COLORADO 2011 AVIATION SYSTEM PLAN

TECHNICAL REPORT

COLORADO AERONAUTICS DIVISION

COLORADO DOT DEPARTMENT OF TRANSPORTATION

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1 Study Purpose and Overview

Colorado Department of Transportation's (CDOT) Division of Aeronautics was among the first to prepare a performance-based airport system plan. This plan, the 2000 Colorado Statewide Inventory and Implementation Plan, was subsequently updated through the 2005 Colorado Aviation System Plan.

The State Aviation System Plan provides the Division of Aeronautics with an important planning tool – a tool that helps Aeronautics determine how its investment elevates overall system performance. In addition, the State Aviation System Plan helps to identify those airports and those projects that help to provide a system of airports that can meet the State's air transportation needs, while supporting its economic goals. According to Federal guidelines from the Federal Aviation Administration (FAA) and state needs, it is appropriate to update the State Aviation System Plan at regular intervals. This 2011 Colorado Aviation System Plan Update builds on both the 2000 and 2005 plans; hence, readers of this plan may wish to refer to the previous plans should they desire additional detail and background information.

This 2011 update to Colorado's Aviation System Plan has three primary objectives. The first objective is to provide, based on current conditions, an update on how well the system is performing. System performance is evaluated using performance measures and associated benchmarks that were first established in 2000. The performance measures, put in place by Colorado's Aeronautical Board, are the categories in which the system is evaluated. For the Colorado system, the performance measures are generally associated with characteristics of an efficient and well-functioning airport system. Benchmarks, also adopted by the Board in 2000, are the actual yardsticks or tests applied to the system to identify adequacies and deficiencies.

The second objective of this update is to identify changes in system performance. This is accomplished primarily by comparing system performance, relative to each performance measure and its associated benchmarks, with performance for the same measurements in 2000 and 2005. Changes in system performance can result from investment from Aeronautics and other sources, which serves to enhance various aspects of the airport system. Changes in system performance can also be recorded when the currency of certain benchmarks expires or when facilities deteriorate. For instance, the system plan has benchmarks related to airports having current master plans, as well as benchmarks for primary runways to have pavements that meet a critical pavement condition index (PCI). Master plans which were current in 2005 may no longer be considered current in 2011, and pavement that met PCI objectives in 2005 may deteriorate and may not meet plan objectives in 2011. Finally, for this 2011 update, some facility objectives for airports have been "upgraded," making them more stringent than they were in 2005. With upgraded objectives that were adopted based on more current FAA guidelines, some airports that previously met plan objectives in 2005 may no longer meet the updated 2011 objectives.

The third objective of this 2011 update is to better show the relationship between system performance measures and benchmarks and facility and service objectives that were also established in 2000. Facility, service, and equipment objectives identified for airports in the Major, Intermediate, and Minor categories help airports to fulfill their assigned system role. Facility, service, and equipment objectives in some instances stand on their own; but in other instances, they are tied directly to one or more system benchmarks. This 2011 update more clearly demonstrates the linkages between the plan's benchmarks and the airport related facility, service, and equipment objectives.

Furthermore, as part of this third objective, this plan provides insight into how actual grants issued by the Division of Aeronautics to system airports relate to performance/benchmarks and/or to the plan's facility, service, and equipment objectives. Defining these relationships helps to demonstrate how grants awarded by Aeronautics to system airports are in fact tied to the system plan. With this understanding, the direct relationship between individual airport grants and the way in which these grants help to elevate the performance of the system, relative to the system plan's goals and objectives, becomes more apparent.

Often when Aeronautics issues a grant to a system airport, the grant does not result in an immediate elevation in system performance relative to one of the benchmarks or the facility/service/equipment objectives. There is often a "process" involved in moving the system forward, relative to one of these measurements. Furthermore, the process to improve system performance often involves grants over a multi-year period. For instance, if an airport needs a runway extension, grants that could be issued as a prelude to the actual extension could include: planning, environmental, and engineering studies; land acquisition; environmental mitigation; various relocations both on and off-airport; Part 77 compliance projects; projects to meet FAA safety and design standards; and site preparation. All of the above could need to take place before the ultimate extension of the runway.

This 2011 update to Colorado's Aviation System Plan helps to demonstrate the direct correlation between grants issued by the Division of Aeronautics and the performance measures; benchmarks; and facility, service, and equipment objectives contained in the system plan.

The remaining chapters of this report document the 2011 update to Colorado's Aviation System Plan. The remaining chapters of the plan are as follows:

- **Chapter 2 – Inventory –** the inventory chapter provides background data and information for the study. This chapter presents information, particularly on facilities, that is used in subsequent sections of the system plan to evaluate current system and airport performance.

- **Chapter 3 – Forecasts –** forecasts of demand are used as an input for the system planning process to determine if system airports have adequate capacity to accommodate current and future aircraft operational levels.

- **Chapter 4 – Current System Performance –** previously established performance measures and benchmarks are used to evaluate the performance of the system, with adequacies and deficiencies identified based on current system characteristics.

- **Chapter 5 – Future System Performance –** current system performance for 2011 is compared to performance of the system in 2000 and 2005; and targets for future system performance, relative to each benchmark, are established.

- **Chapter 6 – Current and Future Airport Performance –** airports in the Colorado system are assigned to one of three roles: Major, Intermediate, or Minor. For each role, appropriate facility, service, and equipment objectives have been established. This chapter reviews airport roles contained in the 2005 plan and identifies recommended changes. Based on recommended roles, airports are then reviewed to determine their ability to meet their individual objectives relative to their assigned system role.

- **Chapter 7 – Recommendations –** various actions needed to meet targets set for each system benchmark are identified, as are projects/actions that are needed to enable system airports to meet their respective facility, service, and equipment objectives. After all projects/actions needed to move the system forward are identified, estimated costs related to implementing the improvements are also identified.

2 Inventory

The Inventory chapter of the 2011 Colorado Aviation System Plan serves two primary purposes. First, it provides an accurate account of data to be used throughout the entirety of the study. Secondly, the data collected during the inventory creates a database to be used by the Colorado Department of Transportation (CDOT) Aeronautics Division and the Federal Aviation Administration (FAA) for future reference. The database can also be updated and enhanced by the Colorado Division of Aeronautics as changes occur.

The data collected to support the development of this plan is presented throughout subsequent chapters. Additional information can also be found in the comprehensive database. The airports in the plan are grouped by functional level (Major, Intermediate, and Minor), and then grouped alphabetically by their associated city. The data included in this chapter are organized as follows:

- Existing Facilities
- Approach Types and Weather Reporting Facilities
- Approach Lighting and Visual Aids
- Airport Planning Documentation
- Airport Economic Information

2.1 Data Collection Methods

The system plan data were collected primarily from an internet-based survey, which was distributed by the Division of Aeronautics through an e-mail to all Colorado system airports. The survey was comprised of questions regarding existing airport facilities, activity levels, operations, FAR Part 77 implementation, and security. The surveys were completed by airport managers, sponsors, and/or Fixed Based Operators (FBOs); 62 of the 76 system airports provided survey responses for a completion rate of 82 percent. For missing or incomplete surveys, data items were collected from a combination of published information sources and the data provided in the 2005 System Plan.

Airports included in the study are predominantly publicly-owned airports, with the addition of some privately-owned facilities that are open to the public. The public-use airport system includes 76 airports in total, of which 65 are publicly-owned and 11 are privately-owned. Of these, 14 are commercial service airports and 62 are general aviation airports.

The data collected through the inventory survey was supplemented with information compiled from the following sources:

- FAA Data/Records/Terminal Area Forecasts (TAF)
- Airport Master Records (5010's)
- Individual Airport Master Plans and Forecasts
- Colorado Division of Aeronautics Data
- 2005 Colorado Airport System Plan

2.2 Existing Facilities

This section presents an overview of existing facilities at Colorado airports. Basic facilities information including airport elevation, runway dimensions and surface type, and parallel taxiway information (full or partial) is provided in **Table 2-1**. Information on the functional role of airports within the Colorado airport system and the National Plan of Integrated Airport System (NPIAS) service level is also provided.

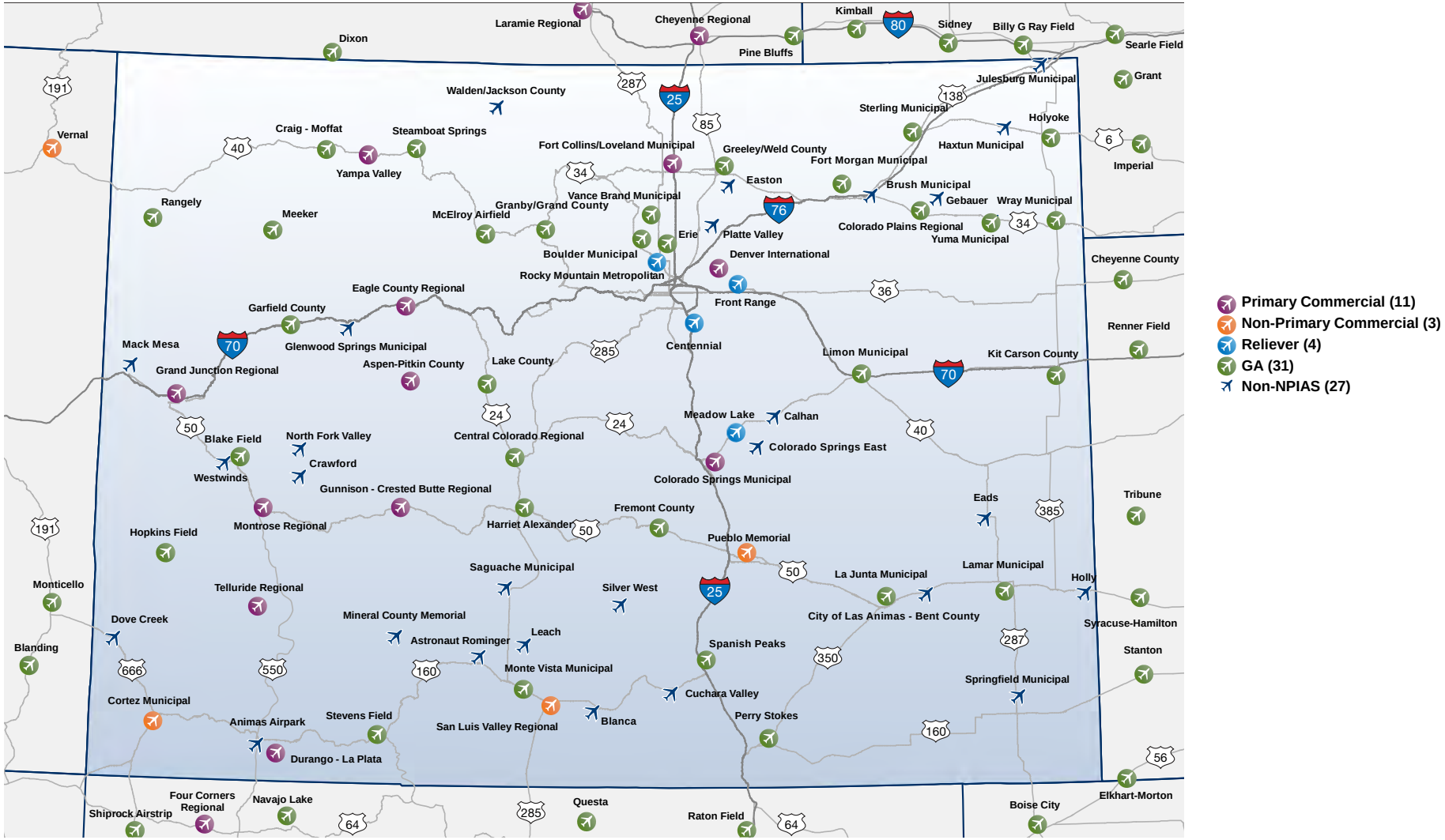
2.2.1 National Plan of Integrated Airport Systems (NPIAS) and Service Level

The NPIAS is developed by the FAA to identify airports that are significant to the national air transportation system. The FAA's criteria for an airport's inclusion in the NPIAS include a variety of factors such as airport demand, geographic location, and airport sponsorship. Airports included in the NPIAS are eligible to receive federal grants for airport planning and various capital improvements to keep the airports current with design standards and to meet system capacity needs. Airports are defined within the NPIAS by their service level, which reflects the type of service the airport provides to the surrounding community. The service level also determines the airport's funding category, as established by Congress, to assist in airport development. The NPIAS categories are:

- **Primary Commercial Service (PR)** - Publicly or privately owned airports that enplane more than 10,000 passengers per year and receive scheduled passenger service.
- **Non-Primary Commercial Service (CS)** - Publicly or privately owned airports that enplane at least 2,500-10,000 passengers per year and receive scheduled passenger service.
- **Reliever (RL)** - Publicly or privately owned airports that relieve congestion at commercial service hub airports by improving and offering alternative access to busy metropolitan areas for general aviation and non-airline commercial operators.
- **General Aviation (GA)** - Publicly-owned airports that primarily serve general aviation users.

Exhibit 2-1 depicts the existing Colorado NPIAS and non-NPIAS airports and several of the neighboring out-of-state NPIAS airports.

Exhibit 2-1: Colorado System Airports and Surrounding Out-of-State Airports by NPIAS Category



2.2.2 Eligibility for State Funds

The Division of Aeronautics offers support to Colorado airports through aviation fuel tax refunds, discretionary grants, and statewide maintenance and enhancement programs. Discretionary grants are based on aviation fuel tax refunds and are predominantly used for airfield capital improvements, airfield maintenance, capital equipment investment, local match for federal projects, and other various programs. Table 2-1 includes public use airports in Colorado that are eligible for State discretionary grants.

2.2.3 Runway Facility, Orientation, Dimensions, and Surface Type

Existing runway orientations, lengths, widths, surface type, and airport elevation are depicted in Table 2-1. This data will be used throughout the plan to determine the status and condition of the current facilities, specifically the adequacy of runway lengths and airport capacity.

Table 2-1: Existing Facilities

City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)
Major Airports									
Akron	Colorado Plains Regional Airport	GA	4,714	11/29	7,000	100	Asphalt	PP	35
Alamosa	San Luis Valley Airport	CS	7,539	2/20	8,519	100	Asphalt	Yes	35
				6/24	3,200	100	Dirt	No	-
Aspen	Aspen-Pitkin County Airport	P	7,820	15/33	8,000	100	Asphalt	PP	50
Broomfield/Denver	Rocky Mountain Metropolitan Airport	R	5,673	11L/29R	9,000	100	Asphalt	Yes	50
				11R/29L	7,002	75	Asphalt	Yes	35
				2/20	3,600	75	Asphalt	Yes	35
Burlington	Kit Carson County Airport	GA	4,219	15/33	5,201	75	Asphalt	PP	35
Colorado Springs	Colorado Springs Municipal Airport	P	6,184	17L/35R	13,501	150	Concrete	Yes	75
				17R/35L	11,022	150	Asphalt	Yes	75
				13/31	8,269	150	Asphalt	Yes	75
Cortez	Cortez-Montezuma Municipal Airport	CS	5,918	3/21	7,205	100	Asphalt	Yes	35
Denver	Denver International Airport	P	5,431	16R/34L	16,000	200	Concrete	Yes	75
				7/25	12,000	150	Concrete	Yes	75
				8/26	12,000	150	Concrete	Yes	75
				16L/34R	12,000	150	Concrete	Yes	75
				17L/35R	12,000	150	Concrete	Yes	75
				17R/35L	12,000	150	Concrete	Yes	75
Durango	Durango-La Plata County Airport	P	6,685	3/21	9,201	150	Asphalt	Yes	50
Eagle	Eagle County Regional Airport	P	6,535	7/25	9,000	150	Asphalt	Yes	75
Englewood/Denver	Centennial Airport	R	5,885	17L/35R	10,001	100	Asphalt	Yes	50
				17R/35L	7,000	77	Asphalt	Yes	40
				10/28	4,800	75	Asphalt	Yes	30
Grand Junction	Grand Junction Regional Airport	P	4,858	11/29	10,501	150	Asphalt	Yes	75
				4/22	5,502	75	Asphalt	Yes	35

Table 2-1: Existing Facilities

City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)
Major Airports, cont'd									
Greeley	Greeley-Weld County Airport	GA	4,697	16/34	10,000	100	Asphalt	Yes	35
				9/27	5,801	100	Asphalt	Yes	35
Gunnison	Gunnison-Crested Butte Regional Airport	P	7,678	6/24	9,400	150	Asphalt	Yes	75
				17/35	3,000	150	Turf	No	-
Hayden	Yampa Valley Regional Airport	P	6,602	10/28	9,998	150	Asphalt	Yes	75
Lamar	Lamar Municipal Airport	GA	3,706	18/36	6,304	100	Concrete	Yes	35
				8/26	5,001	60	Asphalt	No	-
Longmont	Vance Brand Municipal Airport	GA	5,055	11/29	4,800	75	Concrete	Yes	35
Loveland	Fort Collins-Loveland Municipal Airport	P	5,016	15/33	8,500	100	Asphalt	Yes	50
				6/24	2,273	40	Asphalt	No	-
Meeker	Meeker Airport	GA	6,421	3/21	6,497	60	Asphalt	No	-
Montrose	Montrose Regional Airport	P	5,759	17/35	10,000	150	Asphalt	Yes	75
				13/31	7,500	100	Asphalt	PP	50
Pagosa Springs	Stevens Field	GA	7,664	1/19	8,100	100	Asphalt	PP	35
Pueblo	Pueblo Memorial Airport	CS	4,726	8L/26R	10,498	150	Asphalt	Yes	75
				17/35	8,310	150	Asphalt	No	-
				8R/26L	3,767	75	Asphalt	No	-
Rifle	Garfield County Regional Airport	GA	5,548	8/26	7,000	100	Asphalt	Yes	35
Telluride	Telluride Regional Airport	P	9,070	9/27	7,111	100	Asphalt	PP	35
Trinidad	Perry Stokes Airport	GA	5,762	3/21	5,500	100	Asphalt	No	-
				9/27	5,500	100	Turf/Gravel	No	-
Watkins/Denver	Front Range Airport	R	5,512	17/35	8,000	100	Asphalt	Yes	35
				8/26	8,000	100	Asphalt	Yes	35
Intermediate Airports									
Boulder	Boulder Municipal Airport	GA	5,288	8/26	4,100	75	Asphalt	Yes	35
				8G/26G	4,100	20	Asphalt	No	-

Table 2-1: Existing Facilities

City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)
Intermediate Airports, cont'd									
Buena Vista	Central Colorado Regional Airport	GA	7,946	15/33	8,300	75	Asphalt	Yes	50
Canon City	Fremont County Airport	GA	5,439	11/29	5,399	75	Asphalt	PP	35
				17/35	3,261	35	Turf/Gravel	No	-
Center	Leach Airport	-	7,598	12/30	7,000	50	Asphalt	No	-
Colorado Springs	Meadow Lake Airport **	R	6,874	15/33	6,000	60	Asphalt	Yes	25
				8/26	2,084	35	Asphalt	No	-
				N/S	1,800	15	Asphalt	No	-
Craig	Craig-Moffat County Airport	GA	6,193	7/25	5,606	100	Asphalt	No	-
Creede	Mineral County Memorial Airport	-	8,680	7/25	6,880	60	Asphalt	No	-
Del Norte	Astronaut Kent Rominger Airport	-	7,949	6/24	6,050	75	Asphalt	No	-
				3/21	4,670	60	Turf/Dirt	No	-
Delta	Blake Field	GA	5,193	3/21	5,598	75	Asphalt	PP	35
Durango	Animas Airpark **	-	6,684	1/19	5,010	50	Asphalt	No	-
Eads	Eads Airport	-	4,245	17/35	3,860	60	Asphalt	No	-
Erie	Erie Municipal Airport	GA	5,130	15/33	4,700	60	Concrete	Yes	25
Fort Morgan	Fort Morgan Municipal Airport	GA	4,569	14/32	5,219	60	Concrete	No	-
				17/35	3,800	30	Dirt/Turf	No	-
				8/26	2,467	100	Turf	No	-
Glenwood Springs	Glenwood Springs Municipal Airport	-	5,916	14/32	3,305	50	Asphalt	PP	35
Granby	Granby-Grand County Airport	GA	8,203	9/27	5,000	75	Asphalt	PP	35
Holyoke	Holyoke Municipal Airport	GA	3,730	14/32	5,000	75	Asphalt	No	-
Kremmling	McElroy Field	GA	7,411	9/27	5,540	75	Asphalt	No	-
La Junta	La Junta Municipal Airport	GA	4,229	8/26	6,849	75	Asphalt	Yes	75
				12/30	5,803	60	Asphalt	No	-
				H1	145	145	Asphalt	N/A	-

Table 2-1: Existing Facilities

City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)
Intermediate Airports, cont'd									
Leadville	Lake County Airport	GA	9,927	16/34	6,400	75	Asphalt	PP	35
				H1	150	100	Concrete	N/A	-
Limon	Limon Municipal Airport	GA	5,374	16/34	4,700	60	Concrete	PP	25
Monte Vista	Monte Vista Municipal Airport	GA	7,611	2/20	5,900	60	Asphalt	No	-
				16/34	2,449	30	Dirt	No	-
				10/28	1,731	45	Dirt	No	-
Nucla	Hopkins Field	GA	5,940	5/23	4,600	75	Asphalt	No	-
				11/29	4,000	80	Turf/Dirt	No	-
Rangely	Rangely Airport	GA	5,275	6/24	6,408	75	Asphalt	Yes	35
Salida	Harriet Alexander Airport	GA	7,523	6/24	7,347	75	Asphalt	PP	35
				H1	36	36	Concrete	N/A	-
Springfield	Springfield Municipal Airport	-	4,390	17/35	5,000	60	Concrete	PP	35
Steamboat Springs	Steamboat Springs-Bob Adams Field	GA	6,882	14/32	4,452	100	Asphalt	No	-
Sterling	Sterling Municipal Airport	GA	4,040	15/33	5,200	75	Concrete	Yes	35
				3/21	2,500	150	Turf/Gravel	No	-
Walden	Walden-Jackson County Airport	-	8,153	4/22	5,900	75	Asphalt	No	-
				17/35	4,020	100	Turf	No	-
Walsenburg	Spanish Peaks Airfield	GA	6,050	8/26	4,896	60	Asphalt	No	-
				3/21	2,500	40	Turf/Dirt	No	-
Westcliffe	Silver West Airport	-	8,290	13/31	7,000	55	Asphalt	No	-
Wray	Wray Municipal Airport	GA	3,667	17/35	5,400	75	Asphalt	No	-
Yuma	Yuma Municipal Airport	GA	4,136	16/34	4,200	75	Concrete	PP	35
				12/30	2,900	40	Asphalt	No	-
Minor Airports									
Akron	Gebauer Airport **	-	4,509	8/26	3,000	70	Turf/Gravel	No	-
				11/29	2,150	70	Turf/Gravel	No	-
Blanca	Blanca Airport	-	7,720	3/21	6,160	52	Dirt	No	-

Table 2-1: Existing Facilities

City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)
Minor Airports, cont'd									
Brush	Brush Municipal Airport	-	4,280	7/25	4,300	60	Asphalt	No	-
Calhan	Calhan Airport **	-	6,450	17/35	4,565	50	Turf	No	-
Crawford	Crawford Airport **	-	6,470	7/25	4,900	20	Asphalt	No	-
				E/W	2,500	125	Turf	No	-
Delta	Westwinds Airpark **	-	5,000	4/22	4,100	40	Asphalt	No	-
				13/31	2,000	70	Gravel	No	-
Dove Creek	Dove Creek Airport **	-	6,975	1/19	4,200	50	Dirt	No	-
Ellicott	Colorado Springs East Airport **	-	6,145	17R/35L	4,500	42	Asphalt	Yes	50
				17L/35R	4,500	40	Gravel/Dirt	No	-
				8/26	3,440	60	Gravel/Dirt	No	-
Greeley	Easton-Valley View Airport **	-	4,820	8/26	4,000	25	Turf	No	-
				14/32	2,400	65	Turf/Dirt	No	-
Haxtun	Haxtun Municipal Airport	-	4,035	8/26	3,860	40	Asphalt	No	-
				17/35	1,650	30	Turf/Dirt	No	-
Holly	Holly Airport	-	3,390	17/35	4,140	40	Gravel	No	-
Hudson	Platte Valley Airpark **	-	4,965	15/33	4,100	40	Asphalt	Yes	25
				9/27	2,500	90	Turf/Gravel	No	-
Julesburg	Julesburg Municipal Airport	-	3,520	13/31	4,100	60	Asphalt	No	-
La Veta	Cuchara Valley Airport	-	7,153	6/24	5,798	60	Asphalt	No	-
Las Animas	Las Animas City & County Airport	-	3,915	8/26	3,870	40	Asphalt	No	-
Mack	Mack Mesa Airport **	-	4,724	7/25	2,600	60	Asphalt	No	-
Paonia	North Fork Valley Airport	-	5,798	5/23	4,500	60	Asphalt	No	-
Saguache	Saguache Municipal Airport	-	7,826	11/29	7,957	55	Gravel	No	-

Notes: '** Indicates Private Ownership. PP = Partial Parallel Taxiway.

Source: Jviation, Inc

2.3 Approach Types and Weather Reporting Facilities

Existing approach visibility minimums, approach types, and weather reporting capabilities at each system airport are depicted in **Table 2-2**. Each category is described in the following sections.

2.3.1 Approach Visibility Minimums

The minimum or "best" approach visibility, in statute miles, is specified in Table 2-2 for instrument approaches to each system airport. The direction of the instrument approach is also specified as straight-in (str) and circling (cir) patterns. Airports that do not have published instrument approaches have "visual" listed for their approach minimums. The standard visual approach, while under visual flight rules (VFR), requires a ceiling greater than or equal to 1,000 feet above ground level (AGL) and forward visibility of three or more statute miles at the airport.

The approach visibility minimums for each airport are determined by approach types, runway facilities, and topographical characteristics of the area surrounding the airport. Airports with published instrument approaches must have, at a minimum, adequate runway length, runway markings, medium intensity runway lighting, and an FAA site evaluation. In addition, airports with precision or non-precision approaches with low visibility minimums require additional facility safety standards.

2.3.2 Approach Types

There are several different types of published approaches commonly available at Colorado system airports. The approach types are defined as follows:

- **Global Positioning System (GPS) –** GPS is a space-based radio navigation system that consists of a network of satellites and ground stations. GPS satellites are capable of providing aircraft with three-dimensional position (latitude, longitude, and altitude), velocity, and time of day, in all weather conditions.
- **Very High Frequency Omni-Directional Range (VOR) –** VOR is a ground based radio navigation aid that provides 360 degrees of continuous directional information; this system supplies aircraft with location relative to the VOR station.
- **Instrument Landing System (ILS) –** ILS provides precise vertical and horizontal guidance information to aircraft on approach and landing, through the use of a localizer, a glide slope, and other ground based facilities.
- **Localizer (LOC) –** The LOC is a radio transmitting antenna that supplies aircraft with lateral course guidance to the runway.

- **Localizer Directional Aid (LDA)** – LDA is comparable to the LOC in use and accuracy; however, the LDA is not aligned with the runway. Straight-in minimums may be published if the alignment does not exceed 30 degrees between the runway heading and the straight-in course. Circling minimums are published if this alignment varies by more than 30 degrees.
- **Distance Measuring Equipment (DME)** – The DME is a ground based, Ultra High Frequency navigation aid that corresponds to aircraft DME avionics. From this, aircraft are able to determine the slant range between the aircraft and ground station.
- **Non-Directional Beacon (NDB)** – The NDB is a ground-based, low or medium frequency radio beacon that broadcasts non-directional signals on an assigned frequency signal. Pilots can use NDBs to determine their location in relation to the ground station.
- **Area Navigation/Required Navigation Performance (RNAV/RNP)** – RNAV/RNP is a performance based type of navigation that allows aircraft to fly on a desired path within the coverage of ground or space-based navigational aids. RNP capable aircraft are equipped with onboard performance monitoring and alerting capabilities.

2.3.3 Weather Reporting Facilities

There are three primary types of weather reporting facilities used by Colorado system airports. These are AWOS, ASOS, and Super Unicom.

- **Automated Weather Observation System (AWOS)** – The AWOS automatically collects weather data from various locations on and around the airport. AWOS units are typically owned and maintained by the FAA or by local airport sponsors. AWOS generates real time weather reports every minute. AWOS weather reports are made available to airport personnel via displays on operator terminals, and to pilots via high quality, digitized voice transmissions using a VHF frequency or voice-capable NAVAID. AWOS reports are also available by telephone for flight planning and can be sent to the FAA's Weather Network for flight planning purposes.
- **Automated Surface Observation System (ASOS)** – The ASOS collects minute-by-minute weather observations, from which it generates aviation weather information. This information is disseminated to pilots by a computer generated voice message via a specified radio frequency. Operated jointly by the FAA, National Weather Service (NWS) and Department of Defense, the ASOS generally reports all the parameters of AWOS and offers some additional capabilities.
- **Super Unicom** – The Super Unicom is FAA certified for altimeter settings and other weather data that are needed for a GPS approach. Weather information is then transmitted through the traffic advisory frequency via a computer generated voice.

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports							
Akron	Colorado Plains Regional Airport	11	1 mi (str)	RNAV (GPS)	Yes		ASOS
		29	1 mi (str)	RNAV (GPS), VOR	Yes		
Alamosa	San Luis Valley Airport	2	½ mi (str)	ILS, RNAV (GPS)	Yes	Yes	ASOS
		20	1 mi (cir)	RNAV (GPS), VOR/DME	Yes		
		8	Visual				
		26	Visual				
Aspen	Aspen-Pitkin County Airport	15	2 mi (cir)	LOC/DME-E, VOR/DME, GPS-C	Yes		ASOS
		33	2 mi (cir)	VOR/DME, GPS-C	Yes		
Broomfield/Denver	Rocky Mountain Metropolitan Airport	11L	1 mi (cir)				AWOS
		29R	½ mi (str)	LOC, ILS, RNAV (GPS), VOR/DME	Yes	Yes	
		11R	1 mi (cir)				
		29L	1 mi (str)	ILS, RNAV (GPS), VOR/DME	Yes	Yes	
		2	1 mi (cir)				
		20	1 mi (cir)				
Burlington	Kit Carson County Airport	15	1 mi (str)	RNAV (GPS), NDB	Yes		ASOS
		33	1 mi (str)	LOC			

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports, cont'd							
Colorado Springs	Colorado Springs Municipal Airport	17L	½ mi (str)	ILS, LOC, RNAV (GPS)-Y	Yes	Yes	ASOS
		35R	¾ mi (str)	ILS, LOC, RNAV (GPS)-Y	Yes	Yes	
		17R	¾ mi (str)	RNAV (GPS)-Y	Yes		
		35L	½ mi (str)	ILS, LOC, RNAV (GPS)-Y, NDB	Yes	Yes	
		13	1 mi (cir)				
		31	1 mi (str)	RNAV (GPS)	Yes		
Cortez	Cortez-Montezuma Municipal Airport	3	1 mi (str)	RNAV (GPS)	Yes		ASOS
		21	1 mi (str)	RNAV (GPS) Y,Z, VOR	Yes		
Denver	Denver International Airport	16R	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	ASOS
		34L	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		7	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		25	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		8	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		26	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		16L	½ mi (str)	ILS, RNAV (GPS)	Yes	Yes	
		34R	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		17L	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		35R	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		17R	½ mi (str)	ILS, RNAV (GPS)	Yes	Yes	
		35L	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
Durango	Durango-La Plata County Airport	3	½ mi (str)	ILS, LOC/DME, RNAV (GPS), VOR/DME	Yes	Yes	ASOS
		21	1 mi (cir)		Yes		

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports, cont'd							
Eagle	Eagle County Regional Airport	7	1 ¼ mi (cir)	RNAV (GPS)-D	Yes		AWOS
		25	1 ¼ mi (cir)	RNAV (GPS)-D, LDA/DME	Yes		
Englewood/Denver	Centennial Airport	17L	1 mi (str)				ASOS
		35R	½ mi (str)	ILS, LOC, RNAV (GPS), NDB	Yes	Yes	
		17R	1 mi (str)				
		35L	1 ¼ mi (sidestep)				
		10	1 mi (str)				
		28	1 mi (str)	RNAV (GPS)	Yes		
Grand Junction	Grand Junction Regional Airport	11	½ mi (str)	ILS, LOC, RNAV (GPS), RNAV (RNP)	Yes	Yes	ASOS
		29	1 mi (str)	RNAV (GPS), LDA/DME	Yes		
		4	1 mi (cir)				
		22	1 mi (cir)				
Greeley	Greeley-Weld County Airport	16	¾ mi (str)	RNAV (GPS), VOR	Yes		AWOS
		34	1 mi (str)	ILS, LOC, RNAV (GPS), VOR, NDB	Yes	Yes	
		9	¾ mi (str)	RNAV (GPS), VOR	Yes		
		27	¾ mi (str)	RNAV (GPS), VOR	Yes		
Gunnison	Gunnison-Crested Butte Regional Airport	6	1 ¼ mi (str)	ILS, LOC, GPS -B, VOR, GPS -A	Yes	Yes	AWOS
		24	1 mi (str)	GPS -B, VOR, GPS -A	Yes		
		17	1 ¼ mi (cir)				
		35	1 ¼ mi (cir)				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports, cont'd							
Hayden	Yampa Valley Regional Airport	10	1 ¼ mi (str)	ILS, LOC/DME, RNAV (GPS), VOR/DME-B	Yes	Yes	AWOS
		28	1 mi (str)	RNAV (GPS), VOR/DME-B	Yes		
Lamar	Lamar Municipal Airport	18	1 mi (str)	RNAV (GPS), VOR	Yes		ASOS
		36	1 mi (str)	RNAV (GPS), VOR/DME	Yes		
		8	1 mi (str)	RNAV (GPS)	Yes		
		26	1 mi (str)	RNAV (GPS)	Yes		
Longmont	Vance Brand Municipal Airport	11	1 mi (cir)	RNAV (GPS)-B, VOR/DME-A	Yes		AWOS
		29	1 mi (str)	RNAV (GPS), RNAV (GPS) - B, VOR/DME-A	Yes		
Loveland	Fort Collins-Loveland Municipal Airport	15	1 mi (str)	RNAV (GPS), VOR/DME-A	Yes		AWOS
		33	½ mi (str)	ILS, LOC, RNAV (GPS), VOR/DME-A	Yes	Yes	
		6	1 mi (cir)				
		24	1 mi (cir)				
Meeker	Meeker Airport	3	1 ¼ mi (str)	RNAV (GPS), RNAV (GPS)-B, VOR-A	Yes		ASOS
		21	1 ¼ mi (cir)	RNAV (GPS) -B, VOR -A	Yes		
Montrose	Montrose Regional Airport	17	½ mi (str)	ILS, LOCE/DME, RNAV (GPS) Y, RNAV (GPS) Z	Yes	Yes	ASOS
		35	1 mi (str)	RNAV (GPS)	Yes		
		13	1 mi (str)	VOR/DME, RNAV (GPS)	Yes		

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports, cont'd							
Pagosa Springs	Stevens Field	1	1 mi (cir)	RNAV (GPS) - A	Yes		AWOS
		19	1 mi (cir)	RNAV (GPS) - A	Yes		
Pueblo	Pueblo Memorial Airport	8L	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	ASOS
		26R	¾ mi (str)	ILS, LOC, RNAV (GPS), VOR	Yes	Yes	
		17	1 mi (str)	GPS	Yes		
		35	1 mi (str)	GPS	Yes		
		8R	1 mi (cir)				
		26L	1 mi (cir)				
Rifle	Garfield County Regional Airport	8	1 mi (str)	RNAV (GPS) Y, LOC/DME-A, VOR/DME-C	Yes		ASOS
		26	1 mi (str)	ILS, RNAV (GPS) W, X, LOC/DME-A, VOR/DME-C	Yes	Yes	
Telluride	Telluride Regional Airport	9	1 ¼ mi (str)	RNAV (GPS), LOC/DME, VOR/DME-A	Yes		AWOS
		27	1 ¼ mi (cir)	VOR/DME-A			
Trinidad	Perry Stokes Airport	3	1 mi (str)	RNAV (GPS), RNAV (GPS)-B, NDB-A	Yes		ASOS
		21	1 mi (cir)	RNAV (GPS)-B, NDB-A	Yes		
		9	1 mi (cir)				
		27	1 mi (cir)				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Major Airports, cont'd							
Watkins/Denver	Front Range Airport	17	¾ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	AWOS
		35	½ mi (str)	ILS, LOC, RNAV (GPS)	Yes	Yes	
		8	1 mi (cir)				
		26	½ mi (str)	ILS, LOC, RNAV (GPS), NDB	Yes	Yes	
Intermediate Airports							
Boulder	Boulder Municipal Airport	8	Visual				AWOS
		26	Visual				
		8G	Visual				
		26G	Visual				
Buena Vista	Central Colorado Regional Airport	15	1 ½ mi (str)				AWOS
		33	1 ½ mi (cir)	GPS	Yes		
Canon City	Fremont County Airport	11	1 mi (cir)				AWOS
		29	1 mi (str)	GPS	Yes		
		17	1 mi (cir)				
		35	1 mi (cir)				
Center	Leach Airport	12	Visual				
		30	Visual				
Colorado Springs	Meadow Lake Airport **	15	Visual				AWOS
		33	Visual				
		8	Visual				
		26	Visual				
		N	Visual				
		S	Visual				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Intermediate Airports, cont'd							
Craig	Craig-Moffat County Airport	7	1 mi (str)	GPS, VOR/DME	Yes		ASOS
		25	1 ¼ mi (str)	GPS, VOR	Yes		
Creede	Mineral County Memorial Airport	7	Visual				
		25	Visual				
Del Norte	Astronaut Kent Rominger Airport	6	Visual				
		24	Visual				
		3	Visual				
		21	Visual				
Delta	Blake Field	3	Visual				AWOS
		21	Visual				
Durango	Animas Airpark **	1	Visual				
		19	Visual				
Eads	Eads Airport	17	Visual				
		35	Visual				
Erie	Erie Municipal Airport	15	1 mi (cir)	VOR/DME, GPS-A	Yes		AWOS
		33	1 mi (cir)	VOR/DME, GPS-A	Yes		
Fort Morgan	Fort Morgan Municipal Airport	14	Visual				AWOS
		32	Visual				
		17	Visual				
		35	Visual				
		8	Visual				
		26	Visual				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Intermediate Airports, cont'd							
Glenwood Springs	Glenwood Springs Municipal Airport	14	Visual				ASOS
		32	Visual				
Granby	Granby-Grand County Airport	9	Visual				AWOS
		27	Visual				
Holyoke	Holyoke Municipal Airport	14	1 mi (str)	RNAV (GPS)	Yes		AWOS
		32	1 mi (str)	RNAV (GPS)	Yes		
Kremmling	McElroy Field	9	1 ¼ mi (str)	VOR/DME, GPS-A	Yes		AWOS
		27	1 ¼ mi (cir)	GPS, VOR/DME, GPS-A	Yes		
La Junta	La Junta Municipal Airport	8	1 mi (str)	RNAV (GPS)	Yes		ASOS
		26	1 mi (str)	RNAV (GPS)	Yes		
		12	1 mi (cir)				
		30	1 mi (cir)				
		H1	1 mi (cir)				
Leadville	Lake County Airport	16	1 ¼ mi (str)	GPS	Yes		ASOS
		34	1 ¼ mi (cir)				
		H1	1 ¼ mi (cir)				
Limon	Limon Municipal Airport	16	Visual				ASOS
		34	Visual				
Monte Vista	Monte Vista Municipal Airport	2	1 mi (cir)	RNAV (GPS)-B, VOR/DME-A	Yes		
		20	1 mi (str)	RNAV (GPS)-B, GPS, VOR/DME-A	Yes		
		16	1 mi (cir)				
		34	1 mi (cir)				
		10	1 mi (cir)				
		28	1 mi (cir)				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Intermediate Airports, cont'd							
Nucla	Hopkins Field	5	1 mi (cir)	RNAV (GPS)-A	Yes		AWOS
		23	1 mi (cir)	RNAV (GPS)-A	Yes		
		11	1 mi (cir)				
		29	1 mi (cir)				
Rangely	Rangely Airport	6	Visual				super unicom
		24	Visual				
Salida	Harriet Alexander Airport	6	1 ¼ mi (cir)	RNAV (GPS)-A	Yes		AWOS
		24	1 ¼ mi (cir)	RNAV (GPS)-A	Yes		
		H1	1 ¼ mi (cir)				
Springfield	Springfield Municipal Airport	17	1 mi (str)	RNAV (GPS)	Yes		
		35	1 mi (cir)		Yes		
Steamboat Springs	Steamboat Springs-Bob Adams Field	14	1 ¼ mi (cir)	RNAV (GPS)-E, VOR/DME-C	Yes		AWOS
		32	1 ¼ mi (cir)	RNAV (GPS)-E, VOR/DME-C	Yes		
Sterling	Sterling Municipal Airport	15	1 mi (cir)				AWOS
		33	1 mi (str)	GPS, NDB	Yes		
		3	1 mi (cir)				
		21	1 mi (cir)				
Walden	Walden-Jackson County Airport	4	1 mi (cir)	RNAV (GPS)-A	Yes		AWOS
		22	1 mi (cir)	RNAV (GPS)-A	Yes		
		17	1 mi (cir)				
		35	1 mi (cir)				
Walsenburg	Spanish Peaks Airfield	8	Visual				
		26	Visual				
		3	Visual				
		21	Visual				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Intermediate Airports, cont'd							
Westcliffe	Silver West Airport	13	Visual				
		31	Visual				
Wray	Wray Municipal Airport	17	1 mi (str)	RNAV (GPS)	Yes		AWOS
		35	1 mi (str)	RNAV (GPS)	Yes		
Yuma	Yuma Municipal Airport	16	Visual				
		34	Visual				
		12	Visual				
		30	Visual				
Minor Airports							
Akron	Gebauer Airport **	8	Visual				
		26	Visual				
		11	Visual				
		29	Visual				
Blanca	Blanca Airport	3	Visual				
		21	Visual				
Brush	Brush Municipal Airport	7	Visual				
		25	Visual				
Calhan	Calhan Airport **	17	Visual				
		35	Visual				
Crawford	Crawford Airport **	7	Visual				
		25	Visual				
		E	Visual				
		W	Visual				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Minor Airports, cont'd							
Delta	Westwinds Airpark **	4	Visual				
		22	Visual				
		13	Visual				
		31	Visual				
Dove Creek	Dove Creek Airport **	1	Visual				
		19	Visual				
Ellicott	Colorado Springs East Airport **	17R	Visual				
		35L	Visual				
		17L	Visual				
		35R	Visual				
		8	Visual				
		26	Visual				
Greeley	Easton-Valley View Airport **	8	Visual				
		26	Visual				
		14	Visual				
		32	Visual				
Haxtun	Haxtun Municipal Airport	8	Visual				
		26	Visual				
		17	Visual				
		35	Visual				
Holly	Holly Airport	17	Visual				
		35	Visual				
Hudson	Platte Valley Airpark **	15	Visual				
		33	Visual				
		9	Visual				
		27	Visual				

Table 2-2: Approach Types and Navigation Aids

City	Airport	Runway	Approach Visibility Minimums (Best)	Approach Types	GPS	ILS	Weather
Minor Airports, cont'd							
Julesburg	Julesburg Municipal Airport	13	Visual				
		31	Visual				
La Veta	Cuchara Valley Airport	6	Visual				
		24	Visual				
Las Animas	Las Animas City & County Airport	8	Visual				
		26	Visual				
Mack	Mack Mesa Airport **	7	Visual				
		25	Visual				
Paonia	North Fork Valley Airport	5	Visual				
		23	Visual				
Saguache	Saguache Municipal Airport	11	Visual				AWOS
		29	Visual				

Note: '** Indicates Private Ownership

Source: Jviation, Inc

2.4 Approach Lighting and Visual Aids

Existing approach lighting and visual aids at Colorado system airports are presented in **Table 2-3**. Specifically, the table includes the following information:

- **Lighting**
  - High Intensity Runway Lighting (HIRL)
  - Medium Intensity Runway Lighting (MIRL)
  - Low Intensity Runway Lighting (LIRL)
- **Visual Aids**
  - **Runway End Identification Lights (REILs) -** REILs are a lighting system consisting of two flashing lights located on each corner of the runway-landing threshold. The light from this system enables pilots to quickly identify the runway threshold on approach.
  - **Precision Approach Path Indicators (PAPIs) -** PAPIs are a lighting system consisting of two or four lights located to the side of the runway touchdown zone. The light from this system provides visual glide path indication to the approaching pilot through the use of red and white lights.
  - **Visual Approach Slope Indicators (VASIs) -** VASIs are a lighting system located to the side of the runway touchdown zone. The light from this system provides visual approach slope guidance that ensures clearance of all obstructions in the approach area.

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Major Airports									
Akron	Colorado Plains Regional Airport	11		Yes		Yes	Yes		
		29		Yes		Yes	Yes		
Alamosa	San Luis Valley Airport	2	Yes				Yes		
		20	Yes			Yes		Yes	
		8							
		26							
Aspen	Aspen-Pitkin County Airport	15		Yes		Yes	Yes		
		33		Yes		Yes			
Broomfield/Denver	Rocky Mountain Metropolitan Airport	11L		Yes		Yes	Yes		
		29R		Yes		Yes	Yes		
		11R		Yes		Yes	Yes		
		29L		Yes		Yes	Yes		
		2		Yes			Yes		
		20		Yes			Yes		
Burlington	Kit Carson County Airport	15		Yes		Yes	Yes		
		33		Yes		Yes	Yes		
Colorado Springs	Colorado Springs Municipal Airport	17L	Yes			Yes	Yes		
		35R	Yes			Yes	Yes		
		17R	Yes			Yes	Yes		
		35L	Yes			Yes	Yes		
		13		Yes		Yes	Yes		
		31		Yes		Yes	Yes		
Cortez	Cortez-Montezuma Municipal Airport	3		Yes		Yes	Yes		
		21		Yes		Yes		Yes	
Denver	Denver International Airport	16R	Yes			Yes	Yes		
		34L	Yes			Yes	Yes		
		7	Yes			Yes	Yes		
		25	Yes			Yes	Yes		

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Major Airports, cont'd									
Denver	Denver International Airport	8	Yes			Yes	Yes		
		26	Yes			Yes	Yes		
		16L	Yes			Yes	Yes		
		34R	Yes			Yes	Yes		
		17L	Yes			Yes	Yes		
		35R	Yes			Yes	Yes		
		17R	Yes			Yes	Yes		
		35L	Yes			Yes	Yes		
Durango	Durango-La Plata County Airport	3	Yes			Yes	Yes		
		21	Yes			Yes		Yes	
Eagle	Eagle County Regional Airport	7	Yes			Yes			
		25	Yes			Yes	Yes		
Englewood/Denver	Centennial Airport	17L		Yes			Yes		
		35R		Yes			Yes		
		17R		Yes		Yes	Yes		
		35L		Yes		Yes	Yes		
		10		Yes					
		28		Yes		Yes	Yes		
Grand Junction	Grand Junction Regional Airport	11	Yes			Yes	Yes		
		29	Yes			Yes		Yes	
		4		Yes		Yes	Yes		
		22		Yes		Yes			
Greeley	Greeley-Weld County Airport	16		Yes		Yes	Yes		
		34		Yes		Yes	Yes		
		9		Yes		Yes	Yes		
		27		Yes		Yes		Yes	
Gunnison	Gunnison-Crested Butte Regional Airport	6	Yes			Yes	Yes		
		24	Yes			Yes	Yes		

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Major Airports, cont'd									
Gunnison	Gunnison-Crested Butte Regional Airport	17							
		35							
Hayden	Yampa Valley Regional Airport	10	Yes			Yes	Yes		
		28	Yes			Yes	Yes		
Lamar	Lamar Municipal Airport	18		Yes		Yes		Yes	
		36		Yes		Yes	Yes		
		8		Yes			Yes		
		26		Yes			Yes		
Longmont	Vance Brand Municipal Airport	11		Yes				Yes	
		29		Yes				Yes	
Loveland	Fort Collins-Loveland Municipal Airport	15	Yes			Yes	Yes		
		33	Yes			Yes	Yes		
		6							
		24							
Meeker	Meeker Airport	3		Yes		Yes	Yes		
		21		Yes					
Montrose	Montrose Regional Airport	17	Yes			Yes	Yes		
		35	Yes			Yes	Yes		
		13	Yes			Yes		Yes	
		31	Yes			Yes		Yes	
Pagosa Springs	Stevens Field	1		Yes		Yes	Yes		
		19		Yes		Yes	Yes		
Pueblo	Pueblo Memorial Airport	8L	Yes			Yes	Yes		
		26R	Yes			Yes	Yes		
		17		Yes		Yes	Yes		
		35		Yes		Yes	Yes		
		8R							
		26L							

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Major Airports, cont'd									
Rifle	Garfield County Regional Airport	8		Yes		Yes	Yes		
		26		Yes		Yes	Yes		
Telluride	Telluride Regional Airport	9	Yes			Yes	Yes		
		27	Yes			Yes	Yes		
Trinidad	Perry Stokes Airport	3		Yes			Yes		
		21		Yes			Yes		
		9							
		27							
Watkins/Denver	Front Range Airport	17		Yes		Yes	Yes		
		35		Yes		Yes	Yes		
		8	Yes			Yes	Yes		
		26	Yes			Yes	Yes		
Intermediate Airports									
Boulder	Boulder Municipal Airport	8		Yes					
		26		Yes				Yes	
		8G							
		26G							
Buena Vista	Central Colorado Regional Airport	15		Yes			Yes		
		33		Yes			Yes		
Canon City	Fremont County Airport	11		Yes		Yes	Yes		
		29		Yes		Yes	Yes		
		17							
		35							
Center	Leach Airport	12			Yes				Yes
		30			Yes				Yes
Colorado Springs	Meadow Lake Airport **	15		Yes			Yes		
		33		Yes			Yes		
		8							

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Intermediate Airports, cont'd									
Colorado Springs	Meadow Lake Airport **	26							
		N							
		S							
Craig	Craig-Moffat County Airport	7		Yes		Yes			
		25		Yes		Yes	Yes		
Creede	Mineral County Memorial Airport	7							
		25							
Del Norte	Astronaut Kent Rominger Airport	6			Yes				
		24			Yes				
		3							
		21							
Delta	Blake Field	3		Yes			Yes		
		21		Yes			Yes		
Durango	Animas Airpark **	1		Yes					Yes
		19		Yes					Yes
Eads	Eads Airport	17		Yes					
		35		Yes					
Erie	Erie Municipal Airport	15		Yes		Yes	Yes		
		33		Yes			Yes		
Fort Morgan	Fort Morgan Municipal Airport	14		Yes			Yes		
		32		Yes		Yes			
		17							
		35							
		8							
		26							
Glenwood Springs	Glenwood Springs Municipal Airport	14							
		32					Yes		

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Intermediate Airports, cont'd									
Granby	Granby-Grand County Airport	9		Yes		Yes	Yes		
		27		Yes		Yes			
Holyoke	Holyoke Municipal Airport	14		Yes		Yes	Yes		
		32		Yes		Yes	Yes		
Kremmling	McElroy Field	9		Yes		Yes	Yes		
		27		Yes		Yes	Yes		
La Junta	La Junta Municipal Airport	8		Yes		Yes		Yes	
		26		Yes		Yes	Yes		
		12							
		30							
		H1							
Leadville	Lake County Airport	16		Yes			Yes		
		34		Yes			Yes		
		H1							
Limon	Limon Municipal Airport	16		Yes			Yes		
		34		Yes			Yes		
Monte Vista	Monte Vista Municipal Airport	2		Yes			Yes		
		20		Yes			Yes		
		16							
		34							
		10							
		28							
Nucla	Hopkins Field	5		Yes					
		23		Yes					
		11							
		29							
Rangely	Rangely Airport	6		Yes		Yes	Yes		
		24		Yes		Yes			

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Intermediate Airports, cont'd									
Salida	Harriet Alexander Airport	6		Yes					
		24		Yes				Yes	
		H1							
Springfield	Springfield Municipal Airport	17		Yes			Yes		
		35		Yes			Yes		
Steamboat Springs	Steamboat Springs-Bob Adams Field	14	Yes						
		32	Yes			Yes	Yes		
Sterling	Sterling Municipal Airport	15		Yes		Yes	Yes		
		33		Yes			Yes		
		3							
		21							
Walden	Walden-Jackson County Airport	4		Yes			Yes		
		22		Yes			Yes		
		17							
		35							
Walsenburg	Spanish Peaks Airfield	8			Yes				Yes
		26			Yes				Yes
		3							
		21							
Westcliffe	Silver West Airport	13							
		31							
Wray	Wray Municipal Airport	17		Yes		Yes	Yes		
		35		Yes		Yes	Yes		
Yuma	Yuma Municipal Airport	16		Yes		Yes	Yes		
		34		Yes		Yes	Yes		
		12							
		30							

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Minor Airports									
Akron	Gebauer Airport **	8							
		26							
		11							
		29							
Blanca	Blanca Airport	3							
		21							
Brush	Brush Municipal Airport	7			Yes				Yes
		25			Yes				Yes
Calhan	Calhan Airport **	17			Yes			Yes	Yes
		35			Yes				Yes
Crawford	Crawford Airport **	7			Yes	Yes		Yes	Yes
		25			Yes			Yes	Yes
		E							
		W							
Delta	Westwinds Airpark **	4							
		22							
		13							
		31							
Dove Creek	Dove Creek Airport **	1							
		19							
Ellicott	Colorado Springs East Airport **	17R			Yes				Yes
		35L			Yes			Yes	Yes
		17L							
		35R							
		8							
		26							
Greeley	Easton-Valley View Airport **	8							
		26							

Table 2-3: Approaching Lighting and Visual Aids

City	Airport	Runway	HIRL	MIRL	LIRL	REIL	PAPI	VASI	Non-Standard Lighting
Minor Airports, cont'd									
Greeley	Easton-Valley View Airport **	14							
		32							
Haxtun	Haxtun Municipal Airport	8			Yes				Yes
		26			Yes				Yes
		17							
		35							
Holly	Holly Airport	17			Yes			Yes	Yes
		35			Yes			Yes	Yes
Hudson	Platte Valley Airpark **	15			Yes				
		33			Yes				
		9							
		27							
Julesburg	Julesburg Municipal Airport	13		Yes					
		31		Yes					
La Veta	Cuchara Valley Airport	6			Yes				Yes
		24			Yes				Yes
Las Animas	Las Animas City & County Airport	8							Yes
		26							Yes
Mack	Mack Mesa Airport **	7							
		25							
Paonia	North Fork Valley Airport	5	Yes		Yes	Yes	Yes		Yes
		23	Yes		Yes				Yes
Saguache	Saguache Municipal Airport	11							
		29							

** Indicates Private Ownership

Source: Jviation, Inc

2.5 Airport Planning Documentation

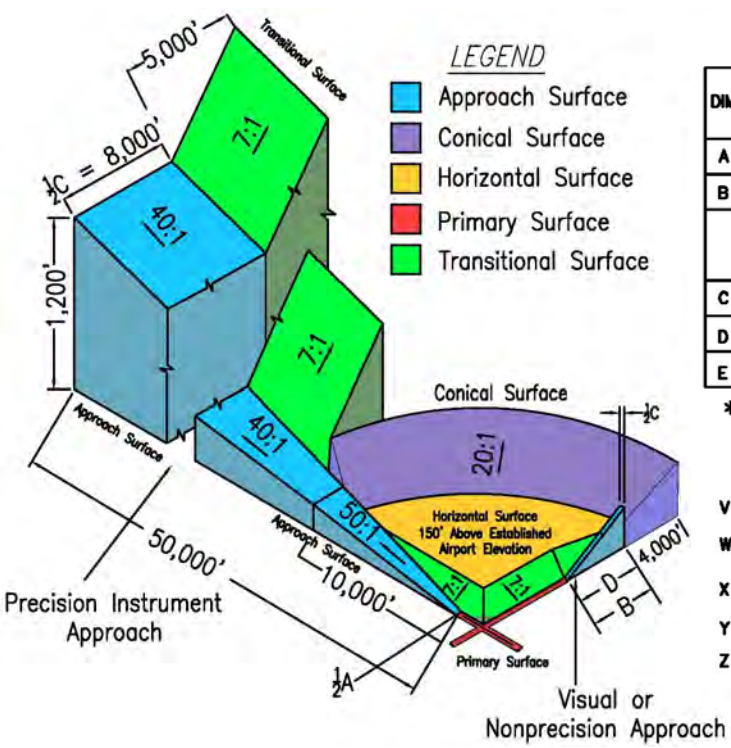
2.5.1 Airport Master Plan/Layout Plan

Information regarding the current status of planning documentation at Colorado system airports is depicted in **Table 2-4.** The table includes the date of each airport's most recent master plan, anticipated date for their master plan to be updated, and whether the current master plan/Airport Layout Plan includes an FAR Part 77 airspace drawing. Airports included in the NPIAS must have a current airport master plan or airport layout plan that has been approved by the FAA to be eligible for federal funding. Additionally, only projects shown on a current and approved airport layout plan are eligible for FAA funds. The airport master plan is a report that documents the airport's long range planning process, while the Airport Layout Plan (ALP) is a set of drawings that actually depicts recommendations that are a result of the planning process.

2.5.2 FAR Part 77 Surfaces

Federal Aviation Regulations (FAR) Part 77 define the standards for determining obstructions in the vicinity of an airport or within its airspace. Part 77 defines the airport's imaginary surfaces, which are geometric shapes that are in relation to the airport and each associated runway. The slope and dimension for the imaginary surfaces for each runway at each airport are based on the category of existing and future approaches for each runway. **Exhibit 2-2** depicts the FAR Part 77 surfaces.

Exhibit 2-2: FAR Part 77 Surfaces



DIM	Item	Dimensional Standards (Feet)					
		Visual Runway		Nonprecision Instrument Runway			Z
		V	W	V	W X	W Y	
A	Width of Primary Surface & Approach Surface Width at Inner End	250	500	500	500	1,000	1,000
B	Radius of Horizontal Surface	5,000	5,000	5,000	10,000	10,000	10,000
		Visual Runway		Nonprecision Instrument Approach			Z
		V	W	V	W X	W Y	
C	Approach Surface Width at End	1,250	1,500	2,000	3,500	4,000	16,000
D	Approach Surface Length	5,000	5,000	5,000	10,000	10,000	*
E	Approach Slope	20:1	20:1	20:1	34:1	34:1	*

* Precision Instrument Approach Slope is 50:1 for Inner 10,000; and 40:1 for an Additional 40,000'

V – Utility Runways

W – Runways Larger than Utility

X – Visibility Minimums Greater than ¾ Mile

Y – Visibility Minimum As Low As ¾ Mile

Z – Precision Instrument Approach Slope

Source: Jviation, Inc

FAR Part 77 imaginary surfaces are defined as follows:

- **Primary Surface -** The Primary Surface is an imaginary obstruction-limiting surface that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the type of approach, existing or planned for each runway.
- **Approach Surface -** The Approach Surface is an imaginary obstruction-limiting surface that is longitudinally centered on the extended runway centerline and extends outward and upward from the primary surface at each end of a runway at a designated slope and distance based upon the type of available or planned approach to each runway.
- **Horizontal Surface -** The Horizontal Surface is an imaginary obstruction-limiting surface that is specified as a portion of a horizontal plane surrounding a runway that is located 150 feet above the established airport elevation. The specific horizontal dimension of this surface is a function of the type of approach, existing or planned, for the runway.
- **Conical Surface -** The Conical Surface is an imaginary obstruction-limiting surface that extends from the edge of the horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- **Transitional Surface -** The Transitional Surface is an imaginary obstruction-limiting surface that extends outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface.

The runway approach surfaces overlay the Runway Protection Zone (RPZ); the RPZ is a trapezoidal shaped area off each runway end which is designed to improve the protection of people and property on the ground. The dimensions of the RPZ are determined from the design aircraft, operational types, and approach visibility minimums. The approach zone and RPZ standards get progressively larger as the approach type moves from visual, to non-precision, and then to precision.

2.5.3 FAR Part 77 Zoning Ordinances

In addition to the approach surfaces mandated by the FAA, local communities may also implement land use zoning and local height restrictions around airport property. Ordinances such as these can serve to protect encroachment from incompatible land uses or obstructions to the airport's airspace. One of the assurances that an airport owner/sponsor signs when they accept a federal grant is to protect the airport from encroachment that may limit the airport's expansion or operation. Table 2-4 indicates which Colorado system airports have FAR Part 77 drawings and/or local land use or height restrictions.

Table 2-4: Airport Planning Documentation

City	Airport	Master Plan/ Layout Plan	Anticipated Update of Plan	Part 77 Drawings	Part 77 Zoning
Major Airports					
Akron	Colorado Plains Regional Airport	2005	2013	Yes	Yes
Alamosa	San Luis Valley Airport	2010	Unknown	Yes	Yes
Aspen	Aspen-Pitkin County Airport	2004	Underway	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	2011	2016	Yes	Yes
Burlington	Kit Carson County Airport	2003	Unknown	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	1999	Underway	Yes	No
Cortez	Cortez-Montezuma Municipal Airport	2010	2018	Yes	Yes
Denver	Denver International Airport	2011	2016	Yes	Yes
Durango	Durango-La Plata County Airport	2005	2017	Yes	No
Eagle	Eagle County Regional Airport	1989	Underway	Yes	No
Englewood/Denver	Centennial Airport	2008	2015	Yes	Yes
Grand Junction	Grand Junction Regional Airport	2009	Unknown	Yes	Yes
Greeley	Greeley-Weld County Airport	2004	Unknown	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	2006	2014	Yes	Yes
Hayden	Yampa Valley Regional Airport	2003	2012	Yes	Yes
Lamar	Lamar Municipal Airport	2004	2014	Yes	No
Longmont	Vance Brand Municipal Airport	2000	Underway	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	2007	2017	Yes	Yes
Meeker	Meeker Airport	2009	2014	Yes	Yes
Montrose	Montrose Regional Airport	2006	2016	Yes	Yes
Pagosa Springs	Stevens Field	2009	2015	Yes	Yes
Pueblo	Pueblo Memorial Airport	2008	2013	Yes	No
Rifle	Garfield County Regional Airport	2002	2012	Yes	No
Telluride	Telluride Regional Airport	2002	Unknown	Yes	Yes
Trinidad	Perry Stokes Airport	2004	2012	Yes	No
Watkins/Denver	Front Range Airport	2004	2013	Yes	Yes

Table 2-4: Airport Planning Documentation

City	Airport	Master Plan/ Layout Plan	Anticipated Update of Plan	Part 77 Drawings	Part 77 Zoning
Intermediate Airports					
Boulder	Boulder Municipal Airport	2007	2017	Yes	Yes
Buena Vista	Central Colorado Regional Airport	2004	2012	Yes	Yes
Canon City	Fremont County Airport	2006	2012	Yes	Yes
Center	Leach Airport	Unknown	Unknown	Yes	No
Colorado Springs	Meadow Lake Airport **	2008	Unknown	Yes	No
Craig	Craig-Moffat County Airport	2005	Unknown	Yes	Yes
Creede	Mineral County Memorial Airport	2005	Unknown	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	2006	Unknown	Yes	Yes
Delta	Blake Field	2010	Unknown	Yes	No
Durango	Animas Airpark **	Unknown	Unknown	No	No
Eads	Eads Airport	1992	Unknown	No	No
Erie	Erie Municipal Airport	2003	2013	Yes	No
Fort Morgan	Fort Morgan Municipal Airport	2005	2018	Yes	No
Glenwood Springs	Glenwood Springs Municipal Airport	2000	Unknown	No	Yes
Granby	Granby-Grand County Airport	2002	2012	Yes	Yes
Holyoke	Holyoke Municipal Airport	2010	Unknown	Yes	Yes
Kremmling	McElroy Field	2007	2017	Yes	No
La Junta	La Junta Municipal Airport	2007	2017	Yes	Yes
Leadville	Lake County Airport	2003	Unknown	Yes	Yes
Limon	Limon Municipal Airport	2004	2012	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	2006	Unknown	Yes	Yes
Nucla	Hopkins Field	2007	2014	Yes	Yes
Rangely	Rangely Airport	2008	2013	Yes	No
Salida	Harriet Alexander Airport	2003	2015	Yes	No
Springfield	Springfield Municipal Airport	1996	2012	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	2008	Unknown	Yes	Yes

Table 2-4: Airport Planning Documentation

City	Airport	Master Plan/ Layout Plan	Anticipated Update of Plan	Part 77 Drawings	Part 77 Zoning
Intermediate Airports, cont'd					
Sterling	Sterling Municipal Airport	2004	2014	Yes	No
Walden	Walden-Jackson County Airport	2007	Unknown	Yes	Yes
Walsenburg	Spanish Peaks Airfield	2011	Unknown	Yes	Yes
Westcliffe	Silver West Airport	1993	Unknown	No	Yes
Wray	Wray Municipal Airport	2005	Unknown	Yes	Yes
Yuma	Yuma Municipal Airport	2003	Unknown	Yes	Yes
Minor Airports					
Akron	Gebauer Airport **	Unknown	Unknown	No	Yes
Blanca	Blanca Airport	2005	Unknown	No	No
Brush	Brush Municipal Airport	Unknown	Unknown	No	No
Calhan	Calhan Airport **	Unknown	Unknown	No	No
Crawford	Crawford Airport **	Unknown	Unknown	No	No
Delta	Westwinds Airpark **	Unknown	Unknown	No	No
Dove Creek	Dove Creek Airport **	Unknown	Unknown	No	No
Ellicott	Colorado Springs East Airport **	2006	Unknown	Yes	Yes
Greeley	Easton-Valley View Airport **	Unknown	Unknown	No	Yes
Haxtun	Haxtun Municipal Airport	Unknown	Unknown	No	No
Holly	Holly Airport	Unknown	Unknown	No	No
Hudson	Platte Valley Airpark **	Unknown	Unknown	No	No
Julesburg	Julesburg Municipal Airport	Unknown	Unknown	No	No
La Veta	Cuchara Valley Airport	1985	Unknown	No	No
Las Animas	Las Animas City & County Airport	1995	Unknown	No	No
Mack	Mack Mesa Airport **	Unknown	Unknown	No	Yes
Paonia	North Fork Valley Airport	Unknown	Unknown	No	No
Saguache	Saguache Municipal Airport	2005	Unknown	No	No

Note: '** Indicates Private Ownership

Source: Jviation, Inc

2.6 Airport Economic Information

The most recent Economic Impact of Airports in Colorado study was prepared in 2008. **Table 2-5** presents a summary of information from the 2008 study. The economic factors analyzed in the study include the number of jobs, total wages, and economic activity generated by each airport. Dove Creek and Akron/Gebauer Airport elected not to participate in the 2008 economic impact study. The methodology used to measure the economic impact of Colorado's airports followed guidelines set forth by the FAA. Economic impacts for all airports were classified into four impact categories: direct, indirect, induced, and total.

Direct impacts are those that take place at the airport and are related to the airport, its operation, and the provision of aviation services. Indirect impacts are those associated with visitor spending; these impacts take place off-airport. Induced impacts are those associated spin-offs from direct and indirect impacts. When a person employed as a result of the airport uses their paycheck to purchase goods and services, they support additional jobs, payroll, and annual economic output. As the economic cycle that starts with the airport and visitors who arrive via the airport continues to re-circulate or multiply, additional induced economic impacts are created. Induced economic impacts are also sometime referred to as multiplier impacts.

Together, direct, indirect, and induced impacts equal each airport's total annual economic impact. Each airport's annual economic impact was summed to reflect the total economic contribution of Colorado's commercial and general aviation airports to the State's economy.

Table 2-5: Airport Economic Impact

Associated City	Airport Name	Jobs	Wages	Economic Activity
Major Airports				
Akron	Colorado Plains Regional Airport	165	$4,196,800	$12,071,300
Alamosa	San Luis Valley Regional Airport/Bergman Field	517	$13,983,500	$41,954,400
Aspen	Aspen-Pitkin County Airport/Sardy Field	11,950	$336,620,600	$1,067,401,700
Broomfield	Rocky Mountain Metropolitan Airport	3,701	$129,447,900	$363,251,100
Burlington	Kit Carson County Airport	80	$2,345,900	$6,661,300
Colorado	City of Colorado Springs Municipal Airport	51,594	$1,956,776,400	$3,535,280,400
Cortez	Cortez Municipal Airport	350	$10,640,800	$30,752,600
Denver	Denver International Airport	217,459	$7,064,743,700	$22,296,664,100
Denver	Centennial Airport	10,485	$356,654,900	$897,122,800
Durango	Durango - La Plata County Airport	5,185	$145,902,000	$457,593,200
Eagle	Eagle County Regional Airport	10,467	$293,886,700	$982,170,400
Fort Collins/Loveland	Fort Collins - Loveland Municipal Airport	749	$21,607,300	$56,316,800
Grand Junction	Grand Junction Regional Airport	6,125	$189,204,000	$623,693,600
Greeley	Greeley - Weld County Airport	1,766	$65,142,900	$120,814,200

Table 2-5: Airport Economic Impact

Associated City	Airport Name	Jobs	Wages	Economic Activity
Major Airports, cont'd				
Gunnison	Gunnison - Crested Butte Regional Airport	1,950	$55,972,100	$177,646,500
Hayden	Yampa Valley Airport	4,922	$133,630,400	$412,003,800
Lamar	Lamar Municipal Airport	144	$3,919,200	$12,479,400
Longmont	Vance Brand Municipal Airport	666	$17,314,600	$47,329,300
Meeker	Meeker Airport	169	$4,750,000	$14,271,400
Montrose	Montrose Regional Airport	3,882	$103,928,300	$329,274,200
Pagosa	Stevens Field	393	$12,108,200	$34,343,600
Pueblo	Pueblo Memorial Airport	1,533	$54,046,600	$141,665,500
Rifle	Garfield County Airport	508	$18,502,400	$45,676,700
Telluride	Telluride Regional Airport	1,453	$43,688,800	$139,886,900
Trinidad	Perry Stokes Airport	81	$2,231,900	$6,608,700
Watkins/Denver	Front Range Airport	1,806	$62,051,000	$134,439,800
Major Airports Total		**338,100**	**$11,103,296,900**	**$31,987,373,700**
Intermediate Airports				
Boulder	Boulder Municipal Airport	729	$20,168,500	$60,147,300
Buena Vista	Central Colorado Regional Airport	62	$1,881,100	$4,710,400
Canon City	Fremont County Airport	89	$2,302,300	$7,980,500
Center	Leach Airport	5	$57,200	$152,900
Colorado Springs	Meadow Lake Airport	187	$4,456,100	$11,855,200
Craig	Craig - Moffat Airport	39	$823,100	$2,256,700
Creede	Mineral County Memorial Airport	40	$1,090,600	$2,909,800
Delta	Blake Field	68	$1,927,900	$4,494,300
Durango	Animas Airpark	123	$2,637,100	$10,597,400
Eads	Eads Airport	22	$308,600	$1,962,700
Erie	Erie Municipal Airport	160	$4,345,300	$12,224,700
Fort Morgan	Fort Morgan Municipal Airport	28	$867,500	$2,978,100
Glenwood Springs	Glenwood Springs Municipal Airport	130	$3,668,300	$9,590,900
Granby	Granby - Grand County Airport	48	$1,445,500	$5,489,200
Holyoke	Holyoke Airport	33	$925,300	$3,726,600
Kremmling	McElroy Airfield	74	$2,040,800	$7,399,300
La Junta	La Junta Municipal Airport	45	$1,366,600	$4,388,300
Leadville	Lake County Airport	16	$357,800	$1,501,300
Limon	Limon Municipal Airport	17	$492,400	$1,583,500

Table 2-5: Airport Economic Impact

Associated City	Airport Name	Jobs	Wages	Economic Activity
Intermediate Airports, cont'd				
Monte Vista	Monte Vista Municipal Airport	77	$1,311,500	$1,716,100
Nucla	Hopkins Field	14	$404,800	$971,900
Rangely	Rangely Airport	90	$2,841,800	$6,006,100
Salida	Harriet Alexander Airport	71	$1,975,900	$5,975,400
Springfield	Springfield Municipal Airport	7	$125,900	$324,300
Steamboat	Steamboat Springs - Bob Adams Field	116	$3,966,800	$11,739,800
Sterling	Sterling Municipal Airport	22	$541,500	$1,826,100
Walden	Walden - Jackson County Airport	25	$641,600	$2,133,700
Walsenburg	Spanish Peaks Airfield	10	$263,700	$803,200
Westcliffe	Silver West Airport	13	$330,000	$1,109,000
Wray	Wray Municipal Airport	121	$3,395,800	$14,136,000
Yuma	Yuma Municipal Airport	40	$910,100	$5,135,900
Intermediate Airports Total		**2,521**	**$67,871,400**	**$207,826,600**
Minor Airports				
Blanca	Blanca Airport	3	$25,400	$51,800
Brush	Brush Municipal Airport	7	$29,000	$83,000
Calhan	Calhan Airport	7	$129,500	$531,800
Crawford	Crawford Airport	23	$630,700	$1,781,300
Del Norte	Astronaut Kent Rominger Airport	3	$28,000	$311,500
Delta	Westwinds Airpark	15	$245,300	$764,100
Ellicot	Colorado Springs East Airport	6	$91,200	$279,100
Greeley	Greeley - Easton/Valley View Airport	13	$262,800	$1,114,600
Haxtun	Haxtun Municipal Airport	3	$19,100	$34,800
Holly	Holly Airport	3	$3,500	$268,500
Hudson	Platte Valley Airpark	16	$441,700	$1,183,800
Julesburg	Julesburg Municipal Airport	4	$65,200	$182,500
La Veta	Cuchara Valley Airport at La Veta	19	$296,600	$1,122,900
Las Animas	City of Las Animas - Bent County Airport	10	$138,700	$511,700
Mack	Mack Mesa Airport	9	$87,700	$200,800
Paonia	North Fork Valley Airport	21	$186,900	$587,300
Saguache	Saguache Municipal Airport	3	$36,800	$89,100
Minor Airports Total		**165**	**$2,718,100**	**$9,098,600**
Total All Airports		**340,786**	**$11,173,886,400**	**$32,204,298,900**

Source: *The Economic Impact of Airports in Colorado*, CDOT – Division of Aeronautics, 2008

2.7 Summary

Information presented in this chapter is essential to subsequent steps in the system planning process. In Chapter 4 of this document, various system performance measures and benchmarks are used to evaluate the current performance of Colorado's airport system. Data presented in this chapter is essential to supporting that evaluation. Information gathered as part of the inventory effort helps Aeronautics to better understand how current (2011) airport system performance compares to performance measured previously in 2000 and 2005.

3 Forecasts of Aviation Activity

3.1 Introduction

Forecasts of aviation activity are used to identify expected activity levels and based aircraft at individual airports in the system and to determine whether existing facilities have sufficient capacity to accommodate future demand. A statewide perspective on aviation activity also affords the opportunity to examine the context for changes at Colorado airports. Where individual master plans or Airport Layout Plans (ALPs) look in detail at the local situation, the system plan offers the view from 30,000 feet. This makes it possible to look at regional and statewide trends that are resulting not only in absolute gains or declines at particular airports, but also changes that come from redistribution of activity.

The last system plan forecasts had a base year of 2005. This forecast starts with the base year of 2010 and estimates changes in the next 20 years from 2010 through 2030. The following components of aviation activity are considered in the forecasts:

- Commercial airline enplanements and operations
- General aviation based aircraft and operations
- Total commercial, general aviation, cargo, and military operations

This chapter also includes a discussion of national and regional factors that are impacting aviation activity in Colorado as well as changes in the drivers of aviation demand at the State level that could impact forecasts.

Denver International Airport prepared and provided its own forecasts for use in this system plan. Recent forecasts prepared for Colorado Springs Municipal Airport, Eagle County Regional Airport, and Vance Brand Municipal Airport were also reviewed, adjusted, and incorporated into the system plan forecasts. Other older master plan forecasts were considered as part of the approach.

3.2 Scope of Aviation Activity in Colorado – Overview

Fourteen commercial service airports and 62 general aviation airports operate in Colorado and reflect a rich diversity of economic activity in the State that includes one of the largest developed ski and resort areas in the United States; valuable oil and gas resources; and a growing metropolitan area that spans the Front Range along Interstate Highway I-25 from Fort Collins to Pueblo. It is on this corridor that the largest concentration of commercial air service, general aviation, and military operations take place. Not surprisingly, since population correlates directly with aviation activity, Colorado's population is also concentrated along the Front Range.

The 2010 Census counted 4.2 million people in the Front Range region[1] or 83 percent of the State's population of five million. **Table 3-1** shows Colorado's 2010 Census population for Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical Areas. Since the last census in 2000, population has grown 18 percent along the Front Range. The rest of the State's population growth is mixed. There are areas, such as the Edwards and Montrose Micropolitan Statistical Areas, where population growth has equaled or exceeded 20 percent in the last decade. Other areas have grown more slowly or have declined, but overall the State's population grew by 17 percent in the last decade.

Table 3-1: Colorado Population, 2000 and 2010

Colorado Areas	2000	2010	Share of Total (2010)	Population Change (2000-2010)	Percent Change (2000-2010)
Denver-Aurora-Broomfield	2,157,756	2,543,482	50.6%	385,726	18%
Colorado Springs	537,484	645,613	12.8%	108,129	20%
Fort Collins-Loveland	251,494	299,630	6.0%	48,136	19%
Boulder	291,288	294,567	5.9%	3,279	1%
Greeley	180,936	252,825	5.0%	71,889	40%
Pueblo	141,472	159,063	3.2%	17,591	12%
Front Range Subtotal	***3,560,430***	***4,195,180***	***83.4%***	***634,750***	***18%***
Grand Junction	116,255	146,723	2.9%	30,468	26%
Metropolitan Statistical Area Total	**3,560,430**	**4,341,903**	**86.3%**	**781,473**	**22%**
Edwards	49,471	59,507	1.2%	10,036	20%
Durango	43,941	51,334	1.0%	7,393	17%
Canon City	46,145	46,824	0.9%	679	1%
Montrose	33,432	41,276	0.8%	7,844	23%
Fort Morgan	27,171	28,159	0.6%	988	4%
Silverthorne	23,548	27,994	0.6%	4,446	19%
Sterling	20,504	22,709	0.5%	2,205	11%
Micropolitan Statistical Area Total	**244,212**	**277,803**	**5.5%**	**33,591**	**14%**
Other Counties	496,619	409,490	8.1%	(87,129)	-18%
Total Colorado	**4,301,261**	**5,029,196**	**100.0%**	**727,935**	**17%**

Source: U.S. Census 2010

Colorado has an exceptionally active system of airports given its population base, which is the 22nd largest among U.S. states. Denver International is the fifth busiest airport in the U.S. in terms of passengers and serves as a principal connecting hub for United Airlines and for Frontier Airlines. Denver is also Southwest Airline's fifth

[1] The Front Range region is comprised of the Denver-Aurora-Broomfield, Colorado Springs, Fort Collins-Loveland, Boulder, Greeley, and Pueblo MSAs.

largest airport in terms of departures. In terms of general aviation activity, Centennial, Pueblo Memorial, and Rocky Mountain Metropolitan airports are ranked 3rd, 29th and 58th respectively in the U.S. for itinerant general aviation operations at U.S. towered airports[2].

Table 3-2 provides an overview of changes in passenger enplanements, operations, and based aircraft since the 2005 system plan. Denver is presented separately and as part of the total since its large scale would otherwise obscure changes in the rest of the system.

Table 3-2: Colorado Aviation Activity, 2005 and 2010

Activity Measure	2005	2010	Change	Average Annual Growth Rate (2005-2010)
Enplanements				
Denver	21,701,980	26,024,920	4,322,940	3.7%
Other Airports	2,015,010	1,998,140	(16,870)	-0.2%
Total Enplanements	**23,716,990**	**28,023,060**	**4,306,070**	**3.4%**
Commercial Operations				
Denver	527,160	608,060	80,900	2.9%
Other Airports	95,250	83,680	(11,570)	-2.6%
Total Commercial	**622,410**	**691,740**	**69,330**	**2.1%**
GA and Air Taxi Operations				
Denver	17,560	9,280	(8,280)	-12.0%
Other Airports	1,895,820	1,601,840	(293,980)	-3.3%
Total GA and Air Taxi Operations	**1,913,380**	**1,611,120**	**(302,260)**	**-3.4%**
Military and Other Operations				
Denver	22,830	18,100	(4,730)	-4.5%
Other Airports	102,400	110,500	8,100	1.5%
Total Military and Other Operations	**125,230**	**128,600**	**3,370**	**0.5%**
Total Operations				
Denver	567,550	635,440	67,890	**2.3%**
Other Airports	2,093,470	1,796,020	(297,450)	**-3.0%**
Total Operations	**2,661,020**	**2,431,460**	**(229,560)**	**-1.8%**
Based Aircraft	**5,359**	**5,245**	**(114)**	**-0.4%**

Sources: FAA 5010 Reports, FAA ACAIS, Colorado Aviation System Plan 2005, Denver International Airport

[2] FAA, Air Traffic Activity Data System (ATADS).

Table 3-2 suggests a few key trends within the Colorado system of airports:

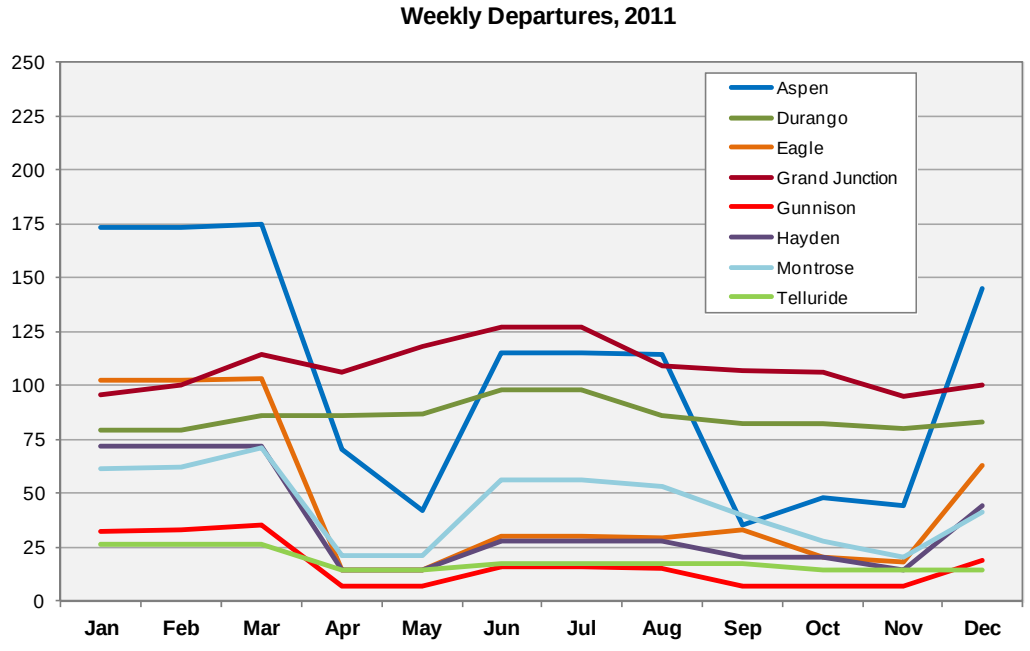
- Since 2005, the concentration of aviation activity at Denver International has increased. Denver International Airport accounts for 93 percent of all passenger activity and 88 percent of commercial operations in the State compared to 92 percent and 85 percent, respectively, in 2005. Since general aviation operations dominate the State's aviation activity, Denver International represents only 26 percent of statewide total operations, up from 21 percent in 2005. At Denver International, total aircraft operations have grown by 2.3 percent per year. Increases in commercial airline operations have been offset somewhat by declines in general aviation and air taxi operations.
- Commercial operations at other Colorado airports have declined by more than 11,000 annual flights. However, at Aspen, Durango, Grand Junction, and Montrose, replacement of small turboprop aircraft with larger regional jets has resulted in an increase in the number of seats offered since 2005.
- Statewide general aviation operations have declined by 3.4 percent per year. While many general aviation airports estimate annual operations, traffic counts at airports with air traffic control towers in the State (Centennial, Colorado Springs, Eagle, Grand Junction, Aspen, Broomfield, Pueblo and Front Range) indicate that general aviation activity contracted by 21 percent between 2006 and 2010.
- The number of based aircraft has declined by 114. Three factors have contributed to changes in the number of based aircraft since 2005.
  - The economic recession and high fuel prices have resulted in contraction of the general aviation industry nationwide.
  - Beginning in 2007, the FAA undertook a multi-year process to obtain better information on aircraft based at all airports that are part of the agency's 5010 program. Initially this program sought to assign, by N number, each aircraft to one specific airport. The goal was to avoid double counting of the same aircraft at more than one airport. In addition, this intensified reporting process also sought to remove aircraft from the based fleet that were not airworthy. By 2009, FAA's revised counting procedures were largely in place. As a result, some airports experienced a reduction in their reported based aircraft.
  - Downtown Ft. Collins Airport closed and while many of these aircraft are now hangared at other locations, some aircraft may have been sold or placed out of service.

