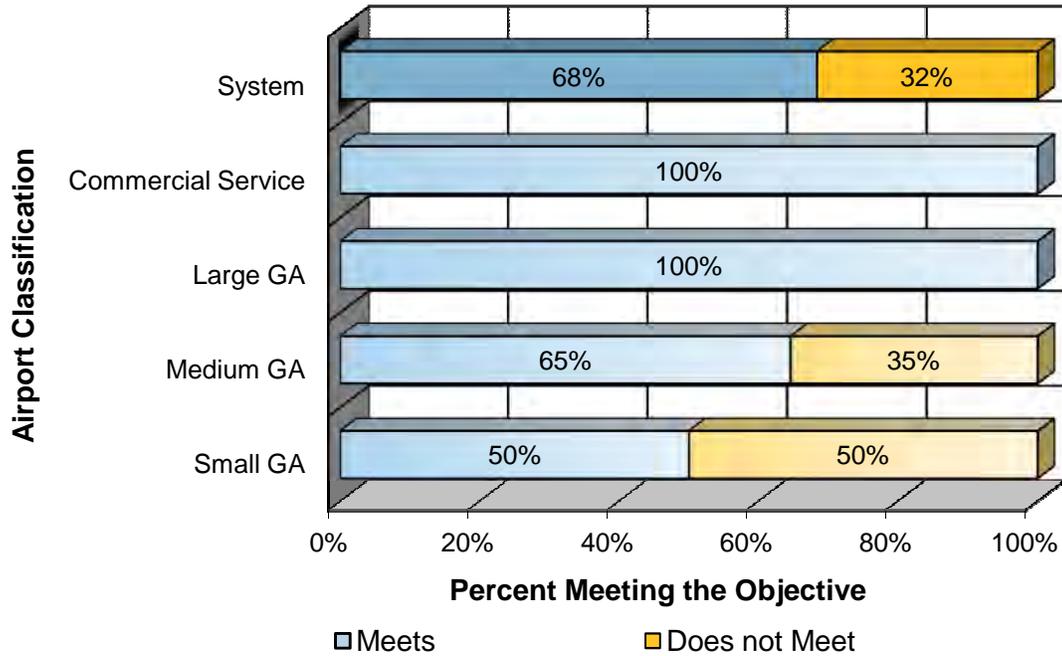
Airport	Existing Fuel	FSA
Boscobel	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Brookfield	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Chetek	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Cumberland	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Fort Atkinson	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Friendship-Adams	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Hartford	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Ladysmith	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Land O'Lakes	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Manitowoc	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Palmyra	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Portage	100 LL and MoGas to itinerant aircraft	100LL and jet A to itinerant aircraft
Prairie du Sac	None	100LL and jet A to itinerant aircraft
Shawano	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Shell Lake	None	100LL and jet A to itinerant aircraft
Sparta	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Viroqua	100 LL to itinerant aircraft	100LL and jet A to itinerant aircraft
Barron	None	100LL to itinerant aircraft
Boulder Junction	None	100LL to itinerant aircraft
Cassville	None	100LL to itinerant aircraft
Crandon	None	100LL to itinerant aircraft
Crivitz	None	100LL to itinerant aircraft
Grantsburg	None	100LL to itinerant aircraft
Hillsboro	None	100LL to itinerant aircraft
La Pointe	None	100LL to itinerant aircraft
Madison - Blackhawk	None	100LL to itinerant aircraft
Necedah	None	100LL to itinerant aircraft
Prentice	None	100LL to itinerant aircraft
Three Lakes	None	100LL to itinerant aircraft
Washington Island	None	100LL to itinerant aircraft
Wild Rose	None	100LL to itinerant aircraft

Note: The item(s) an airport is lacking is bolded



The system performance of the fuel FSA is shown in **Chart 5-12**.

**Chart 5-12
System Performance - Fuel**



5.3.4 GA Terminal/Administrative Building

This FSA for all classifications includes the existence of a GA airport terminal and/or administrative building. Terminal buildings provide shelter for pilots and passengers, and space for flight planning, business meetings, etc. The type and size of a terminal facility can vary greatly among airport classifications and should be addressed in the local master planning process. The GA terminal/administrative building FSA for each classification is presented in **Table 5-29**.

**Table 5-29
GA Terminal/Administrative Building FSA**

Classification	Facility and Service Attribute
Commercial Service	GA terminal/administrative building
Large GA	GA terminal/administrative building
Medium GA	GA terminal/administrative building
Small GA	GA terminal/administrative building



5.3.4.1 System Performance – GA Terminal/Administrative Building

Currently, 80 percent of the airports meet the GA terminal/administrative building FSA. The airports that do not meet this FSA appear in **Table 5-30**.

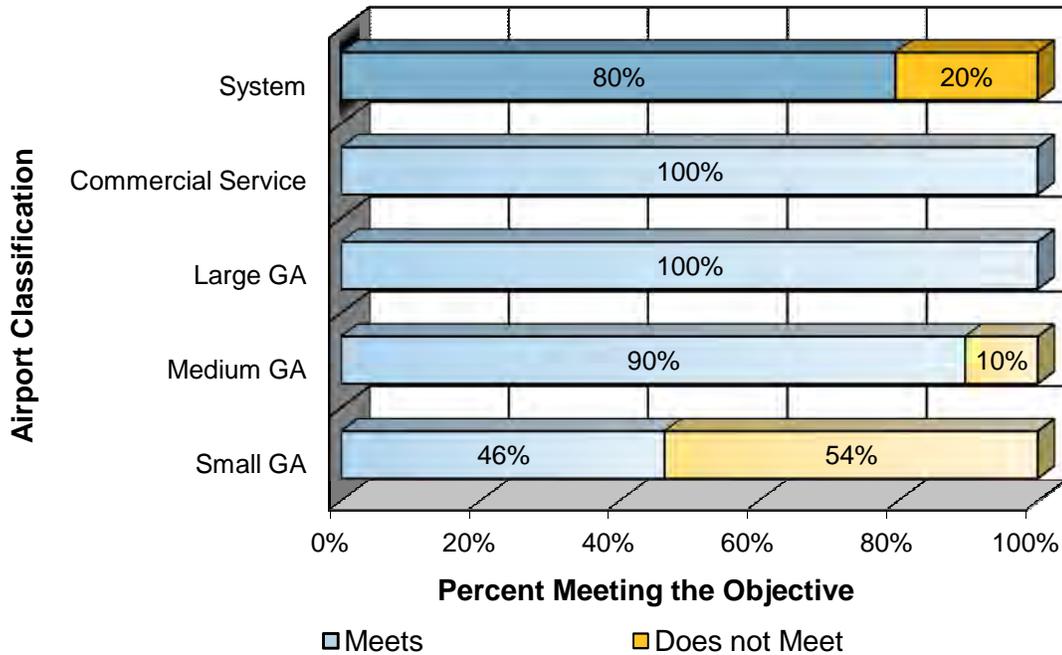
**Table 5-30
GA Terminal/Administrative Building - Airports Not Meeting FSA**

Airport	Existing	FSA
Boscobel	None	GA terminal/administrative building
Fort Atkinson	None	GA terminal/administrative building
Hartford	None	GA terminal/administrative building
Palmyra	None	GA terminal/administrative building
Prairie du Sac	None	GA terminal/administrative building
Barron	None	GA terminal/administrative building
Boulder Junction	None	GA terminal/administrative building
Cable	None	GA terminal/administrative building
Crandon	None	GA terminal/administrative building
Crivitz	None	GA terminal/administrative building
Ephraim-Gibraltar	None	GA terminal/administrative building
Hillsboro	None	GA terminal/administrative building
Lancaster	None	GA terminal/administrative building
Madison - Blackhawk	None	GA terminal/administrative building
Necedah	None	GA terminal/administrative building
New Lisbon	None	GA terminal/administrative building
Prentice	None	GA terminal/administrative building
Richland Center	None	GA terminal/administrative building
Solon Springs	None	GA terminal/administrative building
Washington Island	None	GA terminal/administrative building



The system performance of the GA terminal/administrative building FSA is shown in **Chart 5-13**.

Chart 5-13
System Performance - GA Terminal/Administrative Building



5.3.5 GA Terminal Building Services

The typical GA terminal building service attributes for all airport classifications includes a public restroom and telephones. Telephones are important in emergency situations, especially at night when airports are most often unattended. A GA terminal building provides a location for airport users to take shelter and use restroom facilities. The FSA for commercial service and large GA airports also includes a pilot lounge and/or flight planning room, which includes an area for transient and based pilots to rest, plan flights and evaluate weather conditions. Often, pilot lounges and planning rooms may be combined into one dual-purpose room. The GA terminal building services FSAs for each classification are shown in **Table 5-31**.

Table 5-31
GA Terminal Building Services FSA

Classification	Facility and Service Attribute
Commercial Service	Phone, restrooms, and flight planning room/lounge
Large GA	Phone, restrooms, and flight planning room/lounge
Medium GA	Phone and restrooms
Small GA	Phone and restrooms



5.3.5.1 System Performance – GA Terminal Building Services

Currently, 60 percent of the airports meet the FSA for GA terminal building services. The airports that do not meet this FSA are listed in **Table 5-32**.

**Table 5-32
GA Terminal Building Services - Airports Not Meeting FSA**

Airport	Existing	FSA
East Troy	Restrooms and flight planning room/lounge	Phone , restrooms, and flight planning room/lounge
Kenosha	Restrooms and flight planning room/lounge	Phone , restrooms, and flight planning room/lounge
Waukesha	Restrooms and flight planning room/lounge	Phone , restrooms, and flight planning room/lounge
West Bend	Restrooms and flight planning room/lounge	Phone , restrooms, and flight planning room/lounge
Amery	Restrooms	Phone and restrooms
Ashland	Restrooms	Phone and restrooms
Boscobel	None	Phone and restrooms
Chetek	Restrooms	Phone and restrooms
Fort Atkinson	None	Phone and restrooms
Hartford	None	Phone and restrooms
Hayward	Restrooms	Phone and restrooms
Manitowoc	Restrooms	Phone and restrooms
Marshfield	Restrooms	Phone and restrooms
Minocqua-Woodruff	Restrooms	Phone and restrooms
Palmyra	None	Phone and restrooms
Portage	Restrooms	Phone and restrooms
Prairie du Chien	Restrooms	Phone and restrooms
Prairie du Sac	None	Phone and restrooms
Shell Lake	Restrooms	Phone and restrooms
Sparta	Restrooms	Phone and restrooms
Tomahawk	Restrooms	Phone and restrooms
Barron	None	Phone and restrooms
Boulder Junction	None	Phone and restrooms
Boyceville	Restrooms	Phone and restrooms
Cable	None	Phone and restrooms
Cassville	Restrooms	Phone and restrooms
Crandon	None	Phone and restrooms
Crivitz	None	Phone and restrooms
Ephraim-Gibraltar	None	Phone and restrooms
Hillsboro	None	Phone and restrooms
Lancaster	None	Phone and restrooms