3.3 Scope of Commercial Air Service in Colorado

Fourteen Colorado airports have commercial air service, which is a relatively large number of commercial airports for a state with five million people. The geography of the state, a high priority on air access, and a well-developed ski and resort industry all have contributed to an extensive offering of commercial air service:

- Denver International serves as the year-round connecting airport to Western Slope commercial service airports and also dominates as a connecting point for Colorado Springs.
- Alamosa, Cortez, and Pueblo offer service to Denver that is subsidized through the Essential Air Service Program (EAS). Air service at these airports is determined by contract. While schedules may change, EAS service levels are not likely to vary dramatically as long as the EAS program remains funded and airport eligibility continues.
- Allegiant Air serves Ft. Collins-Loveland, Colorado Springs, and Pueblo[3] with limited frequency service. Most flights operate with load factors in excess of 80 percent and passenger enplanements are largely determined by the service offered.
- Aspen, Eagle, Gunnison, Hayden, Montrose, and Telluride have large seasonal variations to service patterns geared to the ski market. Typically, the first three months of the calendar year are the strongest. At Aspen, Montrose, Eagle, and Gunnison, summer traffic is growing. The fall and spring seasons support the lowest number of flights and passengers. **Figure 3-1** shows variations in weekly departures by month for the Western Slope airports. Durango and Grand Junction are the two airports in the area with relatively constant air service throughout the year.

Figure 3-1: Seasonal Variation in 2011 Weekly Departures at Western Slope Airports



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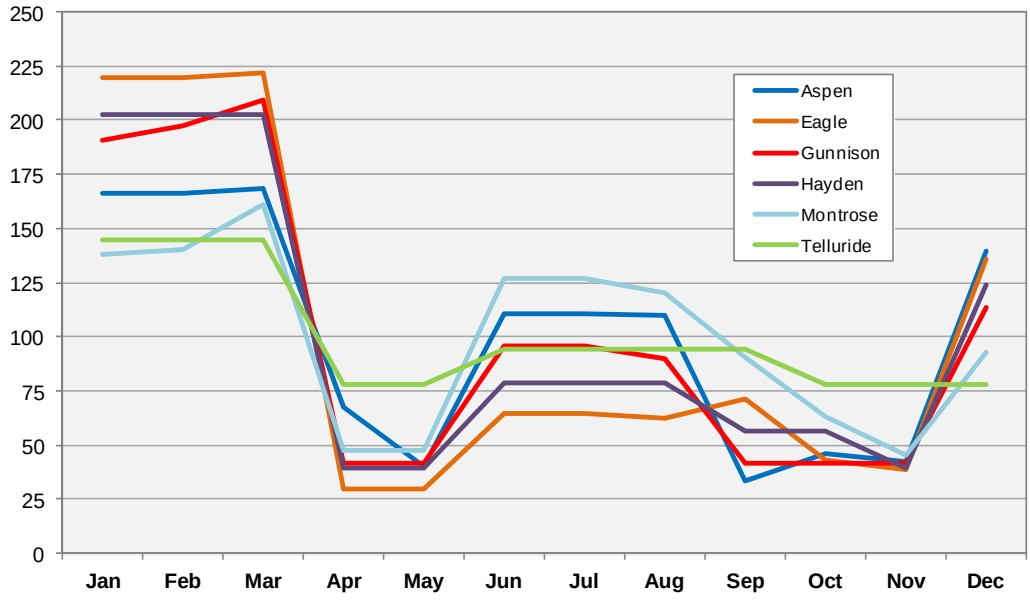
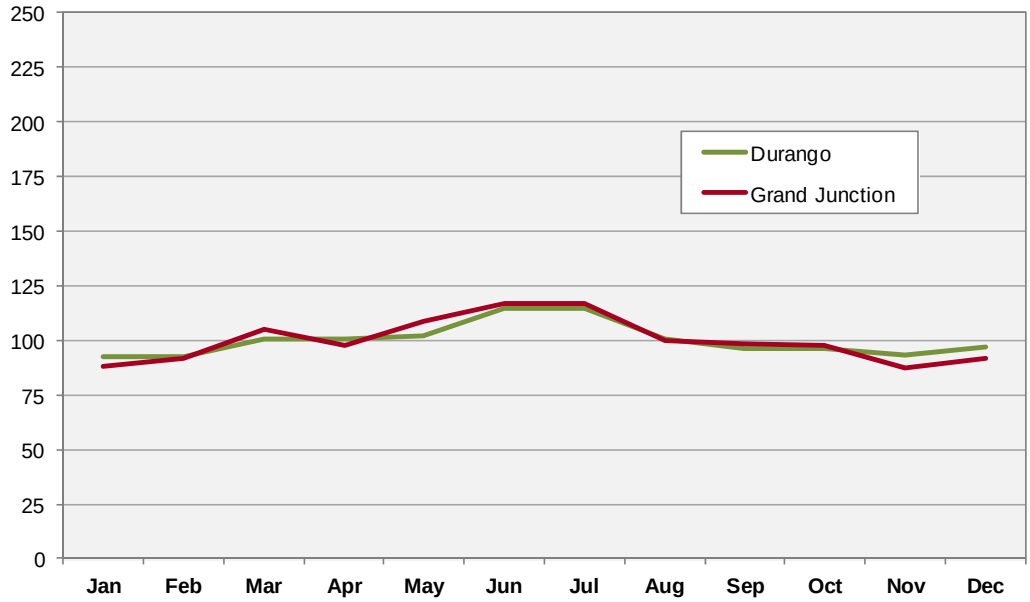
[3] Allegiant Air discontinued Pueblo service in April 2012.

Weekly Departures – Highly Seasonal Western Slope Airports, 2011



Weekly Departures – Less Seasonal Western Slope Airports, 2011



Source: OAG Schedules, 2011

3.3.1 Statewide Enplanement Trends

The Colorado system of commercial airports is composed of one large hub airport (Denver International); one small hub airport (Colorado Springs); nine non-hub primary airports; and three non-primary airports.[4] **Table 3-3** shows the airports, their hub status, and a comparison of enplanements for 2005 and 2010. Statewide, enplanements have increased by 4.3 million since 2005. Increases have occurred at Alamosa, Aspen, Denver, Durango, Grand Junction, Loveland, Montrose, and Pueblo. Colorado Springs, Cortez, Eagle, Gunnison, Hayden, and Telluride have experienced declines in passenger activity. Montrose and Telluride, which serve overlapping market areas, show a combined average annual growth rate of 1.9 percent.

Table 3-3: Colorado Enplanements, 2005 and 2010

City	Airport	2010 Hub Status	2005	2010	Change in Enplanements (2005-2010)	Average Annual Growth Rate (2005-2010)
Alamosa	San Luis Valley	Non-Primary	5,440	6,740	1,300	4.4%
Aspen	Aspen-Pitkin County	Non-Hub	193,960	222,760	28,800	2.8%
Colorado Springs	Colorado Springs Municipal	Small	1,025,480	877,370	(148,110)	-3.1%
Cortez	Cortez-Montezuma Municipal	Non-Primary	8,210	6,340	(1,870)	-5.0%
Denver	Denver International	Large	21,701,980	26,024,620	4,322,640	3.7%
Durango	Durango-La Plata County	Non-Hub	101,740	163,610	61,870	10.0%
Eagle	Eagle County Regional	Non-Hub	213,230	201,010	(12,220)	-1.2%
Grand Junction	Grand Junction Regional	Non-Hub	156,820	219,360	62,540	6.9%
Gunnison	Gunnison-Crested Butte Regional	Non-Hub	44,870	37,320	(7,550)	-3.6%
Hayden	Yampa Valley Regional	Non-Hub	129,760	110,040	(19,720)	-3.2%
Loveland	Fort Collins-Loveland Municipal	Non-Hub	34,670	37,320	2,650	1.5%
Montrose	Montrose Regional	Non-Hub	78,670	96,600	17,930	4.2%
Pueblo	Pueblo Memorial	Non-Hub	4,030	11,640	7,610	23.6%
Telluride	Telluride Regional	Non-Primary	18,130	9,680	(8,450)	-11.8%
Total Colorado			**23,716,990**	**28,024,410**	**4,307,420**	**3.4%**

Sources: FAA ACAIS Database, Colorado Aviation System Plan 2005, and Denver International Airport

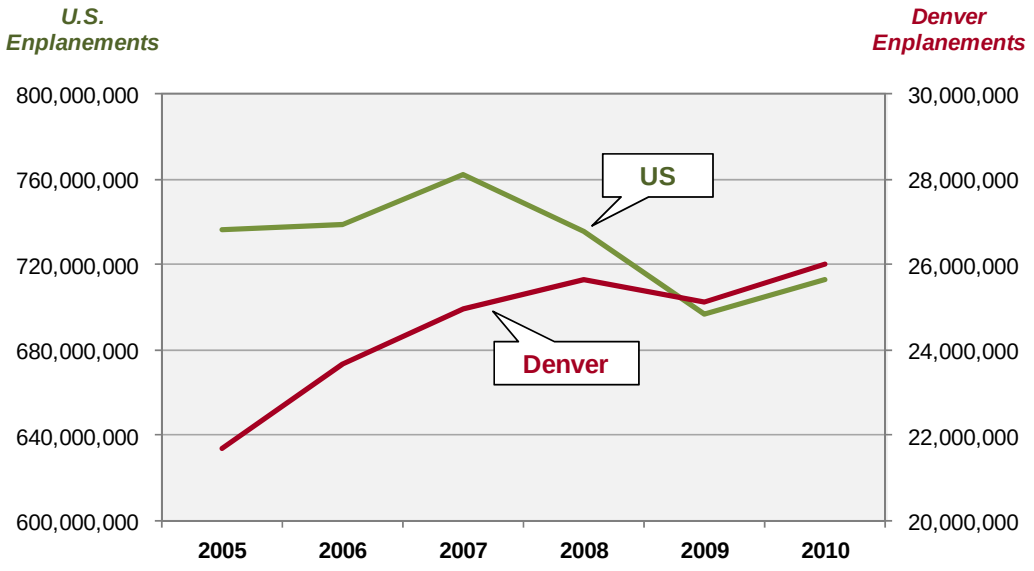
[4] The FAA classifies airports based on the number of enplaned passengers: large hubs account for at least 1% of all U.S. enplanements; medium hubs account for 0.25%-1.0%; small hubs account for 0.05% to 0.25%; non-hub primary account for less than 0.05% but more than 10,000 annual enplanements, and non-primary enplane fewer than 10,000 passengers annually.

3.3.2 Enplanement Trends at Denver International Airport

From a system standpoint, Denver International serves as the principal year-round connecting airport for the other commercial service airports in Colorado, offering daily flights to 145 domestic cities and weekly departures to 16 international cities.[5] While other U.S. large hub airports were severely impacted by the recession and experienced a 2.1 percent decline in passengers from 2007 to 2010, Denver has managed to increase enplanements in each of the last five years, except 2009. **Figure 3-2** compares Denver enplanements to national enplanement trends from 2005-2010.

One of the principal catalysts for Denver International's improved performance during this period was the entry of Southwest Airlines in 2006. Southwest has built its market share from 3.3 percent of enplaned passengers in 2006 to 18.2 percent in 2010. Southwest's daily departures have increased from 20 in its initial year at Denver to 150 in 2011 and from five markets served to 45 markets served. Other airlines also increased passengers during this period including: Frontier, Delta, Air Tran, and Aeromexico, another new entrant to the market. These increases offset declines for United and its affiliates. Market share for the United carriers declined from 51.3 percent in 2006[6] to 44.3 percent in 2010, representing a loss of approximately 1.3 million enplaned passengers. Most of the other carriers that serve Denver also carried fewer passengers.[7]

Figure 3-2: Comparison of Denver and U.S. Enplanements, 2005-2010



Sources: Denver International Airport, FAA ACAIS

[5] Official Airline Guide, Inc., August 17, 2011 via Denver Forecast Update, prepared by Ricondo & Associates, Inc., September 2011.
[6] United Airlines emerged from three years of bankruptcy in February 2006.
[7] American, US Airways, Continental and their respective affiliate's enplaned passengers declined as did Great Lakes, Alaska, JetBlue, Lufthansa, Air Canada, British Airways and Midwest.

Table 3-4 details the year-to-year changes at Denver International in enplaned passengers. The annual detail shows a few important trends:

- Denver originating passengers (i.e., passengers with Denver as the origination or destination point for their air trip) have grown at an average annual rate of 3.3 percent from 2005 to 2010. Significant growth in originating passengers occurred upon Southwest's entry into the market in 2006 and 2007.
- As Southwest expanded its network of cities served from Denver and Frontier also increased its hubbing activity, growth in connecting passengers outpaced growth in originating passengers. Connecting passengers increased from 9.1 million in 2005 to 11.9 million in 2010, at an average annual rate of 4.2 percent.
- In July 2008, oil prices spiked to $147 per barrel.[8] The airlines responded by increasing fares and cutting capacity by 325,000 seats from 2008-2009.[9] Consequently, enplaned passengers in 2009, fell by 2.0 percent over the prior year.

Table 3-4: Denver International Airport Enplanements, 2005-2010

Year	Originating Passengers	Connecting Passengers	Total Enplaned Passengers	Percent Connecting
Total Annual Enplanements				
2005	11,983,822	9,718,153	21,701,975	44.8%
2006	13,249,286	10,415,483	23,664,769	44.0%
2007	14,252,811	10,688,142	24,940,953	42.9%
2008	14,334,763	11,315,480	25,650,243	44.1%
2009	13,655,549	11,472,484	25,128,033	45.7%
2010	14,101,491	11,923,431	26,024,922	45.8%
Changes in Enplaned Passengers				
2005-2006	1,265,464	697,330	1,962,794	
2006-2007	1,003,525	272,659	1,276,184	
2007-2008	81,952	627,338	709,290	
2008-2009	(679,214)	157,004	(522,210)	
2009-2010	445,942	450,947	896,889	
Average Annual Growth Rate 2005-2010	**3.3%**	**4.2%**	**3.7%**	

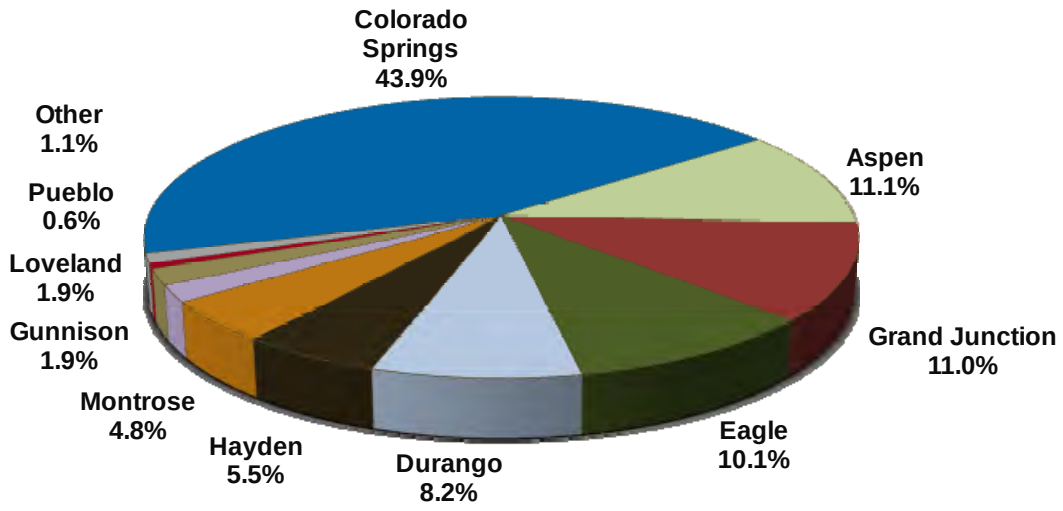
Source: Denver International Airport, via Ricondo & Associates, Inc.

[8] Forecast Update, City and County of Denver, prepared by Ricondo & Associates, Inc.
[9] U.S. DOT, T-100

3.3.3 Enplanement Trends at Other Commercial Service Airports in Colorado

Figure 3-3 shows the distribution of enplanements at Colorado's other commercial service airports. Colorado Springs (COS) is the second largest commercial airport in the State with 877,370 enplanements in 2010. Excluding Denver, COS represents 44 percent of enplaned passengers at other Colorado airports. Western Slope airports account for 53 percent of enplaned passengers.

Figure 3-3: Airport Shares of Passenger Enplanements, 2010 (Excluding Denver)



Source: FAA ACAIS, 2011

3.3.4 Aircraft and Capacity Serving Colorado

Aircraft Type

In the last decade, most of the network carriers serving Colorado filed for bankruptcy[10] and many of the regional carriers merged, renegotiated service contracts, or ceased to exist or serve the State. Air Wisconsin, ATA, Atlantic Southeast Airlines, Big Sky, and Chautauqua all served the State prior to 2005. One consequence of bankruptcies and regional carrier instability was a major shift away from turboprop aircraft to regional jet aircraft. **Table 3-5** shows annual departures at each of the commercial service airports, comparing aircraft type and change between 2005 and 2010. Statewide turboprop departures decreased 8 percent per year over the period; however substitution of regional jet replacements for turboprop aircraft was most pronounced on the Western Slope at Durango, Eagle, Grand Junction, Gunnison, Hayden, and Montrose. There is still some limited Q-400 and Dash 8 turboprop service offered at these airports. Great Lakes Aviation remains the principal turboprop operator at Alamosa, Cortez, Pueblo, and Telluride.

[10] United Airlines, US Airways (twice), Air Canada, Northwest Airlines, Delta Airlines, ATA, Frontier, Big Sky, Mesa Airlines and most recently American Airlines

Table 3-5: Annual Departures by Airport and Aircraft Type, 2005 and 2010

City	Aircraft Type	2005	2010	2005-2010 Total Change	2005-2010 Annual Change
Alamosa	Turboprop	1,087	962	-125	-2.4%
Alamosa Total		**1,087**	**962**	-125	**-2.4%**
Aspen	Regional Jet	2,608	3,998	1,390	8.9%
	Turboprop	1,364	1,072	-292	-4.7%
Aspen Total		**3,972**	**5,070**	1,098	**5.0%**
Colorado Springs	Jet	4,449	2,897	-1,552	-8.2%
	Regional Jet	13,451	11,363	-2,088	-3.3%
	Turboprop	1,292	1,075	-217	-3.6%
Colorado Springs Total		**19,192**	**15,335**	-3,857	**-4.4%**
Cortez	Turboprop	940	900	-40	-0.9%
Cortez Total		**940**	**900**	-40	**-0.9%**
Denver	Jet	157,472	174,586	17,114	2.1%
	Regional Jet	63,898	95,032	31,134	8.3%
	Turboprop	41,379	32,899	-8,480	-4.5%
Denver Total		**262,749**	**302,517**	39,768	**2.9%**
Durango	Jet	5	1	-4	-27.5%
	Regional Jet	448	2,704	2,256	43.3%
	Turboprop	3,317	1,499	-1,818	-14.7%
Durango Total		**3,770**	**4,204**	434	**2.2%**
Eagle	Jet	1,524	1,451	-73	-1.0%
	Regional Jet	101	784	683	50.7%
	Turboprop	1,120	170	-950	-31.4%
Eagle Total		**2,745**	**2,405**	-340	**-2.6%**
Grand Junction	Jet	51	260	209	38.5%
	Regional Jet	877	4,209	3,332	36.8%
	Turboprop	6,146	1,313	-4,833	-26.6%
Grand Junction Total		**7,074**	**5,782**	-1,292	**-4.0%**
Gunnison	Jet	179	148	-31	-3.7%
	Regional Jet	56	430	374	50.3%
	Turboprop	966	270	-696	-22.5%
Gunnison Total		**1,201**	**848**	-353	**-6.7%**

Table 3-5: Annual Departures by Airport and Aircraft Type, 2005 and 2010

City	Aircraft Type	2005	2010	2005-2010 Total Change	2005-2010 Annual Change
Hayden	Jet	749	684	-65	-1.8%
	Regional Jet	373	1,025	652	22.4%
	Turboprop	1,259	40	-1,219	-49.8%
Hayden Total		**2,381**	**1,749**	-632	**-6.0%**
Loveland	Jet	298	272	-26	-1.8%
	Regional Jet	1	2	1	14.9%
	Turboprop	0	1	1	0.0%
Loveland Total		**299**	**275**	-24	**-1.7%**
Montrose	Jet	248	184	-64	-5.8%
	Regional Jet	375	1,952	1,577	39.1%
	Turboprop	2,079	267	-1,812	-33.7%
Montrose Total		**2,702**	**2,403**	-299	**-2.3%**
Pueblo	Jet	37	69	32	13.3%
	Regional Jet	10	20	10	14.9%
	Turboprop	795	1,049	254	5.7%
Pueblo Total		**842**	**1,138**	296	**6.2%**
Telluride	Regional Jet	1	5	4	38.0%
	Turboprop	1,611	761	-850	-13.9%
Telluride Total		**1,612**	**766**	-846	**-13.8%**
All Airports	**Jet**	**165,012**	**180,552**	**15,540**	**1.8%**
	Regional Jet	**82,199**	**121,524**	**39,325**	**8.1%**
	Turboprop	**63,355**	**42,278**	**-21,077**	**-7.8%**
Total Departures		**310,566**	**344,354**	**33,788**	**2.1%**

Source: U.S. DOT T-100

Departures

Table 3-6 summarizes the changes in annual departures by airport. Departures at Denver International increased by 2.9 percent per year, while total departures at the other airports contracted at an average annual rate of 2.6 percent. Of the smaller airports, the only ones that experienced growth in departures were Aspen, Durango, and Pueblo. The declines in aircraft departures at the other airports ranged from a 1.7 percent decrease at Loveland to a 13.8 percent reduction at Telluride.

Table 3-6: Summary of Annual Departures, 2005 and 2010

				2005-2010	
City	Airport	2005	2010	Total Change	Annual Change
Alamosa	San Luis Valley Airport	1,087	962	-125	-2.4%
Aspen	Aspen-Pitkin County Airport	3,972	5,070	1,098	5.0%
Colorado Springs	Colorado Springs Municipal Airport	19,192	15,335	-3,857	-4.4%
Cortez	Cortez-Montezuma Municipal Airport	940	900	-40	-0.9%
Durango	Durango-La Plata County Airport	3,770	4,204	434	2.2%
Eagle	Eagle County Regional Airport	2,745	2,405	-340	-2.6%
Grand Junction	Grand Junction Regional Airport	7,074	5,782	-1,292	-4.0%
Gunnison	Gunnison-Crested Butte Regional Airport	1,201	848	-353	-6.7%
Hayden	Yampa Valley Regional Airport	2,381	1,749	-632	-6.0%
Loveland	Fort Collins-Loveland Municipal Airport	299	275	-24	-1.7%
Montrose	Montrose Regional Airport	2,702	2,403	-299	-2.3%
Pueblo	Pueblo Memorial Airport	842	1,138	296	6.2%
Telluride	Telluride Regional Airport	1,612	766	-846	-13.8%
Total		**47,817**	**41,837**	**-5,980**	**-2.6%**
Denver		**262,749**	**302,517**	**39,768**	**2.9%**

Source: U.S. DOT T-100

Seats

Table 3-7 shows the number of outbound seats offered from Colorado airports. Denver International is presented separately at the bottom. The year 2005 serves as a benchmark for the last system plan; 2008 is significant for the spike in oil prices and the airlines' capacity cuts in response; and 2010 is the base year for forecasts presented in this system plan.

Overall, seat capacity at the smaller airports has declined but at a slower rate than the reduction in aircraft departures. Changes in seat capacity at individual Colorado airports have been mixed. Capacity has increased at Denver International, Durango, Aspen, Grand Junction, and Montrose. Colorado Springs lost the most seats, although percentage wise, Telluride lost the greatest proportion of seats since 2005. Total seats at commercial service airports, except Denver, have declined about a half-percent per year, but Colorado Spring's 4.2 percent decline in capacity influences the overall trend. For all other airports (i.e., excluding Denver and Colorado Springs) seat capacity has increased by 2.7 percent.

Table 3-7: Outbound Seats Offered at Colorado Airports, 2005, 2008, and 2010

City	Airport	2005	2008	2010	Change (2008-2010)	Change (2005-2010)	Average Annual Growth Rate (2005-2010)
Alamosa	San Luis Valley Airport	20,653	18,183	18,278	95	(2,375)	-2.4%
Aspen	Aspen-Pitkin County Airport	273,544	340,246	343,266	3,020	69,722	4.6%
Colorado Springs	Colorado Springs Municipal Airport	1,413,966	1,294,915	1,140,557	(154,358)	(273,409)	-4.2%
Cortez	Cortez-Montezuma Municipal Airport	17,860	17,879	17,100	(779)	(760)	-0.9%
Durango	Durango-La Plata County Airport	142,701	213,810	227,372	13,562	84,671	9.8%
Eagle	Eagle County Regional Airport	318,766	336,940	310,521	(26,419)	(8,245)	-0.5%
Grand Junction	Grand Junction Regional Airport	236,247	321,627	303,785	(17,842)	67,538	5.2%
Gunnison	Gunnison-Crested Butte Regional Airport	62,848	60,563	63,640	3,077	792	0.3%
Hayden	Yampa Valley Regional Airport	184,248	209,405	169,716	(39,689)	(14,532)	-1.6%
Loveland	Fort Collins-Loveland Municipal Airport	44,454	35,998	41,118	5,120	(3,336)	-1.5%
Montrose	Montrose Regional Airport	113,390	119,862	137,494	17,632	24,104	3.9%
Pueblo	Pueblo Memorial Airport	20,953	18,414	31,253	12,839	10,300	8.3%
Telluride	Telluride Regional Airport	36,561	23,273	17,331	(5,942)	(19,230)	-13.9%
Total		**2,886,191**	**3,011,115**	**2,821,431**	**(189,684)**	**(64,760)**	**-0.5%**
Denver		**27,128,375**	**31,688,100**	**31,850,544**	**162,444**	**4,722,169**	**3.3%**

Source: U.S. DOT T-100

Most of the cuts in capacity took place from 2008 to 2009 when volatile fuel prices forced airlines to take a hard look at aircraft in service and capacity in every market in Colorado and the U.S. In 2010, capacity remained tight, but Southwest Airlines continued its expansion plan at Denver, adding five new markets, ten daily departures, and 15 percent more seats.

Changes in aircraft fleet mix explain why the decline in seat capacity at the smaller Colorado commercial airports was not as great as the decline in aircraft departures. **Table 3-8** shows average aircraft seats per departure at each airport for 2005, 2008, and 2010. The replacement of turboprop aircraft with larger regional jets significantly increased the average aircraft seats per departure at Durango, Eagle, Grand Junction, Hayden, Montrose, and Pueblo. Average aircraft size stayed approximately the same at the EAS points and Denver experienced a 2 percent increase.

Table 3-8: Average Seats per Commercial Departure, 2005 and 2010

City	Airport	2005	2010	Percent Change (2005-2010)
Alamosa	San Luis Valley Airport	19	19	0.0%
Aspen	Aspen-Pitkin County Airport	69	68	-1.7%
Colorado Springs	Colorado Springs Municipal Airport	74	74	1.0%
Cortez	Cortez-Montezuma Municipal Airport	19	19	0.0%
Denver	Denver International Airport	103	105	2.0%
Durango	Durango-La Plata County Airport	38	54	42.9%
Eagle	Eagle County Regional Airport	116	129	11.2%
Grand Junction	Grand Junction Regional Airport	33	53	57.3%
Gunnison	Gunnison-Crested Butte Regional Airport	52	75	43.4%
Hayden	Yampa Valley Regional Airport	77	97	25.4%
Loveland	Fort Collins-Loveland Municipal Airport	149	150	0.6%
Montrose	Montrose Regional Airport	42	57	36.3%
Pueblo	Pueblo Memorial Airport	25	27	10.4%
Telluride	Telluride Regional Airport	23	23	-0.2%

Source: U.S. DOT T-100

3.3.5 Fares and Fees

The Denver market has experienced three waves of low-cost carrier (LCC) entry and expansion beginning in the mid-1990s. In 1994, low-cost carrier Frontier Airlines was founded and established a hub at Denver following Continental Airlines decision to withdraw its hub operation at Denver. One year later, the newly formed Western Pacific Airlines (WestPac) initiated low fare service out of Colorado Springs Airport. Two years later WestPac relocated to Denver International, but filed for Chapter 7 liquidation the following year. It was not until 2003, that the second wave of low cost carriers emerged. AirTran began serving Denver in 2004; Frontier was expanding operations; and United responded by initiating its "carrier within a carrier" low-fare Ted service at the airport. The impact of price competition at Denver International was unprecedented and is shown in **Table 3-9.** The average roundtrip fare at Denver declined by 22 percent or $95 between 2000 and 2005. The benefits of this price competition only marginally translated to the other Colorado airports. However, during the third wave of LCC expansion when Southwest entered the Denver market in 2006, increased price competition did carry across to some of the other airports, notably Aspen, Durango, and Grand Junction. The airports that have contract service during the ski season (Eagle, Gunnison, and Hayden) and the Essential Air Service points where fares are determined by subsidy contract (Alamosa, Cortez, and Pueblo) benefited less from the price competition at Denver International.

Table 3-9: Average Roundtrip Fares, 2000 – Q3 2011

							Percent Change	
City	Airport	2000	2005	2010	Q3 2010	Q3 2011	FY 2000-FY 2010	Q3 2010-Q3 2011
Alamosa	San Luis Valley Airport	$523	$568	$540	$539	$496	3.2%	-7.9%
Aspen	Aspen-Pitkin County Airport	$523	$539	$461	$482	$516	-12.0%	7.2%
Colorado Springs	Colorado Springs Municipal Airport	$415	$392	$385	$393	$418	-7.2%	6.3%
Cortez	Cortez-Montezuma Municipal Airport	$538	$598	$492	$466	$666	-8.6%	43.0%
Durango	Durango-La Plata County Airport	$458	$459	$379	$376	$414	-17.4%	10.1%
Eagle	Eagle County Regional Airport	$500	$480	$486	$445	$610	-2.8%	37.1%
Grand Junction	Grand Junction Regional Airport	$428	$441	$384	$374	$425	-10.3%	13.7%
Gunnison	Gunnison-Crested Butte Regional Airport	$474	$432	$453	$443	$564	-4.4%	27.3%

Table 3-9: Average Roundtrip Fares, 2000 – Q3 2011

City	Airport	2000	2005	2010	Q3 2010	Q3 2011	Percent Change FY 2000-FY 2010	Percent Change Q3 2010-Q3 2011
Hayden	Yampa Valley Regional Airport	$488	$420	$447	$465	$555	-8.5%	19.4%
Loveland\1	Fort Collins-Loveland Municipal Airport	$78	$200	$135	$117	$130	73.1%	11.5%
Montrose	Montrose Regional Airport	$450	$464	$467	$478	$531	3.8%	11.2%
Pueblo\1	Pueblo Memorial Airport	$557	$85	$228	$336	$181	-59.1%	-46.3%
Telluride\1	Telluride Regional Airport	$549	$551	$571	$780	$674	4.0%	-13.6%
Denver	Denver International Airport	**$435**	**$340**	**$296**	**$298**	**$316**	**-31.9%**	**5.7%**

\1 Service at Loveland, Pueblo, and Telluride changed substantially during these years and consequently average fare comparisons are not really applicable.

Note: Average Fares are based on domestic itinerary fares. Itinerary fares consist of round-trip fares unless the customer does not purchase a return trip. In that case, the one-way fare is included. Fares are based on the total ticket value which consists of the price charged by the airlines plus any additional taxes and fees levied by an outside entity at the time of purchase. Fares include only the price paid at the time of the ticket purchase and do not include other fees paid at the airport or onboard the aircraft. Averages do not include frequent-flyer or "zero fares" or a few abnormally high reported fares.

Source: Bureau of Transportation Statistics, Passenger Origin and Destination (O&D) Survey

Table 3-9 also shows average fares for the third quarter of 2010 and 2011, which point to an across-the-board increase in average fares for all airports, as airlines continued to tightly control capacity in the face of rising fuel prices in 2011. From this most recent data, the opposite pattern is emerging. Fares at Denver International are not increasing as rapidly as fares at the other Colorado commercial airports.

While there is no statewide data on baggage and cancellation fees, the fact that average air fares have declined so much, does not account for non-ticket charges that airlines began to impose aggressively in 2007. These service fees generated $5.8 billion nationally in the YEQ3 2011, with U.S. airlines collecting $3.4 billion for bag fees and $2.4 billion for reservation changes and cancellations.[11]

[11] Bureau of Transportation Statistics, Schedule P-1.2

3.3.6 Summary of Commercial Service in Colorado

Since the last system plan, Colorado airports weathered the economic recession fairly well. Probably the most stable component of commercial air service in Colorado was the seasonal service to ski resorts. Southwest's entry at Denver offset declines in network carrier capacity at the airport. Several regional carrier airlines have changed since 2005, which has resulted in changes in the aircraft types providing spoke service to hub airports. There has been a definite shift away from turboprop aircraft to regional jet aircraft. Allegiant Air increased services at Colorado Springs, Grand Junction, Loveland, and Pueblo[12]. Positive demographic growth and development of summer destination traffic has supported sustained growth at several of the Western Slope commercial airports.

With the price of oil less volatile, but remaining high, airlines have put in place capacity discipline that keeps load factors stable, but on the high side. Effective cost controls by network carriers and rising labor costs at the LCCs have reduced the differential between network and low cost carrier costs per available seat mile (CASMs). The sharp divide between network and low cost carriers is expected to continue to blur as the airline industry continues to consolidate.

Positive operating profit for the airlines in 2010, and the first three quarters of 2011[13], suggests that airline capacity discipline and cost controls are likely to continue as the preferred approach for the foreseeable future.

3.4 Scope of General Aviation in Colorado

3.4.1 General Aviation Operations

In terms of aircraft operations, general aviation is the largest aviation segment in the State and takes place at all 76 system airports. General aviation includes private recreational flying, business and corporate flights, air taxi, and helicopter operations. In 2010, an estimated 1.6 million operations (takeoffs and landings) took place in the State for a wide variety of reasons including business and personal travel, recreational flying, flight instruction, emergency airlift, and agricultural spraying. **Table 3-10** shows the 20 airports in Colorado with the largest number of general aviation operations. These top 20 airports support 82 percent of total general aviation operations in the State and the top 11 airports are located on the Front Range. Centennial Airport, Pueblo Memorial, Rocky Mountain, Ft. Collins/Loveland, and Greeley are the largest by far, supporting almost 50 percent of all general aviation operations.

[12] Allegiant Air discontinued Pueblo service in April 2012.
[13] Bureau of Transportation Statistics F41 Schedule P12 data

Table 3-10: Top 20 Airports with Largest Number of General Aviation Operations, 2010

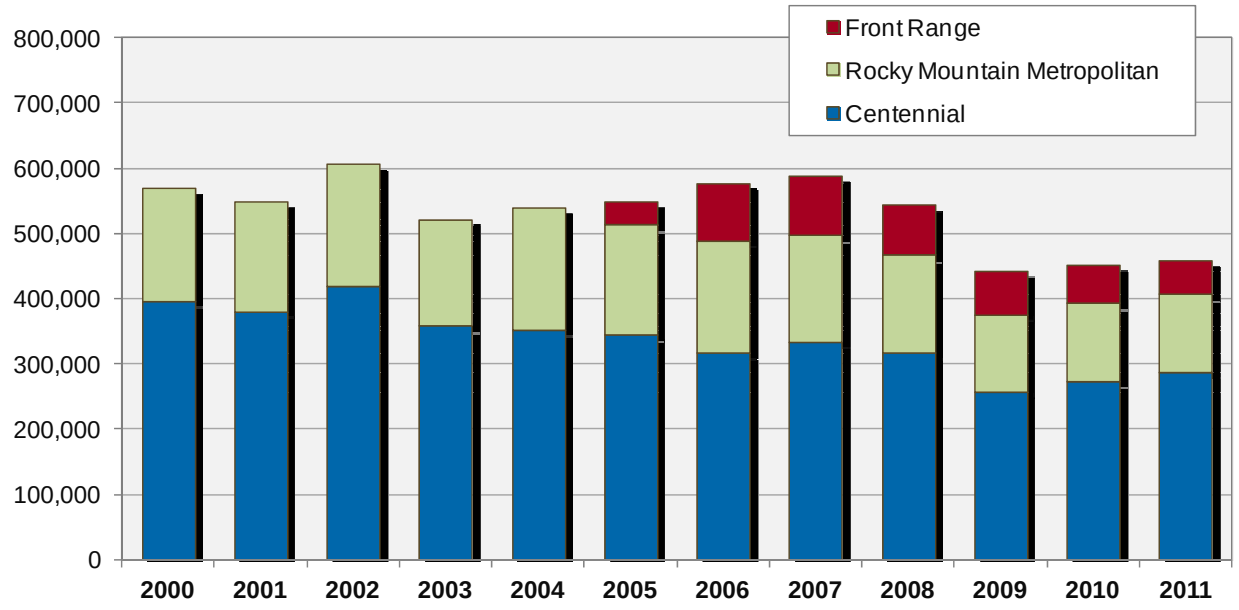
Rank	City	Airport	2010 General Aviation Operations	Percent Share
1	Englewood	Centennial Airport	275,030	17.1%
2	Pueblo	Pueblo Memorial Airport	175,180	10.9%
3	Broomfield/Denver	Rocky Mountain Metropolitan Airport	118,640	7.4%
4	Loveland	Ft. Collins/Loveland Municipal Airport	106,570	6.6%
5	Greeley	Greeley/Weld County Airport	106,250	6.6%
6	Erie	Erie Municipal Airport	67,500	4.2%
7	Longmont	Vance Brand Municipal Airport	61,210	3.8%
8	Colorado Springs	Colorado Springs Municipal Airport	59,120	3.7%
9	Watkins	Front Range Airport	58,220	3.6%
10	Boulder	Boulder Municipal Airport	50,280	3.1%
11	Colorado Springs	Meadow Lake	41,100	2.6%
12	Grand Junction	Grand Junction Regional Airport	38,110	2.4%
13	Alamosa	San Luis Valley Regional Airport	27,850	1.7%
14	Aspen	Aspen-Pitkin County Airport	27,350	1.7%
15	Eagle	Eagle County Regional Airport	24,560	1.5%
16	Durango	Durango La Plata County Airport	20,110	1.2%
17	Montrose	Montrose Regional Airport	17,600	1.1%
18	Akron	Colorado Plains Regional Airport	16,700	1.0%
19	Pagosa Springs	Stevens Field	16,100	1.0%
20	Glenwood Springs	Glenwood Springs Municipal Airport	14,930	0.9%
	Subtotal		**1,322,410**	**82.1%**
	Other Airports		288,710	17.9%
	All Colorado Airports		**1,611,120**	**100.0%**

Sources: FAA 5010 Airport Master Records and FAA Air Traffic Activity Data System (ATADS)

The estimated number of general aviation operations for 2010 is significantly less than the 1.9 million general aviation operations estimated for 2005. Higher fuel prices and the economic recession that began in 2007 had a large impact on general aviation activity. Because most general aviation airports estimate operations, it is difficult to discern trends. However, air taxi and general aviation operations are counted by air traffic control towers at Centennial, Pueblo, Rocky Mountain Metropolitan, and Front Range airports.

Figure 3-4 tracks operations at these airports and shows a significant decline in operations following the spike of fuel prices in 2008. There are glimmers of recovery in 2011, but still, operations at these airports are well below 2005 levels.

Figure 3-4: General Aviation and Air Taxi Operations at Centennial, Rocky Mountain Metropolitan, and Front Range Airports, 2000-2011



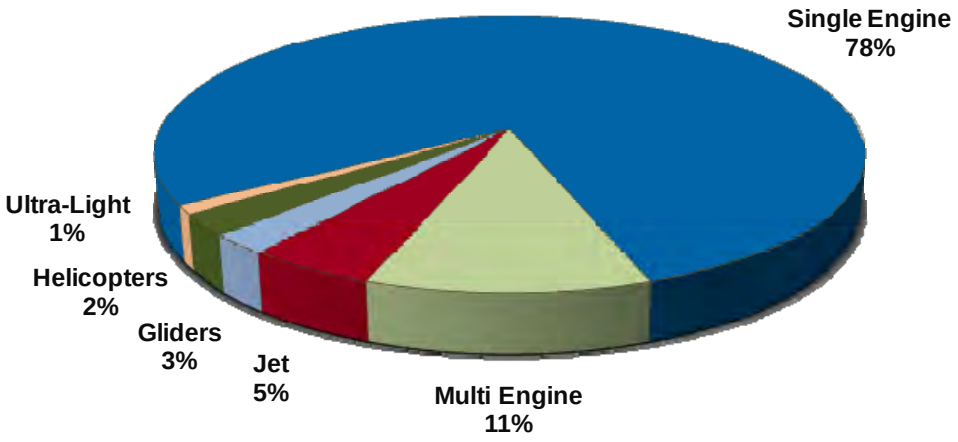
Note: Front Range control tower completed in 2005

Source: FAA Air Traffic Activity Data System (ATADS)

3.4.2 Based Aircraft

In 2010, there were 5,245 based aircraft in Colorado. Of these, 1,215 are located at commercial airports and 4,030 are located at general aviation airports. The based aircraft fleet consists primarily of single and multi-engine aircraft, composing 89 percent of the fleet. Other aircraft include jets, helicopters, gliders, and ultra-lights. **Figure 3-5** shows the fleet mix of Colorado based aircraft.

Figure 3-5: Fleet Mix of Colorado Based Aircraft, 2010



Source: FAA 5010 Airport Master Records

Table 3-11 lists the airports in Colorado with the largest number of based aircraft in the State. Centennial outdistances all of the other airports by a large margin.

Table 3-11: Top 20 Airports with the Largest Number of Based Aircraft, 2010

Rank	City	Airport	Based Aircraft	Percent Share
1	Englewood	Centennial Airport	822	15.7%
2	Broomfield/Denver	Rocky Mountain Metropolitan Airport	384	7.3%
3	Watkins	Front Range Airport	347	6.6%
4	Longmont	Vance Brand Municipal Airport	340	6.5%
5	Colorado Springs	Meadow Lake	325	6.2%
6	Colorado Springs	Colorado Springs Municipal Airport	292	5.6%
7	Greeley	Greeley/Weld County Airport	223	4.3%
8	Loveland	Ft. Collins/Loveland Municipal Airport	216	4.1%
9	Erie	Erie Municipal Airport	179	3.4%
10	Boulder	Boulder Municipal Airport	159	3.0%
11	Pueblo	Pueblo Memorial Airport	120	2.3%
12	Grand Junction	Grand Junction Regional Airport	105	2.0%
13	Eagle	Eagle County Regional Airport	100	1.9%
14	Canon City	Fremont County Airport	88	1.7%
15	Montrose	Montrose Regional Airport	86	1.6%
16	Aspen	Aspen-Pitkin County Airport	84	1.6%
17	Steamboat Springs	Steamboat Springs/Bob Adams Field	83	1.6%
18	Glenwood Springs	Glenwood Springs Municipal Airport	73	1.4%
19	Hudson	Platte Valley Airpark	72	1.4%
20	Durango	Durango La Plata County Airport	70	1.3%
	Subtotal		**4,168**	**79.5%**
	Other Airports		1,077	20.5%
	All Colorado Airports		**5,245**	**100.0%**

Source: FAA 5010 Airport Master Records

3.4.3 Summary of General Aviation in Colorado

General aviation activity takes place at all of the system airports. Denver International has the lightest general aviation activity as airspace is controlled and other Front Range general aviation airports that surround the metropolitan area offer a high level of service for based aircraft and general aviation operations.

The general aviation industry has been hard hit by both high fuel prices and the economic recession. General aviation airports report lower fuel sales and aircraft maintenance activity in the last few years. Many of the single engine piston aircraft are aging and sales of new similar replacement aircraft have slowed[14]. At the State's two largest general aviation airports, Centennial and Rocky Mountain Metropolitan, there is evidence of a rise in activity, but in general, the FAA Aerospace Forecasts for Fiscal Years 2011-2031 anticipates a slow recovery for this segment of aviation.

3.5 Colorado Aviation Forecasts

Individual airport master plans and ALPs present the opportunity to delve into specific drivers of demand; passenger and general aviation activity; and the nature of operations at a particular airport. Forecasts for the Colorado system plan encompass 76 commercial service and general aviation airports. Consequently, system plan forecasts are necessarily higher level forecasts. For commercial service airports, publicly available data sources from the FAA and the U.S. DOT provide information on passenger enplanements, aircraft activity, fares, and capacity. For airports with air traffic control (ATC) towers, operational data is abundant and reliable. Furthermore, the FAA, through its improved aircraft based aircraft counting program, has reduced double counting of based aircraft, and today there are more accurate estimates of air-worthy based aircraft at individual airports.

Other important data is also available to inform the forecasts including: socio-economic data for Colorado counties and MSA's; the FAA's Terminal Area Forecast (TAF), which provides individual forecasts for airports in the NPIAS; and the FAA Aerospace Forecast, an annual forecast for the U.S. aviation industry. Individual master plans, when available, also inform system plan forecasts. A significant weakness in the base data is the lack of actual aircraft operation counts at general aviation airports with no ATC tower. For these airports, estimates of aircraft operations are typically provided by the airport manager.

Using the information at hand and knowledge of Colorado and the aviation industry, a 20-year forecast, using 2010 as the base year, was prepared for 2015, 2020, and 2030. The following components of aviation activity were part of the forecast:

- Commercial airline passenger enplanements and operations (i.e., aircraft landings plus aircraft take-offs)
- General aviation based aircraft and operations
- Total commercial, general aviation, cargo, and military operations

[14] The General Aviation Manufacturers Association (GAMA) reported an 8.8% decline in worldwide shipments of piston aircraft during the first nine months of 2011.

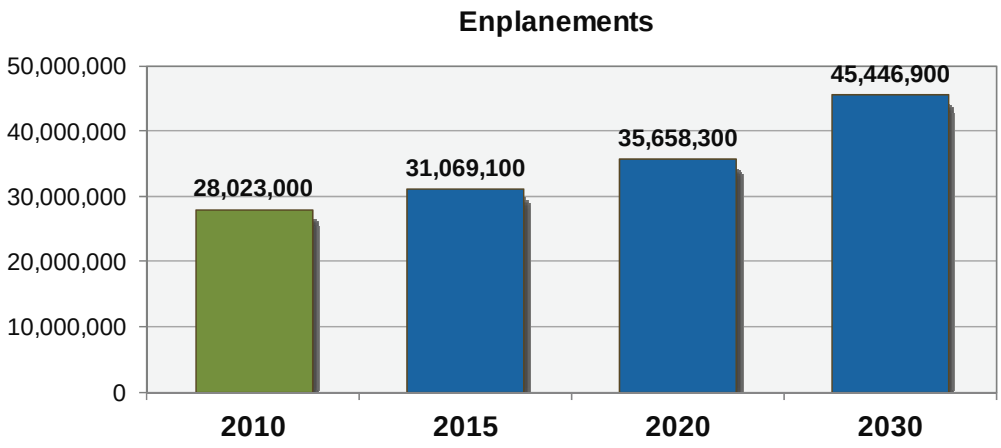
For each component of the forecasts, the best data available was obtained and scrutinized. Several methodologies were tested to forecast each component of aviation activity. With professional judgment and peer review, a forecast was developed for each airport in Colorado and for the State as a whole.

3.5.1 Statewide Commercial Activity Forecasts

Enplanements

Figure 3-6 shows the forecast of passenger enplanements. Over the 20-year period, enplanements are forecast to grow at an average annual rate of 2.4 percent. Denver International is forecast to continue to enplane the overwhelming majority of the State's commercial passengers, handling 93 percent of all enplaned passengers in the system, but the other commercial airports in the State hold their own. In 2030, Denver International is projected to enplane 42.3 million passengers[15]; the other commercial airports are forecast to enplane 3.2 million passengers.

Figure 3-6: Statewide Enplanement Forecast, 2010-2030



	Actual	Forecasts			Annual Growth Rate
	2010	2015	2020	2030	2010-2030
Denver International	26,024,900	28,877,700	33,153,400	42,270,200	2.5%
All Other Commercial Airports	1,999,100	2,191,400	2,504,900	3,173,700	2.3%
All Colorado Airports	**28,023,000**	**31,069,100**	**35,658,300**	**45,446,900**	**2.4%**
Denver International Share	**92.9%**	**92.9%**	**93.0%**	**93.0%**	

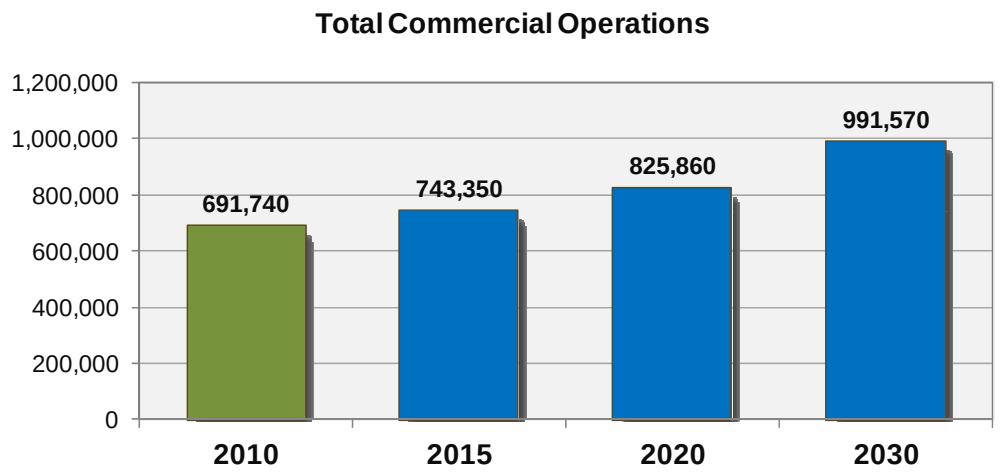
Sources: FAA ACAIS Database, Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

[15] Denver International prepared its own forecasts and these were incorporated into this System Plan.

Commercial Airline Operations

Figure 3-7 summarizes the forecasts of commercial passenger airline operations at Denver International and the other Colorado airports. Commercial airline operations are projected to grow at a slower rate than enplanements as both average aircraft size and load factors are assumed to increase over the forecast period. Total commercial airline operations will increase from 692,000 in 2010 to 992,000 in 2030 at an average annual rate of 1.8 percent. Denver International's commercial operations will grow faster than the other commercial service airports. Of the other Colorado commercial service airports, three have air services under Essential Air Service (EAS) contracts and several Western Slope airports have service contracts with the airlines during the ski season. Contract services at these airports are relatively stable and are likely to remain at current levels over the planning period.

Figure 3-7: Forecasts of Commercial Airline Operations, 2010-2030



	Actual	Forecasts			Annual Growth Rate
	2010	2015	2020	2030	2010-2030
Denver International	608,060	654,800	730,000	880,600	1.9%
All Other Commercial Airports	83,680	88,550	95,860	110,970	1.4%
All Colorado Airports	**691,740**	**743,350**	**825,860**	991,570	**1.8%**
Denver International Share	**87.9%**	**88.1%**	**88.4%**	**88.8%**	

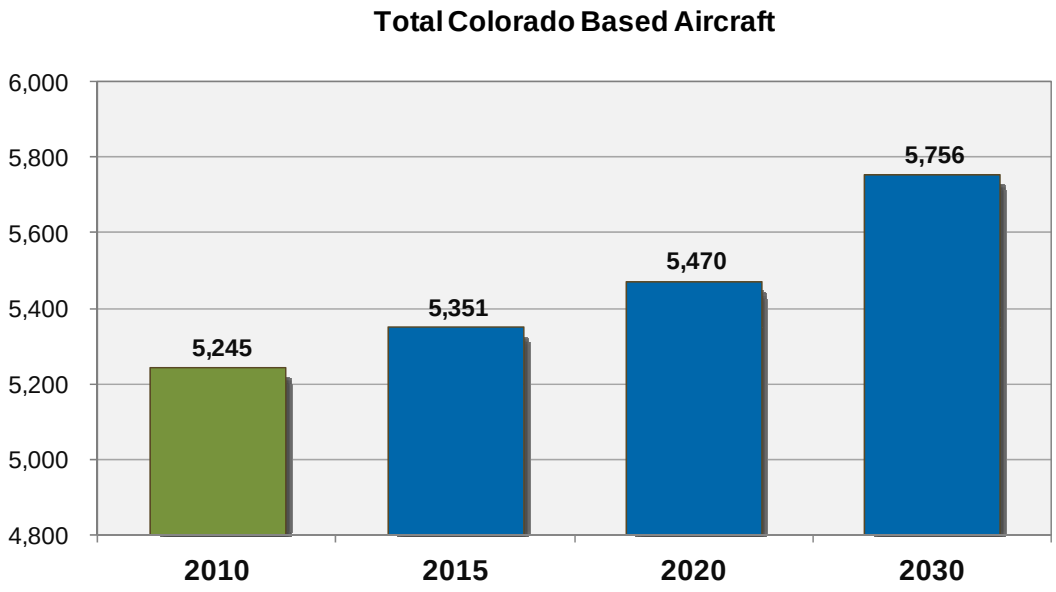
Sources: FAA Air Traffic Activity Data System (ATADS), Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

3.5.2 Statewide General Aviation Forecasts

Based Aircraft

Three-quarters of general aviation aircraft are based at general aviation airports; one quarter is based at commercial service airports. Because most of the based aircraft in Colorado are either single engine or multi-engine piston aircraft, forecast growth for based aircraft in the State is low. This segment of the U.S. general aviation market has been in decline over the past decade. Therefore, airports with a higher percentage of business jets or helicopters in their based aircraft fleet mix are forecast to grow the fastest.[16] Overall, Colorado's based aircraft fleet is forecast to grow at an average annual rate of 0.5 percent for the forecast period, from 5,245 based aircraft in 2010 to 5,756 in 2030. **Figure 3-8** summarizes the statewide forecast for based aircraft.

Figure 3-8: Statewide Based Aircraft Forecast, 2010-2030



	Actual	Forecasts			Annual Growth Rate
	2010	2015	2020	2030	2010-2030
Commercial Airports	1,215	1,239	1,267	1,336	0.5%
General Aviation Airports	4,030	4,112	4,203	4,420	0.5%
Total Colorado Based Aircraft	**5,245**	**5,351**	**5,470**	**5,756**	**0.5%**

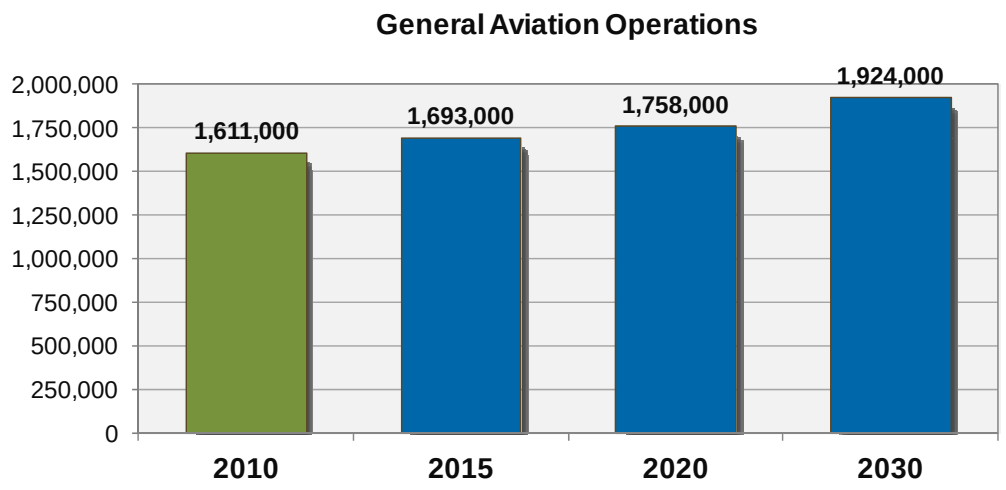
Sources: FAA 5010 Master Records, Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

[16] The outlook for different types of general aviation aircraft is based on the FAA Aerospace Forecast for Fiscal Years 2011-2031.

General Aviation Operations

The FAA Aerospace Forecast for FAA and contract towered airports anticipates general aviation operations to increase at an annual growth rate of 1.0 percent per year.[17] Statewide forecasts for general aviation operations were built from the bottom-up and were comparable, but slightly lower at an annual rate of 0.9 percent. This growth rate is slightly lower because growth of operations is driven primarily by the growth of the based aircraft fleet. At towered general aviation airports, jet aircraft, which is the fastest growing segment of the general aviation market, are a larger component of the fleet. However, the overall Colorado based aircraft fleet is predominantly single and multi-engine piston aircraft; this segment of the general aviation market is forecast to grow very slowly over the forecast period. **Figure 3-9** shows the statewide forecast for general aviation operations. In 2010, there were an estimated 1.6 million operations. In 2030, general aviation operations are forecast to grow to 1.9 million at all Colorado airports.

Figure 3-9: Statewide General Aviation Operations Forecasts, 2010-2030



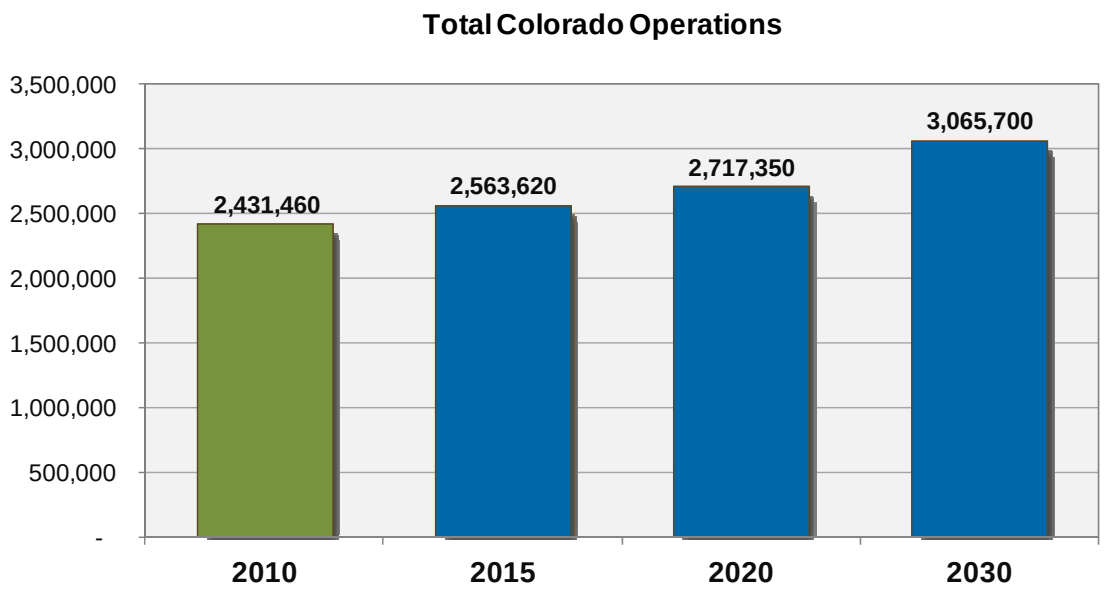
Sources: FAA 5010 Master Records, FAA Air Traffic Activity Data System (ATADS), Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

[17] FAA Aerospace Forecast, FY 2011-2031, Workload Table 31

3.5.3 Statewide Total Operations Forecasts

Total operations include commercial service, general aviation, air taxi, military, and all-cargo operations. Forecasts for the State were built from the bottom up taking into consideration operations at each commercial or general aviation airport. Overall, total operations are forecast to grow from 2.4 million in 2010 to 3.1 million in 2030, an average annual growth rate of 1.2 percent. **Figure 3-10** shows the forecast with subtotals by type of airport, i.e. commercial service and general aviation. Total operations at commercial airports are forecast to grow twice as fast as activity at general aviation airports, increasing at 1.5 percent per year. Total operations at general aviation airports are forecast to grow at 0.7 percent per year. Since activity at commercial service airports is forecast to grow faster, commercial service airports will account for an increased share of the State's aircraft operations in future years. Over the forecast period, the commercial airports' share of total operations increases from 54 percent of total operations in 2010 to 58 percent in 2030.

Figure 3-10: Statewide Total Operations Forecast, 2010-2031



	Actual	Forecasts			Annual Growth Rate
	2010	2015	2020	2030	2010-2030
Commercial Airports	1,311,640	1,393,180	1,514,980	1,769,350	1.5%
General Aviation Airports	1,119,820	1,170,440	1,202,370	1,296,350	0.7%
Total Colorado Operations	**2,431,460**	**2,563,620**	**2,717,350**	**3,065,700**	**1.2%**

Sources: FAA 5010 Master Records, FAA Air Traffic Activity Data System (ATADS), Airport Master Plans, and forecasts prepared by KRAMER aerotek inc.

3.6 Forecast Aviation Activity by Airport

3.6.1 Commercial Activity

Methodology

Separate enplanement and aircraft operations forecasts were prepared for each of the 14 airports with commercial air service. The following historical information was collected and evaluated for each airport:

- Enplanement trends, 2000-2010 (FAA ACAIS database, U.S. DOT T-100, airport records)
- Year-to-date enplanements for 2011 (airport records)
- Historical departures, seats, on-board passengers, seats per departure, enplaned and on-board load factors (U.S. DOT T-100)
- Current daily nonstop departures by market and aircraft (Official Airline Guide)
- Scheduled departures by month (Official Airline Guide)
- Population, income, employment, gross regional product, and retail sales 2000-2030 (Woods and Poole Economics, Complete Economic and Demographic Data Source 2011)
- FAA Terminal Area Forecast (TAF) as of December 2011
- FAA National Aerospace Forecast FY 2011-2031, March 2011
- Individual airport master plans
- National Ski Areas Association (NSAA), 2010/11 Season Overview and Snowsports Outlook

The City and County of Denver Department of Aviation, contracted with Ricondo & Associates, Inc. to prepare a forecast update for Denver International Airport for use in this system plan. This update was incorporated into the system plan in its entirety.

Colorado Springs Municipal Airport and Eagle County Regional Airport also had master plan forecasts that had been prepared within the last 18 months of the system plan forecasts. These commercial service forecasts were adjusted and updated to reflect 2010-2011 actual results and projected out for the system plan forecast years.

New enplanement and commercial operations forecasts were prepared for the remaining eleven airports using the following forecasting approaches:

- Regression and trend analyses were performed to test various passenger forecast formulations for airports. Results were evaluated and compared with current FAA TAF and national forecasts. The airports were then divided into four subgroups: EAS markets, Allegiant air service markets; highly seasonal Western

Slope markets; and less seasonal Western Slope markets. A separate passenger forecast approach was developed for each airport group.

- Essential Air Service points, i.e., Alamosa, Cortez, and Pueblo, were assumed to remain at current service levels. Nineteen seat aircraft were also assumed to serve these markets over the forecast period.
- For Ft. Collins/Loveland Municipal Airport and Pueblo Memorial Airport, passenger forecasts were based on a logical build-out of Allegiant Air services, which is the dominant air carrier at each airport. Service by Allegiant Air, or a similar type airline, was assumed to continue over the forecast period.
- For Western Slope airports with high seasonality traffic, the enplaned passenger market was divided into three segments: local, skiers, and summer/fall visitors. The size of each segment of the market was estimated by an analysis of monthly enplaned passengers. Forecasts of local enplaned passengers were based on correlations with socio-economic factors. Forecasts of winter skiers were based on National Ski Areas Association (NSAA) forecasts of the ski market as growing at the same rate as the U.S. population (.0087 percent per year)[18] and visitors were estimated using the FAA's forecast national growth rate for enplanements at non-hub airports (2.24 percent per year)[19]. This approach was used to forecast commercial enplanements at Aspen, Montrose, Telluride, Gunnison, and Hayden.
- Grand Junction and Durango enplanement forecasts were based on an analysis of socio-economic trends, national trends, and their respective TAF forecasts.
- For all airports, enplanement forecasts and estimates of load factors and average seats per aircraft were used to forecast commercial aircraft operations. The aircraft operations forecasts assume that types of aircraft and services currently offered will be similar over the forecast period. Average seats per aircraft were assumed to increase at the same rate projected for regional carriers in the FAA Aerospace Forecasts[20]. Similarly, load factors were assumed to be consistent with the FAA's national forecast assumptions for regional carriers over the forecast period.

The next sections present the actual forecasts of enplaned passengers and commercial operations individually for each airport.

Forecasts presented in this chapter were finalized in December 2011. About 30 days prior to the completing of the update to the system plan, Allegiant Air announced it would stop service to Pueblo. Projections of passenger demand for Pueblo Memorial presented in this chapter remain valid. However, achieving this forecast will be contingent upon the airport's ability to attract replacement of additional scheduled airline service.

[18] National Ski Areas Association, 2010/11 Season Overview and Snowsports Outlook, Colorado Association of Ski Towns, August 2011
[19] FAA Terminal Area Forecast Summary, 2010-2030
[20] FAA Aerospace Forecasts FY 2011-2031, U.S. Regional Carriers, Tables 23 and 25

Enplanement Forecasts

Table 3-12 shows the forecasts of enplaned passengers at each of Colorado's commercial service airports. Denver International dominates the enplanement picture carrying 93 percent of enplaned passengers. Despite varying rates of growth for each airport, Denver International Airport maintains its share of statewide enplanements with passenger activity increasing by 2.5 percent. At the other commercial service airports, combined enplanements grew at a similar, but slightly slower annual rate of 2.3 percent per year from 2.0 million in 2010 to 3.2 million in 2030.

Table 3-12: Forecast of Commercial Service Airport Enplanements, 2010-2030

City	Airport	Enplanements			
		2010	2015	2020	2030
Commercial Service Airports					
Alamosa	San Luis Valley Regional Airport	6,700	7,200	7,900	9,400
Aspen	Aspen-Pitkin County Airport	222,800	234,900	255,200	305,800
Colorado Springs	Colorado Springs Municipal Airport	877,400	935,800	1,096,500	1,470,700
Cortez	Cortez Montezuma County Airport	6,300	6,900	7,500	8,700
Denver	Denver International Airport*	26,024,900	28,877,700	33,153,400	42,270,200
Durango	Durango La Plata County Airport	163,600	198,700	228,800	279,300
Eagle	Eagle County Regional Airport	201,000	217,800	236,500	278,800
Grand Junction	Grand Junction Regional Airport	219,400	254,000	292,700	383,900
Gunnison	Gunnison/Crested Butte Regional Airport	37,300	41,700	45,900	55,800
Hayden	Yampa Valley Regional Airport	110,000	119,200	128,300	149,000
Loveland	Ft. Collins/Loveland Municipal Airport	35,700	39,800	46,400	53,000
Montrose	Montrose Regional Airport	96,600	103,700	113,200	133,900
Pueblo	Pueblo Memorial Airport	11,600	21,300	34,900	35,600
Telluride	Telluride Regional Airport	9,700	10,400	11,100	12,800
Total Colorado Enplanements		**28,023,000**	**31,069,100**	**35,658,300**	**45,446,900**
Average Annual Growth Rate (2010-2030)					*2.4%*
All Airports Less Denver		**1,998,100**	**2,191,400**	**2,504,900**	**3,176,700**
Average Annual Growth Rate (2010-2030)					*2.3%*

*Denver International Airport 2010 enplanements from airport records; other airports 2010 enplanements from FAA ACAIS.

Sources: FAA ACIAS Database, Individual Airports, Forecasts prepared by KRAMER aerotek inc.

Commercial Operations Forecasts

Table 3-13 shows 2010 average seats per departure and on-board load factors for each commercial service airport. The table sets an important context for the forecasts of commercial operations. In 2010, the national average load factor was 82.8 percent. Many Colorado airports operate with lower load factors. The forecasts assume that average load factors would need to reach 74-80 percent before additional flights are added. Since aircraft are not currently full in certain cities, enplanements are forecast to grow faster than commercial operations. The commercial operations forecasts also assume that the number of seats in regional aircraft will increase and that, generally speaking, the types of aircraft that currently serve a particular airport will continue through the forecast period.

Table 3-13: Average Seats per Departure and On-Board Load Factors, 2010

City	Airport	2010 Seats per Departure	2010 On-Board Load Factor
Commercial Service Airports			
Alamosa	San Luis Valley Regional Airport	19	40.4%
Aspen	Aspen-Pitkin County Airport	68	64.8%
Colorado Springs	Colorado Springs Municipal Airport	74	77.4%
Cortez	Cortez Montezuma County Airport	19	39.1%
Denver	Denver International Airport	105	81.0%
Durango	Durango La Plata County Airport	54	72.1%
Eagle	Eagle County Regional Airport	129	64.6%
Grand Junction	Grand Junction Regional Airport	53	74.8%
Gunnison	Gunnison/Crested Butte Regional Airport	75	58.6%
Hayden	Yampa Valley Regional Airport	97	65.5%
Loveland	Ft. Collins/Loveland Municipal Airport	150	89.2%
Montrose	Montrose Regional Airport	57	70.8%
Pueblo	Pueblo Memorial Airport	27	49.6%
Telluride	Telluride Regional Airport	23	53.2%
All U.S. Carriers	All Major U.S. Airports	95	82.8%

Source: US DOT T-100

Forecasts for commercial operations are shown in **Table 3-14** below. Highlights of the forecasts include:

- The average aircraft size at Western Slope airports gradually increases over the forecast period to reflect full retirement of 30-45 seat turboprop aircraft and greater reliance on larger regional carrier aircraft.
- Increases in aircraft size and load factors resulted in an annual growth rate of 1.5 percent for commercial operations, compared to 2.4 percent forecast enplanement growth.
- In 2010, Denver International represented 85 percent of all commercial operations. Its share of commercial operations is forecast to increase to almost 89 percent over the forecast period.
- Statewide, commercial aircraft operations are forecast to grow from 692,000 in 2010 to 992,000 in 2030. Excluding Denver International, the combined commercial operations at the other commercial airports will grow from 84,000 in 2010 to 111,000 over the forecast period.

Table 3-14: Forecasts of Commercial Airline Operations, 2010-2030

City	Airport	Commercial Airline Operations			
		2010	2015	2020	2030
Commercial Service Airports					
Alamosa	San Luis Valley Regional Airport	1,920	1,920	1,920	1,920
Aspen	Aspen-Pitkin County Airport	10,140	10,140	10,200	11,500
Colorado Springs	Colorado Springs Municipal Airport	30,670	34,730	39,440	48,270
Cortez	Cortez Montezuma County Airport	1,800	1,800	1,800	1,800
Denver	Denver International Airport	608,060	654,800	730,000	880,600
Durango	Durango La Plata County Airport	8,410	9,000	9,800	11,070
Eagle	Eagle County Regional Airport	4,810	4,960	4,960	4,960
Grand Junction	Grand Junction Regional Airport	11,560	11,420	12,800	15,380
Gunnison	Gunnison/Crested Butte Regional Airport	1,700	1,700	1,700	1,850
Hayden	Yampa Valley Regional Airport	3,500	3,500	3,500	3,700
Loveland	Ft. Collins/Loveland Municipal Airport	550	620	730	830
Montrose	Montrose Regional Airport	4,810	4,810	4,850	5,300
Pueblo	Pueblo Memorial Airport	2,280	2,420	2,630	2,630
Telluride	Telluride Regional Airport	1,530	1,530	1,530	1,760
Total Colorado Commercial Airline Operations		691,740	743,350	825,860	991,570
Average Annual Growth Rate (2010-2030)					*1.8%*
All Airports Less Denver		83,680	88,550	95,860	110,970
Average Annual Growth Rate (2010-2030)					*1.4%*

*Denver International Airport 2010 commercial airline operations from airport records; other airports 2010 operations from FAA ATADS and US DOT T100.

Sources: FAA ATADS, US DOT T-100, Individual Airports, Forecasts prepared by KRAMER aerotek inc.

3.6.2 General Aviation Activity

Methodology

Since the last system plan in 2005, FAA aircraft registration requirements have reduced double counting of based aircraft and have eliminated many aircraft that are no longer air worthy. Because of different aircraft counting procedures over the years, it is difficult to determine historical trends for based aircraft at the individual airport level.

For this system plan, the 2010 based aircraft count and fleet mix for each airport was taken from the most recent FAA 5010 Airport Master Record because it is the most consistent and verified source of information on based aircraft in Colorado. Colorado based aircraft were assumed to grow at the same rate as the national rates for each aircraft class, based on the FAA Aerospace Forecast for FY 2011-2031. The national forecast has a pessimistic outlook for single engine and multi-engine piston aircraft, while jets, helicopters, and sport aircraft are among the fastest growing segments of the general aviation fleet. **Table 3-15** shows average national growth rates by aircraft class over the forecast period.

Table 3-15: Average Annual Growth Rates for General Aviation Aircraft, 2010-2030

Aircraft Class	Average Annual Growth Rate (2010-2030)
Single Engine Piston	0.2%
Multi-Engine Piston	-0.9%
Jet	3.1%
Helicopter	2.6%
Gliders	-0.1%
Sport	3.4%
Experiment	1.4%

Source: FAA Aerospace Forecasts for Fiscal Years 2011-2031

To prepare the based aircraft forecast, the fleet mix of based aircraft for each airport was projected according to the FAA's forecast growth rates for individual aircraft classes.

Several sources of information were used to forecast general aviation operations. These included:

- FAA 5010 Master Airport Records
- For the nine airports with an air traffic control tower, general aviation operations from 2000 to 2011 were identified. Trends were analyzed and incorporated into the forecasts.
- For airports with commercial air service, US DOT T-100 data was used to separate commercial service operations from air taxi/commuter operations.

- For several general aviation airports, 2010 operations were adjusted after conferring with airport managers:
  - Through its master planning process, Vance Brand Municipal Airport had recently adjusted operations downward. These estimates of operations were incorporated into the 2010 database.
  - Using overall trends at towered Front Range airports, 2010 estimates of aircraft operations at Greeley/Weld County Airport and Erie Municipal Airport were adjusted downward.
  - Rangely Airport 2010 operations were also reduced.
- As with commercial service operations, general aviation forecasts at Denver International, Colorado Springs Municipal Airport, and Eagle County Regional Airport were based on recent forecasts prepared by airport sponsors.
- For airports with estimates of operations, an 'operations per based aircraft' (OPBA) methodology was used to prepare the forecasts and to check against TAF forecasts and market share analysis. In addition, the proportion of local and itinerant traffic was evaluated.

As with the commercial activity forecasts, each airport was analyzed separately, employing sound methodologies. The most reasonable forecast was selected for inclusion in the system plan.

Based Aircraft

Table 3-16 shows the forecast of based aircraft. Airports with jets, helicopters, and sport aircraft tend to grow at a faster rate than airports where the single-engine and multi-engine aircraft dominate. The airports projected to have the fastest growing fleets of based aircraft are the following:

- Centennial
- Colorado Springs Municipal
- Eagle Country Regional
- Erie Municipal
- Fort Collins/Loveland Municipal
- Front Range
- Meadow Lake
- Rocky Mountain Metropolitan
- Vance Brand Municipal

Table 3-16: Forecast of Based Aircraft, 2010-2030

City	Airport	Based Aircraft 2010	2015	2020	2030
Commercial Service Airports					
Alamosa	San Luis Valley Regional Airport	53	53	54	55
Aspen	Aspen-Pitkin County Airport	84	85	86	88
Colorado Springs	Colorado Springs Municipal Airport	292	297	303	319
Cortez	Cortez Montezuma County Airport	37	38	40	45
Denver	Denver International Airport	2	2	2	2
Durango	Durango La Plata County Airport	70	70	71	72
Eagle	Eagle County Regional Airport	100	107	116	136
Grand Junction	Grand Junction Regional Airport	105	106	108	111
Gunnison	Gunnison/Crested Butte Regional Airport	25	25	25	25
Hayden	Yampa Valley Regional Airport	4	4	4	4
Loveland	Ft. Collins/Loveland Municipal Airport	216	220	224	233
Montrose	Montrose Regional Airport	86	88	90	95
Pueblo	Pueblo Memorial Airport	120	122	124	130
Telluride	Telluride Regional Airport	21	21	21	21
Total Based Aircraft at Commercial Airports		**1,215**	**1,239**	**1,267**	**1,336**
Average Annual Growth Rate (2010-2030)					*0.5%*
General Aviation Airports					
Akron	Colorado Plains Regional Airport	14	14	15	15
Akron	Gebauer Airport	0	0	0	0
Blanca	Blanca Airport	3	3	3	3
Boulder	Boulder Municipal Airport	159	160	160	162
Broomfield/Denver	Rocky Mountain Metropolitan Airport	384	392	400	422
Brush	Brush Municipal Airport	11	11	11	11
Buena Vista	Central Colorado Regional Airport	20	20	21	22
Burlington	Kit Carson County Airport	20	20	20	21
Calhan	Calhan Airport	19	19	19	19
Canon City	Fremont County Airport	88	89	91	95
Center	Leach Airport	10	10	11	11
Colorado Springs	Meadow Lake	325	330	336	348

Table 3-16: Forecast of Based Aircraft, 2010-2030

City	Airport	Based Aircraft			
		2010	2015	2020	2030
General Aviation Airports, cont'd					
Craig	Craig-Moffat County Airport	21	21	22	23
Crawford	Crawford Airport	26	26	27	28
Creede	Mineral County Airport	3	3	3	3
Del Norte	Astronaut Rominger Airport	19	19	19	20
Delta	Blake Field	50	50	51	52
Delta	Westwinds Airpark	5	5	5	5
Dove Creek	Dove Creek Airport	5	5	5	6
Durango	Animas Airpark	48	49	50	52
Eads	Eads Airport	6	6	6	6
Easton	Easton/Valley View Airport	12	12	13	14
Ellicot	Colorado Springs East Airport	58	59	60	62
Englewood	Centennial Airport	822	844	870	936
Erie	Erie Municipal Airport	179	183	187	196
Fort Morgan	Fort Morgan Municipal Airport	24	24	25	25
Glenwood Springs	Glenwood Springs Municipal Airport	73	74	75	76
Granby	Granby/Grand County Airport	28	28	28	29
Greeley	Greeley/Weld County Airport	223	225	227	232
Haxtun	Haxtun Municipal Airport	1	1	1	1
Holly	Holly Airport	5	5	5	5
Holyoke	Holyoke Municipal Airport	16	16	16	16
Hudson	Platte Valley Airpark	72	73	73	75
Julesburg	Julesburg Municipal Airport	5	5	5	5
Kremmling	McElroy Field	23	23	24	25
La Junta	La Junta Municipal Airport	16	16	17	17
La Veta	Cuchara Valley Airport	3	3	3	3
Lamar	Lamar Municipal Airport	31	31	32	33
Las Animas	Las Animas City & County Airport	7	7	7	7
Leadville	Lake County Airport	10	10	10	10
Limon	Limon Municipal Airport	17	17	17	18
Longmont	Vance Brand Municipal Airport	340	358	376	415
Mack	Mack Mesa Airport	37	39	41	45
Meeker	Meeker Airport	13	13	13	13

Table 3-16: Forecast of Based Aircraft, 2010-2030

City	Airport	Based Aircraft 2010	2015	2020	2030
General Aviation Airports, cont'd					
Monte Vista	Monte Vista Municipal Airport	22	22	22	22
Nucla	Hopkins Field	14	14	14	14
Pagosa Springs	Stevens Field	58	58	59	60
Paonia	North Fork Valley Airport	23	24	24	26
Rangely	Rangely Airport	22	22	22	23
Rifle	Garfield County Regional Airport	60	61	63	67
Saguache	Saguache Municipal Airport	-	-	-	-
Salida	Harriet Alexander Airport	30	31	32	34
Springfield	Springfield Municipal Airport	6	6	6	6
Steamboat Springs	Steamboat Springs/Bob Adams Field	83	84	86	90
Sterling	Sterling Municipal Airport	31	32	32	34
Trinidad	Perry Stokes Airport	12	12	12	12
Walden	Walden/Jackson County Airport	10	10	10	11
Walsenburg	Spanish Peaks Airport	14	14	14	14
Watkins	Front Range Airport	347	352	358	373
Westcliffe	Silver West Airport	9	9	9	9
Wray	Wray Municipal Airport	23	23	24	25
Yuma	Yuma Municipal Airport	15	15	15	16
Total Based Aircraft at GA Airports		**4,030**	**4,112**	**4,203**	**4,420**
Average Annual Growth Rate (2010-2030)					*0.5%*
Total Colorado Based Aircraft		**5,245**	**5,351**	**5,470**	**5,756**
Average Annual Growth Rate (2010-2030)					*0.5%*

Sources: FAA 5010 Master Records, Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

Notably airports with the fastest growing based aircraft are primarily on the Front Range of Colorado with the exception of Eagle County Regional Airport, which has a large proportion of jet aircraft in its based aircraft fleet. Also, many of the Western Slope airports are destinations for visitors and therefore the based aircraft are not as good a predictor of general aviation operations. For the smaller general aviation airports, the Colorado fleet of based aircraft is not expected to expand significantly. Over the forecast period, based aircraft at both commercial and general aviation airports will grow at an average annual rate of 0.5 percent and the statewide fleet will grow from 5,200 in 2010 to 5,800 in 2030.

General Aviation Operations

Table 3-17 shows the forecast of general aviation operations. This forecast includes both general aviation and air taxi operations that are not attributable to scheduled commuter or regional carrier service. General aviation operations are expected to grow from 1.6 million to 1.9 million over the forecast period. General aviation operations at commercial airports are forecast to increase at an annual rate of 1.3 percent, faster than at Colorado's general aviation airports where operations are expected to grow 0.8 percent annually. Two significant wildcards over the forecast period are fuel prices and demand for flight instruction. Both factors heavily influence general aviation activity.

Table 3-17: Forecast of General Aviation Operations, 2010-2030

		General Aviation Operations			
City	Airport	2010	2015	2020	2030
Commercial Service Airports					
Alamosa	San Luis Valley Regional Airport	27,850	29,480	31,200	34,960
Aspen	Aspen-Pitkin County Airport	27,350	29,390	31,590	36,500
Colorado Springs	Colorado Springs Municipal Airport	59,120	61,260	63,480	68,160
Cortez	Cortez Montezuma County Airport	12,320	12,810	13,390	14,830
Denver	Denver International Airport	3,720	3,870	4,110	4,650
Durango	Durango La Plata County Airport	20,110	20,820	21,560	23,120
Eagle	Eagle County Regional Airport	24,560	25,600	26,690	29,000
Grand Junction	Grand Junction Regional Airport	38,110	39,510	40,970	44,050
Gunnison	Gunnison/Crested Butte Regional Airport	5,680	6,110	6,580	7,620
Hayden	Yampa Valley Regional Airport	6,170	6,480	6,810	7,510
Loveland	Ft. Collins/Loveland Municipal Airport	106,570	113,470	120,810	136,950
Montrose	Montrose Regional Airport	17,600	18,430	19,300	21,170
Pueblo	Pueblo Memorial Airport	175,180	191,040	208,350	247,800
Telluride	Telluride Regional Airport	6,240	6,260	6,280	6,330
Total GA Operations at Commercial Airports		530,580	564,530	601,120	682,650
Average Annual Growth Rate (2010-2030)					*1.3%*
General Aviation Airports					
Akron	Colorado Plains Regional Airport	16,700	17,040	17,410	18,220
Akron	Gebauer Airport	20	20	20	20
Blanca	Blanca Airport	1,750	1,770	1,790	1,830
Boulder	Boulder Municipal Airport	50,280	50,460	50,650	51,100

Table 3-17: Forecast of General Aviation Operations, 2010-2030

City	Airport	General Aviation Operations			
		2010	2015	2020	2030
General Aviation Airports, cont'd					
Broomfield/Denver	Rocky Mountain Metropolitan Airport	118,640	125,510	130,390	147,500
Brush	Brush Municipal Airport	1,120	1,130	1,130	1,130
Buena Vista	Central Colorado Regional Airport	4,140	4,210	4,290	4,470
Burlington	Kit Carson County Airport	7,710	7,800	7,890	8,070
Calhan	Calhan Airport	1,800	1,810	1,820	1,840
Canon City	Fremont County Airport	12,200	12,380	12,590	13,110
Center	Leach Airport	1,700	1,750	1,800	1,930
Colorado Springs	Meadow Lake	41,100	41,740	42,430	44,010
Craig	Craig-Moffat County Airport	2,530	2,570	2,610	2,720
Crawford	Crawford Airport	5,060	5,130	5,220	5,400
Creede	Mineral County Airport	2,000	2,020	2,050	2,090
Del Norte	Astronaut Rominger Airport	1,200	1,210	1,220	1,240
Delta	Blake Field	12,800	12,910	13,030	13,290
Delta	Westwinds Airpark	1,700	1,720	1,740	1,780
Dove Creek	Dove Creek Airport	500	520	550	610
Durango	Animas Airpark	9,110	9,280	9,450	9,850
Eads	Eads Airport	2,520	2,550	2,580	2,640
Easton	Easton/Valley View Airport	2,890	2,990	3,090	3,330
Ellicot	Colorado Springs East Airport	8,760	8,890	9,040	9,360
Englewood	Centennial Airport	275,030	306,250	318,500	361,270
Erie	Erie Municipal Airport	67,500	68,880	70,400	73,940
Fort Morgan	Fort Morgan Municipal Airport	8,180	8,280	8,370	8,560
Glenwood Springs	Glenwood Springs Municipal Airport	14,930	15,090	15,260	15,640
Granby	Granby/Grand County Airport	2,400	2,410	2,430	2,460
Greeley	Greeley/Weld County Airport	106,250	107,170	108,210	110,650
Haxtun	Haxtun Municipal Airport	250	250	260	260
Holly	Holly Airport	1,460	1,480	1,490	1,530
Holyoke	Holyoke Municipal Airport	6,480	6,490	6,500	6,530
Hudson	Platte Valley Airpark	4,800	4,840	4,890	4,980
Julesburg	Julesburg Municipal Airport	250	250	250	250
Kremmling	McElroy Field	3,830	4,140	4,480	5,240
La Junta	La Junta Municipal Airport	6,550	6,680	6,810	7,110

Table 3-17: Forecast of General Aviation Operations, 2010-2030

City	Airport	General Aviation Operations			
		2010	2015	2020	2030
General Aviation Airports, cont'd					
La Veta	Cuchara Valley Airport	380	380	380	380
Lamar	Lamar Municipal Airport	12,310	12,420	12,560	12,940
Las Animas	Las Animas City & County Airport	2,990	3,020	3,060	3,130
Leadville	Lake County Airport	8,000	8,090	8,180	8,370
Limon	Limon Municipal Airport	7,300	7,380	7,470	7,640
Longmont	Vance Brand Municipal Airport	61,210	65,160	69,430	79,300
Mack	Mack Mesa Airport	6,000	6,270	6,580	7,320
Meeker	Meeker Airport	8,050	8,110	8,170	8,290
Monte Vista	Monte Vista Municipal Airport	6,570	6,600	6,620	6,690
Nucla	Hopkins Field	1,620	1,630	1,650	1,670
Pagosa Springs	Stevens Field	16,100	17,170	18,300	20,800
Paonia	North Fork Valley Airport	4,000	4,100	4,210	4,500
Rangely	Rangely Airport	14,590	14,710	14,830	15,080
Rifle	Garfield County Regional Airport	7,090	7,260	7,450	7,950
Saguache	Saguache Municipal Airport	100	100	100	100
Salida	Harriet Alexander Airport	9,610	9,860	10,150	10,880
Springfield	Springfield Municipal Airport	2,560	2,590	2,620	2,680
Steamboat Springs	Steamboat Springs/Bob Adams Field	11,520	11,730	11,960	12,510
Sterling	Sterling Municipal Airport	5,230	5,310	5,420	5,660
Trinidad	Perry Stokes Airport	8,730	8,770	8,830	8,930
Walden	Walden/Jackson County Airport	1,000	1,020	1,050	1,110
Walsenburg	Spanish Peaks Airport	3,500	3,800	3,830	3,890
Watkins	Front Range Airport	58,220	59,040	60,010	62,520
Westcliffe	Silver West Airport	800	810	820	830
Wray	Wray Municipal Airport	14,600	14,850	15,110	15,680
Yuma	Yuma Municipal Airport	4,320	4,390	4,460	4,660
Total GA Operations at GA Airports		1,080,540	1,132,190	1,163,890	1,257,470
Average Annual Growth Rate (2010-2030)					*0.8%*
Total Colorado GA Operations		1,611,120	1,696,720	1,765,010	1,940,120
Average Annual Growth Rate (2010-2030)					*0.9%*

Sources: FAA 5010 Master Records, FAA Air Traffic Activity Data System (ATADS), Denver International Airport, and forecasts prepared by KRAMER aerotek inc.