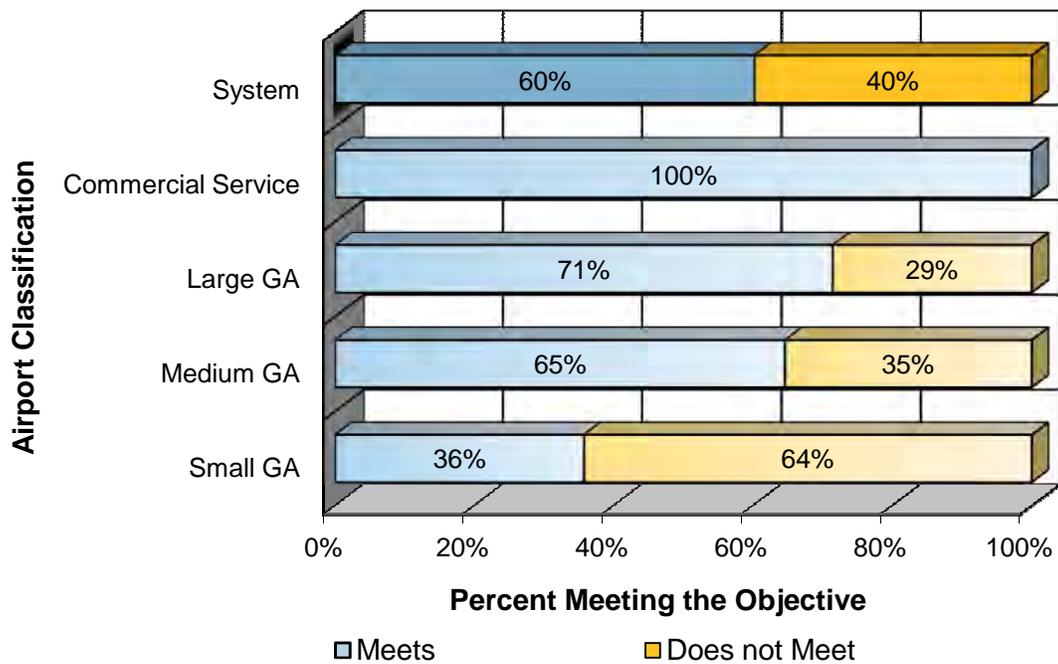
Table 5-32 (Continued)
GA Terminal Building Services - Airports Not Meeting FSA

Airport	Existing	FSA
Madison - Blackhawk	None	Phone and restrooms
Necedah	None	Phone and restrooms
New Lisbon	None	Phone and restrooms
Prentice	None	Phone and restrooms
Richland Center	None	Phone and restrooms
Solon Springs	None	Phone and restrooms
Three Lakes	Restrooms	Phone and restrooms
Washington Island	None	Phone and restrooms

Note: The item(s) an airport is lacking is bolded

The system performance of the GA terminal/administration building services appears below in **Chart 5-14**.

Chart 5-14
System Performance - GA Terminal Building Services



5.3.6 Ground Transportation

Adequate ground transportation connects business and recreational airport users to the city or region the airport serves and facilitates intermodal passenger connections. Adequate ground transportation includes rail, bus, taxi, rental car and courtesy cars provided by the airport or an FBO. The ground transportation FSA for commercial service airports includes an on-site rental car service, while the FSA for large GA airports includes the availability of a rental car regardless of location. Many airports are served by local rental car businesses that will travel to the airport to serve airport customers. The FSA for medium and small GA airports includes the availability of a courtesy car. These are often made available to airport users at no cost or low cost, short-term use.

Additional methods of ground transportation are available and valuable at Wisconsin airports.

Figure 3-1 in Chapter 3 identifies train and scheduled bus service available to commercial service airports serving Wisconsin communities.

The ground transportation FSA for each classification is listed in **Table 5-33**.

Table 5-33
Ground Transportation FSA

Classification	Facility and Service Attribute
Commercial Service	On-site rental car
Large GA	Rental car availability
Medium GA	Courtesy/loaner car
Small GA	Courtesy/loaner car

5.3.6.1 System Performance – Ground Transportation

Currently, 80 percent of airports meet the FSA for ground transportation. While some airports do not meet the FSA, they do offer other modes of transportation including bus and taxi. The airports that do not meet this FSA are listed in **Table 5-34**. The majority of these (16 out of 20) are small GA airports.



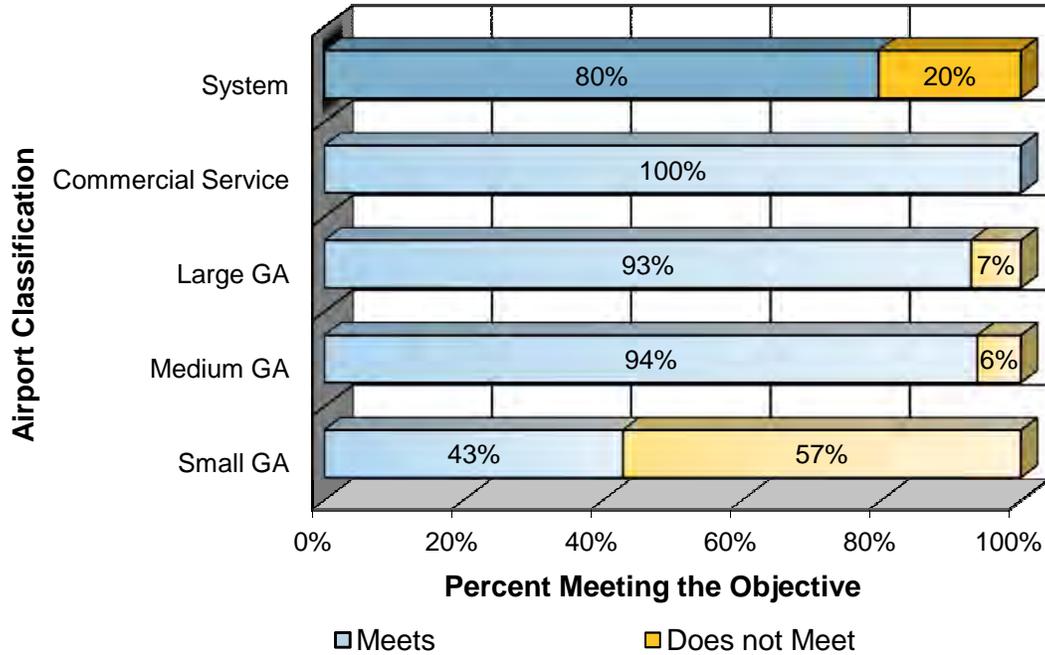
**Table 5-34
Ground Transportation - Airports Not Meeting FSA**

Airport	Existing	FSA
Milwaukee-Timmerman	Bus	Rental car availability
Palmyra	None	Courtesy/loaner car
Shawano	None	Courtesy/loaner car
Shell Lake	None	Courtesy/loaner car
Boulder Junction	None	Courtesy/loaner car
Boyceville	Taxi	Courtesy/loaner car
Crandon	None	Courtesy/loaner car
Grantsburg	None	Courtesy/loaner car
Hillsboro	None	Courtesy/loaner car
La Pointe	None	Courtesy/loaner car
Lancaster	Taxi	Courtesy/loaner car
Madison - Blackhawk	None	Courtesy/loaner car
Necedah	Taxi	Courtesy/loaner car
Neillsville	Taxi	Courtesy/loaner car
New Holstein	None	Courtesy/loaner car
New Lisbon	Taxi	Courtesy/loaner car
Richland Center	None	Courtesy/loaner car
Solon Springs	None	Courtesy/loaner car
Three Lakes	None	Courtesy/loaner car
Wild Rose	None	Courtesy/loaner car



The system performance of the ground transportation FSA is shown in **Chart 5-15**.

Chart 5-15
System Performance - Ground Transportation



5.3.7 Auto Parking

Paved automobile parking areas provide a safe and convenient place for airport users to park. These parking areas are separate from aircraft movement areas to decrease the likelihood of aircraft and automobile interaction. In addition, paved auto parking areas help to reduce dust and the potential for foreign object debris (FOD) from vehicles being transferred onto airport aprons, hangar areas and other surfaces. Paved auto parking also provides safe access to airport facilities.

The FSA for commercial service airports is to have lighted automobile parking. The exact number of required parking spaces varies by airport, depending on the level of commercial service and GA activity. The FSA for large and medium GA airports is to have one-half an automobile parking space per based aircraft. The FSAs for automobile parking are shown in **Table 5-35**.

Table 5-35
Auto Parking FSA

Classification	Facility and Service Attribute
Commercial Service	Lighted auto parking
Large GA	½ space per based aircraft
Medium GA	½ space per based aircraft
Small GA	Not an objective



5.3.7.1 System Performance – Auto Parking

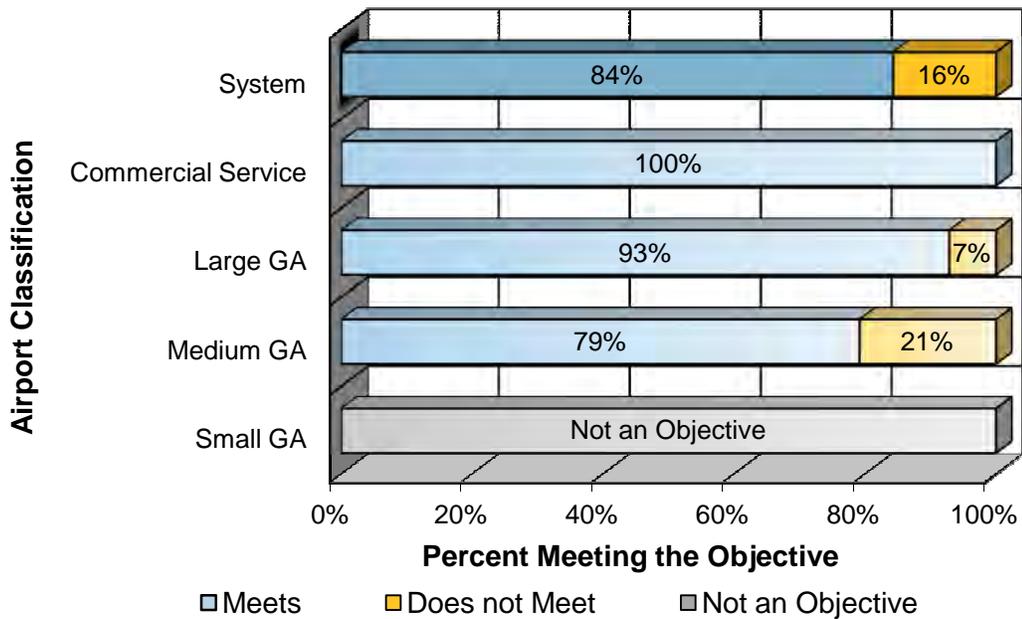
Currently, 84 percent of the airports meet the auto parking FSA. Airports that do not meet the FSA are listed in **Table 5-36**.

**Table 5-36
Auto Parking - Airports Not Meeting FSA**

Airport	Existing Number of Based Aircraft	Existing Number of Auto Parking Spaces	FSA
New Richmond	159	74	½ space per based aircraft
Amery	22	8	½ space per based aircraft
Antigo	18	8	½ space per based aircraft
Ashland	33	15	½ space per based aircraft
Black River Falls	22	6	½ space per based aircraft
Brookfield	92	12	½ space per based aircraft
Chetek	47	20	½ space per based aircraft
Palmyra	68	10	½ space per based aircraft
Portage	25	10	½ space per based aircraft
Tomahawk	26	10	½ space per based aircraft
Waupaca	34	15	½ space per based aircraft

The system performance for the auto parking FSA is shown in **Chart 5-16**.

**Chart 5-16
System Performance - Auto Parking**



5.3.8 Ramp Space

Aircraft tiedowns available on ramp or apron areas provide space for aircraft parking on a long-term or short-term basis. Usually, aircraft using tiedowns are transient aircraft traveling through an airport. The FSA for ramp space (tiedowns) is shown in **Table 5-37**.