3.6.3 Forecasts of Total Operations

Total operations are the sum of general aviation operations, commercial operations, military, all-cargo, and other air taxi operations. As shown in **Table 3-18**, total operations are expected to grow by 1.1 percent annually from 2.4 million in 2010 to 3.1 million in 2030. The share of Colorado's total operations performed at commercial service airports will increase over the forecast period from 54 percent to 58 percent over the forecast period. This is mainly attributable to Denver International's growing role within the system and a relatively muted forecast for general aviation operations throughout the State.

Table 3-18: Forecast of Total Operations, 2010-2030

City	Airport	Total Operations			
		2010	2015	2020	2030
Commercial Service Airports					
Alamosa	San Luis Valley Regional Airport	30,770	32,400	34,120	37,880
Aspen	Aspen-Pitkin County Airport	37,600	39,640	41,900	48,110
Colorado Springs	Colorado Springs Municipal Airport	139,710	140,620	147,770	161,800
Cortez	Cortez Montezuma County Airport	14,140	14,630	15,210	16,650
Denver	Denver International Airport	635,450	682,530	760,450	918,160
Durango	Durango La Plata County Airport	29,020	30,320	31,860	34,690
Eagle	Eagle County Regional Airport	34,820	36,060	37,150	39,510
Grand Junction	Grand Junction Regional Airport	53,710	54,970	57,810	63,460
Gunnison	Gunnison/Crested Butte Regional Airport	7,480	7,910	8,380	9,570
Hayden	Yampa Valley Regional Airport	9,680	9,990	10,320	11,220
Loveland	Ft. Collins/Loveland Municipal Airport	107,320	114,290	121,740	137,980
Montrose	Montrose Regional Airport	22,510	23,340	24,250	26,570
Pueblo	Pueblo Memorial Airport	181,660	198,690	216,210	255,660
Telluride	Telluride Regional Airport	7,770	7,790	7,810	8,090
Total Operations at Commercial Airports		1,311,640	1,393,180	1,514,980	1,769,350
Average Annual Growth Rate (2010-2030)					*1.5%*
General Aviation Airports					
Akron	Colorado Plains Regional Airport	17,100	17,440	17,810	18,620
Akron	Gebauer Airport	20	20	20	20
Blanca	Blanca Airport	1,750	1,770	1,790	1,830
Boulder	Boulder Municipal Airport	50,280	50,460	50,650	51,100
Broomfield/Denver	Rocky Mountain Metropolitan Airport	120,360	126,710	131,690	149,000
Brush	Brush Municipal Airport	1,120	1,130	1,130	1,130

Table 3-18: Forecast of Total Operations, 2010-2030

City	Airport	Total Operations			
		2010	2015	2020	2030
General Aviation Airports, cont'd					
Buena Vista	Central Colorado Regional Airport	4,200	4,270	4,350	4,530
Burlington	Kit Carson County Airport	7,710	7,800	7,890	8,070
Calhan	Calhan Airport	1,800	1,810	1,820	1,840
Canon City	Fremont County Airport	13,780	13,960	14,170	14,690
Center	Leach Airport	1,700	1,750	1,800	1,930
Colorado Springs	Meadow Lake	59,100	59,740	60,430	62,010
Craig	Craig-Moffat County Airport	2,530	2,570	2,610	2,720
Crawford	Crawford Airport	5,060	5,130	5,220	5,400
Creede	Mineral County Airport	2,000	2,020	2,050	2,090
Del Norte	Astronaut Rominger Airport	1,200	1,210	1,220	1,240
Delta	Blake Field	12,800	12,910	13,030	13,290
Delta	Westwinds Airpark	1,700	1,720	1,740	1,780
Dove Creek	Dove Creek Airport	500	520	550	610
Durango	Animas Airpark	9,110	9,280	9,450	9,850
Eads	Eads Airport	2,520	2,550	2,580	2,640
Easton	Easton/Valley View Airport	2,890	2,990	3,090	3,330
Ellicot	Colorado Springs East Airport	8,760	8,890	9,040	9,360
Englewood	Centennial Airport	283,190	314,450	326,800	369,770
Erie	Erie Municipal Airport	67,500	68,880	70,400	73,940
Fort Morgan	Fort Morgan Municipal Airport	8,300	8,390	8,490	8,680
Glenwood Springs	Glenwood Springs Municipal Airport	15,030	15,190	15,360	15,740
Granby	Granby/Grand County Airport	2,400	2,410	2,430	2,460
Greeley	Greeley/Weld County Airport	107,250	108,170	109,210	111,650
Haxtun	Haxtun Municipal Airport	250	250	260	260
Holly	Holly Airport	1,460	1,480	1,490	1,530
Holyoke	Holyoke Municipal Airport	6,530	6,540	6,550	6,580
Hudson	Platte Valley Airpark	4,800	4,840	4,890	4,980
Julesburg	Julesburg Municipal Airport	250	250	250	250
Kremmling	McElroy Field	3,830	4,140	4,480	5,240
La Junta	La Junta Municipal Airport	6,900	7,030	7,160	7,460
La Veta	Cuchara Valley Airport	630	630	630	630
Lamar	Lamar Municipal Airport	13,510	13,620	13,760	14,140

Table 3-18: Forecast of Total Operations, 2010-2030

City	Airport	Total Operations 2010	2015	2020	2030
General Aviation Airports, cont'd					
Las Animas	Las Animas City & County Airport	3,000	3,030	3,070	3,140
Leadville	Lake County Airport	10,000	10,090	10,180	10,370
Limon	Limon Municipal Airport	7,300	7,380	7,470	7,640
Longmont	Vance Brand Municipal Airport	61,220	65,170	69,440	79,310
Mack	Mack Mesa Airport	6,010	6,280	6,590	7,330
Meeker	Meeker Airport	8,070	8,130	8,190	8,310
Monte Vista	Monte Vista Municipal Airport	6,600	6,630	6,650	6,720
Nucla	Hopkins Field	1,670	1,680	1,700	1,720
Pagosa Springs	Stevens Field	16,850	17,920	19,050	21,550
Paonia	North Fork Valley Airport	4,000	4,100	4,210	4,500
Rangely	Rangely Airport	14,600	14,720	14,840	15,100
Rifle	Garfield County Regional Airport	7,110	7,270	7,470	7,960
Saguache	Saguache Municipal Airport	100	100	100	100
Salida	Harriet Alexander Airport	9,650	9,900	10,190	10,930
Springfield	Springfield Municipal Airport	2,560	2,590	2,620	2,680
Steamboat Springs	Steamboat Springs/Bob Adams Field	11,520	11,730	11,960	12,510
Sterling	Sterling Municipal Airport	5,280	5,360	5,470	5,710
Trinidad	Perry Stokes Airport	10,810	10,850	10,910	11,010
Walden	Walden/Jackson County Airport	1,000	1,020	1,050	1,110
Walsenburg	Spanish Peaks Airport	3,500	3,800	3,830	3,890
Watkins	Front Range Airport	59,430	59,720	60,700	63,200
Westcliffe	Silver West Airport	800	810	820	830
Wray	Wray Municipal Airport	14,600	14,850	15,110	15,680
Yuma	Yuma Municipal Airport	4,320	4,390	4,460	4,660
Total Operations at GA Airports		1,119,820	1,170,440	1,202,370	1,296,350
Average Annual Growth Rate (2010-2030)					*0.7%*
Total Colorado Operations		2,431,460	2,563,620	2,717,350	3,065,700
Average Annual Growth Rate (2010-2030)					*1.2%*

Sources: FAA 5010 Master Records, FAA Air Traffic Activity Data System (ATADS), Airport Master Plans, and forecasts prepared by KRAMER aerotek inc.

3.7 Conclusions

There is hardly a time during the post-deregulated period of aviation history when the industry has operated profitably and without turmoil. Since the last system plan in 2005, volatile fuel prices and a severe recession and global financial crisis wreaked havoc in most sectors of the economy. Miraculously, the airline industry responded quickly with effective cost controls and capacity discipline. Every airport in the country has been impacted by recent economic events. Nevertheless, Colorado's commercial airports have fared reasonably well. General aviation activity in the State experienced much greater declines. At this point, there are glimmers of recovery in general aviation, but this sector has yet to demonstrate a sustained rebound.

On the horizon, there are near-term destabilizers in the aviation sector that could impact all aspects of Colorado aviation. Among these uncertainties are:

- American Airline's emergence from bankruptcy
- Future ownership of and operating model for Frontier Airlines
- Ability of Southwest Airlines to keep operating costs below that of network carriers and its expansion plan for Denver International
- Ability of network carriers to continue to practice cost and capacity discipline
- Transformation of the regional carrier business model so that independent providers of regional services can operate profitably
- Emergence of alternate aircraft and capacity to provide Essential Air Service
- Fuel prices
- Continued availability of 100LL avgas and/or the conversion of existing and new aircraft to alternative fuels
- Increased demand for business and personal use of general aviation aircraft

These factors will shape demand for air service, the cost of providing air service, and the levels of aviation activity in Colorado in interesting and undoubtedly surprising ways.

Table 3-19 provides a summary of projections for each of the various demand components discussed in this chapter.

Table 3-19: Colorado Airports Activity Forecast Summary, 2010-2030

Activity Measure	Actual 2010	Forecast 2015	Forecast 2020	Forecast 2030	CAGR (2010-2030)
Enplanements					
Denver International	26,024,900	28,877,700	33,153,400	42,270,200	2.5%
All Other System Airports	1,998,100	2,191,400	2,504,900	3,176,700	2.3%
Total	**28,023,000**	**31,069,100**	**35,658,300**	**45,446,900**	**2.4%**
Commercial Operations					
Denver International	608,060	654,730	730,000	880,600	1.9%
All Other System Airports	83,680	88,550	95,860	110,970	1.4%
Total	**691,740**	**743,280**	**825,860**	**991,570**	**1.8%**
Total Operations					
Denver International	635,440	682,530	760,450	918,160	1.9%
All Other System Airports	1,796,020	1,881,090	1,956,900	2,147,540	0.9%
Total	**2,431,460**	**2,563,620**	**2,717,350**	**3,065,700**	**1.2%**
GA Operations					
All System Airports	**1,611,120**	**1,696,720**	**1,765,010**	**1,940,120**	**0.9%**
Based Aircraft					
All System Airports	**5,245**	**5,351**	**5,470**	**5,756**	**0.5%**

4 Current System Performance

4.1 Airport Roles and System Performance Measures

The 2011 update to Colorado's Aviation System is being undertaken through a series of separate but interrelated technical work elements. This element of the plan provides information that highlights how the system is currently performing. Current system performance is determined using previously noted performance measures and benchmarks that are specific to each of the measures. Information from this study's inventory effort (Chapter Two) and forecast element (Chapter Three) provide additional input for measuring current system performance.

The 2000 Colorado Statewide Airport Inventory and Implementation Plan assigned each of the airports in Colorado to roles of relative system importance. All airports in the Colorado airport system are assigned to one of three roles: Major, Intermediate, or Minor. During the 2005 update to the State's aviation system plan, some minor adjustments were made to airport roles established in the 2000 plan. Airport roles provide a backdrop for this element of the system plan update that determines current system performance.

Exhibits 4-1 through **4-4** depict the location for each system airport, as well as the airport's 2005 assigned system role. These exhibits also reflect system airports that are privately versus publicly-owned and those airports that are not included in the National Plan of Integrated Airport Systems (NPIAS). These later distinctions are as important to the current system evaluation process some of the benchmarks used in the analysis are not applicable to airports that are privately-owned or that are not included in the NPIAS.

The process to evaluate the airport system's current performance results in what can be thought of as a "report card" for the system. The system performance measures are the "categories" in which the system is graded or evaluated, and individual benchmarks are the actual "tests" used to determine how well the system is currently performing. The following performance measures are considered in this element:

- Activity – this performance measure determines the ability of the system to provide ample capacity to meet both current and future demand levels. The process to implement capacity enhancing projects typically takes many years; as a result, it is important to proactively identify areas in the system or individual airports within the system that may experience shortfalls in operational capacity.
- Expansion Potential – this performance measure helps to determine the ability of individual airports and the ability of the system as a whole to respond to changing needs. The aviation industry is always evolving. Aircraft capabilities change and so does the technology that supports the aviation industry. Conditions within the market areas served by each airport also change. Considering this performance measure and its associated benchmarks helps provide the Division of Aeronautics with the flexibility to respond to Colorado's aviation needs, both those that are seen and those that are unforeseen.

- Economic Support – this performance measure provides insight into the ability of the airport system to help support statewide and local economies. Airports are often an essential underpinning to the infrastructure that is needed to help attract and retain certain types of jobs.
- Coverage/Emergency Access – this performance measure helps determine how accessible and convenient various facets of the airport system are to aviation users. People and businesses use aviation to decrease their travel time and to improve their efficiency. A well distributed and diverse system of airports is important. Airports in Colorado also play an important role in supporting emergency services, in particular, patient transport. The ability of airports in Colorado to support various types of emergency fixed-wing aircraft and the distribution of these airports are both considered to measure overall system performance.
- Investment – this performance helps the Division of Aeronautics to maximize its historic investment in system airports; this is accomplished through the assignment of airport roles. This measure also helps to direct future investment through a series of facility, equipment, and service objectives that are in line with each airport's designated system role. The investment performance measure helps develop a balanced and viable airport system.
- Security – this performance measure was added in the 2005 system plan update; it was added in response to the Transportation Security Administration's (TSA) security guidelines that were issued for general aviation airports following 2001 terrorist attacks. This performance measure determines each general aviation airport's ability to meet TSA security guidelines that are appropriate to the airport's risk assessment factor.

For Colorado's aviation system plan, the system performance measures are commensurate with descriptors for an efficient and well-functioning airport system. In other words, the ideal airport system is characterized by the following:

- The system has sufficient capacity to meet current and future needs.
- The system has the ability to respond to unforeseen changes in the aviation industry or in the local market area.
- The system provides support to the economy.
- The system is developed to leverage historic investment and to make the most out of future investment.
- The system is operated in such a way as to address security and safety considerations, relative to perceived risks.

Using the performance measures discussed above, in combination with benchmarks that are specific to each of the performance measures, current system performance is determined in this chapter. Current system performance will subsequently be compared to system performance in 2000 and 2005 for each performance measure/benchmark. This comparison will be presented in Chapter Five. By comparing current and past metrics contained in the study's benchmarks, it is possible to see how Colorado's airport system has changed relative to each performance measure.

Exhibit 4-1: Map of Colorado Airports by Role Category

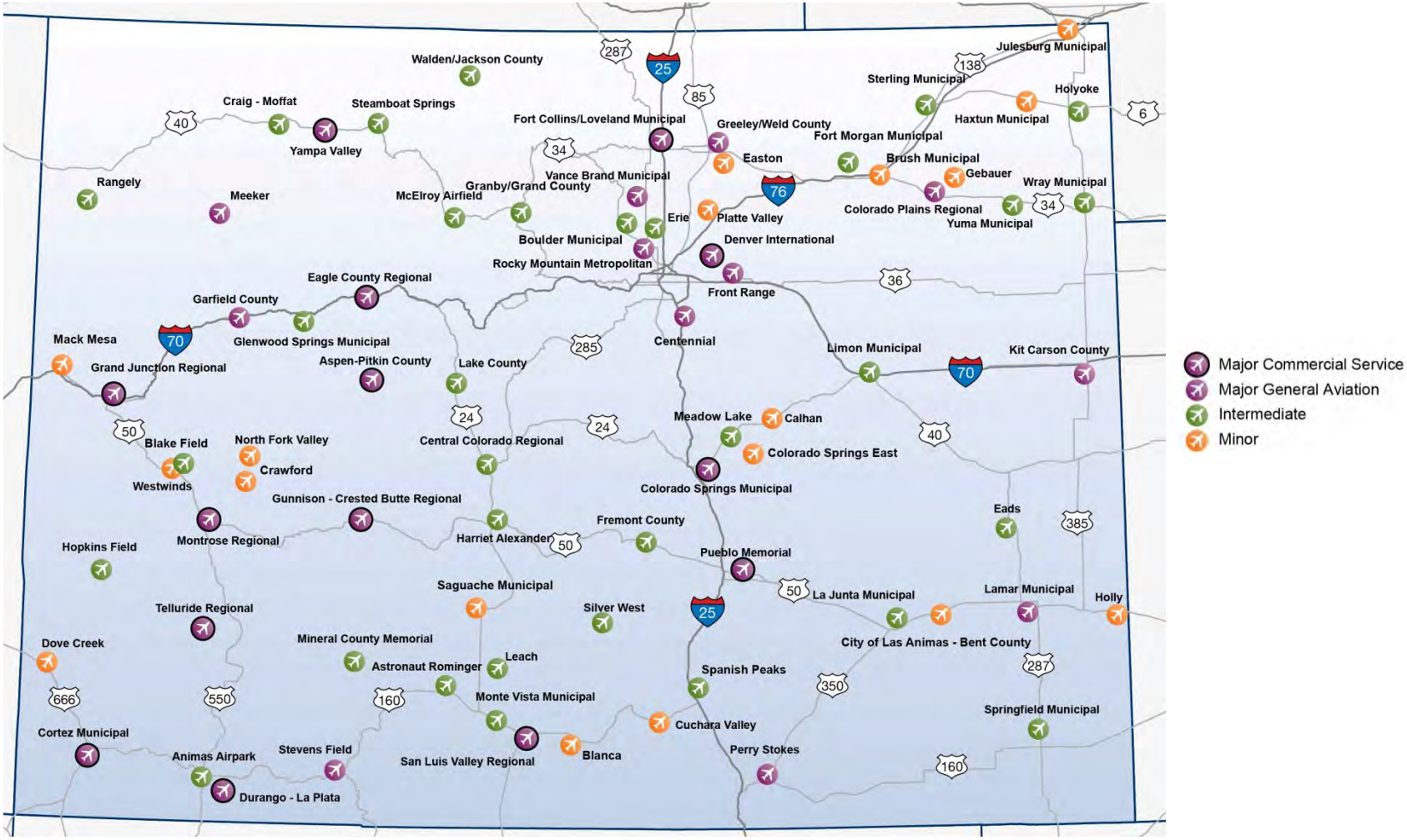


Exhibit 4-2: Map of Colorado Major Airports

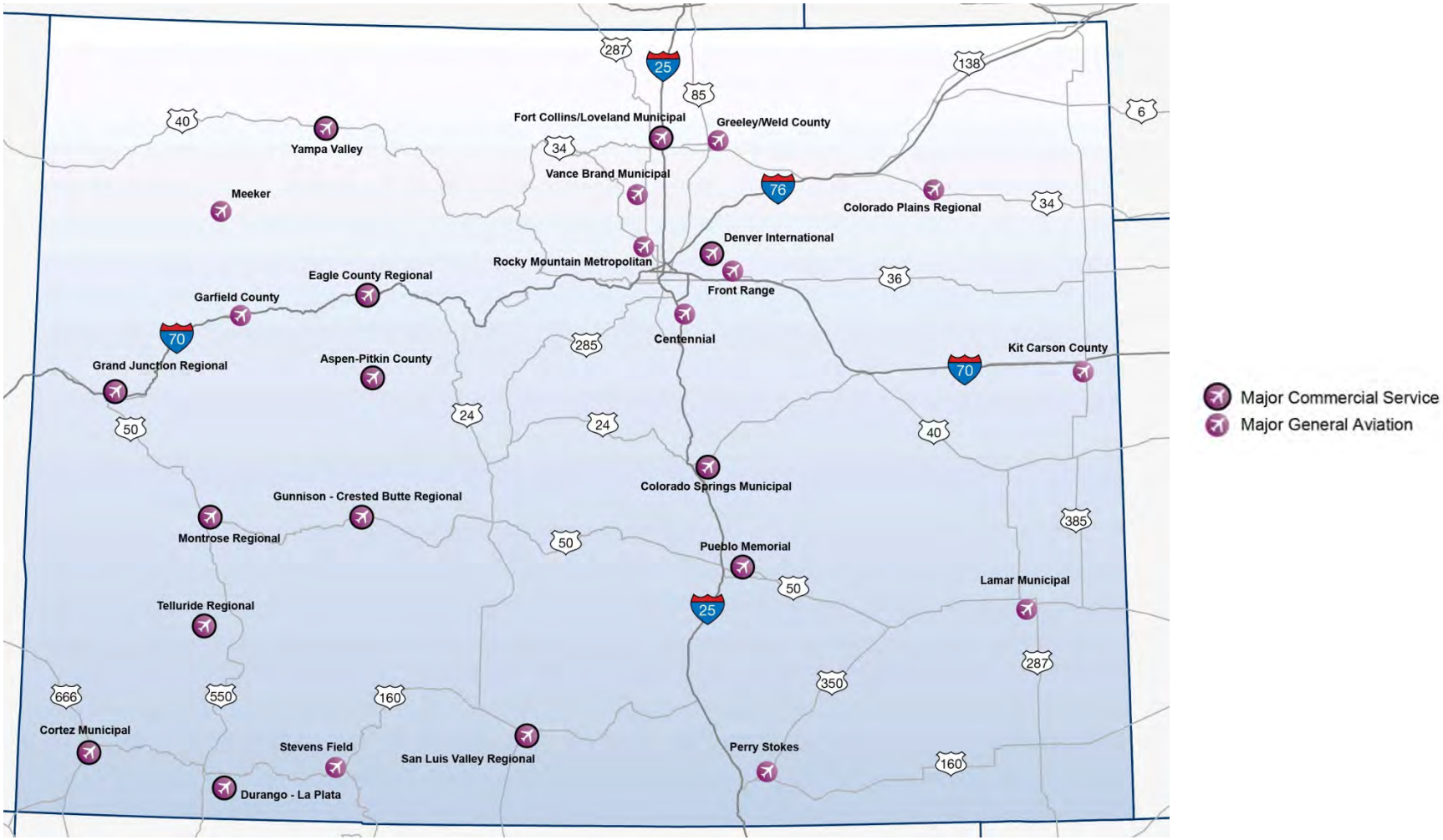


Exhibit 4-3: Map of Colorado Intermediate Airports

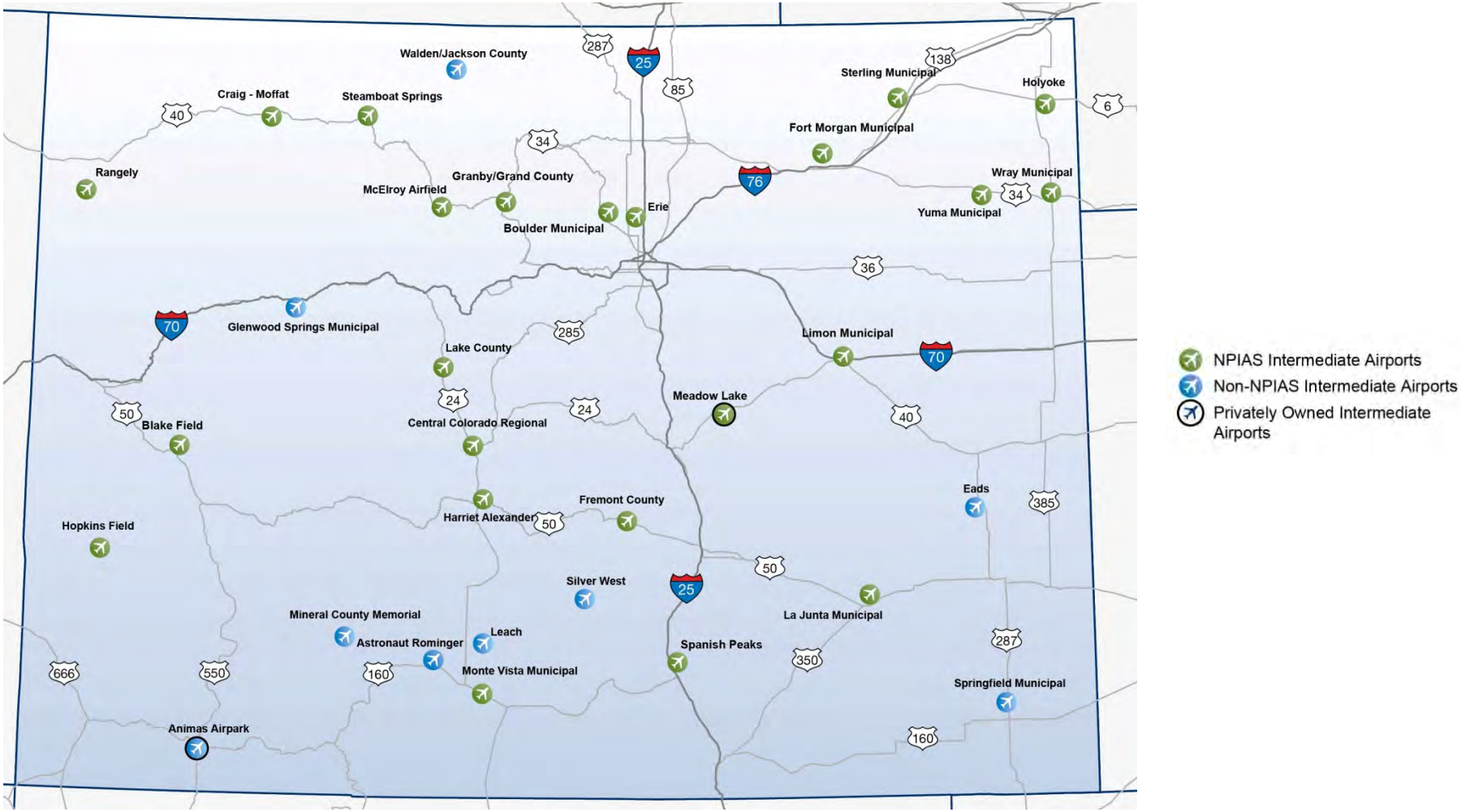
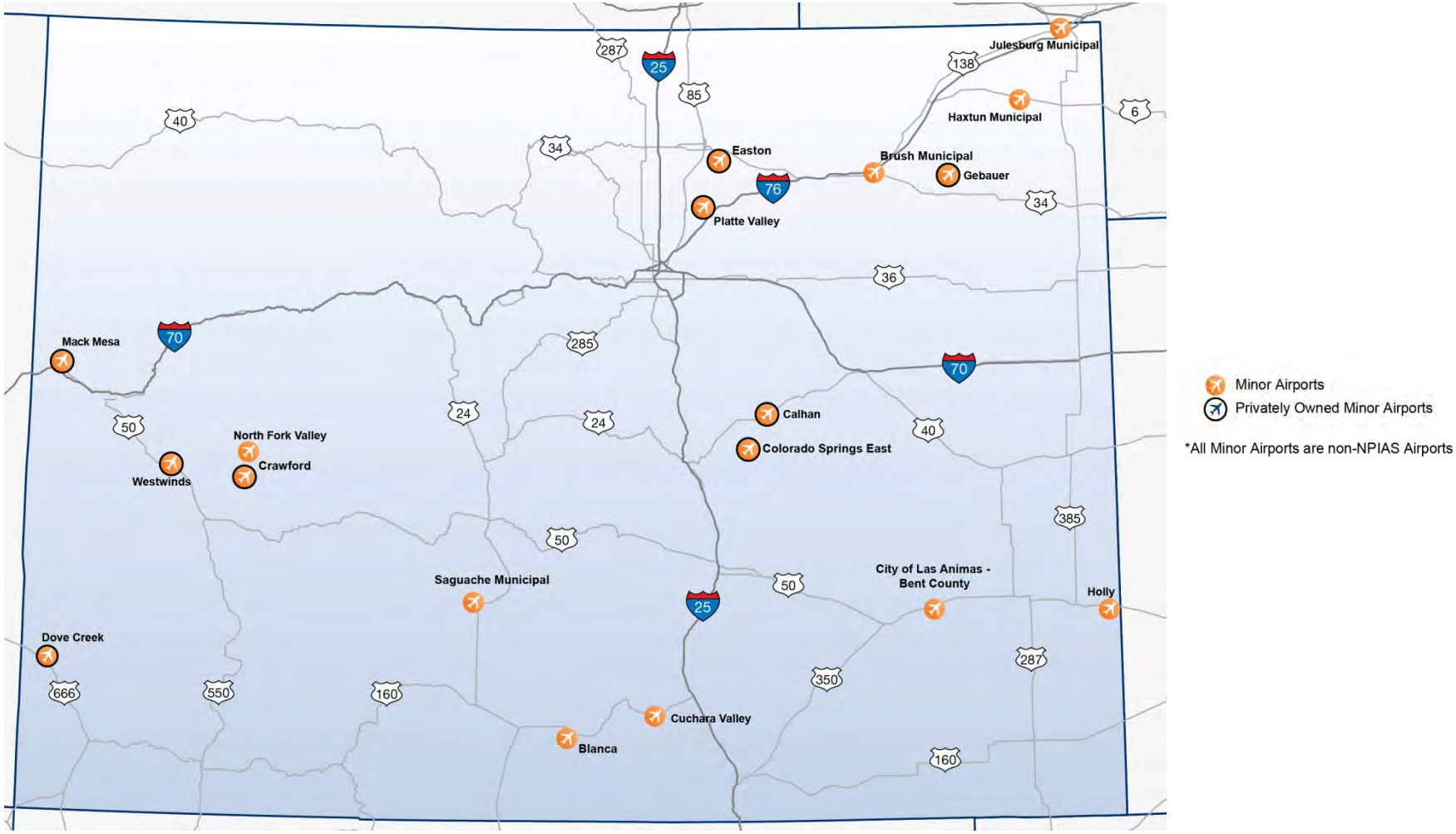


Exhibit 4-4: Map of Colorado Minor Airports



4.2 Performance Measure: Activity

Having an airport system that provides ample operational capacity to meet current and future aircraft demand levels is important. In most instances, current activity levels, as measured by annual aircraft landings and take-offs at each airport, were obtained through this study's inventory effort and through examination of FAA records. Estimates of future operational demand levels for each system airport for the next twenty years were developed as part of this study's forecasting element.

As noted in Chapter Three of this study, obtaining reliable estimates of annual operational activity at non-towered airports presents a challenge. While several of the commercial airports in Colorado do have an aircraft control tower, only a few of the general aviation airports have towers. As a result, current annual operational levels for non-towered airports presented in this discussion represent "best estimates" of total annual aircraft take-offs and landings. For Colorado's commercial airports, total operational demand discussed in this section reflects a combination of operations conducted by scheduled airlines and other commercial carriers, air taxi operators, air cargo flights, military aircraft, and general aviation planes. For the general aviation airports, their annual activity levels are comprised of operations flown by both based and visiting general aviation aircraft, as well as, in some cases, military planes.

In this study, the ability of Colorado's airports to effectively serve current and future demand was assessed by comparing total annual aircraft operations to each airport's annual service volume (ASV). The ASV is an estimate of the airport's ability to process operations on an annual basis. Each airport's ASV was estimated using factors such as the airport's runway and taxiway configuration, mix of large and small aircraft, the airport's Airport Reference Code (ARC), instrument approach capabilities, and other operational factors outlined by the FAA in their methodology for estimating an airport's ASV. The relationship between an airport's ASV and its annual operational demand is referred to as the demand/capacity ratio.

For planning purposes, the FAA typically indicates that when an airport's demand/capacity ratio reaches 60 percent, planning should be undertaken to identify strategies to increase the airport's operational capacity. Further, the FAA indicates that when an airport's demand/capacity ratio reaches 80 percent, strategies identified to resolve demand/capacity shortfalls should be implemented. It is possible for an airport to operate above the 60 percent and the 80 percent demand/capacity triggers. In fact, demand at an airport can exceed 100 percent of its theoretical operational capacity. However, when demand/capacity triggers are exceeded, delay experienced by airport users usually begins to escalate on an exponential basis.

For this study, analysis was undertaken to identify all system airports that are presently operating above or below the 60 percent and the 80 percent demand/capacity triggers. A similar analysis was undertaken to identify airports operating below or above the 60 and 80 percent capacity triggers in 2030. The results of this demand/capacity analysis are presented in **Table 4-1** and are summarized in the following sections. The benchmarks considered as part of the activity performance measure apply to all system airports.

Table 4-1: Colorado Airports Operational Demand/Capacity

City	Airport	Total Annual Operations		ASV	Demand/Capacity Ratio	
		2010	2030		2010	2030
Major Airports						
Akron	Colorado Plains Regional Airport	17,100	18,620	184,000	9%	10%
Alamosa	San Luis Valley Airport	30,770	48,110	207,000	15%	23%
Aspen	Aspen-Pitkin County Airport	37,600	48,110	194,750	19%	25%
Broomfield/Denver	Rocky Mountain Metropolitan Airport	120,360	149,000	275,000	44%	54%
Burlington	Kit Carson County Airport	7,710	8,070	184,000	4%	4%
Colorado Springs	Colorado Springs Municipal Airport	139,710	161,800	305,000	46%	53%
Cortez	Cortez-Montezuma Municipal Airport	14,140	16,650	165,750	9%	10%
Denver	Denver International Airport	635,450	918,160	789,000	81%	116%
Durango	Durango-La Plata County Airport	29,020	34,690	175,500	17%	20%
Eagle	Eagle County Regional Airport	34,820	39,510	185,250	19%	21%
Englewood/Denver	Centennial Airport	283,190	369,770	525,000	54%	70%
Grand Junction	Grand Junction Regional Airport	53,710	63,460	200,000	27%	32%
Greeley	Greeley-Weld County Airport	107,250	111,650	243,000	44%	46%
Gunnison	Gunnison-Crested Butte Regional Airport	7,480	9,570	195,500	4%	5%
Hayden	Yampa Valley Regional Airport	9,680	11,220	184,500	5%	6%
Lamar	Lamar Municipal Airport	13,510	14,140	170,000	8%	8%
Longmont	Vance Brand Municipal Airport	61,220	79,310	195,500	31%	41%
Loveland	Fort Collins-Loveland Municipal Airport	107,320	137,980	207,000	52%	67%
Meeker	Meeker Airport	8,070	8,310	172,500	5%	5%
Montrose	Montrose Regional Airport	22,510	26,570	198,000	11%	13%
Pagosa Springs	Stevens Field	16,850	21,550	149,500	11%	14%
Pueblo	Pueblo Memorial Airport	181,660	255,660	355,000	51%	72%
Rifle	Garfield County Airport	7,110	7,960	174,250	4%	5%
Telluride	Telluride Regional Airport	7,770	8,090	164,000	5%	5%
Trinidad	Perry Stokes Airport	10,810	11,010	155,250	7%	7%
Watkins	Front Range Airport	59,430	63,200	270,000	22%	23%
Intermediate Airports						
Boulder	Boulder Municipal Airport	50,280	51,100	266,250	19%	19%
Buena Vista	Central Colorado Regional Airport	4,200	4,530	195,500	2%	2%
Canon City	Fremont County Airport	13,780	14,690	161,000	9%	9%
Center	Leach Airport	1,700	1,930	149,500	1%	1%
Colorado Springs	Meadow Lake Airport **	59,100	62,010	172,500	34%	36%

Table 4-1: Colorado Airports Operational Demand/Capacity

City	Airport	Total Annual Operations		ASV	Demand/Capacity Ratio	
		2010	2030		2010	2030
Intermediate Airports, Cont'd.						
Craig	Craig-Moffat County Airport	2,530	2,720	172,500	1%	2%
Creede	Mineral County Memorial Airport	2,000	2,090	149,500	1%	1%
Del Norte	Astronaut Kent Rominger Airport	1,200	1,240	149,500	1%	1%
Delta	Blake Field	12,800	13,290	161,000	8%	8%
Durango	Animas Airpark**	9,110	9,850	149,500	6%	7%
Eads	Eads Airport	2,520	2,640	149,500	2%	2%
Erie	Erie Municipal Airport	67,500	73,940	195,500	35%	38%
Fort Morgan	Fort Morgan Municipal Airport	8,300	8,680	175,500	5%	5%
Glenwood Springs	Glenwood Springs Municipal Airport	15,030	15,740	184,000	8%	9%
Granby	Granby-Grand County Airport	2,400	2,460	149,500	2%	2%
Holyoke	Holyoke Municipal Airport	6,530	6,580	172,500	4%	4%
Kremmling	McElroy Field	3,830	5,240	172,500	2%	3%
La Junta	La Junta Municipal Airport	6,900	7,460	195,500	4%	4%
Leadville	Lake County Airport	10,000	10,370	161,000	6%	6%
Limon	Limon Municipal Airport	7,300	7,640	172,500	4%	4%
Monte Vista	Monte Vista Municipal Airport	6,600	6,720	189,000	3%	4%
Nucla	Hopkins Field	1,670	1,720	138,000	1%	1%
Rangely	Rangely Airport	14,600	15,100	184,000	8%	8%
Salida	Harriet Alexander Airport	9,650	10,930	172,500	6%	6%
Springfield	Springfield Municipal Airport	2,560	2,680	170,500	2%	2%
Steamboat Springs	Steamboat Springs-Bob Adams Field	11,520	12,510	166,750	7%	8%
Sterling	Sterling Municipal Airport	5,280	5,710	195,500	3%	3%
Walden	Walden-Jackson County Airport	1,000	1,110	143,750	1%	1%
Walsenburg	Spanish Peaks Airfield	3,500	3,890	149,500	2%	3%
Westcliffe	Silver West Airport	800	830	149,500	1%	1%
Wray	Wray Municipal Airport	14,600	15,680	172,500	8%	9%
Yuma	Yuma Municipal Airport	4,320	4,660	161,000	3%	3%
Minor Airports						
Akron	Gebauer Airport **	20	20	138,000	0%	0%
Blanca	Blanca Airport	1,750	1,830	126,500	1%	1%
Brush	Brush Municipal Airport	1,120	1,130	161,000	1%	1%
Calhan	Calhan Airport **	1,800	1,840	126,500	1%	1%

Table 4-1: Colorado Airports Operational Demand/Capacity

City	Airport	Total Annual Operations		ASV	Demand/Capacity Ratio	
		2010	2030		2010	2030
Minor Airports, Cont'd.						
Crawford	Crawford Airport **	5,060	5,400	149,500	3%	4%
Delta	Westwinds Airpark **	1,700	1,780	138,000	1%	1%
Dove Creek	Dove Creek Airport **	500	610	126,500	0%	0%
Ellicott	Colorado Springs East Airport **	8,760	9,360	184,000	5%	5%
Greeley	Easton-Valley View Airport **	2,890	3,330	126,500	2%	3%
Haxtun	Haxtun Municipal Airport	250	260	138,000	0%	0%
Holly	Holly Airport	1,460	1,530	126,500	1%	1%
Hudson	Platte Valley Airpark **	4,800	4,980	184,000	3%	3%
Julesburg	Julesburg Municipal Airport	250	250	149,500	0%	0%
La Veta	Cuchara Valley Airport	630	630	149,500	0%	0%
Las Animas	Las Animas City & County Airport	3,000	3,140	161,000	2%	2%
Mack	Mack Mesa Airport **	6,010	7,330	149,500	4%	5%
Paonia	North Fork Valley Airport	4,000	4,500	161,000	2%	3%
Saguache	Saguache Municipal Airport	100	100	126,500	0%	0%

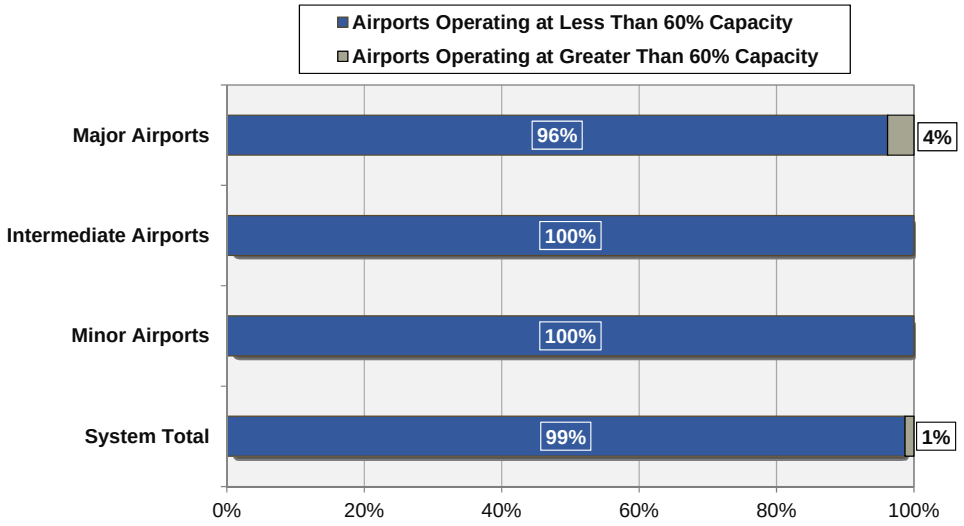
** Indicates private ownership

4.2.1 Benchmark: Airports Currently Operating Above or Below FAA Demand/Capacity Triggers

Figure 4-1 (based on information presented previously in Table 4-1) summarizes the current demand/capacity situation for system airports. It is important to note that this benchmark applies to all system airports, even those not included in the NPIAS and those that are privately-owned. Only Denver International Airport currently exceeds FAA's 60 percent demand/capacity trigger, which signals the need to consider capacity enhancements. As shown in Figure 4-1, 4 percent of airports in the Major Airport category now reach or exceed FAA's 60 percent demand/capacity threshold. Among all of the 76 airports that are included in Colorado's state airport system, only 1 airport (or 1.3 percent) currently operates at or above a 60 percent demand/capacity ratio.

As Table 4-1 indicates, Denver International is currently operating at an annual demand/capacity ratio of 81 percent. For large commercial airports, such as Denver International, it is often more appropriate to consider average delay rather than annual capacity when identifying capacity shortfalls. Information supplied by Denver International indicates that current delay averages approximately four minutes per aircraft operation. This information indicates that even with an annual demand/capacity ratio of 81 percent, this airport is still operating without significant delay. Denver International is presently engaged in an exercise to determine the timing of an additional runway to enhance its operational capacity.

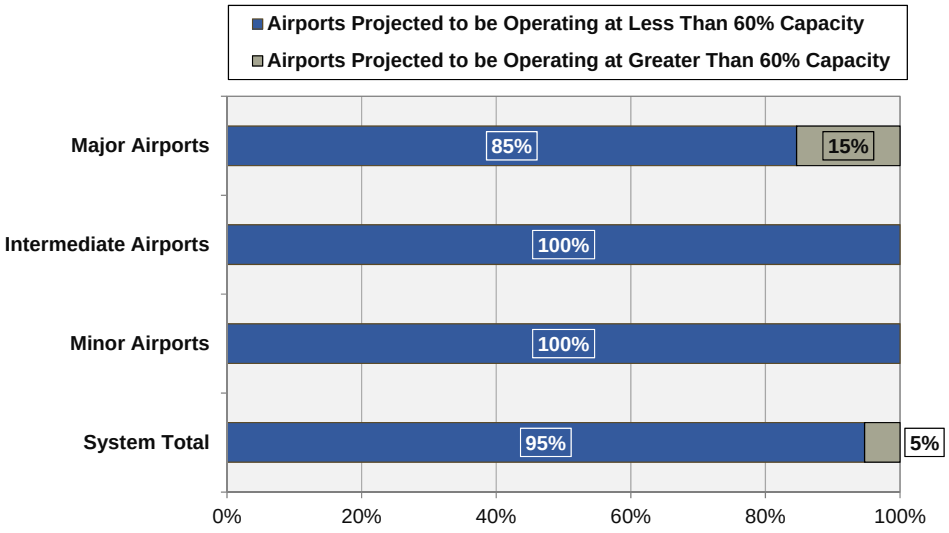
Figure 4-1: Airports Currently Operating Below 60% Demand/Capacity Ratio



4.2.2 Benchmark: Airports Operating Above or Below FAA Demand/Capacity Triggers in 2030

Chapter 3 of this system plan update provides projections of total annual operational demand for all system airports over the next twenty years. As summarized in **Figure 4-2**, by the end of the 20-year planning period, a few additional system airports are expected to exceed FAA's 60 percent demand/capacity trigger. By 2030, 15 percent of all airports in the Major Airport category are expected to have a demand/capacity ratio of 60 percent or greater. All other system airports are expected to have a demand/capacity ratio of less than 60 percent, even by 2030. This translates into 5 percent of all system airports exceeding the 60 percent demand/capacity ratio in 2030.

Figure 4-2: Airports Projected to be Operating Above or Below 60% Demand/Capacity Ratio in 2030



By 2030, 5 percent or 4 airports of the 76 airports in the Colorado system are expected to be operating at a demand/capacity ratio greater than 60 percent. Results of the demand/capacity analysis (Table 4-1) show that based on total operational demand forecasts prepared in conjunction with this plan, one airport, Denver International, is expected to exceed the 80 percent demand/capacity ratio based on its current annual operating capacity. As noted previously, Denver International is presently in the planning phase for determining the timing to increase its operational capacity.

These findings will be compared to those from the 2000 and the 2005 studies in Chapter Five of this report, and options for addressing operational capacity shortfalls identified here will be discussed in Chapter Seven. All airports expected to exceed the 60 percent demand/capacity threshold by 2030 are in the Interstate 25 corridor.

4.3 Performance Measure: Expansion Potential

Sometimes, operations and growth at system airports can be constrained by man-made, topographical, environmental, and/or other features. One of the most important characteristics of a well-functioning and healthy aviation system is having airports that are not constrained and that have the ability to expand when expansion is warranted. Ideally, airports should be able to accommodate unanticipated and changing demand levels, along with unforeseen changes in aircraft technology or airfield geometry as dictated by new FAA design standards. To help meet this objective, airports should be proactive in taking steps to prevent or to resolve encroachment of any type that may impede the airport and its operation or development.

Two of the most effective tools for helping to preserve and to protect an airport's expansion potential are airport master plans and FAR Part 77 surfaces. Airport master plans, when developed properly and updated on regular intervals, help establish an airport's 20-year need for airside and landside expansion. Airport master plans are excellent tools for helping to promote off-airport land use compatibility in each airport's environs; off-airport land use compatibility is often important to supporting growing operations and related expansion flexibility.

FAR Part 77 surfaces extend outward and upward at various slopes around each runway. Part 77 surfaces are unique to each airport. The size of each airport's Part 77 surface varies based on factors such as the number of runways the airport has, the length of the runways, and the type of approach that serves each runway end. Within an airport's Part 77 surfaces, any object, man-made or natural, that penetrates any of the surfaces may pose a safety hazard to air navigation. Part 77 penetrations, if located off runway ends, can limit the effectiveness of instrumentation which provides guidance to the runway end. The size of an airport's Part 77 surfaces can change over time. Airports that undertake steps to regularly update and identify their Part 77 surfaces and then take steps to make sure that these surfaces are recognized and enforced within appropriate local land use plans and zoning ordinances have a greater propensity to exhibit flexibility related to their expansion potential.

For the Expansion Potential performance measure, two benchmarks were considered to evaluate or grade the system. These benchmarks are as follows:

- Airports with current airport master plans
- Airports that exhibit conformance with Part 77 guidelines

Current system performance, related to these two benchmarks, is discussed in the following sections.

4.3.1 Benchmark: Airports with Current Master Plans

Master plans are important tools to help an airport respond to its near and long-term development needs. Master plans can be used as a vehicle for helping to garner public support for needed airport expansion projects and for identifying environmental conditions that have the potential to limit expansion potential. Master plans for airports included in the NPIAS are also important for helping to identify capital improvement projects that are eligible for funding from the FAA.

While FAA helps to fund master plans for airports included in the NPIAS, they do not provide funding for master plans for airports not included in the NPIAS. Also, FAA does not provide any specific direction as to how frequently master plans should be updated. Most often, the need to update an airport master plan is tied to increasing aviation demand levels, changes in the fleet of aircraft using the airport, significant changes in the community that the airport serves, and/or changes in FAA design standards for airfield or other geometry.

When the 2000 Colorado Inventory and Implementation Study was prepared, an objective was set to have airports in the Major category update their master plans every five years and for airports in the Intermediate and Minor categories to update their master plans every seven years. This benchmark applies to all publicly-owned system airports; however, airports included in the NPIAS are more likely to have an airport master plan.

Table 4-2 provides information on system airports, including the date the airport's master plan was most recently approved and the date the airport anticipates undertaking its next master plan update. All information reported in Table 4-2 was obtained directly from the airports in the Colorado system. **Figure 4-3** summarizes the information reported in Table 4-2.

Table 4-2: Airports with Current Master Plans

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	Master Plan Current
Major Airports					
Akron	Colorado Plains Regional Airport	NPIAS	2005	2013	No
Alamosa	San Luis Valley Airport	NPIAS	2010	Unknown	Yes
Aspen	Aspen-Pitkin County Airport	NPIAS	2004	Underway	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	NPIAS	2011	2016	Yes
Burlington	Kit Carson County Airport	NPIAS	2003	Unknown	No
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	1999	Underway	Yes
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	2010	2018	Yes
Denver	Denver International Airport	NPIAS	2011	2016	Yes
Durango	Durango-La Plata County Airport	NPIAS	2005	2017	No
Eagle	Eagle County Regional Airport	NPIAS	1989	Underway	Yes
Englewood/Denver	Centennial Airport	NPIAS	2008	2015	Yes
Grand Junction	Grand Junction Regional Airport	NPIAS	2009	Unknown	Yes
Greeley	Greeley-Weld County Airport	NPIAS	2004	Unknown	No
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	2006	2014	Yes
Hayden	Yampa Valley Regional Airport	NPIAS	2003	2012	No
Lamar	Lamar Municipal Airport	NPIAS	2004	2014	No
Longmont	Vance Brand Municipal Airport	NPIAS	2000	Underway	Yes
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	2007	2017	Yes
Meeker	Meeker Airport	NPIAS	2009	2014	Yes
Montrose	Montrose Regional Airport	NPIAS	2006	2016	Yes
Pagosa Springs	Stevens Field	NPIAS	2009	2015	Yes
Pueblo	Pueblo Memorial Airport	NPIAS	2008	2013	Yes
Rifle	Garfield County Regional Airport	NPIAS	2002	2012	No
Telluride	Telluride Regional Airport	NPIAS	2002	Unknown	No
Trinidad	Perry Stokes Airport	NPIAS	2004	2012	No
Watkins/Denver	Front Range Airport	NPIAS	2004	2013	No
Intermediate Airports					
Boulder	Boulder Municipal Airport	NPIAS	2007	2017	Yes
Buena Vista	Central Colorado Regional Airport	NPIAS	2004	2012	Yes
Canon City	Fremont County Airport	NPIAS	2006	2012	Yes
Center	Leach Airport	Non-NPIAS	Unknown	Unknown	No

Table 4-2: Airports with Current Master Plans

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	Master Plan Current
Intermediate Airports, Cont'd.					
Colorado Springs	Meadow Lake Airport **	NPIAS	2008	Unknown	Yes
Creede	Mineral County Memorial Airport	Non-NPIAS	2005	Unknown	Yes
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	2006	Unknown	Yes
Delta	Blake Field	NPIAS	2010	Unknown	Yes
Durango	Animas Airpark **	Non-NPIAS	None	Unknown	N/A
Eads	Eads Airport	Non-NPIAS	1992	Unknown	No
Erie	Erie Municipal Airport	NPIAS	2003	2013	No
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	2005	2018	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	2000	Unknown	No
Granby	Granby-Grand County Airport	NPIAS	2002	2012	No
Holyoke	Holyoke Municipal Airport	NPIAS	2010	Unknown	Yes
Kremmling	McElroy Field	NPIAS	2007	2017	Yes
La Junta	La Junta Municipal Airport	NPIAS	2007	2017	Yes
Leadville	Lake County Airport	NPIAS	2003	Unknown	No
Limon	Limon Municipal Airport	NPIAS	2004	2012	Yes
Monte Vista	Monte Vista Municipal Airport	NPIAS	2006	Unknown	Yes
Nucla	Hopkins Field	NPIAS	2007	2014	Yes
Rangely	Rangely Airport	NPIAS	2008	2013	Yes
Salida	Harriet Alexander Airport	NPIAS	2003	2015	No
Springfield	Springfield Municipal Airport	Non-NPIAS	1996	2012	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	2008	Unknown	Yes
Sterling	Sterling Municipal Airport	NPIAS	2004	2014	Yes
Walden	Walden-Jackson County Airport	Non-NPIAS	2007	Unknown	Yes
Walsenburg	Spanish Peaks Airfield	NPIAS	2011	Unknown	Yes
Westcliffe	Silver West Airport	Non-NPIAS	1993	Unknown	No
Wray	Wray Municipal Airport	NPIAS	2005	Unknown	Yes
Yuma	Yuma Municipal Airport	NPIAS	2003	Unknown	No

Table 4-2: Airports with Current Master Plans

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	Master Plan Current
Minor Airports					
Akron	Gebauer Airport **	Non-NPIAS	Unknown	Unknown	N/A
Blanca	Blanca Airport	Non-NPIAS	2005	Unknown	Yes
Brush	Brush Municipal Airport	Non-NPIAS	Unknown	Unknown	No
Calhan	Calhan Airport **	Non-NPIAS	Unknown	Unknown	N/A
Crawford	Crawford Airport **	Non-NPIAS	Unknown	Unknown	N/A
Delta	Westwinds Airpark **	Non-NPIAS	Unknown	Unknown	N/A
Dove Creek	Dove Creek Airport **	Non-NPIAS	Unknown	Unknown	N/A
Ellicott	Colorado Springs East Airport **	Non-NPIAS	2006	Unknown	Yes
Greeley	Easton-Valley View Airport **	Non-NPIAS	Unknown	Unknown	N/A
Haxtun	Haxtun Municipal Airport	Non-NPIAS	Unknown	Unknown	No
Holly	Holly Airport	Non-NPIAS	Unknown	Unknown	No
Hudson	Platte Valley Airpark **	Non-NPIAS	Unknown	Unknown	N/A
Julesburg	Julesburg Municipal Airport	Non-NPIAS	Unknown	Unknown	No
La Veta	Cuchara Valley Airport	Non-NPIAS	1985	Unknown	No
Las Animas	Las Animas City & County Airport	Non-NPIAS	1995	Unknown	No
Mack	Mack Mesa Airport **	Non-NPIAS	Unknown	Unknown	N/A
Paonia	North Fork Valley Airport	Non-NPIAS	Unknown	Unknown	No
Saguache	Saguache Municipal Airport	Non-NPIAS	2005	Unknown	Yes

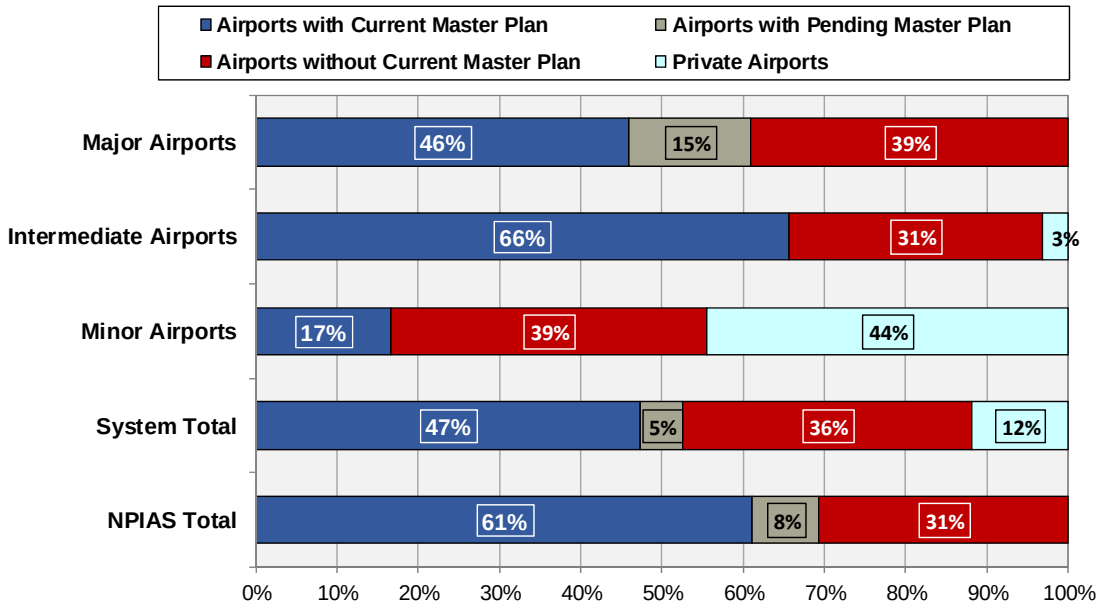
** Indicates private ownership

Information contained in Table 4-2 and Figure 4-3 indicates the following:

- NPIAS airports in the Major and Intermediate categories that report current master plans: 30 out of 49 airports.
- NPIAS airports that have master plans that are pending: 4 out of 49 airports.
- NPIAS airports that do not have a current master plan: 15 out of 49 airports.

- 12 Major Airports report current master plans, 4 Major Airports have pending master plans that would help them to meet this benchmark, and 10 Major Airports do not have current master plans.
- 21 Intermediate Airports have current master plans and 10 Intermediate Airports do not have current master plans. The benchmark does not apply to one privately-owned Intermediate Airport.
- This benchmark applies to 9 publicly-owned airports in the Minor category; 2 of the publicly-owned airports and one additional privately-owned airport in the Minor category report current master plans.

Figure 4-3: Airports with Current Master Plans



As shown in Figure 4-3, 46 percent of the airports in the Major Airport category have master plans that are current, according to objectives set by Colorado's aviation system plan. Another 15 percent of the airports in the Major category report having master plans that are in progress or that are planned within the next year. Approximately 66 percent of the airports in the Intermediate category have master plans that are current, according to study objectives; no airports in the Intermediate category have master plans that are in progress or planned in the near term. 17 percent of the airports in the Minor Airport category report having a current master plan (current as defined as being done within the past seven years).

The objective for having a current master plan applies to all publicly-owned and NPIAS airports, but this objective is most achievable for the NPIAS airports. Out of 76 total airports in the Colorado system, 49 are included in the NPIAS. Of the NPIAS airports, 61 percent of airports report having current master plans, as per this study's objectives, and another 8 percent have master plans that are in progress or pending in the near term.

4.3.2 Benchmark: Airports with Up-to-Date Part 77 Surfaces

The expansion potential of system airports can be jeopardized by obstructions which pose a hazard to air navigation. When airports have taken steps to identify their current Part 77 surfaces and when surrounding communities take steps to adopt height restrictions implied within these surfaces into their local zoning ordinances and comprehensive plans, the expansion potential of that airport is enhanced. It is important to note that just adopting Part 77 guidelines by ordinance does not in and of itself insure that height restrictions contained in Part 77 are enforced. It is important that communities and airports throughout Colorado work together to make sure that Part 77 surfaces are identified, that the height and other restrictions contained in the guidelines are adopted by ordinance, and that once adopted ordinances are enforced. Since airports not included in the NPIAS are not eligible for funding from the FAA, non-NPIAS airports are not required to follow or to adhere to development guidelines established by the FAA. This benchmark applies to all NPIAS and all publicly-owned airports. Ideally, all system airports should consider height restrictions implied within FAR Part 77, but it is most realistic to expect NPIAS airports to follow these guidelines.

Table 4-3 provides two important pieces of information related to FAR Part 77 compliance. This table shows all system airports that report having current Part 77 drawings available, and the table also shows which airports report they have taken steps to work with local communities to adopt Part 77 guidelines into local zoning ordinances. What this table does not show is the number of communities in Colorado that actually enforce Part 77 height related zoning once it is adopted. This number is not known.

Table 4-3: FAR Part 77 Compliance

City	Airport	NPIAS or Non-NPIAS	FAR Part 77 Airspace Drawings	FAR Part 77 Local Height Zoning	FAR Part 77 Compliance
Major Airports					
Akron	Colorado Plains Regional Airport	NPIAS	Yes	Yes	Yes
Alamosa	San Luis Valley Airport	NPIAS	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	NPIAS	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	NPIAS	Yes	Yes	Yes
Burlington	Kit Carson County Airport	NPIAS	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	Yes	No	No
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	Yes	Yes	Yes
Denver	Denver International Airport	NPIAS	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	NPIAS	Yes	No	No
Eagle	Eagle County Regional Airport	NPIAS	Yes	No	No
Englewood/Denver	Centennial Airport	NPIAS	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	NPIAS	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	NPIAS	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	Yes	Yes	Yes

Table 4-3: FAR Part 77 Compliance

City	Airport	NPIAS or Non-NPIAS	FAR Part 77 Airspace Drawings	FAR Part 77 Local Height Zoning	FAR Part 77 Compliance
Major Airports, Cont'd.					
Hayden	Yampa Valley Regional Airport	NPIAS	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	NPIAS	Yes	No	No
Longmont	Vance Brand Municipal Airport	NPIAS	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	Yes	Yes	Yes
Meeker	Meeker Airport	NPIAS	Yes	Yes	Yes
Montrose	Montrose Regional Airport	NPIAS	Yes	Yes	Yes
Pagosa Springs	Stevens Field	NPIAS	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	NPIAS	Yes	No	No
Rifle	Garfield County Regional Airport	NPIAS	Yes	No	No
Telluride	Telluride Regional Airport	NPIAS	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	NPIAS	Yes	No	No
Watkins/Denver	Front Range Airport	NPIAS	Yes	Yes	Yes
Intermediate Airports					
Boulder	Boulder Municipal Airport	NPIAS	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	NPIAS	Yes	Yes	Yes
Canon City	Fremont County Airport	NPIAS	Yes	Yes	Yes
Center	Leach Airport	Non-NPIAS	Yes	No	No
Colorado Springs	Meadow Lake Airport **	NPIAS	Yes	No	No
Craig	Craig-Moffat County Airport	NPIAS	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Non-NPIAS	Yes	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	Yes	Yes	Yes
Delta	Blake Field	NPIAS	Yes	No	No
Durango	Animas Airpark **	Non-NPIAS	N/A	N/A	N/A
Eads	Eads Airport	Non-NPIAS	No	No	No
Erie	Erie Municipal Airport	NPIAS	Yes	No	No
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	Yes	No	No
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	No	Yes	No

Table 4-3: FAR Part 77 Compliance

City	Airport	NPIAS or Non-NPIAS	FAR Part 77 Airspace Drawings	FAR Part 77 Local Height Zoning	FAR Part 77 Compliance
Intermediate Airports, Cont'd.					
Granby	Granby-Grand County Airport	NPIAS	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	NPIAS	Yes	Yes	Yes
Kremmling	McElroy Field	NPIAS	Yes	No	No
La Junta	La Junta Municipal Airport	NPIAS	Yes	Yes	Yes
Leadville	Lake County Airport	NPIAS	Yes	Yes	Yes
Limon	Limon Municipal Airport	NPIAS	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	NPIAS	Yes	Yes	Yes
Nucla	Hopkins Field	NPIAS	Yes	Yes	Yes
Rangely	Rangely Airport	NPIAS	Yes	No	No
Salida	Harriet Alexander Airport	NPIAS	Yes	No	No
Springfield	Springfield Municipal Airport	Non-NPIAS	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	NPIAS	Yes	No	No
Walden	Walden-Jackson County Airport	Non-NPIAS	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	NPIAS	Yes	Yes	Yes
Westcliffe	Silver West Airport	Non-NPIAS	No	Yes	No
Wray	Wray Municipal Airport	NPIAS	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	NPIAS	Yes	Yes	Yes
Minor Airports					
Akron	Gebauer Airport **	Non-NPIAS	No	Yes	Yes
Blanca	Blanca Airport	Non-NPIAS	No	No	No
Brush	Brush Municipal Airport	Non-NPIAS	No	No	No
Calhan	Calhan Airport **	Non-NPIAS	N/A	N/A	N/A
Crawford	Crawford Airport **	Non-NPIAS	No	No	No
Delta	Westwinds Airpark **	Non-NPIAS	No	No	No

Table 4-3: FAR Part 77 Compliance

City	Airport	NPIAS or Non-NPIAS	FAR Part 77 Airspace Drawings	FAR Part 77 Local Height Zoning	FAR Part 77 Compliance
Minor Airports, Cont'd.					
Dove Creek	Dove Creek Airport **	Non-NPIAS	No	No	No
Ellicott	Colorado Springs East Airport **	Non-NPIAS	Yes	Yes	Yes
Greeley	Easton-Valley View Airport **	Non-NPIAS	No	Yes	Yes
Haxtun	Haxtun Municipal Airport	Non-NPIAS	No	No	No
Holly	Holly Airport	Non-NPIAS	No	No	No
Hudson	Platte Valley Airpark **	Non-NPIAS	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	Non-NPIAS	No	No	No
La Veta	Cuchara Valley Airport	Non-NPIAS	No	No	No
Las Animas	Las Animas City & County Airport	Non-NPIAS	No	No	No
Mack	Mack Mesa Airport **	Non-NPIAS	No	Yes	Yes
Paonia	North Fork Valley Airport	Non-NPIAS	No	No	No
Saguache	Saguache Municipal Airport	Non-NPIAS	No	No	No

** Indicates private ownership

Figure 4-4 summarizes information concerning the number of Colorado airports that report having drawings which reflect their current Part 77 surfaces. As reflected in this chart, 100 percent of all Major Airports, 88 percent of Intermediate Airports, and 6 percent of Minor Airports report they have current Part 77 surface drawings. This benchmark is most achievable by system airports included in the NPIAS (49 airports out of a total of 76 system airports). Of the NPIAS airports; 100 percent of the airports now report having current Part 77 drawings.

Figure 4-4: Airports with FAR Part 77 Drawings

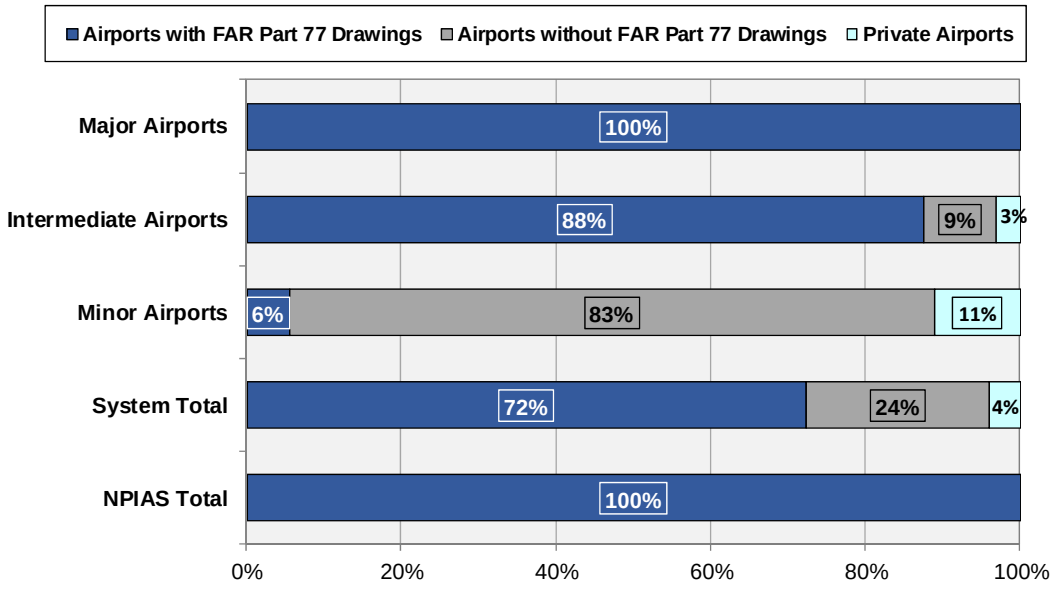
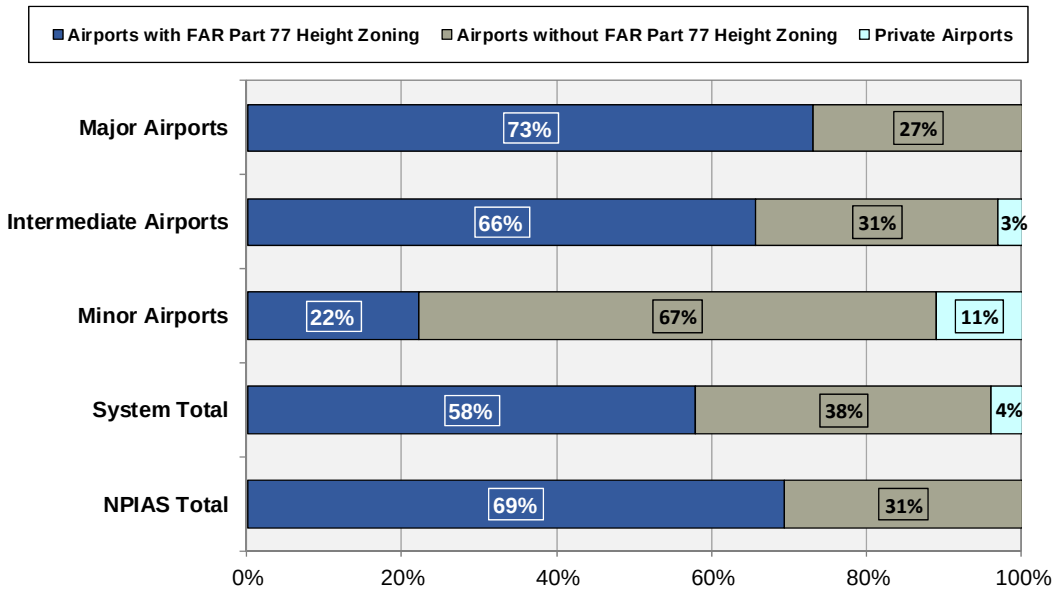


Figure 4-5 provides information on applicable system airports that report they have local communities that have adopted height zoning that follows Part 77 guidelines for restricting the height of man-made or natural objects in critical areas around the airport.

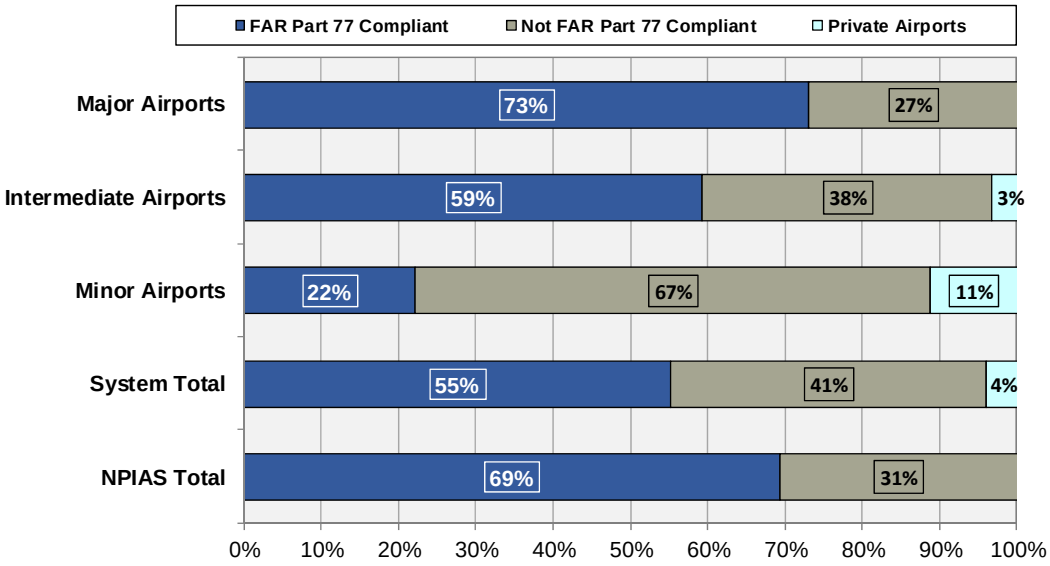
Figure 4-5: Airports Reporting Communities with FAR Part 77 Height Zoning



According to information reported directly by the airports that is summarized in Figure 4-5, 73 percent of the Major Airports, 66 percent of the Intermediate Airports, and 22 percent of the Minor Airports now meet this benchmark. While this benchmark applies to all airports that are publicly-owned or that are included in the NPIAS, this benchmark is most applicable to those airports in the NPIAS. Of the total number of airports in the Colorado system (76 airports), 49 airports are in the NPIAS. For the airports included in the NPIAS, 34 airports or 69 percent of the total now meet this study benchmark.

Figure 4-6 summarizes the airports that report they have current Part 77 drawings and that they have surrounding communities that have adopted Part 77 height restricting guidelines into their local zoning ordinances. Of the Colorado system airports, 73 percent of the Major Airports, 59 percent of the Intermediate Airports, and 22 percent of the Minor Airports currently meet this benchmark. Of the 49 system airports that are included in the NPIAS, 34 airports or 69 percent of the NPIAS airports report they have both current Part 77 drawings and communities that have adopted Part 77 guidelines into local zoning ordinances.

Figure 4-6: FAR Part 77 Compliance (Airports with both Part 77 Drawings and Zoning)



4.4 Performance Measure: Economic Support

A healthy airport system is often one of the important underpinnings for a growing economy. In Colorado, the State's economy relies heavily on tourism. Commercial and general aviation airports throughout Colorado are important for bringing visitors and second home owners to the State. Many businesses in communities throughout Colorado rely on aviation to increase their efficiency, and there are many Colorado businesses whose customers and suppliers fly to the State on a regular basis, using either commercial or general aviation airports.

For airports in Colorado to support air travelers, planes leaving an airport in one location must know with reasonable certainty that when they reach their destination airport in Colorado they will be able to land, even in

times of low visibility. Therefore, it is important for a reasonable number of system airports be equipped with a published approach, either precision, vertical guidance or non-precision.

The ability to buy fuel is another characteristic of an airport that helps to support business efficiency. In particular, aircraft flying in support of business activities often require Jet A fuel. Throughout Colorado, another measure of economic/business support is the number of business jet operations that are reportedly accommodated by each airport. Once a business traveler reaches their destination airport, the airport itself is most often just the arrival point for another locale in the airport's market area. As a result, an airport system that provides ground access support is desirable.

On regular intervals, the Division of Aeronautics prepares an economic impact study for system airports. Each airport's annual economic activity is measured in terms of jobs, payroll, and annual economic activity or output. Drivers for each airport's reported annual economic impact include the number of and type of tenants/businesses located on the airport, the average annual capital investment that is made at the airport, and spending in the community that is tied to visitors who arrive via the airport. Generally speaking, airports with a higher annual economic impact most likely play a greater role in supporting the economy of the market area they serve.

Several of the benchmarks used to demonstrate the airport system's ability to provide economic support are action oriented, while other benchmarks are informational in nature. The action oriented benchmarks may require investment to improve system performance. Informational benchmarks, on the other hand, provide data to help them better understand the role each airport plays in the airport system. In association with the economic support performance measure, the following benchmarks were reviewed:

- Airports with a precision instrument approach
- Airports with a non-precision instrument approach
- Airports with a published approach
- Airports with Jet A fuel
- Airports with fuel
- Airports with rental cars
- Airports with ground transportation services
- Airports with general aviation jet activity
- Airports with annual economic impact of $1 million or greater

4.4.1 Benchmark: Airports with a Published Approach

Published approaches enable instrument rated pilots to land at airports during periods of reduced visibility. These periods are referred to as instrument meteorological conditions or IMC. When cloud levels or ceiling conditions drop to 1,000 feet above ground level or when visibility is less than three miles, IMC are present. For this

analysis, published approaches fall into the following categories: precision approach, approach with vertical guidance, and non-precision approach. Every airport that has a precision instrument approach also has a non-precision instrument approach. For this analysis, when a system airport has any of these approaches, it is considered to have a published approach.

As part of Colorado's aviation system planning process, the initial objective established in 2000 was to have a precision approach for airports in the Major category and a non-precision approach for airports in the Intermediate category. Minor Airports do not have an established objective for having a published approach.

Table 4-4 reflects all system airports and their current approach capabilities, whether precision, vertical guidance or non-precision. **Exhibit 4-5** graphically depicts all airports in the system that have a published approach.

Table 4-4: Airports with Published Instrument Approaches

City	Airport	Precision Approach	Vertical Guidance	Non-Precision Approach
Major Airports				
Akron	Colorado Plains Regional Airport	No	No	Yes
Alamosa	San Luis Valley Airport	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	No	No	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes
Burlington	Kit Carson County Airport	No	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	No	Yes	Yes
Denver	Denver International Airport	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	No	No	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	No	Yes	Yes
Longmont	Vance Brand Municipal Airport	No	No	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes
Meeker	Meeker Airport	No	No	Yes
Montrose	Montrose Regional Airport	Yes	Yes	Yes
Pagosa Springs	Stevens Field	No	No	Yes

Table 4-4: Airports with Published Instrument Approaches

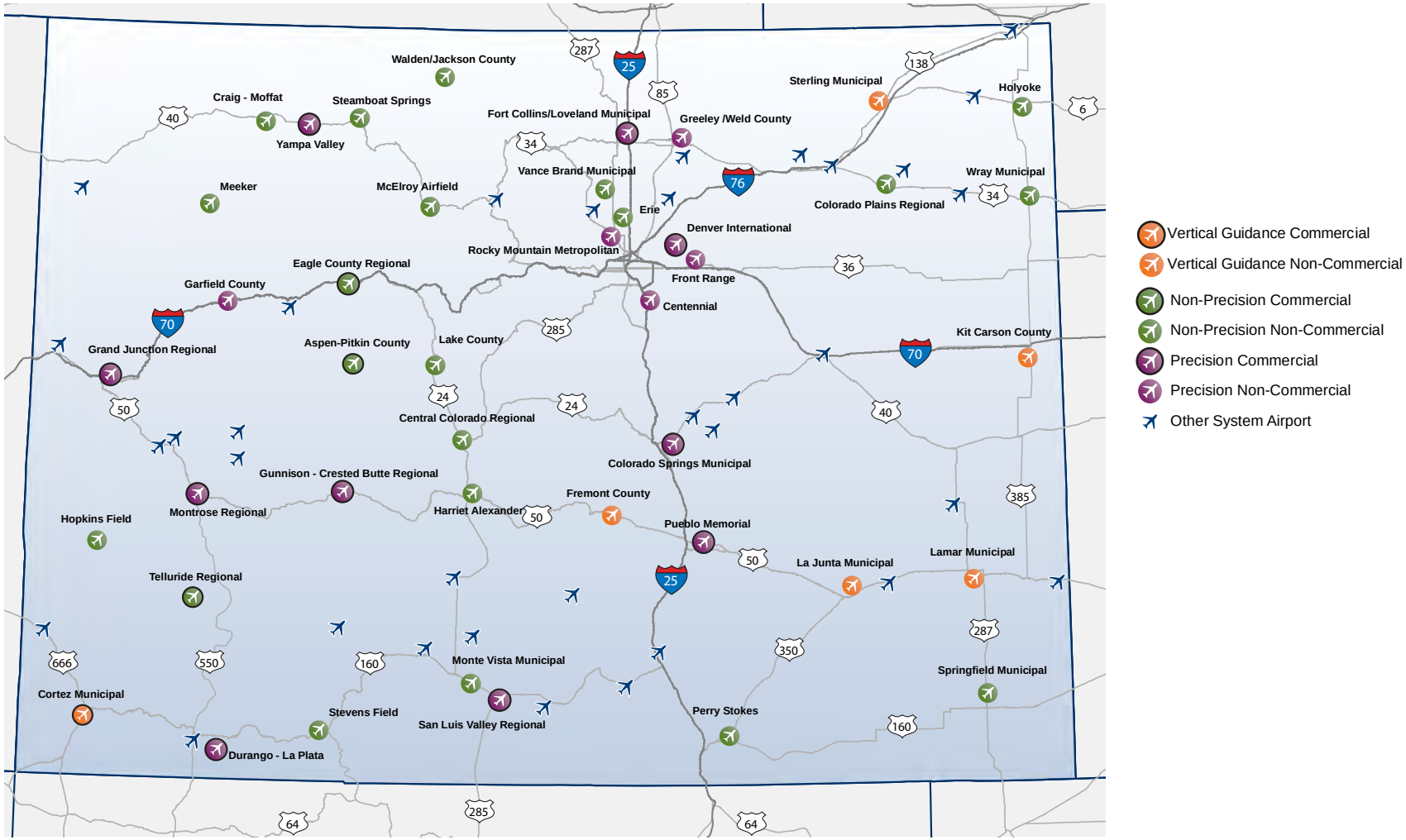
City	Airport	Precision Approach	Vertical Guidance	Non-Precision Approach
Major Airports, Cont'd.				
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes
Telluride	Telluride Regional Airport	No	No	Yes
Trinidad	Perry Stokes Airport	No	No	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes
Intermediate Airports				
Boulder	Boulder Municipal Airport	No	No	No
Buena Vista	Central Colorado Regional Airport	No	No	Yes
Canon City	Fremont County Airport	No	Yes	Yes
Center	Leach Airport	No	No	No
Colorado Springs	Meadow Lake Airport **	No	No	No
Craig	Craig-Moffat County Airport	No	No	Yes
Creede	Mineral County Memorial Airport	No	No	No
Del Norte	Astronaut Kent Rominger Airport	No	No	No
Delta	Blake Field	No	No	No
Durango	Animas Airpark **	No	No	No
Eads	Eads Airport	No	No	No
Erie	Erie Municipal Airport	No	No	Yes
Fort Morgan	Fort Morgan Municipal Airport	No	No	No
Glenwood Springs	Glenwood Springs Municipal Airport	No	No	No
Granby	Granby-Grand County Airport	No	No	No
Holyoke	Holyoke Municipal Airport	No	No	Yes
Kremmling	McElroy Field	No	No	Yes
La Junta	La Junta Municipal Airport	No	Yes	Yes
Leadville	Lake County Airport	No	No	Yes
Limon	Limon Municipal Airport	No	No	No
Monte Vista	Monte Vista Municipal Airport	No	No	Yes
Nucla	Hopkins Field	No	No	Yes
Rangely	Rangely Airport	No	No	No
Salida	Harriet Alexander Airport	No	No	Yes
Springfield	Springfield Municipal Airport	No	No	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	No	No	Yes

Table 4-4: Airports with Published Instrument Approaches

City	Airport	Precision Approach	Vertical Guidance	Non-Precision Approach
Intermediate Airports, Cont'd.				
Sterling	Sterling Municipal Airport	No	Yes	Yes
Walden	Walden-Jackson County Airport	No	No	Yes
Walsenburg	Spanish Peaks Airfield	No	No	No
Westcliffe	Silver West Airport	No	No	No
Wray	Wray Municipal Airport	No	No	Yes
Yuma	Yuma Municipal Airport	No	No	No
Minor Airports				
Akron	Gebauer Airport **	No	No	No
Blanca	Blanca Airport	No	No	No
Brush	Brush Municipal Airport	No	No	No
Calhan	Calhan Airport **	No	No	No
Crawford	Crawford Airport **	No	No	No
Delta	Westwinds Airpark **	No	No	No
Dove Creek	Dove Creek Airport **	No	No	No
Ellicott	Colorado Springs East Airport **	No	No	No
Greeley	Easton-Valley View Airport **	No	No	No
Haxtun	Haxtun Municipal Airport	No	No	No
Holly	Holly Airport	No	No	No
Hudson	Platte Valley Airpark **	No	No	No
Julesburg	Julesburg Municipal Airport	No	No	No
La Veta	Cuchara Valley Airport	No	No	No
Las Animas	Las Animas City & County Airport	No	No	No
Mack	Mack Mesa Airport **	No	No	No
Paonia	North Fork Valley Airport	No	No	No
Saguache	Saguache Municipal Airport	No	No	No

** Indicates private ownership

Exhibit 4-5: Airports With a Published Approach



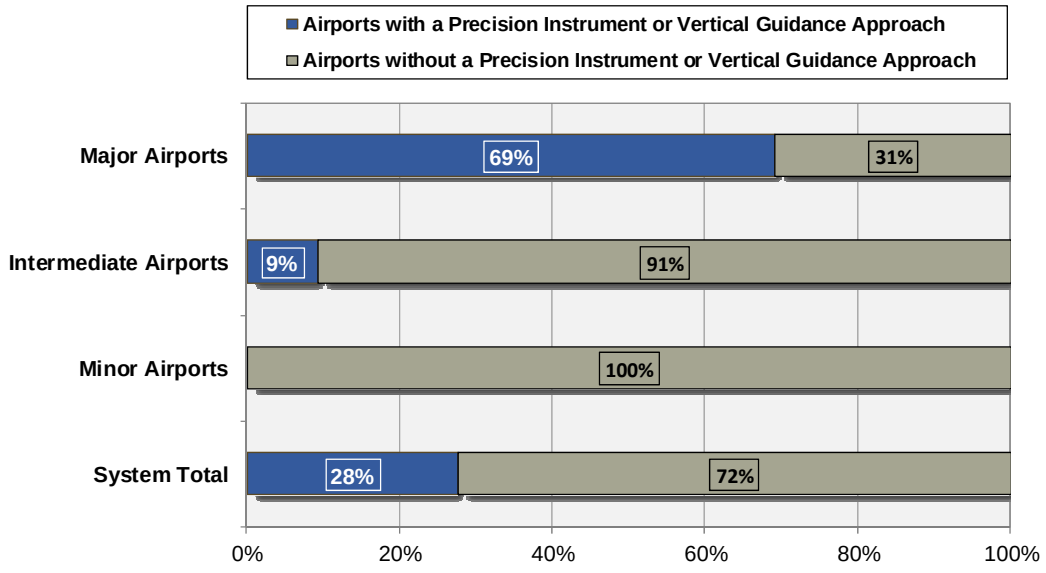
Airports with a Precision Instrument or Vertical Guidance Approach

Precision instrument approaches, most often an instrument landing system (ILS), provide pilots with both lateral and vertical electronic guidance to a runway end. Precision instrument approaches allow pilots to fly at lower altitudes during periods of IMC. Runway ends that are equipped with electronics that facilitate a precision instrument approach provide pilots with a higher degree of accuracy in their approach.