**Table 5-37
Ramp Space FSA**

Classification	Facility and Service Attribute
Commercial Service	Tiedowns for 50% of average daily transient aircraft
Large GA	Tiedowns for 50% of average daily transient aircraft
Medium GA	Tiedowns for 25% of average daily transient aircraft
Small GA	Tiedowns for 25% of average daily transient aircraft

5.3.8.1 System Performance – Ramp Space

Currently, 90 percent of system airports meet the ramp space FSA. The airports that do not meet this FSA are shown in **Table 5-38**.

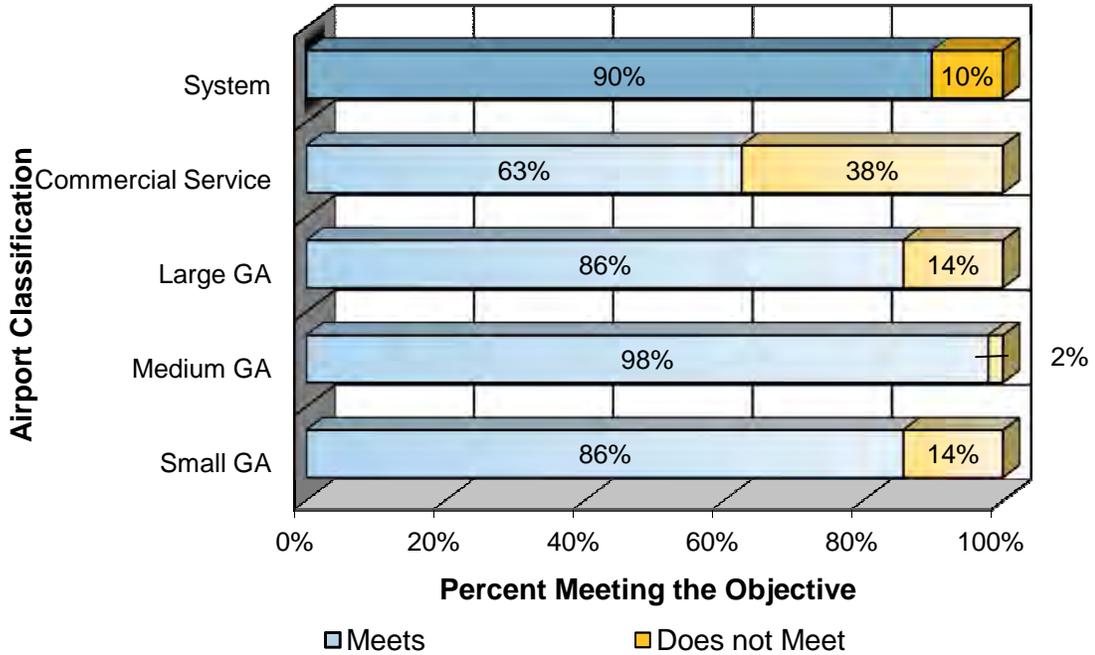
**Table 5-38
Ramp Space - Airports Not Meeting FSA**

Airport	Average Daily Transient Aircraft	Existing Number of Tiedown Spaces	FSA
Appleton	115	40	Tiedowns for 50% of average daily transient aircraft
Eau Claire	25	10	Tiedowns for 50% of average daily transient aircraft
Milwaukee	520	37	Tiedowns for 50% of average daily transient aircraft
Janesville	80	34	Tiedowns for 50% of average daily transient aircraft
Waukesha	96	32	Tiedowns for 50% of average daily transient aircraft
Prairie du Sac	4	0	Tiedowns for 25% of average daily transient aircraft
Barron	6	0	Tiedowns for 25% of average daily transient aircraft
Boulder Junction	1	0	Tiedowns for 25% of average daily transient aircraft
Lancaster	2	0	Tiedowns for 25% of average daily transient aircraft
Wild Rose	2	0	Tiedowns for 25% of average daily transient aircraft



The system performance for the ramp space FSA is shown in **Chart 5-17**.

Chart 5-17
System Performance - Ramp Space



Note: Due to rounding, total performance of some classifications may exceed 100%.

5.3.9 Operations/Maintenance Building

Airports often require an operations/maintenance building, commonly referred to as a snow removal equipment (SRE) building, to safely store airport snow removal and maintenance equipment. The size and type of building varies between airports depending on their needs. Storing equipment at the airport is often the most convenient and allows for airport sponsors to efficiently provide airport services. In addition, snow removal equipment purchased with federal funding should only be used for airport purposes. Therefore, storing it at the airport may allow the sponsor to better fulfill its FAA grant assurances. An operations/maintenance building has been identified as a typical FSA for commercial service, large GA and medium GA airports. The FSA for each classification is listed in **Table 5-39**.



**Table 5-39
Operations/Maintenance Building FSA**

Classification	Facility and Service Attribute
Commercial Service	Operations/maintenance building
Large GA	Operations/maintenance building
Medium GA	Operations/maintenance building
Small GA	Not an objective

5.3.9.1 System Performance – Operations/Maintenance Building

Currently, 77 percent of the system airports meet this FSA. The airports that do not meet the operations/maintenance building FSA are listed in **Table 5-40**. With the exception of Stevens Point Airport (large GA), all airports that do not meet this FSA are medium GA airports.

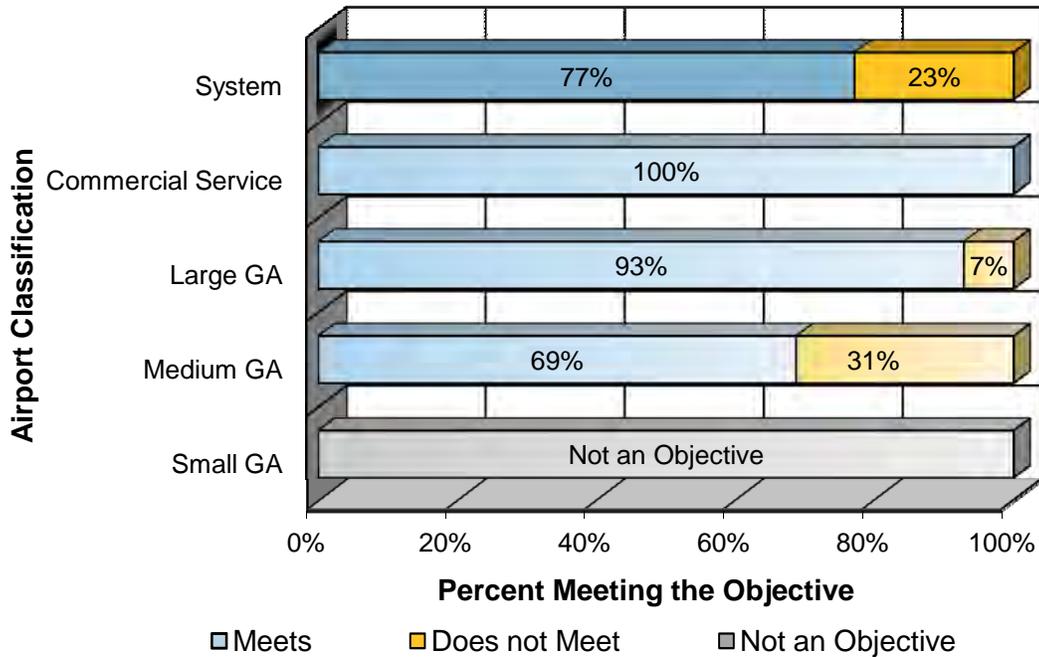
**Table 5-40
Operations/Maintenance Building - Airports Not Meeting FSA**

Airport	Existing	FSA
Stevens Point	None	Operations/maintenance building
Amery	None	Operations/maintenance building
Ashland	None	Operations/maintenance building
Brookfield	None	Operations/maintenance building
Chetek	None	Operations/maintenance building
Fort Atkinson	None	Operations/maintenance building
Hayward	None	Operations/maintenance building
Juneau	None	Operations/maintenance building
Portage	None	Operations/maintenance building
Prairie du Chien	None	Operations/maintenance building
Reedsburg	None	Operations/maintenance building
Shell Lake	None	Operations/maintenance building
Siren	None	Operations/maintenance building
Sparta	None	Operations/maintenance building
Wausau	None	Operations/maintenance building
Wisconsin Rapids	None	Operations/maintenance building



The system performance of this FSA is shown graphically in **Chart 5-18**.

Chart 5-18
System Performance - Operations/Maintenance Building



5.3.10 Snow Removal and Deicing

Due to winter weather in the state of Wisconsin, snow removal operations are critical to serving airport users during winter months. Snow removal is an FSA for all airport classifications that provide year-round service to airport users. While some small airports may not want to remove snow from their runway(s) during winter months because of a turf runway surface or a snow landing area for ski-equipped planes, snow removal services are still important to the landside areas of the airport.

Ice accumulation on an aircraft's wings and other surfaces is a safety hazard. A deicing system is generally operated by the airport, an airline or an FBO to help pilots fly during inclement weather conditions. Deicing facilities can also help attract transient airport users, especially those traveling for business purposes. Deicing is a FSA for commercial service airports.



Table 5-41 lists the FSAs for snow removal and deicing.

**Table 5-41
Snow Removal and Deicing FSA**

Classification	Facility and Service Attribute
Commercial Service	Snow removal and deicing
Large GA	Snow removal
Medium GA	Snow removal
Small GA	Snow removal

5.3.10.1 System Performance – Snow Removal and Deicing

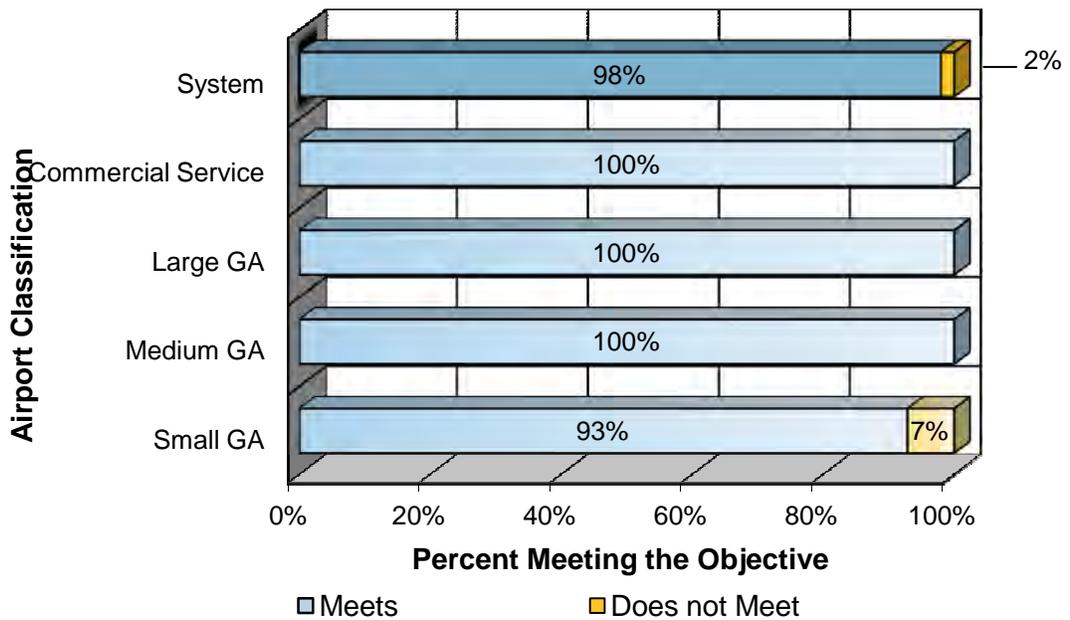
Currently, 98 percent of airports meet the snow removal and deicing FSA. The two airports, both small GA, that do not meet the FSA are listed in Table 5-42.

**Table 5-42
Snow Removal and Deicing - Airports Not Meeting FSA**

Airport	Existing	FSA
Boulder Junction	None	Snow removal
Three Lakes	None	Snow removal

The system performance of this FSA is shown graphically in Chart 5-19.

**Chart 5-19
System Performance - Snow Removal and Deicing**



5.3.11 Security

Recommended security measures for GA airports often include having appropriate signage and lighting, securing aircraft with tie-downs or in hangars, and having an emergency contact list and documented security procedures. Commercial service airports have separate FAA and Transportation Security Administration (TSA) requirements that are evaluated through the Part 139 certification process; therefore, the FSA for commercial service airports is “not an objective”. The FSA for large, medium and small GA airports is that they meet the Bureau of Aeronautics (BOA) security recommendations for their classification. The BOA’s recommendations for security measures at GA airports are based on TSA guidelines, and are used to evaluate each airport based on facility type and to determine what security measures an airport should implement.

The security FSA for each classification is listed in **Table 5-43**.

**Table 5-43
Security FSA**

Classification	Facility and Service Attribute
Commercial Service	Not an Objective
Large GA	Meet BOA airport security recommendations for large GA airports
Medium GA	Meet BOA airport security recommendations for medium GA airports
Small GA	Meet BOA airport security recommendations for small GA airports

5.3.11.1 System Performance – Security

Currently, 97 percent of system airports meet the security FSA. The three airports that do not meet this FSA are in the small GA classification and are listed in **Table 5-44**.

**Table 5-44
Security - Airports Not Meeting FSA**

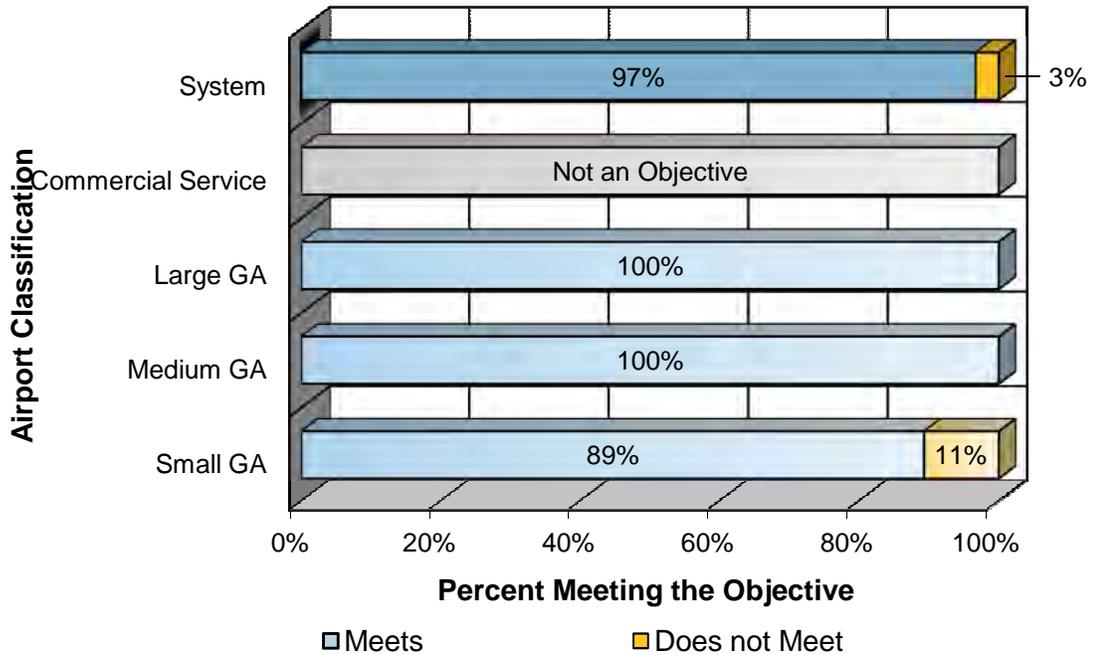
Airport	Existing	FSA
Boulder Junction	Does not meet BOA security recommendations for small GA airports	Meet BOA airport security recommendations for small GA airports
Madison- Blackhawk	Does not meet BOA security recommendations for small GA airports	Meet BOA airport security recommendations for small GA airports
Prentice	Does not meet BOA security recommendations for small GA airports	Meet BOA airport security recommendations for small GA airports

Note: Airports not meeting the FSA should contact BOA to determine needs to meet FSA



The system performance of the security FSA is shown graphically in **Chart 5-20**.

**Chart 5-20
System Performance - Security**



5.4 Administrative

5.4.1 Land Use Zoning Ordinance

The goal of these ordinances is to prevent and minimize incompatible land uses around an airport. It is recommended that all airports in the system have a land use zoning ordinance. Wisconsin Statute §114.136, Approach Protection Plans, allows for any county, city, village or town to protect the aerial approaches to airports with ordinances that regulate use in the vicinity of an airport. This statute provides the authority for airport sponsors to establish airport zoning overlay districts. **Table 5-45** lists the FSA for land use zoning ordinance for each classification.

**Table 5-45
Land Use Zoning Ordinance FSA**

Classification	Facility and Service Attribute
Commercial Service	Land use zoning ordinance
Large GA	Land use zoning ordinance
Medium GA	Land use zoning ordinance
Small GA	Land use zoning ordinance



5.4.1.1 System Performance – Land Use Zoning Ordinance

Of the 98 system airports, 13 airports (13%) have adopted a land use zoning ordinance. The airports that do not meet this FSA are listed in **Table 5-46**.

**Table 5-46
Land Use Zoning Ordinance - Airports Not Meeting FSA**

Airport	Existing	FSA
Eau Claire	None	Land use zoning ordinance
Madison	None	Land use zoning ordinance
Milwaukee	None	Land use zoning ordinance
Mosinee	None	Land use zoning ordinance
Rhineland	None	Land use zoning ordinance
East Troy	None	Land use zoning ordinance
Fond du Lac	None	Land use zoning ordinance
Middleton	None	Land use zoning ordinance
Milwaukee-Timmerman	None	Land use zoning ordinance
New Richmond	None	Land use zoning ordinance
Racine	None	Land use zoning ordinance
Rice Lake	None	Land use zoning ordinance
Sheboygan	None	Land use zoning ordinance
Stevens Point	None	Land use zoning ordinance
Waukesha	None	Land use zoning ordinance
West Bend	None	Land use zoning ordinance
Antigo	None	Land use zoning ordinance
Ashland	None	Land use zoning ordinance
Baraboo	None	Land use zoning ordinance
Black River Falls	None	Land use zoning ordinance
Boscobel	None	Land use zoning ordinance
Brookfield	None	Land use zoning ordinance
Burlington	None	Land use zoning ordinance
Chetek	None	Land use zoning ordinance
Clintonville	None	Land use zoning ordinance
Cumberland	None	Land use zoning ordinance
Eagle River	None	Land use zoning ordinance
Fort Atkinson	None	Land use zoning ordinance
Friendship-Adams	None	Land use zoning ordinance
Hartford	None	Land use zoning ordinance
Hayward	None	Land use zoning ordinance
Juneau	None	Land use zoning ordinance
Ladysmith	None	Land use zoning ordinance
Land O'Lakes	None	Land use zoning ordinance



Table 5-46 (Continued)
Land Use Zoning Ordinance - Airports Not Meeting FSA

Airport	Existing	FSA
Manitowoc	None	Land use zoning ordinance
Marshfield	None	Land use zoning ordinance
Merrill	None	Land use zoning ordinance
Minocqua-Woodruff	None	Land use zoning ordinance
Monroe	None	Land use zoning ordinance
Palmyra	None	Land use zoning ordinance
Phillips	None	Land use zoning ordinance
Platteville	None	Land use zoning ordinance
Portage	None	Land use zoning ordinance
Prairie du Chien	None	Land use zoning ordinance
Prairie du Sac	None	Land use zoning ordinance
Reedsburg	None	Land use zoning ordinance
Shawano	None	Land use zoning ordinance
Shell Lake	None	Land use zoning ordinance
Siren	None	Land use zoning ordinance
Sparta	None	Land use zoning ordinance
Sturgeon Bay	None	Land use zoning ordinance
Superior	None	Land use zoning ordinance
Tomahawk	None	Land use zoning ordinance
Viroqua	None	Land use zoning ordinance
Watertown	None	Land use zoning ordinance
Waupaca	None	Land use zoning ordinance
Wausau	None	Land use zoning ordinance
Wisconsin Rapids	None	Land use zoning ordinance
Barron	None	Land use zoning ordinance
Boulder Junction	None	Land use zoning ordinance
Boyceville	None	Land use zoning ordinance
Cable	None	Land use zoning ordinance
Cassville	None	Land use zoning ordinance
Crandon	None	Land use zoning ordinance
Crivitz	None	Land use zoning ordinance
Ephraim-Gibraltar	None	Land use zoning ordinance
Grantsburg	None	Land use zoning ordinance
Hillsboro	None	Land use zoning ordinance
La Pointe	None	Land use zoning ordinance
Lancaster	None	Land use zoning ordinance
Madison - Blackhawk	None	Land use zoning ordinance
Manitowish Waters	None	Land use zoning ordinance
Necedah	None	Land use zoning ordinance
Neillsville	None	Land use zoning ordinance

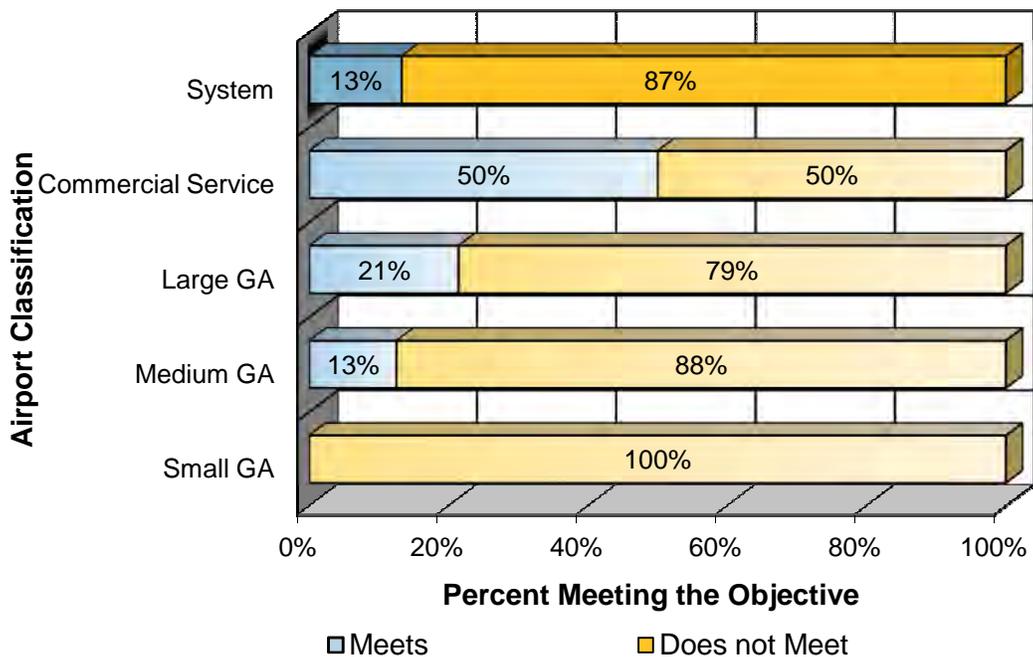


Table 5-46 (Continued)
Land Use Zoning Ordinance - Airports Not Meeting FSA

Airport	Existing	FSA
New Holstein	None	Land use zoning ordinance
New Lisbon	None	Land use zoning ordinance
Oconto	None	Land use zoning ordinance
Park Falls	None	Land use zoning ordinance
Prentice	None	Land use zoning ordinance
Richland Center	None	Land use zoning ordinance
Solon Springs	None	Land use zoning ordinance
Three Lakes	None	Land use zoning ordinance
Tomah	None	Land use zoning ordinance
Washington Island	None	Land use zoning ordinance
Wautoma	None	Land use zoning ordinance
Wild Rose	None	Land use zoning ordinance

The system performance for the land use zoning ordinance FSA is presented in **Chart 5-21**.