As noted, FAA has criteria that determine when an airport is eligible for a precision instrument approach. The Colorado aviation system plan established an objective for all Major Airports, both commercial and general aviation airports, to have an instrument approach or an approach with vertical guidance. The plan does not have an objective for either Intermediate or Minor Airports to have a precision approach or an approach with vertical guidance.

As reflected in **Figure 4-7**, currently, 69 percent of the airports in the Major category have an approach with vertical guidance on at least one runway end. Three additional airports in the Intermediate category also have an approach with vertical guidance. This translates into 28 percent of all runways at system airports being supported by a precision approach.

Figure 4-7: Airports with a Precision Instrument or Vertical Guidance Approach

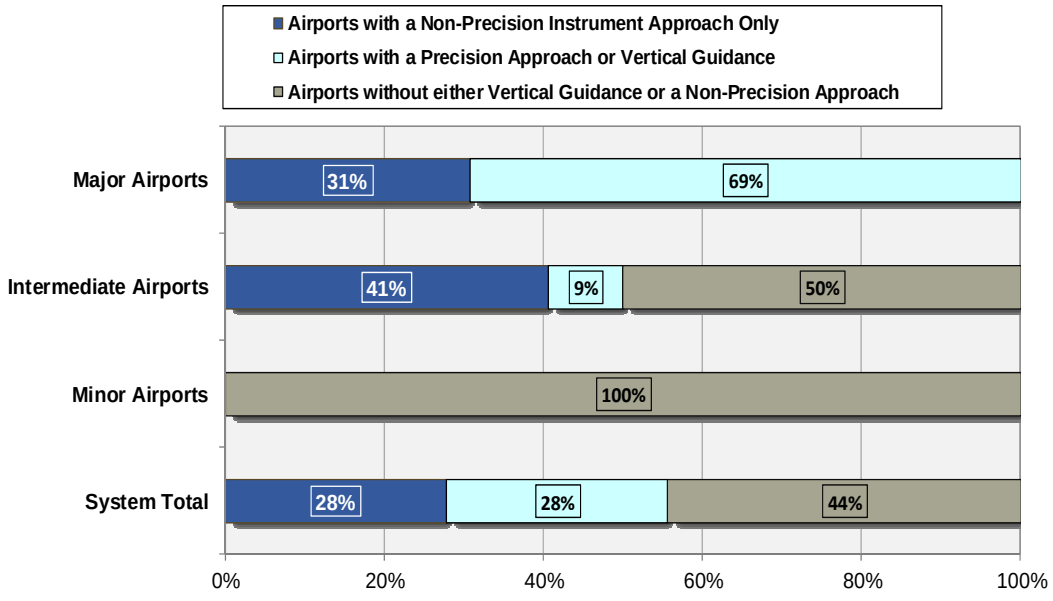


Airports with a Non-Precision Approach

As opposed to precision approaches, which provide both vertical and lateral guidance to landing aircraft, current non-precision approaches provide only lateral guidance. Non-precision approaches can be based on more traditional land-based equipment such as a VOR or NDB or space-based instrument approach technology such as GPS or WAAS. Satellite-based technology for supporting runway approaches continues to evolve, and this technology may eventually provide approaches which are more precise in nature.

Figure 4-8 reflects information for system airports that have a non-precision approach. While it is an objective for Major Airports to have a precision approach or an approach with vertical guidance, if they do not, they should have a non-precision approach. The system plan has established an objective for airports in the Intermediate category to have a non-precision instrument approach. While it is an objective for all Intermediate Airports to have a non-precision approach, there are nine airports in the Intermediate Airport category that are non-included in the NPAIS. There is no objective for airports in the Minor Airport category to have a published approach, and it may be less realistic for non-NPIAS airports in the Intermediate category to have a published approach.

Figure 4-8: Airports with Only a Non-Precision Instrument Approach

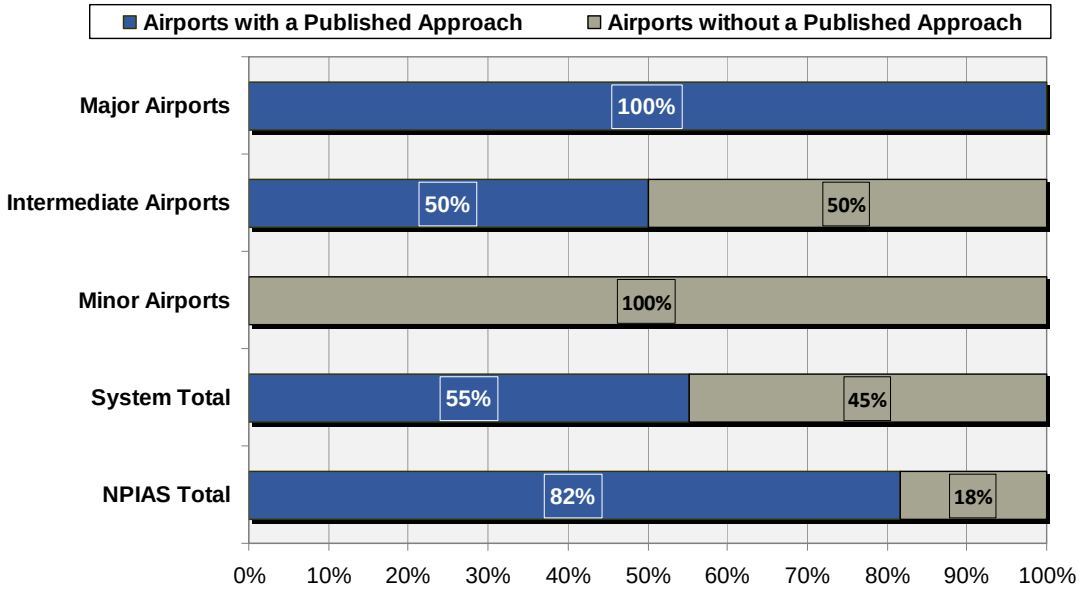


As Figure 4-8 shows, 31 percent of all Major Airports have only a non-precision approach, with the remaining 69 percent of the Major Airports all having an approach with vertical guidance. Of the Intermediate Airports, 41 percent of airports have a non-precision approach in addition to the 9 percent of airports with a vertical guidance approach.

Airports with a Published Approach

When all approaches are considered as **Figure 4-9** reflects, 100 percent of the Major Airports (26 airports) and 50 percent of the Intermediate Airports (16 airports) have a published approach. Of the 49 NPIAS airports, 40 currently have a published approach. As Figure 4-8 shows, 82 percent of the airports that are included in the NPIAS have a published approach.

Figure 4-9: Airports with a Published Approach



4.4.2 Benchmark: Airports with Fuel

Accessibility to fuel for both based and visiting aircraft is important to the airport system's ability to support Colorado's economy. To determine the system's ability to provide access to fuel, both Jet A and 100LL fuel are considered. The system plan has an established objective for aircraft using Major Airports to have access to Jet A fuel and for aircraft using Intermediate Airports to have access to at least 100LL. While there is no objective for airports in the Minor category to have fuel, ideally these system airports should also provide access to fuel for based and transient users.

Table 4-5 provides information on all airports that now report that they have fuel, and **Exhibit 4-7** graphically depicts system airports that either have or do not have some type of fuel available for their users.

Table 4-5: Airports with Fuel

City	Airport	Jet A	100 LL
Major Airports			
Akron	Colorado Plains Regional Airport	Yes	Yes
Alamosa	San Luis Valley Airport	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes
Burlington	Kit Carson County Airport	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Yes

Table 4-5: Airports with Fuel

City	Airport	Jet A	100 LL
Major Airports, Cont'd.			
Denver	Denver International Airport	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes
Meeker	Meeker Airport	Yes	Yes
Montrose	Montrose Regional Airport	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes
Trinidad	Perry Stokes Airport	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Yes
Intermediate Airports			
Boulder	Boulder Municipal Airport	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	Yes
Canon City	Fremont County Airport	Yes	Yes
Center	Leach Airport	No	Yes
Colorado Springs	Meadow Lake Airport **	No	Yes
Craig	Craig-Moffat County Airport	Yes	Yes
Creede	Mineral County Memorial Airport	No	No
Del Norte	Astronaut Kent Rominger Airport	No	No
Delta	Blake Field	No	Yes
Durango	Animas Airpark **	Yes	Yes
Eads	Eads Airport	No	No
Erie	Erie Municipal Airport	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	Yes

Table 4-5: Airports with Fuel

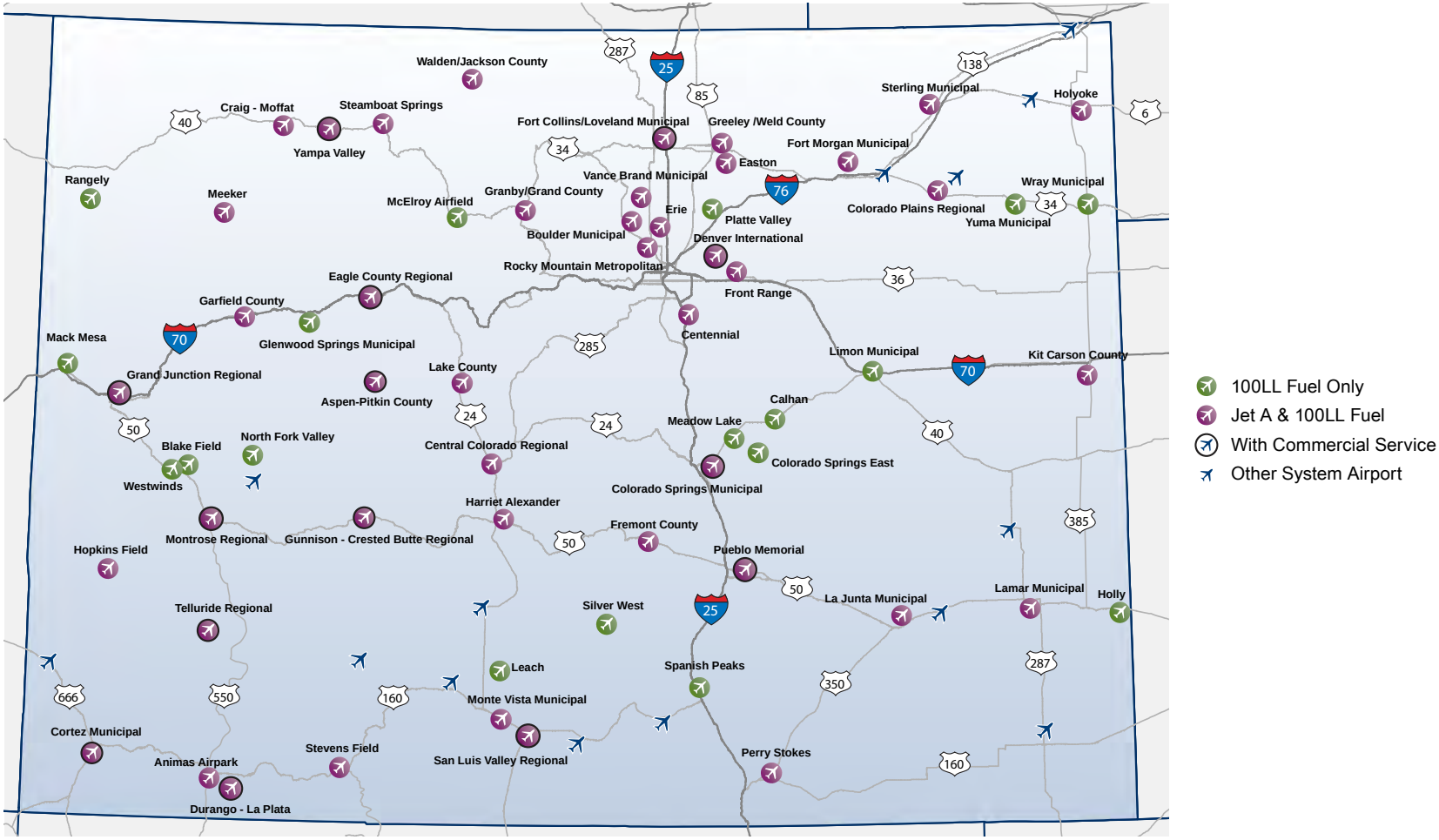
City	Airport	Jet A	100 LL
Intermediate Airports, Cont'd.			
Glenwood Springs	Glenwood Springs Municipal Airport	No	Yes
Granby	Granby-Grand County Airport	Yes	Yes
Holyoke	Holyoke Municipal Airport	Yes	Yes
Kremmling	McElroy Field	Yes	Yes
La Junta	La Junta Municipal Airport	Yes	Yes
Leadville	Lake County Airport	Yes	Yes
Limon	Limon Municipal Airport	No	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	Yes
Nucla	Hopkins Field	Yes	Yes
Rangely	Rangely Airport	No	Yes
Salida	Harriet Alexander Airport	Yes	Yes
Springfield	Springfield Municipal Airport	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	Yes
Walsenburg	Spanish Peaks Airfield	No	Yes
Westcliffe	Silver West Airport	No	Yes
Wray	Wray Municipal Airport	No	Yes
Yuma	Yuma Municipal Airport	No	Yes
Minor Airports			
Akron	Gebauer Airport **	No	No
Blanca	Blanca Airport	No	No
Brush	Brush Municipal Airport	No	No
Calhan	Calhan Airport **	No	Yes
Crawford	Crawford Airport **	No	No
Delta	Westwinds Airpark **	No	Yes
Dove Creek	Dove Creek Airport **	No	No
Ellicott	Colorado Springs East Airport **	No	Yes
Greeley	Easton-Valley View Airport **	Yes	Yes
Haxtun	Haxtun Municipal Airport	No	No
Holly	Holly Airport	No	Yes
Hudson	Platte Valley Airpark **	No	Yes
Julesburg	Julesburg Municipal Airport	No	No

Table 4-5: Airports with Fuel

City	Airport	Jet A	100 LL
Minor Airports, Cont'd.			
La Veta	Cuchara Valley Airport	No	No
Las Animas	Las Animas City & County Airport	No	No
Mack	Mack Mesa Airport **	No	Yes
Paonia	North Fork Valley Airport	No	Yes
Saguache	Saguache Municipal Airport	No	No

** Indicates private ownership

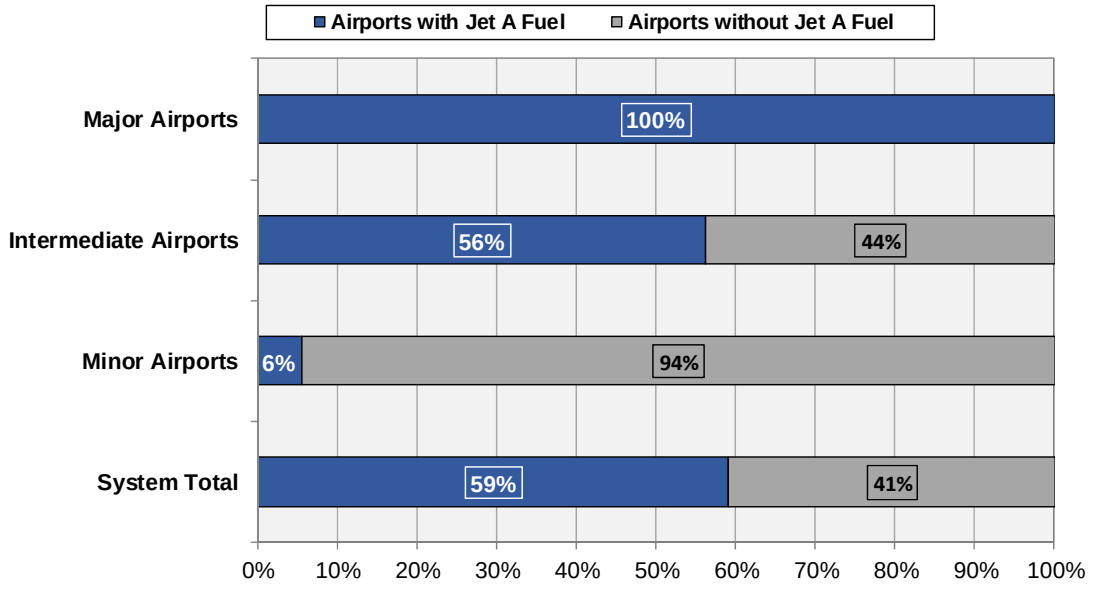
Exhibit 4-6: Airports With Fuel



Airports with Jet Fuel

As noted, the objective established by the system plan is to have Jet A fuel available at all airports in the Major Airport category. As **Figure 4-10** shows, the system currently meets this objective since 100 percent of all Major Airports report their users having access to Jet A fuel. While it is not necessarily an objective for airports in either the Intermediate or the Minor categories to have Jet A fuel, many do, as reflected in Figure 4-10.

Figure 4-10: Airports with Jet Fuel

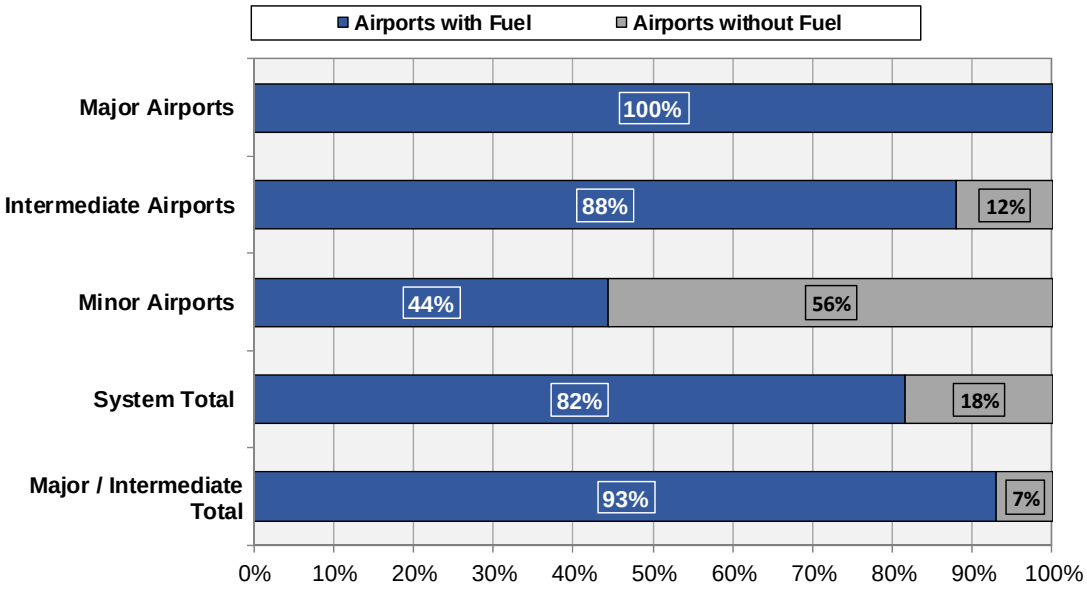


As shown on Figure 4-10, 56 percent of the Intermediate Airports (18 airports) and 6 percent of the Minor Airports (1 airport) also report that they have Jet fuel. This information is provided for illustrative purposes since for this benchmark, the system is now performing over the established objective.

Airports with Fuel

The majority of general aviation piston-engine aircraft operate on 100LL fuel. Having access to fuel for aircraft throughout Colorado is important to the system's ability to support businesses and economic growth. **Figure 4-11** presents a compilation of fueling information for all system airports. This chart reflects airports with either Jet A or 100LL fuel, or both.

Figure 4-11: Airports with Fuel



As this chart shows, 100 percent of airports in the Major Airport category have fuel. The system plan's objective is for all airports in the Intermediate category to at least have 100LL fuel. As Figure 4-11 shows, currently 88 percent of the Intermediate Airports or 28 airports report that they have fuel.

While it is not necessarily an objective of the system plan for airports in the Minor category to have fueling facilities, many of the airports in this category do have fuel. As shown on Figure 4-11, 44 percent of the airports in the Minor category or 8 airports have fuel.

As noted, this plan's objective is for airports in the Major and Intermediate categories to have fuel. As Figure 4-11 reflects, when airports in these two categories are considered, 93 percent of all airports in these categories now have access to fuel for their users.

4.4.3 Benchmark: Airports with Ground Transportation

When visitors arrive in Colorado, it is important for them to be able to travel from the airport to their final destination in the State. The variety of ground transportation options is typically more diverse at commercial airports than at general aviation airports. Nevertheless, it is also important to visitors who arrive in Colorado via the general aviation airports to also have access to ground transportation services.

Table 4-6 summarizes information on the types of ground transportation services that are available at system airports. For the information reported in Table 4-6, taxi and/or shuttle service may be on-site or it may be able to be arranged, and the same is true for rental car services. The system plan has set an objective for all airports in the Major category to have access to rental cars, and the system plan's objective is for the airports in the Intermediate category to have access to some type of ground transportation service (rental cars, shuttle/taxi, or courtesy car). The system plan has no objective related to ground transportation services for airports in the Minor category. However, as shown in Table 4-6, several of the airports in the Minor Airport category do report having access to various ground transportation services.

Table 4-6: Airports with Ground Transportation Services

City	Airport	Courtesy Car	Taxi/ Shuttle Service	Rental Car
Major Airports				
Akron	Colorado Plains Regional Airport	Yes	No	Yes
Alamosa	San Luis Valley Airport	No	No	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Yes	No	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	No	Yes
Denver	Denver International Airport	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	No	Yes	Yes
Greeley	Greeley-Weld County Airport	No	No	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	No	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	No	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes

Table 4-6: Airports with Ground Transportation Services

City	Airport	Courtesy Car	Taxi/ Shuttle Service	Rental Car
Major Airports, Cont'd.				
Meeker	Meeker Airport	Yes	No	No
Montrose	Montrose Regional Airport	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	No	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	No	No	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes
Intermediate Airports				
Boulder	Boulder Municipal Airport	No	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	No	Yes
Canon City	Fremont County Airport	No	Yes	Yes
Center	Leach Airport	No	No	No
Colorado Springs	Meadow Lake Airport **	No	No	Yes
Craig	Craig-Moffat County Airport	Yes	No	Yes
Creede	Mineral County Memorial Airport	No	No	No
Del Norte	Astronaut Kent Rominger Airport	No	No	No
Delta	Blake Field	Yes	Yes	No
Durango	Animas Airpark **	Yes	Yes	Yes
Eads	Eads Airport	No	No	No
Erie	Erie Municipal Airport	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	No	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	No	No	Yes
Granby	Granby-Grand County Airport	Yes	No	Yes
Holyoke	Holyoke Municipal Airport	Yes	No	No
Kremmling	McElroy Field	Yes	No	Yes
La Junta	La Junta Municipal Airport	Yes	Yes	No
Leadville	Lake County Airport	Yes	Yes	Yes
Limon	Limon Municipal Airport	No	No	No
Monte Vista	Monte Vista Municipal Airport	No	No	No
Nucla	Hopkins Field	Yes	No	No
Rangely	Rangely Airport	No	No	No

Table 4-6: Airports with Ground Transportation Services

City	Airport	Courtesy Car	Taxi/ Shuttle Service	Rental Car
Major Airports, Cont'd.				
Salida	Harriet Alexander Airport	Yes	No	No
Springfield	Springfield Municipal Airport	No	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	No	No
Walsenburg	Spanish Peaks Airfield	Yes	Yes	No
Westcliffe	Silver West Airport	No	No	No
Wray	Wray Municipal Airport	Yes	No	Yes
Yuma	Yuma Municipal Airport	No	No	No
Minor Airports				
Akron	Gebauer Airport **	Yes	No	No
Blanca	Blanca Airport	No	No	No
Brush	Brush Municipal Airport	No	No	No
Calhan	Calhan Airport **	No	No	No
Crawford	Crawford Airport **	Yes	No	No
Delta	Westwinds Airpark **	No	Yes	No
Dove Creek	Dove Creek Airport **	No	No	No
Ellicott	Colorado Springs East Airport **	No	No	Yes
Greeley	Easton-Valley View Airport **	No	No	Yes
Haxtun	Haxtun Municipal Airport	No	No	No
Holly	Holly Airport	No	No	No
Hudson	Platte Valley Airpark **	No	No	No
Julesburg	Julesburg Municipal Airport	No	No	No
La Veta	Cuchara Valley Airport	No	No	No
Las Animas	Las Animas City & County Airport	No	No	Yes
Mack	Mack Mesa Airport **	No	No	No
Paonia	North Fork Valley Airport	Yes	No	No
Saguache	Saguache Municipal Airport	No	No	No

** Indicates private ownership

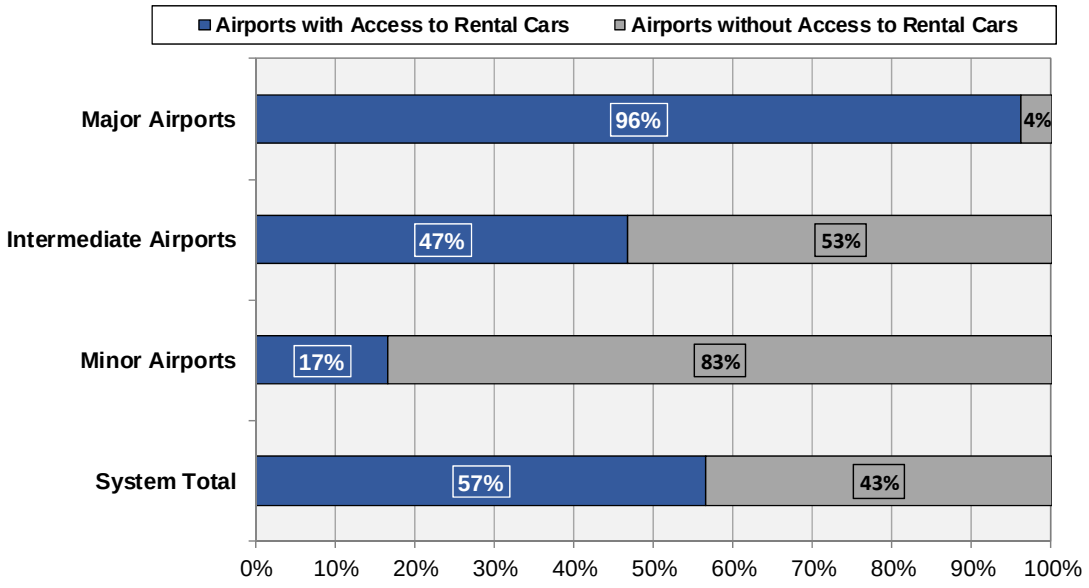
Airports with Rental Car Services

As noted, for the information reported in Table 4-6 for rental car services, in some instances, the rental car facilities are on-site at the airport and in other instances the rental car services are off-site but can be pre-arranged so that the passenger has access to the rental car at the airport.

Figure 4-12 provides information on airports with rental car services. The system plan has set an objective for all airports in the Major Airport category to have access to rental car services; and as Figure 4-12 shows, 96 percent of the Major Airports or 25 airports currently report that they have access to rental car services.

While not an objective of the system plan, airports in the Intermediate category (as shown in Figure 4-12) also report having access to rental car services. As shown in Figure 4-12, 47 percent of the Intermediate Airports or 15 airports report that their customers have access to rental car services. Currently, 17 percent or 3 airports in the Minor Airport category also report having access to rental car services.

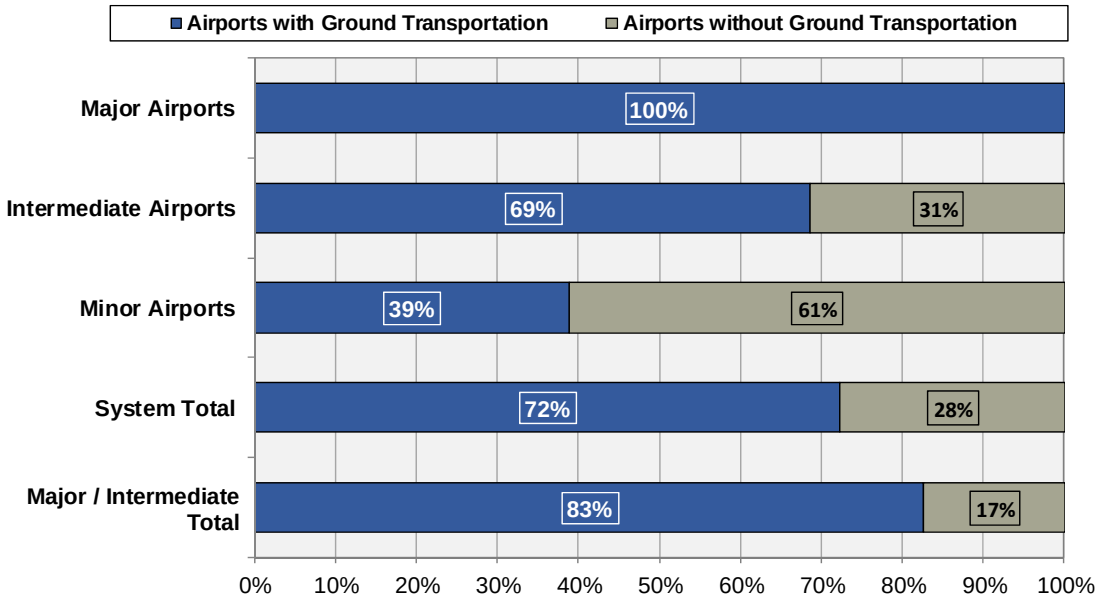
Figure 4-12: Airports with Access to Rental Car Facilities



Airports with Ground Transportation Services

The system plan's objective is for all airports in the Intermediate category to have some type of ground transportation service, whether that be rental cars, shuttles, taxis, or a courtesy car. **Figure 4-13** indicates that 69 percent of the airports in the Intermediate category or 22 airports have access to ground transportation services, as do all airports in the Major Airport category The system plan does not have an objective for airports in the Minor category to have access to ground transportation services. However, as shown in Figure 4-13, currently 39 percent of Minor Airports or 7 airports report having access to ground transportation services.

Figure 4-13: Airports with Access to Ground Transportation Services



Objectives established in the system plan indicate that all Major and all Intermediate airports should have access to ground transportation services. As shown in Figure 4-13, currently 83 percent of all Major and Intermediate Airports report having access to one or more types of ground transportation services.

4.4.4 Benchmark: Airports with General Aviation Jet Activity

When airports are being used by general aviation business jets, this is often an indication that the airport is playing a more significant role in supporting the economy of the market area it serves. There is no objective in the system plan for certain types of airports to serve general aviation business jet activity. Rather than being an action oriented benchmark, this is an informational benchmark. Information collected for this benchmark enables the Division of Aeronautics to have a better understanding of where business jet activity is taking place around the State. This type of information helps Aeronautics prepare for possible airport role changes and to keep abreast of operational trends and related facility needs at system airports.

As part of this study's inventory effort, airports were asked to report on their business jet activity. **Table 4-7** shows the results of that reporting; **Figure 4-14** summarizes findings for this informational benchmark. As shown in Figure 4-14, 100 percent of the Major Airports, 63 percent of the Intermediate Airports or 20 airports, and 11 percent of the Minor Airports or 2 airports report accommodating some type of business jet activity. As reflected in Figure 4-14, approximately 63 percent of all system airports report that they accommodate at least some business jet operations each year.

For informational purposes, Table 4-7 also indicates, as reported by each airport during this study's inventory process, if activity by general aviation business jets is increasing, decreasing, or staying the same.

Table 4-7: Airports with Jet Activity

City	Airport	Jet Activity	Jet Operations Compared to 2009
Major Airports			
Akron	Colorado Plains Regional Airport	Yes	More
Alamosa	San Luis Valley Airport	Yes	Not Reported
Aspen	Aspen-Pitkin County Airport	Yes	Same
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	More
Burlington	Kit Carson County Airport	Yes	Not Reported
Colorado Springs	Colorado Springs Municipal Airport	Yes	Same
Cortez	Cortez-Montezuma Municipal Airport	Yes	Fewer
Denver	Denver International Airport	Yes	Same
Durango	Durango-La Plata County Airport	Yes	More
Eagle	Eagle County Regional Airport	Yes	More
Englewood/Denver	Centennial Airport	Yes	More
Grand Junction	Grand Junction Regional Airport	Yes	Same
Greeley	Greeley-Weld County Airport	Yes	More
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	More
Hayden	Yampa Valley Regional Airport	Yes	Not Reported
Lamar	Lamar Municipal Airport	Yes	More
Longmont	Vance Brand Municipal Airport	Yes	Same
Loveland	Fort Collins-Loveland Municipal Airport	Yes	More
Meeker	Meeker Airport	Yes	Same
Montrose	Montrose Regional Airport	Yes	More
Pagosa Springs	Stevens Field	Yes	More
Pueblo	Pueblo Memorial Airport	Yes	More
Rifle	Garfield County Regional Airport	Yes	Not Reported
Telluride	Telluride Regional Airport	Yes	More
Trinidad	Perry Stokes Airport	Yes	Fewer
Watkins/Denver	Front Range Airport	Yes	More
Intermediate Airports			
Boulder	Boulder Municipal Airport	Yes	Same
Buena Vista	Central Colorado Regional Airport	Yes	More
Canon City	Fremont County Airport	Yes	Same
Center	Leach Airport	No	N/A
Colorado Springs	Meadow Lake Airport **	Yes	Same

Table 4-7: Airports with Jet Activity

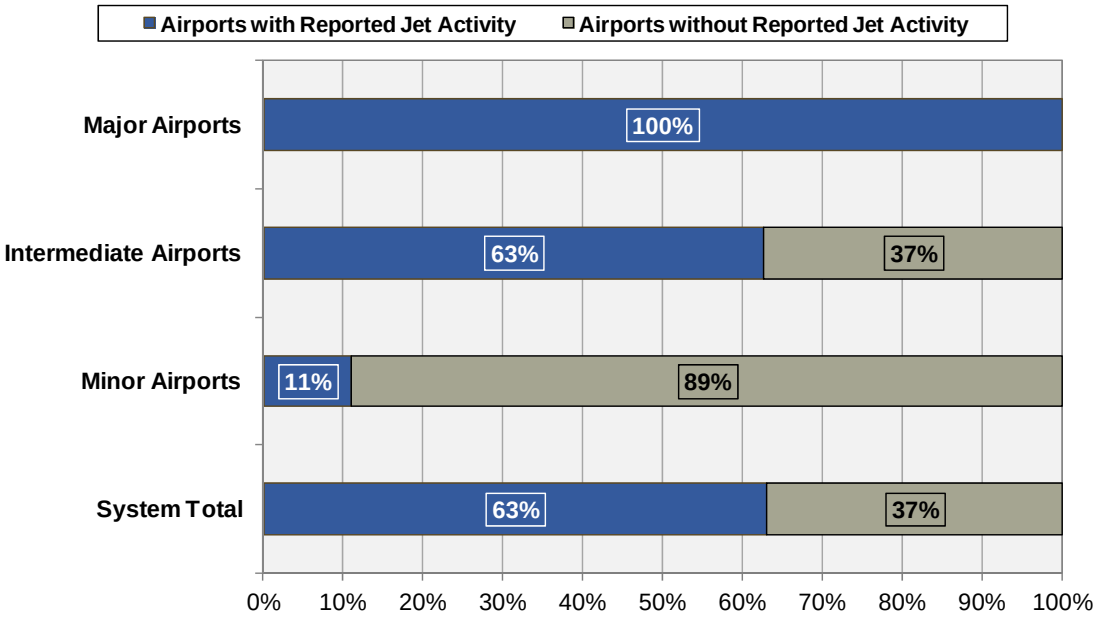
City	Airport	Jet Activity	Jet Operations Compared to 2009
Intermediate Airports, Cont'd.			
Craig	Craig-Moffat County Airport	Yes	More
Creede	Mineral County Memorial Airport	No	N/A
Del Norte	Astronaut Kent Rominger Airport	Yes	More
Delta	Blake Field	No	N/A
Durango	Animas Airpark **	No	N/A
Eads	Eads Airport	No	N/A
Erie	Erie Municipal Airport	Yes	More
Fort Morgan	Fort Morgan Municipal Airport	Yes	Not Reported
Glenwood Springs	Glenwood Springs Municipal Airport	No	N/A
Granby	Granby-Grand County Airport	No	N/A
Holyoke	Holyoke Municipal Airport	Yes	More
Kremmling	McElroy Field	Yes	Same
La Junta	La Junta Municipal Airport	Yes	Fewer
Leadville	Lake County Airport	Yes	Same
Limon	Limon Municipal Airport	No	N/A
Monte Vista	Monte Vista Municipal Airport	No	N/A
Nucla	Hopkins Field	No	N/A
Rangely	Rangely Airport	Yes	More
Salida	Harriet Alexander Airport	Yes	Fewer
Springfield	Springfield Municipal Airport	No	N/A
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	More
Sterling	Sterling Municipal Airport	Yes	Same
Walden	Walden-Jackson County Airport	Yes	More
Walsenburg	Spanish Peaks Airfield	No	N/A
Westcliffe	Silver West Airport	Yes	More
Wray	Wray Municipal Airport	Yes	Not Reported
Yuma	Yuma Municipal Airport	Yes	Not Reported
Minor Airports			
Akron	Gebauer Airport **	No	N/A
Blanca	Blanca Airport	No	N/A
Brush	Brush Municipal Airport	Yes	Same
Calhan	Calhan Airport **	No	N/A

Table 4-7: Airports with Jet Activity

City	Airport	Jet Activity	Jet Operations Compared to 2009
Minor Airports, Cont'd.			
Crawford	Crawford Airport **	No	N/A
Delta	Westwinds Airpark **	No	N/A
Dove Creek	Dove Creek Airport **	No	N/A
Ellicott	Colorado Springs East Airport **	No	N/A
Greeley	Easton-Valley View Airport **	No	N/A
Haxtun	Haxtun Municipal Airport	No	N/A
Holly	Holly Airport	No	N/A
Hudson	Platte Valley Airpark **	No	N/A
Julesburg	Julesburg Municipal Airport	No	N/A
La Veta	Cuchara Valley Airport	No	N/A
Las Animas	Las Animas City & County Airport	No	N/A
Mack	Mack Mesa Airport **	No	N/A
Paonia	North Fork Valley Airport	Yes	Same
Saguache	Saguache Municipal Airport	No	N/A

** Indicates private ownership

Figure 4-14: Airports with Jet Activity



4.4.5 Benchmark: Airports with Annual Economic Impact Greater than $1 Million

Airports throughout Colorado are important economic engines. Through the employment they support and the visitors they help bring to the State, airports are responsible for billions of dollars in annual economic impact. In 2008, the Division of Aeronautics released an updated version of its statewide study that measures the economic impact of airports.

Similar to the benchmark on jet activity, this economic impact benchmark is also informational. **Table 4-8** presents total annual economic impact for each system airport as measured in the 2008 study. These annual economic impacts represent:

- Direct impacts associated with the provision of aviation services and construction projects at each airport,
- Indirect impacts associated with the spending of visitors who arrive via the airport, and
- Induced impacts that are related to re-spending (the multiplier effect) of direct and indirect impacts.

There is no objective in terms of achieving a particular annual economic impact for any of the system airports. Information presented in Table 4-8 is educational in nature and helps Aeronautics understand the relative annual economic contribution of each airport in the system.

Table 4-8: Economic Impacts of Airports

City	Airport	Total Economic Impact	Greater than $1 million
Major Airports			
Akron	Colorado Plains Regional Airport	$12,071,300	Yes
Alamosa	San Luis Valley Airport	$41,954,400	Yes
Aspen	Aspen-Pitkin County Airport	$1,067,401,700	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	$363,251,100	Yes
Burlington	Kit Carson County Airport	$6,661,300	Yes
Colorado Springs	Colorado Springs Municipal Airport	$3,535,280,400	Yes
Cortez	Cortez-Montezuma Municipal Airport	$30,752,600	Yes
Denver	Denver International Airport	$22,296,664,100	Yes
Durango	Durango-La Plata County Airport	$457,593,200	Yes
Eagle	Eagle County Regional Airport	$982,170,400	Yes
Englewood/Denver	Centennial Airport	$897,122,800	Yes
Grand Junction	Grand Junction Regional Airport	$623,693,600	Yes
Greeley	Greeley-Weld County Airport	$120,814,200	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	$177,646,500	Yes
Hayden	Yampa Valley Regional Airport	$412,003,800	Yes
Lamar	Lamar Municipal Airport	$12,479,400	Yes

Table 4-8: Economic Impacts of Airports

City	Airport	Total Economic Impact	Greater than $1 million
Major Airports, Cont'd.			
Longmont	Vance Brand Municipal Airport	$47,329,300	Yes
Loveland	Fort Collins-Loveland Municipal Airport	$56,316,800	Yes
Meeker	Meeker Airport	$14,271,400	Yes
Montrose	Montrose Regional Airport	$329,274,200	Yes
Pagosa Springs	Stevens Field	$34,343,600	Yes
Pueblo	Pueblo Memorial Airport	$141,665,500	Yes
Rifle	Garfield County Regional Airport	$45,676,700	Yes
Telluride	Telluride Regional Airport	$139,886,900	Yes
Trinidad	Perry Stokes Airport	$6,608,700	Yes
Watkins	Front Range Airport	$134,439,800	Yes
Intermediate Airports			
Boulder	Boulder Municipal Airport	$60,147,300	Yes
Buena Vista	Central Colorado Regional Airport	$4,710,400	Yes
Canon City	Fremont County Airport	$7,980,500	Yes
Center	Leach Airport	$152,900	No
Colorado Springs	Meadow Lake Airport **	$11,855,200	Yes
Craig	Craig-Moffat County Airport	$2,256,700	Yes
Creede	Mineral County Memorial Airport	$2,909,800	Yes
Del Norte	Astronaut Kent Rominger Airport	$311,500	No
Delta	Blake Field	$4,494,300	Yes
Durango	Animas Airpark **	$10,597,400	Yes
Eads	Eads Airport	$1,962,700	Yes
Erie	Erie Municipal Airport	$12,224,700	Yes
Fort Morgan	Fort Morgan Municipal Airport	$2,978,100	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	$9,590,900	Yes
Granby	Granby-Grand County Airport	$5,489,200	Yes
Holyoke	Holyoke Municipal Airport	$3,726,600	Yes
Kremmling	McElroy Field	$7,399,300	Yes
La Junta	La Junta Municipal Airport	$4,388,300	Yes
Leadville	Lake County Airport	$1,501,300	Yes
Limon	Limon Municipal Airport	$1,583,500	Yes
Monte Vista	Monte Vista Municipal Airport	$1,716,100	Yes

Table 4-8: Economic Impacts of Airports

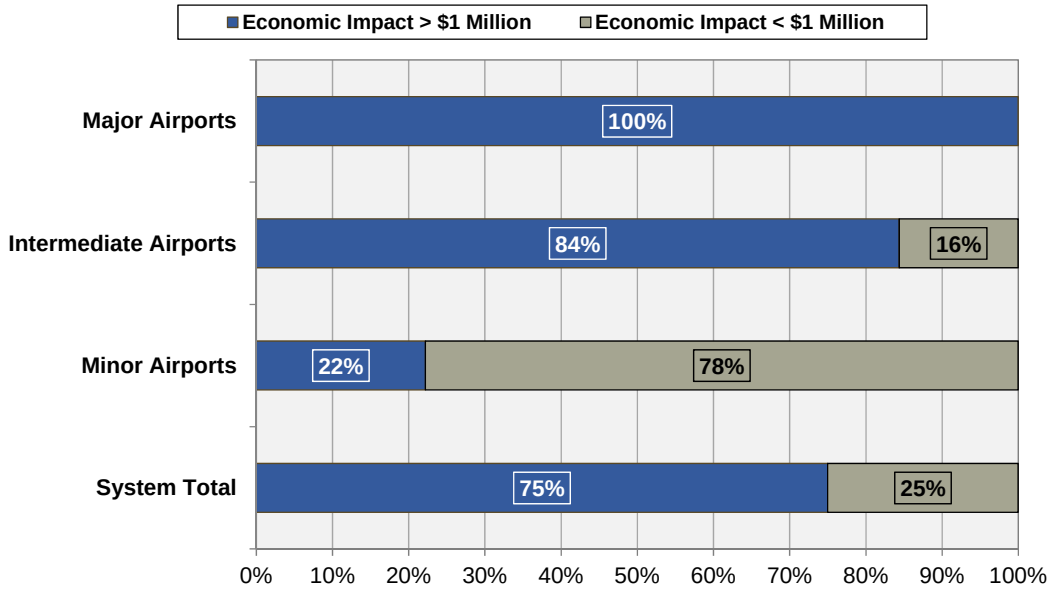
City	Airport	Total Economic Impact	Greater than $1 million
Intermediate Airports, Cont'd.			
Nucla	Hopkins Field	$971,900	No
Rangely	Rangely Airport	$6,006,100	Yes
Salida	Harriet Alexander Airport	$5,975,400	Yes
Springfield	Springfield Municipal Airport	$324,300	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	$11,739,800	Yes
Sterling	Sterling Municipal Airport	$1,826,100	Yes
Walden	Walden-Jackson County Airport	$2,133,700	Yes
Walsenburg	Spanish Peaks Airfield	$803,200	No
Westcliffe	Silver West Airport	$1,109,000	Yes
Wray	Wray Municipal Airport	$14,136,000	Yes
Yuma	Yuma Municipal Airport	$5,135,900	Yes
Minor Airports			
Akron	Gebauer Airport **	–	No
Blanca	Blanca Airport	$51,800	No
Brush	Brush Municipal Airport	$83,000	No
Calhan	Calhan Airport **	$531,800	No
Crawford	Crawford Airport **	$1,781,300	Yes
Delta	Westwinds Airpark **	$764,100	No
Dove Creek	Dove Creek Airport **	–	No
Ellicott	Colorado Springs East Airport **	$279,100	No
Greeley	Easton-Valley View Airport **	$1,114,600	Yes
Haxtun	Haxtun Municipal Airport	$34,800	No
Holly	Holly Airport	$268,500	No
Hudson	Platte Valley Airpark **	$1,183,800	Yes
Julesburg	Julesburg Municipal Airport	$182,500	No
La Veta	Cuchara Valley Airport	$1,122,900	Yes
Las Animas	Las Animas City & County Airport	$511,700	No
Mack	Mack Mesa Airport **	$200,800	No
Paonia	North Fork Valley Airport	$587,300	No
Saguache	Saguache Municipal Airport	$89,100	No

** Indicates private ownership

Note: Dove Creek and Gebauer Airports elected not to participate in the 2008 economic impact study.

As **Figure 4-15** shows, 100 percent of the airports in the Major category, 84 percent of the airports in the Intermediate category, and 22 percent of the airports in the Minor category have an annual economic impact of $1 million or greater. System-wide, 75 percent of all airports, according to Colorado's 2008 economic impact study, have an annual economic impact of $1 million or more.

Figure 4-15: Airports with Economic Impact Greater than $1 Million



4.5 Performance Measure: System Coverage and Emergency Access

According to the FAA in their Advisory Circular on airport system planning, one of the primary objectives when conducting a system plan is to help ensure that the system of airports is balanced. In other words, certain types of facilities should be well distributed within the area being studied, and the airports should be convenient and accessible to a reasonable number of system users. This performance measure considers a number of benchmarks that help to highlight the accessibility of airports both from the ground and the air.

A number of the benchmarks reviewed in conjunction with this particular performance measure are informational in nature. The informational benchmarks helps to determine the ability of the system to meet the needs of various users and to better understand the role that each airport plays in the system. Other benchmarks analyzed in this section are more action oriented in that access to certain types of facilities, such as approaches and weather reporting equipment, are also tied to facility objectives for some system airports.

Some of the analysis for individual benchmarks analyzed in this section was completed using a Geographic Information System (GIS) and U.S. Census tract data. GIS drive times reported in this section were developed using posted speed limits; the drive times do not reflect congestion that might occur as a result of construction,

inclement weather conditions, or traffic accidents. Benchmarks reviewed in conjunction with the access and coverage performance measure include the following:

- Population/land area within a 90 minute drive of an airport with commercial service
- Population/land area within 90 nautical miles of an airport with a precision or vertical guidance approach
- Population/land area within 60 nautical miles of an airport with a published approach
- Population/land area within a 30 minute drive time of any system airport
- Airports with on-site weather reporting equipment
- Population/land area within 25 nautical miles of weather reporting equipment
- Population/land area within a 30 minute drive time of an airport able to accommodate King Air B200 emergency aircraft
- Population/land area within a 30 minute drive time of an airport able to accommodate Lear 35 emergency aircraft

The remainder of this section reviews current system performance for each of the benchmarks listed above.

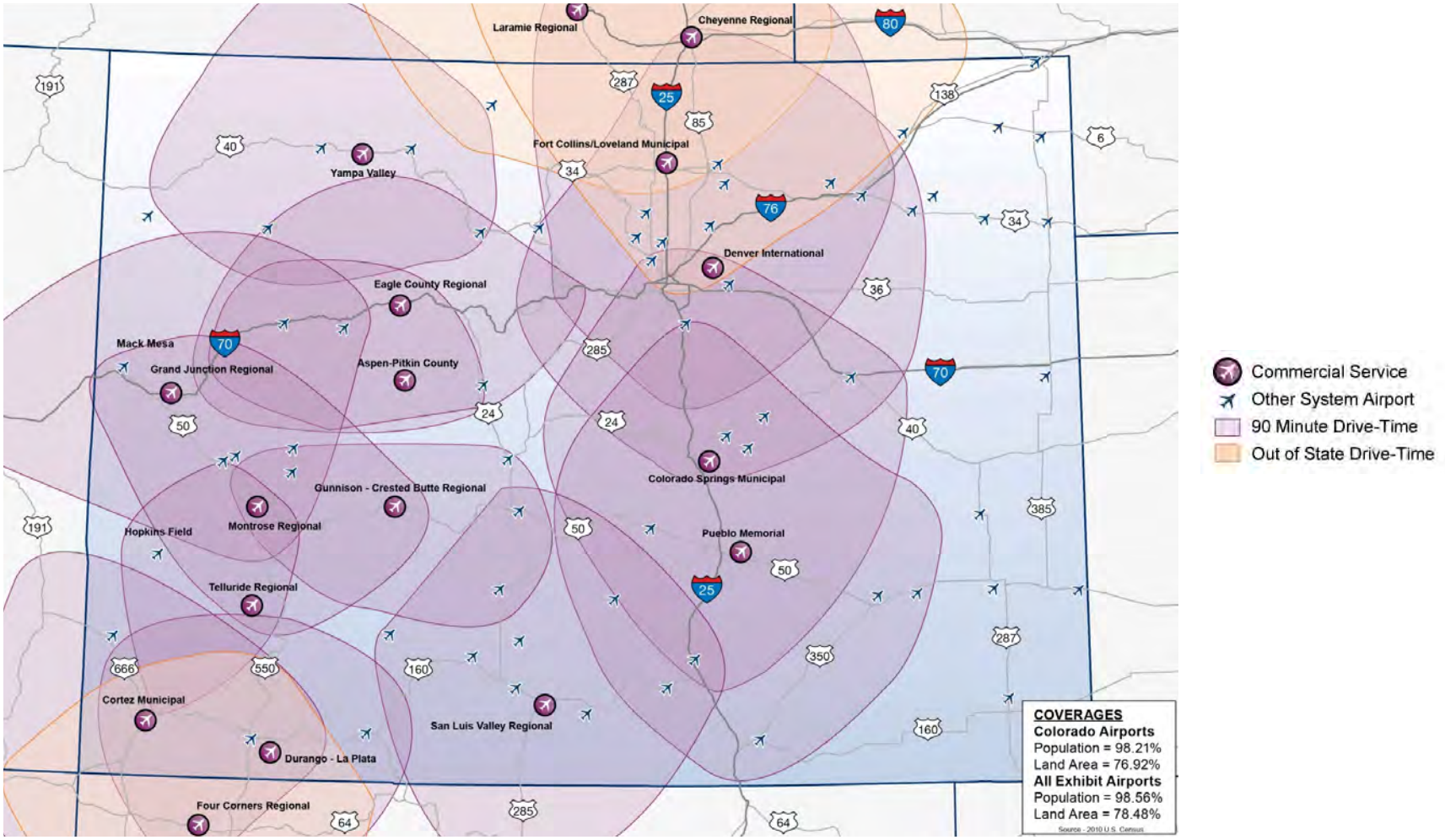
4.5.1 Benchmark: Population/Area within a 90 Minute Drive of an Airport with Commercial Service

Colorado is served by 14 commercial airports. In a deregulated airline environment, the airlines and not the state or the airport determine where scheduled airline service is provided. Among Colorado's commercial airports the level of airline service varies considerably. Denver International is a major hub providing direct flights to hundreds of domestic and international locations. Cortez Montezuma County Airport, on the other hand, has only a few scheduled flights each day and these flights are provided on small turboprop aircraft flown by a carrier that provides service with operating subsidies from the Essential Air Service (EAS) program.

This benchmark reviewed the geographic coverage of commercial airports using a 90 minute drive time. In reality, most commercial airport customers have much shorter drive times to the airport they select for their arrivals and departures on scheduled carriers. On the other hand, it is not uncommon for visitors and residents of Colorado to drive three or more hours to initiate their airline trip from Denver International.

Results of the GIS analysis for this benchmark show that 98 percent of Colorado's population and 77 percent of the State's land area is within a 90 minute or less drive of one of the commercial airports. **Exhibit 4-7** graphically depicts the results of the GIS for this benchmark. As this exhibit shows, a small portion of Colorado that is beyond the 90 minute drive time of a commercial airport in Colorado is within a 90 minute drive time of a commercial airport in Wyoming. This additional coverage adds more to the State's geographic coverage than it does to the percentage of Colorado's population that is within 90 minutes of an airport with commercial airline service.

Exhibit 4-7: Population/Area Within 90 Minute Drive Time of an Airport with Commercial Service



4.5.2 Benchmark: Population/Area within 90 Nautical Miles of an Airport with a Precision Instrument Approach

As was discussed previously in this chapter, a precision instrument approach provides a pilot with a greater degree of accessibility during periods of reduced visibility known as IMC. An objective established by the system plan is for all Major Airports to have a precision instrument or vertical guidance approach. These approaches are typically approved, installed, and maintained by the FAA when airports reach certain critical levels of demand in terms of the instrument flight rule operations. While it is an objective for all airports in the Major Airport category to have a precision approach or an approach with vertical guidance, some airports in the Colorado system may not be able to accommodate approach lights, runway protection zones, and primary surfaces need for these approaches.

For this benchmark, GIS analysis was undertaken to determine the percent of Colorado's land area and the percent of the State's population that is within 90 nautical flight miles of an airport that currently has a precision instrument or vertical guidance approach. The results of the GIS analysis are presented graphically in **Exhibit 4-8**. GIS analysis completed for this benchmark shows that 100 percent of Colorado and 100 percent of the State's population are within 90 nautical miles of an airport with a precision or vertical guidance approach.

4.5.3 Benchmark: Population/Area within 60 Nautical Miles of an Airport with a Published Approach

Similar to a precision approach, a non-precision approach helps a pilot navigate during periods of reduced visibility. The landing capabilities of a non-precision approach, however, are less than those of a full precision approach. For this benchmark, GIS analysis was used to determine the percent of Colorado and its population that are within 60 nautical flight miles of an airport with a published approach; a published approach includes either a precision, vertical guidance, or a non-precision approach.

As previously noted in this chapter, it is an objective for all airports in the Major and Intermediate categories to have a published approach. Similar to precision approaches, FAA has established criteria for determining when an airport qualifies for the equipment needed to facilitate a non-precision approach. With new satellite-based technology, the need to have land-based facilities to support a non-precision approach has diminished. For all 76 airports in the Colorado system, 42 airports now have a published approach. Currently, almost 100 percent of Colorado and 100 percent of its population are within 60 nautical miles of an airport with a published approach. **Exhibit 4-9** shows the results of the GIS analysis for this benchmark.

4.5.4 Benchmark: Population/Area within a 30 Minute Drive Time of Any System Airport

The National Plan of Integrated Airport Systems (NPIAS) contains criteria that FAA uses to establish the National Airport System (NAS). One of the criteria is a 30 minute drive time for establishing the airport's service area. While this guideline is applicable primarily to general aviation airports, for this benchmark, GIS analysis

was undertaken to determine the percent of Colorado and its population that are within a 30 minute drive time of any system airport. This benchmark is primarily informational in nature and helps Aeronautics to better understand how accessible the airport system is. Analysis completed as part of this benchmark also provides Aeronautics with information that shows were there are overlapping service areas among system airports. Overlaps or redundancies within the system are considered in the assignment of airport roles.

For this benchmark, GIS analysis was completed to first determine the percent of the State and its population that are within a 30 minute drive time of a Major, Intermediate, or Minor Airport. The results were then combined to show the percent of the State and its population that are within a 30 minute drive time of any system airport. **Table 4-9** summarizes the results of the GIS analysis for this benchmark.

Table 4-9: Coverage Provided by Colorado System Airports

System Role	% Population Coverage	% Geographic Coverage
Major	88.7%	26.6%
Intermediate	49.1%	31.7%
Minor	23.8%	14.3%
System Total	93.7%	54.4%

Table 4-9 shows the coverage provided exclusively by airports in each of the three role categories and then the combined 30 minute drive time coverage for all system airports. **Exhibit 4-10** shows 30 minute service areas for all commercial and general aviation airports in the Colorado system. The results of the GIS analysis for this benchmark show that 54 percent of Colorado and 94 percent of the State's population are within a 30 minute drive time of one of Colorado's system airports.

Exhibit 4-8: Population/Area within 90 Nautical Miles of an Airport with a Precision or Vertical Guidance Approach

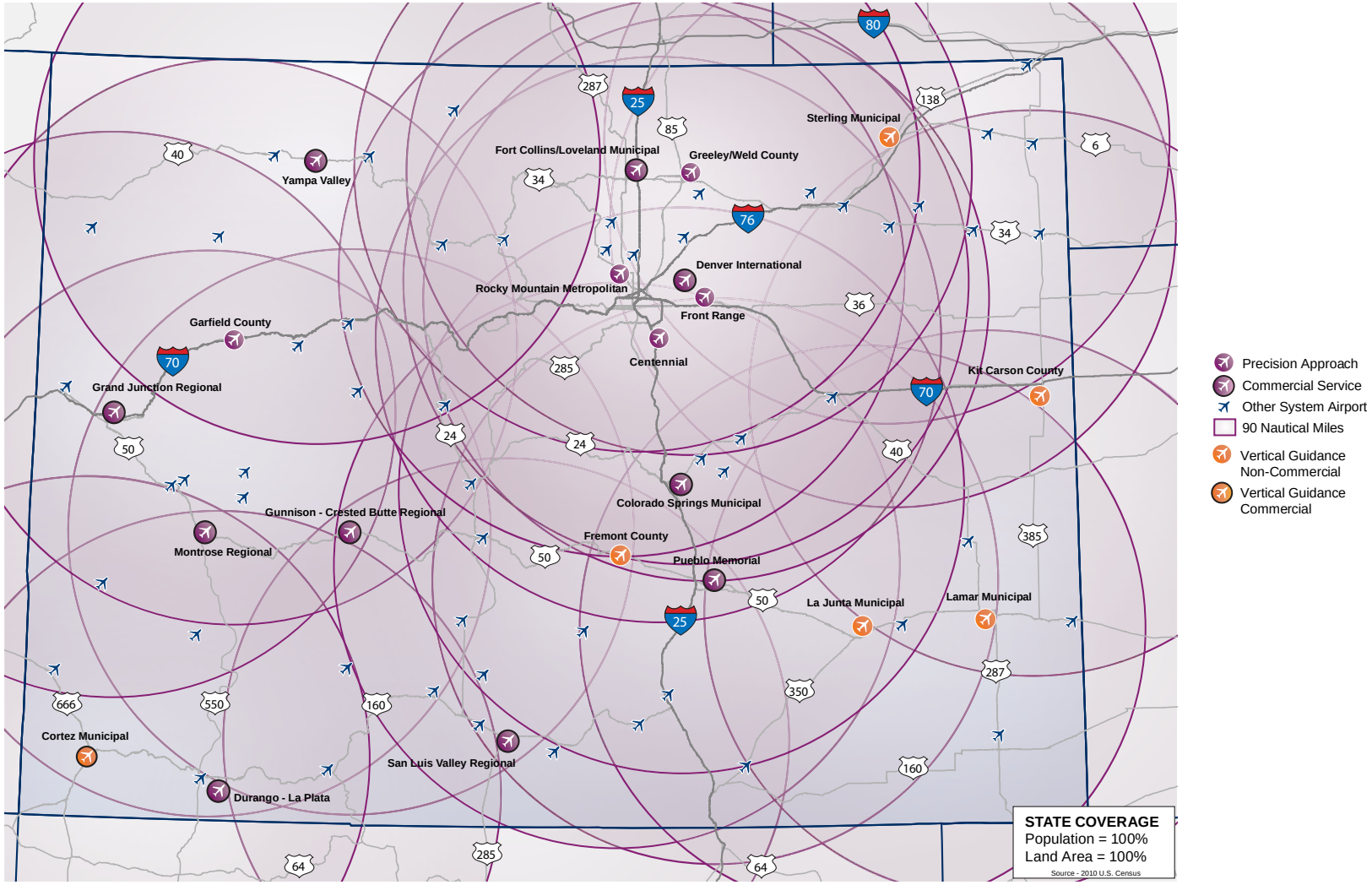


Exhibit 4-9: Population/Area within 60 Nautical Miles of a Published Approach

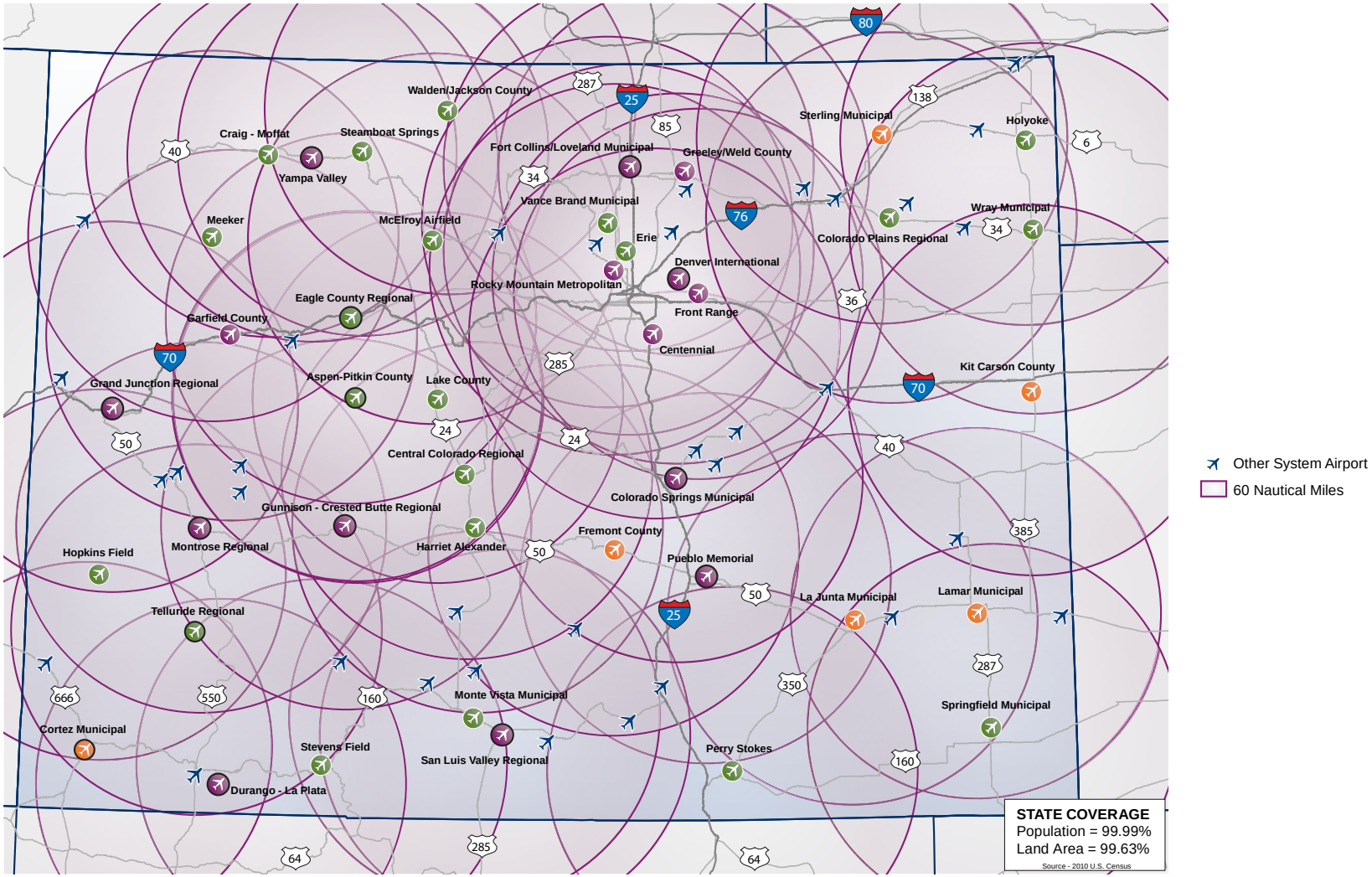
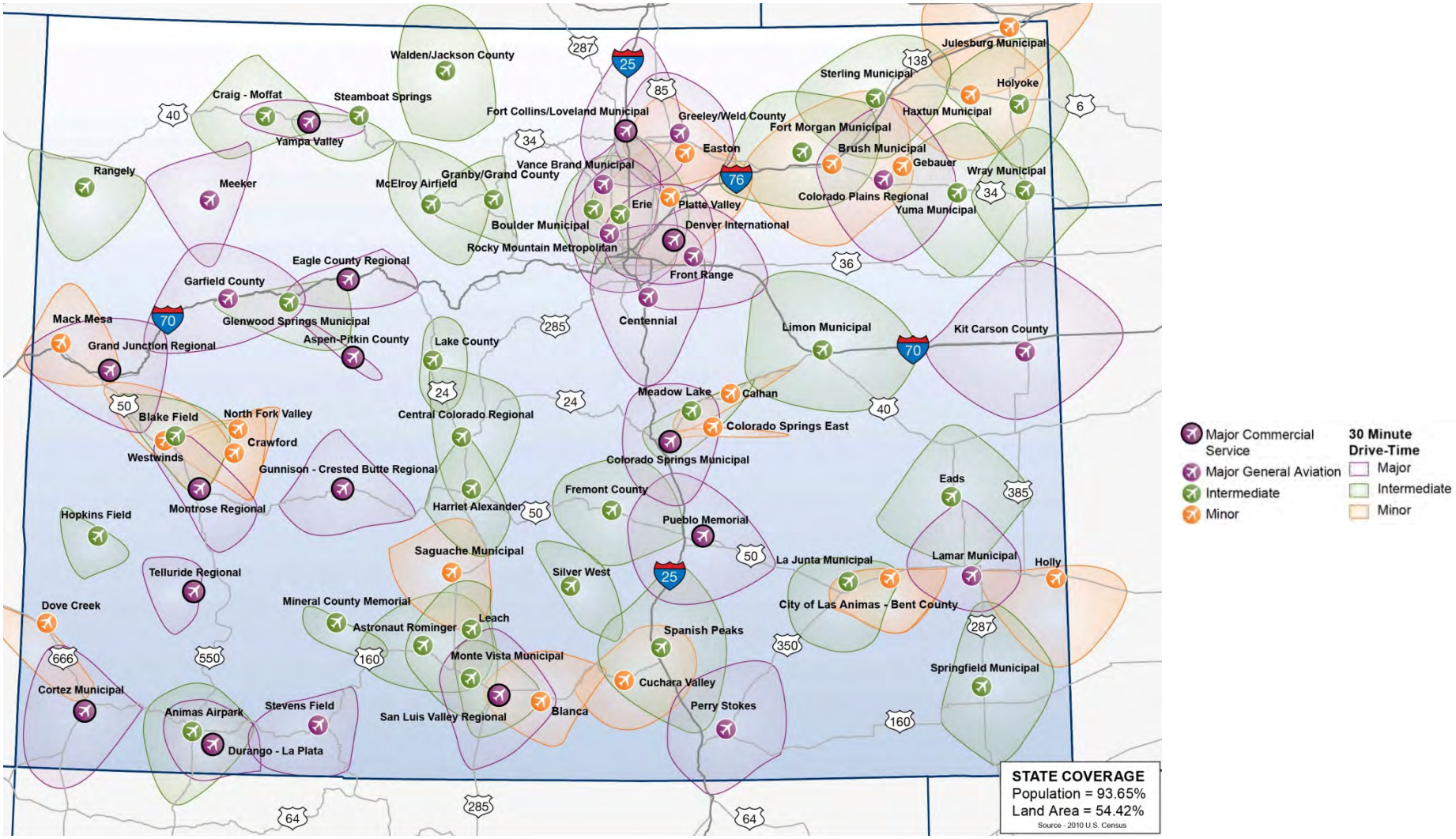


Exhibit 4-10: 30 Minute Service Area Coverage for All System Airports



4.5.5 Benchmark: Airports with On-site Weather Reporting Equipment

Because of Colorado diverse topography, weather conditions change quickly and vary widely even within short geographic distances. As a result, it is important for the State to have a wide distribution of weather reporting equipment. AWOS and ASOS weather reporting equipment generate real time weather reports that are typically linked to the National Weather Service and to FAA's Flight Service Stations. Both AWOS and ASOS weather reporting systems are in operation at airports in Colorado. In addition, during its 2000 session, the Colorado General Assembly acknowledged the need for improved aviation weather reporting in the mountainous terrain along the Continental Divide. With shared funding from the Legislature and the Colorado Aviation Fund, twelve AWOS sites were installed. These were sited at those critical mountain passes most vulnerable to weather-dependent aircraft accidents. **Table 4-10** provides information on all system airports and their current on-site weather reporting equipment. **Exhibit 4-11** shows the location of all airports in the Colorado system that report having on-site weather reporting capabilities.

Table 4-10: Airports with Weather Reporting Facilities

City	Airport	NPIAS or Non-NPIAS	Weather Reporting Facility
Major Airports			
Akron	Colorado Plains Regional Airport	NPIAS	ASOS
Alamosa	San Luis Valley Airport	NPIAS	ASOS
Aspen	Aspen-Pitkin County Airport	NPIAS	ASOS
Broomfield/Denver	Rocky Mountain Metropolitan Airport	NPIAS	AWOS
Burlington	Kit Carson County Airport	NPIAS	ASOS
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	ASOS
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	ASOS
Denver	Denver International Airport	NPIAS	ASOS
Durango	Durango-La Plata County Airport	NPIAS	ASOS
Eagle	Eagle County Regional Airport	NPIAS	AWOS
Englewood/Denver	Centennial Airport	NPIAS	ASOS
Grand Junction	Grand Junction Regional Airport	NPIAS	ASOS
Greeley	Greeley-Weld County Airport	NPIAS	AWOS
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	AWOS
Hayden	Yampa Valley Regional Airport	NPIAS	AWOS
Lamar	Lamar Municipal Airport	NPIAS	ASOS
Longmont	Vance Brand Municipal Airport	NPIAS	AWOS
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	AWOS
Meeker	Meeker Airport	NPIAS	ASOS
Montrose	Montrose Regional Airport	NPIAS	ASOS
Pagosa Springs	Stevens Field	NPIAS	AWOS
Pueblo	Pueblo Memorial Airport	NPIAS	ASOS

Table 4-10: Airports with Weather Reporting Facilities

City	Airport	NPIAS or Non-NPIAS	Weather Reporting Facility
Major Airports, Cont'd.			
Rifle	Garfield County Regional Airport	NPIAS	ASOS
Telluride	Telluride Regional Airport	NPIAS	AWOS
Trinidad	Perry Stokes Airport	NPIAS	ASOS
Watkins/Denver	Front Range Airport	NPIAS	AWOS
Intermediate Airports			
Boulder	Boulder Municipal Airport	NPIAS	AWOS
Buena Vista	Central Colorado Regional Airport	NPIAS	AWOS
Canon City	Fremont County Airport	NPIAS	ASOS
Center	Leach Airport	Non-NPIAS	None
Colorado Springs	Meadow Lake Airport **	NPIAS	AWOS
Craig	Craig-Moffat County Airport	NPIAS	ASOS
Creede	Mineral County Memorial Airport	Non-NPIAS	None
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	None
Delta	Blake Field	NPIAS	AWOS
Durango	Animas Airpark **	Non-NPIAS	None
Eads	Eads Airport	Non-NPIAS	None
Erie	Erie Municipal Airport	NPIAS	AWOS
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	AWOS
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	ASOS
Granby	Granby-Grand County Airport	NPIAS	AWOS
Holyoke	Holyoke Municipal Airport	NPIAS	AWOS
Kremmling	McElroy Field	NPIAS	AWOS
La Junta	La Junta Municipal Airport	NPIAS	ASOS
Leadville	Lake County Airport	NPIAS	ASOS
Limon	Limon Municipal Airport	NPIAS	ASOS
Monte Vista	Monte Vista Municipal Airport	NPIAS	None
Nucla	Hopkins Field	NPIAS	AWOS
Rangely	Rangely Airport	NPIAS	Super Unicom
Salida	Harriet Alexander Airport	NPIAS	AWOS
Springfield	Springfield Municipal Airport	Non-NPIAS	None
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	AWOS
Sterling	Sterling Municipal Airport	NPIAS	AWOS
Walden	Walden-Jackson County Airport	Non-NPIAS	AWOS

Table 4-10: Airports with Weather Reporting Facilities

City	Airport	NPIAS or Non-NPIAS	Weather Reporting Facility
Intermediate Airports, Cont'd.			
Walsenburg	Spanish Peaks Airfield	NPIAS	None
Westcliffe	Silver West Airport	Non-NPIAS	None
Wray	Wray Municipal Airport	NPIAS	AWOS
Yuma	Yuma Municipal Airport	NPIAS	None
Minor Airports			
Akron	Gebauer Airport **	Non-NPIAS	None
Blanca	Blanca Airport	Non-NPIAS	None
Brush	Brush Municipal Airport	Non-NPIAS	None
Calhan	Calhan Airport **	Non-NPIAS	None
Crawford	Crawford Airport **	Non-NPIAS	None
Delta	Westwinds Airpark **	Non-NPIAS	None
Dove Creek	Dove Creek Airport **	Non-NPIAS	None
Ellicott	Colorado Springs East Airport **	Non-NPIAS	None
Greeley	Easton-Valley View Airport **	Non-NPIAS	None
Haxtun	Haxtun Municipal Airport	Non-NPIAS	None
Holly	Holly Airport	Non-NPIAS	None
Hudson	Platte Valley Airpark **	Non-NPIAS	None
Julesburg	Julesburg Municipal Airport	Non-NPIAS	None
La Veta	Cuchara Valley Airport	Non-NPIAS	None
Las Animas	Las Animas City & County Airport	Non-NPIAS	None
Mack	Mack Mesa Airport **	Non-NPIAS	None
Paonia	North Fork Valley Airport	Non-NPIAS	None
Saguache	Saguache Municipal Airport	Non-NPIAS	AWOS

** Indicates private ownership

For the Colorado airport system, an objective has been established to have all airports in both the Major and the Intermediate categories to have on-site weather reporting. There is no objective in the system plan for airports in the Minor Airport category to have on-site weather reporting equipment. **Figure 4-16** summarizes information for system airports as it relates to on-site weather reporting equipment.

Exhibit 4-11: Airport with On-Site Weather Reporting Equipment

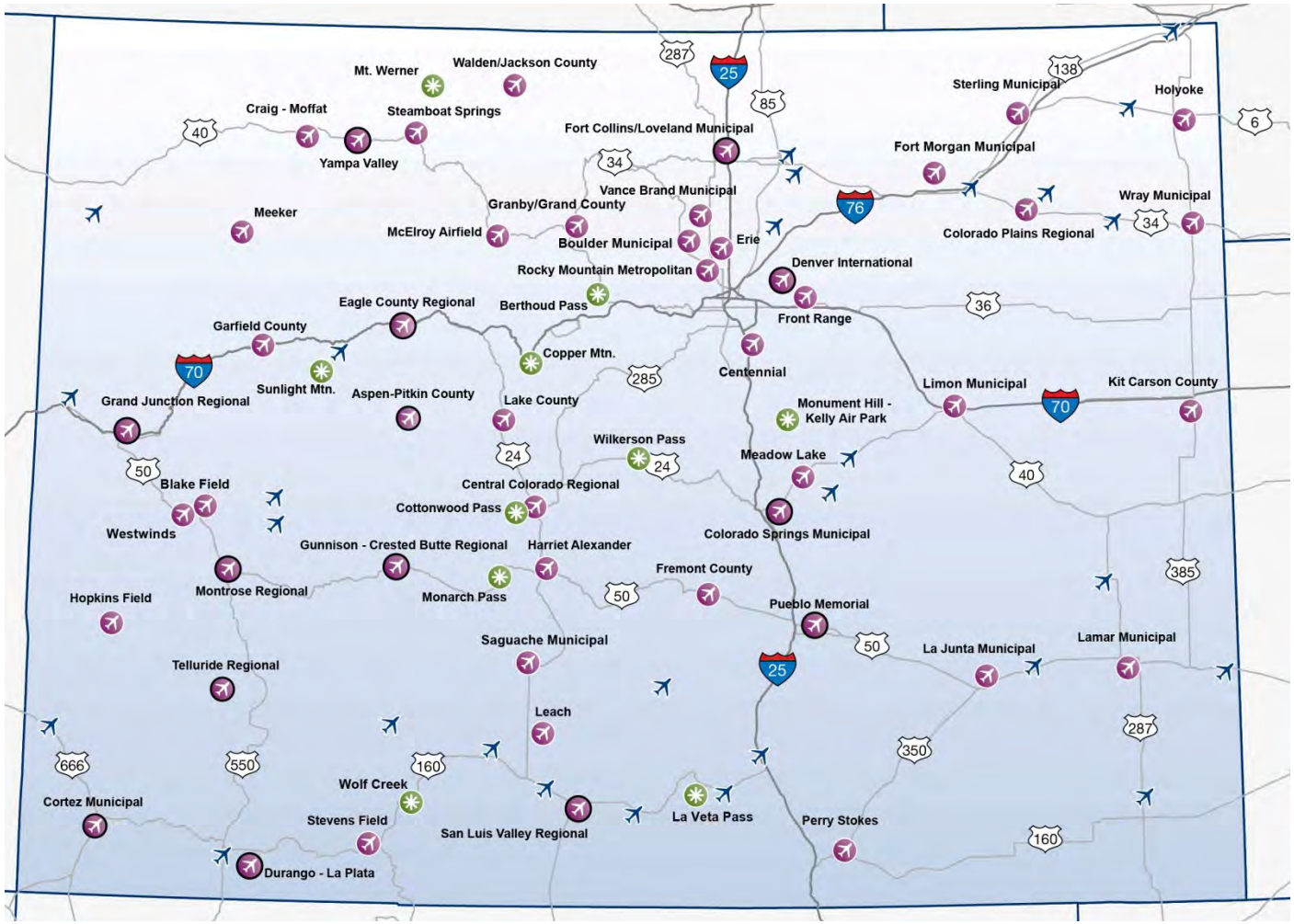
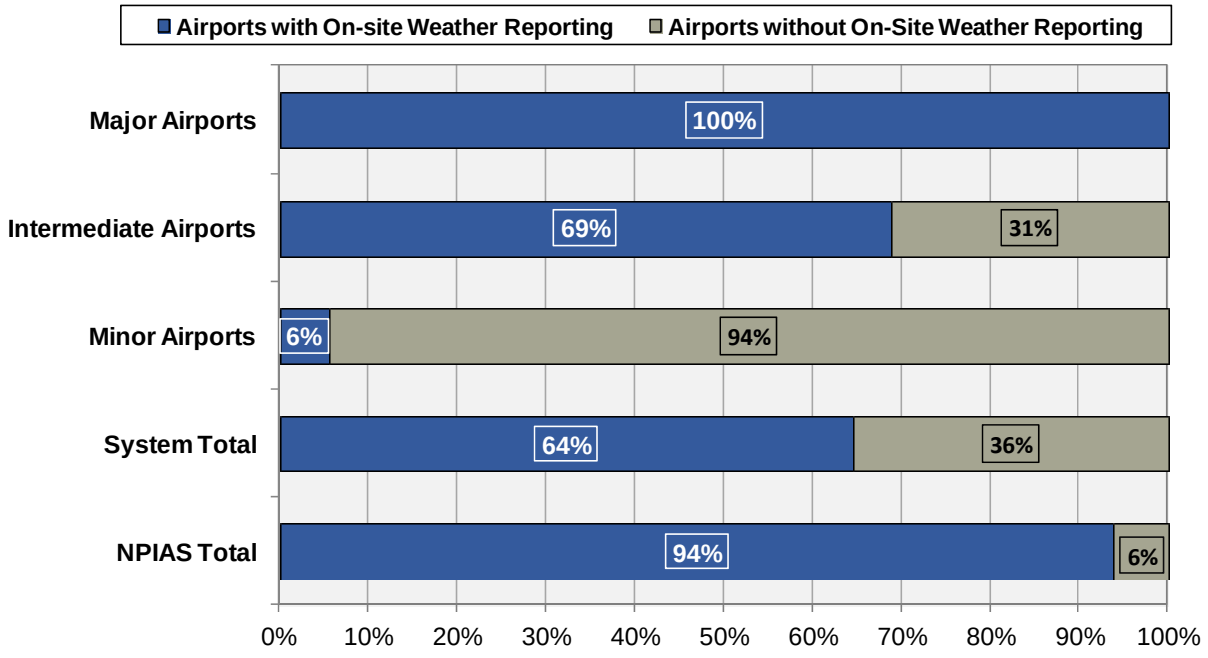


Figure 4-16: Airports with On-site Weather Reporting Facilities



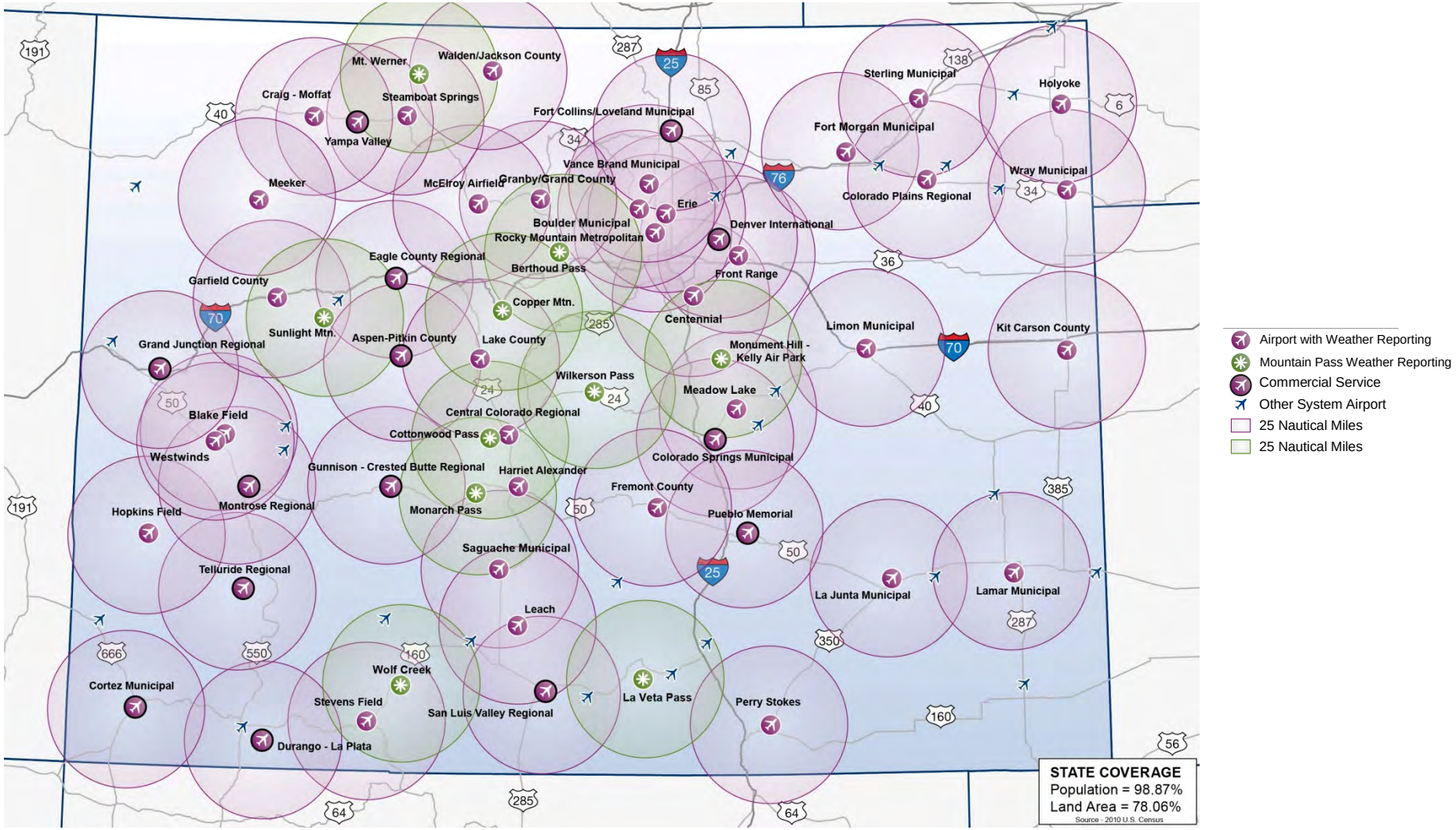
As shown on Figure 4-16, 100 percent or all 26 of the airports in the Major category currently have on-site weather reporting equipment. For all Intermediate Airports, 69 percent or 22 airports currently have on-site weather reporting equipment. When only the NPIAS airports are considered, 46 airports or 94 percent of all NPIAS airports in the system now have on-site weather reporting equipment.