Chart 5-21
System Performance - Land Use Zoning Ordinance



Note: Due to rounding, total performance of some classifications may exceed 100%.



5.4.2 Height Limitation Zoning Ordinance

The FSA for height limitation zoning ordinances (HLZO) is that all airport classifications have an HLZO in place. This FSA corresponds with the conditions of state aid for airport improvement projects as listed in TRANS 55 of Wisconsin Administrative Code. This law requires airports to adopt and maintain an HLZO in order to obtain state aid for airport improvements. The FSA for each classification is listed in **Table 5-47**.

Table 5-47
Height Limitation Zoning Ordinance FSA

Classification	Facility and Service Attribute
Commercial Service	Height limitation zoning ordinance
Large GA	Height limitation zoning ordinance
Medium GA	Height limitation zoning ordinance
Small GA	Height limitation zoning ordinance

5.4.2.1 System Performance – Height Limitation Zoning Ordinance

Currently, 85 percent of system airports have adopted an HLZO. The 15 airports that do not meet this FSA are listed in **Table 5-48**.

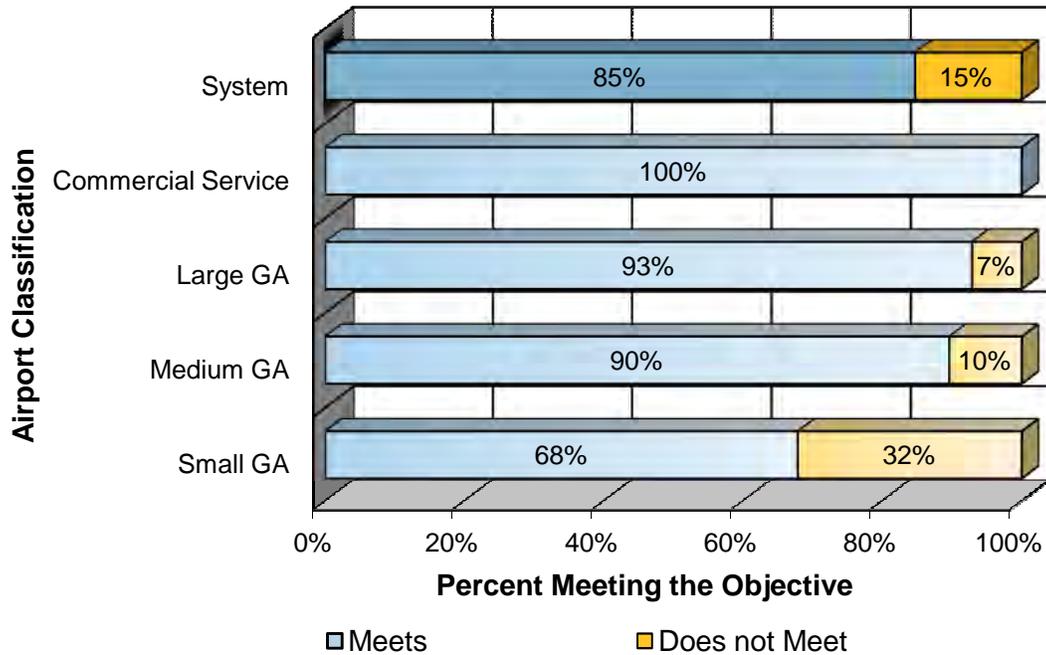
Table 5-48
Height Limitation Zoning Ordinance - Airports Not Meeting FSA

Airport	Existing	FSA
West Bend	None	HLZO
Brookfield	None	HLZO
Portage	None	HLZO
Prairie du Sac	None	HLZO
Shawano	None	HLZO
Shell Lake	None	HLZO
Barron	None	HLZO
Boulder Junction	None	HLZO
Cassville	None	HLZO
Lancaster	None	HLZO
Madison - Blackhawk	None	HLZO
Prentice	None	HLZO
Richland Center	None	HLZO
Three Lakes	None	HLZO
Wild Rose	None	HLZO



The system performance for the HLZO FSA is shown in **Chart 5-22**.

Chart 5-22
System Performance - Height Limitation Zoning Ordinance



5.4.3 Vehicle Pedestrian Ordinance

Similar to HLZO, vehicle pedestrian ordinances are also a requirement to procure state aid for airport projects per the requirements listed in TRANS 55. These ordinances help to ensure the safety of aircraft, aircraft passengers and the public by regulating vehicular and pedestrian movements on an airport. The FSA for vehicle pedestrian ordinances for each airport classification is listed in **Table 5-49**.

Table 5-49
Vehicle Pedestrian Ordinance FSA

Classification	Facility and Service Attribute
Commercial Service	Vehicle pedestrian ordinance
Large GA	Vehicle pedestrian ordinance
Medium GA	Vehicle pedestrian ordinance
Small GA	Vehicle pedestrian ordinance



5.4.3.1 System Performance – Vehicle Pedestrian Ordinance

Currently, 46 percent of system airports have a vehicle pedestrian ordinance. The airports that do not have an ordinance, and do not meet this FSA, are listed in **Table 5-50**.

**Table 5-50
Vehicle Pedestrian Ordinance - Airports Not Meeting FSA**

Airport	Existing	FSA
Eau Claire	None	Vehicle pedestrian ordinance
Milwaukee	None	Vehicle pedestrian ordinance
Rhineland	None	Vehicle pedestrian ordinance
Fond du Lac	None	Vehicle pedestrian ordinance
Milwaukee-Timmerman	None	Vehicle pedestrian ordinance
Racine	None	Vehicle pedestrian ordinance
Rice Lake	None	Vehicle pedestrian ordinance
Amery	None	Vehicle pedestrian ordinance
Antigo	None	Vehicle pedestrian ordinance
Ashland	None	Vehicle pedestrian ordinance
Black River Falls	None	Vehicle pedestrian ordinance
Brookfield	None	Vehicle pedestrian ordinance
Burlington	None	Vehicle pedestrian ordinance
Cumberland	None	Vehicle pedestrian ordinance
Juneau	None	Vehicle pedestrian ordinance
Ladysmith	None	Vehicle pedestrian ordinance
Land O'Lakes	None	Vehicle pedestrian ordinance
Medford	None	Vehicle pedestrian ordinance
Merrill	None	Vehicle pedestrian ordinance
Phillips	None	Vehicle pedestrian ordinance
Portage	None	Vehicle pedestrian ordinance
Prairie du Chien	None	Vehicle pedestrian ordinance
Prairie du Sac	None	Vehicle pedestrian ordinance
Shell Lake	None	Vehicle pedestrian ordinance
Sparta	None	Vehicle pedestrian ordinance
Superior	None	Vehicle pedestrian ordinance
Tomahawk	None	Vehicle pedestrian ordinance
Viroqua	None	Vehicle pedestrian ordinance
Waupaca	None	Vehicle pedestrian ordinance
Wausau	None	Vehicle pedestrian ordinance



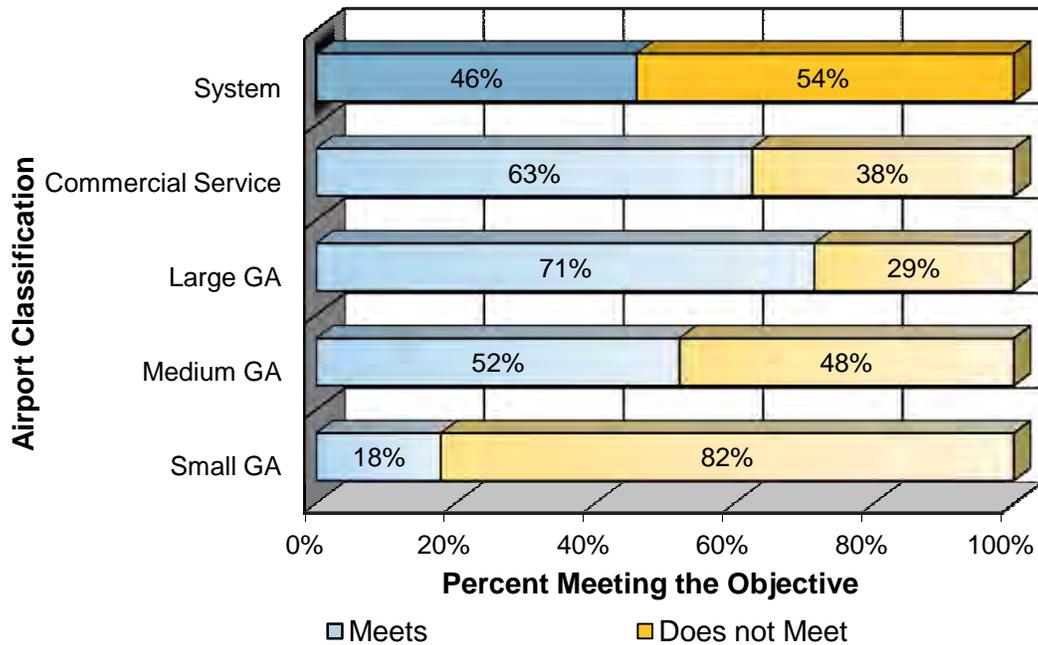
**Table 5-50 (Continued)
Vehicle Pedestrian Ordinance - Airports Not Meeting FSA**

Airport	Existing	FSA
Barron	None	Vehicle pedestrian ordinance
Boulder Junction	None	Vehicle pedestrian ordinance
Boyceville	None	Vehicle pedestrian ordinance
Cable	None	Vehicle pedestrian ordinance
Cassville	None	Vehicle pedestrian ordinance
Crivitz	None	Vehicle pedestrian ordinance
Ephraim-Gibraltar	None	Vehicle pedestrian ordinance
Grantsburg	None	Vehicle pedestrian ordinance
Hillsboro	None	Vehicle pedestrian ordinance
La Pointe	None	Vehicle pedestrian ordinance
Lancaster	None	Vehicle pedestrian ordinance
Madison - Blackhawk	None	Vehicle pedestrian ordinance
New Holstein	None	Vehicle pedestrian ordinance
New Lisbon	None	Vehicle pedestrian ordinance
Park Falls	None	Vehicle pedestrian ordinance
Prentice	None	Vehicle pedestrian ordinance
Richland Center	None	Vehicle pedestrian ordinance
Solon Springs	None	Vehicle pedestrian ordinance
Three Lakes	None	Vehicle pedestrian ordinance
Tomah	None	Vehicle pedestrian ordinance
Washington Island	None	Vehicle pedestrian ordinance
Wautoma	None	Vehicle pedestrian ordinance
Wild Rose	None	Vehicle pedestrian ordinance



Chart 5-23 graphically depicts the system performance for this FSA.

**Chart 5-23
System Performance - Vehicle Pedestrian Ordinance**



Note: Due to rounding, total performance of some classifications may exceed 100%.

5.4.4 Wildlife Hazard Assessment

Wildlife hazard assessments (WHA) are used to evaluate wildlife and their habitat on an airport and its surrounding areas.

The FAA plans to release a Notice of Proposed Rulemaking to make WHAs mandatory for all Part 139 certified airports, regardless of whether an airport has experienced a wildlife hazard. The FAA is also in the process of requiring all airports to address wildlife at their airport. Preliminary FAA guidance on the timelines for required WHAs are shown in **Table 5-51**.



**Table 5-51
Wildlife Hazard Assessment FAA Proposed Investment Schedule**

Airport Group	Group Characteristics	To be Implemented
Group 1	100+ jets or 75,000 annual operations	WHA by the end of FY 2015
Group 2	20-99 jets or 30,000 – 74,999 annual operations	WHA by the end of FY 2020
Group 3	0-19 jets or 10,000 – 29,999 annual operations	WHA by the end of FY 2025
Group 4	0 jet and less than 10,000 annual operations	ACRP Report #32 <i>Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports</i> distributed to airports

The WHA FSA for all airport classifications is to have a WHA completed, see **Table 5-52**. However, the extent of study for a WHA depends on the size of airport, past wildlife strike history, its users and the types of wildlife observed at an airport. WHAs vary in length and complexity from a one-year comprehensive study to a one-day site visit.

**Table 5-52
Wildlife Hazard Assessment FSA**

Classification	Facility and Service Attribute
Commercial Service	Wildlife hazard assessment
Large GA	Wildlife hazard assessment
Medium GA	Wildlife hazard assessment
Small GA	Wildlife hazard assessment

5.4.4.1 System Performance – Wildlife Hazard Assessment

Currently, 23 percent of system airports have completed a wildlife hazard assessment and meet this FSA. All commercial service airports meet this FSA. The airports that do not meet this FSA are listed in **Table 5-53**.

**Table 5-53
Wildlife Hazard Assessment - Airports Not Meeting FSA**

Airport	Existing	FSA
East Troy	None	Wildlife hazard assessment
Fond du Lac	None	Wildlife hazard assessment
Kenosha	None	Wildlife hazard assessment
Middleton	None	Wildlife hazard assessment
New Richmond	None	Wildlife hazard assessment
Racine	None	Wildlife hazard assessment
Rice Lake	None	Wildlife hazard assessment
Sheboygan	None	Wildlife hazard assessment
Stevens Point	None	Wildlife hazard assessment
West Bend	None	Wildlife hazard assessment



Table 5-53 (Continued)
Wildlife Hazard Assessment - Airports Not Meeting FSA

Airport	Existing	FSA
Amery	None	Wildlife hazard assessment
Antigo	None	Wildlife hazard assessment
Baraboo	None	Wildlife hazard assessment
Black River Falls	None	Wildlife hazard assessment
Boscobel	None	Wildlife hazard assessment
Brookfield	None	Wildlife hazard assessment
Burlington	None	Wildlife hazard assessment
Chetek	None	Wildlife hazard assessment
Clintonville	None	Wildlife hazard assessment
Cumberland	None	Wildlife hazard assessment
Fort Atkinson	None	Wildlife hazard assessment
Hartford	None	Wildlife hazard assessment
Hayward	None	Wildlife hazard assessment
Juneau	None	Wildlife hazard assessment
Ladysmith	None	Wildlife hazard assessment
Land O'Lakes	None	Wildlife hazard assessment
Lone Rock	None	Wildlife hazard assessment
Manitowoc	None	Wildlife hazard assessment
Marshfield	None	Wildlife hazard assessment
Merrill	None	Wildlife hazard assessment
Minocqua-Woodruff	None	Wildlife hazard assessment
Monroe	None	Wildlife hazard assessment
Osceola	None	Wildlife hazard assessment
Palmyra	None	Wildlife hazard assessment
Phillips	None	Wildlife hazard assessment
Platteville	None	Wildlife hazard assessment
Prairie du Chien	None	Wildlife hazard assessment
Prairie du Sac	None	Wildlife hazard assessment
Reedsburg	None	Wildlife hazard assessment
Shawano	None	Wildlife hazard assessment
Shell Lake	None	Wildlife hazard assessment
Sparta	None	Wildlife hazard assessment
Sturgeon Bay	None	Wildlife hazard assessment
Superior	None	Wildlife hazard assessment
Tomahawk	None	Wildlife hazard assessment
Viroqua	None	Wildlife hazard assessment
Wausau	None	Wildlife hazard assessment
Wisconsin Rapids	None	Wildlife hazard assessment



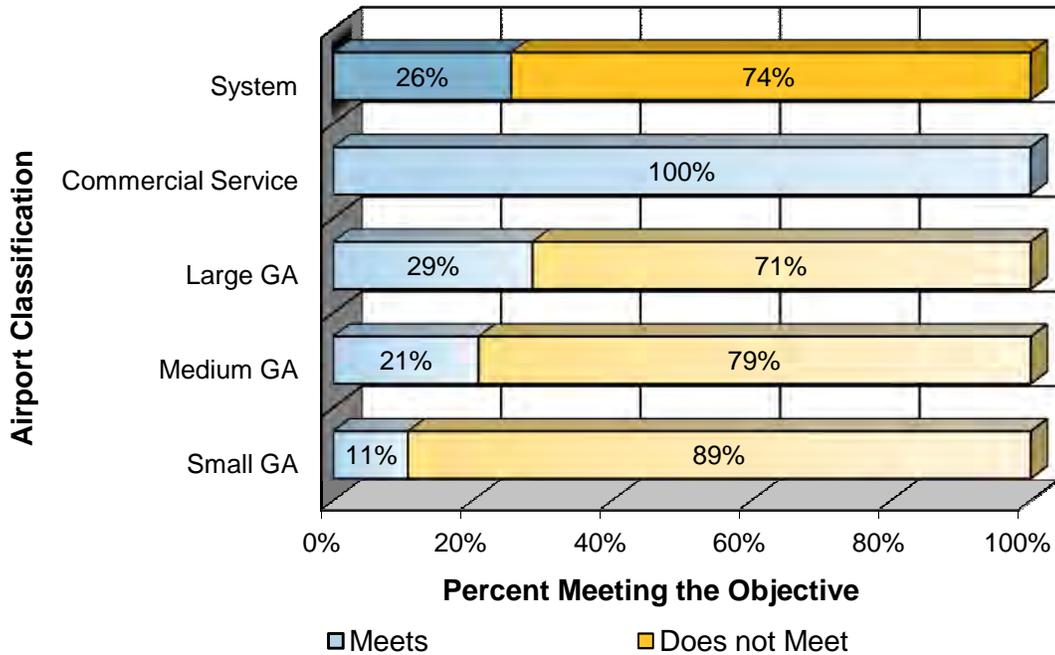
Table 5-53 (Continued)
Wildlife Hazard Assessment - Airports Not Meeting FSA

Airport	Existing	FSA
Barron	None	Wildlife hazard assessment
Boulder Junction	None	Wildlife hazard assessment
Boyceville	None	Wildlife hazard assessment
Cable	None	Wildlife hazard assessment
Cassville	None	Wildlife hazard assessment
Crandon	None	Wildlife hazard assessment
Crivitz	None	Wildlife hazard assessment
Ephraim-Gibraltar	None	Wildlife hazard assessment
Grantsburg	None	Wildlife hazard assessment
Hillsboro	None	Wildlife hazard assessment
La Pointe	None	Wildlife hazard assessment
Lancaster	None	Wildlife hazard assessment
Madison - Blackhawk	None	Wildlife hazard assessment
Manitowish Waters	None	Wildlife hazard assessment
Necedah	None	Wildlife hazard assessment
Neillsville	None	Wildlife hazard assessment
New Lisbon	None	Wildlife hazard assessment
Park Falls	None	Wildlife hazard assessment
Prentice	None	Wildlife hazard assessment
Richland Center	None	Wildlife hazard assessment
Solon Springs	None	Wildlife hazard assessment
Three Lakes	None	Wildlife hazard assessment
Tomah	None	Wildlife hazard assessment
Washington Island	None	Wildlife hazard assessment
Wild Rose	None	Wildlife hazard assessment



The system performance for the WHA FSA is shown graphically in **Chart 5-24**.

Chart 5-24
System Performance - Wildlife Hazard Assessment



5.4.5 Stormwater Management Plan

The Wisconsin Department of Natural Resources (DNR) Storm Water Program regulates storm water discharges from construction sites, industrial facilities and municipalities. Communities that meet one or more of the following criteria are required to obtain a Municipal Separate Storm Sewer System (MS4) permit under [NR 216, Wis. Adm. Code](#):

1. Located within a federally-designated urbanized area
2. Its population equals 10,000 or more based on the latest census
3. The DNR designates the municipality for permit coverage in accordance with NR 216.025
Municipalities with an MS4 permit are required to reduce polluted storm water runoff by implementing storm water management programs with best management practices. These programs are documented in storm water management plans.



The FSA for storm water management plans is that all airports have a completed plan. The FSA for each classification is listed in **Table 5-54**.

**Table 5-54
Stormwater Management Plan FSA**

Classification	Facility and Service Attribute
Commercial Service	Stormwater management plan
Large GA	Stormwater management plan
Medium GA	Stormwater management plan
Small GA	Stormwater management plan

5.4.5.1 System Performance – Stormwater Management Plan

Of the 98 system airports, 50 percent currently meet the stormwater management plan FSA. The majority of the airports that do not meet the FSA are small and medium GA airports, and are listed in **Table 5-55**.

**Table 5-55
Stormwater Management Plan - Airports Not Meeting FSA**

Airport	Existing	FSA
East Troy	None	Stormwater management plan
Janesville	None	Stormwater management plan
Stevens Point	None	Stormwater management plan
Antigo	None	Stormwater management plan
Ashland	None	Stormwater management plan
Baraboo	None	Stormwater management plan
Black River Falls	None	Stormwater management plan
Brookfield	None	Stormwater management plan
Burlington	None	Stormwater management plan
Chetek	None	Stormwater management plan
Clintonville	None	Stormwater management plan
Hartford	None	Stormwater management plan
Ladysmith	None	Stormwater management plan
Land O’Lakes	None	Stormwater management plan
Lone Rock	None	Stormwater management plan
Merrill	None	Stormwater management plan
Mineral Point	None	Stormwater management plan
Minocqua-Woodruff	None	Stormwater management plan
Palmyra	None	Stormwater management plan
Portage	None	Stormwater management plan
Prairie du Chien	None	Stormwater management plan
Prairie du Sac	None	Stormwater management plan



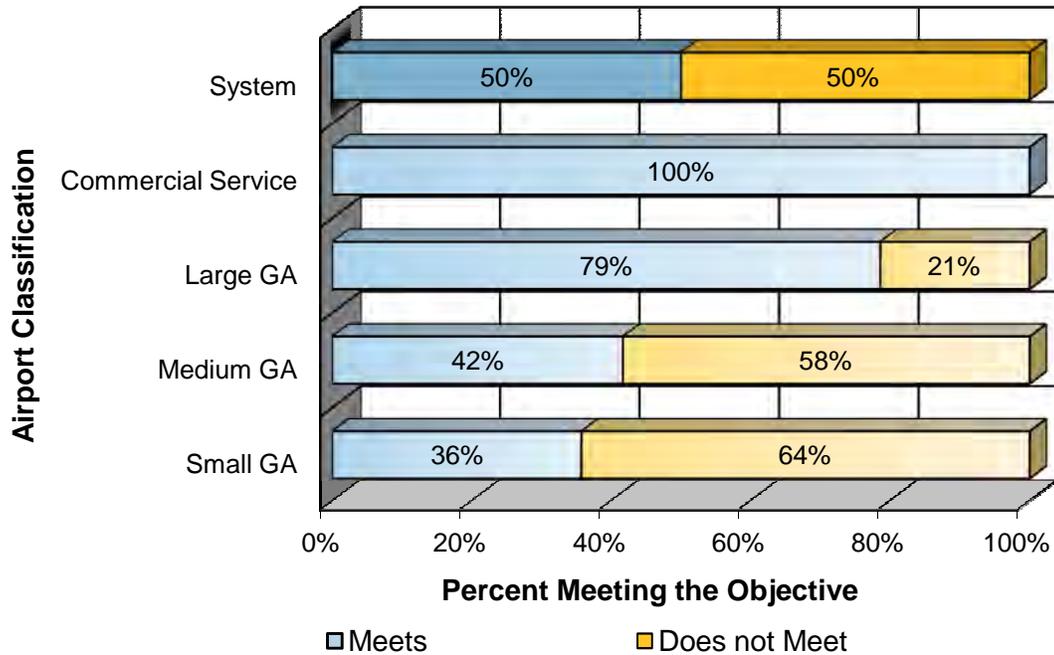
Table 5-55 (Continued)
Stormwater Management Plan - Airports Not Meeting FSA