4.5.6 Benchmark: Population/Area within 25 Nautical Miles of Weather Reporting Equipment

Colorado's weather conditions and topography in the mountainous areas of the State make it essential for en-route and other flights to have access to timely weather reporting. To meet this objective, the Division of Aeronautics undertook a ground-breaking program to install off-airport weather reporting equipment in 12 mountain pass areas of the State. These additional off-airport weather reporting installations help to improve aircraft safety and airport accessibility throughout Colorado.

Using GIS analysis, **Exhibit 4-12** shows the areas of Colorado that are within 25 nautical miles of weather reporting equipment, either on or off-airport. Results of this mapping exercise show that 99 percent of Colorado's population and 78 percent of its land area are within 25 nautical miles of weather reporting equipment, either on or off-airport.

Exhibit 4-12: Population/Area within 25 Nautical Miles of Weather Reporting Equipment



4.5.7 Benchmark: Emergency Access

Unique geographic features and Colorado's population distribution and topography make emergency services by air very important. In the less populated and more remote areas of the State, specialized and emergency medical care is often not available. As a result, aircraft are often used to transport patients from one area of the State to another when medical care is time sensitive. Medical aircraft used in Colorado carry medical equipment and medical staff to care for patients en-route to a hospital. While helicopters are often used for medical related transport, because of their limited range, payload, and speed, air ambulance companies in Colorado often need to employ fixed-wing aircraft.

The King Air B200 and the Learjet 35 are representative of the aircraft used in Colorado to provide emergency transport. During the preparation of the 2000 Colorado Inventory and Implementation Plan, operators of fixed-wing medical aircraft in Colorado were contacted to determine their minimum operating needs and requirements. The emergency aircraft operators indicated that they, in addition to minimum runway lengths for each aircraft type discussed in the paragraph below, prefer to have the following types of facilities at the airports where they fly their aircraft:

- On-site weather reporting equipment
- A published approach
- A rotating beacon
- High or medium intensity runway lighting (HIRL or MIRL)

Runway length requirements for all aircraft are calculated by emergency operators using inputs that include, but are not limited to, elevation of the airport, operating characteristics of the aircraft, payload, stage length, and temperature. Because of Colorado's unique topography and climate, for the emergency aircraft analysis, the State was divided into three areas: Eastern Plains, Front Range, and Western Plains. Within each of these three regions, elevations and temperatures were averaged in order to develop a composite minimum runway length requirement for each region.

Working with the operators of emergency fixed-wing aircraft, assumptions were developed regarding favorable aircraft flap settings, gross take-off weight, wind, and weather conditions. These assumptions, along with those for average elevation and temperature, were used to identify minimum runway length requirements for the Learjet 35 and the King Air B200 in each of Colorado's three geographic regions. Working with emergency fixed-wing aircraft operators during the 2000 study, minimum runway length objectives for each of the two aircraft, by region, were established. These minimum emergency runway length objectives are presented in **Table 4-11**. The following sections provide information on airports within the Colorado system that meet the operating objectives for the King Air and the Lear 35 emergency aircraft.

Table 4-11: Runway Length Objective Factors

Colorado Region	Average Field Elevation (msl)	Mean Maximum Temperature	King Air B200 Minimum Runway Length Objective	Learjet 35 Minimum Runway Length Objective
Eastern Plains	4,129	91	4,600	6,000
Front Range	5,553	87	4,800	6,400
Western Slope	6,823	85	5,300	6,800

Population/Area within a 30 Minute Drive Time of an Airport Able to Accommodate King Air B200 Emergency Aircraft

The King Air B200 is a twin turbo-prop aircraft with a maximum gross take-off weight of 12,500 pounds. This aircraft is certified for single pilot operation. When configured for medical purposes, this aircraft carries appropriate medical equipment and supplies and up to 7 passengers, which include the patient and medical personnel.

Using the previously noted facility objectives and the minimum runway lengths noted by region in Table 4-11, **Table 4-12** provides information which shows which system airports presently meet the established operating objectives for the King Air B200. **Figure 4-17** summarizes, by airport role and for the system, airports meeting all operating objectives for King Air B200 emergency aircraft. As shown in this chart, 100 percent of the Major Airports (26 airports) and 34 percent of the Intermediate Airports (11 airports) have all facilities in place to meet the objectives for operators of the King Air B200 emergency aircraft. It is not surprising that none of the airports in the Minor Airport category meet all of the objectives for the King Air since it is not a system plan objective for Minor Airports to have the lighting and weather reporting equipment that the emergency operators desire. System-wide, 49 percent of all airports in Colorado or 37 airports meet all operating objectives for the King Air B200 emergency aircraft.

The system plan has not established an objective for the number of airports in the State that should be able to accommodate the King Air emergency aircraft, so to some extent this benchmark is informational in nature. However, as lighting, runway lengths, visual landing aids, weather reporting, and approaches at airports in Colorado are enhanced, system performance for this benchmark may increase.

Table 4-12: King Air B200 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets King Air Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Major Airports										
Akron	Colorado Plains Regional Airport	Eastern Plains	4,714	7,000	Yes	ASOS	Yes	Yes	Yes	Yes
Alamosa	San Luis Valley Airport	Western Slope	7,539	8,519	Yes	ASOS	Yes	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Western Slope	7,820	8,000	Yes	ASOS	Yes	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Front Range	5,5,673	9,000	Yes	AWOS	Yes	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Eastern Plains	4,219	5,201	Yes	ASOS	Yes	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Front Range	6,184	13,501	Yes	ASOS	Yes	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Western Slope	5,918	7,205	Yes	ASOS	Yes	Yes	Yes	Yes
Denver	Denver International Airport	Front Range	5,431	16,000	Yes	ASOS	Yes	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Western Slope	6,685	9,201	Yes	ASOS	Yes	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Western Slope	6,535	9,000	Yes	AWOS	Yes	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Front Range	5,885	10,001	Yes	ASOS	Yes	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Western Slope	4,858	10,501	Yes	ASOS	Yes	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Front Range	4,697	10,000	Yes	AWOS	Yes	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Western Slope	7,678	9,400	Yes	AWOS	Yes	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Western Slope	6,602	9,998	Yes	AWOS	Yes	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Eastern Plains	3,706	6,304	Yes	ASOS	Yes	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Front Range	5,055	4,800	Yes	AWOS	Yes	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Front Range	5,016	8,500	Yes	AWOS	Yes	Yes	Yes	Yes
Meeker	Meeker Airport	Western Slope	6,421	6,497	Yes	ASOS	Yes	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Western Slope	5,759	10,000	Yes	ASOS	Yes	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Western Slope	7,664	8,100	Yes	AWOS	Yes	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Front Range	4,726	10,498	Yes	ASOS	Yes	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Western Slope	5,548	7,000	Yes	ASOS	Yes	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Western Slope	9,070	7,111	Yes	AWOS	Yes	Yes	Yes	Yes

Table 4-12: King Air B200 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets King Air Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Major Airports, Cont'd.										
Trinidad	Perry Stokes Airport	Front Range	5,762	5,500	Yes	ASOS	Yes	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Front Range	5,512	8,000	Yes	AWOS	Yes	Yes	Yes	Yes
Intermediate Airports										
Boulder	Boulder Municipal Airport	Front Range	5,288	4,100	No	AWOS	Yes	No	Yes	No
Buena Vista	Central Colorado Regional Airport	Western Slope	7,946	8,300	Yes	AWOS	Yes	Yes	Yes	Yes
Canon City	Fremont County Airport	Western Slope	5,439	5,399	Yes	ASOS	Yes	Yes	Yes	Yes
Center	Leach Airport	Western Slope	7,598	7,000	Yes	No	Yes	No	No	No
Colorado Springs	Meadow Lake Airport **	Front Range	6,874	6,000	Yes	AWOS	Yes	No	Yes	No
Craig	Craig-Moffat County Airport	Western Slope	6,193	5,606	Yes	ASOS	Yes	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Western Slope	8,680	6,880	Yes	No	No	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Western Slope	7,949	6,050	Yes	No	No	No	No	No
Delta	Blake Field	Western Slope	5,193	5,598	Yes	AWOS	Yes	No	Yes	No
Durango	Animas Airpark **	Western Slope	6,684	5,010	No	No	No	No	Yes	No
Eads	Eads Airport	Eastern Plains	4,245	3,860	No	No	No	No	Yes	No
Erie	Erie Municipal Airport	Front Range	5,130	4,700	No	AWOS	Yes	Yes	Yes	No
Fort Morgan	Fort Morgan Municipal Airport	Eastern Plains	4,569	5,219	Yes	AWOS	Yes	No	Yes	No
Glenwood Springs	Glenwood Springs Municipal Airport	Western Slope	5,916	3,305	No	ASOS	No	No	No	No
Granby	Granby-Grand County Airport	Western Slope	8,203	5,000	No	AWOS	Yes	No	Yes	No
Holyoke	Holyoke Municipal Airport	Eastern Plains	3,730	5,000	Yes	AWOS	Yes	Yes	Yes	Yes
Kremmling	McElroy Field	Western Slope	7,411	5,540	Yes	AWOS	Yes	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Eastern Plains	4,229	6,849	Yes	ASOS	Yes	Yes	Yes	Yes
Leadville	Lake County Airport	Western Slope	9,927	6,400	Yes	ASOS	Yes	Yes	Yes	Yes
Limon	Limon Municipal Airport	Front Range	5,374	4,700	No	ASOS	Yes	No	Yes	No
Monte Vista	Monte Vista Municipal Airport	Western Slope	7,611	5,900	Yes	None	Yes	Yes	Yes	No

Table 4-12: King Air B200 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets King Air Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Intermediate Airports, Cont'd.										
Nucla	Hopkins Field	Western Slope	5,940	4,600	No	AWOS	Yes	Yes	Yes	No
Rangely	Rangely Airport	Western Slope	5,275	6,408	Yes	Super Unicom	Yes	No	Yes	No
Salida	Harriet Alexander Airport	Western Slope	7,523	7,347	Yes	AWOS	Yes	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Eastern Plains	4,390	5,000	Yes	No	Yes	Yes	Yes	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Western Slope	6,882	4,452	No	AWOS	Yes	Yes	Yes	No
Sterling	Sterling Municipal Airport	Eastern Plains	4,040	5,200	Yes	AWOS	Yes	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Western Slope	8,153	5,900	Yes	AWOS	Yes	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	Front Range	6,050	4,896	Yes	None	No	No	No	No
Westcliffe	Silver West Airport	Western Slope	8,290	7,000	Yes	No	No	No	No	No
Wray	Wray Municipal Airport	Eastern Plains	3,667	5,400	Yes	AWOS	Yes	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Western Slope	4,136	4,200	No	No	Yes	No	Yes	No
Minor Airports										
Akron	Gebauer Airport **	Eastern Plains	4,509	3,000	No	No	No	No	No	No
Blanca	Blanca Airport	Western Slope	7,720	6,160	Yes	No	No	No	No	No
Brush	Brush Municipal Airport	Eastern Plains	4,280	4,300	No	No	No	No	No	No
Calhan	Calhan Airport **	Front Range	6,450	4,565	No	No	No	No	No	No
Crawford	Crawford Airport **	Western Slope	6,470	4,900	No	No	No	No	No	No
Delta	Westwinds Airpark **	Western Slope	5,000	4,100	No	No	No	No	No	No
Dove Creek	Dove Creek Airport **	Western Slope	6,975	4,200	No	No	No	No	No	No
Ellicott	Colorado Springs East Airport **	Front Range	6,145	4,500	No	No	No	No	No	No
Greeley	Easton-Valley View Airport **	Eastern Plains	4,820	4,000	No	No	No	No	No	No
Haxtun	Haxtun Municipal Airport	Eastern Plains	4,035	3,860	No	No	No	No	No	No
Holly	Holly Airport	Eastern Plains	3,390	4,140	No	No	No	No	No	No
Hudson	Platte Valley Airpark **	Front Range	4,965	4,100	No	No	Yes	No	No	No

Table 4-12: King Air B200 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets King Air Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Minor Airports, Cont'd.										
Julesburg	Julesburg Municipal Airport	Eastern Plains	3,520	4,100	No	No	Yes	No	Yes	No
La Veta	Cuchara Valley Airport	Western Slope	7,153	5,798	Yes	No	Yes	No	No	No
Las Animas	Las Animas City & County Airport	Western Slope	3,915	3,870	No	No	No	No	No	No
Mack	Mack Mesa Airport **	Western Slope	4,724	2,600	No	No	No	No	No	No
Paonia	North Fork Valley Airport	Western Slope	5,798	4,500	No	No	No	No	Yes	No
Saguache	Saguache Municipal Airport	Western Slope	7,826	7,957	Yes	AWOS	No	No	No	No

** Indicates Private Ownership

Figure 4-17: Airports Able to Accommodate King Air B200 Emergency Aircraft

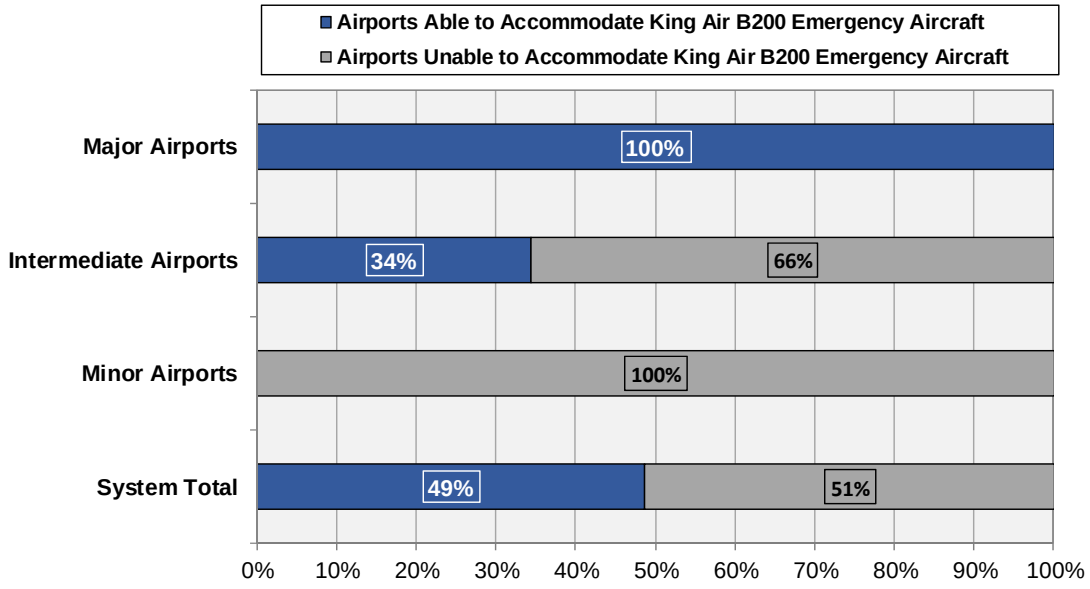
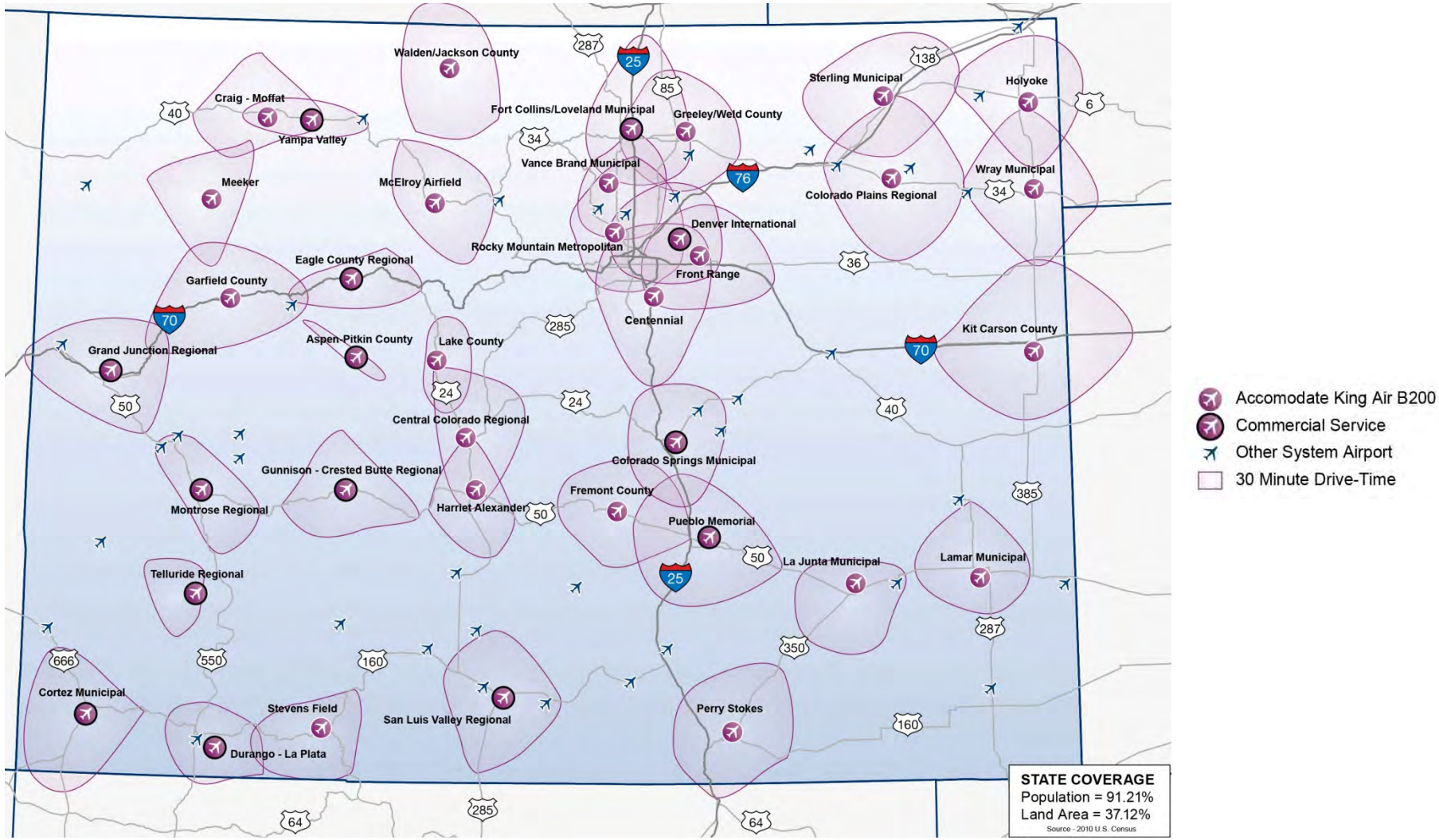


Exhibit 4-13 uses GIS analysis to determine the percent of Colorado and its population that are within a 30 minute drive time of an airport capable of supporting the King Air emergency aircraft. As this exhibit shows, 37 percent of Colorado and 91 percent of its population are within a 30 minute or less drive time of an airport that meets all of the operating objectives for the King Air B200 emergency aircraft.

Exhibit 4-13: Population/Area within 30 Minute Drive of an Airport Serving King Air Emergency Aircraft



Population/Area within a 30 Minute Drive Time of an Airport Able to Accommodate Lear 35 Emergency Aircraft

The Learjet 35 is a twin turbofan aircraft with a maximum gross take-off weight of approximately 15,500 pounds. This aircraft is certified for a flight crew of two. When configured for medical purposes, this aircraft carries appropriate medical equipment and supplies and up to 9 passengers, which include the patient and medical personnel.

Using the previously noted facility objectives and the minimum runway lengths noted by region in Table 4-11, **Table 4-13** provides information that shows which system airports presently meet the established operating objectives for the Learjet 35. **Figure 4-18** summarizes, by airport role and for the system, which airports meet all operating objectives for Learjet 35 emergency aircraft.

Table 4-13: Learjet 35 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets Learjet Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Major Airports										
Akron	Colorado Plains Regional Airport	Eastern Plains	4,714	7,000	Yes	ASOS	Yes	Yes	Yes	Yes
Alamosa	San Luis Valley Airport	Western Slope	7,539	8,519	Yes	ASOS	Yes	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Western Slope	7,820	8,000	Yes	ASOS	Yes	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Front Range	5,673	9,000	Yes	AWOS	Yes	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Eastern Plains	4,219	5,201	No	ASOS	Yes	Yes	Yes	No
Colorado Springs	Colorado Springs Municipal Airport	Front Range	6,184	13,501	Yes	ASOS	Yes	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Western Slope	5,918	7,205	Yes	ASOS	Yes	Yes	Yes	Yes
Denver	Denver International Airport	Front Range	5,431	16,000	Yes	ASOS	Yes	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Western Slope	6,685	9,201	Yes	ASOS	Yes	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Western Slope	6,535	9,000	Yes	AWOS	Yes	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Front Range	5,885	10,001	Yes	ASOS	Yes	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Western Slope	4,858	10,501	Yes	ASOS	Yes	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Front Range	4,697	10,000	Yes	AWOS	Yes	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Western Slope	7,678	9,400	Yes	AWOS	Yes	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Western Slope	6,602	9,998	Yes	AWOS	Yes	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Eastern Plains	3,706	6,304	Yes	ASOS	Yes	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Front Range	5,055	4,800	No	AWOS	Yes	Yes	Yes	No
Loveland	Fort Collins-Loveland Municipal Airport	Front Range	5,016	8,500	Yes	AWOS	Yes	Yes	Yes	Yes
Meeker	Meeker Airport	Western Slope	6,421	6,497	No	ASOS	Yes	Yes	Yes	No
Montrose	Montrose Regional Airport	Western Slope	5,759	10,000	Yes	ASOS	Yes	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Western Slope	7,664	8,100	Yes	AWOS	Yes	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Front Range	4,726	10,498	Yes	ASOS	Yes	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Western Slope	5,548	7,000	Yes	ASOS	Yes	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Western Slope	9,070	7,111	Yes	AWOS	Yes	Yes	Yes	Yes

Table 4-13: Learjet 35 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets Learjet Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Major Airports, Cont'd.										
Trinidad	Perry Stokes Airport	Front Range	5,762	5,500	No	ASOS	Yes	Yes	Yes	No
Watkins/Denver	Front Range Airport	Front Range	5,512	8,000	Yes	AWOS	Yes	Yes	Yes	Yes
Intermediate Airports										
Boulder	Boulder Municipal Airport	Front Range	5,288	4,100	No	AWOS	Yes	No	Yes	No
Buena Vista	Central Colorado Regional Airport	Western Slope	7,946	8,300	Yes	AWOS	Yes	Yes	Yes	Yes
Canon City	Fremont County Airport	Western Slope	5,439	5,399	No	ASOS	Yes	Yes	Yes	No
Center	Leach Airport	Western Slope	7,598	7,000	Yes	No	Yes	No	No	No
Colorado Springs	Meadow Lake Airport **	Front Range	6,874	6,000	No	AWOS	Yes	No	Yes	No
Craig	Craig-Moffat County Airport	Western Slope	6,193	5,606	No	ASOS	Yes	Yes	Yes	No
Creede	Mineral County Memorial Airport	Western Slope	8,680	6,880	Yes	No	No	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Western Slope	7,949	6,050	No	No	No	No	No	No
Delta	Blake Field	Western Slope	5,193	5,598	No	AWOS	Yes	No	Yes	No
Durango	Animas Airpark **	Western Slope	6,684	5,010	No	No	No	No	Yes	No
Eads	Eads Airport	Eastern Plains	4,245	3,860	No	No	No	No	Yes	No
Erie	Erie Municipal Airport	Front Range	5,130	4,700	No	AWOS	Yes	Yes	Yes	No
Fort Morgan	Fort Morgan Municipal Airport	Eastern Plains	4,569	5,219	No	AWOS	Yes	No	Yes	No
Glenwood Springs	Glenwood Springs Municipal Airport	Western Slope	5,916	3,305	No	ASOS	No	No	No	No
Granby	Granby-Grand County Airport	Western Slope	8,203	5,000	No	AWOS	Yes	No	Yes	No
Holyoke	Holyoke Municipal Airport	Eastern Plains	3,730	5,000	No	AWOS	Yes	Yes	Yes	No
Kremmling	McElroy Field	Western Slope	7,411	5,540	No	AWOS	Yes	Yes	Yes	No
La Junta	La Junta Municipal Airport	Eastern Plains	4,229	6,849	Yes	ASOS	Yes	Yes	Yes	Yes
Leadville	Lake County Airport	Western Slope	9,927	6,400	No	ASOS	Yes	Yes	Yes	No
Limon	Limon Municipal Airport	Front Range	5,374	4,700	No	ASOS	Yes	No	Yes	No
Monte Vista	Monte Vista Municipal Airport	Western Slope	7,611	5,900	No	No	Yes	Yes	Yes	No

Table 4-13: Learjet 35 Airport Accessibility

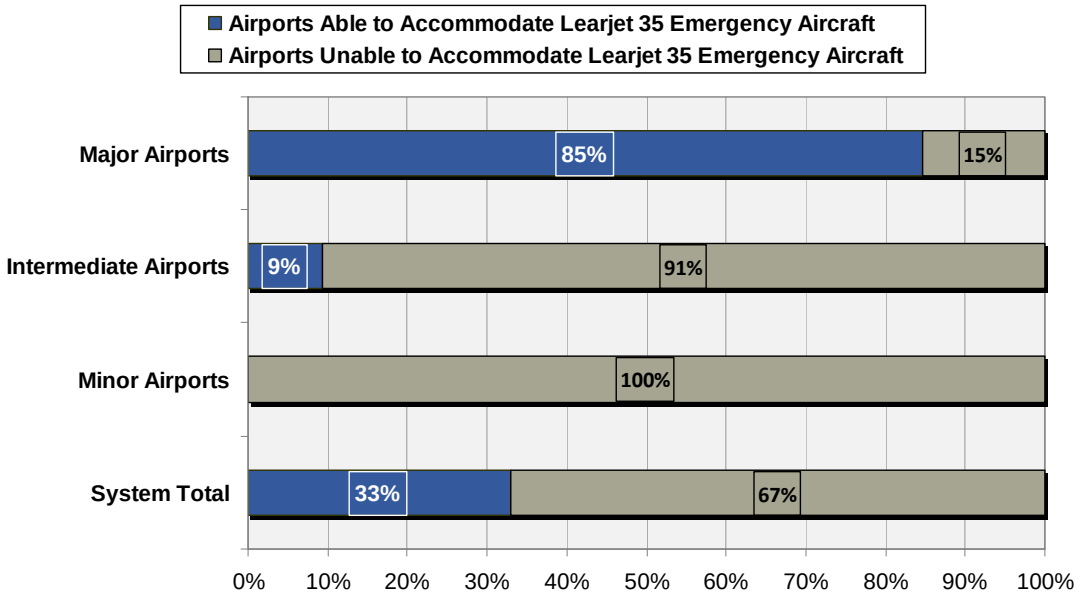
City	Airport	Region	Elevation (mls)	Runway Length	Meets Learjet Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Intermediate Airports, Cont'd.										
Nucla	Hopkins Field	Western Slope	5,940	4,600	No	AWOS	Yes	Yes	Yes	No
Rangely	Rangely Airport	Western Slope	5,275	6,408	No	Super Unicom	Yes	No	Yes	No
Salida	Harriet Alexander Airport	Western Slope	7,523	7,347	Yes	AWOS	Yes	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Eastern Plains	4,390	5,000	No	No	Yes	Yes	Yes	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Western Slope	6,882	4,452	No	AWOS	Yes	Yes	Yes	No
Sterling	Sterling Municipal Airport	Eastern Plains	4,040	5,200	No	AWOS	Yes	Yes	Yes	No
Walden	Walden-Jackson County Airport	Western Slope	8,153	5,900	No	AWOS	Yes	Yes	Yes	No
Walsenburg	Spanish Peaks Airfield	Front Range	6,050	4,896	No	No	No	No	No	No
Westcliffe	Silver West Airport	Western Slope	8,290	7,000	Yes	No	No	No	No	No
Wray	Wray Municipal Airport	Eastern Plains	3,667	5,400	No	AWOS	Yes	Yes	Yes	No
Yuma	Yuma Municipal Airport	Western Slope	4,136	4,200	No	No	Yes	No	Yes	No
Minor Airports										
Akron	Gebauer Airport **	Eastern Plains	4,509	3,000	No	No	No	No	No	No
Blanca	Blanca Airport	Western Slope	7,720	6,160	No	No	No	No	No	No
Brush	Brush Municipal Airport	Eastern Plains	4,280	4,300	No	No	No	No	No	No
Calhan	Calhan Airport **	Front Range	6,450	4,565	No	No	No	No	No	No
Crawford	Crawford Airport **	Western Slope	6,470	4,900	No	No	No	No	No	No
Delta	Westwinds Airpark **	Western Slope	5,000	4,100	No	No	No	No	No	No
Dove Creek	Dove Creek Airport **	Western Slope	6,975	4,200	No	No	No	No	No	No
Ellicott	Colorado Springs East Airport **	Front Range	6,145	4,500	No	No	No	No	No	No
Greeley	Easton-Valley View Airport **	Eastern Plains	4,820	4,000	No	No	No	No	No	No
Haxtun	Haxtun Municipal Airport	Eastern Plains	4,035	3,860	No	No	No	No	No	No
Holly	Holly Airport	Eastern Plains	3,390	4,140	No	No	No	No	No	No
Hudson	Platte Valley Airpark **	Front Range	4,965	4,100	No	No	Yes	No	No	No

Table 4-13: Learjet 35 Airport Accessibility

City	Airport	Region	Elevation (mls)	Runway Length	Meets Learjet Min. Runway Length	Weather Reporting	Rotating Beacon	Published Approach	MIRL or HIRL	Meets All Criteria
Minor Airports, Cont'd.										
Julesburg	Julesburg Municipal Airport	Eastern Plains	3,520	4,100	No	No	Yes	No	Yes	No
La Veta	Cuchara Valley Airport	Western Slope	7,153	5,798	No	No	Yes	No	No	No
Las Animas	Las Animas City & County Airport	Western Slope	3,915	3,870	No	No	No	No	No	No
Mack	Mack Mesa Airport **	Western Slope	4,724	2,600	No	No	No	No	No	No
Paonia	North Fork Valley Airport	Western Slope	5,798	4,500	No	No	No	No	Yes	No
Saguache	Saguache Municipal Airport	Western Slope	7,826	7,957	Yes	AWOS	No	No	No	No

** Indicates Private Ownership

Figure 4-18: Airports Able to Accommodate Lear Jet 35 Emergency Aircraft

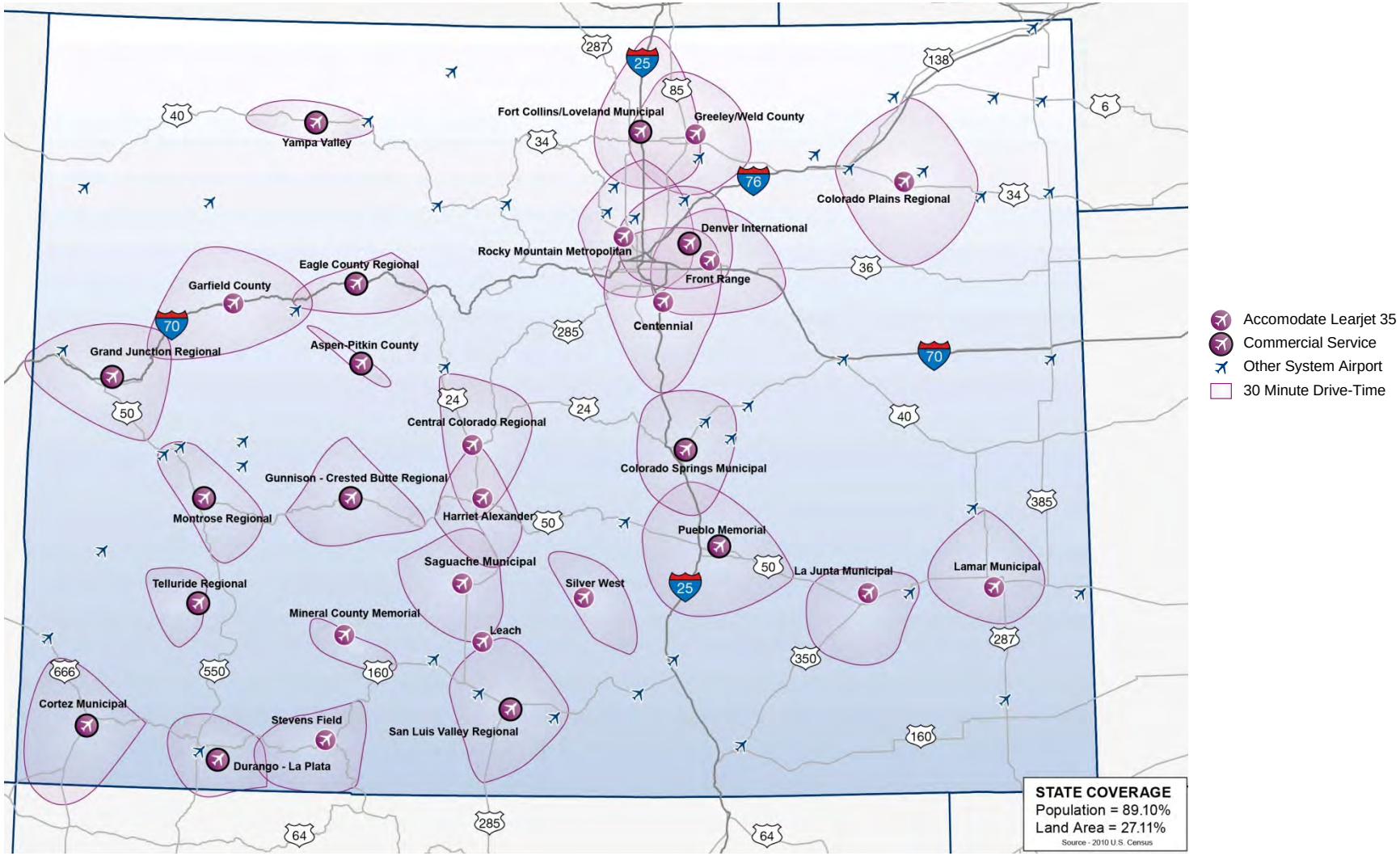


As shown in Figure 4-18, 85 percent of the Major Airports and 9 percent of the Intermediate Airports have all facilities in place to meet the objectives of operators of Learjet 35 emergency aircraft. This percentage reflects a total of 25 airports in the system that can accommodate the Learjet 35 emergency aircraft. It is not surprising that none of the airports in the Minor Airport category meet all of the objectives for the Learjet 35 since it is not a system plan objective for Minor Airports to have the lighting, weather reporting equipment, approaches, and the runway length that the emergency operators desire. System-wide, 33 percent of all airports in Colorado meet all operating objectives for the Learjet 35 emergency aircraft.

The system plan does not have established an objective for the number of airports in the State that should be able to accommodate the Learjet 35 emergency aircraft, so to some extent this benchmark is informational in nature. However, as lighting, runway lengths, weather reporting, and approaches at airports in Colorado are improved, system performance for this benchmark may increase.

Exhibit 4-14 uses GIS to determine the percent of Colorado and its population that are within a 30 minute drive time of an airport capable of supporting the Learjet 35 emergency aircraft. As this exhibit implies, 27 percent of Colorado and 89 percent of its population are within a 30 minute or less drive time of an airport that meets all of the operating objectives for the Learjet 35 emergency aircraft.

Exhibit 4-14: Population/Area within 30 Minute Drive of an Airport Serving Learjet Emergency Aircraft



4.6 Performance Measure: Investment

Considerable local, private, State, and Federal investment has gone into developing and maintaining Colorado's airport system. Creating a reasonable balance between maintaining existing infrastructure and developing new facilities is important to having an airport system that is economically viable and sustainable. The 2000 Statewide Inventory and Implementation Plan established facility and service objectives for airports in the Major, Intermediate, and Minor airport categories. These objectives represent a level of facilities and services that is considered typical to meet the needs of users for airports in each airport role or category.

For the investment performance measure, the following benchmarks were considered to evaluate the system's performance:

- Airports meeting facility and service objectives
- Airports meeting minimum runway length requirements
- Airports meeting pavement condition index (PCI) objectives

4.6.1 Benchmark: Airports Meeting Facility and Service Objectives

Facility and service objectives adopted for the Colorado airports are not standards or requirements; assignment of facility and service objectives as part of the system plan does not obligate Federal or State funds to accomplish the objective. It is also important to note that some of the objectives for items such as runway length and approach capabilities require the applicable airport to meet certain criteria and justification established by the FAA; hence, projects to meet certain facility objectives require justification and feasibility review within the context of an airport master plan. Further, while applicable system plan objectives apply to all airports in each of the three role categories, since some of the airports are not included in the NPIAS, they are not eligible for Federal funding from the FAA. This means that while facility objectives have been set, it may not be realistic for some airports to meet their objectives since they are not part of the federal airport system. This is especially true for non-NPIAS airports in the Intermediate Airport category.

Since the preparation of the 2005 system plan for Colorado, FAA released a new Advisory Circular on Airport Master Planning. Some of the guidance incorporated in the new Advisory Circular was used to update runway objectives for some system airports as presented in this section. Minor adjustments have been made to facility and service objectives presented in this section to better reflect Aeronautics' historical investment in system airports. In addition, equipment objectives have been added, when appropriate, for some airports. These equipment objectives were not included in the 2000 and 2005 iterations of the system plan.

Table 4-14 presents the most up-to-date facility, service, and equipment objectives for Major, Intermediate, and Minor Airports. Based on the results of the evaluation presented in this chapter, in subsequent portions of the plan, the decision may be made to adjust the current role of certain system airports. As a result, the ability of system airports to meet their facility and service objectives will not be determined until future airport roles are set.

Subsequently, the ability of each airport to meet its appropriate facility, service, and equipment objectives will be analyzed in Chapter Six, Current and Future Airport Performance.

Table 4-14: Colorado Airports Facilities and Service Objectives

	Major Airports				
Objective	**Commercial Service**	**General Aviation (Reliever)**	**General Aviation (Other)**	**Intermediate Airports**	**Minor Airports**
Airfield					
Runway	Accommodate 75% large aircraft at 90% useful load; grooved runway	Accommodate 75% large aircraft at 90% useful load	Accommodate 100% of small aircraft	Accommodate 75% small aircraft	Maintain existing
Runway Width	100 feet	75 feet	75 feet	75 feet	60 feet
Runway Strength	60,000 pounds	30,000 pounds	30,000 pounds	12,500 pounds	12,500 pounds
Taxiway	Full parallel	Full or partial parallel	Full or partial parallel	Full or partial parallel, connectors, or turn-arounds	None
Markings	Appropriate markings for runways and taxiways	Appropriate markings for runways and taxiways	Appropriate markings for runways and taxiways	Appropriate markings for runways and taxiways	Appropriate markings for runways and taxiways
Lighting/NAVAIDS					
Approach	Precision/Vertical Guidance	Precision/Vertical Guidance	Precision/Vertical Guidance	Non-precision	None
Visual Aids	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs, segmented circle	Rotating beacon, wind cone, segmented circle
Runway Lighting	HIRL/MIRL	HIRL/MIRL	HIRL/MIRL	MIRL	LIRL or reflectors
Apron Lighting	Yes	Yes	Yes	Yes	Yes
Weather Reporting	On-site ASOS or AWOS	On-site ASOS or AWOS	On-site ASOS or AWOS	On-site ASOS, AWOS, or Super Unicom	None
Services					
Air Traffic Control Tower	Yes	Yes	-	-	-
Ground Communications Link	Yes	Yes	Yes	-	-
Phone	Yes	Yes	Yes	Yes	Yes
Restroom	Yes	Yes	Yes	Yes	Yes
FBO	Yes	Yes	Yes	-	-

Table 4-14: Colorado Airports Facilities and Service Objectives

Objective	Major Airports				
	Commercial Service	General Aviation (Reliever)	General Aviation (Other)	Intermediate Airports	Minor Airports
Services, Cont'd.					
Maintenance	Yes	Yes	Yes	-	-
Fuel	Yes	Yes	Yes	Yes	-
Ground Transport	Yes	Yes	Yes	Yes	-
Landside Facilities					
Terminal	Yes	Yes	Yes	-	-
Apron	Yes	Yes	Yes	Yes	Yes
Hangars	Yes	Yes	Yes	Yes	-
Auto Parking	Yes	Yes	Yes	Yes	Yes
Equipment					
ARFF	Yes	-	-	-	-
Tractors	Yes	Yes	Yes	Yes	-
Mowers	Yes	Yes	Yes	Yes	-
Snow Removal	Yes	Yes	Yes	Yes	-
De-icing	Yes	Yes	Yes	-	-
Airfield Maintenance Vehicle	Yes	Yes	Yes	Yes	-
Paint Machine	Yes	Yes	Yes	Yes	-
Electrical Vault	Yes	Yes	Yes	Yes	-

4.6.2 Benchmark: Airports Meeting Minimum Runway Length Objectives

As discussed earlier in this chapter, runway lengths are determined based on a variety of factors which include, but are not limited to, the operating characteristics of the most demanding aircraft using the airport on a regular basis; the elevation of the airport; and the maximum temperature for the airport area. There are many factors, in addition to those noted here, that should be given careful consideration when an airport's runway length is calculated and the runway is extended. The actual need and justification for extending any particular runway is best established within the context of an airport master plan. Runway length objectives identified in this section are not considered justification for an extension to any runway at any airport in Colorado. However, the runway length objectives discussed in this section are considered to be generally reflective of the length that is desirable for each system airport to fulfill its designated system role.

Runway length objectives for system airports were first established in Colorado's 2000 Inventory and Implementation Plan. Since that plan was prepared and the 2005 system plan update was released, the FAA has updated its Advisory Circular on airport master planning; this Advisory Circular contains updated guidelines on runway length requirements. Some parameters for calculating runway lengths contained in the prior FAA Advisory Circular on master planning that were used in the 2000 and 2005 system plans were eliminated from the updated circular. While runway length guidelines contained in the most current circular were considered in this system plan update, in some instances previous runway lengths calculated as part of the 2000 plan were maintained.

For the Colorado Aviation System Plan, runway length benchmarks take into account the needs of both small and large aircraft. Small aircraft are classified as those weighing 12,500 pounds or less. Large general aviation aircraft weigh between 12,500 and 60,000 pounds. Runway lengths for large aircraft also account for useful load. In order to determine the adequacy of current runway lengths at system airports, objectives were established for airports in each role. These objectives are as follows:

- Major Commercial and General Aviation Reliever Airports – 75 percent of large aircraft at 90 percent useful load
- Other Major General Aviation Airports – 100 percent of all small aircraft
- Intermediate Airports – 75 percent of small aircraft
- Minor Airports – maintain existing runway length

Current runway lengths and the runway length objective for each airport's primary runway are presented in **Table 4-15**. It is important to note that environmental, manmade, topographical, financial, or other constraints may make it impractical or even impossible for some airports to meet their runway length objectives. In addition, several of the airports in the Intermediate category are non-NPIAS airports and do not qualify for Federal funding. Lack of Federal funding makes runway extensions very challenging. It is worth noting that aircraft can often operate on runway lengths that are less than optimum if they shorten their trip lengths and/or depart with less than full loads. Actual runway lengths requirements are again best established within the context of a more rigorous master planning effort.

Table 4-15: Airport Minimum Runway Length Objectives

City	Airport	NPIAS/ Non-NPIAS	Existing Runway Length	Benchmark Runway Length	Difference	Meets Benchmark
Major Airports						
Akron	Colorado Plains Regional Airport	NPIAS	7,000	7,000	0	Yes
Alamosa	San Luis Valley Airport	NPIAS	8,519	8,600	(81)	No
Aspen	Aspen-Pitkin County Airport	NPIAS	8,000	10,000	(2,000)	No
Broomfield/Denver	Rocky Mountain Metropolitan Airport	NPIAS	9,000	9,560	(560)	No
Burlington	Kit Carson County Airport	NPIAS	5,201	5,720	(519)	No
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	13,501	9,810	3,691	Yes
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	7,205	8,690	(1,485)	No
Denver	Denver International Airport	NPIAS	16,000	10,000	6,000	Yes
Durango	Durango-La Plata County Airport	NPIAS	9,201	9,300	(99)	No
Eagle	Eagle County Regional Airport	NPIAS	9,000	9,400	(400)	No
Englewood/Denver	Centennial Airport	NPIAS	10,001	9,530	471	Yes
Grand Junction	Grand Junction Regional Airport	NPIAS	10,501	8,990	1,511	Yes
Greeley	Greeley-Weld County Airport	NPIAS	10,000	6,080	3,920	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	9,400	8,830	570	Yes
Hayden	Yampa Valley Regional Airport	NPIAS	9,998	8,860	1,138	Yes
Lamar	Lamar Municipal Airport	NPIAS	6,304	5,420	884	Yes
Longmont	Vance Brand Municipal Airport	NPIAS	4,800	6,320	(1,520)	No
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	8,500	8,910	(410)	No
Meeker	Meeker Airport	NPIAS	6,497	7,730	(1,233)	No
Montrose	Montrose Regional Airport	NPIAS	10,000	9,000	1,000	Yes
Pagosa Springs	Stevens Field	NPIAS	8,100	9,200	(1,100)	No
Pueblo	Pueblo Memorial Airport	NPIAS	10,498	8,810	1,688	Yes
Rifle	Garfield County Regional Airport	NPIAS	7,000	6,940	60	Yes
Telluride	Telluride Regional Airport	NPIAS	7,111	8,840	(1,729)	No
Trinidad	Perry Stokes Airport	NPIAS	5,500	7,130	(1,630)	No
Watkins/Denver	Front Range Airport	NPIAS	8,000	8,950	(950)	No
Intermediate Airports						
Boulder	Boulder Municipal Airport	NPIAS	4,100	4,710	(610)	No

Table 4-15: Airport Minimum Runway Length Objectives

City	Airport	NPIAS/ Non-NPIAS	Existing Runway Length	Benchmark Runway Length	Difference	Meets Benchmark
Intermediate Airports, Cont'd.						
Buena Vista	Central Colorado Regional Airport	NPIAS	8,300	6,780	1,520	Yes
Canon City	Fremont County Airport	NPIAS	5,399	4,810	589	Yes
Center	Leach Airport	Non-NPIAS	7,000	6,380	620	Yes
Colorado Springs	Meadow Lake Airport **	NPIAS	6,000	5,830	170	Yes
Craig	Craig-Moffat County Airport	NPIAS	5,606	5,290	316	Yes
Creede	Mineral County Memorial Airport	Non-NPIAS	6,880	7,410	(530)	No
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	6,050	3,775	2,275	Yes
Delta	Blake Field	NPIAS	5,598	4,770	828	Yes
Durango	Animas Airpark **	Non-NPIAS	5,010	5,720	(710)	No
Eads	Eads Airport	Non-NPIAS	3,860	4,160	(300)	No
Erie	Erie Municipal Airport	NPIAS	4,700	4,660	40	Yes
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	5,219	4,500	719	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	3,305	5,120	(1,815)	No
Granby	Granby-Grand County Airport	NPIAS	5,000	7,050	(2,050)	No
Holyoke	Holyoke Municipal Airport	NPIAS	5,000	3,870	1,130	Yes
Kremmling	McElroy Field	NPIAS	5,540	6,250	(710)	No
La Junta	La Junta Municipal Airport	NPIAS	6,849	4,200	2,649	Yes
Leadville	Lake County Airport	NPIAS	6,400	8,540	(2,140)	No
Limon	Limon Municipal Airport	NPIAS	4,700	4,720	(20)	No
Monte Vista	Monte Vista Municipal Airport	NPIAS	5,900	6,400	(500)	No
Nucla	Hopkins Field	NPIAS	4,600	5,050	(450)	No
Rangely	Rangely Airport	NPIAS	6,508	4,790	1,718	Yes
Salida	Harriet Alexander Airport	NPIAS	7,347	6,370	977	Yes
Springfield	Springfield Municipal Airport	Non-NPIAS	5,000	4,250	750	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	4,452	5,770	(1,318)	No
Sterling	Sterling Municipal Airport	NPIAS	5,200	4,000	1,200	Yes
Walden	Walden-Jackson County Airport	Non-NPIAS	5,900	6,880	(980)	No
Walsenburg	Spanish Peaks Airfield	NPIAS	4,896	5,230	(334)	No
Westcliffe	Silver West Airport	Non-NPIAS	7,000	7,130	(130)	No
Wray	Wray Municipal Airport	NPIAS	5,400	3,380	2,020	Yes
Yuma	Yuma Municipal Airport	NPIAS	4,200	4,080	120	Yes

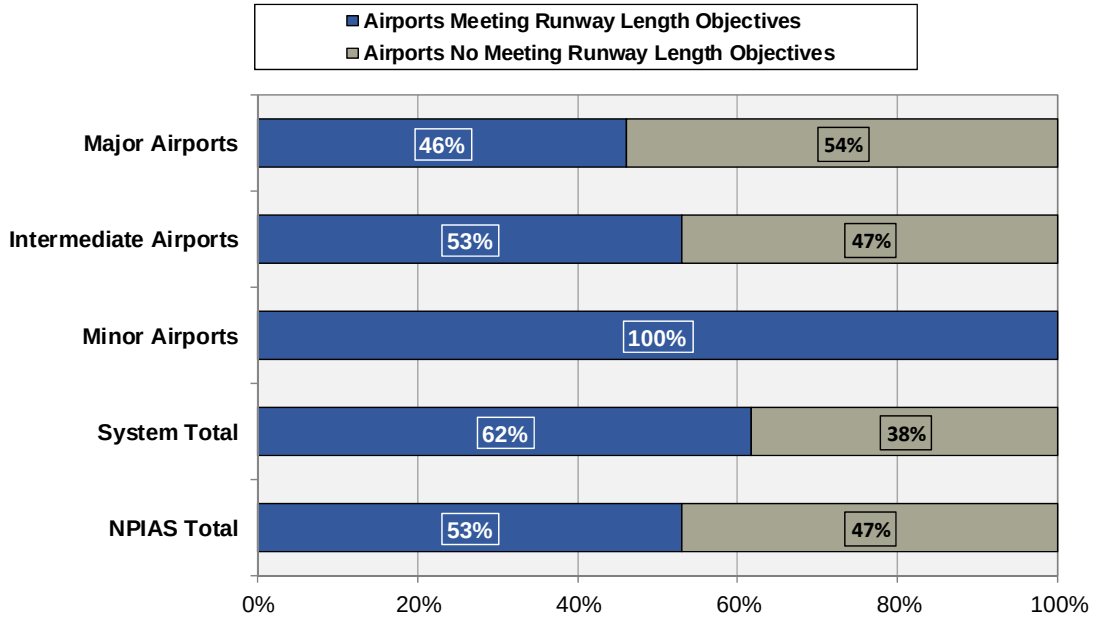
Table 4-15: Airport Minimum Runway Length Objectives

City	Airport	NPIAS/ Non-NPIAS	Existing Runway Length	Benchmark Runway Length	Difference	Meets Benchmark
Minor Airports						
Akron	Gebauer Airport **	Non-NPIAS	3,000	3,000	0	Yes
Blanca	Blanca Airport	Non-NPIAS	6,160	6,160	0	Yes
Brush	Brush Municipal Airport	Non-NPIAS	4,300	4,300	0	Yes
Calhan	Calhan Airport **	Non-NPIAS	4,565	4,565	0	Yes
Crawford	Crawford Airport **	Non-NPIAS	4,900	4,900	0	Yes
Delta	Westwinds Airpark **	Non-NPIAS	4,100	4,100	0	Yes
Dove Creek	Dove Creek Airport **	Non-NPIAS	4,200	4,200	0	Yes
Ellicott	Colorado Springs East Airport **	Non-NPIAS	4,500	4,500	0	Yes
Greeley	Easton-Valley View Airport **	Non-NPIAS	4,000	4,000	0	Yes
Haxtun	Haxtun Municipal Airport	Non-NPIAS	3,860	3,860	0	Yes
Holly	Holly Airport	Non-NPIAS	4,140	4,140	0	Yes
Hudson	Platte Valley Airpark **	Non-NPIAS	4,100	4,100	0	Yes
Julesburg	Julesburg Municipal Airport	Non-NPIAS	4,100	4,100	0	Yes
La Veta	Cuchara Valley Airport	Non-NPIAS	5,798	5,798	0	Yes
Las Animas	Las Animas City & County Airport	Non-NPIAS	3,870	3,870	0	Yes
Mack	Mack Mesa Airport **	Non-NPIAS	2,600	2,600	0	Yes
Paonia	North Fork Valley Airport	Non-NPIAS	4,500	4,500	0	Yes
Saguache	Saguache Municipal Airport	Non-NPIAS	7,957	7,957	0	Yes

** Indicates private ownership

Figure 4-19 illustrates those airports that currently meet their runway length objectives, as established in this system plan update. As shown in this chart, 46 percent of the Major Airports or 12 airports and 53 percent of the Intermediate Airports or 17 airports now meet their runway length objective. As noted, the system plan's objective is for airports in the Minor Airport category to maintain their current runway length. Ideally, all Major and all Intermediate Airports should meet their runway length objective. However, it is worth noting that for the 15 airports in the Intermediate Airport category that do not currently meet their runway length objective, 6 of these airports are non-NPIAS airports. Since these airports are not eligible for Federal funding to undertake projects needed to extend their runways, achieving runway length objectives for these airports as noted in the system plan may not be realistic. When only airports included in the NPIAS are considered, 53 percent of all applicable airports now meet their runway length objective.

Figure 4-19: Airports Meeting Minimum Runway Length Objectives



4.6.3 Airports Meeting PCI Benchmarks

Annually, a high percentage of grants from the Division of Aeronautics go toward pavement maintenance. Runways, taxiways, and apron areas are subject to deterioration and need to be inspected regularly to establish appropriate maintenance activities and the right timing for implementing these maintenance activities. All Major and Intermediate airports, as well as several of the Minor Airports in Colorado with a paved runway are part of the State's Pavement Management Program. **Table 4-16** indicates which airports are part of Colorado's Pavement Management Program. As part of this program, pavements at these airports are inspected on a regular basis in accordance with FAA Advisory Circular 150/5380-6A. The State's Pavement Management Program determines pavement condition, determines appropriate steps to address deficiencies, and prioritizes pavement improvements at applicable system airports.

Denver International is not part of the Pavement Management Program. Consequently, while the condition of all paved surfaces at this Major Airport are continually under review, pavements at Denver International do not have cumulative PCI ratings which can be compared directly with pavement condition ratings at other system airports. Information provided by staff from Denver International's Engineering Department confirms that the condition for all of the airport's primary pavements on their runways, taxiways, and apron area is equal to or greater than a condition that would translate into a PCI of 75 or greater. As a result, all primary pavements at Denver International (including runways, taxiways, and aprons) were assumed to be at or above a PCI rating of 75.

Table 4-16: Primary Runway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	Primary Runway	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Major Airports						
Akron	Colorado Plains Regional Airport	Yes	11/29	68	8/3/2011	No
Alamosa	San Luis Valley Airport	Yes	2/20	76	9/4/2009	Yes
Aspen	Aspen-Pitkin County Airport	Yes	15/33	100	10/14/2010	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	11L/29R	78	8/6/2009	Yes
Burlington	Kit Carson County Airport	Yes	15/33	73	7/15/2011	No
Colorado Springs	Colorado Springs Municipal Airport	Yes	17L/35R	95	10/1/2009	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	3/21	100	9/1/2009	Yes
Denver	Denver International Airport	No	16R/34L	75+	N/A	Yes
Durango	Durango-La Plata County Airport	Yes	3/21	91	10/1/2009	Yes
Eagle	Eagle County Regional Airport	Yes	7/25	100	10/15/2010	Yes
Englewood/Denver	Centennial Airport	Yes	17L/35R	99	8/9/2011	Yes
Grand Junction	Grand Junction Regional Airport	Yes	11/29	100	10/12/2010	Yes
Greeley	Greeley-Weld County Airport	Yes	16/34	82	3/1/2011	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	6/24	100	12/1/2011	Yes
Hayden	Yampa Valley Regional Airport	Yes	10/28	84	11/4/2010	Yes
Lamar	Lamar Municipal Airport	Yes	18/36	60	7/14/2011	No
Longmont	Vance Brand Municipal Airport	Yes	811/29	97	3/9/2011	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	15/33	100	6/2/2011	Yes
Meeker	Meeker Airport	Yes	3/21	55	11/4/2010	No
Montrose	Montrose Regional Airport	Yes	17/35	75	9/30/2009	Yes

Table 4-16: Primary Runway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	Primary Runway	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Major Airports, Cont'd.						
Pagosa Springs	Stevens Field	Yes	1/19	97	9/2/2009	Yes
Pueblo	Pueblo Memorial Airport	Yes	08L/26R	92	7/11/2011	Yes
Rifle	Garfield County Regional Airport	Yes	8/26	100	10/13/2010	Yes
Telluride	Telluride Regional Airport	Yes	9/27	100	12/1/2011	Yes
Trinidad	Perry Stokes Airport	Yes	3/21	62	7/12/2011	No
Watkins/Denver	Front Range Airport	Yes	17/35	90	5/1/2012	Yes
Intermediate Airports						
Boulder	Boulder Municipal Airport	Yes	8/26	82	8/7/2009	Yes
Buena Vista	Central Colorado Regional Airport	Yes	15/33	87	10/1/2009	Yes
Canon City	Fremont County Airport	Yes	11/29	92	10/1/2009	Yes
Center	Leach Airport	Yes	12/30	66	9/3/2009	No
Colorado Springs	Meadow Lake Airport **	Yes	15/33	64	7/11/2011	No
Craig	Craig-Moffat County Airport	Yes	7/25	83	11/3/2010	Yes
Creede	Mineral County Memorial Airport	Yes	7/25	71	9/3/2009	No
Del Norte	Astronaut Kent Rominger Airport	Yes	6/24	100	12/1/2011	Yes
Delta	Blake Field	Yes	3/21	76	9/29/2009	Yes
Durango	Animas Airpark **	Yes	1/19	64	9/1/2009	No
Eads	Eads Airport	Yes	17/35	66	7/14/2011	No
Erie	Erie Municipal Airport	Yes	15/33	84	2/15/2011	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	14/32	37	6/9/2008*	No
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	14/32	68	10/13/2010	No
Granby	Granby-Grand County Airport	Yes	9/27	99	11/3/2010	Yes

Table 4-16: Primary Runway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	Primary Runway	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Intermediate Airports, Cont'd.						
Holyoke	Holyoke Municipal Airport	Yes	14/32	82	8/4/2011	Yes
Kremmling	McElroy Field	Yes	9/27	68	11/5/2010	No
La Junta	La Junta Municipal Airport	Yes	8/26	78	7/13/2011	Yes
Leadville	Lake County Airport	Yes	16/34	66	10/2/2009	No
Limon	Limon Municipal Airport	Yes	16/34	93	7/15/2011	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	2/20	80	9/3/2009	Yes
Nucla	Hopkins Field	Yes	5/23	50	9/29/2009	No
Rangely	Rangely Airport	Yes	6/24	95	11/4/2010	Yes
Salida	Harriet Alexander Airport	Yes	6/24	100	12/1/2011	Yes
Springfield	Springfield Municipal Airport	Yes	17/35	91	7/13/2011	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	14/32	82	11/3/2010	Yes
Sterling	Sterling Municipal Airport	Yes	15/33	100	8/4/2011	Yes
Walden	Walden-Jackson County Airport	Yes	4/22	63	11/3/2010	No
Walsenburg	Spanish Peaks Airfield	Yes	8/26	67	7/12/2011	No
Westcliffe	Silver West Airport	Yes	13/31	98	9/4/2009	Yes
Wray	Wray Municipal Airport	Yes	17/35	85	8/3/2011	Yes
Yuma	Yuma Municipal Airport	Yes	16/34	26	8/3/2011	No
Minor Airports						
Akron	Gebauer Airport **	No	8/26	N/A	N/A	N/A
Blanca	Blanca Airport	No	3/21	N/A	N/A	N/A
Brush	Brush Municipal Airport	Yes	7/25	66	8/3/2011	No
Calhan	Calhan Airport **	No	17/35	N/A	N/A	N/A

Table 4-16: Primary Runway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	Primary Runway	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Minor Airports, Cont'd.						
Crawford	Crawford Airport **	No	7/25	N/A	N/A	N/A
Delta	Westwinds Airpark **	No	4/22	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	No	1/19	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	No	17R/35L	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	No	8/26	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	Yes	8/26	100	12/1/2011	Yes
Holly	Holly Airport	No	17/35	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	No	15/33	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	Yes	13/31	85	8/4/2011	Yes
La Veta	Cuchara Valley Airport	Yes	6/24	32	7/12/2011	No
Las Animas	Las Animas City & County Airport	Yes	8/26	65	7/13/2011	No
Mack	Mack Mesa Airport **	No	7/25	N/A	N/A	N/A
Paonia	North Fork Valley Airport	Yes	5/23	100	9/29/2009	Yes
Saguache	Saguache Municipal Airport	No	11/29	N/A	N/A	N/A

N/A = Not Applicable
* Not inspected in last cycle due to low PCI value

** Indicates private ownership

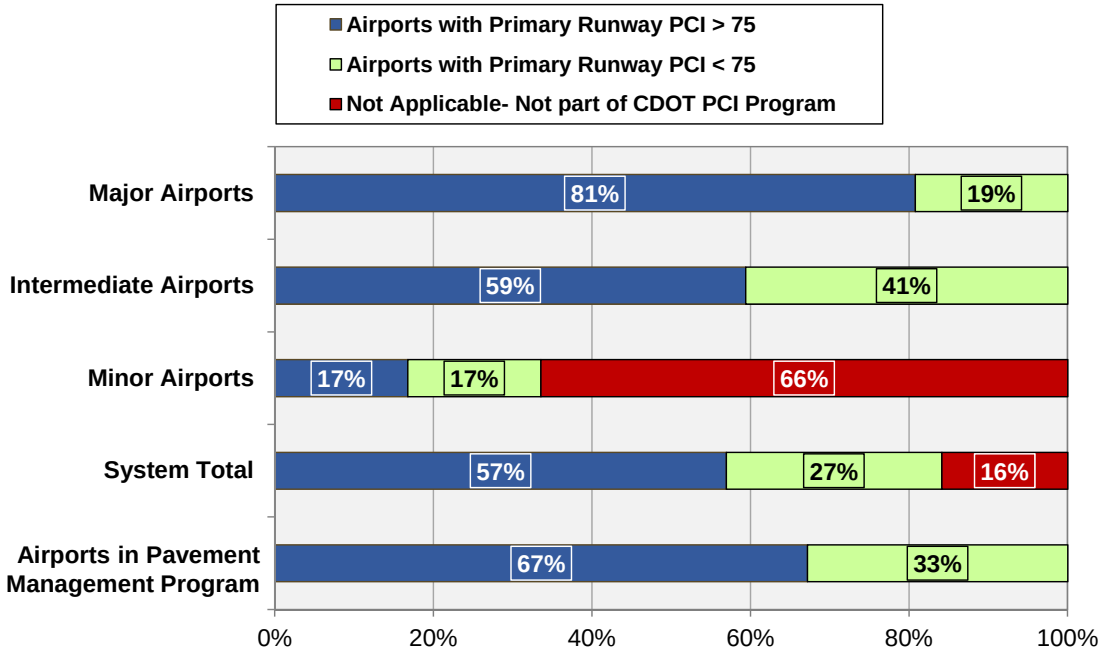
Pavement conditions at airports in Colorado are evaluated using a Pavement Condition Index (PCI). PCI values are numerical indicators between 0 and 100. In this system plan, a PCI of 100 represents pavements that are essentially new. Pavements that have a PCI between 75 and 100 are generally considered to be in good condition, but may still require preventative maintenance such as crack and joint sealing or other surface treatments. When PCIs are in the 40 to 75 range, major rehabilitation projects, such as full overlays may be warranted. When PCIs fall below 40, this indicates that significant pavement deterioration has taken place and total reconstruction may be required. Current PCIs for primary runways, taxiways, and apron areas at applicable system airports are discussed in the following sections.

Airports with a PCI of 75 or Greater on their Primary Runway

Table 4-16, aside for showing which airports are included Colorado's pavement management program, shows each airport's primary runway headings, the current PCI for that runway, the date the airport was most recently inspected as part of Colorado's Pavement Management Program, and whether or not the airport's primary runway currently meets the system plan's objective for having a PCI of 75 or greater. Primary runways with a PCI of less than 75 are most likely in need of some type of a pavement maintenance action. It is important to also note, that in some instances, even at a PCI of 75 or greater, pavements sometimes warrant preventative maintenance.

Figure 4-20 summarizes the current PCI ratings for primary runways at system airports. The PCI objective of 75 or greater for primary runways applies to Major and Intermediate Airports, as well as to some airports in the Minor Airport category that are included in the Pavement Management Program. There are 12 airports in the Minor Airport category that are not part of the Division of Aeronautics' pavement management program. As shown in Figure 4-20, 81 percent of the primary runways at the Major Airports and 59 percent of the primary runways at the Intermediate Airports currently have a PCI of 75 or greater. For applicable Minor Airports, 17 percent of the primary runways meet the PCI objective, 17 percent of the primary runways do not meet the PCI objective, and 66 percent of airports are not applicable. For the system airports as a whole, 57 percent of airports meet the PCI objective for their primary runway pavement. Among all system airports, 64 are included in the Pavement Management Program; of these 43 airports now have a PCI rating of 75 or above, while 21 do not.

Figure 4-20: Airports with Primary Runway PCI of 75 or Greater



Airports with a PCI of 75 or Greater on their Primary Taxiway

In addition to pavement on primary runways, this benchmark has been expanded for the first time to include pavements on the primary taxiway system of applicable airports. **Table 4-17** shows current PCI ratings for primary taxiways at applicable system airports. As with primary runways, the objective is to have a PCI rating of 75 or greater on the applicable primary taxiway.

Table 4-17: Primary Taxiway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Major Airports					
Akron	Colorado Plains Regional Airport	Yes	94	8/3/2011	Yes
Alamosa	San Luis Valley Airport	Yes	81	9/4/2009	Yes
Aspen	Aspen-Pitkin County Airport	Yes	92	10/14/2010	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	98	8/6/2009	Yes
Burlington	Kit Carson County Airport	Yes	80	7/15/2011	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	88	10/1/2009	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	90	9/1/2009	Yes
Denver	Denver International Airport	No	75+	N/A	Yes

Table 4-17: Primary Taxiway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Major Airports, Cont'd.					
Durango	Durango-La Plata County Airport	Yes	78	9/2/2009	Yes
Eagle	Eagle County Regional Airport	Yes	91	10/15/2010	Yes
Englewood/Denver	Centennial Airport	Yes	92	8/9/2011	Yes
Grand Junction	Grand Junction Regional Airport	Yes	69	10/12/2010	No
Greeley	Greeley-Weld County Airport	Yes	88	3/1/2011	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	77	9/28/2009	Yes
Hayden	Yampa Valley Regional Airport	Yes	90	11/4/2010	Yes
Lamar	Lamar Municipal Airport	Yes	74	7/14/2011	No
Longmont	Vance Brand Municipal Airport	Yes	94	3/9/2011	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	70	2/15/2011	No
Meeker	Meeker Airport	Yes	N/A	N/A	N/A
Montrose	Montrose Regional Airport	Yes	83	9/30/2009	Yes
Pagosa Springs	Stevens Field	Yes	100	9/2/2009	Yes
Pueblo	Pueblo Memorial Airport	Yes	84	7/11/2011	Yes
Rifle	Garfield County Regional Airport	Yes	100	10/13/2010	Yes
Telluride	Telluride Regional Airport	Yes	91	6/13/2006*	Yes
Trinidad	Perry Stokes Airport	Yes	N/A	N/A	N/A
Watkins/Denver	Front Range Airport	Yes	58	9/8/2011	No
Intermediate Airports					
Boulder	Boulder Municipal Airport	Yes	86	8/7/2009	Yes
Buena Vista	Central Colorado Regional Airport	Yes	78	10/1/2009	Yes
Canon City	Fremont County Airport	Yes	64	10/1/2009	No
Center	Leach Airport	Yes	N/A	N/A	N/A
Colorado Springs	Meadow Lake Airport **	Yes	64	7/11/2011	No
Craig	Craig-Moffat County Airport	Yes	N/A	N/A	N/A
Creede	Mineral County Memorial Airport	Yes	N/A	N/A	N/A
Del Norte	Astronaut Kent Rominger Airport	Yes	N/A	N/A	N/A
Delta	Blake Field	Yes	100	9/29/2009	Yes
Durango	Animas Airpark **	Yes	N/A	N/A	N/A
Eads	Eads Airport	Yes	N/A	N/A	N/A
Erie	Erie Municipal Airport	Yes	99	2/15/2011	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	N/A	N/A	N/A

Table 4-17: Primary Taxiway PCI Ratings

City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Intermediate Airports, Cont'd.					
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	100	10/13/2010	Yes
Granby	Granby-Grand County Airport	Yes	100	11/3/2010	Yes
Holyoke	Holyoke Municipal Airport	Yes	N/A	N/A	N/A
Kremmling	McElroy Field	Yes	N/A	N/A	N/A
La Junta	La Junta Municipal Airport	Yes	28	7/13/2011	No
Leadville	Lake County Airport	Yes	N/A	N/A	N/A
Limon	Limon Municipal Airport	Yes	98	7/15/2011	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	N/A	N/A	N/A
Nucla	Hopkins Field	Yes	N/A	N/A	N/A
Rangely	Rangely Airport	Yes	95	11/4/2010	Yes
Salida	Harriet Alexander Airport	Yes	100	12/1/2011	Yes
Springfield	Springfield Municipal Airport	Yes	15	8/18/2008*	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	N/A	N/A	N/A
Sterling	Sterling Municipal Airport	Yes	83	8/4/2011	Yes
Walden	Walden-Jackson County Airport	Yes	N/A	N/A	N/A
Walsenburg	Spanish Peaks Airfield	Yes	N/A	N/A	N/A
Westcliffe	Silver West Airport	Yes	N/A	N/A	N/A
Wray	Wray Municipal Airport	Yes	84	8/3/2011	Yes
Yuma	Yuma Municipal Airport	Yes	82	8/3/2011	Yes
Minor Airports					
Akron	Gebauer Airport **	No	N/A	N/A	N/A
Blanca	Blanca Airport	No	N/A	N/A	N/A
Brush	Brush Municipal Airport	Yes	N/A	N/A	N/A
Calhan	Calhan Airport **	No	N/A	N/A	N/A
Crawford	Crawford Airport **	No	N/A	N/A	N/A
Delta	Westwinds Airpark **	No	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	No	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	No	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	No	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	Yes	N/A	N/A	N/A
Holly	Holly Airport	No	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	No	N/A	N/A	N/A

Table 4-17: Primary Taxiway PCI Ratings

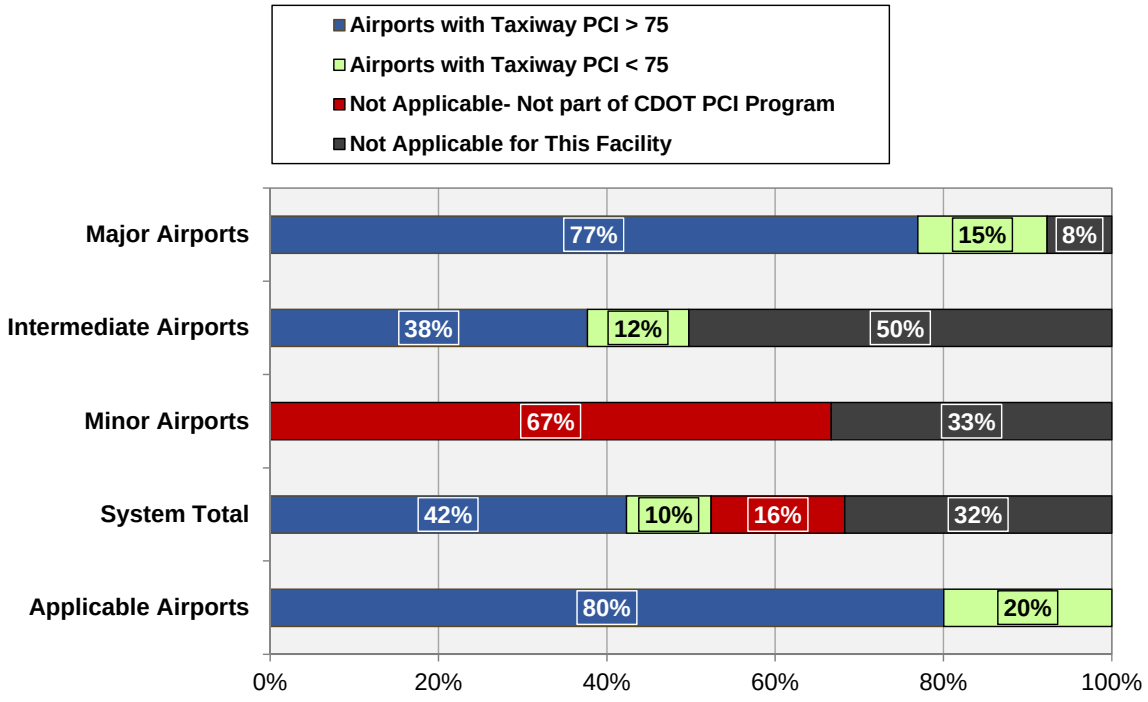
City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Minor Airports, Cont'd.					
Julesburg	Julesburg Municipal Airport	Yes	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	Yes	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	Yes	N/A	N/A	N/A
Mack	Mack Mesa Airport **	No	N/A	N/A	N/A
Paonia	North Fork Valley Airport	Yes	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	No	N/A	N/A	N/A

N/A = Not Applicable
* Not inspected in last cycle due to construction or low PCI value

** Indicates private ownership

For airports listed in Table 4-17 as being part of the Pavement Management Program but reporting an N/A, this indicates that this airport does not have this particular facility or the facility is not paved. **Figure 4-21** summarizes the current PCI ratings for primary taxiways at system airports. The PCI objective of 75 or greater for primary taxiways applies to a number of the Major and Intermediate Airports. The objective is not applicable to any of the Minor Airports that are part of the Division of Aeronautics' Pavement Management Program. As shown in Figure 4-21, 77 percent of the primary taxiways at the Major Airports and 38 percent of the primary taxiways at the Intermediate Airports currently have a PCI of 75 or greater. For Minor Airports, either the airport is not part of the program or the airport does not have a paved primary taxiway. For the system airports as a whole, 32 airports or 42 percent of the airports now meet their PCI objective for their primary taxiway. When only airports that are part of the Pavement Management Program and that have a paved primary taxiway are considered, 80 percent have a PCI of 75 or greater and 20 percent do not.

Figure 4-21: Airports with Primary Taxiway PCI of 75 or Greater



Airports with a PCI of 75 or Greater on their Primary Apron Area

In addition to pavement on primary runways and taxiways, this benchmark has been expanded for the first time to include pavements on the primary apron areas for applicable system airports. **Table 4-18** shows current PCI ratings for primary apron areas at applicable system airports. As with primary runways and taxiways, the objective is to have a PCI rating of 75 or greater on the applicable primary apron areas. Similar to primary taxiways, some airports are part of the Pavement Management Program but do not have a paved primary apron area.

Table 4-18: Primary Apron Area PCI Ratings

City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Major Airports					
Akron	Colorado Plains Regional Airport	Yes	51	8/3/2011	No
Alamosa	San Luis Valley Airport	Yes	87	9/4/2009	Yes
Aspen	Aspen-Pitkin County Airport	Yes	89	10/14/2010	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport ^	Yes	75	8/7/2009	No
Burlington	Kit Carson County Airport	Yes	88	7/15/2011	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	85	8/4/2009	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	87	9/1/2009	Yes
Denver	Denver International Airport	No	75+	N/A	Yes
Durango	Durango-La Plata County Airport	Yes	69	9/2/2009	No
Eagle	Eagle County Regional Airport	Yes	78	10/15/2010	Yes
Englewood/Denver	Centennial Airport	Yes	94	9/20/2011	Yes
Grand Junction	Grand Junction Regional Airport	Yes	91	12/2/2010	Yes
Greeley	Greeley-Weld County Airport	Yes	81	3/1/2011	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	82	9/29/2009	Yes
Hayden	Yampa Valley Regional Airport	Yes	83	11/4/2010	Yes
Lamar	Lamar Municipal Airport	Yes	23	7/14/2011	No
Longmont	Vance Brand Municipal Airport	Yes	77	3/9/2011	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	76	2/15/2011	Yes
Meeker	Meeker Airport	Yes	64	11/4/2010	No
Montrose	Montrose Regional Airport	Yes	84	9/30/2009	Yes
Pagosa Springs	Stevens Field	Yes	59	9/2/2009	No
Pueblo	Pueblo Memorial Airport	Yes	37	7/12/2011	No
Rifle	Garfield County Regional Airport	Yes	97	10/13/2010	Yes
Telluride	Telluride Regional Airport	Yes	91	6/13/2006*	Yes
Trinidad	Perry Stokes Airport	Yes	79	7/12/2011	Yes
Watkins/Denver	Front Range Airport	Yes	86	9/8/2011	Yes
Intermediate Airports					
Boulder	Boulder Municipal Airport	Yes	66	8/7/2009	No
Buena Vista	Central Colorado Regional Airport	Yes	82	10/1/2009	Yes
Canon City	Fremont County Airport	Yes	78	10/1/2009	Yes
Center	Leach Airport	Yes	N/A	N/A	N/A

Table 4-18: Primary Apron Area PCI Ratings

City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Intermediate Airports, Cont'd.					
Colorado Springs	Meadow Lake Airport **	Yes	N/A	N/A	N/A
Craig	Craig-Moffat County Airport	Yes	87	11/3/2010	Yes
Creede	Mineral County Memorial Airport	Yes	86	9/3/2009	Yes
Del Norte	Astronaut Kent Rominger Airport	Yes	51	9/3/2009	No
Delta	Blake Field	Yes	66	9/29/2009	No
Durango	Animas Airpark **	Yes	65	9/1/2009	No
Eads	Eads Airport	Yes	N/A	N/A	N/A
Erie	Erie Municipal Airport	Yes	86	2/15/2011	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	24	8/4/2011	No
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	64	10/13/2010	No
Granby	Granby-Grand County Airport	Yes	100	11/3/2010	Yes
Holyoke	Holyoke Municipal Airport	Yes	96	8/4/2011	Yes
Kremmling	McElroy Field	Yes	92	11/5/2010	Yes
La Junta	La Junta Municipal Airport	Yes	85	7/13/2011	Yes
Leadville	Lake County Airport	Yes	83	10/2/2009	Yes
Limon	Limon Municipal Airport	Yes	93	7/15/2011	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	100	9/3/2009	Yes
Nucla	Hopkins Field	Yes	100	9/29/2009	Yes
Rangely	Rangely Airport	Yes	94	11/4/2010	Yes
Salida	Harriet Alexander Airport	Yes	100	12/1/2011	Yes
Springfield	Springfield Municipal Airport	Yes	17	8/18/2008*	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	87	11/3/2010	Yes
Sterling	Sterling Municipal Airport	Yes	56	8/4/2011	No
Walden	Walden-Jackson County Airport	Yes	43	11/3/2010	No
Walsenburg	Spanish Peaks Airfield	Yes	93	7/12/2011	Yes
Westcliffe	Silver West Airport	Yes	84	9/4/2009	Yes
Wray	Wray Municipal Airport	Yes	88	8/3/2011	Yes
Yuma	Yuma Municipal Airport	Yes	39	8/3/2011	No
Minor Airports					
Akron	Gebauer Airport **	No	N/A	N/A	N/A
Blanca	Blanca Airport	No	N/A	N/A	N/A
Brush	Brush Municipal Airport	Yes	72	8/3/2011	No

Table 4-18: Primary Apron Area PCI Ratings

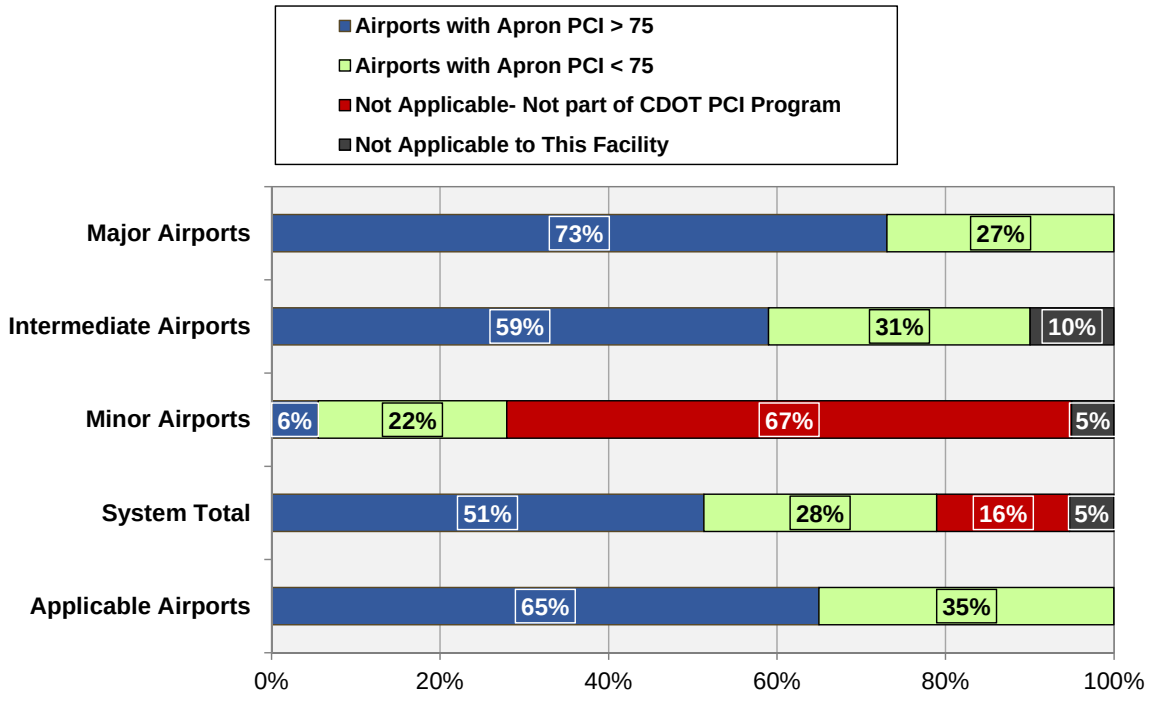
City	Airport	Part of CDOT Pavement Program?	PCI Rating	Most Recent Inspection Completed	Meets Benchmark
Minor Airports, Cont'd.					
Calhan	Calhan Airport **	No	N/A	N/A	N/A
Crawford	Crawford Airport **	No	N/A	N/A	N/A
Delta	Westwinds Airpark **	No	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	No	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	No	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	No	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	Yes	N/A	N/A	N/A
Holly	Holly Airport	No	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	No	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	Yes	69	8/4/2011	No
La Veta	Cuchara Valley Airport	Yes	16	7/12/2011	No
Las Animas	Las Animas City & County Airport	Yes	27	7/13/2011	No
Mack	Mack Mesa Airport **	No	N/A	N/A	N/A
Paonia	North Fork Valley Airport	Yes	82	9/29/2009	Yes
Saguache	Saguache Municipal Airport	No	N/A	N/A	N/A

N/A = Not Applicable
^ Rocky Mountain Metropolitan Airport has an apron area PCI rating of 74.5
* Not inspected in last cycle due to construction or low PCI value

** Indicates private ownership

Figure 4-22 summarizes the current PCI ratings for primary apron areas at system airports. The PCI objective of 75 or greater for primary apron areas applies to most of the Major and Intermediate Airports, as well as to some of the airports in the Minor Airport category. As shown in Figure 4-22, 73 percent of the primary apron areas at the Major Airports and 59 percent of the primary apron areas at the Intermediate Airports currently have a PCI of 75 or greater. For Minor Airports, 6 percent of the primary apron areas meet the PCI objective, 22 percent of the applicable primary apron areas do not meet the PCI objective, and 72 percent of airports are not applicable. For the system airports as a whole, 39 airports or 51 percent of all airports now meet the objective of having a PCI of 75 or greater on their primary apron area. When only applicable airports are considered, those airports that are part of the Pavement Management Program and that have a paved primary apron area, 65 percent of the airports have a PCI of 75 or greater on the primary apron area and 35 percent do not.