Airport	Existing	FSA
Shawano	None	Stormwater management plan
Shell Lake	None	Stormwater management plan
Siren	None	Stormwater management plan
Sparta	None	Stormwater management plan
Superior	None	Stormwater management plan
Tomahawk	None	Stormwater management plan
Viroqua	None	Stormwater management plan
Wausau	None	Stormwater management plan
Wisconsin Rapids	None	Stormwater management plan
Barron	None	Stormwater management plan
Boulder Junction	None	Stormwater management plan
Boyceville	None	Stormwater management plan
Cable	None	Stormwater management plan
Cassville	None	Stormwater management plan
Crandon	None	Stormwater management plan
Crivitz	None	Stormwater management plan
Grantsburg	None	Stormwater management plan
Hillsboro	None	Stormwater management plan
La Pointe	None	Stormwater management plan
Lancaster	None	Stormwater management plan
Madison - Blackhawk	None	Stormwater management plan
New Lisbon	None	Stormwater management plan
Prentice	None	Stormwater management plan
Richland Center	None	Stormwater management plan
Solon Springs	None	Stormwater management plan
Three Lakes	None	Stormwater management plan
Wild Rose	None	Stormwater management plan



Chart 5-25 graphically represents the system performance of the stormwater management plan FSA.

**Chart 5-25
System Performance - Stormwater Management Plan**



5.4.6 Fee/Easement Ownership of Existing Runway Protection Zones

The runway protection zone (RPZ) is a trapezoidal area located off the end of a runway that enhances the protection of people and property in the runway approach and departure areas. This protection is provided by restricting any development or other use of that property in the RPZ. Because use is substantially restricted, AC 150/5300-13A, Airport Design recommends that RPZs be owned in fee when possible. The FSA for all classifications of airports is to own the existing RPZs in either fee or easement control. The FSA by classification for RPZ ownership is listed in **Table 5-56**.

**Table 5-56
Fee/Easement Ownership of Existing Runway Protection Zones FSA**

Classification	Facility and Service Attribute
Commercial Service	Fee/easement ownership of existing RPZs
Large GA	Fee/easement ownership of existing RPZs
Medium GA	Fee/easement ownership of existing RPZs
Small GA	Fee/easement ownership of existing RPZs



5.4.6.1 System Performance – Fee/Easement Ownership of Existing Runway Protection Zones

Currently, 47 percent of airports meet this FSA. There are six commercial service, nine large GA, 20 medium GA and 17 small GA airports that do not meet this FSA. They are listed in **Table 5-57**.

**Table 5-57
Fee/Easement Ownership of Existing Runway Protection Zones - Airports
Not Meeting FSA**

Airport	Existing	FSA
Appleton	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Eau Claire	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Green Bay	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
La Crosse	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Mosinee	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Rhineland	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Fond du Lac	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Janesville	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Kenosha	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Middleton	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Milwaukee-Timmerman	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Oshkosh	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Racine	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Waukesha	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
West Bend	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ



Table 5-57 (Continued)
Fee/Easement Ownership of Existing Runway Protection Zones - Airports
Not Meeting FSA

Airport	Existing	FSA
Baraboo	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Boscobel	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Brookfield	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Clintonville	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Cumberland	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Eagle River	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Hayward	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Juneau	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Ladysmith	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Land O'Lakes	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Manitowoc	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Mineral Point	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Palmyra	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Portage	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Prairie du Sac	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Shell Lake	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Sparta	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Watertown	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Wausau	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Wisconsin Rapids	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ



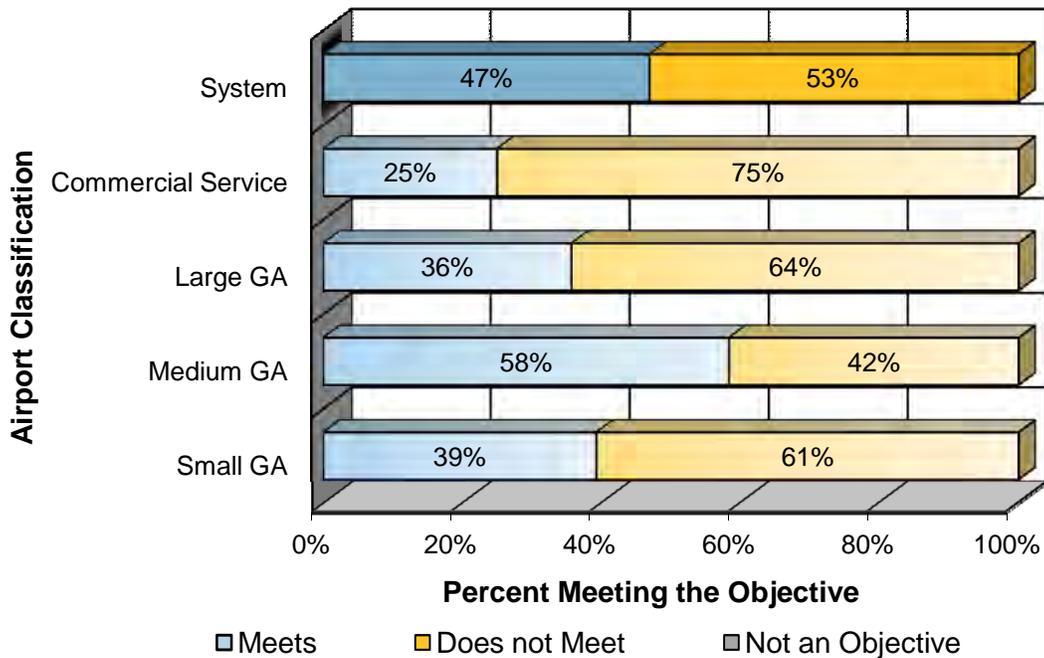
Table 5-57 (Continued)
Fee/Easement Ownership of Existing Runway Protection Zones - Airports
Not Meeting FSA

Airport	Existing	FSA
Barron	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Boulder Junction	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Cable	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Crandon	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Ephraim-Gibraltar	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Grantsburg	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Hillsboro	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Lancaster	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Madison	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Manitowish Waters	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Park Falls	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Prentice	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Richland Center	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Solon Springs	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Three Lakes	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Wautoma	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ
Wild Rose	Not all RPZs controlled completely in fee/easement	Fee/easement ownership of existing RPZ



The system performance of RPZ ownership is depicted in **Chart 5-26**.

Chart 5-26
System Performance - Fee/Easement Ownership of Existing Runway Protection Zones



5.5 Combined System Performance

The following charts illustrate how the system is performing related to the FSAs that have been set for each airport classification. The performance is shown in **Charts 5-27** through **5-31** and include: Overall system performance, commercial service airport performance, large GA airport performance, medium GA airport performance and small GA airport performance. When a specific category was not an objective for all airports, only those airports where the objective applied were considered in the overall system performance measurement.



Chart 5-27
Overall System Performance

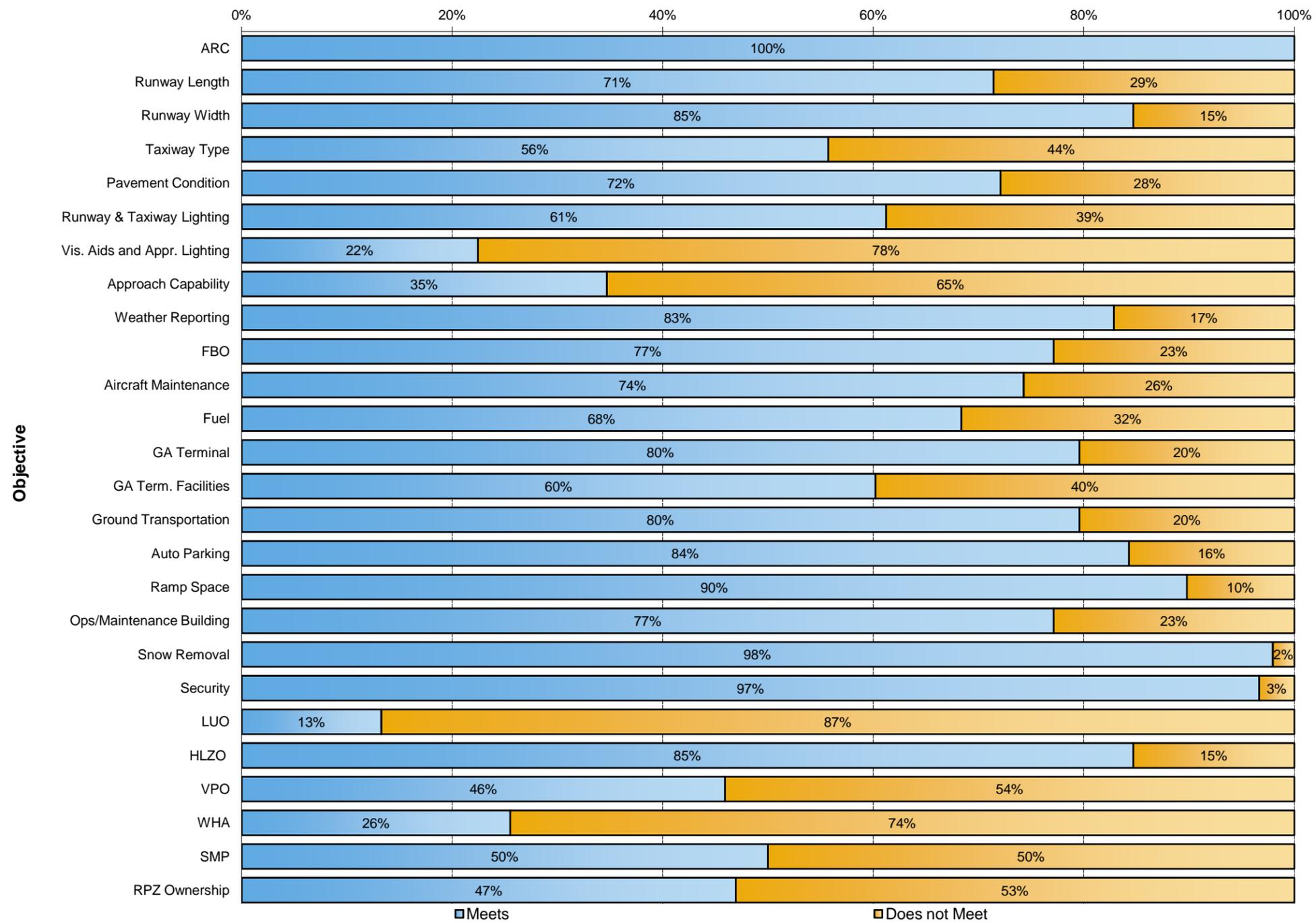


Chart 5-28
Commercial Service Airports Performance

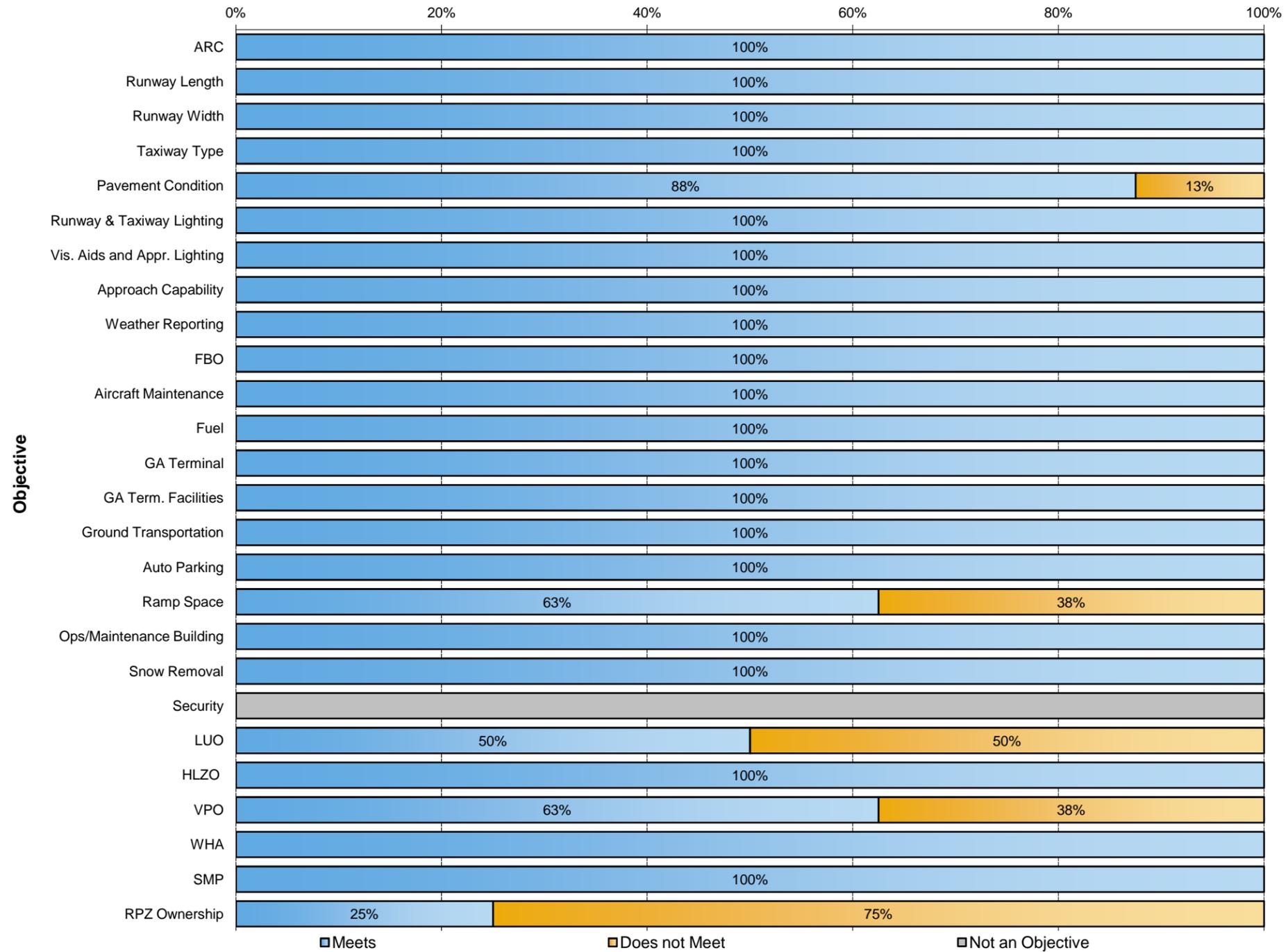


Chart 5-29
Large GA Airports Performance

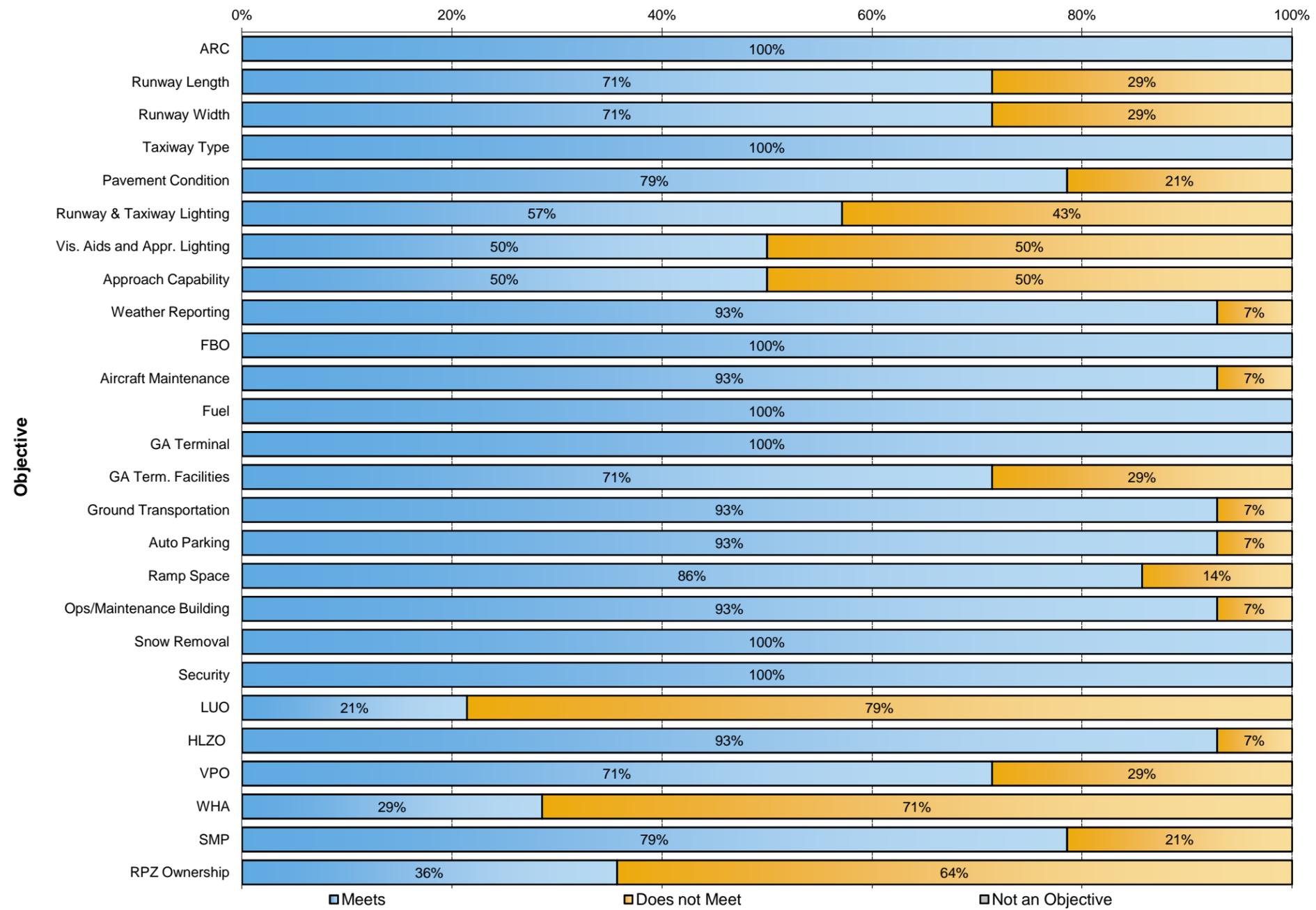


Chart 5-30
Medium GA Airports Performance

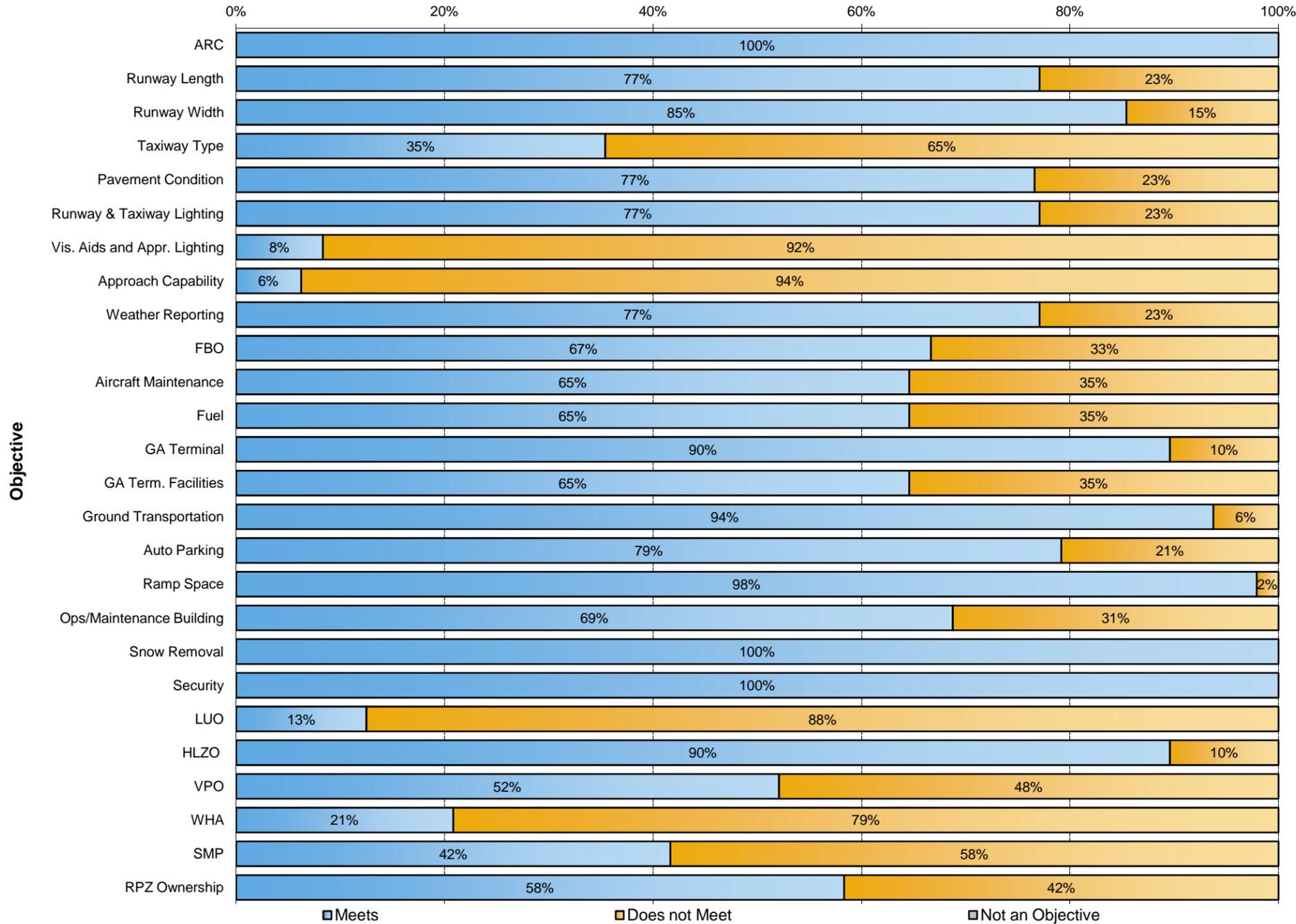


Chart 5-31
Small GA Airports Performance