Figure 4-22: Airports with Primary Apron Area PCI of 75 or Greater



4.7 Performance Measure: Security

In response to September 11, the Transportation Security Administration (TSA) published Security Guidelines for General Aviation Airports in May 2004. The TSA and Homeland Security have separate and more stringent security guidelines for commercial airports. All commercial service airports in Colorado are required to comply with TSA security mandates. TSA security guidelines for general aviation airports are just that, guidelines. There is no enforcement of the general aviation security guideline and, to a great extent, general aviation airports are charged with adopting and enforcing security guidelines that are most appropriate to their level of risk.

The only benchmark associated with this performance measure follows:

- General aviation airports meeting TSA security guidelines

4.7.1 Benchmark: General Aviation Airports Meeting TSA Security Guidelines

As part of TSA's general aviation airport characteristics measurement tool, it is possible to assign airports to categories that reflect their relative level of perceived "risk." Classifications for perceived risk from the lowest to the highest include: Minimum, Low, Medium, and High. TSA's measurement tool to group general aviation airports according to their perceived and relative security risks considers each airport's operational characteristics,

location, based aircraft types, runway characteristics, and other factors. Once assigned to one of the categories noted, TSA provides information for security related facilities, equipment, and procedures that should be in place.

Table 4-19 presents security classifications for each of the Colorado airports as determined from TSA's airport characteristics measurement tool. **Figure 4-23** shows the percent of the general aviation airports in the Colorado system that fall into each of TSA's four security classifications, according to the measurement tool.

Table 4-19: Colorado Airport Security Level Classification Based on TSA Guidelines by System Plan Role

City	Airport	Security Level
Major Airports		
Akron	Colorado Plains Regional Airport	Low
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Medium
Burlington	Kit Carson County Airport	Minimum
Englewood/Denver	Centennial Airport	High
Greeley	Greeley-Weld County Airport	Medium
Lamar	Lamar Municipal Airport	Low
Longmont	Vance Brand Municipal Airport	Medium
Meeker	Meeker Airport	Low
Pagosa Springs	Stevens Field	Medium
Rifle	Garfield County Regional Airport	Low
Trinidad	Perry Stokes Airport	Minimum
Watkins/Denver	Front Range Airport	Medium
Intermediate Airports		
Boulder	Boulder Municipal Airport	Medium
Buena Vista	Central Colorado Regional Airport	Low
Canon City	Fremont County Airport	Medium
Center	Leach Airport	Minimum
Colorado Springs	Meadow Lake Airport **	Medium
Craig	Craig-Moffat County Airport	Low
Creede	Mineral County Memorial Airport	Minimum
Del Norte	Astronaut Kent Rominger Airport	Low
Delta	Blake Field	Low
Durango	Animas Airpark **	Minimum
Eads	Eads Airport	Minimum
Erie	Erie Municipal Airport	Medium
Fort Morgan	Fort Morgan Municipal Airport	Low
Glenwood Springs	Glenwood Springs Municipal Airport	Low

Table 4-19: Colorado Airport Security Level Classification Based on TSA Guidelines by System Plan Role

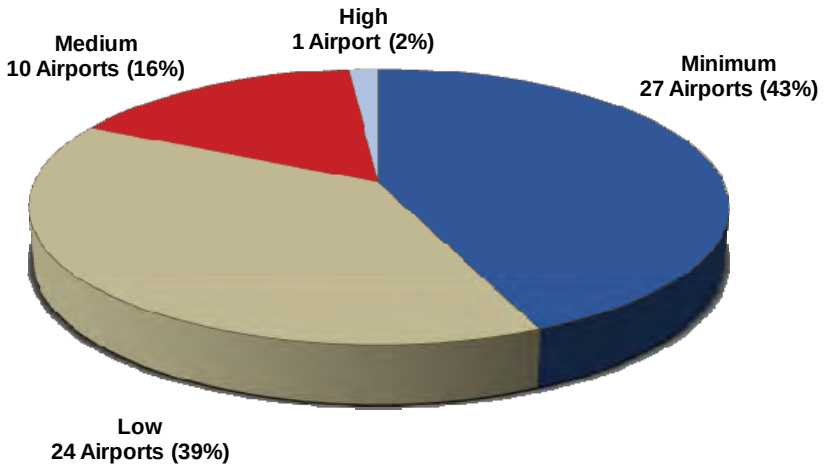
City	Airport	Security Level
Intermediate Airports, Cont'd.		
Granby	Granby-Grand County Airport	Minimum
Holyoke	Holyoke Municipal Airport	Low
Kremmling	McElroy Field	Low
La Junta	La Junta Municipal Airport	Minimum
Leadville	Lake County Airport	Low
Limon	Limon Municipal Airport	Low
Monte Vista	Monte Vista Municipal Airport	Minimum
Nucla	Hopkins Field	Minimum
Rangely	Rangely Airport	Low
Salida	Harriet Alexander Airport	Minimum
Springfield	Springfield Municipal Airport	Minimum
Steamboat Springs	Steamboat Springs-Bob Adams Field	Low
Sterling	Sterling Municipal Airport	Low
Walden	Walden-Jackson County Airport	Low
Walsenburg	Spanish Peaks Airfield	Minimum
Westcliffe	Silver West Airport	Minimum
Wray	Wray Municipal Airport	Low
Yuma	Yuma Municipal Airport	Minimum
Minor Airports		
Akron	Gebauer Airport **	Minimum
Blanca	Blanca Airport	Minimum
Brush	Brush Municipal Airport	Low
Calhan	Calhan Airport **	Minimum
Crawford	Crawford Airport **	Low
Delta	Westwinds Airpark **	Minimum
Dove Creek	Dove Creek Airport **	Minimum
Ellicott	Colorado Springs East Airport **	Medium
Greeley	Easton-Valley View Airport **	Minimum
Haxtun	Haxtun Municipal Airport	Minimum
Holly	Holly Airport	Minimum
Hudson	Platte Valley Airpark **	Low
Julesburg	Julesburg Municipal Airport	Minimum
La Veta	Cuchara Valley Airport	Minimum

Table 4-19: Colorado Airport Security Level Classification Based on TSA Guidelines by System Plan Role

City	Airport	Security Level
Minor Airports, Cont'd.		
Las Animas	Las Animas City & County Airport	Minimum
Mack	Mack Mesa Airport **	Low
Paonia	North Fork Valley Airport	Low
Saguache	Saguache Municipal Airport	Minimum

** Indicates private ownership

Figure 4-23: TSA Security Classifications for Colorado System Airports



As noted, TSA has identified security related equipment and procedures that vary based on perceived security risks associated with general aviation airports assigned to the four categories: Minimum, Low, Medium, and High. **Table 4-20** shows 18 types of security related procedures or equipment that can be considered for general aviation airports. Table 4-20 also indicates if the security equipment or procedure applies to general aviation airports in each of the four risk categories. As might be expected, there are fewer security measures identified for general aviation airports assigned to the Minimum and Low risk categories.

Table 4-20: TSA Security Enhancements Desired for Each Airport Security Classification

Security Enhancement	Minimum	Low	Medium	High
Signs	Yes	Yes	Yes	Yes
Documented Security Procedures	Yes	Yes	Yes	Yes
Positive Passenger/Cargo/Baggage ID	Yes	Yes	Yes	Yes
All Aircraft Secured	Yes	Yes	Yes	Yes
Community Watch Program	Yes	Yes	Yes	Yes
Contact List	Yes	Yes	Yes	Yes
Law Enforcement Officer Support		Yes	Yes	Yes
Security Committee		Yes	Yes	Yes
Transient Pilot Sign-in/Out Procedures		Yes	Yes	Yes
Access Controls			Yes	Yes
Lighting System			Yes	Yes
Personnel ID System			Yes	Yes
Vehicle ID System			Yes	Yes
Challenge Procedures			Yes	Yes
Fencing				Yes
Hangar Security				Yes
Closed Circuit TV				Yes
Intrusion Detection System				Yes

Within Colorado's system, there are 62 general aviation airports that TSA's security guidelines apply to. **Table 4-21** shows the 18 TSA equipment and procedural guidelines that are recommended to increase security. This table also shows, out of the 62 total general aviation airports, how many total system airports each security equipment or procedural guideline applies to. The table also shows how many of the applicable airports report that they have the appropriate procedure or equipment in place, along with the resultant compliance rating for each of the security guidelines.

Table 4-21: GA Airports with Recommended TSA Security Enhancements

Security Enhancement	# of GA Airports that are Applicable to Recommended Enhancement	# of GA Airports with Recommended Enhancement in Place	% of GA Airports with Recommended Enhancement in Place
Signs	62	29	47%
Documented Security Procedures	62	16	26%
Positive Passenger/Cargo/Baggage ID	62	40	65%
All Aircraft Secured	62	52	84%
Community Watch Program	62	39	63%
Contact List	62	52	84%
Law Enforcement Officer Support	35	31	89%
Security Committee	35	18	51%
Transient Pilot Sign-in/Out Procedures	35	16	46%
Access Controls	11	7	64%
Lighting System	11	10	91%
Personnel ID System	11	5	45%
Vehicle ID System	11	4	36%
Challenge Procedures	11	8	73%
Fencing	1	1	100%
Hangar Security	1	1	100%
Closed Circuit TV	1	1	100%
Intrusion Detection System	1	1	100%

When reviewing the information presented in Table 4-21, it is important to restate that TSA guidelines noted in this table do not apply in a uniform manner to all general aviation airports in Colorado. The size of the airport, its location, and its activity level all help to determine security equipment and security procedures that appear to be best matched to each airport's estimated security risk.

Information presented in Table 4-21 was used to develop a summary chart (see **Figure 4-24**) for system performance relative to TSA security guidelines. Based on the information presented in and used to build Figure 4-24, the following conclusions can be drawn for Colorado airports in the Major, Intermediate, and Minor Airport categories:

Major Airports

- 54 percent (14 airports) in the Major Airport category are commercial airports. Commercial airports have their own TSA guidelines; as a result, security measures discussed in this section do not apply to the commercial airports in Colorado.
- Of the applicable airports in the Major Airports category, 67 percent or 8 general aviation airports have adopted between 75 and 100 percent of all applicable TSA security guidelines.
- Of the applicable airports in the Major Airports category, 33 percent or 4 general aviation airports have adopted between 50 and 75 percent of all applicable TSA security guidelines.
- 100 percent of the applicable Major Airports meet at least 50 percent of their applicable TSA security guidelines.

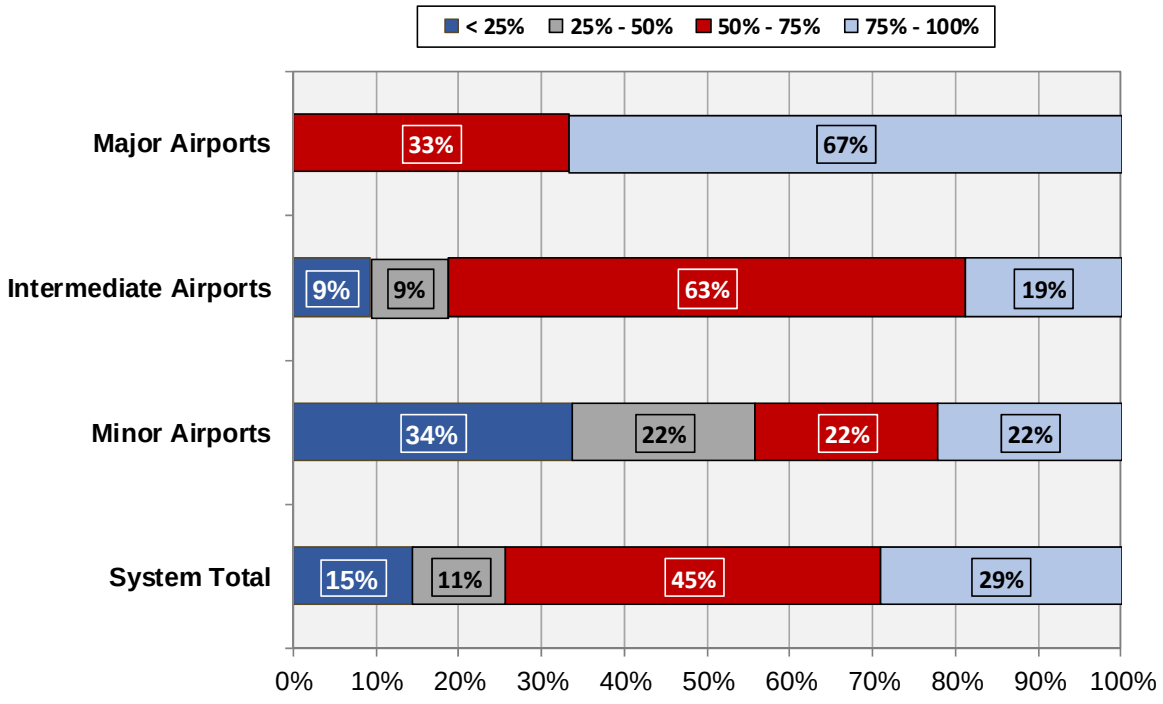
Intermediate Airports

- 19 percent or 6 general aviation airports in the Intermediate Airport category have adopted at least 75 of all applicable TSA security guidelines.
- 63 percent or 20 general aviation airports in the Intermediate Airport category have adopted at least 50 of all applicable TSA security guidelines.
- 9 percent or 3 general aviation airports in the Intermediate Airport category have adopted between 25 and 50 percent of all applicable TSA security guidelines.
- 9 percent or 3 general aviation airports in the Intermediate Airport category meet less than 25 of all applicable TSA security guidelines.

Minor Airports

- 22 percent or 4 general aviation airports in the Minor Airport category have adopted at least 75 of all applicable TSA security guidelines.
- 22 percent or 4 general aviation airports in the Minor Airport category have adopted at least 50 of all applicable TSA security guidelines.
- 22 percent or 4 general aviation airports in the Minor Airport category have adopted between 25 and 50 percent of all applicable TSA security guidelines.
- The remaining 34 percent or 6 general aviation airports in the Minor Airport category have adopted 25 percent or less of all applicable TSA security guidelines.

Figure 4-1: Airports Meeting TSA Suggested Security Guidelines, By Percentage of Applicable Enhancements Adopted



4.8 Summary

An adequate airport system does all of the following:

- Provides users with ample operational capacity
- Accommodates change when demand warrants
- Supports the needs of the economy
- Provides ample access to users
- Offers sufficient facilities, services, and equipment
- Maintains a appropriate level of safety and security

These characteristics have been used to evaluate the current performance of Colorado's airport system. The next chapter of this report compares current system performance to performance for the same benchmarks as it was reported in 2000 and 2005. This comparison helps to show where changes in the system have occurred over time and to demonstrate how investment has helped to improve system performance. Information from this chapter subsequently provides a basis for recommendations for the Colorado airport system that will help to achieve a balanced, viable, effective, and efficient system of general aviation and commercial airports.

5 Future System Performance

5.1 Future System Performance

The previous chapter to this 2011 update of the Colorado Aviation System Plan provided a snapshot of how Colorado's system of airports is currently performing, relative to prescribed performance measures and benchmarks. This chapter compares current system performance to prior performance for the system in the 2000 and 2005 reporting periods. As part of this task, targets for future system performance are also identified; these targets help to provide the basis for some of the system plan's final recommendations.

As noted in Chapter Four, Current System Performance, some of the benchmarks used to evaluate the system are more informational in nature, while others are action oriented. Informational benchmarks help the Division of Aeronautics understand and measure certain characteristics of the airport system, in particular how accessible the airport system is and how airports are meeting user needs. Many of the informational benchmarks also help Aeronautics monitor airport roles. When benchmarks are action oriented, this indicates that investment on the local, State, and/or Federal level will more likely be needed to increase system performance relative to that particular factor. A few of the benchmarks used to evaluate system performance are both informational and action oriented. **Table 5-1** summarizes the benchmarks used to evaluate current system performance and indicates if the benchmark is action oriented, informational, or both. Even when benchmarks are categorized as informational, investment to elevate system performance may still be appropriate.

Table 5-1: Informational and Action-Oriented Benchmarks

Performance Measure Benchmark	Informational/ Action
Activity	
Airports Currently Operating Above FAA Target Demand/Capacity Ratio	Action
Airports Projected To Be Operating Above FAA Target Demand/Capacity Ratio in 2015	Action
Expansion Potential	
Airports with Current Master Plans	Action
Airports Compliant with FAR Part 77	Action
Economic Support	
Airports with a Precision Instrument or Vertical Guidance Approach	Action
Airports with a Non-Precision Instrument Approach	Action
Airports with a Published Approach	Action
Airports with Jet A Fuel	Action
Airports with Fuel	Action
Airports with Rental Cars	Informational
Airports with Ground Transportation Services	Informational
Airports with Jet Activity	Informational
Airports with Greater than $1 Million in Annual Economic Impact	Informational

Table 5-1: Informational and Action-Oriented Benchmarks

Performance Measure Benchmark	Informational/ Action
Coverage/Emergency Access	
Population within 90 Minute Drive-Time of an Airport with Commercial Service	Informational
Population within 90 Nautical Miles of an Airport with a Precision Instrument or Vertical Guidance Approach	Informational and Action
Population within 60 Nautical Miles of an Airport with Any Instrument Approach	Informational and Action
Population within 30 Minutes Drive-Time of a System Airport	Informational
Population within 25 Nautical Miles of Weather Reporting Facility	Informational and Action
Airports with an On-Site Weather Reporting Facility	Action
Population within 30 Minute Drive-Time of Airports Able to Accommodate King Air B200 Emergency Aircraft	Action
Population within 30 Minute Drive-Time of Airports Able to Accommodate Learjet 35 Emergency Aircraft	Action
Investment	
Major Airports Meeting Facility and Service Objective	Action
Intermediate Airports Meeting Facility and Service Objective	Action
Minor Airports Meeting Facility and Service Objective	Action
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Runway	Action
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Taxiway	Action
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Apron	Action
Security	
Airports Meeting TSA Guidelines for General Aviation Security	Action

The following sections compare current system performance to past performance and indicate, as appropriate, targets for future system performance.

5.2 Performance Measure: Activity

It is important for Colorado to have an airport system that has ample capacity to process current and future operational demand. In this study, the ability of airports to accommodate annual aircraft landings and take-offs (annual operations) was measured through a methodology prescribed by the FAA. This methodology considers each airport's annual service volume (ASV); ASV is representative of each airport's theoretical ability to process aircraft operations on an annual basis.

For this performance measure, benchmarks considered whether airports exceeded the 60 and 80 percent demand/capacity threshold, either now or in 2030. While annual operations at an airport can exceed 60, 80, and even 100 percent of an airport's ASV, delay to users and associated costs increase exponentially. There are many types of projects that have potential to increase an airport's operational capacity. Some of these projects include:

- Additional runways or improvements to existing runways
- Partial or full parallel taxiways
- Additional or angled (high speed) taxiway exits
- Additional NAVAIDS
- Improved approach capabilities
- An air traffic control tower
- Expand apron areas

Projects to enhance operational capacity for a specific airport are best identified through an airport master plan. Implementation of projects noted above may necessitate investment in other projects such as:

- Land acquisition
- Environmental assessments
- Master plan/ALP updates
- Engineering studies
- Site preparation
- Relocation of existing facilities, lighting, or NAVAIDS

To ensure that airports in the Colorado airport system have ample capacity to meet demand, Aeronautics may participate in funding projects or other actions which address operational capacity shortfalls. This performance measure applies to all system airports, regardless of role or ownership status.

5.2.1 Benchmark: Airports Currently Exceeding 60 Percent Demand/Capacity Ratio

Results of the analysis for this benchmark show all system airports, with the exception of Denver International, are currently operating under the 60 percent demand/capacity threshold. **Table 5-2** shows the percent of system airports, by role, that exceeded the 60 percent demand/capacity threshold for the 2000 and the 2005 reporting periods. As Table 5-2 reflects, historically, airports exceeding the 60 percent demand/capacity ratio have tended to be in the Major Airport category; these are the most active airports, in terms of operations, in the Colorado system.

Table 5-2: Percentage of Airports Currently Operating Above 60% Capacity in 2011

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	4%	8%	4%	-4%	Operating under 80%
Intermediate Airports	3%	0%	0%	0%	Operating under 80%
Minor Airports	0%	0%	0%	0%	Operating under 80%
All System Airports	3%	3%	1%	-2%	Operating under 80%

Over time, there has been a change in the percent of system airports that exceed the 60 percent demand/capacity ratio. As activity increases, additional airports can exceed the ratio, assuming no capacity enhancements are made. Conversely, if demand decreases or if capacity enhancing projects are implemented, fewer system airports may reach the 60 percent demand/capacity ratio. Between the 2005 and the 2011 reporting periods, general aviation operations at many system airports declined. As a result, with the exception of Denver International, there were no airports operating at or above the 60 percent demand/capacity threshold in 2011. As Table 5-2 indicates, there has actually been a reduction in the percent of system airports that reach or exceed the 60 percent demand/capacity threshold. It is worth noting that Denver International's demand/capacity ratio was not considered in either the 2000 or the 2005 system plan.

As discussed in Chapter Four of this study, when airports reach a 60 percent demand/capacity ratio, planning should be undertaken to identify steps to address potential shortfalls in operational capacity. When the 80 percent demand/capacity ratio is reached, capacity enhancing plans or strategies should be implemented. An objective has been established by the system plan to have all system airports operating at a demand/capacity ratio less than 80 percent.

5.2.2 Benchmark: Airports Projected to Exceed 60 Percent Demand/Capacity Ratio in 2030

Analysis completed in Chapters Three and Four of the system plan update was used to identify airports that could exceed the 60 percent demand/capacity ratio by 2030. **Table 5-3** shows the percent of system airports, by role, that are projected to exceed the 60 percent demand/capacity ratio by 2030. By 2030, 15 percent of the airports in

the Major Airport category are expected to reach or exceed the 60 percent demand/capacity ratio. The four airports in the Major Airport category that are, based on projected demand and their current ASVs, expected to reach or exceed the 60 percent demand/capacity ratio are Centennial, Denver International, Fort Collins-Loveland, and Pueblo.

Table 5-3: Percentage of Airports Projected to be Operating Above 60% Capacity in 2030

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	17%	28%	15%	-13%	Operating under 80%
Intermediate Airports	6%	0%	0%	0%	Operating under 80%
Minor Airports	0%	0%	0%	0%	Operating under 80%
All System Airports	8%	9%	5%	-4%	Operating under 80%

As Table 5-3 indicates, the percent of system airports projected to surpass the 60 percent demand/capacity ratio has declined since the 2005 reporting period. The greatest percentage of this change is related to fundamental changes in the general aviation industry and better operational activity estimates for non-towered airports. Between the 2005 and 2011 reporting periods, all towered general aviation airports in the Colorado system exhibited an overall decrease in their operational activity. These trends were not specific to Colorado and were tied to the general downturn in the U.S. economy and high fuel prices. Recent trends and a less optimistic outlook for growth in the general aviation industry led to more conservative estimates of future operational demand in this system plan update. As a result, the number of system airports that are expected to reach or exceed critical demand/capacity thresholds, as established by the FAA, has declined from the 2005 reporting period.

As recommendations for the Colorado airport system are developed, in subsequent portions of this report, airports which should be considered for capacity enhancing projects will be identified.

5.3 Performance Measure: Expansion Potential

Airports in the Colorado system often face challenges as they consider expanding to meet the needs of current and future users. It is impossible to develop an all inclusive list for all types of projects and actions that airports in Colorado may need to undertake and the Division of Aeronautics may need to fund in association with expansion needs. Generally speaking, projects which support airport expansion fall into the following general categories:

- Land acquisition, site preparation, earthwork, and drainage
- Environmental investigation and mitigation
- Acquisition of development rights

- Relocation of existing facilities
- New or improved airport infrastructure or utilities
- Facilities that support unique activities or demand
- Studies that provide strategic direction

From time to time, grants may be requested to support airport expansion needs that are not tied to specific benchmarks or to facility, service, and equipment objectives identified in this plan. Part of the mission of the Division of Aeronautics is to develop an effective air transportation system. To fulfill this mission, grants to support various facets of expansion are both necessary and appropriate.

Colorado's Aviation System Plan includes two benchmarks related to expansion potential. Generally speaking, these benchmarks help to determine if airports are taking appropriate steps to identify their expansion needs and if they are taking steps to protect themselves from height related obstructions, which could limit their operations and/or their expansion potential.

5.3.1 Benchmark: Airports with Current Master Plans

The Colorado Aviation System Plan includes an objective for airports in the Major Airport category to have master plans that are current within a five year time frame. For publicly-owned airports in the Intermediate and Minor categories, an objective was set for airports to have master plans that are current within a seven year time frame. While privately-owned airports in the system may also have master plans, this benchmark applies to airports that are publicly-owned or that are included in the NPIAS. System compliance with objectives for this benchmark changes on a continual basis, as new master plans are completed or the currency of others expires. **Table 5-4** summarizes current and past system compliance for the master planning benchmark. It is important to note that compliance for this benchmark, as reported in Table 5-4, considers both existing and pending master plans as reported by the airports themselves during this study's inventory effort.

Table 5-4: Percentage of Airports with Current or Pending Master Plan

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	88%	92%	62% (16)	-30%	85%
Intermediate Airports	53%	87%	68% (21)	-19%	75%
Minor Airports	9%	22%	30% (3)	8%	25%
Applicable System Airports*	58%	80%	60% (40)	-20%	70%

*Applies to all publicly-owned and NPIAS airports

As Table 5-4 indicates, system compliance for this benchmark increased between the 2000 and 2005 reporting periods and then declined between the 2005 and 2011 reporting periods. Out of the 67 publicly-owned and NPIAS airports in the Colorado system, 39 airports now have master plans that are current or pending in accordance with system plan objectives. In addition to master plans that are current or pending for public/NPIAS airports, one privately-owned airport also reports having a current master plan.

It should be noted that most master plans are completed using grants from the FAA. Of the 76 airports in the Colorado system, 49 of these airports are included in the NPIAS, thereby making them eligible for an FAA grant to complete a master plan. Out of the 49 airports included in the NPIAS, 34 of these airports report that they have current or pending master plans. As part of this study's recommendations, those airports needing master plans to meet targets for Major, Intermediate, and Minor Airports are identified. To meet this benchmark, it is appropriate for the Division of Aeronautics to participate in funding airport master plans, airport layout plans (ALPs), and from time to time, other strategic studies undertaken by system airports.

As reflected in Table 5-4, fewer applicable system airports reported current or pending master plans in 2011 than did in 2005. There is no readily apparent explanation for this decline in system performance, relative to this particular benchmark. The decrease in system performance for the master planning benchmark may, however, be tied to the fact that fewer airports had notable increases or changes in their activity levels between 2005 and 2011. As a result, there may have been less of a need for planning studies between 2005 and 2011. The FAA's Airports District Office (ADO) in Denver also indicates that they have not been "pushing" airports to undertake master plans as frequently as a result of the length of time it takes to conduct, review, and approve these plans.

Based on input from the FAA ADO in Denver, the decision was made to adjust the previously established timeframe for considering an airport's master plan to be current. In conjunction with the FAA, the Division of Aeronautics determined it was appropriate to consider master plans for commercial airports current if they have been prepared within the last 7 years and to consider master plans for general aviation airports current if they have been prepared in the last 10 years. **Table 5-5** shows the most recent master plan update and anticipated master plan update information for system airports, including whether the airport's master plan is current under the original and/or revised criteria.

Table 5-5: Airports with Current Master Plans with Revised Objectives

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	MP Current Original Criteria	MP Current Revised Criteria
Major Airports						
Akron	Colorado Plains Regional Airport	NPIAS	2005	2013	No	Yes
Alamosa	San Luis Valley Airport	NPIAS	2010	Unknown	Yes	Yes
Aspen	Aspen-Pitkin County Airport	NPIAS	2004	Underway	Yes	Yes
Broomfield/ Denver	Rocky Mountain Metropolitan Airport	NPIAS	2011	2016	Yes	Yes

Table 5-5: Airports with Current Master Plans with Revised Objectives

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	MP Current Original Criteria	MP Current Revised Criteria
Major Airports, Cont'd.						
Burlington	Kit Carson County Airport	NPIAS	2003	Unknown	No	Yes
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	1999	Underway	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	2010	2018	Yes	Yes
Denver	Denver International Airport	NPIAS	2011	2016	Yes	Yes
Durango	Durango-La Plata County Airport	NPIAS	2005	2017	No	Yes
Eagle	Eagle County Regional Airport	NPIAS	1989	Underway	Yes	Yes
Englewood/ Denver	Centennial Airport	NPIAS	2008	2015	Yes	Yes
Grand Junction	Grand Junction Regional Airport	NPIAS	2009	Unknown	Yes	Yes
Greeley	Greeley-Weld County Airport	NPIAS	2004	Unknown	No	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	2006	2014	Yes	Yes
Hayden	Yampa Valley Regional Airport	NPIAS	2003	2012	No	No
Lamar	Lamar Municipal Airport	NPIAS	2004	2014	No	Yes
Longmont	Vance Brand Municipal Airport	NPIAS	2000	Underway	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	2007	2017	Yes	Yes
Meeker	Meeker Airport	NPIAS	2009	2014	Yes	Yes
Montrose	Montrose Regional Airport	NPIAS	2006	2016	Yes	Yes
Pagosa Springs	Stevens Field	NPIAS	2009	2015	Yes	Yes
Pueblo	Pueblo Memorial Airport	NPIAS	2008	2013	Yes	Yes
Rifle	Garfield County Regional Airport	NPIAS	2002	2012	No	Yes
Telluride	Telluride Regional Airport	NPIAS	2002	Unknown	No	No
Trinidad	Perry Stokes Airport	NPIAS	2004	2012	No	Yes
Watkins/ Denver	Front Range Airport	NPIAS	2004	2013	No	Yes
Intermediate Airports						
Boulder	Boulder Municipal Airport	NPIAS	2007	2017	Yes	Yes
Buena Vista	Central Colorado Regional Airport	NPIAS	2004	2012	Yes	Yes
Canon City	Fremont County Airport	NPIAS	2006	2012	Yes	Yes
Center	Leach Airport	Non-NPIAS	Unknown	Unknown	No	No
Colorado Springs	Meadow Lake Airport **	NPIAS	2008	Unknown	Yes	Yes
Craig	Craig-Moffat County Airport	NPIAS	2005	Unknown	Yes	Yes
Creede	Mineral County Memorial Airport	Non-NPIAS	2005	Unknown	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	2006	Unknown	Yes	Yes
Delta	Blake Field	NPIAS	2010	Unknown	Yes	Yes

Table 5-5: Airports with Current Master Plans with Revised Objectives

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	MP Current Original Criteria	MP Current Revised Criteria
Intermediate Airports, Cont'd.						
Durango	Animas Airpark **	Non-NPIAS	None	Unknown	N/A	N/A
Eads	Eads Airport	Non-NPIAS	1992	Unknown	No	No
Erie	Erie Municipal Airport	NPIAS	2003	2013	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	2005	2018	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	2000	Unknown	No	No
Granby	Granby-Grand County Airport	NPIAS	2002	2012	No	Yes
Holyoke	Holyoke Municipal Airport	NPIAS	2010	Unknown	Yes	Yes
Kremmling	McElroy Field	NPIAS	2007	2017	Yes	Yes
La Junta	La Junta Municipal Airport	NPIAS	2007	2017	Yes	Yes
Leadville	Lake County Airport	NPIAS	2003	Unknown	Yes	Yes
Limon	Limon Municipal Airport	NPIAS	2004	2012	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	NPIAS	2006	Unknown	Yes	Yes
Nucla	Hopkins Field	NPIAS	2007	2014	Yes	Yes
Rangely	Rangely Airport	NPIAS	2008	2013	Yes	Yes
Salida	Harriet Alexander Airport	NPIAS	2003	2015	No	Yes
Springfield	Springfield Municipal Airport	Non-NPIAS	1996	2012	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	2008	2028	Yes	Yes
Sterling	Sterling Municipal Airport	NPIAS	2004	2014	Yes	Yes
Walden	Walden-Jackson County Airport	Non-NPIAS	2007	Unknown	Yes	Yes
Walsenburg	Spanish Peaks Airfield	NPIAS	2011	Unknown	Yes	Yes
Westcliffe	Silver West Airport	Non-NPIAS	1993	Unknown	No	No
Wray	Wray Municipal Airport	NPIAS	2005	Unknown	Yes	Yes
Yuma	Yuma Municipal Airport	NPIAS	2003	Unknown	No	Yes
Minor Airports						
Akron	Gebauer Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Blanca	Blanca Airport	Non-NPIAS	2005	Unknown	Yes	Yes
Brush	Brush Municipal Airport	Non-NPIAS	Unknown	Unknown	No	No
Calhan	Calhan Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Crawford	Crawford Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Delta	Westwinds Airpark **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Dove Creek	Dove Creek Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Ellicott	Colorado Springs East Airport **	Non-NPIAS	2006	Unknown	Yes	Yes
Greeley	Easton-Valley View Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Haxtun	Haxtun Municipal Airport	Non-NPIAS	Unknown	Unknown	No	No

Table 5-5: Airports with Current Master Plans with Revised Objectives

City	Airport	NPIAS or Non-NPIAS	Previous Approved Master Plan	Anticipated Master Plan Update	MP Current Original Criteria	MP Current Revised Criteria
Minor Airports, Cont'd.						
Holly	Holly Airport	Non-NPIAS	Unknown	Unknown	No	No
Hudson	Platte Valley Airpark **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Julesburg	Julesburg Municipal Airport	Non-NPIAS	Unknown	Unknown	No	No
La Veta	Cuchara Valley Airport	Non-NPIAS	1985	Unknown	No	No
Las Animas	Las Animas City & County Airport	Non-NPIAS	1995	Unknown	No	No
Mack	Mack Mesa Airport **	Non-NPIAS	Unknown	Unknown	N/A	N/A
Paonia	North Fork Valley Airport	Non-NPIAS	Unknown	Unknown	No	No
Saguache	Saguache Municipal Airport	Non-NPIAS	2005	Unknown	Yes	Yes

** Indicates private ownership

N/A indicates Not Applicable

Table 5-5 shows how compliance changes with the revised objectives for this benchmark, and **Table 5-6** compares system performance for this benchmark using 2000, 2005, the original 2011, and the revised 2011 performance.

Table 5-6: Percentage of Airports with Current or Pending Master Plan

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 MPs Current Under Original Criteria	'05-'11 % Chg	2011 MPs Current Under Revised Criteria	05-'11 % Chg	Future Target
Major Airports	88%	92%	62% (16)	-30%	92% (24)	0%	85%
Intermediate Airports	53%	87%	68% (21)	-19%	84% (26)	-3%	75%
Minor Airports	9%	22%	30% (3)	8%	30% (3)	8%	25%
Applicable System Airports*	58%	80%	60% (40)	-20%	79% (53)	-1%	70%

*All publicly-owned and NPIAS airports

As Table 5-6 reflects, system performance relative to this benchmark increases with the revised objectives. As noted in discussion related to this benchmark, ideally all publicly-owned and NPIAS commercial and general aviation airports should have master plans, and these master plans should be current within 7 and 10 year

timeframes, respectively. Given varying needs to update master plans, along with other considerations, the following targets were set for system performance relative to this benchmark:

- 85 percent of the Major Airports should have master plans that are current.
- 75 percent of applicable Intermediate Airports should have master plans that are current.
- 25 percent of the applicable Minor Airports should have master plans that are current.
- 70 percent of all applicable system airports (all publicly-owned and all NPIAS airports) should have master plans that are current to meet the new objectives established for commercial and general aviation airports in the Colorado system. Current master plans are needed not only to meet this benchmark but also because they provide airport specific guidance for major infrastructure development.

5.3.2 Benchmark: Airports Compliant with FAR Part 77 and Zoning Recommendations

Part 77 surfaces are designed to help ensure that operations at an airport and the airport's future expansion potential and operational growth are not compromised by the height of objects, manmade or natural, that may impact the safety of aircraft operations in the airport environs. When height obstructions are identified within Part 77 surfaces, it is appropriate for Aeronautics to provide grants to either remove or to mitigate such obstructions. The more common types of obstructions that may need to be removed, lighted, relocated, or mitigated in some way to bring an airport into Part 77 compliance include, but are not limited to, the following:

- Trees and other vegetation
- Towers
- Structures
- Power lines
- Terrain
- Roads

For this benchmark, system performance was measured considering airports that have both identified their Part 77 surfaces and have taken steps to incorporate Part 77 height restrictions into local ordinances. Past iterations of Colorado's Aviation System Plan considered only publicly-owned and NPIAS airports when reporting performance for this benchmark; to maintain consistency between the 2000, 2005, and 2011 reporting periods, this same approach was used in this update.

Table 5-7 provides information that shows by airport role and for all applicable system airports, the percent that report having both identified their Part 77 surfaces and taken steps to incorporate Part 77 height restrictions into local zoning ordinances. As this table reflects, a higher percentage of airports in the Colorado system had taken steps to become compliant with the Part 77 benchmark in 2005 after the initial reporting in 2000. Table 5-7 also compares results between the 2005 and 2011 reporting periods.

Table 5-7: Percentage of Airports with FAR Part 77 Compliance

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	54%	92%	73% (19)	-19%	100%
Intermediate Airports	23%	61%	61% (19)	0%	72%
Minor Airports	0%	11%	25% (4)	14%	Not Applicable
Applicable System Airports*	31%	66%	69% (34)	3%	65%

*Applies to all NPIAS airports

While there is no way of knowing exactly why performance for Major Airports for this benchmark has declined, there are two possible contributing factors. In order for airports to be considered compliant with this benchmark, the airport had to report current Part 77 surfaces and also had to report that they had taken steps to have Part 77 height restrictions adopted into local zoning and/or comprehensive plans. Since fewer airports report recent master plans, fewer may also have current Part 77 surfaces. It is also possible that some Major Airports at the time of the 2005 study may have "over reported" related to actions that had been taken to incorporate Part 77 height restriction guidelines into local zoning ordinances. Performance for this benchmark indicates that Aeronautics needs to continue its effort to educate airports on the importance of Part 77 to protect their future expansion needs. It is a recommendation of this plan that the Division of Aeronautics undertake a statewide study focused specifically on Part 77 and compatible land use.

Since it is a goal of Aeronautics to promote a safe and efficient system of airports, all system airports should ideally be free of any objects which create a hazard for aircraft using an airport. Since non-NPIAS airports in the Colorado system are not eligible for funding from the FAA to meet its standards and guidelines, system compliance for just NPIAS airports is reported separately. Within the Colorado system, there are 49 total airports that are included in the NPIAS. When just the NPIAS airports are considered, 34 airports or 69 percent of all NPIAS airports have current Part 77 surfaces and have reportedly taken steps to have Part 77 height restrictions incorporated into local zoning ordinances. Study recommendations will identify those airports in the system that need improvement as related to this particular benchmark.

Promoting safe aircraft operations is a major objective for both Aeronautics and the FAA. Ideally, all airports in the Colorado system, especially publicly-owned and NPIAS airports, should be free of height obstructions that impact airport safety. In reality, only airports included in the NPIAS are monitored for their ability to comply with FAA standards, such as Part 77. As a result, a target was set for all NPIAS airports to meet this benchmark; the future targets for system performance for this benchmark are shown in Table 5-7.

5.4 Performance Measure: Economic Support

A healthy airport system is an important underpinning to a healthy economy. General aviation and commercial airports throughout Colorado are used by both businesses based in the State as well as by businesses that visit the State. Given the importance of tourism to Colorado's economy, a well developed and diversified system of airports is essential. Factors which are considered regarding the ability of the airport system to effectively support Colorado's economy include: published approaches, availability of fuel, access to ground transportation services, and other qualitative indicators that help shed light on the role that system airports play in supporting Colorado's economy.

5.4.1 Benchmark: Airports with a Precision Approach or an Approach with Vertical Guidance

During periods of reduced visibility, precision approaches provide the highest degree of landing flexibility. Precision approaches are important to commercial airports and to general aviation airports that accommodate higher volumes of business aircraft activity. As a result, the system plan has established an objective for all airports in the Major Airport category to have a precision approach. Since FAA typically funds and maintains the equipment needed for an airport to have a precision approach, this Federal agency has established criteria that airports must meet before they can be considered for an FAA approved precision approach. While it is an objective of the system plan for all airports in the Major Airport category to have a precision approach, all airports in this role classification may not be able to accommodate a precision approach in accordance with FAA criteria.

Colorado's terrain extremes make it difficult, if not impossible, for some airport to have a precision approach. There are at least six airports in the Major Airport category that have been previously investigated for a precision approach, and the investigation has concluded that surrounding terrain at these airports prohibits them from having a precision instrument landing system (ILS) approach. These airports are: Aspen/Pitkin County, Cortez/Montezuma County, Eagle County Regional, Meeker, Stevens Field, and Telluride Regional.

Table 5-8 presents information that shows past and current system performance relative to the precision ILS approach benchmark. The modest increase in system performance realized since the 2005 reporting period is a result of Denver International being included in this category for the 2011 analysis. Denver International was not considered as part of this benchmark during the 2005 system evaluation.

Table 5-8: Percentage of Airports with a Precision Instrument Approach

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	54%	56%	58% (15)	2%	74%
Intermediate Airports	N/A	N/A	N/A	N/A	Not Applicable
Minor Airports	N/A	N/A	N/A	N/A	Not Applicable
All System Airports	17%	19%	20% (15)	1%	22%
Applicable System Airports*	54%	56%	58% (15)	2%	74%

*Applies to all Major Airports

At the time of the 2005 system plan update, as part of the national airspace (NAS) modernization program, FAA was testing new approach technology based on a global positioning system (GPS) and the wide area augmentation system (WAAS). In 2005, it was thought that airports without a precision ILS approach would be able to be equipped with a stand-alone localizer performance with vertical guidance (LPV) approach that would provide the airport with near precision approach capabilities, similar to the capabilities of an ILS approach. In the ensuing years, however, LPV approach technology has not proved to be as effective as first envisioned, in part due to the expense of the equipment that must be installed in the aircraft to fly an LPV approach. In addition, for an LPV approach, airports are required to meet FAA precision approach standards for runway edge lights, runway markings, weather reporting, and safety area compliance. Most all LPV approaches to airports in Colorado have been implemented as an overlay to an existing ILS precision approach. Given changing approach technology, this 2011 update to Colorado's aviation system plan has modified this benchmark/objective. When an airport in the Major category cannot accommodate an ILS, the airport should at least have an approach with vertical guidance (APV).

Table 5-9 shows LPV/APV approaches that have been implemented since the 2005 system plan update. This table also indicates if the LPV/APV approach was installed as an overlay to an ILS approach or if the approach was installed as a standalone approach. This table also shows FAA's schedule for publishing LPV/APV approaches to airports in Colorado. Out of the 20 airports shown in this table, 6 do not have an ILS precision approach. While it would be ideal for all airports in the Major Airport category to have an approach with vertical guidance, a target has been set for 74 percent of the airports in the Major Airport category to have a vertical guidance approach. This translates into a target to 22 percent of all system airports being equipped with a vertical guidance approach. Those airports that continue to be viable candidates for an upgraded approach will be identified in this study's final recommendations.

Table 5-9: Recent and Pending LPV/APV Approaches for System Airports

City	Airport	Published/Scheduled	Publish Date
Major Airports			
Alamosa	San Luis Valley Airport	Published Since 2005	8/3/2006
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Published Since 2005	1/13/2011
Burlington (No ILS)	Kit Carson County Airport	Published	4/13/2006
Colorado Springs	Colorado Springs Municipal Airport	Published	6/8/2006
Cortez (No ILS)	Cortez-Montezuma Municipal Airport	Published	4/13/2006
Denver	Denver International Airport	Published Since 2005	9/23/2010
Durango	Durango-La Plata County Airport	Published Since 2005	1/15/2009
Englewood/Denver	Centennial Airport	Published Since 2005	7/31/2008
Grand Junction	Grand Junction Regional Airport	Published Since 2005	8/27/2009
Greeley	Greeley-Weld County Airport	Published	4/13/2006
Hayden	Yampa Valley Regional Airport	Published Since 2005	9/25/2008
Lamar (No ILS)	Lamar Municipal Airport	Published	4/13/2006
Loveland	Fort Collins-Loveland Municipal Airport	Published Since 2005	5/7/2009
Montrose	Montrose Regional Airport	Published Since 2005	5/7/2009
Pueblo	Pueblo Memorial Airport	Published Since 2005	7/5/2007
Rifle	Garfield County Regional Airport	Published Since 2005	9/25/2008
Watkins/Denver	Front Range Airport	Published Since 2005	9/25/2008
Intermediate Airports			
Canon City (No ILS)	Fremont County Airport	Pending	11/15/2012
La Junta (No ILS)	La Junta Municipal Airport	Published Since 2005	8/27/2009
Sterling (No ILS)	Sterling Municipal Airport	Pending	7/26/2012

Source: Jeppesen Charts and FAA Denver ADO

5.4.2 Benchmark: Airports with a Published Approach (Precision, Vertical Guidance or Non-Precision)

The system plan has established an objective for all airports in the Major Airport category to ideally have an approach with vertical guidance and for all airports in the Intermediate Airport category to have a non-precision approach. Airports in the Major Airport category that do not have a vertical guidance approach should have a non-precision approach. The system plan does not have an established objective for Minor Airports to have a published approach. Since FAA typically funds and maintains the equipment needed to support precision and non-precision approaches, it is not common for non-NPIAS airports to have a published approach, although some non-NPIAS airports within the Colorado system do.

To accommodate a published approach, additional projects may be required which could include but would not be limited to the following:

- Land acquisition
- Clearing
- Relocation
- FAA safety area compliance (primary surface and RPZs)
- Site preparation
- Obstruction surveys
- Airport layout plan (ALP) update
- Runway markings
- Runway Lighting
- On-site weather reporting
- Parallel Taxiway
- Obstruction removal or lighting

To meet system plan objectives, the Division of Aeronautics may provide funding in a variety of areas to support the implementation of a published approach. Master plans remain the most viable means to identify an airport's approach category and facility needs related to an improved approach.

Table 5-10 presents information on system airports with a published approach. As the information in this table reflects, for all airports in the Major and Intermediate categories, progress has been made since the system was first evaluated in 2000. Since published approaches are most often installed and maintained by the FAA, it is worth noting that of the 49 NPIAS airports in the system, 40 airports or 82 percent of all NPIAS airports do have a published approach. While all airports in the Major and Intermediate categories should ideally have a published approach, it is more realistic to set a target for 100 percent of all NPIAS airports to have a published approach. The target for future system performance, shown in Table 5-10, reflects a published approach for all NPIAS airports in the Colorado system. Study recommendations will identify those airports that should be considered for a published approach to reach study objectives. It is worth noting that natural and other manmade constraints may limit the ability of some system airports to accommodate a published approach.

Table 5-10: Percentage of Airports with a Published Approach

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	96%	96%	100% (26)	4%	100%
Intermediate Airports	39%	38%	50% (16)	12%	72%
Minor Airports	N/A	N/A	N/A	N/A	Not Applicable
Applicable System Airports*	63%	63%	82% (40)	19%	100%

*Applies to all NPIAS Airports

Concurrently with the 2000 Colorado Inventory and Implementation Plan, the Division of Aeronautics completed a GPS Implementation Study. This study identified airports that could benefit from a published approach using GPS technology. **Table 5-11** shows airports that were considered to have a GPS approach when the 2005 plan update was released. It is important to note, that in some instances, the actual "published" date for some of these GPS approaches was after 2005. Table 5-11 also shows airports where a GPS approach has been implemented since the 2005 study; airports that are scheduled to have a GPS approach approved; and airports where there are currently no plans to implement a GPS approach.

Table 5-11: GPS Approach Status for Major and Intermediate Airports

Airport	City	GPS	Included in 2005	Added Since 2005	Publish Date	Scheduled
Major Airports						
Colorado Plains Regional Airport	Akron	RNAV (GPS)	Yes		5/7/2009	
San Luis Valley Airport	Alamosa	RNAV (GPS)	Yes		8/3/2006	
Aspen-Pitkin County Airport	Aspen	GPS-C	Yes		7/3/2008	
Rocky Mountain Metropolitan Airport	Broomfield/Denver	RNAV (GPS)	Yes		3/15/2007	
Kit Carson County Airport	Burlington	RNAV (GPS)	Yes		4/13/2006	
Centennial Airport	Englewood/Denver	RNAV (GPS)	Yes		7/31/2008	
Colorado Springs Municipal Airport	Colorado Springs	RNAV (GPS)	Yes		6/10/2004	
Cortez-Montezuma Municipal Airport	Cortez	RNAV (GPS)	Yes		4/13/2006	
Denver International Airport	Denver	RNAV (GPS)	Yes		9/4/2003	
Durango - La Plata County Airport	Durango	RNAV (GPS)	Yes		8/28/2008	
Eagle County Regional Airport	Eagle	RNAV (GPS)	Yes		3/7/2013	

Table 5-11: GPS Approach Status for Major and Intermediate Airports

Airport	City	GPS	Included in 2005	Added Since 2005	Publish Date	Scheduled
Major Airports, Cont'd.						
Grand Junction Regional Airport	Grand Junction	RNAV (GPS)	Yes		12/25/2003	
Greeley - Weld County Airport	Greeley	RNAV (GPS)	Yes		4/13/2006	
Gunnison - Crested Butte Regional Airport	Gunnison	GPS-A, GPS-B,	Yes		12/8/2008	
Yampa Valley Regional Airport	Hayden	RNAV (GPS)	Yes		2/17/2005	
Lamar Municipal Airport	Lamar	RNAV (GPS)	Yes		2/17/2005	
Vance Brand Municipal Airport	Longmont	RNAV (GPS)	Yes		2/12/2009	
Fort Collins - Loveland Municipal Airport	Loveland	RNAV (GPS)	Yes		5/7/2009	
Meeker Airport	Meeker	RNAV (GPS)	Yes		11/25/2004	
Montrose Regional Airport	Montrose	RNAV (GPS)	Yes		6/5/2008	
Stevens Field	Pagosa Springs	RNAV (GPS)		Yes	2/14/2008	
Pueblo Memorial Airport	Pueblo	RNAV (GPS), GPS	Yes		8/3/2006	
Garfield County Airport	Rifle	RNAV (GPS)	Yes		6/5/2008	
Telluride Regional Airport	Telluride	RNAV (GPS)	Yes		10/20/2011	
Perry Stokes Airport	Trinidad	RNAV (GPS)	Yes		11/25/2004	
Front Range Airport	Watkins/Denver	RNAV (GPS)	Yes		9/25/2008	
Intermediate Airports						
Boulder Municipal Airport	Boulder					None
Central Colorado Regional Airport	Buena Vista	GPS	Yes		11/15/2012	
Fremont County Airport	Canon City	GPS	Yes		11/15/2012	
Leach Airport	Center					None
Meadow Lake Airport	Colorado Springs					None
Craig-Moffat County Airport	Craig	GPS	Yes			None
Mineral County Memorial Airport	Creede					None
Astronaut Kent Rominger Airport	Del Norte					None
Blake Field	Delta					None
Animas Airpark	Durango					None
Eads Airport	Eads					None

Table 5-11: GPS Approach Status for Major and Intermediate Airports

Airport	City	GPS	Included in 2005	Added Since 2005	Publish Date	Scheduled
Intermediate Airports, Cont'd.						
Erie Municipal Airport	Erie	GPS-A	Yes		10/17/2013	
Fort Morgan Municipal Airport	Fort Morgan	RNAV (GPS)			7/26/2013	Pending
Glenwood Springs Municipal Airport	Glenwood Springs					None
Granby - Grand County Airport	Granby					None
Holyoke Airport	Holyoke	RNAV (GPS)	Yes		10/27/2005	
McElroy Airfield	Kremmling	GPS-A, GPS	Yes		1/10/2013	
La Junta Municipal Airport	La Junta	RNAV (GPS)	Yes		8/27/2009	
Lake County Airport	Leadville	GPS	Yes		4/10/2008	
Limon Municipal Airport	Limon					None
Monte Vista Municipal Airport	Monte Vista	RNAV (GPS), GPS	Yes		2/14/2008	
Hopkins Field	Nucla	RNAV (GPS)		Yes	5/10/2007	
Rangely Airport	Rangely					None
Harriet Alexander Airport	Salida	RNAV (GPS)		Yes	4/10/2008	
Springfield Municipal Airport	Springfield	RNAV (GPS)		Yes	12/20/2007	
Steamboat Springs - Bob Adams Field	Steamboat Springs	RNAV (GPS)	Yes		3/12/2009	
Sterling Municipal Airport	Sterling	GPS	Yes		7/26/2012	
Walden - Jackson County Airport	Walden	RNAV (GPS)		Yes	6/5/2008	
Spanish Peaks Airfield	Walsenburg	RNAV (GPS)			3/17/2013	Pending
Silver West Airport	Westcliffe					None
Wray Municipal Airport	Wray	RNAV (GPS)	Yes		1/19/2006	
Yuma Municipal Airport	Yuma					None

Source: Jeppesen Charts and FAA Denver ADO

As Table 5-11 shows, since the 2005 study was published, five additional airports have been approved for RNAV GPS or GPS approaches. Table 5-11 also indicates that there are two additional airports that are still on the candidate list for a GPS or an RNAV GPS approach. These airports are Fort Morgan Municipal and Spanish Peaks Airfield. This study's final recommendations will identify airports currently without any approach that should be considered for a published approach.

5.4.3 Benchmark: Airports with Fuel

In order for airports in Colorado to effectively support business activities and the State's economy, it is important for based and transient aircraft to have access to fuel. The Colorado Aviation System Plan recommends that airports in the Major and Intermediate Airport categories have on-site fuel and that airports in the Major category have access to Jet A fuel. While there is no objective for airports in the Minor category to have access to fuel, several airports in this category also have on-site fuel.

To meet the on-site fuel objectives established by the system plan, it is appropriate for Aeronautics to provide grants for projects that relate to providing, maintaining, and/or upgrading fuel facilities. The Division of Aeronautics provides grants only for publicly-owned fueling facilities. Types of projects that Aeronautics could fund to help meet system plan objectives for on-site fuel include, but are not necessarily limited to, the following:

- Installing self-service card readers
- Providing new fuel tanks
- Rehabilitating old fuel tanks
- Relocating/removing fuel tanks
- Purchasing a fuel truck
- Addressing environmental standards and requirements
- Providing apron areas for fueling
- Installing lighting for fueling areas
- Installing fuel containment or tank detection systems
- Addressing soil contamination issues
- Addressing safety/security needs in fueling areas

Table 5-12 provides information on the percent of airports in the Major Airport category that have Jet A fuel. As shown, 100 percent of all Major Airports provide their users with access to Jet A fuel. While not an objective of the system plan, as Table 5-12 reflects, there are also airports in both the Intermediate and Minor Airport categories that have Jet A fuel. It is important to note that while 100 percent of all Major Airports currently report having Jet A fuel, this does not necessarily mean that these airports will not have a need for grants related to fueling projects. As equipment ages, demand increases or standards change, even airports that are currently compliant with this particular benchmark may apply for grants for fuel related projects.

Table 5-12: Percentage of Airports with Jet A Fuel

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	100%	100% (26)	0%	100%
Intermediate Airports	58%	50%	56% (18)	6%	Not Applicable
Minor Airports	14%	17%	6% (1)	-11%	Not Applicable
All System Airports	59%	59%	59% (45)	0%	33%
Applicable System Airports*	100%	100%	100% (26)	0%	100%

*Applies to all Major Airports

Table 5-13 provides information that summarizes system performance relative to all airports with on-site fuel. This information is reflective of airports with either Jet A or AvGas, or both fuel types. As noted, the system plan has established an objective for all Major and Intermediate Airports to provide on-site fuel. As shown, all Major Airports and a high percentage (88%) of the airports in the Intermediate category report having on-site fuel. While the system plan has not set an objective for Minor Airports to have on-site fuel, 44 percent of the Minor Airports also report that they have on-site fuel.

Table 5-13: Percentage of Airports with Fuel

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	100%	100% (26)	0%	100%
Intermediate Airports	85%	84%	88% (28)	4%	100%
Minor Airports	52%	50%	44% (8)	-6%	Not Applicable
All System Airports	81%	81%	82% (62)	1%	76%
Applicable System Airports*	91%	91%	93% (54)	2%	100%

*Applies to all Major and Intermediate Airports

As Table 5-13 shows, while the percent of all system airports that have fuel has increased slightly, the percent of airports with fuel in the Minor Airport category has shown a decline. Decreases in the number of Minor Airports with on-site fuel are most likely related, in varying degrees, to the following factors:

- Outdated fuel farms which could not be brought up to standards and were closed instead of replaced.
- Lower demand levels, especially among single-engine piston aircraft, that lead to conditions which made fuel farms uneconomical.

As Table 5-13 reflects, a target has been set for 76 percent of all system airports to have on-site fuel; this is reflective of all airports in Major and Intermediate categories as a percent of the total system. This target is currently exceeded. A target of 100 percent has been set for airports in the Major and Intermediate categories to have on-site fuel; currently 93 percent of all Major and Intermediate categories report having on-site fuel. The study recommendations will identify those system airports that should have on-site fuel to meet system targets.

5.4.4 Benchmark: Airports with Access to Rental Car Facilities

Each year, many visitors arrive in Colorado via the general aviation and commercial airports. These visitors are both business and leisure related. Once in Colorado, annual spending by these visitors helps to support hundreds of millions of dollars in economic activity. Once a visitor reaches Colorado by air, it is important for them to be able to reach their final travel destination in the State. As a result, the system plan has established an objective for airports in the Major Airport category to have access to rental cars for their customers; this access is almost always made available through a third party provider. It is worth noting that without sufficient demand to generate a profit, rental car operators will most likely not provide service. For this particular benchmark, in some instances the rental car services are located on-site; in other instances, the rental car services are off-site but the agency provides other arrangements for visitors arriving at the airport to pick up their car.

Table 5-14 provides information for this benchmark for the 2000, 2005, and 2011 reporting periods. As shown, 96 percent or 25 of the airports in the Major Airport category have access to rental car services. While not an objective of the system plan, some airports in the Intermediate and Minor Airport categories also report having access to rental car services for visitors who arrive by air. Over the reporting period, access to rental car facilities has been provided by a consistently high percentage of Major Airports. Since the system plan's objective is for all airports in Major Airport category to have access to rental cars, a system-wide target of 33 percent (Major Airports as a percent of the system total) has been set. As Table 5-14 shows, this target is currently exceeded as a result of the additional airports in the Intermediate and Minor Airport categories that report having access to rental car services.

Table 5-14: Percentage of Airports with Access to Rental Car Facilities

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	96%	96% (25)	0%	100%
Intermediate Airports	55%	56%	47% (15)	-9%	Not Applicable
Minor Airports	24%	28%	17% (3)	-11%	Not Applicable
All System Airports	60%	63%	57% (43)	-6%	33%
Applicable System Airports*	100%	96%	96% (25)	0%	100%

*Applies to all Major Airports

As Table 5-14 shows, in 2011 a lower number and percentage of airports in the Intermediate and Minor Airport categories report that their customers have access to rental cars. In almost every instance, rental car facilities serving these airports were located off-airport. Downturns in the economy most likely accounted for the declines.

5.4.5 Benchmark: Airports with Access to Ground Transportation Services

As noted, many visitors arrive in Colorado each year by air. Once in the State, they often need ground transportation services to reach their final destination. Rental cars are considered in this benchmark, as are other means of ground transportation such as an airport courtesy car, taxis, and/or shuttles. **Table 5-15** shows the percentage of airports within each role category with ground transportation services. It is an objective of the system plan for all airports in the Major and Intermediate categories to have access to some type of ground transportation service for visitors who arrive at their airport. The system plan does not have an objective for airports in the Minor category to have access to ground transportation services, although as Table 5-15 indicates, a few Minor Airports do report that visitors to their airports have access to ground transportation services also.

Table 5-15: Percentage of Airports with Ground Transportation Services

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	96%	100% (26)	4%	100%
Intermediate Airports	79%	72%	69% (22)	-3%	100%
Minor Airports	52%	61%	39% (7)	-22%	Not Applicable
All System Airports	78%	77%	72% (55)	-5%	76%
Applicable System Airports*	88%	82%	83% (48)	1%	100%

*Applies to all Major and Intermediate Airports

As Table 5-15 indicates, between 2000 and 2005, airports in the Minor and Intermediate categories actually declined in performance relative to this particular benchmark. This change was in part due to the fact that some airports and FBOs discontinued providing courtesy cars as a result of liability issues. Between 2005 and 2011, performance related to this benchmark increased for airports in the Major category, but declined for airports in the Intermediate and Minor categories. The target for this benchmark is for 76 percent (all Major and Intermediate Airports) of all system airports to have access to ground transportation services available for visitors.

Table 5-15 shows that for the system as a whole, this target is close to being met, as a result of airports in all three categories that have access to ground transportation services. When only Major and Intermediate Airports are considered, 83 percent of all airports in these two categories report having access to ground transportation services for their customers. The target is to have 100 percent of the airports in the Major and Intermediate

categories with access to ground transportation services for their customers. This study's final recommendations will identify those airports which should have access to ground transportation services in place to meet study objectives and targets for system performance.

5.4.6 Benchmark: Airports with Jet Activity

While this benchmark is informational in nature, understanding which system airports accommodate general aviation business jet activity helps Aeronautics to better define roles for system airports and to understand emerging trends for the system. When airports support business jet activity, this is one indication that they are most likely helping to support the economy of the market area they serve.

Table 5-16 provides information on the percent of system airports that reported accommodating general aviation business jet activity in 2000, 2005, and 2011. As would be expected, all airports in the Major category and most airports in the Intermediate category report that they accommodate some level of business jet activity; these are the system airports that are most likely to have the facilities and services needed by these aircraft. As Table 5-16 shows, all Major Airports continue to report business jet activity. However, the percent of all system airports reporting business jet activity has declined, with the greatest portion of this decline at airports in the Intermediate category.

Table 5-16: Percentage of Airports with Jet Activity

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	100%	100% (26)	0%	No Target Established
Intermediate Airports	73%	81%	63% (20)	-18%	No Target Established
Minor Airports	19%	17%	11% (2)	-6%	No Target Established
All System Airports	66%	72%	63% (48)	-8%	No Target Established

As part of this update to Colorado's Aviation System Plan, information on trends in business jet activity was also collected from the airports. This information (shown in Chapter Four) showed that 54 percent of the Major Airports reported increasing business jet activity, 23 percent of Major airports reported stable business jet activity, and 8 percent of Major Airports reported declining business jet activity. In subsequent updates to the aviation system plan, additional information will be collected on trends in business jet activity. Five years hence, the next system plan will be able to better examine these trends.

5.4.7 Benchmark: Airports with Annual Economic Impact Greater than $1 Million

This benchmark is informational in nature. The annual economic impact of an airport is one indicator of the role that the airport plays in supporting and contributing to both the local and the statewide economy. The Division of Aeronautics also considers each airport's annual economic impact in its grant allocation process. At regular five year intervals, Aeronautics updates its statewide economic impact study for system airports. The economic impact study for system airports was last updated in 2008; information from the current and previous statewide economic impact studies is used for this benchmark.

Table 5-17 provides information on trends in economic impact for the airport system. As shown in the table, 75 percent of system airports currently have an annual economic impact estimated at $1 million or more; this is up from the 63 percent of system airports in 2006, per the 2003 statewide economic impact study. It is worth noting that results from Colorado's three economic impact studies have not been adjusted to account for inflation. The fact that the number of airports that have an annual economic impact of $1 million or more has grown helps to highlight the increasing role that Colorado system airports have in contributing to and supporting Colorado's economy.

Table 5-17: Percentage of Airports with Economic Impact Greater than $1 Million

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	100%	100%	100% (26)	0%	No Target Established
Intermediate Airports	61%	69%	84% (27)	15%	No Target Established
Minor Airports	0%	0%	22% (4)	22%	No Target Established
All System Airports	56%	63%	75% (57)	12%	No Target Established

5.5 Performance Measure: System Coverage and Emergency Access

Benchmarks used to evaluate the system for this performance measure help to demonstrate how accessible Colorado's airport system is to various users. Accessibility is a key characteristic of an efficient and effective airport system. Benchmarks used to evaluate the system for this performance measure consider both accessibility from the ground for pilots and passengers and accessibility from the air for commercial, general aviation, and emergency aircraft.

5.5.1 Benchmark: Population and Land Area with a 90 Minute Drive Time of an Airport with Scheduled Commercial Service

Having access to an airport with scheduled flights on commercial airlines provides residents, visitors, and businesses with connections to instate, national, and international destinations. Since the Statewide Inventory and Implementation plan was conducted in 2000, minor changes have taken place related to airports in Colorado that are served by scheduled commercial airlines. Shortly after the 2000 plan was completed, Lamar Municipal Airport lost commercial airline service; this airport's schedule service had been supported with subsidies from the Federal Essential Air Service (EAS) program. In 2002, Fort Collins-Loveland Airport secured scheduled service from Allegiant Air. Since that time, there have been no significant service changes to Colorado's commercial airports. Fourteen (14) airports[21] in the State currently have scheduled commercial airline service; this number includes Denver International. Three of the 14 airports, Cortez Municipal, Alamosa/San Luis Valley Airport, and Pueblo Memorial have airline service supported through the EAS program. In addition to its EAS carrier, Pueblo Memorial also had scheduled service that was provided by Allegiant Air.[21]

GIS analysis was used to determine the percent of the State's land area and population that are within a 90 minute drive of an airport with scheduled airline service. While many residents, visitors, and businesses drive much less that 90 minutes to reach an airport with scheduled airline service, some drive a much longer distance, especially if they elect to arrive and depart via Denver International. **Table 5-18** compares commercial airport coverage for the 2000, 2005, and 2011 reporting periods. Coverage information provided in this table, derived from analysis completed in Chapter Four, reflects a modest amount of additional coverage for the State provided by commercial airports in Wyoming that are near the Colorado border; this coverage was also considered in the 2000 and 2005 system plans. What this table indicates is that, with the exception of the loss of coverage provided by Lamar Municipal, accessibility to airports in Colorado with commercial airline service has remained relatively unchanged.

Table 5-18: Percentage of Population and Land within 90 Minute Drive-Time of and Airport with Commercial Service

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	98.00%	97.80%	98.21%	0.41%	95%
Colorado Land	82.00%	75.60%	76.92%	1.32%	75%

As Table 5-18 indicates, the target is to have at least 95 percent of Colorado's population and 75 percent of its land area within 90 minutes or less of an airport with commercial service. In addition to coverage information for

[21] Note: Allegiant Air discontinued Pueblo service in April 2012.

commercial airports, previously presented in Exhibit 4-7 in Chapter Four, two other coverage scenarios related to commercial airports were reviewed. **Exhibit 5-1** shows coverage provided by all commercial airports in Colorado, as well as additional coverage provided by all airports in neighboring states that are within a 90 minute drive of Colorado. As analysis in Chapter 4 determined, when only commercial airports in Colorado are considered, 77 percent of the State and 98 percent of its population are within a 90 minute, or less, drive of a commercial airport. As information obtained from GIS analysis shows, when additional coverage provided by all airports in neighboring states is also considered, this coverage increases to 99 percent (population) and almost 84 percent (area). It is worth noting that of the 11 out-of-state airports that are within a 90 minute or less drive time of Colorado, as Exhibit 5-1 reflects, 7 of these airports have airline service supported through the EAS program.

As noted previously, the commercial airports in Colorado that have airline service subsidized through the EAS program include the airports serving Alamosa, Cortez, and Pueblo. For many years, Congress has debated the continued need for the EAS program. As a result, it is important to consider the impact to Colorado from the potential loss of this program. If service were lost in the three EAS communities, **Exhibit 5-2** shows the reduction in coverage from commercial airports that would result. As indicated, EAS service currently acts as the exclusive commercial service for 1.7 percent of Colorado's population and 12.4 percent of statewide land area. When only the remaining 11 commercial airports in Colorado are considered, population coverage would decrease from 98 percent for all 14 airports to 97 percent, and area coverage would decrease from 77 percent for all 14 airports to 65 percent. The loss of scheduled airline service at current EAS airports would result in a very modest change in population coverage and a somewhat larger change in land coverage.

Exhibit 5-1: Colorado Population within 90 Minute Drive-Time of a Commercial Service Airport

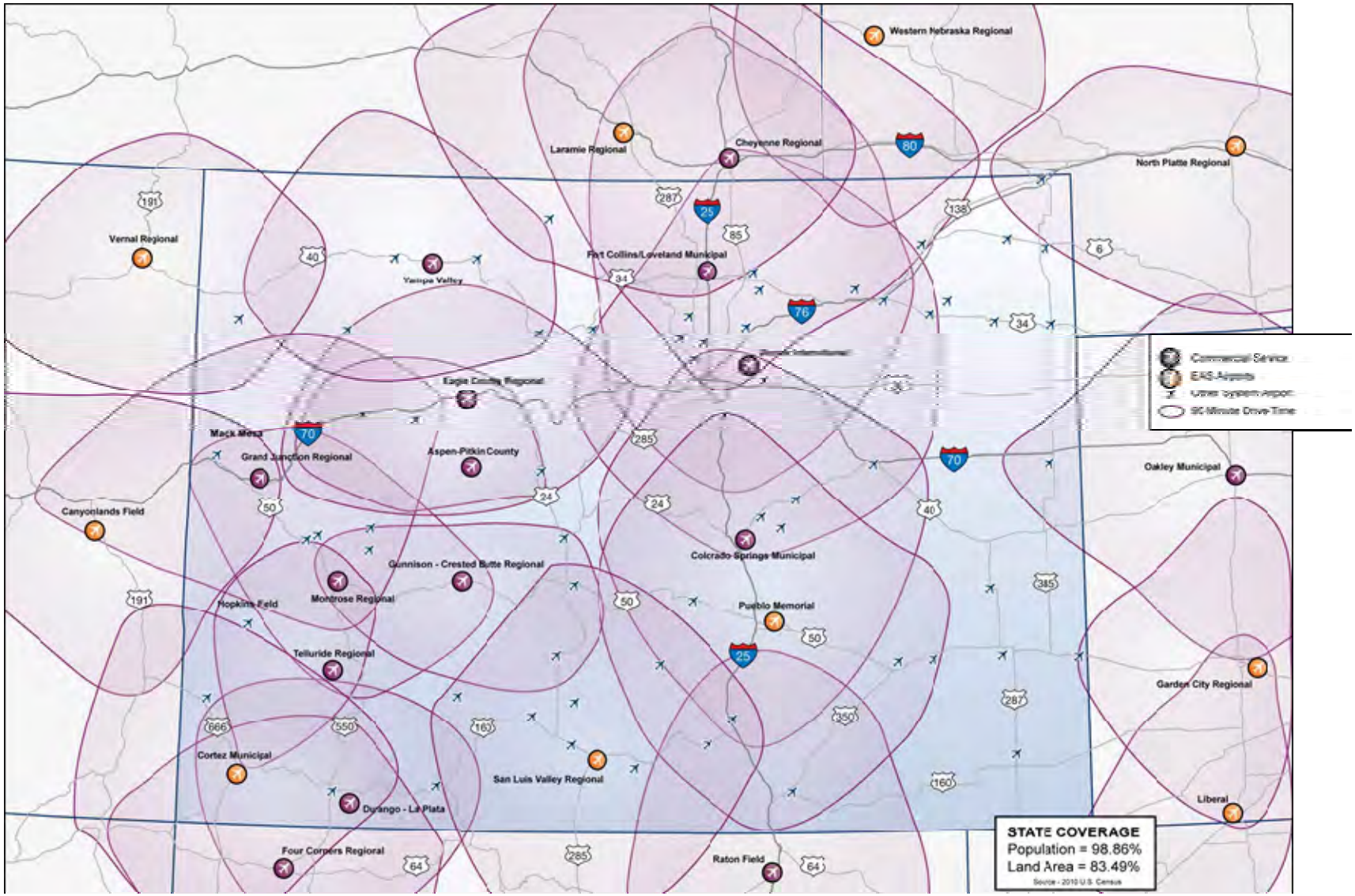
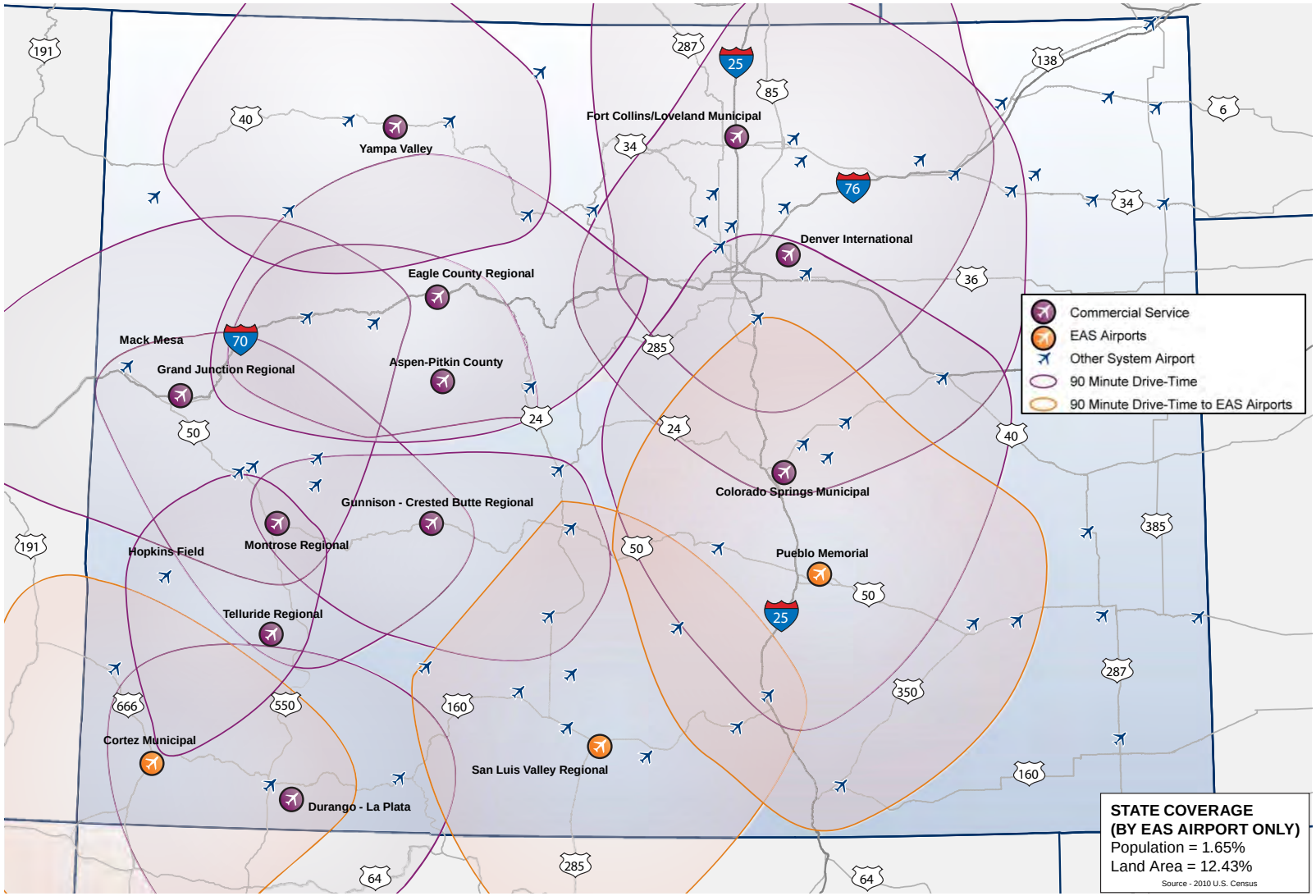


Exhibit 5-2: Exclusive Service Areas of EAS Airports in Colorado



As can be seen from Exhibit 5-2, much of the 90 minute service area for Cortez is also within the 90 minute service area of other commercial airports, most notably the commercial airport serving Durango. Much of the 90 minute service area for Pueblo is within the 90 minute service area for Colorado Springs. A small portion of the service area for San Luis Valley Regional (Alamosa) is within the 90 minute service area for Gunnison and Colorado Springs. Loss of EAS service at Alamosa would have the biggest impact on current coverage/accessibility to commercial airports reported in Table 5-18. Without coverage provided by the airports whose service is funded through the EAS program, the targets for system performance for this benchmark would not be met. Despite the potential loss in coverage, it would not be prudent for the State to assume responsibility for airline operating subsidies. Annual EAS subsidies for these three Colorado airports are somewhere in the neighborhood of $155 per enplaned passenger.

From a funding standpoint, there is little that the Division of Aeronautics can do to influence the provision of commercial airline service. While investment in facilities such as longer runways and upgraded approaches can sometimes help to support airline needs, investment airside and landside facilities does not guarantee additional or continuing airline service. Aeronautics may, however, from time to time provide funding to airports to help them strategically investigate or respond to their commercial air service needs.

5.5.2 Benchmark: Population and Land Area with 90 Nautical Miles of an Airport with a Precision ILS Approach

Effective and efficient airport systems are accessible from both the ground and the air. The Colorado Aviation System Plan has established an objective for all airports in the Major Airport category to have a precision approach. However, the State's terrain makes it impossible for some of the airports in the Major category to have an ILS precision approach. Ideally, if airports in the Major category cannot accommodate an ILS approach, they should at least have an approach with vertical guidance.

Table 5-19 compares system performance for this benchmark for the 2000, 2005, and 2011 reporting periods. As shown, there has been essentially no change in system performance for this benchmark. The slight differences in percentages shown in Table 5-19 are a result of the different versions of the mapping program used in 2000, 2005, and 2011 and not a matter of actual coverage. Current coverage, however, meets the targets established for system performance relative to this benchmark. At the present time, there are no additional airports in Colorado that are under consideration for an ILS approach. If in the future a system airport has activity levels that meet FAA's criteria for the installation of a precision approach and the airport can comply with associated design standards, it would be appropriate for Aeronautics to participate in funding any projects that would be necessary to support the installation of this approach. Recommendations from this report will subsequently identify specific system airports that should continue to be considered as candidates for an approach with vertical guidance.

Since the 2000 and the 2005 system plans considered only ILS approaches for this benchmark, coverage information in Table 5-19 reflects only ILS coverage. When the six additional system airports that have vertical guidance approaches are also considered, coverage for both land and population increases to 100 percent.

Table 5-19: Percentage of Population and Land within 90 Nautical Miles of an Airport with a Precision ILS Approach

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	99.00%	99.30%	99.29%	-0.01%	95%
Colorado Land	90.00%	90.20%	90.02%	-0.18%	95%

5.5.3 Benchmark: Population and Land Area within 60 Nautical Miles of an Airport with a Published Approach

Table 5-20 compares the percent of population and land within 60 nautical miles of an airport with a published approach for the 2000, 2005, and 2011 reporting periods. As shown, system performance for this benchmark has remained unchanged over the three reporting periods. Objectives for airports in the Colorado system call ideally for all airports in the Major and Intermediate categories to have at least a non-precision approach. Currently, all airports in the Major Airport category have at least a non-precision approach. Sixteen (16) of the 32 airports now in the Intermediate Airport category also have a non-precision approach.

Table 5-20: Percentage of Population and Land within 60 Nautical Miles of an Airport with a Published Approach

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	99.00%	99.90%	99.99%	0.09%	100%
Colorado Land	99.00%	99.20%	99.63%	0.43%	100%

Exhibit 5-3 provides information that shows the progress the system has made since the 2000 Statewide Inventory and Implementation Plan was prepared, as related specifically to the number of airports that have a published approach. As Exhibit 5-3 reflects, essentially 100 percent of Colorado and 100 percent of its population are now within 60 nautical miles of a system airport that has a published approach. Exhibit 5-3 shows those system airports that had a published approach at the time the 2000 study was completed; those airports that secured an approach between the 2000 and the 2005 study; and those airports that have secured a published approach since the 2005 study was completed. As shown, since the 2005 reporting period, four additional airports have been approved for a published approach.

Even though the target for system coverage for this benchmark is essentially met, ideally, the remaining 16 airports in the Intermediate Airport category that do not have a non-precision approach should also have more than a visual approach. As **Exhibit 5-4** shows, information provided by the FAA shows that two additional system airports are programmed to have a published approach in the near term. These two airports are Walsenburg/Spanish Peaks and Fort Morgan. The recommendations section of this report will identify system airports that should still be considered for non-precision approaches, assuming they meet other required criteria and applicable design and safety standards. If additional airports meet the criteria for a non-precision approach, it would be appropriate for the Division of Aeronautics to participate in funding projects needed to support the approach, even though system-wide performance for this benchmark currently meets established targets. Projects associated with a non-precision approach were previously discussed in conjunction with the Economic Support Performance Measure.

Exhibit 5-3: Additional Coverage Provided by Published Approaches Since 2000

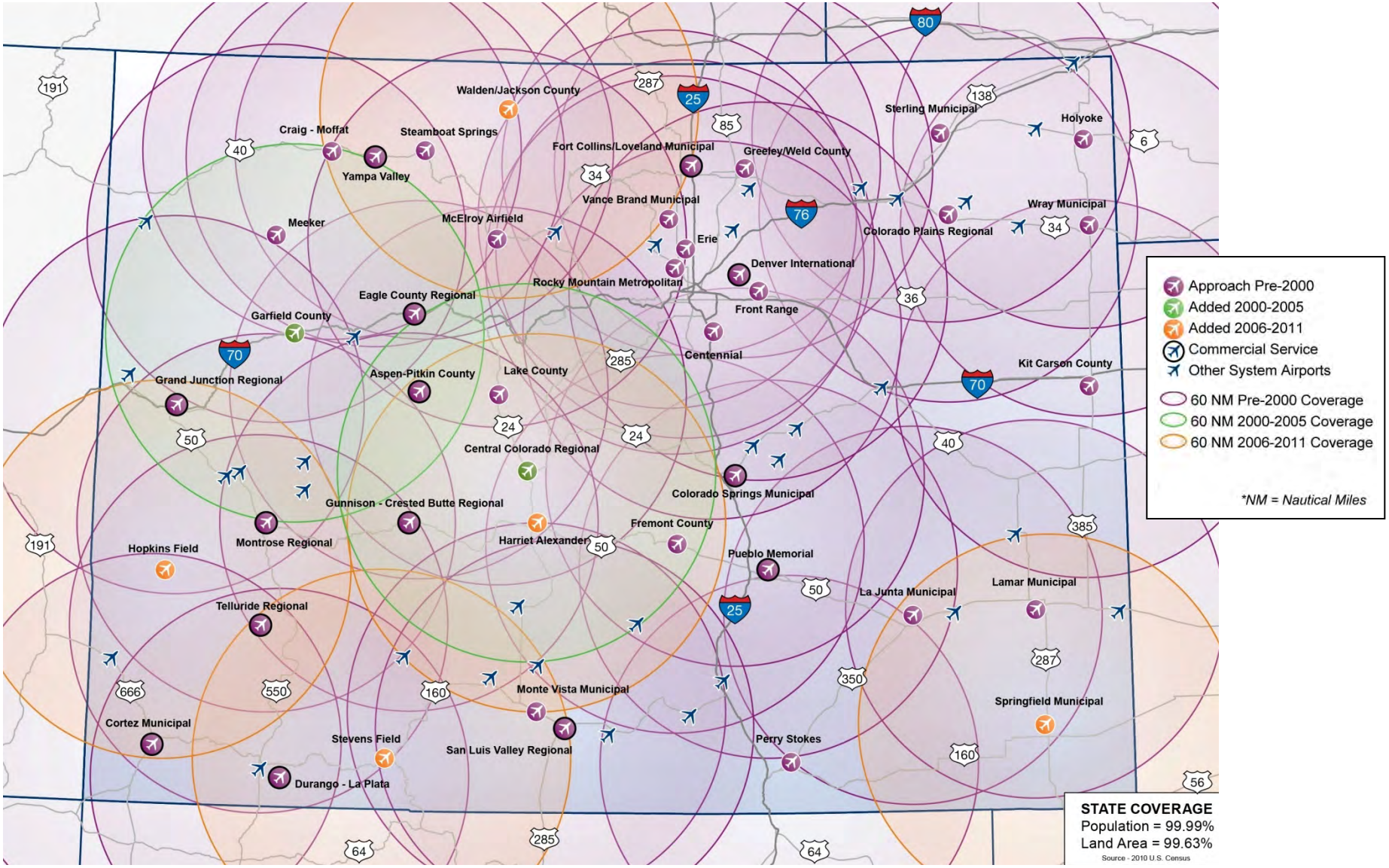
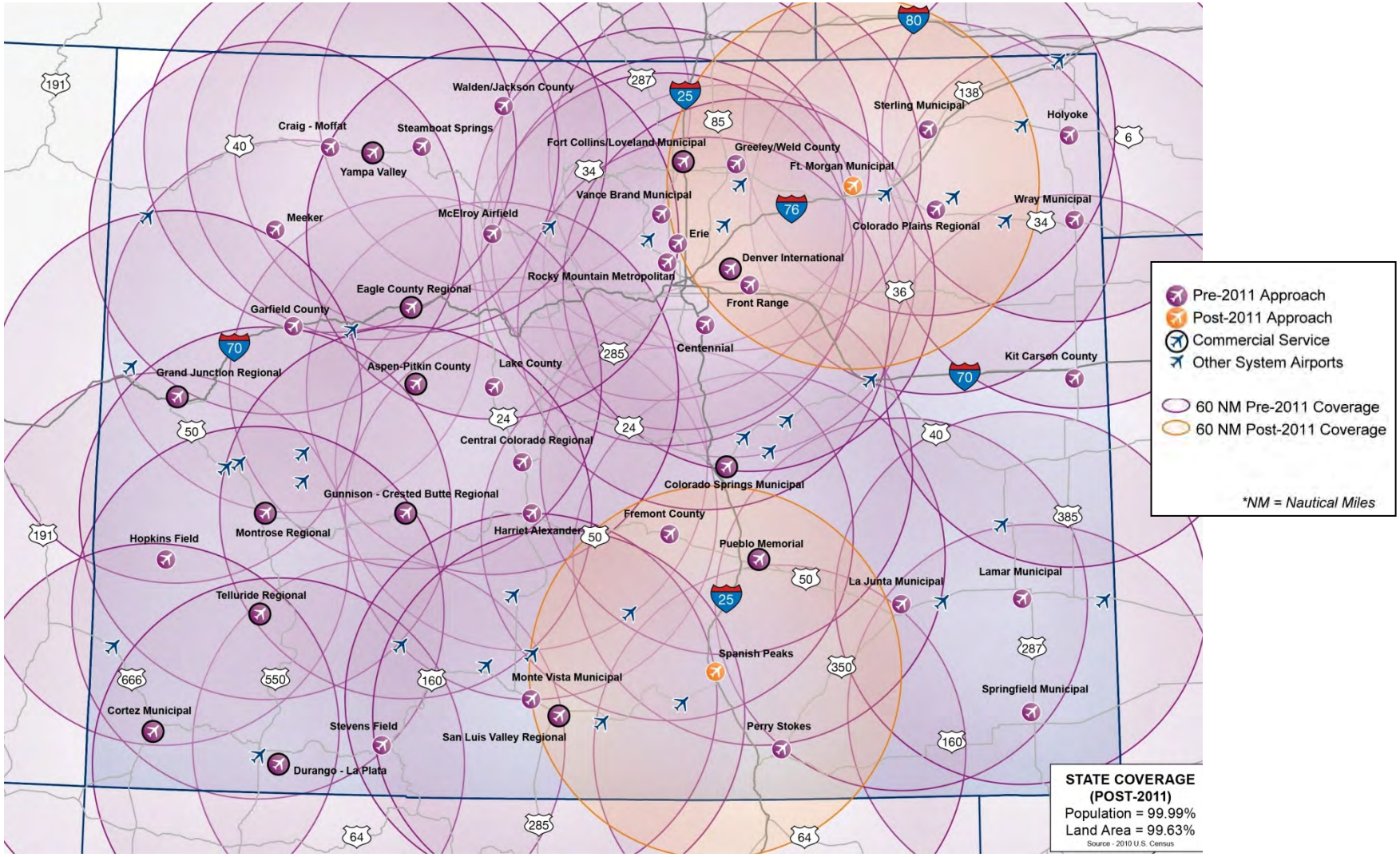


Exhibit 5-4: Additional Coverage Provided by Future Approaches After 2011



5.5.4 Benchmark: Population and Land Area within a 30 Minute Drive Time of Any System Airport

For the effectiveness of an airport system to be maximized, all users should ideally be within a 30 minute drive time of an airport. This 30 minute drive time is a factor that FAA considers when entering airports into the National Airport System (NAS) through inclusion in the National Plan of Integrated Airport Systems (NPIAS). **Table 5-21** compares 30 minute drive time coverage for all system airports for 2000, 2005, and 2011. The reported percentages shown in this table vary slightly between the three reporting periods. This variation is based on the different versions of the mapping program used for each reporting period and not on actual change in the system.

Table 5-21: Percentage of Population and Land within 30 Minute Drive-Time of System Airports

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	94.00%	94.60%	93.65%	-0.95%	95%
Colorado Land	53.00%	53.20%	54.42%	1.22%	50%

Since the 2000 plan was prepared, three general aviation airports in the system have closed; these airports are Navajo Landing Strip, Aurora Airpark, and Fort Collins Downtown Airpark. However, the 30 minute service areas for these three airports essentially overlapped with other system airports that remained open. As a result, the closure of these three facilities had no impact on system performance related to this benchmark. The 30 minute drive time coverage provided by all system airports has essentially remained unchanged since 2000. The target set for this benchmark is to have at least 95 percent of Colorado's population and 50 percent of its land area within a 30 minute drive time of one or more system airports. As Table 5-21 reflects, current system performance comes close to meeting these targets.

There is one new publicly-owned general aviation airport identified for Colorado in the NPIAS. The FAA has included a new airport in the NPIAS for an area near Wellington north of Fort Collins. However, due to the current economy, the process to develop a new airport in this area has slowed down. Exhibit 4-10, from the previous chapter presented 30 minute drive time service areas for all existing system airports. If this proposed airport were to be developed, a portion of its 30 minute drive time service area would overlap with existing service areas for Fort Collins/Loveland Municipal and Greeley/Weld County Airport. Depending upon its exact location, which is yet to be determined, it is possible that this new airport could also provide additional area and population coverage, particularly to the area north of the existing service area for Greeley/Weld County Airport. According to a recent report by Forbes Magazine, the Fort Collins area is one of the fastest growing in the U.S. When this system plan is next updated, the status of this proposed airport will be re-visited.

5.5.5 Benchmark: Airports with On-Site Weather Reporting Equipment

Colorado's rapidly changing weather and terrain has made weather reporting equipment a high priority item for system airports. The system plan's objective is for all airports in the Major and Intermediate categories to have on-site weather reporting equipment. **Table 5-22** provides information on airports, by role, that have on-site weather reporting equipment. This information is shown for 2000, 2005, and 2011.

Table 5-22: Percentage of Airports with On-Site Weather Reporting Facilities

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	92%	100%	100% (26)	0%	100%
Intermediate Airports	24%	63%	69% (22)	6%	100%
Minor Airports	0%	5%	6% (1)	1%	Not Applicable
All System Airports	37%	61%	64% (49)	3%	76%
Applicable System Airports*	52%	79%	83% (48)	4%	100%

*Applies to all Major and Intermediate Airports

As shown in Table 5-22, the system has made notable progress related to the percent of system airports that are equipped with on-site weather reporting equipment. For the 2011 reporting period, 100 percent of the Major Airports, 69 percent of the Intermediate Airports, and 6 percent (one airport) of the Minor Airports have on-site weather reporting equipment. Between 2005 and 2011, overall system performance increased from 61 percent to 64 percent. When just the Major and the Intermediate Airports are considered, system performance increased from 79 percent to 83 percent for this benchmark between 2005 and 2011.

As Table 5-22 indicates, the system plan's target is for all airports in both the Major and Intermediate categories to have on-site weather reporting equipment. While all airports in the Major category meet the target only 22 airports out of the 32 airports currently in the Intermediate category have on-site weather reporting equipment. Final study recommendations will identify additional Intermediate Airports that should ideally also have on-site weather reporting equipment in order to meet the established target for this benchmark.

5.5.6 Benchmark: Population and Land Area within 25 Nautical Miles of a Weather Reporting Facility

Given the importance of weather reporting information for pilots using airports in Colorado, the Division of Aeronautics has participated in the installation of weather reporting equipment not only system airports but also in several mountain passes within the State. Weather reporting equipment includes AWOS, ASOS, and Super Unicom systems. Given the importance of these systems, it is appropriate for Aeronautics to participate in the

funding of AWOS/ASOS weather reporting equipment, as well as any additional supporting facilities or actions that may be required for weather reporting at system airports, also along mountain passes. It is also appropriate for Aeronautics to participate in replacement and potential upgrades for weather reporting systems as needed.

As **Table 5-23** indicates, notable progress has been made in the percent of the State and its population that is within 25 nautical miles of weather reporting equipment. As of the 2011 reporting period, approximately 99 percent of the State's population is within 25 nautical miles of weather reporting equipment. Colorado has reached its target to have 99 percent of the State's population within 25 nautical miles of weather reporting equipment. Between 2005 and 2011, the percent of the State's land area that is within 25 nautical miles of weather reporting equipment increased from 76 percent to 79 percent. The target for performance established by the system plan is to have 85 percent of the State's land area within 25 nautical miles of weather reporting equipment. **Exhibit 5-5** shows where additional weather coverage has been added between the 2000, 2005, and 2011 reporting periods.

Table 5-23: Percentage of Population and Land within 25 Nautical Miles of a Weather Reporting Facility

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	93.70%	98.90%	99.03%	0.13%	99%
Colorado Land	53.30%	76.20%	78.93%	2.73%	85%

As noted in the discussion of a previous benchmark, the system plan has established an objective for all Major and Intermediate Airports to have on-site weather reporting equipment. While all Major Airports meet this objective, an additional ten airports in the Intermediate category still lack on-site weather reporting equipment. These airports will be identified in the recommendations section of this report; providing on-site weather reporting equipment at some or all of the these additional airports in the Intermediate category will most likely enable the system to meet the target of 85 percent for land area coverage. As shown in **Exhibit 5-6**, assuming that all Major and Intermediate Airports (in addition to current airport and Mountain Pass coverage) had on-site weather reporting equipment, the percent of population within a 25 nautical mile radius of weather reporting equipment would not change significantly, but land area coverage would increase from its current level of 81 percent to 85 percent, the established target for this benchmark.

Exhibit 5-5: Coverage Provided by Weather Reporting Facilities Since 2000

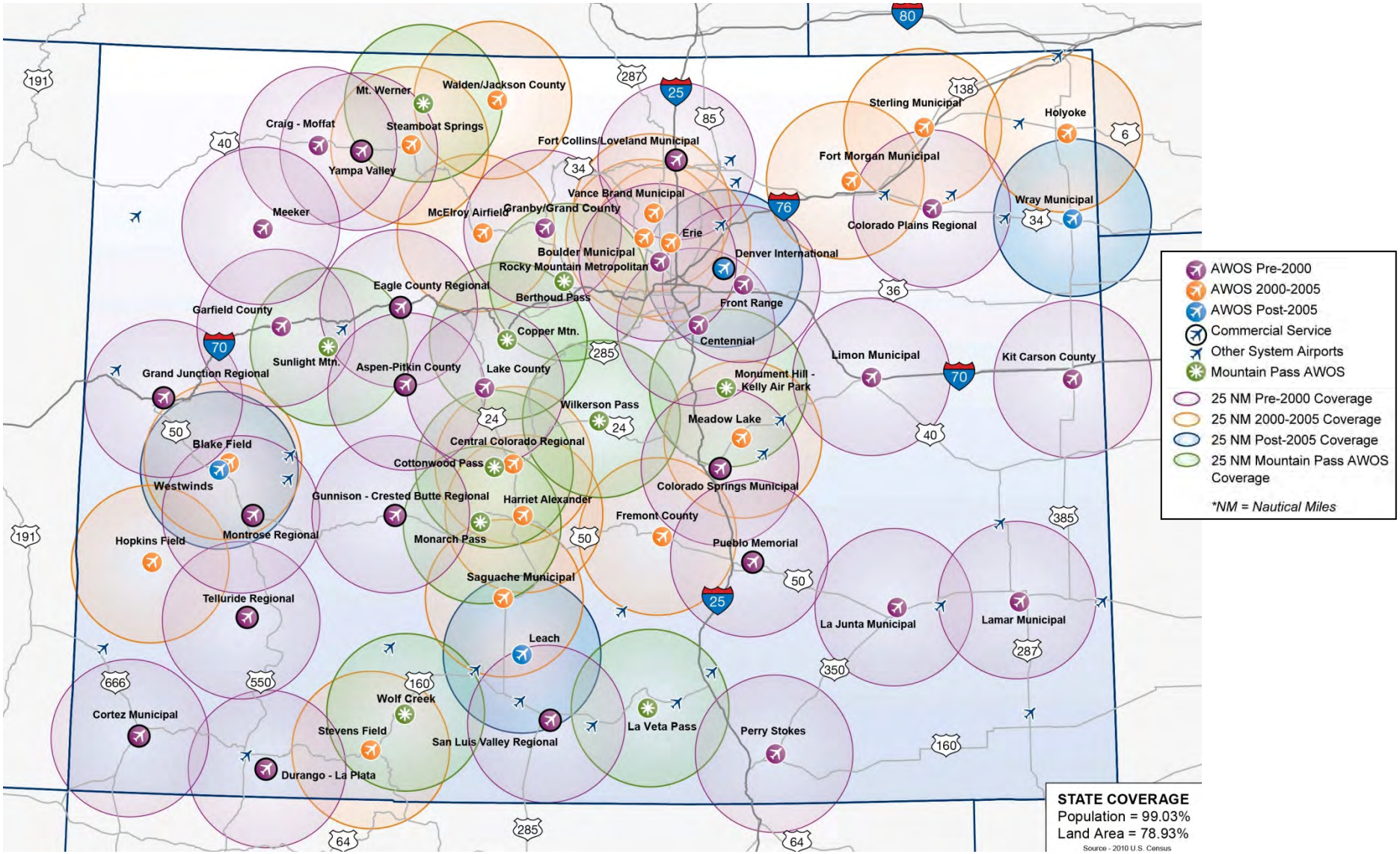
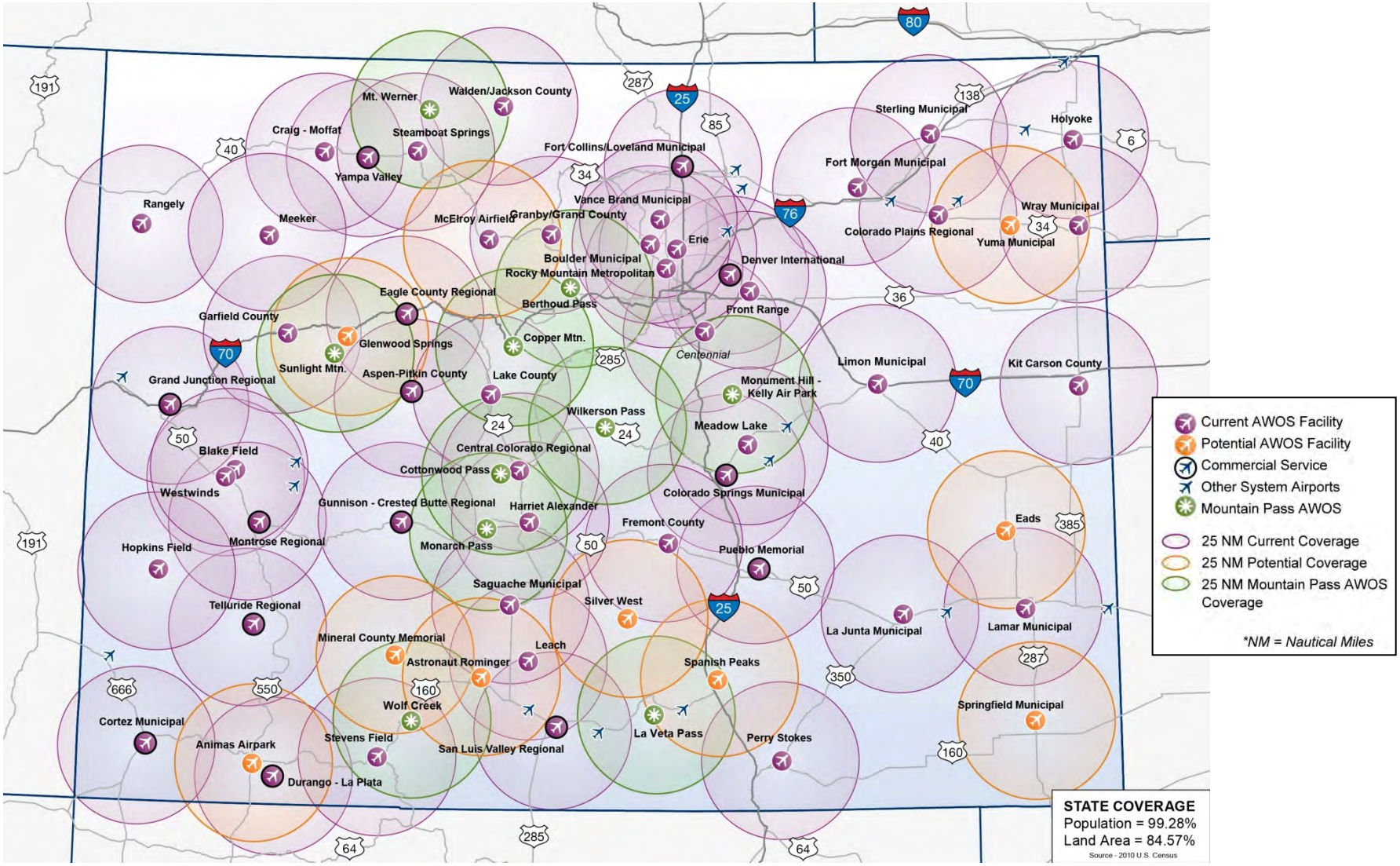


Exhibit 5-6: Potential Coverage Provided by Weather Reporting Facilities



5.5.7 Benchmark: Population and Land Area within a 30 Minute Drive Time of Airports Able to Accommodate King Air B200 Emergency Aircraft

Airports throughout Colorado play important roles in the transport of patients and medical personnel. While helicopters are often used for short distance flights, many companies engaged in the emergency transport of patients, physicians, and medical personnel need to rely on fixed-wing aircraft. The two most common types of aircraft used in Colorado for emergency medical services continue to be the Beech King Air B200 and the Learjet 35. When the 2000 Colorado Inventory and Implementation Plan was prepared, extensive outreach was undertaken to identify the facility/operating requirements of emergency aircraft operators in Colorado. These operators identified the following facilities as being the minimum desired to support their operations in Colorado:

- Minimum runway length – working with the operators, minimum runway lengths for both emergency aircraft types were developed for the State's three geographic regions. Different minimum runway lengths for each aircraft type were necessary as a result of differences in elevation and temperature in these regions. These minimum runway lengths were previously shown in Table 4-11 in Chapter 4 of this document.
- On-site weather reporting – operators of emergency aircraft wish to have on-site weather reporting equipment, AWOS, ASOS, or Super Unicom.
- Published approach – a precision ILS, an approach with vertical guidance, or a non-precision approach is another facility objective for operators of emergency aircraft.
- Rotating beacon – operators of emergency aircraft also indicate that they prefer to operate at airports that have a rotating beacon to support their flights.
- High intensity (HIRL) or medium intensity (MIRL) runway lighting – for nighttime operations and in periods of reduced visibility, emergency aircraft operators also desire high or medium intensity runway lighting.

All of the facilities identified above by the emergency operators are part of the facility, service, and equipment objectives contained in the Colorado Aviation System Plan for airports in the Major and Intermediate categories. By meeting and investing in stated facility, service, and equipment objectives that are part of the system plan that help to also satisfy the needs of emergency aircraft operators, Aeronautics will be helping to improve the system and to meet the needs of emergency operators. It is important to note that, once facilities noted above are installed, routine maintenance and replacement are also needed. Therefore, not only is it within keeping of system plan guidance to provide facilities needed by emergency operators, but it is also important to assist in the upkeep and replacement (as needed) of these facilities once they are installed.

The system plan's facility, service, and equipment objectives, with the exception of runway length in some instances, call for airports in the Major and Intermediate categories to have facilities needed by emergency operators flying the King Air B200. The system plan's facility, service, and equipment objectives call for all airports in the Major Airport category to have facilities needed to serve the Lear 35. The primary difference in the

facilities needed to support the two different types of emergency aircraft is the Learjet's longer minimum runway length requirement.

Table 5-24 tracks the system's performance relative to the number of airports that are capable of supporting the King Air B200 emergency aircraft. It is important to note that unless an airport meets all five of the requirements noted, it was considered "not capable" of supporting the King Air B200 emergency aircraft. In reality, there may be certain circumstances when the operators of emergency aircraft may elect to fly into an airport that does not have all five of their stated facility objectives. As shown in Table 5-24, all of the airports in the Major Airport category now meet all five of the stated facility needs for the King Air B200 emergency aircraft. Progress has also been made related to the number of airports in the Intermediate category that have all five of the facilities desired by emergency operators flying the King Air B200. Between the 2005 and 2011 reporting periods, the percent of airports in the Intermediate category meeting all needs of the King Air B200 emergency aircraft increased from 25 percent to 38 percent.

Table 5-24: Percentage of Airports Able to Accommodate King Air B200 Emergency Aircraft

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	92%	96%	100% (26)	4%	100%
Intermediate Airports	12%	25%	38% (12)	13%	100%
Minor Airports	N/A	N/A	N/A	N/A	Not Applicable
All System Airports	32%	44%	50% (38)	6%	76%
Applicable System Airports*	45%	56%	66% (38)	10%	100%

*Applies to all Major and Intermediate Airports

As Table 5-24 shows, the target set for this benchmark is to have 100 percent of the airports in both the Major and the Intermediate categories meet all the needs of emergency operators flying the King Air B200. As shown in the table, as of the 2011 reporting period, 100 percent of the airports in the Major Airport category now meet all the needs of emergency operators flying the King Air B200. While 12 of the airports in the Intermediate category now meet all of the needs for the King Air B200, there are an additional 20 airports in this category that still need one or more additional facilities to meet all five stated needs for emergency operators flying the King Air B200. This study's recommendations section will identify which facilities are still needed at these 20 airports in the Intermediate category, to meet all needs of the King Air B200.

In addition to charting system progress related to the number (percent) of system airports that are fully capable of meeting all King Air B200 emergency aircraft needs, it is also important to chart system progress related to the State's land area and population within a 30 minute drive of a King Air B200 "emergency ready" airport. **Table**

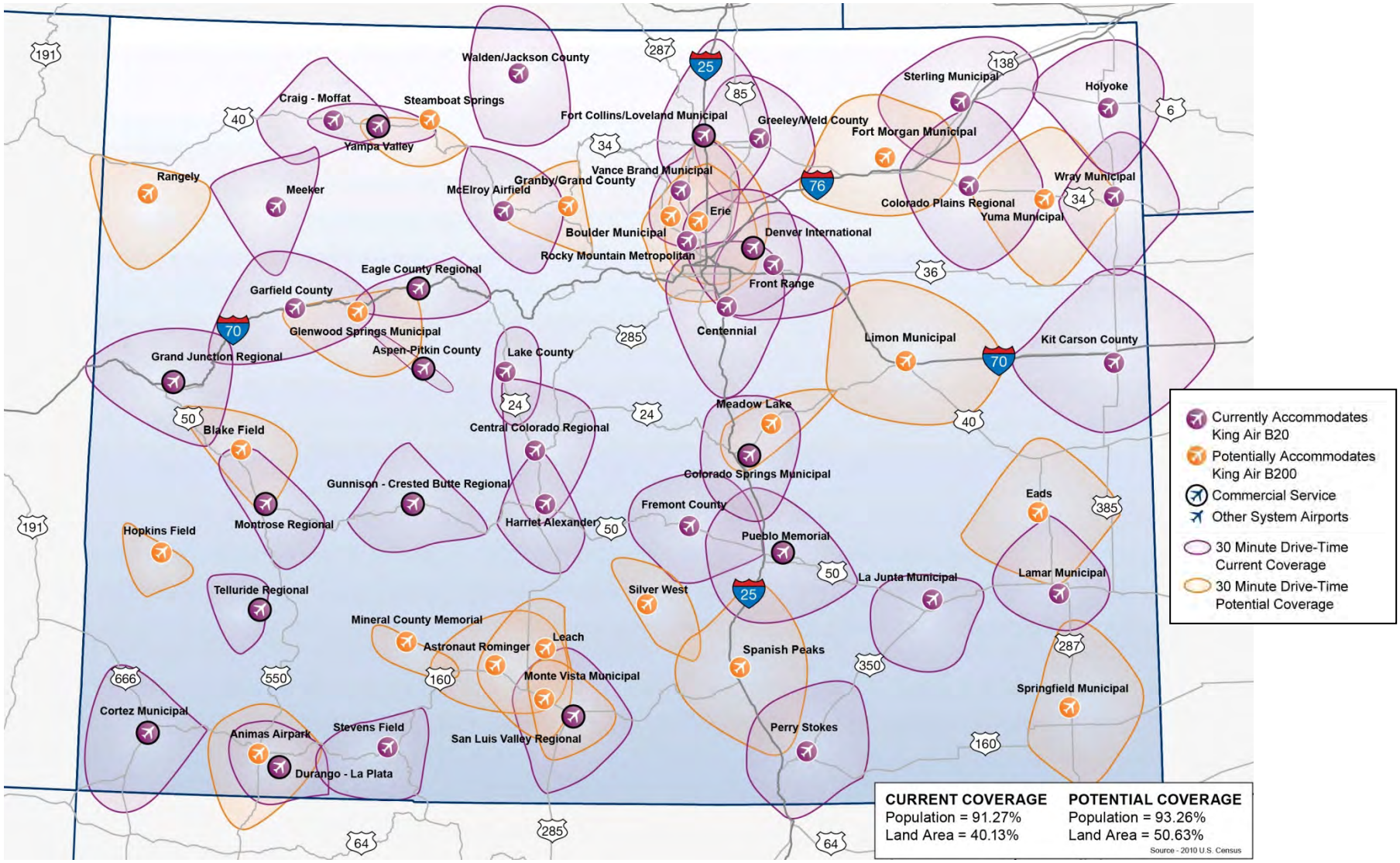
5-25 presents this coverage information. As information in Table 5-25 shows, the percent of the State's population within a 30 minute drive of an airport fully capable of meeting all needs of the King Air B200 increased between 2000 and 2005 and then remained largely unchanged between 2005 and 2011. The very slight change in population coverage between 2005 and 2011 is a result of different versions of the mapping/GIS programs used in the two reporting periods. While population coverage remained unchanged, coverage for land areas within a 30 minute drive time of airports capable of serving the King Air B200 emergency aircraft increased from 33 percent to 37 percent. This was as a result of additional airports in the Intermediate category that meet all requirements for emergency operators using this aircraft.

Table 5-25: Percentage of Population and Land within 30 Minute Drive-Time of Airports Able to Accommodate King Air B200 Emergency Aircraft

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	79.00%	91.60%	91.27%	-0.33%	93%
Colorado Land	26.00%	32.90%	37.35%	4.45%	50%

As noted previously, this study's recommendations will identify actions for further consideration to make all airports in the Intermediate category capable of meeting all needs for the King Air B200 emergency aircraft. As shown in **Exhibit 5-7**, if all airports in the Major and Intermediate categories were fully equipped to meet the needs of emergency operators flying the King Air B200, 93 percent of Colorado's population and 51 percent of its land area would be within a 30 minute or less drive time of an airport capable of meeting all of the minimum operating requirements for this emergency aircraft.

Exhibit 5-7: Potential Coverage for King Air B200 Emergency Aircraft



5.5.8 Benchmark: Population and Land Area with a 30 Minute Drive Time of Airports Able to Accommodate Learjet 35 Emergency Aircraft

Fixed wing aircraft such as the Learjet 35 also play an important emergency role in Colorado. Operators of these emergency aircraft have similar needs to the operators of the King Air B200 emergency aircraft, but also require longer minimum runway lengths for their aircraft. All of the facilities identified by emergency operators as being needed to accommodate the Learjet 35 emergency aircraft are part of the facility, service, and equipment objectives contained in the Colorado Aviation System Plan for airports in the Major category. By meeting and investing in stated facility, service, and equipment objectives that are part of the system plan, the Division of Aeronautics helps to improve the system and to meet the needs of emergency operators. It is within system plan guidance to provide facilities needed by emergency operators and for Aeronautics to assist in the upkeep, upgrade, and replacement (as needed) of these facilities once they are installed.

The system plan's facility, service, and equipment objectives call for all airports in the Major Airport category to have all of the facilities needed to serve the Learjet 35. **Table 5-26** tracks the system's performance relative to those airports that are capable of supporting the Learjet emergency aircraft. It is important to note that unless an airport meets all five of the facility needs identified by emergency operators of this aircraft, it was considered "not capable" of supporting the Learjet 35. In reality, there may be certain times when the operators of this emergency aircraft may elect to fly into an airport that does have all five of their stated facility objectives. As shown in **Table 5-26**, 85 percent of the airports in the Major Airport category now meet all five of the stated facility needs for the Learjet 35 emergency aircraft. Between the 2005 and 2011 reporting periods, the percent of system airports in the Major category meeting all needs of the Learjet 35 emergency aircraft increased from 80 percent to 85 percent. The target is to have 100 percent of the airports in the Major Airport category equipped to serve all of the needs of this emergency aircraft.

Table 5-26: Percentage of Airports Able to Accommodate Learjet 35 Emergency Aircraft

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	79%	80%	85% (22)	5%	100%
Intermediate Airports	6%	6%	9% (3)	3%	Not Applicable
Minor Airports	N/A	N/A	N/A	N/A	Not Applicable
All System Airports	26%	29%	33% (25)	4%	33%
Applicable System Airports*	79%	80%	85% (22)	5%	100%

*Applies to all Major Airports

While it is not necessarily an objective of the system plan to equip airports in the Intermediate category with all facilities needed to serve the Learjet 35, some airports in this category do have all five facilities needed for this emergency aircraft. System-wide, 33 percent of all system airports now meet all needs of the Learjet 35 emergency aircraft. This is up from 29 percent in 2005. Based on facility and service objectives for both the Major and the Intermediate Airports, it is appropriate for Aeronautics to invest in, and then maintain or replace as needed, facilities needed by the Learjet 35 emergency aircraft operators.

In addition to charting system progress related to the number of system airports that are fully capable of meeting all of the stated needs for the Learjet 35 emergency aircraft, it is also important to chart system progress related to the State's land area and population within a 30 minute drive of a Learjet 35 "emergency ready" airport,. **Table 5-27** presents this coverage information. As information in the table shows, the percent of the State's population within a 30 minute drive of an airport fully capable of meeting all needs of the Learjet 35 emergency aircraft remained relatively unchanged between 2005 and 2011. While a slight change in coverage is shown in Table 5-27, this is a result of different versions of the mapping/GIS programs used in the two reporting periods. While the number of airports in the Major category that satisfy all requirements of the Learjet 35 emergency aircraft increased (see Table 5-26), the 30 minute drive time service areas for these additional airports overlap with airports that were already equipped to meet all the needs of the Learjet 35. Hence, there was no absolute change in the population or land area within a 30 minute drive of an airport capable of accommodating the Learjet 35 emergency aircraft. As noted, previously this study's recommendations will identify actions for further consideration to make all airports in the Major category capable of meeting all facility needs for the Learjet 35 emergency aircraft.

Table 5-27: Percentage of Population and Land within 30 Minute Drive-Time of Airports Able to Accommodate Learjet 35 Emergency Aircraft

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Colorado Population	79.00%	89.10%	88.91%	-0.19%	90%
Colorado Land	23.00%	24.10%	24.97%	0.87%	30%

As shown on Table 5-27, targets have been set to have 90 percent of the State's population and 30 percent of its land area within 30 minutes or less of an airport that can meet the minimum operating needs of the Learjet 35 emergency aircraft. Recommendations for meeting these targets will be presented in Chapter Seven.

5.6 Performance Measure: Investment

5.6.1 Benchmark: Airports Meeting Minimum Runway Length Requirements

As discussed previously in this report, an airport's actual runway length requirements are determined by many variables which include, but are not limited to: critical aircraft using the airport, airport elevation, air temperature, runway gradient, runway surface, aircraft payload, and stage length. Each airport's runway length requirements are best determined within the context of an airport master plan. However, because of the order of magnitude of investment and the length of time needed to accomplish a runway extension, it is appropriate for the system plan to gauge the general adequacy of the length of the primary runway at system airports. In order to accomplish this review, the following objectives were considered:

- Major Airports – for commercial and general aviation reliever airports in the Major category, the primary runway should ideally be capable of accommodating 75 percent of large general aviation aircraft at 90 percent useful load. For other general aviation airports in the Major Airport category, the primary runway should be capable of accommodating 100 percent of all small aircraft (12,000 pounds or under).
- Intermediate Airports – the primary runway should be able to serve 75 percent of small aircraft.
- Minor Airports – the length of the airport's primary runway should be maintained.

Since the 2005 Colorado Aviation System Plan was released, FAA revised its procedures for calculating runway length requirements. These new procedures were considered when identifying runway length objectives for airports assigned to the Major category. As a result of the unique temperature and elevation characteristics of some system airports, following the FAA's new guidelines resulted in longer runway length objectives for some system airports than had been previously identified in both the 2000 and the 2005 plans.

Table 5-28 compares system performance as it relates to airports with a primary runway length capable of meeting system plan objectives. As a result of the more aggressive runway length calculations contained in FAA's new guidelines, fewer airports in the Major Airport category meet their runway length objective in 2011 than did in 2005. In regard to information reported in Table 5-28, it is important to re-state that runway lengths did not decrease at airports, but new recommendations from the FAA on needed runway lengths resulted in fewer airports in the Major category meeting the system plan's runway length objectives. As shown in Table 5-28, 72 percent of all airports in the Major category met their objective in 2005, as it related to the length of their primary runway. With FAA's new guidelines, in 2011, only 46 percent of airports in the Major Airport category meet their runway length objective. System performance, related to runway length, for airports in the Intermediate category remained unchanged between 2005 and 2011.

Table 5-28: Percentage of Airports with Minimum Runway Length Requirements

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	66%	72%	46% (12)	-26%	60%
Intermediate Airports	54%	53%	53% (17)	0%	60%
Minor Airports	N/A	N/A	N/A	N/A	Not Applicable
Applicable System Airports	60%	61%	50% (29)	-11%	60%

*Applies to all Major and Intermediate Airports

Topography and other natural and manmade constraints make it essentially impossible to extend some of the runways at Colorado's Major and Intermediate Airports. This report's recommendations section will identify system airports that should ideally be considered for runway extensions, along with airports that previous studies show runway extensions cannot be implemented. It would be ideal for all airports in the Major and Intermediate categories to meet their runway length objective. However, given recognized constraints at some system airports and other pragmatic considerations, the system plan has adopted a target to have 60 percent of the Major and Intermediate Airports meet the runway length objectives established in this plan. Where runway lengthening projects are justified and needed, it is appropriate for the Division of Aeronautics to issue grants to support these extensions. There are many different types of projects that could require funding related to a runway extension project. These projects include but are not limited to:

- Airport master plans/airport layout plans (ALPSs)
- Environmental assessments
- Land acquisition
- Engineering studies
- Grading, drainage, other site preparation
- Projects to meet FAA safety and design standards
- Relocation of existing on or off airport structures or facilities
- NAVAID or lighting relocation
- Runway paving and marking projects
- Related taxiway projects
- Lighting and signage projects
- Runway widening

The final recommendation for the system plan (Chapter Seven) will identify airports which should be considered for runway extensions.

5.6.2 Benchmark: Airports with a PCI Rating of 75 or Greater on their Primary Runway

Once pavement is in place, it soon begins to deteriorate, warranting continued monitoring and periodic maintenance. Generally speaking, when a pavement has a PCI rating of 75 or greater, the pavement is in good condition. It is important, however, to note that even at a PCI rating of 75 or greater, certain pavement maintenance may be appropriate. A considerable amount of investment each year goes into maintaining pavement that is already in place at system airports. To that end, during the 2000 timeframe, the Division of Aeronautics also implemented a comprehensive Pavement Management Program for its airports. Of the 76 system airports, Denver International in the Major Airport category and 12 of the 18 airports in the Minor Airport category are not part of the Pavement Management Program. While the 2000 and 2005 system plans considered PCI ratings for the primary runway at all system airports included in the Pavement Management Program, this 2011 plan expanded the analysis to include new benchmarks to track PCI ratings for primary taxiways and primary apron areas at applicable system airports.

Table 5-29 compares system performance for 2000, 2005, and 2011 as related to the PCI benchmark for the primary runway. As shown, despite monitoring and investment, fewer primary runway pavements at airports included in the Pavement Management Program met the PCI objective in 2011 than did in 2005. While performance for airports in the Major and Minor categories increased, performance relative to this benchmark for airports in the Intermediate category decreased. Overall, performance for all applicable airports (airports included in the Pavement Management Program) was down in 2011.

Table 5-29: Percentage of Airports with PCI Rating of 75 or Greater on Primary Runway

	2000 Airport Statewide Inventory and Implementation Plan	2005 Colorado Aviation System Plan	2011 Colorado Aviation System Plan	2005-2011 % Change	Future Target
Major Airports	83%	80%	81% (25)	1%	80%
Intermediate Airports	55%	69%	59% (19)	-10%	70%
Minor Airports	10%	11%	17% (3)	6%	65%
Applicable System Airports	63%	70%	67% (43)	-3%	70%

It is not unexpected that changes in the PCI ratings for primary runways at system airports would be reported. Maintaining pavements at system airports so that they are in good condition is an on-going challenge for the Division of Aeronautics. Depending on pavement conditions, there are many types of projects that Aeronautics could fund to improve pavement conditions. These projects could include but would not be limited to the following:

- Crack fill
- Pavement rehabilitation
- Pavement replacement/reconstruction
- Pavement overlay
- Fog seal
- Chip seal
- Seal coat

It is important to note that various types of pavement improvement and maintenance projects may also require re-painting and re-marking of the improved pavement area; these are appropriate investments to make related to meeting the stated PCI objective. The ideal situation for this benchmark would be to have a PCI of 75 or greater for all applicable pavements on primary runways, taxiways, and apron areas. However, given the fact that weather, snow removal, activity, and other factors result in wear on the pavements each year, achieving this target for any given reporting cycle for all applicable airports may not be realistic. As a result, as shown in Table 5-29, the system plan has adopted a target for 70 percent of applicable system airports at any given time to have a PCI of 75 or greater on their primary runway.

5.6.3 Benchmark: Airports with a PCI Rating of 75 or Greater on their Primary Taxiway

The benchmark of airports having a PCI rating of 75 or greater on their primary taxiway was added for the first time as part of this 2011 system plan update. As a result, it is not possible to compare system performance for the past two reporting periods. Measuring system performance for this particular benchmark is complicated by the fact that among the 64 system airports included in the Pavement Management Program, 24 of these airports do not have a paved primary taxiway. As a result, this benchmark only applies to 40 airports in the system.

Table 5-30 provides information on current system performance for this benchmark. This performance discounts both airports that are not included in the pavement program as well as those system airports included in the Pavement Management Program but without a paved primary taxiway. For the remaining applicable system airports, performance related to the PCI benchmark for the primary taxiway is shown in Table 5-30.

Table 5-30: Percentage of Applicable Airports with a PCI of 75 or Greater on Primary Taxiway

	Meet Taxiway PCI Objective	Do Not Meet Taxiway PCI Objective
Major Airports	83%	17%
Intermediate Airports	75%	25%
Minor Airports	N/A	N/A
Applicable System Airports	80%	20%

In subsequent reporting cycles, system performance for this benchmark will be compared to PCI ratings for primary taxiways reported here. Based on current performance, a target to maintain 80 percent of all applicable paved primary taxiways at a PCI of 75 or greater has been set. As with the primary runways, taxiway pavements also require continuous maintenance. The list of projects that the Division of Aeronautics could fund for runway related pavement projects is also generally applicable to taxiway PCI projects.

5.6.4 Benchmark: Airport with a PCI Rating of 75 or Greater on their Primary Apron Area

The benchmark of airports having a PCI rating of 75 or greater on their primary apron area was added for the first time as part of this 2011 system plan update. As a result, it is not possible to compare system performance for the two past reporting periods. In measuring system performance for this particular benchmark the fact that three (3) of the 64 system airports included in the Pavement Management Program, do not have a paved primary apron area is considered. As a result, this benchmark only applies to 61 airports in the system. **Table 5-31** provides information on current system performance for this benchmark. This performance discounts both airports that are not included in the pavement program as well as those system airports included in the Pavement Management Program but without a paved primary apron area. For the remaining applicable system airports, performance related to the PCI benchmark for the primary apron area is shown in Table 5-31.

Table 5-31: Percentage of Applicable Airports with a PCI of 75 or Greater on Primary Apron Area

	Meet Apron Area PCI Objective	Do Not Meet Apron Area PCI Objective
Major Airports	73%	27%
Intermediate Airports	66%	34%
Minor Airports	20%	80%
Applicable System Airports	65%	35%

In subsequent reporting cycles, system performance for this benchmark will be compared to PCI ratings for the primary apron area at applicable system airports reported in 2011. As with the primary runways and taxiways,

apron area pavements also require continuous maintenance. Given current performance, a target to maintain 70 percent of all applicable primary apron areas at a PCI of 75 or greater has been set. The list of projects that the Division of Aeronautics could consider related to funding for runway related pavement projects is generally applicable to apron projects also. It is appropriate for the Division of Aeronautics to invest in maintaining various pavements at airports throughout the State.

5.7 Performance Measure: Security

The security performance measure was added as part of the 2005 system plan in response to TSA security guidelines for general aviation airports that were released in 2004. This benchmark applies only to general aviation airports in the system. Commercial airports have their own Federal security guidelines contained in FAR Part 139 and TSAR 1542. TSA guidelines identify appropriate security procedures and equipment, based on the perceived risk of the airport in question; TSA also provides guidelines that can be used to assess an airport's perceived risk level. As part of the 2005 Colorado Aviation System Plan, the Division of Aeronautics determined that it was appropriate for all general aviation airports in Colorado to have the following six security related measures/enhancements in place:

- All aircraft secured – Properly securing general aviation aircraft serves two purposes: 1) it serves to deter the perceived threat of general aviation aircraft being used by terrorists, and 2) it can prevent aircraft from being broken into, tampered with, or even stolen. Airports and aircraft owners should employ appropriate methods for locking aircraft and hangars.
- Community watch program – Users of general aviation airports tend to know the clientele of the airport where they base their aircraft. A formalized community watch program among airport tenants, based aircraft owners, and other on-airport businesses can enhance security through formalized reporting and communication.
- Contact list – Each general aviation airport should have an up-to-date list of key contacts. This list should be distributed to all appropriate airport personnel so that they can be informed on a timely basis if there are security issues.
- Documented security procedures – Having written security guidelines gives the airport a way to insure that all tenants, businesses, employees, visitors, and aircraft owners are aware of security procedures.
- Positive passenger/cargo/baggage identification – General aviation airports and flights are generally low risk because passengers or the purveyors of goods/cargo transported are most often known by the pilot or aircraft operator. Each airport should, as part of its documented security procedures, have a policy for positive identification for all passengers, cargo, or baggage transported on a general aviation aircraft departing the airport.
- Signs – Signs which discourage any type of misdeed at the airport should be located in highly visible locations. These signs should also provide information on how to report suspicious activity at the airport.

Current compliance with these six security measures was reported in 2005 and again for this update. **Table 5-32** reports on the comparison between these two reporting periods. For each of the six security measures noted above, ideally, all airports should have these measures in place. As can be seen from the information reported in Table 5-32, overall, there has been only minimal change in system conformance with these guidelines since the 2005 reporting period. This lack of change may be in part related to the fact that TSA has not made security at general aviation airports a priority and there is no source of funds on the Federal level, either from the FAA or TSA, to implement general aviation security measures identified by TSA in their 2004 guidelines.

For overall system performance related to the six security measures discussed in this section, the system has shown an increase in performance for four of the security measures and a decrease in performance for the other two. Since these six security measures are relatively inexpensive to implement and there are few if any obstacles to adopting these security measures, a target to have 100 percent compliance with these guidelines has been set. It is likely that outreach on this goal will be required to improve system performance.

Table 5-32: Percent of Airports Providing Recommended Security Enhancements

	2005	2011	2005-2011 Change	Target
All Aircraft Secured				
Major	91%	100%	9%	100%
Intermediate	84%	84%	0%	100%
Minor	76%	72%	-4%	100%
All General Aviation Airports	83%	84%	1%	100%
Community Watch Program				
Major	91%	100%	9%	100%
Intermediate	63%	66%	3%	100%
Minor	29%	33%	4%	100%
All General Aviation Airports	58%	63%	5%	100%
Contact List				
Major	91%	100%	9%	100%
Intermediate	91%	91%	0%	100%
Minor	65%	61%	-4%	100%
All General Aviation Airports	83%	84%	1%	100%
Documented Security Procedures				
Major	73%	67%	-6%	100%
Intermediate	19%	16%	-3%	100%
Minor	18%	17%	-1%	100%
All General Aviation Airports	28%	26%	-2%	100%

Table 5-32: Percent of Airports Providing Recommended Security Enhancements

	2005	2011	2005-2011 Change	Target
Positive Passenger/Cargo/Baggage Identification				
Major	100%	100%	0%	100%
Intermediate	56%	63%	7%	100%
Minor	41%	44%	3%	100%
All General Aviation Airports	60%	65%	5%	100%
Signs				
Major	82%	83%	1%	100%
Intermediate	44%	41%	-3%	100%
Minor	35%	33%	-2%	100%
All General Aviation Airports	48%	47%	-1%	100%

5.8 Summary

Information presented in this chapter helps to highlight how investment from the Division of Aeronautics has helped improve system performance since 2000. Many of the system descriptors reflected in the benchmarks, particularly factors such as PCI ratings and currency of airport master plans, are in a constant state of change. Consequently, it is important for Aeronautics to measure system performance at regular intervals so that areas of improvement or decline can be identified. It is recommended that Colorado's aviation system plan be updated every five years. Based on current system performance, reported in Chapter 4, and compared in this chapter to performance for the 2000 and 2005 reporting periods, this study's recommendations will identify specific projects, by airport, that should be considered to help the system achieve the targets for system performance identified in this chapter.

6 Current and Future Airport Performance

6.1 Airport Roles

6.1.1 Initial Establishment of Roles for Colorado Airports

At the time the 2000 Colorado Inventory and Implementation Plan was undertaken, a rigorous analysis was undertaken to identify roles for airports in the Colorado system. The role assignment process was focused primarily on general aviation airports, although commercial airports were also included.

In 2000, within the Federal airport system, FAA had only two distinctions for non-commercial airports: either the airport was a reliever or it was a general aviation airport. Conversely, at the same time, FAA classified commercial airports, based on the number of annual passengers they served, as primary or non-primary and further distinguished the commercial airports as being large, medium, small, or non-hub. FAA's roles for commercial airports were, and continue to be, generally reflective of the individual airport's overall importance to the national airport system, based on passengers served, and determine the airport's eligibility for and level of Federal entitlement funding.

At the time the 2000 Inventory and Implementation plan was undertaken, the Colorado Division of Aeronautics recognized that general aviation airports in the Colorado system were playing different roles. They also determined that some airports were more essential than others in terms of serving transportation needs and providing economic support. Working with the Colorado Aeronautical Board, factors were identified to help distinguish roles for system airports. These factors are consistent with those used by FAA to describe a balanced and viable airport system. Colorado role assignment factors were as follows:

- Activity – what level of relative statewide demand did the airport serve? This factor was measured by examining total based aircraft, based aircraft fleet (including based jets), total annual operations, total annual itinerant operations, and enplanements (identifying separately those enplanements carried by operators using essential air service (EAS) subsidies to support their operations).
- Expansion – did the airport have the ability to expand in the future from both an airside and a landside perspective? The goal being to identify a system that had the potential to serve Colorado's long term growth. This factor was measured by identifying manmade, natural, and environmental features at each airport that could limit future expansion.
- Economic – what overall contribution did the airport make to its local and to the State's economy? This factor was measured using the results from a separate statewide economic impact study that the Division of Aeronautics had previously completed.
- User Access and Emergency Support – what relative role did the airport play in meeting user demand and did the airport play a role in serving Colorado's emergency/medial needs? To make this determination,

the number of residents and pilots within a 30 minute drive of all system airports was identified. This drive time analysis was also used to identify overlapping service areas for system airports which were considered in the initial role assignments. Information from the American Hospital Association and operators of emergency aircraft in Colorado was used to identify those airports being used for transporting medical personnel, doctors, patients, and veterinarians.

- Investment – what investment had been previously been made at the airport? This factor was included to help ensure that the Division of Aeronautics maximized local, State, and Federal investment that had previously been made in system airports. To compare airports for this factor, a number of indicators were considered that included: runway length, runway strength or weight bearing capacity, approach type, runway lighting type, taxiway system, and fuel availability.

Using the various factors and sub-factors noted above, a process was undertaken to rank and then score each airport. For each of the factors noted above, all system airports were ranked from high to low using numeric values. For instance, if the longest runway in the State was 12,000 feet and the shortest runway was 3,500 feet, the 12,000-foot runway was ranked first and the 3,500-foot runway was ranked last, with all other runways ranked in between. Once this ranking took place, airports were sorted into like mathematical cohorts for each factor. Scores from one to ten, with ten being the highest, were then assigned to airports in each cohort. For each role assignment factor and its associated sub-factors, a total score for each airport was established.

The Colorado Aeronautical Board then assigned "importance weights" to each of the role assignment factors. These weights, as established by the Board in 2000, were as follows:

- Activity..... 5
- Coverage/emergency access..... 4
- Economic..... 3.5
- Investment 3
- Expansion 1

These importance weightings were then multiplied with each airport's combined numerical score for each factor; multiplied scores for each factor were then totaled, and the airports were again sorted from high to low. Ultimately, this process led to a final score for all system airports, allowing airports to be grouped into three categories: low, medium, and high. Working with the Aeronautical Board, airports in the high category were designated as Major Airports, airports in the medium category were designated as Intermediate Airports, and airports in the low category were designated as Minor Airports.

6.1.2 Comparison of Colorado Role Assignment Factors to FAA Factors

As noted, historically, the FAA did not have a classification system for general aviation airports. Beginning in 2011, however, the FAA undertook an initiative that was termed a "general aviation strategic plan." While this plan is not yet published as of May 2012, draft versions of the plan have been circulated to various representatives within the aviation community including members of the National Association of State Aviation Officials (NASAO); Colorado is a member of this organization.

As part of this draft plan, the FAA has identified criteria for grouping general aviation airports into four or five categories or roles. Similar to the categories or roles identified in the Colorado Aviation System Plan, these FAA categories reflect the relative contribution or importance of the airport to the National Airport System (NAS).

Table 6-1 compares role assignment factors used in the 2000 Inventory and Implementation Plan and those that are contained in FAA's draft strategic plan or ASSET Study for general aviation airports. As this table reflects, there are a number of similarities in the factors used in the two processes. Both the FAA and the Division of Aeronautics identified "activity" as being a determinant for establishing airport roles. In fact during the preparation of the 2000 plan, the Aeronautical Board assigned its highest importance weighting to the activity factor. In relationship to activity, both the FAA and Aeronautics considered total based aircraft, the type of aircraft that are based at the airport (including based business jets), and total annual operations.

As shown in Table 6-1, the FAA also considered various indicators related to instrument flight rule (IFR) activity. While the FAA now has access to this type of information, at the time Colorado's 2000 aviation system plan was prepared, this information was not readily available. Aeronautics did, however, consider total itinerant operations for all system airports when roles were assigned in 2000. All IFR activity would have been reflected as a component of each airport's total annual itinerant operations.

Table 6-1: Comparison of Role Assignment Factors

Measure	FAA Factors	Division of Aeronautics Factors
Activity		*Importance Weighting: 5*
Based Aircraft *	Yes	Yes
Based Fleet Mix *	Yes	Yes
IFR Activity	IFR Activity: a. Total * b. Over 500 Miles c. Instate d. International	Itinerant Activity: a. Total * - - -
Total Operations *	Yes	Yes
Enplanements/EAS *	Yes	Yes

Table 6-1: Comparison of Role Assignment Factors

Measure	FAA Factors	Division of Aeronautics Factors
Market (Coverage)		*Importance Weighting: 4*
Proximity *	Closest NPIAS airports	Proximity to Other Airports Support of Emergency/Medical Services
Service Area *	Service Area Type	Service Area (Population/Pilot Coverage)
Reliever	Yes	Yes
Facilities (Investment)		*Importance Weighting: 3*
Control Tower	Yes	No
Approach Type *	Yes	Yes
Runway Length	No	Yes
Runway Strength *	Yes	Yes
Runway Lighting	No	Yes
Taxiway System	No	Yes
Fuel *	Yes	Yes
Services		*Not Considered by CDOT*
Part 139	Yes	No
ARFF	Yes	No
USPS flights	Yes	No
Cargo	Yes	No
US Marshall	Yes	No
US Customs	Yes	No
Economic		*Importance Weighting: 3.5*
Economic Impact	No	Yes
Expansion Potential		*Importance Weighting: 1*
Ability to Expand Airside Facilities	No	Yes
Ability to Expand Landside Facilities	No	Yes
Noted manmade, environmental, topographical constraints	No	Yes

* Denotes FAA used measurement similar to a measure used in Colorado to assign airport roles; Aeronautics factors derived from 2000 CO Inventory & Implementation Plan; FAA factors derived from draft ASSET Study as available February 2012

Note: Importance rating assigned by CDOT Aeronautical Board in 2000

Under the activity category, when assigning airport roles, both the FAA and Aeronautics considered enplanements at airports with EAS service. Commercial airports with fewer than 10,000 enplanements are not eligible for FAA enplanement primary entitlement funding. Hence, for these smaller commercial airports, their non-primary entitlement funding eligibility is the same as for a general aviation airport, $150,000 per year.

In establishing airport roles, the FAA considered descriptors of each airport's market area. Similar factors were considered by Aeronautics as part of their coverage/emergency access role assignment factor. For market area descriptors, the FAA considered the airport's location in relationship to the next closest NPIAS airport, if the airport had a reliever designation within NPIAS, and service area type. The Division of Aeronautics, as part of their role assignment process, used a geographic information system (GIS) to establish 30 minute service areas for each system airport. Thirty minute service areas are also used by the FAA as one criterion for entering airports into the National Plan for Integrated Airport Systems (NPIAS). Once 30 minute service areas were established by Aeronautics in its process, GIS analysis was used to determine the number of residents and registered pilots within each airport's service area. Colorado's role assignment process also considered proximity and possible overlaps in airport service areas. In assigning Colorado airport roles, special consideration was given to the role that airports play in meeting the State's emergency and medical needs. At the time airport roles were first assigned in 2000, the Aeronautical Board determined that considering how airports support emergency/medical needs, which are unique in Colorado, was important to the role assignment process. Similar emergency/medical factors are not considered in the FAA's role assignment process.

The FAA as part of its facilities factor and Aeronautics as part of its investment factor considered other similar factors in their respective role assignment processes. As Table 6-1 shows, when assigning airport roles, both the FAA and Aeronautics considered runway strength, the airport's approach type, and if the airport had fuel. The FAA also considered if the airport had an air traffic control tower. Within this category, Aeronautics considered additional factors including runway length, type of runway lighting, and presence of and type of taxiway system.

In establishing airport roles, the FAA also considered the presence or absence of a number of potential services/activities. These services included the following: the presence of a US Marshal, the presence of on-site Customs, if the airport has ARFF facilities, if the airport has a Part 139 certification, if the airport supports cargo related services, and if the airport supports activities of the U.S. Postal Service. The airport role assignment process conducted in 2000 in Colorado did not consider any of these service related factors. It is worth noting that for the most part, all of these services or activities would only be found at the very largest and the most active general aviation airports. As a result, considering these services and activities would not necessarily help distinguish roles among system airports, but would rather determine airports that should be assigned to the highest role category.

The role assignment process in Colorado considered additional factors not included in the FAA's role determinations. As shown in Table 6-1, one of the additional role assignment factors considered in Colorado was each airport's annual economic impact. In assigning airport roles, the Division of Aeronautics also considered if

the airport was expandable from both an airside and a landside standpoint. It is worth noting that the Aeronautical Board did assign its lowest importance weighting to expansion potential as factor for establishing airport roles.

As Table 6-1 shows, the FAA and Division of Aeronautics used similar factors in several key areas for airport role assignments. There were also some areas considered by the FAA, particularly related to services found at each airport, that Colorado did not incorporate into their assignment airport roles process. Conversely, Colorado also included some factors in their process that the FAA did not consider. Colorado specific role assignment factors included the airport's economic contribution, its expansion potential, and support for emergency/medical services.

From this comparison of the role assignment process used by the FAA and the Division of Aeronautics, there are several findings:

- The FAA's role assignment process does not consider non-NPIAS airports; there are a number of non-NPIAS airports, however, included in Colorado's state airport system that are included in its role assignments.
- In assigning airport roles, Colorado used some factors that are specifically important to the State. In particular, Aeronautics considered factors such as the role the airport plays in supporting emergency and medical services and the role that each airport plays in supporting the economy. These factors are not included by the FAA in its role assignments.
- In 2000, CDOT's Division of Aeronautics had the vision to assign roles to its system airports; 12 years after, the FAA has followed suit, formulating a process to assign roles reflecting relative importance of general aviation airports included in the NPIAS and commercial airports with fewer than 10,000 annual enplanements.
- Colorado and the FAA used many similar factors in establishing roles for system airports. The fact that the FAA's airport role assignment factors were identified 12 years after Colorado's lends support to the fact that Aeronautics made good decisions in selecting its role assignment factors.

It can be concluded that role assignment factors used by Colorado in 2000 remain valid and applicable in today's aviation environment. As part of the 2005 System Plan Update, a few changes in assigned airport roles were made. Assigned roles from the 2005 plan provide the basis for analysis presented in Chapters Four and Five of this report.

6.1.3 Recommended Role Changes for System Airports

Since roles for general aviation airports in Colorado were put in place in the 2000 system plan, conditions at system airports, as well as in the communities that each airport serves, have continued to evolve. At the same time, the aviation industry itself has continued to change. While some system airports have experienced increased demand since the 2000 and 2005 aviation system plans were prepared for Colorado, other airports saw demand

levels that remained constant or in some instances even declined. Similar trends have been experienced in socio-economic and demographic indicators for communities served by system airports.

When roles for airports in the Colorado airport system were first established in the 2000 Colorado Aviation System Plan, there was some consideration given to geographic distribution of airports in each of the three role categories. This distribution considered areas within the State that appeared poised for growth either in terms of socio-economic or demographic indicators for the community and/or aviation growth for the airport. Since 2000, airport role assignments have enabled CDOT and individual airports to identify projects and investments that have the greatest potential for improving overall system performance. It is not the intent of this 2011 System Plan Update to make major modifications to previously assigned roles for airports in the Colorado system. Rather, the intent of the review is to fine tune, as deemed appropriate, airport roles previously assigned in 2000 or 2005.

Since the release of the 2005 Colorado Aviation System Plan, Aeronautics has maintained records that track three indicators that help to highlight relative system performance for all airports. These three indicators include:

- Annual economic impact,
- Grants issued by Aeronautics, and
- Fuel tax reimbursements.

Figure 6-1, **Figure 6-2**, and **Figure 6-3** provide a comparison of these three relative performance indicators for general aviation airports in Colorado assigned to the Major Airport role category. As shown in these three figures, three non-reliever, general aviation airports, Akron/Colorado Plains Regional, Burlington/Kit Carson, and Trinidad/Perry Stokes, consistently rank at or near the bottom for the three indicators.

Figure 6-1: Major GA Airport Current Economic Output

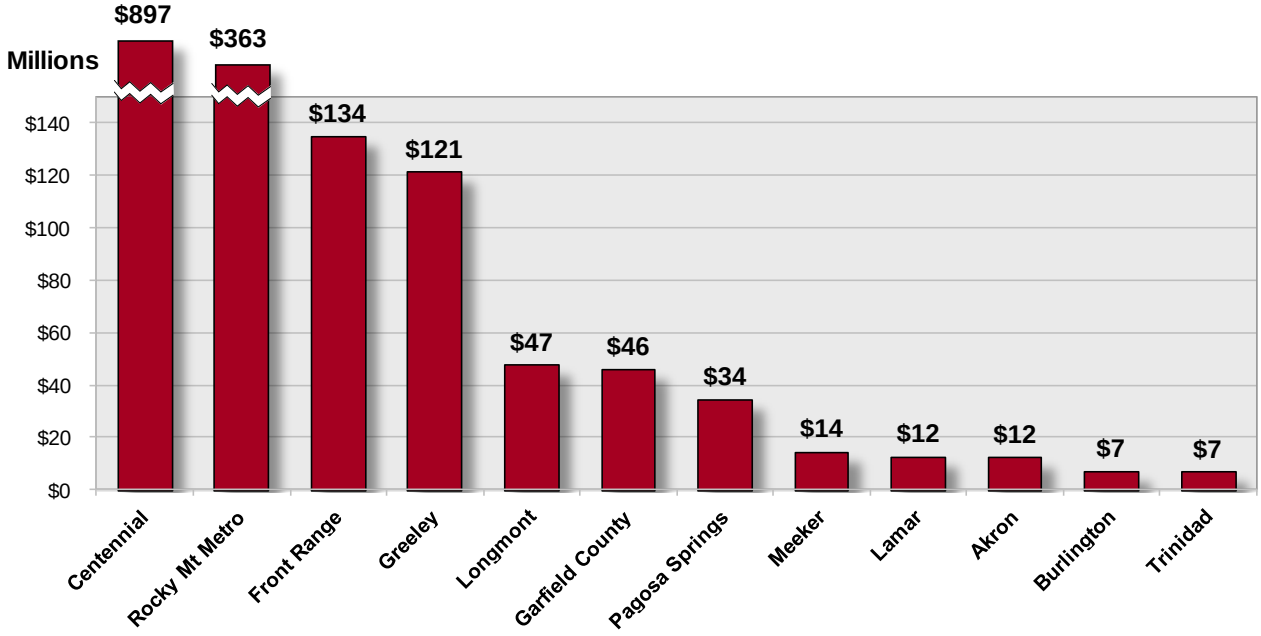


Figure 6-2: Major GA Airport Historical CADG Funding

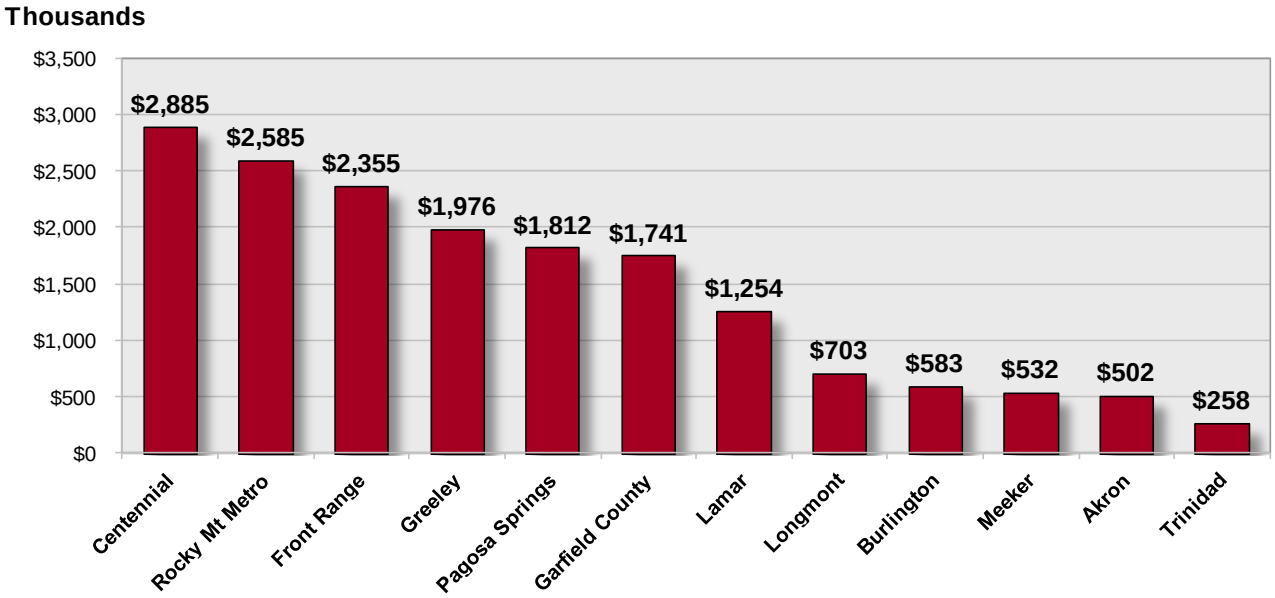
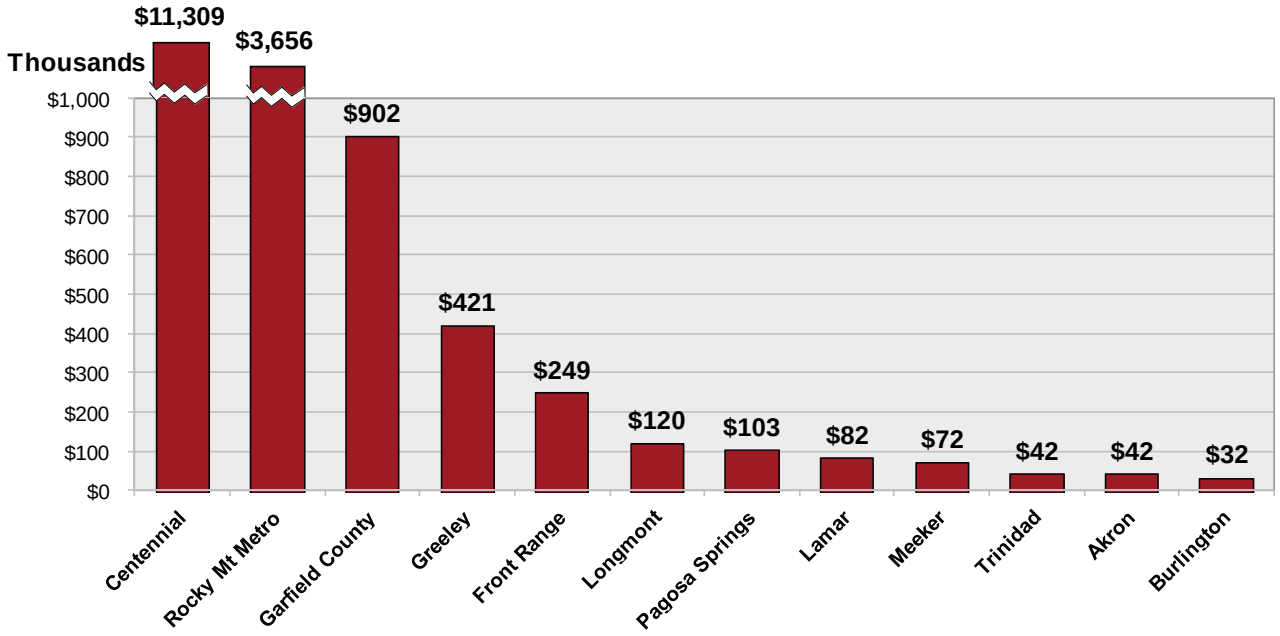


Figure 6-3: Major GA Airport Historic Fuel Tax Reimbursements



Further, as shown in **Table 6-2**, total based aircraft for these three airports have experienced no or negative growth. When each of these airports was assigned to the Major Airport category, it was assumed that each of these airports would attract more demand and that they would make increasing contributions to the system. Indicators reviewed in this section show, however, that this has not been the case.

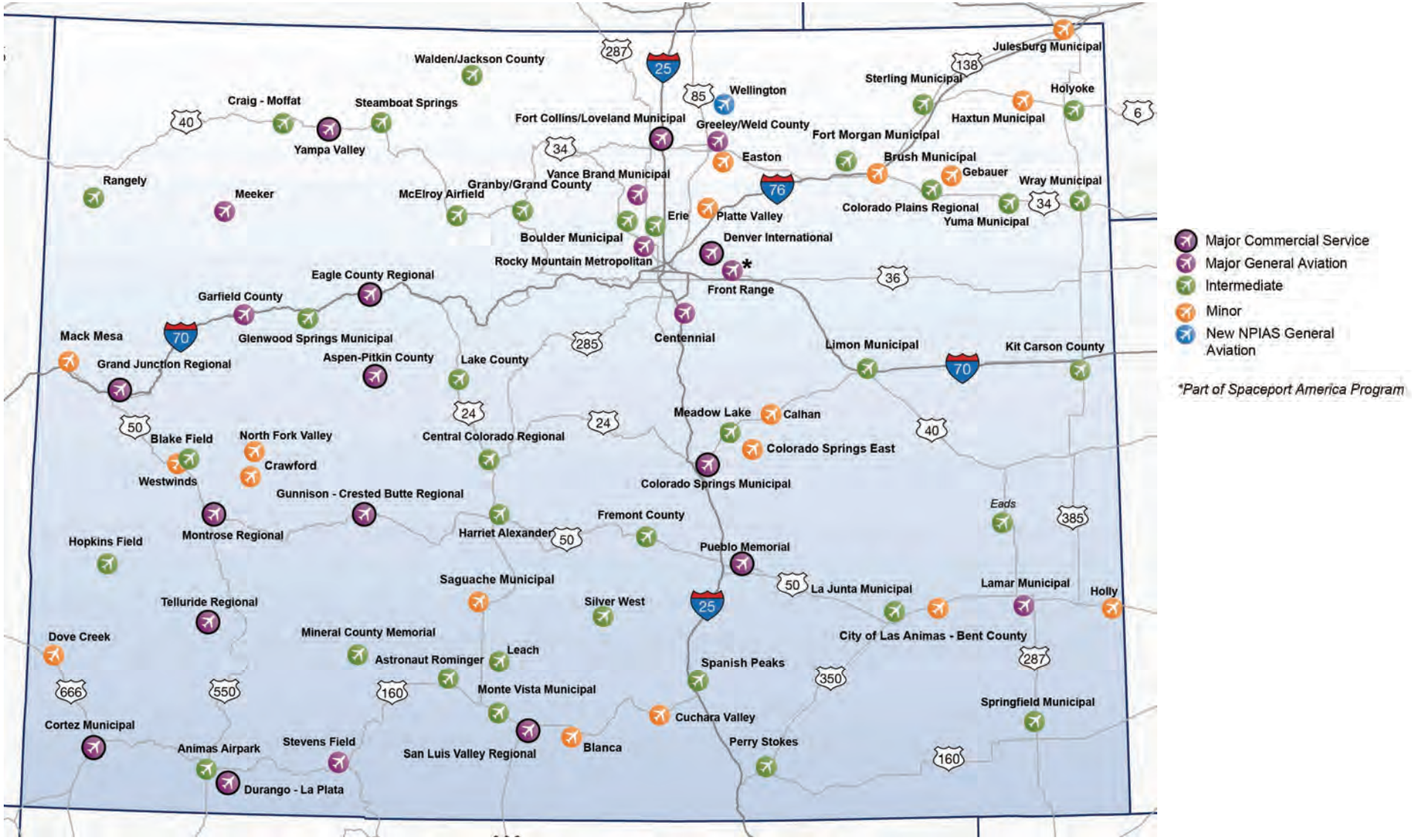
Table 6-2: Total Based Aircraft at Focus Airports

					Annual Growth/Decline	
Town	**Airport**	**2000**	**2005**	**2010**	**2000-2010**	**2005-2010**
Akron	Colorado Plains Regional Airport	17	14	14	-1.9%	0.0%
Burlington	Kit Carson County Airport	23	23	20	-1.4%	-2.8%
Trinidad	Perry Stokes Airport	15	23	12	-2.2%	-12.2%

Based on the information shown in Figure 6-1, Figure 6-2, and Figure 6-3 and in Table 6-2 along with other considerations, the recommendation has been made to move Akron/Colorado Plains Regional, Burlington/Kit Carson, and Trinidad/Perry Stokes to the Intermediate Airport category.

At this time, no additional role changes are recommended. As aviation demand and conditions within Colorado continue to change, the next update to the aviation system plan which will be in the 2017 timeframe will once again consider changes in airport roles that may be appropriate at that time. **Exhibit 6-1** shows the recommended system, by airport role, from this 2011 system plan update.

Exhibit 6-1: Colorado Airports by 2011 Recommended Roles



As indicated when FAA's ASSET Study is released, it will be appropriate for Aeronautics to consider how its current role classifications correspond to FAA roles. Within the Major category, airports are already distinguished as Major Commercial, Major General Aviation Reliever, and Major General Aviation Other. To better correspond to FAA roles in the future, it may be appropriate at some point to subdivide airports in either or both Intermediate and Minor Airport categories.

Using basic facility and service critieria and activity and economic impact information contained in the system plan, **Table 6-3** and **Table 6-4** provide information that could be used in the next update of the system plan to further refine airport roles as needed. At this point, this information is present purely for information purposes.

Going forward, it will also be important to consider roles that airports in Colorado may play in serving as spaceports and/or in serving flights by unmanned aerial systems (UAFs). While UAFs have been employed by the military for many years, commercial applications for UAFs are just emerging. Unmanned aerial surveillance may have many uses related to engineering, utilities, agriculture, security, firefighting, and other emergency and disaster recognizance. The biggest challenges to commercialization of UAFs rests with communications issues and coordinated use of FAA controlled airspace. Efforts are underway to address these issues.

Also emerging are commercial applications for rockets and other space vehicles. This program is being administered through the FAA's Office of Commercial Space Transportation; this agency is issuing licenses to airports wishing to have a spaceport designation. Spaceports may serve as sites for launching suborbital commercial space flights or satellites. This technology is just emerging and several states are purposing spaceport designations for existing airports. At this point, the number of spaceports outnumbers the number of available "customers" for this technology; however, this could change. Currently, the Front Range Airport is pursuing a spaceport designation. When the Colorado Aviation System Plan is next updated, and changes in these two technologies should be re-visited to determine system needs as they relate to these emerging technologies.

Table 6-3: Colorado Airport Facility and Service Criteria for 2011 Recommended Roles

City	Airport	Classification	Published Approach	Fuel	Ground Transportation	Auto Parking	Jet Activity	Weather Reporting	Serves King Air B200	Meets Runway Length Objective	Meets Runway Width Objective	Meets Taxiway System Objective	Meets Visual Landing Aid Objectives	Meets Runway Lighting Objective	Telephone	Restrooms	FBO	Maintenance	Terminal	Snow Removal	Meets Criteria	Not Meet Criteria
Intermediate Airports																						
Akron	Colorado Plains Regional Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	17	1
Boulder	Boulder Municipal Airport	Non Primary - GA	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	14	4
Buena Vista	Central Colorado Regional Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	16	2
Burlington	Kit Carson County Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	18	0
Canon City	Fremont County Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	17	1
Center	Leach Airport	Non NPIAS	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	6	12
Colorado Springs	Meadow Lake Airport**	Non Primary - Reliever	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	13	5
Craig	Craig-Moffat County Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No	14	4
Creede	Mineral County Memorial Airport	Non NPIAS	No	No	No	Yes	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	3	15
Del Norte	Astronaut Kent Rominger Airport	Non NPIAS	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No	7	11
Delta	Blake Field	Non Primary - GA	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	14	4
Durango	Animas Airpark**	Non NPIAS	No	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	9	9

Table 6-3: Colorado Airport Facility and Service Criteria for 2011 Recommended Roles

City	Airport	Classification	Published Approach	Fuel	Ground Transportation	Auto Parking	Jet Activity	Weather Reporting	Serves King Air B200	Meets Runway Length Objective	Meets Runway Width Objective	Meets Taxiway System Objective	Meets Visual Landing Aid Objectives	Meets Runway Lighting Objective	Telephone	Restrooms	FBO	Maintenance	Terminal	Snow Removal	Meets Criteria	Not Meet Criteria
Intermediate Airports, cont'd																						
Eads	Eads Airport	Non NPIAS	No	No	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	3	15
Erie	Erie Municipal Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	16	2
Fort Morgan	Fort Morgan Municipal Airport	Non Primary – GA	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	14	4
Glenwood Springs	Glenwood Springs Municipal Airport	Non NPIAS	No	Yes	Yes	Yes	No	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No	No	9	9
Granby	Granby-Grand County Airport	Non Primary - GA	No	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	11	7
Holyoke	Holyoke Municipal Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	15	3
Kremmling	McElroy Field	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	16	2
La Junta	La Junta Municipal Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	17	1
Leadville	Lake County Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	14	4
Limon	Limon Municipal Airport	Non Primary - GA	No	Yes	No	Yes	No	Yes	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	9	9
Monte Vista	Monte Vista Municipal Airport	Non Primary - GA	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No	No	6	12
Nucla	Hopkins Field	Non Primary - GA	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No	Yes	Yes	10	8

Table 6-3: Colorado Airport Facility and Service Criteria for 2011 Recommended Roles

City	Airport	Classification	Published Approach	Fuel	Ground Transportation	Auto Parking	Jet Activity	Weather Reporting	Serves King Air B200	Meets Runway Length Objective	Meets Runway Width Objective	Meets Taxiway System Objective	Meets Visual Landing Aid Objectives	Meets Runway Lighting Objective	Telephone	Restrooms	FBO	Maintenance	Terminal	Snow Removal	Meets Criteria	Not Meet Criteria
Intermediate Airports, cont'd																						
Rangely	Rangely Airport	Non Primary - GA	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	14	4
Salida	Harriet Alexander Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	15	3
Springfield	Springfield Municipal Airport	Non NPIAS	Yes	No	No	Yes	No	No	No	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No	No	7	11
Steamboat Springs	Steamboat Springs-Bob Adams Field	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	15	3
Sterling	Sterling Municipal Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	15	3
Trinidad	Perry Stokes Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	16	2
Walden	Walden-Jackson County Airport	Non NPIAS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes	11	7
Walsenburg	Spanish Peaks Airfield	Non Primary - GA	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes	Yes	7	11
Westcliffe	Silver West Airport	Non NPIAS	No	Yes	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes	6	12
Wray	Wray Municipal Airport	Non Primary - GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	17	1
Yuma	Yuma Municipal Airport	Non Primary - GA	No	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	12	6
Minor Airports																						
Akron	Gebauer Airport**	Non NPIAS		No	Yes	No	No	N/A	N/A	N/A	Yes	N/A	No	No	No	No	No	No	N/A	N/A	2	9
Blanca	Blanca Airport	Non NPIAS		No	No	Yes	No	N/A	N/A	N/A	No	N/A	No	No	No	No	No	No	N/A	N/A	1	10

Table 6-3: Colorado Airport Facility and Service Criteria for 2011 Recommended Roles

City	Airport	Classification	Published Approach	Fuel	Ground Transportation	Auto Parking	Jet Activity	Weather Reporting	Serves King Air B200	Meets Runway Length Objective	Meets Runway Width Objective	Meets Taxiway System Objective	Meets Visual Landing Aid Objectives	Meets Runway Lighting Objective	Telephone	Restrooms	FBO	Maintenance	Terminal	Snow Removal	Meets Criteria	Not Meet Criteria
Minor Airports, cont'd																						
Brush	Brush Municipal Airport	Non NPIAS		No	No	Yes	Yes	N/A	N/A	N/A	Yes	N/A	No	Yes	Yes	Yes	No	No	N/A	N/A	6	5
Calhan	Calhan Airport**	Non NPIAS		Yes	No	Yes	No	N/A	N/A	N/A	No	N/A	No	Yes	Yes	Yes	Yes	No	N/A	N/A	6	5
Crawford	Crawford Airport**	Non NPIAS		No	Yes	Yes	No	N/A	N/A	N/A	No	N/A	No	Yes	Yes	Yes	Yes	No	N/A	N/A	6	5
Delta	Westwinds Airpark**	Non NPIAS		Yes	Yes	Yes	No	N/A	N/A	N/A	No	N/A	No	No	Yes	Yes	No	No	N/A	N/A	5	6
Dove Creek	Dove Creek Airport**	Non NPIAS		No	No	No	No	N/A	N/A	N/A	No	N/A	No	No	No	No	No	No	N/A	N/A	0	11
Ellicott	Colorado Springs East Airport**	Non NPIAS		Yes	Yes	Yes	No	N/A	N/A	N/A	No	N/A	No	Yes	No	No	No	Yes	N/A	N/A	5	6
Greeley	Easton-Valley View Airport**	Non NPIAS		Yes	Yes	No	No	N/A	N/A	N/A	No	N/A	No	No	Yes	Yes	Yes	No	N/A	N/A	5	6
Haxtun	Haxtun Municipal Airport	Non NPIAS		No	No	No	No	N/A	N/A	N/A	No	N/A	No	Yes	No	No	No	No	N/A	N/A	1	10
Holly	Holly Airport	Non NPIAS		Yes	No	No	No	N/A	N/A	N/A	No	N/A	No	Yes	No	No	No	No	N/A	N/A	2	9
Hudson	Platte Valley Airpark**	Non NPIAS		Yes	No	Yes	No	N/A	N/A	N/A	No	N/A	No	Yes	Yes	Yes	Yes	No	N/A	N/A	6	5
Julesburg	Julesburg Municipal Airport	Non NPIAS		No	No	Yes	No	N/A	N/A	N/A	Yes	N/A	No	Yes	Yes	Yes	No	No	N/A	N/A	5	6
La Veta	Cuchara Valley Airport	Non NPIAS		No	No	Yes	No	N/A	N/A	N/A	Yes	N/A	No	Yes	No	No	No	No	N/A	N/A	3	8
Las Animas	Las Animas City & County Airport	Non NPIAS		No	Yes	Yes	No	N/A	N/A	N/A	No	N/A	No	No	No	No	Yes	Yes	N/A	N/A	4	7
Mack	Mack Mesa Airport**	Non NPIAS		Yes	No	Yes	No	N/A	N/A	N/A	Yes	N/A	No	No	Yes	Yes	No	Yes	N/A	N/A	6	5
Paonia	North Fork Valley Airport	Non NPIAS		Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	N/A	No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	10	1
Saguache	Saguache Municipal Airport	Non NPIAS		No	No	No	No	N/A	N/A	N/A	No	N/A	No	No	No	No	No	No	N/A	N/A	0	11

** Indicates private ownership

N/A = Not Applicable

Table 6-4: Colorado Intermediate and Minor Airports - Based Aircraft Rank

Rank	City	Airports	Based Aircraft (2010)
Intermediate Airports			
1	Colorado Springs	Meadow Lake Airport	325
2	Erie	Erie Municipal Airport	179
3	Boulder	Boulder Municipal Airport	159
4	Canon City	Fremont County Airport	88
5	Steamboat Springs	Steamboat Springs-Bob Adams Field	83
6	Glenwood Springs	Glenwood Springs Municipal Airport	73
7	Delta	Blake Field	50
8	Durango	Animas Airpark	48
9	Sterling	Sterling Municipal Airport	31
10	Salida	Harriet Alexander Airport	30
11	Granby	Granby-Grand County Airport	28
12	Fort Morgan	Fort Morgan Municipal Airport	24
13	Kremmling	McElroy Field	23
14	Wray	Wray Municipal Airport	23
15	Monte Vista	Monte Vista Municipal Airport	22
16	Rangely	Rangely Airport	22
17	Craig	Craig-Moffat County Airport	21
18	Buena Vista	Central Colorado Regional Airport	20
19	Burlington	Kit Carson County Airport	20
20	Del Norte	Astronaut Kent Rominger Airport	19
21	Limon	Limon Municipal Airport	17
22	Holyoke	Holyoke Municipal Airport	16
23	La Junta	La Junta Municipal Airport	16
24	Yuma	Yuma Municipal Airport	15
25	Akron	Colorado Plains Regional Airport	14
26	Nucla	Hopkins Field	14
27	Walsenburg	Spanish Peaks Airfield	14
28	Trinidad	Perry Stokes Airport	12
29	Center	Leach Airport	10
30	Leadville	Lake County Airport	10
31	Walden	Walden-Jackson County Airport	10
32	Westcliffe	Silver West Airport	9
33	Eads	Eads Airport	6
34	Springfield	Springfield Municipal Airport	6
35	Creede	Mineral County Memorial Airport	3

Table 6-4: Colorado Intermediate and Minor Airports - Based Aircraft Rank

Rank	City	Airports	Based Aircraft (2010)
Minor Airports			
1	Greeley	Easton-Valley View Airport	223
2	Hudson	Platte Valley Airpark	72
3	Ellicott	Colorado Springs East Airport	58
4	Mack	Mack Mesa Airport	37
5	Crawford	Crawford Airport	26
6	Paonia	North Fork Valley Airport	23
7	Calhan	Calhan Airport	19
8	Brush	Brush Municipal Airport	11
9	Las Animas	Las Animas City & County Airport	7
10	Delta	Westwinds Airpark	5
11	Dove Creek	Dove Creek Airport	5
12	Holly	Holly Airport	5
13	Julesburg	Julesburg Municipal Airport	5
14	Blanca	Blanca Airport	3
15	La Veta	Cuchara Valley Airport	3
16	Haxtun	Haxtun Municipal Airport	1
17	Akron	Gebauer Airport	0
18	Saguache	Saguache Municipal Airport	0

Table 6-5: Colorado Intermediate and Minor Airports - Economic Impact Rank

Rank	City	Airports	Economic Impact (2010)
Intermediate Airports			
1	Boulder	Boulder Municipal Airport	$60,147,300
2	Wray	Wray Municipal Airport	$14,136,000
3	Erie	Erie Municipal Airport	$12,224,700
4	Akron	Colorado Plains Regional Airport	$12,071,300
5	Colorado Springs	Meadow Lake Airport	$11,855,200
6	Steamboat Springs	Steamboat Springs-Bob Adams Field	$11,739,800
7	Durango	Animas Airpark	$10,597,400
8	Glenwood Springs	Glenwood Springs Municipal Airport	$9,590,900
9	Canon City	Fremont County Airport	$7,980,500
10	Kremmling	McElroy Field	$7,399,300
11	Burlington	Kit Carson County Airport	$6,661,300
12	Trinidad	Perry Stokes Airport	$6,608,700
13	Rangely	Rangely Airport	$6,006,100
14	Salida	Harriet Alexander Airport	$5,975,400
15	Granby	Granby-Grand County Airport	$5,489,200
16	Yuma	Yuma Municipal Airport	$5,135,900
17	Buena Vista	Central Colorado Regional Airport	$4,710,400
18	Delta	Blake Field	$4,494,300
19	La Junta	La Junta Municipal Airport	$4,388,300
20	Holyoke	Holyoke Municipal Airport	$3,726,600
21	Fort Morgan	Fort Morgan Municipal Airport	$2,978,100
22	Creede	Mineral County Memorial Airport	$2,909,800
23	Craig	Craig-Moffat County Airport	$2,256,700
24	Walden	Walden-Jackson County Airport	$2,133,700
25	Eads	Eads Airport	$1,962,700
26	Sterling	Sterling Municipal Airport	$1,826,100
27	Monte Vista	Monte Vista Municipal Airport	$1,716,100
28	Limon	Limon Municipal Airport	$1,583,500
29	Leadville	Lake County Airport	$1,501,300
30	Westcliffe	Silver West Airport	$1,109,000
31	Nucla	Hopkins Field	$971,900
32	Walsenburg	Spanish Peaks Airfield	$803,200
33	Springfield	Springfield Municipal Airport	$324,300

Table 6-5: Colorado Intermediate and Minor Airports - Economic Impact Rank

Rank	City	Airports	Economic Impact (2010)
Intermediate Airports, cont'd			
34	Del Norte	Astronaut Kent Rominger Airport	$311,500
35	Center	Leach Airport	$152,900
Minor Airports			
1	Crawford	Crawford Airport	$1,781,300
2	Hudson	Platte Valley Airpark	$1,183,800
3	La Veta	Cuchara Valley Airport	$1,122,900
4	Greeley	Easton-Valley View Airport	$1,114,600
5	Delta	Westwinds Airpark	$764,100
6	Paonia	North Fork Valley Airport	$587,300
7	Calhan	Calhan Airport	$531,800
8	Las Animas	Las Animas City & County Airport	$511,700
9	Ellicott	Colorado Springs East Airport	$279,100
10	Holly	Holly Airport	$268,500
11	Mack	Mack Mesa Airport	$200,800
12	Julesburg	Julesburg Municipal Airport	$182,500
13	Saguache	Saguache Municipal Airport	$89,100
14	Brush	Brush Municipal Airport	$83,000
15	Blanca	Blanca Airport	$51,800
16	Haxtun	Haxtun Municipal Airport	$34,800
17	Akron	Gebauer Airport	$0
18	Dove Creek	Dove Creek Airport	$0

6.2 Facility, Service, and Equipment Objectives

When the 2000 Inventory and Implementation Plan was developed, facilities and services that should ideally be in place to enable each airport to fulfill its designated system role were also established. These facility and service objectives were previously presented in Chapter Four in **Table 4-14**. As part of this update to Colorado's airport system plan, some modifications to previously established facility and service objectives were made and additional objectives related to equipment were added.

Meeting facility, service, and equipment objectives not only helps each airport fulfill its designated role in the system, but meeting various facility and service objectives also helps to elevate system performance relative to various performance measures and their associated benchmarks. **Table 6-6** helps to demonstrate the relationship of this plan's performance measures and benchmarks to the facility, service, and equipment objectives analyzed in this chapter. Facility, service, and equipment objectives analyzed in this chapter are not standards, but rather are development objectives that are appropriate for each airport relative to its assigned system role. This chapter analyzes each airport's ability to meet its applicable facility, service, and equipment objectives. Relative changes in performance for various facility and service objectives since the 2000 and the 2005 plans were published are also noted, as appropriate.

Table 6-6: Relationship Between Performance Measures/Benchmarks and Facility Objectives

Performance Measures and Benchmarks	Facility, Service or Equipment Objective
Activity	
Airports That Operate Below FAA Target Demand/Capacity Ratio	Air Traffic Control Tower
	Aircraft Apron Area
	Runway Length
	Runway Width
	Taxiway System
Expansion Potential	
Airports with Current master Plans	Aircraft Apron Area
	Aircraft Hangars
	Approach Type
	Auto Parking
	Runway Length
	Runway Strength
	Taxiway System
Airports Compliant with FAR Part 77	Approach (Precision and Non-Precision)

Table 6-6: Relationship Between Performance Measures/Benchmarks and Facility Objectives

Performance Measures and Benchmarks	Facility, Service or Equipment Objective
Economic Support	
Airports with a Published Approach	Runway Lighting
	Visual Landing Aids
	Weather Reporting System
Airports with Fuel	100LL or Jet A Fuel
Airports with Rental Cars	Telephone
Airports with Ground Transportation Services	Telephone
Airports with Jet Activity	Jet A Fuel
	Published Approach
	Runway Length
	Runway Lighting
	Runway Strength
	Runway Width
	Taxiway System
	Visual Landing Aids
	Weather Reporting System
Airports with Greater than $1 Million in Annual Economic Impact	Aircraft Maintenance
	FBO Services
	Fuel
	Ground Transportation Services
Coverage/Emergency Access	
Population within 90 Minute Drive-Time of an Airport with Commercial Service	Air Traffic Control Tower
	ARFF Facilities
	Auto Parking
	De-icing
	Ground Transportation Services
	Jet A Fuel
	Restrooms
	Snow Removal
	Telephone
	Terminal
Population Within 90 Nautical Miles of an Airport with a Precision Approach or 60 Nautical Miles of an Airport with a Published Approach	Published Approach
	Runway Lighting
	Visual Landing Aids
	Weather Reporting System

Table 6-6: Relationship Between Performance Measures/Benchmarks and Facility Objectives

Performance Measures and Benchmarks	Facility, Service or Equipment Objective
Coverage/Emergency access, cont'd	
Population within 30 Minute Drive-Time of a System Airport	Auto Parking
	De-icing
	Ground Transportation Services
	Snow Removal
Accessibility of Airports with On-site Weather Reporting	Published Approach
	Ground Communication Link
Accessibility of Airports Able to Accommodate Emergency Aircraft	Published Approach
	Ground Communication Link
	Published Approach
	Runway Length
	Runway Lighting
	Visual Landing Aids
	Weather Reporting System
Investment	
Airports Meeting Runway Length Objective	Runway Length
	Runway Lighting
	Runway Strength
	Runway Width
	Taxiway System
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Runway	Runway Strength
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Taxiway	Taxiway System
Airports with Pavement Condition Index (PCI) of 75 or Greater on Primary Apron	Aircraft Apron Area
Security	
General Aviation Airports Meeting TSA Security Guidelines	Fencing

The remaining sections of this chapter consider each of the facility, service, and equipment objectives contained in the system plan and report on the ability of each airport in the system to meet its respective objectives.

6.2.1 Primary Runway Length Objectives

As has been previously discussed in this plan, having a runway length that is sufficient to meet the needs of the most demanding aircraft that uses each airport on a regular basis is important to the performance and the success of Colorado's airport system. While runway lengths for each airport are best established within the context of an individual airport master plan, the Colorado Aviation System Plan has established runway length objectives, relative to various roles for system airports. The system plan has established desired runway lengths for system airports based on the following considerations:

- Major Airports – for commercial and general aviation reliever airports in the Major category, the primary runway should ideally be capable of accommodating 75 percent of large general aviation aircraft at 90 percent useful load. For other general aviation airports in the Major Airport category, the primary runway should be capable of accommodating 100 percent of all small aircraft.
- Intermediate Airports – the primary runway should be able to serve 75 percent of small aircraft.
- Minor Airports – the length of the airport's primary runway should be maintained.

Table 6-7 provides information that compares each airport's current primary runway length, to its runway length objective which was calculated considering the assumptions noted above. As a result of role changes discussed in this chapter, system performance changed from performance previously discussed in Chapters 4 and 5. Since airports in the Intermediate category have less aggressive runway length objectives than airports in the Major category, Akron, Burlington, and Trinidad all have current runway lengths that meet objectives for Intermediate Airports; this was not the case when these airports were included in the Major Airport category.

Table 6-7: Facility and Services Objectives Runway Length

City	Airport	Runway Length Objective	Existing Runway Length	Meets Objective in 2000	Meets Objective in 2005	Meets Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	8,600	8,519	Yes	Yes	No
Aspen	Aspen-Pitkin County Airport	10,000	8,000	No	No	No
Broomfield/Denver	Rocky Mountain Metropolitan Airport	9,560	9,000	No	No	No
Colorado Springs	Colorado Springs Municipal Airport	9,810	13,501	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	8,690	7,205	No	No	No
Denver	Denver International Airport	10,000	16,000	NC	NC	Yes
Durango	Durango-La Plata County Airport	9,300	9,201	Yes	Yes	No
Eagle	Eagle County Regional Airport	9,400	9,000	No	No	No
Englewood/Denver	Centennial Airport	9,530	10,001	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	8,990	10,501	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	6,080	10,000	Yes	Yes	Yes

Table 6-7: Facility and Services Objectives Runway Length

City	Airport	Runway Length Objective	Existing Runway Length	Meets Objective in 2000	Meets Objective in 2005	Meets Objective in 2011
Major Airports, cont'd						
Gunnison	Gunnison-Crested Butte Regional Airport	8,830	9,400	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	8,860	9,998	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	5,420	6,304	No	No	Yes
Longmont	Vance Brand Municipal Airport	6,320	4,800	Yes	Yes	No
Loveland	Fort Collins-Loveland Municipal Airport	8,910	8,500	No	No	No
Meeker	Meeker Airport	7,730	6,497	Yes	Yes	No
Montrose	Montrose Regional Airport	9,000	10,000	Yes	Yes	Yes
Pagosa Springs	Stevens Field	9,200	8,100	Yes	Yes	No
Pueblo	Pueblo Memorial Airport	8,810	10,498	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	6,940	7,000	Yes	Yes	Yes
Telluride	Telluride Regional Airport	8,840	7,111	No	No	No
Watkins/Denver	Front Range Airport	8,950	8,000	No	No	No
Intermediate Airports						
Akron	Colorado Plains Regional Airport	4,410	7,000	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	4,710	4,100	No	No	No
Buena Vista	Central Colorado Regional Airport	6,780	8,300	Yes	Yes	Yes
Burlington	Kit Carson County Airport	4,100	5,201	Yes	Yes	Yes
Canon City	Fremont County Airport	4,810	5,399	Yes	Yes	Yes
Center	Leach Airport	6,380	7,000	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	5,830	6,000	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	5,290	5,606	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	7,410	6,880	No	No	No
Del Norte	Astronaut Kent Rominger Airport	3,775	6,050	No	No	Yes
Delta	Blake Field	4,770	5,598	Yes	Yes	Yes
Durango	Animas Airpark **	5,720	5,010	No	No	No
Eads	Eads Airport	4,160	3,860	No	No	No
Erie	Erie Municipal Airport	4,660	4,700	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	4,500	5,219	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	5,120	3,305	No	No	No
Granby	Granby-Grand County Airport	7,050	5,000	No	No	No
Holyoke	Holyoke Municipal Airport	3,870	5,000	No	Yes	Yes
Kremmling	McElroy Field	6,250	5,540	No	No	No
La Junta	La Junta Municipal Airport	4,200	6,849	Yes	Yes	Yes
Leadville	Lake County Airport	8,540	6,400	No	No	No

Table 6-7: Facility and Services Objectives Runway Length

City	Airport	Runway Length Objective	Existing Runway Length	Meets Objective in 2000	Meets Objective in 2005	Meets Objective in 2011
Intermediate Airports, cont'd						
Limon	Limon Municipal Airport	4,720	4,700	Yes	Yes	No
Monte Vista	Monte Vista Municipal Airport	6,400	5,900	No	No	No
Nucla	Hopkins Field	5,050	4,600	No	No	No
Rangely	Rangely Airport	4,790	6,408	Yes	Yes	Yes
Salida	Harriet Alexander Airport	6,370	7,347	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	4,250	5,000	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	5,770	4,452	No	No	No
Sterling	Sterling Municipal Airport	4,000	5,200	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	4,980	5,500	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	6,880	5,900	No	No	No
Walsenburg	Spanish Peaks Airfield	5,230	4,896	No	No	No
Westcliffe	Silver West Airport	7,130	7,000	No	No	No
Wray	Wray Municipal Airport	3,380	5,400	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	4,080	4,200	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	3,000	3,000	Yes	Yes	Yes
Blanca	Blanca Airport	6,160	6,160	Yes	Yes	Yes
Brush	Brush Municipal Airport	4,300	4,300	Yes	Yes	Yes
Calhan	Calhan Airport **	4,565	4,565	Yes	Yes	Yes
Crawford	Crawford Airport **	4,900	4,900	Yes	Yes	Yes
Delta	Westwinds Airpark **	4,100	4,100	Yes	Yes	Yes
Dove Creek	Dove Creek Airport **	4,200	4,200	Yes	Yes	Yes
Ellicott	Colorado Springs East Airport **	4,500	4,500	Yes	Yes	Yes
Greeley	Easton-Valley View Airport **	4,000	4,000	Yes	Yes	Yes
Haxtun	Haxtun Municipal Airport	3,860	3,860	Yes	Yes	Yes
Holly	Holly Airport	4,140	4,140	Yes	Yes	Yes
Hudson	Platte Valley Airpark **	4,100	4,100	Yes	Yes	Yes
Julesburg	Julesburg Municipal Airport	4,100	4,100	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	5,798	5,798	Yes	Yes	Yes
Las Animas	Las Animas City & County Airport	3,870	3,870	Yes	Yes	Yes
Mack	Mack Mesa Airport **	2,600	2,600	Yes	Yes	Yes
Paonia	North Fork Valley Airport	4,500	4,500	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	7,957	7,957	Yes	Yes	Yes

NC = Not Included in 2000 or 2005 studies

** Indicates private ownership

This plan, however, is quick to point out that based on local need and justification any airport in the Colorado system could investigate a runway extension, even if that extension is not identified as part of these facility and service objectives. Further, actual runway length requirements derived through more intensive master planning analysis will most likely vary for those estimated in this statewide system plan.

Major Airport Actions Related to Runway Length Objectives

Using objectives for runway length established in the system plan, **Table 6-8** identifies airports in the Major category that could be considered for runway extensions. As noted, runway length objectives established in the system plan were somewhat general in nature and are not as specific as those that would be established in an actual master plan. As a result for airports in the Major category, for the purposes of this system plan, if an airport's existing runway length is within approximately 500 feet of its system plan runway length objective, the airport's current runway length was considered to be adequate for the airport's designated system role.

Table 6-8 indicates those airports whose current runway length warrants consideration for extension as part of this plan's final recommendations. It is worth noting that for some of the airports identified as needing extensions, previous airport specific and more intensive planning efforts have determined that either the runway in question cannot be extended or the runway cannot be fully extended to meet the runway length objective established in the system plan.

Table 6-8: Actions for Major Airport Runway Length Objectives

City Name	Airport Name	Runway Length Objective	Current Runway Length	Objective Deficit	Identified Action
Alamosa	San Luis Valley Airport	8,600	8,519	81 feet	Length sufficient for recommended role
Aspen	Aspen-Pitkin County Airport	10,000	8,000	2,000 feet	Length sufficient based on documented constraints
Broomfield/Denver	Rocky Mountain Metropolitan Airport	9,560	9,000	560 feet	Length sufficient for recommended role
Cortez	Cortez-Montezuma Municipal Airport	8,690	7,205	1,485 feet	Extend by 1,485 feet based on demand/costs/ benefits
Durango	Durango-La Plata County Airport	9,300	9,201	99 feet	Length sufficient for recommended role
Eagle	Eagle County Regional Airport	9,400	9,000	400 feet	Length sufficient for recommended role
Longmont	Vance Brand Municipal Airport	6,320	4,800	1,520 feet	Extend by 1,000 feet based on previous analysis
Loveland	Fort Collins-Loveland Municipal Airport	8,910	8,500	410 feet	Length sufficient for recommend role

Table 6-8: Actions for Major Airport Runway Length Objectives

City Name	Airport Name	Runway Length Objective	Current Runway Length	Objective Deficit	Identified Action
Meeker	Meeker Airport	7,730	6,497	1,233 feet	Extend by 1,233 feet based on demand/costs/ benefits
Pagosa Springs	Stevens Field	9,200	8,100	1,100 feet	Extend by 1,000 feet based on demand/costs/ benefits
Telluride	Telluride Regional Airport	8,840	7,111	1,729 feet	Length sufficient based on documented constraints
Watkins/Denver	Front Range Airport	8,950	8,000	950 feet	Extend 950 feet based on demand/costs/benefits

For the information presented in Table 6-8 several points are noteworthy. Since the 2005 system plan was published, Eagle County Regional Airport completed an extension that took the length of its primary runway from 8,000 feet to 9,000 feet, and Telluride Regional extended its primary runway from 6,870 feet to 7,111 feet. Aspen-Pitkin County also recently completed an extension of its primary runway to 8,000 feet. Further extension of these primary runways is not considered to be feasible from a cost/benefit standpoint. As a result, while it would be ideal to extend these runways to fully meet objectives established in this system plan, those extensions are not practical and will not be included in this plan's final recommendations or reflected in costs to implement the recommended plan.

The 2005 plan did not identify runway extensions for Vance Brand Municipal, Meeker, or Stevens Field. New guidelines from FAA used in this system plan update for calculating runway lengths resulted in new and more aggressive runway length objectives for these three airports. Vance Brand Municipal just completed a master plan which identifies an extension to its primary runway. The master plan for Vance Brand Municipal Airport concluded that an extension of 1,000 feet is most feasible for this airport. The system plan's final recommendations will include extensions to the primary runway at these three airports.

Other airports in the Major Airport category that could be considered for runway extensions include Cortez-Montezuma Municipal and Front Range. If demand warrants, the primary runways at both Cortez and Front Range could be extended to meet objectives included in this plan.

Intermediate Airport Actions Related to Runway Length Objectives

There are a number of airports within the Intermediate category with runway lengths that do not meet system plan objectives. These airports are shown in **Table 6-9**. Several of these airports have been previously studied for runway extensions. The results of these studies show that the following airports cannot accommodate runway extensions: Boulder Municipal Airport, Animas Airpark, Eads Airport, Glenwood Springs Municipal Airport,

and Grandby-Grand County. While it would be ideal to provide longer runway lengths at these airports, extensions are not practical.

Other airport specific airport studies have concluded that while runways at the Lake County Airport and at the Steamboat Springs-Bob Adams airports can be extended, they cannot be extended to a length sufficient to meet objectives identified in this system plan. As Table 6-9 shows, the Lake County Airport can accommodate a total runway extension of 1,200 feet and the Steamboat Springs-Bob Adams Airport can accommodate a total runway extension of 900 feet. Although these extensions would provide runway lengths less than those identified by this study's objectives, these are the extensions that will be included in this plan's recommendations.

Table 6-9: Actions for Intermediate Airport Runway Length Objectives

City	Airport	Runway Length Objective	Current Runway Length	Objective Deficit	Identified Action
Boulder	Boulder Municipal Airport	4,710	4,100	610 feet	Length sufficient based on documented constraints
Creede	Mineral County Memorial Airport	7,410	6,880	530 feet	Extend by 530 feet based on demand/costs/benefits
Durango	Animas Airpark**	5,720	5,010	710 feet	Length sufficient based on documented constraints
Eads	Eads Airport	4,160	3,860	300 feet	Length sufficient based on documented constraints
Glenwood Springs	Glenwood Springs Municipal Airport	5,120	3,305	1,815 feet	Length sufficient based on documented constraints
Granby	Granby-Grand County Airport	7,050	5,000	2,050 feet	Length sufficient based on documented constraints
Kremmling	McElroy Field	6,250	5,540	710 feet	Extend by 710 feet based on demand/costs/benefits
Leadville	Lake County Airport	8,540	6,400	2,140 feet	Extend by 1,200 feet based on previous analysis
Limon	Limon Municipal Airport	4,720	4,700	20 feet	Length sufficient for recommended role
Monte Vista	Monte Vista Municipal Airport	6,400	5,900	500 feet	Extend by 500 feet based on demand/costs/benefits
Nucla	Hopkins Field	5,050	4,600	450 feet	Extend by 450 feet based on demand/costs/benefits
Steamboat Springs	Steamboat Springs-Bob Adams Field	5,770	4,452	1,318 feet	Extend by 900 feet based on previous analysis
Walden	Walden-Jackson County Airport	6,880	5,900	980 feet	Extend by 980 feet based on demand/costs/benefits
Walsenburg	Spanish Peaks Airfield	5,230	4,896	334 feet	Extend by 334 feet based on demand/costs/benefits
Westcliffe	Silver West Airport	7,130	7,000	130 feet	Length sufficient for recommended role

** Indicates private ownership

As actual demand warrants and as conditions permit, the following airports should be considered for a runway extension that will enable them to better meet their runway length objectives shown in Table 6-9:

- Mineral County Memorial Airport
- Lake County Airport
- McElroy Field
- Monte Vista Municipal Airport
- Hopkins Field
- Walden-Jackson County Airport
- Spanish Peaks Airfield
- Silver West Airport
- Steamboat Springs-Bob Adams Airport

6.2.2 Primary Runway Width Objectives

In addition to having sufficient runway length, Colorado airports in each role category should also have a runway width that is appropriate for the type of aircraft that use each airfield. Along with runway length, airport master plans are the most appropriate place to determine an airport's actual runway width. Runway width requirements are established by the wingspan of the largest aircraft that uses each airport on a regular basis.

Facility objectives established as part of this system plan identify the following as the runway width objectives for system airports:

- Major Commercial Airports – 100 feet
- Major General Aviation Airports – 75 feet
- Intermediate Airports – 75 feet
- Minor Airports – 60 feet

As part of this update to Colorado's Aviation System Plan, the runway width objective for airports in the Intermediate category was increased from 60 to 75 feet. This objective is more reflective of the needs of larger aircraft that use airports in the Intermediate category. For some system airports, increasing their runway width objective implies a change in the airport's airport reference code (ARC). When an airport changes its ARC, this most often results in other changes to airport's design and safety criteria. Within the context of this analysis, a brief review was completed to identify other changes that could be required to support wider runways as such runways are recommended to meet the system plan objectives. If this overview identified development constraints which could not be easily overcome, the system plan's recommendations reflect these findings.

Table 6-10 provides information that shows the width of the primary runway at each airport, along with the airport's general ability to meet its runway width objective established by this system plan. Table 6-10 also shows each airport's ability to meet this particular facility objective in the 2000 and 2005 reporting periods. As a result of the wider runway width objective set in this plan for airports in the Intermediate category, fewer system airports meet the runway width objective in 2011 than did when the 2005 plan was published.

Table 6-10: Facility and Service Objectives Runway Width

City	Airport	Runway Width Objective	Exiting Runway Width	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	100	100	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	100	100	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	75	100	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	100	150	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	100	100	Yes	Yes	Yes
Denver	Denver International Airport	100	200	NC	NC	Yes
Durango	Durango-La Plata County Airport	100	150	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	100	150	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	75	100	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	100	150	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	75	100	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	100	150	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	100	150	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	75	100	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	75	75	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	100	100	Yes	Yes	Yes
Meeker	Meeker Airport	75	60	No	No	No
Montrose	Montrose Regional Airport	100	150	Yes	Yes	Yes
Pagosa Springs	Stevens Field	75	100	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	100	150	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	75	100	Yes	Yes	Yes
Telluride	Telluride Regional Airport	100	100	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	75	100	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	75	100	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	75	75	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	75	75	Yes	Yes	Yes
Burlington	Kit Carson County Airport	75	75	Yes	Yes	Yes
Canon City	Fremont County Airport	75	75	Yes	Yes	Yes
Center	Leach Airport	75	50	No	No	No

Table 6-10: Facility and Service Objectives Runway Width

City	Airport	Runway Width Objective	Exiting Runway Width	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Colorado Springs	Meadow Lake Airport **	75	60	Yes	Yes	No
Craig	Craig-Moffat County Airport	75	100	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	75	60	Yes	Yes	No
Del Norte	Astronaut Kent Rominger Airport	75	75	No	No	Yes
Delta	Blake Field	75	75	Yes	Yes	Yes
Durango	Animas Airpark **	75	50	No	No	No
Eads	Eads Airport	75	60	No	Yes	No
Erie	Erie Municipal Airport	75	60	Yes	Yes	No
Fort Morgan	Fort Morgan Municipal Airport	75	60	Yes	Yes	No
Glenwood Springs	Glenwood Springs Municipal Airport	75	50	Yes	No	No
Granby	Granby-Grand County Airport	75	75	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	75	75	No	Yes	Yes
Kremmling	McElroy Field	75	75	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	75	75	Yes	Yes	Yes
Leadville	Lake County Airport	75	75	Yes	Yes	Yes
Limon	Limon Municipal Airport	75	60	Yes	Yes	No
Monte Vista	Monte Vista Municipal Airport	75	60	Yes	Yes	No
Nucla	Hopkins Field	75	75	Yes	Yes	Yes
Rangely	Rangely Airport	75	75	Yes	Yes	Yes
Salida	Harriet Alexander Airport	75	75	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	75	60	Yes	Yes	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	75	100	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	75	75	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	75	100	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	75	75	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	75	60	Yes	Yes	No
Westcliffe	Silver West Airport	75	55	No	No	No
Wray	Wray Municipal Airport	75	75	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	75	75	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	60	70	Yes	Yes	Yes
Blanca	Blanca Airport	60	52	Yes	No	No
Brush	Brush Municipal Airport	60	60	Yes	Yes	Yes
Calhan	Calhan Airport **	60	50	No	No	No
Crawford	Crawford Airport **	60	20	No	No	No
Delta	Westwinds Airpark **	60	40	No	No	No

Table 6-10: Facility and Service Objectives Runway Width

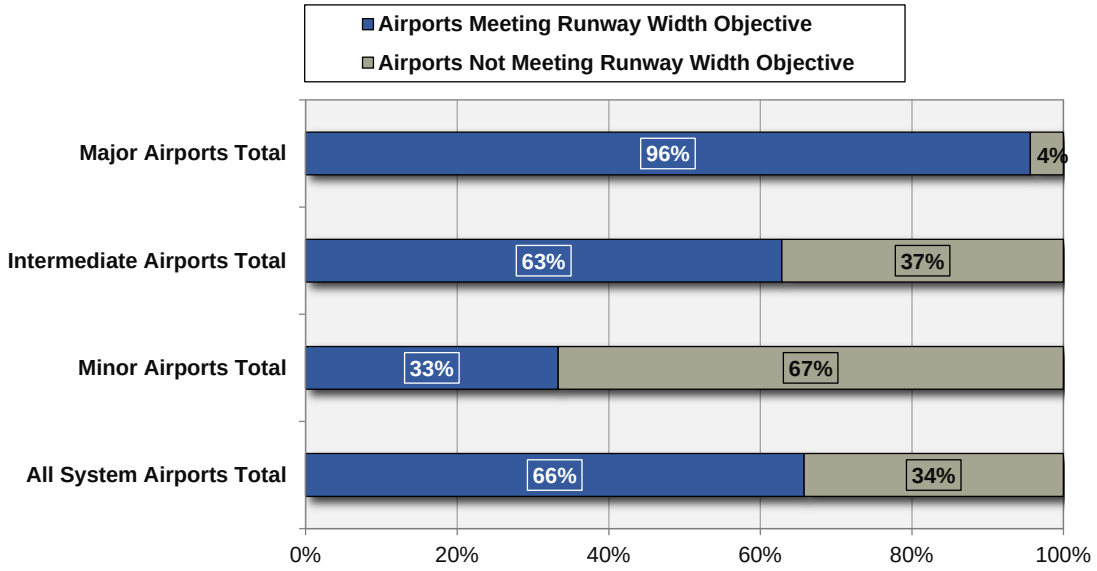
City	Airport	Runway Width Objective	Exiting Runway Width	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Dove Creek	Dove Creek Airport **	60	50	No	No	No
Ellicott	Colorado Springs East Airport **	60	42	No	No	No
Greeley	Easton-Valley View Airport **	60	25	No	No	No
Haxtun	Haxtun Municipal Airport	60	40	No	No	No
Holly	Holly Airport	60	40	No	No	No
Hudson	Platte Valley Airpark **	60	40	No	No	No
Julesburg	Julesburg Municipal Airport	60	60	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	60	60	Yes	Yes	Yes
Las Animas	Las Animas City & County Airport	60	40	No	No	No
Mack	Mack Mesa Airport **	60	60	No	Yes	Yes
Paonia	North Fork Valley Airport	60	60	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	60	55	No	No	No

NC = Not Included

** Indicates private ownership

As information in Table 6-10 shows, the Meeker Airport continues to be the only airport in the Major category that does not meet this plan's established runway width objective. However, this airport is undertaking a project to rebuild its current runway and, at that time, the runway will be widened 100 feet. **Figure 6-4** shows, 37 percent of the airports in the Intermediate category do not currently meet their runway width objective. It is important to re-state, however, that much of this current performance is based on a change in the runway width objective for airports in the Intermediate category. There are nine (9) Intermediate Airports that do not meet their runway width objective as a result of the increase from 60 feet to 75 feet. System-wide, 66 percent of all airports now meet the system plan's objective for primary runway width.

Figure 6-4: Current Airport Performance Runway Width



As airports in Colorado undertake improvements to their runways, consideration should be given to meeting objectives for the width of the primary runway presented in this section. Wider primary runways provide users with more operational flexibility, especially in instances when a crosswind runway is not available. **Table 6-11** shows information that indicates where increases in the width of the primary runway are desirable to meet the objectives of this plan.

Table 6-11: Actions Needed to Meet Primary Runway Width Objectives

City	Airport	Runway Width Objective	Existing Runway Width	Runway Width Deficit
Major Airports				
Meeker	Meeker Airport	75	60	15
Intermediate Airports				
Center*	Leach Airport	75	50	25
Colorado Springs	Meadow Lake Airport**	75	60	15
Creede	Mineral County Memorial Airport	75	60	15
Durango*	Animas Airpark **	75	50	25
Eads	Eads Airport	75	60	15
Erie	Erie Municipal Airport	75	60	15
Fort Morgan*	Fort Morgan Municipal Airport	75	60	15
Glenwood Springs*	Glenwood Springs Municipal Airport	75	50	25
Limon	Limon Municipal Airport	75	60	15
Monte Vista	Monte Vista Municipal Airport	75	60	15

Table 6-11: Actions Needed to Meet Primary Runway Width Objectives

City	Airport	Runway Width Objective	Existing Runway Width	Runway Width Deficit
Intermediate Airports, cont'd				
Springfield	Springfield Municipal Airport	75	60	15
Walsenburg	Spanish Peaks Airfield	75	60	15
Westcliffe	Silver West Airport	75	55	20
Minor Airports				
Blanca	Blanca Airport	60	52	8
Calhan	Calhan Airport**	60	50	10
Crawford*	Crawford Airport**	60	20	40
Delta	Westwinds Airpark**	60	40	20
Dove Creek	Dove Creek Airport**	60	50	10
Ellicott	Colorado Springs East Airport**	60	42	18
Greeley*	Easton-Valley View Airport**	60	25	35
Haxtun	Haxtun Municipal Airport	60	40	20
Holly	Holly Airport	60	40	20
Hudson	Platte Valley Airpark**	60	40	20
Las Animas	Las Animas City & County Airport	60	40	20
Saguache	Saguache Municipal Airport	60	55	5

* Constraints at these airports may inhibit the ability of these airports to meet their objective for running width
** Indicates private ownership

6.2.3 Primary Runway Strength Objectives

An airport's actual requirement for strength on its primary runway is again determined primarily by the type of aircraft that most frequently use each airport. For Colorado's Aviation System Plan, the following runway strength objectives have been established:

- Major Airports Commercial Service – 60,000 pounds dual wheel landing gear
- Major Airports General Aviation – 30,000 pounds single wheel landing gear
- Intermediate Airports – 12,500 pounds single wheel landing gear
- Minor Airports – 12,500 pounds single wheel landing gear

As with an airport's actual runway length and width, individual airport needs, related to pavement strength, are also best confirmed within the context of an airport master plan. Related to runway strength objectives for 12,500 pounds single wheel landing gear, from an engineering standpoint, pavement strength is sufficient even though the airport's current strength rating may be below 12,500 pounds. Consequently, airports in the Intermediate and Minor category were considered to meet their runway strength objective even though the actual load bearing capacity of their primary paved runway is rated less than 12,500 pounds.

It is important to note for this particular objective, that the strength or load bearing capacity of some primary runways has not been rated; for those airports, information is not available to include in this analysis. For other airports in the Minor category, their primary runway is not paved. As are result, this objective is not applicable to those airports.

Table 6-12 provides information that shows each airport's system plan objective for pavement strength on its primary runway and its current load bearing capacity as reported by the FAA. **Figure 6-5** shows, for the system as a whole, 75 percent of the airports meet their objective for load bearing strength on their primary runway and 3 percent of the airports do not. Information for 13 percent of all system airports is not published for this particular objective, and 9 percent of all system airports do not have a paved primary runway (this objective does not apply to these airports).

Table 6-12: Facility and Service Objectives Runway Strength

City	Airport	Runway Strength Objective	Existing Runway Strength	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	60,000 lbs	70,000 lbs	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	60,000 lbs	100,000 lbs	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	30,000 lbs	55,000 lbs	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	60,000 lbs	175,000 lbs	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	60,000 lbs	56,000 lbs	No	No	No
Denver	Denver International Airport	60,000 lbs	100,000 lbs	NC	NC	Yes
Durango	Durango-La Plata County Airport	60,000 lbs	150,000 lbs	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	60,000 lbs	140,000 lbs	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	30,000 lbs	56,000 lbs	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	60,000 lbs	180,000 lbs	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	30,000 lbs	30,000 lbs	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	60,000 lbs	160,000 lbs	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	60,000 lbs	170,000 lbs	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	30,000 lbs	45,000 lbs	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	30,000 lbs	30,000 lbs	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	60,000 lbs	65,000 lbs	Yes	Yes	Yes
Meeker	Meeker Airport	30,000 lbs	21,000 lbs	No	No	No
Montrose	Montrose Regional Airport	60,000 lbs	190,000 lbs	Yes	Yes	Yes
Pagosa Springs	Stevens Field	30,000 lbs	59,000 lbs	No	No	Yes
Pueblo	Pueblo Memorial Airport	60,000 lbs	170,000 lbs	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	30,000 lbs	200,000 lbs	Yes	Yes	Yes
Telluride	Telluride Regional Airport	60,000 lbs	89,000 lbs	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	30,000 lbs	34,000 lbs	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	12,500 lbs	65,000 lbs	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	12,500 lbs	16,000 lbs	Yes	Yes	Yes

Table 6-12: Facility and Service Objectives Runway Strength

City	Airport	Runway Strength Objective	Existing Runway Strength	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd.						
Buena Vista	Central Colorado Regional Airport	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Burlington	Kit Carson County Airport	12,500 lbs	17,000 lbs	No	No	Yes
Canon City	Fremont County Airport	12,500 lbs	26,000 lbs	Yes	Yes	Yes
Center	Leach Airport	12,500 lbs	12,000 lbs	No	No	Yes
Colorado Springs	Meadow Lake Airport **	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	12,500 lbs	35,000 lbs	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	12,500 lbs	14,500 lbs	Yes	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Delta	Blake Field	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Durango	Animas Airpark **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Eads	Eads Airport	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Erie	Erie Municipal Airport	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	12,500 lbs	15,000 lbs	Yes	Yes	Yes
Granby	Granby-Grand County Airport	12,500 lbs	15,000 lbs	No	No	Yes
Holyoke	Holyoke Municipal Airport	12,500 lbs	12,500 lbs	No	Yes	Yes
Kremmling	McElroy Field	12,500 lbs	46,000 lbs	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Leadville	Lake County Airport	12,500 lbs	20,000 lbs	Yes	Yes	Yes
Limon	Limon Municipal Airport	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Nucla	Hopkins Field	12,500 lbs	9,000 lbs	No	No	Yes
Rangely	Rangely Airport	12,500 lbs	28,000 lbs	Yes	Yes	Yes
Salida	Harriet Alexander Airport	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	12,500 lbs	12,500 lbs	No	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	12,500 lbs	50,000 lbs	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	12,500 lbs	30,000 lbs	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	12,500 lbs	37,000 lbs	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	12,500 lbs	25,000 lbs	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	12,500 lbs	5,000 lbs	No	No	Yes
Westcliffe	Silver West Airport	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Wray	Wray Municipal Airport	12,500 lbs	16,000 lbs	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	12,500 lbs	12,500 lbs	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	12,500 lbs	Not Paved	N/A	N/A	N/A
Blanca	Blanca Airport	12,500 lbs	Not Paved	N/A	N/A	N/A
Brush	Brush Municipal Airport	12,500 lbs	6,000 lbs	No	No	Yes
Calhan	Calhan Airport **	12,500 lbs	Not Paved	N/A	N/A	N/A
Crawford	Crawford Airport **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Delta	Westwinds Airpark **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Dove Creek	Dove Creek Airport **	12,500 lbs	Not Paved	N/A	N/A	N/A

Table 6-12: Facility and Service Objectives Runway Strength

City	Airport	Runway Strength Objective	Existing Runway Strength	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Ellicott	Colorado Springs East Airport **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Greeley	Easton-Valley View Airport **	12,500 lbs	Not Paved	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	12,500 lbs	Not Rated	Yes	Not Rated	Not Rated
Holly	Holly Airport	12,500 lbs	Not Paved	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Julesburg	Julesburg Municipal Airport	12,500 lbs	12,000 lbs	No	No	Yes
La Veta	Cuchara Valley Airport	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Las Animas	Las Animas City & County Airport	12,500 lbs	5,000 lbs	No	No	Yes
Mack	Mack Mesa Airport **	12,500 lbs	Not Rated	Not Rated	Not Rated	Not Rated
Paonia	North Fork Valley Airport	12,500 lbs	21,000 lbs	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	12,500 lbs	Not Paved	N/A	N/A	N/A

NC = Not Included

** Indicates private ownership

Figure 6-5: Current Performance - Runway Strength

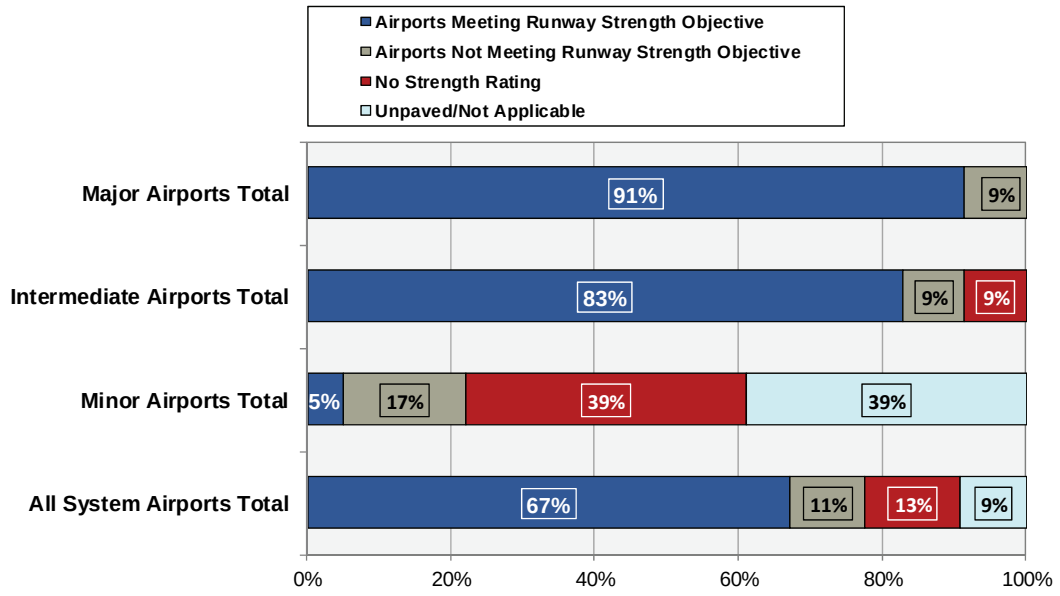


Table 6-13 provides information on those airports that should be considered for projects that would increase the load bearing strength of their primary runway. This table also includes those airports that have paved runways but have no reported load bearing strength for those runways.

Table 6-13: Airports not Meeting Runway Strength Objectives

City Name	Airport Name	Strength Objective	Existing Strength	Objective Deficit
Major Airports				
Cortez	Cortez-Montezuma Municipal Airport	60,000 lbs	56,000 lbs	4,000 lbs
Meeker	Meeker Airport	30,000 lbs	21,000 lbs	9,000 lbs
Intermediate Airports				
Durango	Animas Airpark **	12,500 lbs	Not Rated	Not Rated
Eads	Eads Airport	12,500 lbs	Not Rated	Not Rated
Westcliffe	Silver West Airport	12,500 lbs	Not Rated	Not Rated
Minor Airports				
Crawford	Crawford Airport **	12,500 lbs	Not Rated	Not Rated
Delta	Westwinds Airpark **	12,500 lbs	Not Rated	Not Rated
Ellicott	Colorado Springs East Airport **	12,500 lbs	Not Rated	Not Rated
Haxtun	Haxtun Municipal Airport	12,500 lbs	Not Rated	Not Rated
Hudson	Platte Valley Airpark **	12,500 lbs	Not Rated	Not Rated
La Veta	Cuchara Valley Airport	12,500 lbs	Not Rated	Not Rated
Mack	Mack Mesa Airport **	12,500 lbs	Not Rated	Not Rated

** Indicates private ownership

6.2.4 Taxiway System Objectives for Primary Runway

Taxiway systems, especially at more active airports, are a key component of an airport's operational capacity, and they contribute to operational safety. Taxiways are often important components for enhancing the safe movement of aircraft on the ground and are important at airports with a published approach when lower approach minimums are desired. To promote a safe and efficient system of airports, CDOT has adopted the following objectives related to taxiway systems for airports in Colorado:

- Major Commercial Airports – Full parallel taxiway for primary runway
- Major General Aviation Airports – Full or partial parallel taxiway for the primary runway
- Intermediate Airports – Full or partial parallel or taxiway turnarounds on runway ends
- Minor Airports – No objective for taxiway system

Table 6-14 compares these objectives to the current taxiway systems at Major and Intermediate Airports. Given the low activity levels at airports in the Minor category, airports included in this category do not have a facility objective related to their taxiway systems. As a result, Table 6-14 does not include information for Minor Airports, and the system plan does not include any taxiway related recommendations for these airports. As Table 6-14 indicates, there are three (3) airports in the Major category that do not currently meet this plan's objective related to the taxiway system for their primary runway. In the commercial airport category, both Aspen-Pitkin County Airport and Telluride Regional lack full parallel taxiway systems. The only general aviation airport in the Major category lacking at least a partial parallel taxiway is Meeker. Since the last system plan update in 2005, Stevens Field completed taxiway projects related to meeting this facility objective.

Since the 2005 plan, in the Intermediate category, Astronaut Rominger and Granby-Grand County airports both completed taxiway projects, enabling them to meet their taxiway objectives established in this plan. Airports in the Intermediate category that continue to need at least taxiway turnarounds to meet the facility objective set for Intermediate Airports are listed below:

- Leach Airport
- Mineral County Airport
- Animas Airpark
- Eads Airport
- Monte Vista Municipal Airport
- Hopkins Field
- Steamboat Springs-Bob Adams Field
- Walden-Jackson County Airport
- Spanish Peaks Airfield
- Silver West Airport

While the minimum taxiway objective for Intermediate Airports is for taxiway turnarounds, when airports have a published approach a more extensive taxiway system is often required.

Table 6-14: Facility and Service Objectives Taxiway Type

City	Airport	Existing Taxiway Objective	Existing Taxiway Type	Met Objective In 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Full Parallel	Partial Parallel	No	No	No
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Denver	Denver International Airport	Full Parallel	Full Parallel	NC	NC	Yes
Durango	Durango-La Plata County Airport	Full Parallel	Full Parallel	No	Yes	Yes
Eagle	Eagle County Regional Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Full parallel	Full Parallel	Yes	Yes	Yes
Meeker	Meeker Airport	Full or Partial Parallel	Turnaround	No	No	No
Montrose	Montrose Regional Airport	Full Parallel	Full Parallel	No	Yes	Yes
Pagosa Springs	Stevens Field	Full or Partial Parallel	Partial Parallel	No	No	Yes
Pueblo	Pueblo Memorial Airport	Full Parallel	Full Parallel	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes

Table 6-14: Facility and Service Objectives Taxiway Type

City	Airport	Existing Taxiway Objective	Existing Taxiway Type	Met Objective In 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Telluride	Telluride Regional Airport	Full Parallel	Partial Parallel	No	No	No
Watkins/Denver	Front Range Airport	Full or Partial Parallel	Full Parallel	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	No	No	Yes
Boulder	Boulder Municipal Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Canon City	Fremont County Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Center	Leach Airport	Full or Partial Parallel or Turnarounds	None	No	No	No
Colorado Springs	Meadow Lake Airport **	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Full or Partial Parallel or Turnarounds	Turnaround	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Full or Partial Parallel or Turnarounds	None	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Full or Partial Parallel or Turnarounds	Turnaround	Yes	No	Yes
Delta	Blake Field	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Durango	Animas Airpark **	Full or Partial Parallel or Turnarounds	None	No	No	No
Eads	Eads Airport	Full or Partial Parallel or Turnarounds	None	No	No	No

Table 6-14: Facility and Service Objectives Taxiway Type

City	Airport	Existing Taxiway Objective	Existing Taxiway Type	Met Objective In 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports cont'd						
Erie	Erie Municipal Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Full or Partial Parallel or Turnarounds	Turnaround	No	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	No	Yes	Yes
Granby	Granby-Grand County Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	No	No	Yes
Holyoke	Holyoke Municipal Airport	Full or Partial Parallel or Turnarounds	Turnaround	No	Yes	Yes
Kremmling	McElroy Field	Full or Partial Parallel or Turnarounds	Turnaround	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Leadville	Lake County Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Limon	Limon Municipal Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Full or Partial parallel or Turnarounds	None	Yes	Yes	No
Nucla	Hopkins Field	Full or Partial Parallel or Turnarounds	None	No	No	No
Rangely	Rangely Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Full or Partial Parallel or Turnarounds	None	No	No	No

Table 6-14: Facility and Service Objectives Taxiway Type

City	Airport	Existing Taxiway Objective	Existing Taxiway Type	Met Objective In 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Sterling	Sterling Municipal Airport	Full or Partial Parallel or Turnarounds	Full Parallel	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Full or Partial Parallel or Turnarounds	Turnaround	No	No	Yes
Walden	Walden-Jackson County Airport	Full or Partial Parallel or Turnarounds	None	No	No	No
Walsenburg	Spanish Peaks Airfield	Full or Partial Parallel or Turnarounds	None	No	No	No
Westcliffe	Silver West Airport	Full or Partial Parallel or Turnarounds	None	No	No	No
Wray	Wray Municipal Airport	Full or Partial Parallel or Turnarounds	Turnaround	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Full or Partial Parallel or Turnarounds	Partial Parallel	Yes	Yes	Yes

NC = Not Included

** Indicates private ownership

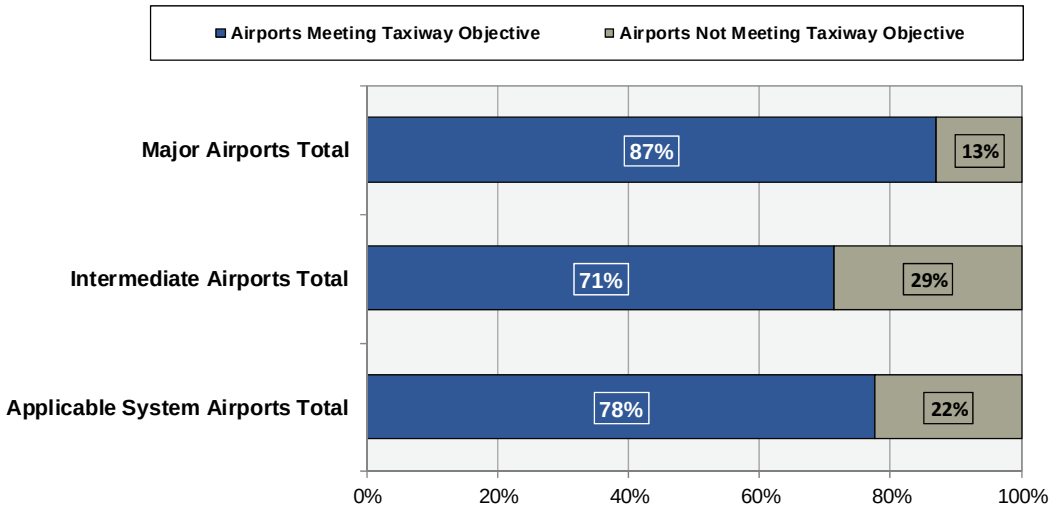
Table 6-15 summarizes airports in the Major and Intermediate categories that still need taxiway projects to meet system plan objectives. Information in Table 6-15 shows the minimum taxiway objective, turnarounds, for Internediate Airports. Intermediate Airports with a published approach seeking lower minimums for the approach may require a more extensive taxiway system. As **Figure 6-6** shows, when both the Major and the Intermediate Airports are considered, 78 percent of all airports in these two categories now meet their taxiway objectives, as established in the system plan.

Table 6-15: Airports Not Meeting Taxiway Objective

City Name	Airport Name	Taxiway Objective	Existing Taxiway	Recommendation
Major Airports				
Aspen	Aspen-Pitkin County Airport	Full Parallel	Partial Parallel	Partial Parallel Taxiway based on identified constraints
Meeker	Meeker Airport	Full or Partial Parallel	Turnaround	Partial Parallel Taxiway
Telluride	Telluride Regional Airport	Full Parallel	Partial Parallel	Full Parallel Taxiway
Intermediate Airports				
Center	Leach Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Creede	Mineral County Memorial Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Durango	Animas Airpark **	Full or Partial Parallel or Turnarounds	None	Turnarounds
Eads	Eads Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Monte Vista	Monte Vista Municipal Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Nucla	Hopkins Field	Full or Partial Parallel or Turnarounds	None	Turnarounds
Steamboat Springs	Steamboat Springs-Bob Adams Field	Full or Partial Parallel or Turnarounds	None	Turnarounds
Walden	Walden-Jackson County Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Walsenburg	Spanish Peaks Airfield	Full or Partial Parallel or Turnarounds	None	Turnarounds
Westcliffe	Silver West Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds

** Indicates private ownership

Figure 6-6: Current Airport Performance Taxiway



6.2.5 Runway Approach Objectives

As noted in the discussion of this plan's performance measures and benchmarks, an objective has been set for all airports (both commercial and general aviation) in the Major category to have a precision ILS approach or an approach with vertical guidance. If airports in the Major category do not have or if they cannot accommodate a precision approach or an approach with vertical guidance, then they should at least have a non-precision approach. All airports in the Intermediate category should have a non-precision approach. No objectives have been established within the system plan related to published approaches for airports within the Minor category; therefore, those airports are not included in this discussion.

Even though it would be ideal for all airports in the Major category to have a precision approach, terrain surrounding several of the airports in this category makes it impossible for some airports to meet the requirements for FAA safety areas associated with this type of approach. **Table 6-16** shows those airports in the Major category that currently have a precision approach; as this table shows, system performance for this objective has remained unchanged since the 2005 report was prepared. As Table 6-16 shows, out of the 23 commercial and general aviation airports in the Major category, eight (8) of these airports do not have a precision approach. It is worth noting, however, that all eight (8) of these airports do have a non-precision approach. Among these eight airports, there are six airports, Aspen/Pitkin County, Cortez/Montezuma County, Eagle County Regional, Meeker, Stevens Field, and Telluride Regional, that previous analysis has concluded cannot accommodate a precision ILS approach. It is worth noting that LPV approaches have been installed at both Cortez/Montezuma County and Lamar Municipal. These approaches have been installed as standalone LPV approaches, not as overlays to an existing ILS approach. To date, only six (6) standalone LPV approaches have been implemented at airports in Colorado.

Table 6-16 also reports on the system's ability to meet the objective for non-precision approaches at all airports in the Intermediate category. Over time, additional airports in the Intermediate category have been approved for a non-precision approach. Out of the 35 airports in the Intermediate category, there are 16 that do not have any type of published approach. These 16 Intermediate airports include the following:

- Boulder Municipal
- Leach Airport
- Meadow Lake Airport
- Mineral County Memorial Airport
- Astronaut Kent Rominger Airport
- Blake Field
- Animas Airpark
- Eads Airport
- Fort Morgan Municipal Airport*
- Glenwood Springs Municipal Airport
- Granby-Grand County Airport
- Limon Municipal Airport
- Rangely Airport
- Spanish Peaks Airfield*
- Silver West Airport
- Yuma Municipal Airport

Currently, only two (2) of these 16 airports are scheduled to get a GPS approach; these airports are Fort Morgan Municipal and Spanish Peaks Airfield.

Table 6-16: Facilities and Service Objectives - Published Approach

City	Airport	Published Approach Objective	Existing Approach Type	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Precision	Precision	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Precision	Non-Precision	No	No	No
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Precision	Precision	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Precision	Precision	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Precision	Vertical Guidance	No	No	Yes
Denver	Denver International Airport	Precision	Precision	NC	NC	Yes
Durango	Durango-La Plata County Airport	Precision	Precision	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Precision	Non-Precision	No	No	No
Englewood/Denver	Centennial Airport	Precision	Precision	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Precision	Precision	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Precision	Precision	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Precision	Precision	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Precision	Precision	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Precision	Vertical Guidance	No	No	Yes
Longmont	Vance Brand Municipal Airport	Precision	Non-Precision	No	No	No
Loveland	Fort Collins-Loveland Municipal Airport	Precision	Precision	Yes	Yes	Yes
Meeker	Meeker Airport	Precision	Non-Precision	No	No	No
Montrose	Montrose Regional Airport	Precision	Precision	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Precision	Non-Precision	No	No	No
Pueblo	Pueblo Memorial Airport	Precision	Precision	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Precision	Precision	No	Yes	Yes
Telluride	Telluride Regional Airport	Precision	Non-Precision	No	No	No

Table 6-16: Facilities and Service Objectives - Published Approach

City	Airport	Published Approach Objective	Existing Approach Type	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Watkins/Denver	Front Range Airport	Precision	Precision	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Non-Precision	Non-Precision	No	No	Yes
Boulder	Boulder Municipal Airport	Non-Precision	Visual	No	No	No
Buena Vista	Central Colorado Regional Airport	Non-Precision	Non-Precision	No	Yes	Yes
Burlington	Kit Carson County Airport	Non-Precision	Vertical Guidance	No	No	Yes
Canon City	Fremont County Airport	Non-Precision	Vertical Guidance	Yes	Yes	Yes
Center	Leach Airport	Non-Precision	Visual	No	No	No
Colorado Springs	Meadow Lake Airport **	Non-Precision	Visual	No	No	No
Craig	Craig-Moffat County Airport	Non-Precision	Non-Precision	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Non-Precision	Visual	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Non-Precision	Visual	No	No	No
Delta	Blake Field	Non-Precision	Visual	No	No	No
Durango	Animas Airpark **	Non-Precision	Visual	No	No	No
Eads	Eads Airport	Non-Precision	Visual	No	No	No
Erie	Erie Municipal Airport	Non-Precision	Non-Precision	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Non-Precision	Visual	No	No	No
Glenwood Springs	Glenwood Springs Municipal Airport	Non-Precision	Visual	No	No	No
Granby	Granby-Grand County Airport	Non-Precision	Visual	No	No	No
Holyoke	Holyoke Municipal Airport	Non-Precision	Non-Precision	Yes	Yes	Yes

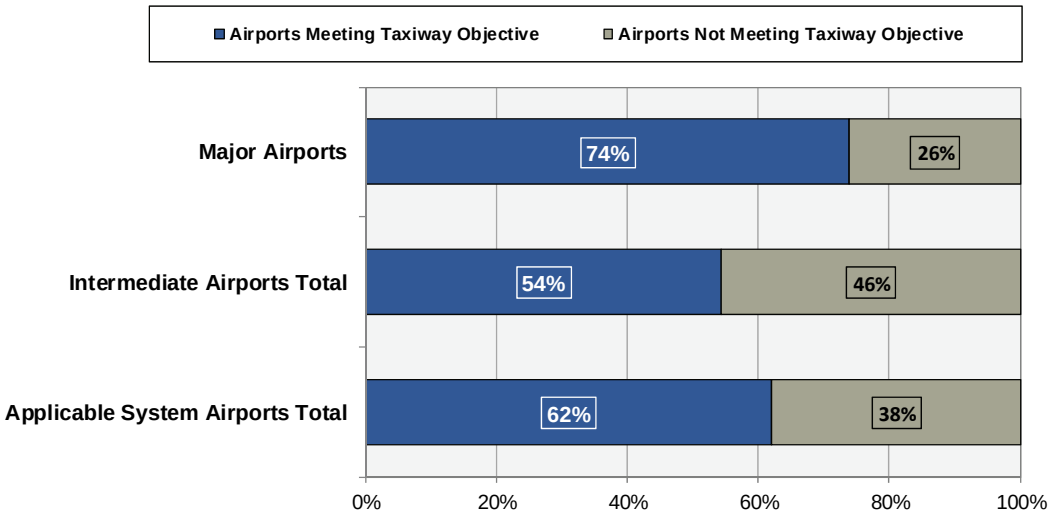
Table 6-16: Facilities and Service Objectives - Published Approach

City	Airport	Published Approach Objective	Existing Approach Type	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Kremmling	McElroy Field	Non-Precision	Non-Precision	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Non-Precision	Vertical Guidance	Yes	Yes	Yes
Leadville	Lake County Airport	Non-Precision	Non-Precision	Yes	Yes	Yes
Limon	Limon Municipal Airport	Non-Precision	Visual	No	No	No
Monte Vista	Monte Vista Municipal Airport	Non-Precision	Non-Precision	Yes	Yes	Yes
Nucla	Hopkins Field	Non-Precision	Non-Precision	No	No	Yes
Rangely	Rangely Airport	Non-Precision	Visual	No	No	No
Salida	Harriet Alexander Airport	Non-Precision	Non-Precision	No	No	Yes
Springfield	Springfield Municipal Airport	Non-Precision	Non-Precision	No	No	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Non-Precision	Non-Precision	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Non-Precision	Vertical Guidance	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Non-Precision	Non-Precision	No	No	Yes
Walden	Walden-Jackson County Airport	Non-Precision	Non-Precision	No	No	Yes
Walsenburg	Spanish Peaks Airfield	Non-Precision	Visual	No	No	No
Westcliffe	Silver West Airport	Non-Precision	Visual	No	No	No
Wray	Wray Municipal Airport	Non-Precision	Non-Precision	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Non-Precision	Visual	No	No	No

NC = Not Included

** Indicates private ownership

Figure 6-7: Current Airport Performance Published Approaches



As **Figure 6-7** shows, 74 percent of all Major Airports have a precision approach or an approach with vertical guidance, and 54 percent of all Intermediate Airports have a non-precision approach or an approach with vertical guidance. **Table 6-17** shows those airports where enhanced approach capabilities are needed to meet study objectives and airports where improved approaches are currently programmed by the FAA. While the listed approach recommendations are desirable at these airports, they may not be feasible in all cases.

Table 6-17: Airports Not Meeting Published Approach Objective

City	Airport	Published Approach Objective	Existing Published Approach	Published Approach Recommendation
Major Airports				
Aspen	Aspen-Pitkin County Airport	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach
Eagle	Eagle County Regional Airport	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach
Longmont	Vance Brand Municipal Airport	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach
Meeker	Meeker Airport	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach
Pagosa Springs	Stevens Field	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach

Table 6-17: Airports Not Meeting Published Approach Objective

City	Airport	Published Approach Objective	Existing Published Approach	Published Approach Recommendation
Major Airports, cont'd				
Telluride	Telluride Regional Airport	Precision or Approach with Vertical Guidance	Non-Precision	Consider for Vertical Guidance Approach
Intermediate				
Boulder	Boulder Municipal Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Center	Leach Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Colorado Springs	Meadow Lake Airport **	Non-Precision	Visual	Consider for Non-Precision Approach
Creede	Mineral County Memorial Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Del Norte	Astronaut Kent Rominger Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Delta	Blake Field	Non-Precision	Visual	Consider for Non-Precision Approach
Durango	Animas Airpark **	Non-Precision	Visual	Consider for Non-Precision Approach
Eads	Eads Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Fort Morgan	Fort Morgan Municipal Airport	Non-Precision	Visual	Programmed to Receive Non-Precision Approach
Glenwood Springs	Glenwood Springs Municipal Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Granby	Granby-Grand County Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Limon	Limon Municipal Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Rangely	Rangely Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Walsenburg	Spanish Peaks Airfield	Non-Precision	Visual	Programmed to Receive Non-Precision Approach
Westcliffe	Silver West Airport	Non-Precision	Visual	Consider for Non-Precision Approach
Yuma	Yuma Municipal Airport	Non-Precision	Visual	Consider for Non-Precision Approach

** Indicates private ownership

6.2.6 Objectives for Visual Landing Aids

Visual landing aids support both instrument and visual landings at system airports. Visual landing aids are important to all pilots using airports in Colorado, including those that operate emergency aircraft. Visual landing aids, such as PAPIs and VASIs, provide visual descent guidance information during approaches. Runway end identifier lights (REILs) provide positive identification for the runway end. Rotating beacons help pilots locate the airport; this visual landing aid was also one noted by emergency aircraft operators as being important to their ability to use airports in Colorado. Wind cones provide basic information on wind direction and intensity at the time of landing.

When facility and service objectives were first established in 2000, the following objectives, related to visual landing aids, were adopted:

- Major Airports – Rotating beacon, lighted wind cone, REILs, PAPIs/VASIs
- Intermediate Airports - Rotating beacon, lighted wind cone, REILs, PAPIs/VASIs, and segmented circle (added in 2011)
- Minor Airports – Rotating beacon, wind cone, and segmented circle (added in 2011)

As part of this 2011 update to the Colorado Aviation System Plan, the decision was made to add a segmented circle to the visual landing aid objectives for Intermediate and Minor Airports. Segmented circles help in airport location and provide other visual guidance. Most wind cones are located in the center of a segmented circle.

Table 6-18 provides information on the current availability of recommended visual landing aids for all system airports. **Table 6-19** provides a summary of all visual landing aids that are needed in order for all system airports to be fully compliant with their established landing aid objectives. Table 6-19 includes information on Intermediate and Minor Airports that either meet or do not meet the new visual landing aid objective for a segmented circle. Considering all information presented in Table 6-18 and Table 6-19, **Figure 6-8** summarizes current system performance as it relates to the all visual landing aids. It is important to note that unless an airport has all of the visual landing aids in place that are noted in the objectives for its system role, the airport was considered as not meeting its visual landing aid objectives.

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Major Airports										
Alamosa	San Luis Valley Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	No	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Denver	Denver International Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	NC	NC	Yes
Durango	Durango-La Plata County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	No	Yes
Englewood/Denver	Centennial Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Major Airports, cont'd										
Greeley	Greeley-Weld County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	No	Yes	N/A	No	No	No
Loveland	Fort Collins-Loveland Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	No	Yes	Yes
Meeker	Meeker Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	No	Yes
Montrose	Montrose Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Major Airports, cont'd										
Rifle	Garfield County Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Intermediate Airports										
Akron	Colorado Plains Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Buena Vista	Central Colorado Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Burlington	Kit Carson County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Canon City	Fremont County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	No	Yes	Yes	No

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Intermediate Airports, cont'd										
Center	Leach Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	No	No	No	No	No
Colorado Springs	Meadow Lake Airport **	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Craig	Craig-Moffat County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Creede	Mineral County Memorial Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	Yes	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	No	No	No	No
Delta	Blake Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Durango	Animas Airpark **	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	Yes	No	No	No

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Intermediate Airports, cont'd										
Eads	Eads Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	No	No	No	No
Erie	Erie Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Fort Morgan	Fort Morgan Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	Yes	Yes	No	No	No
Granby	Granby-Grand County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Holyoke	Holyoke Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kremmling	McElroy Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Intermediate Airports, cont'd										
La Junta	La Junta Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Leadville	Lake County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Limon	Limon Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Monte Vista	Monte Vista Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Nucla	Hopkins Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	No	Yes	No	No	No
Rangely	Rangely Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Salida	Harriet Alexander Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segmented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Intermediate Airports, cont'd										
Springfield	Springfield Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Sterling	Sterling Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Trinidad	Perry Stokes Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	No	No	No	No
Walden	Walden-Jackson County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	No	Yes	Yes	No	No	No
Walsenburg	Spanish Peaks Airfield	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	No	No	No	No
Westcliffe	Silver West Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	No	Yes	No	No	No	No	No	No

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segm ented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Intermediate Airports, cont'd										
Wray	Wray Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	No	No	No	No
Yuma	Yuma Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Minor Airports										
Akron	Gebauer Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Blanca	Blanca Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Brush	Brush Municipal Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Calhan	Calhan Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	Yes	Yes	No	No	No
Crawford	Crawford Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	Yes	No	No	No	No	No
Delta	Westwinds Airpark **	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Dove Creek	Dove Creek Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Ellicott	Colorado Springs East Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	Yes	Yes	No	No	No
Greeley	Easton-Valley View Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No

Table 6-18: Facility and Service Objectives Visual Aids

City	Airport	Visual Aids Objective	Rotating Beacon	Wind Cone	REILs	PAPI/ VASIs	Segm ented Circle	Met All Obj. In 2000	Met All Obj. In 2005	Met All Obj. in 2011
Minor Airports, cont'd										
Haxtun	Haxtun Municipal Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Holly	Holly Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	Yes	No	No	No	No
Hudson	Platte Valley Airpark **	Rotating beacon, wind cone, segmented circle	Yes	Yes	No	No	No	No	No	No
Julesburg	Julesburg Municipal Airport	Rotating beacon, wind cone, segmented circle	Yes	Yes	No	No	No	Yes	Yes	No
La Veta	Cuchara Valley Airport	Rotating beacon, wind cone, segmented circle	Yes	Yes	No	No	No	Yes	Yes	No
Las Animas	Las Animas City & County Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Mack	Mack Mesa Airport **	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No
Paonia	North Fork Valley Airport	Rotating beacon, wind cone, segmented circle	No	Yes	Yes	Yes	No	No	No	No
Saguache	Saguache Municipal Airport	Rotating beacon, wind cone, segmented circle	No	Yes	No	No	No	No	No	No

NC = Not Included

** Indicates private ownership

Table 6-19: Airports Not Meeting their Visual Aids Objective

City	Airport	Objective	Existing	Recommendation
Major Airports				
Longmont	Vance Brand Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Intermediate Airports				
Boulder	Boulder Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Buena Vista	Central Colorado Regional Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Canon City	Fremont County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, REILs, PAPI/VASIs	Segmented Circle
Center	Leach Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone	REILs, PAPI/VASIs, Segmented Circle
Colorado Springs	Meadow Lake Airport **	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Creede	Mineral County Memorial Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone, Segmented Circle	Rotating Beacon, REILs, PAPI/VASIs
Del Norte	Astronaut Kent Rominger Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone	Rotating Beacon, REILs, PAPI/VASIs, Segmented Circle
Delta	Blake Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Durango	Animas Airpark **	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone, Segmented Circle	Rotating Beacon, REILs, PAPI/VASIs
Eads	Eads Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone	Rotating Beacon, REILs, PAPI/VASIs, Segmented Circle
Glenwood Springs	Glenwood Springs Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone, PAPI/VASIs, Segmented Circle	Rotating Beacon, REILs
Leadville	Lake County Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs

Table 6-19: Airports Not Meeting their Visual Aids Objective

City	Airport	Objective	Existing	Recommendation
Intermediate Airports, cont'd				
Limon	Limon Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/ VASIs, Segmented Circle	REILs
Monte Vista	Monte Vista Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Nucla	Hopkins Field	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, Segmented Circle	REILs, PAPI/VASIs
Salida	Harriet Alexander Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Springfield	Springfield Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Trinidad	Perry Stokes Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs	REILs, Segmented Circle
Walden	Walden-Jackson Country Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, PAPI/VASIs, Segmented Circle	REILs
Walsenburg	Spanish Peaks Airfield	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone	Rotating Beacon, REILs, PAPI/VASIs, Segmented Circle
Westcliffe	Silver West Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Wind Cone	Rotating Beacon, REILs, PAPI/VASIs, Segmented Circle
Wray	Wray Municipal Airport	Rotating beacon, lighted wind cone, REILs, PAPIs, VASIs; segmented circle	Rotating Beacon, Wind Cone, REILs, PAPI/VASIs	Segmented Circle
Minor Airports				
Akron	Gebauer Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Blanca	Blanca Airport	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle

Table 6-19: Airports Not Meeting their Visual Aids Objective

City	Airport	Objective	Existing	Recommendation
Minor Airports, cont'd				
Brush	Brush Municipal Airport	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Calhan	Calhan Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone, PAPI/VASIs, Segmented Circle	Rotating Beacon,
Crawford	Crawford Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone, REILs	Rotating Beacon, Segmented Circle
Delta	Westwinds Airpark **	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Dove Creek	Dove Creek Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Ellicott	Colorado Springs East Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone, PAPI/VASIs, Segmented Circle	Rotating Beacon
Greeley	Easton-Valley View Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Haxtun	Haxtun Municipal Airport	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Holly	Holly Airport	Rotating beacon, wind cone, segmented circle	Wind Cone, PAPI/VASIs	Rotating Beacon, Segmented Circle
Hudson	Platte Valley Airpark **	Rotating beacon, wind cone, segmented circle	Rotating Beacon, Wind Cone	Segmented Circle
Julesburg	Julesburg Municipal Airport	Rotating beacon, wind cone, segmented circle	Rotating Beacon, Wind Cone	Segmented Circle
La Veta	Cuchara Valley Airport	Rotating beacon, wind cone, segmented circle	Rotating Beacon, Wind Cone	Segmented Circle
Las Animas	Las Animas City & County Airport	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle
Mack	Mack Mesa Airport **	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle

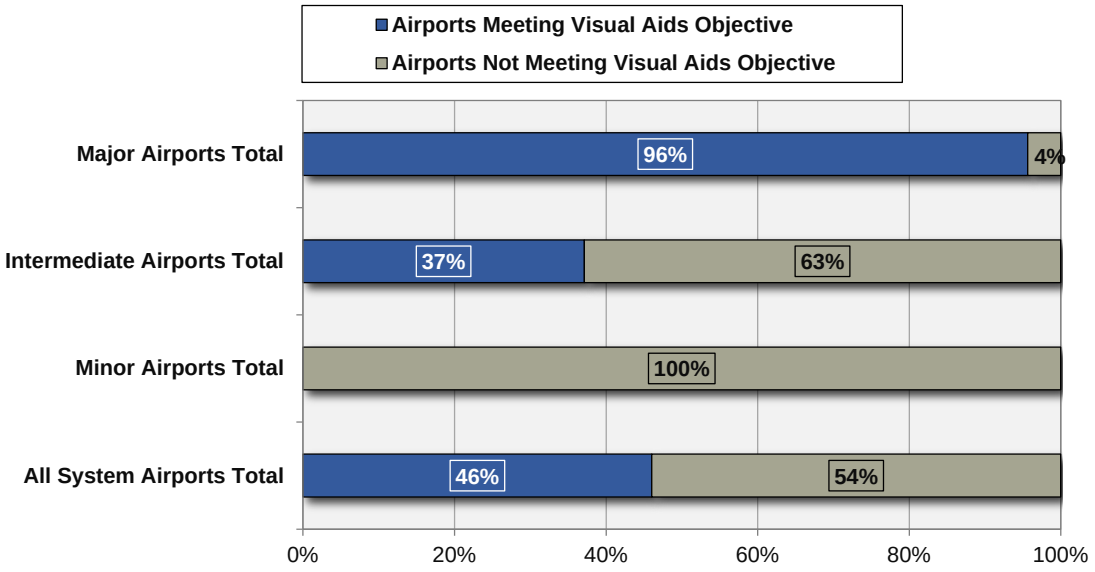
Table 6-19: Airports Not Meeting their Visual Aids Objective

City	Airport	Objective	Existing	Recommendation
Minor Airports, cont'd				
Paonia	North Fork Valley Airport	Rotating beacon, wind cone, segmented circle	Wind Cone, REILs, PAPI/VASIs	Rotating Beacon, Segmented Circle
Saguache	Saguache Municipal Airport	Rotating beacon, wind cone, segmented circle	Wind Cone	Rotating Beacon, Segmented Circle

NC = Not Included

** Indicates private ownership

Figure 6-8: Current Airport Performance Visual Aids Objective



6.2.7 Objectives for Runway Lighting

Runway edge lighting is important to accessibility from the air. The most standard types of runway lighting are high intensity runway lighting (HIRL), medium intensity runway lighting (MIRL), and low intensity runway lighting (LIRL).

As part of the system plan, the following runway lighting objectives have been set:

- Major Airports – High intensity runway lighting (HIRL) or Medium intensity runway lighting (MIRL)

- Intermediate Airports – Medium intensity runway lighting (MIRL)
- Minor Airports – Low intensity runway lighting (LIRL) or reflectors; this objective is not applicable to unpaved runways

Table 6-20 provides information on current runway lighting systems at all system airports. For this 2011 update, the objective was changed for airports in the Major category to have either HIRL or MIRL. In the 2000 and 2005 plans, the objective had previously called for all Major Airports to have HIRL. All airports in the Intermediate category except for Creede, Glenwood Springs and Westcliffe have some type of runway lighting, with most having the recommended MIRL. While some of the LIRL for airports in the Minor category is classified as non-standard (NSTD), it is important to note that these are all non-NPIAS airports. Further, several of the airports in the Minor category that are without runway lighting also have unpaved runways.

Figure 6-9 summarizes current system performance related to this plan's runway lighting objectives. As this figure reflects, 100 percent of the Major Airports, 83 percent of the Intermediate Airports, and 56 percent of the Minor Airports currently meet this plan's objectives for runway lighting. **Table 6-21** shows system airports in need of improved or new runway lighting to meet plan objectives. It is worth noting that runway lighting is a facility that could require investment even if the airport currently meets plan objectives. As runway lighting, depending on its age and condition, may need to be replaced. As airports widen or extend their runway, projects to relocate and or extend runway lighting may also be required.

Figure 6-9: Facility and Services Runway Lighting

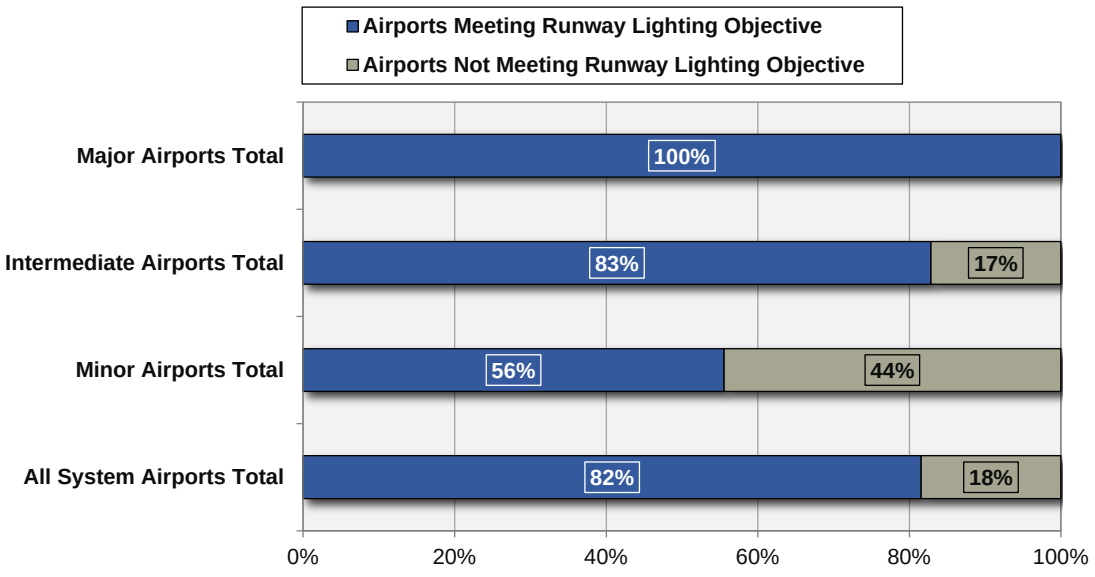


Table 6-20: Facility and Service Objectives Runway Lighting

City	Airport	Runway Lighting Objective	Existing Runway Lighting	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	HIRL or MIRL	MIRL	No	No	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	HIRL or MIRL	MIRL	No	No	Yes
Colorado Springs	Colorado Springs Municipal Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	HIRL or MIRL	MIRL	No	No	Yes
Denver	Denver International Airport	HIRL or MIRL	HIRL	NC	NC	Yes
Durango	Durango-La Plata County Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	HIRL or MIRL	HIRL	No	No	Yes
Englewood/Denver	Centennial Airport	HIRL or MIRL	MIRL	No	No	Yes
Grand Junction	Grand Junction Regional Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	HIRL or MIRL	MIRL	No	No	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	HIRL or MIRL	HIRL	No	Yes	Yes
Hayden	Yampa Valley Regional Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	HIRL or MIRL	MIRL	No	No	Yes
Longmont	Vance Brand Municipal Airport	HIRL or MIRL	MIRL	No	No	Yes
Loveland	Fort Collins-Loveland Municipal Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Meeker	Meeker Airport	HIRL or MIRL	MIRL	No	No	Yes
Montrose	Montrose Regional Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Pagosa Springs	Stevens Field	HIRL or MIRL	MIRL	No	No	Yes
Pueblo	Pueblo Memorial Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	HIRL or MIRL	MIRL	No	No	Yes
Telluride	Telluride Regional Airport	HIRL or MIRL	HIRL	No	No	Yes
Watkins/Denver	Front Range Airport	HIRL or MIRL	HIRL	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	MIRL	MIRL	No	No	Yes
Boulder	Boulder Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	MIRL	MIRL	Yes	Yes	Yes
Burlington	Kit Carson County Airport	MIRL	MIRL	No	No	Yes
Canon City	Fremont County Airport	MIRL	MIRL	Yes	Yes	Yes
Center	Leach Airport	MIRL	LIRL	No	No	No
Colorado Springs	Meadow Lake Airport **	MIRL	MIRL	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	MIRL	MIRL	Yes	Yes	Yes

Table 6-20: Facility and Service Objectives Runway Lighting

City	Airport	Runway Lighting Objective	Existing Runway Lighting	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Creede	Mineral County Memorial Airport	MIRL	None	No	No	No
Del Norte	Astronaut Kent Rominger Airport	MIRL	LIRL	No	No	No
Delta	Blake Field	MIRL	MIRL	Yes	Yes	Yes
Durango	Animas Airpark **	MIRL	MIRL-NSTD	No	Yes	Yes
Eads	Eads Airport	MIRL	MIRL	Yes	Yes	Yes
Erie	Erie Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	MIRL	None	No	No	No
Granby	Granby-Grand County Airport	MIRL	MIRL	No	No	Yes
Holyoke	Holyoke Municipal Airport	MIRL	MIRL	No	Yes	Yes
Kremmling	McElroy Field	MIRL	MIRL	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Leadville	Lake County Airport	MIRL	MIRL	Yes	Yes	Yes
Limon	Limon Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Nucla	Hopkins Field	MIRL	MIRL	Yes	Yes	Yes
Rangely	Rangely Airport	MIRL	MIRL	Yes	Yes	Yes
Salida	Harriet Alexander Airport	MIRL	MIRL	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	MIRL	MIRL	No	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	MIRL	HIRL	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	MIRL	MIRL	No	No	Yes
Walden	Walden-Jackson County Airport	MIRL	MIRL	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	MIRL	LIRL-NSTD	No	No	No
Westcliffe	Silver West Airport	MIRL	None	No	No	No
Wray	Wray Municipal Airport	MIRL	MIRL	No	Yes	Yes
Yuma	Yuma Municipal Airport	MIRL	MIRL	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	LIRL or reflectors	None	No	No	No
Blanca	Blanca Airport	LIRL or reflectors	None	No	No	No

Table 6-20: Facility and Service Objectives Runway Lighting

City	Airport	Runway Lighting Objective	Existing Runway Lighting	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Brush	Brush Municipal Airport	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Calhan	Calhan Airport **	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Crawford	Crawford Airport **	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Delta	Westwinds Airpark **	LIRL or reflectors	None	No	No	No
Dove Creek	Dove Creek Airport **	LIRL or reflectors	None	No	No	No
Ellicott	Colorado Springs East Airport **	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Greeley	Easton-Valley View Airport **	LIRL or reflectors	None	No	No	No
Haxtun	Haxtun Municipal Airport	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Holly	Holly Airport	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Hudson	Platte Valley Airpark **	LIRL or reflectors	LIRL	No	No	Yes
Julesburg	Julesburg Municipal Airport	LIRL or reflectors	MIRL	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	LIRL or reflectors	LIRL-NSTD	Yes	Yes	Yes
Las Animas	Las Animas City & County Airport	LIRL or reflectors	None	No	No	No
Mack	Mack Mesa Airport **	LIRL or reflectors	None	No	No	No
Paonia	North Fork Valley Airport	LIRL or reflectors	HIRL	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	LIRL or reflectors	None	No	No	No

** Indicates private ownership

Table 6-21: Airports Not Meeting their Lighting Objective

City	Airport	Objective	Existing	Recommendation
Intermediate Airports				
Center	Leach Airport	MIRL	LIRL	Need MIRL
Creede	Mineral County Memorial Airport	MIRL	None	Need MIRL
Del Norte	Astronaut Kent Rominger Airport	MIRL	LIRL	Need MIRL
Glenwood Springs	Glenwood Springs Municipal Airport	MIRL	None	Need MIRL
Walsenburg	Spanish Peaks Airfield	MIRL	LIRL-NSTD	Need MIRL
Westcliffe	Silver West Airport	MIRL	None	Need MIRL
Minor Airports				
Akron	Gebauer Airport **	LIRL or reflectors	None	Need LIRL or Reflectors
Blanca	Blanca Airport	LIRL or reflectors	None	Need LIRL or Reflectors
Delta	Westwinds Airpark **	LIRL or reflectors	None	Need LIRL or Reflectors
Dove Creek	Dove Creek Airport **	LIRL or reflectors	None	Need LIRL or Reflectors
Greeley	Easton-Valley View Airport **	LIRL or reflectors	None	Need LIRL or Reflectors
Las Animas	Las Animas City & County Airport	LIRL or reflectors	None	Need LIRL or Reflectors
Mack	Mack Mesa Airport **	LIRL or reflectors	None	Need LIRL or Reflectors
Saguache	Saguache Municipal Airport	LIRL or reflectors	None	Need LIRL or Reflectors

** Indicates private ownership

6.2.8 Objectives for Weather Reporting Systems

The system plan has established an objective for airports in the Major and Intermediate categories to have on-site weather reporting equipment. While an AWOS or ASOS are the most common types of on-site weather reporting equipment found at system airports, on-site weather reporting can also be provided through a Super Unicom system. Weather reporting is a top priority for the Division of Aeronautics, and to enhance coverage throughout the State, Aeronautics has also installed weather reporting equipment in some mountain passes. The location and the coverage resulting from these additional systems have been previously discussed in Chapters 4 and 5.

Table 6-22 provides information for Major and Intermediate Airports related to their ability to meet this particular facility objective. It is worth noting that while having on-site weather reporting equipment is not an objective for Minor Airports, as a result of Colorado's program to install weather reporting equipment in several mountain passes, the Saguache Municipal Airport has on-site weather reporting equipment. No other airports in the Minor category have on-site weather reporting equipment; and as a result, information for Minor Airports is not reported in Table 6-22.

Table 6-22: Facility and Service Objectives Weather Reporting Facilities

City	Airport	Weather Reporting Objective	Exiting Weather Reporting Facilities	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Denver	Denver International Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	On-site ASOS or AWOS	AWOS	No	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes

Table 6-22: Facility and Service Objectives Weather Reporting Facilities

City	Airport	Weather Reporting Objective	Exiting Weather Reporting Facilities	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Meeker	Meeker Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Montrose	Montrose Regional Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Pagosa Springs	Stevens Field	On-site ASOS or AWOS	AWOS	No	Yes	Yes
Pueblo	Pueblo Memorial Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	On-site ASOS or AWOS	ASOS	Yes	Yes	Yes
Telluride	Telluride Regional Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	On-site ASOS or AWOS	AWOS	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	On-site ASOS or AWOS, or Super Unicom	ASOS	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Buena Vista	Central Colorado Regional Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Burlington	Kit Carson County Airport	On-site ASOS or AWOS, or Super Unicom	ASOS	Yes	Yes	Yes
Canon City	Fremont County Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	No	Yes	Yes
Center	Leach Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Colorado Springs	Meadow Lake Airport **	On-site ASOS, AWOS, or Super Unicom	AWOS	No	No	Yes
Craig	Craig-Moffat County Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	Yes	Yes	Yes

Table 6-22: Facility and Service Objectives Weather Reporting Facilities

City	Airport	Weather Reporting Objective	Exiting Weather Reporting Facilities	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Creede	Mineral County Memorial Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Del Norte	Astronaut Kent Rominger Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Delta	Blake Field	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Durango	Animas Airpark **	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Eads	Eads Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Erie	Erie Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	No	No	Yes
Granby	Granby-Grand County Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Holyoke	Holyoke Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Kremmling	McElroy Field	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
La Junta	La Junta Municipal Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	Yes	Yes	Yes
Leadville	Lake County Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	Yes	Yes	Yes
Limon	Limon Municipal Airport	On-site ASOS, AWOS, or Super Unicom	ASOS	Yes	Yes	Yes

Table 6-22: Facility and Service Objectives Weather Reporting Facilities

City	Airport	Weather Reporting Objective	Exiting Weather Reporting Facilities	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Monte Vista	Monte Vista Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Nucla	Hopkins Field	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Rangely	Rangely Airport	On-site ASOS, AWOS, or Super Unicom	Super Unicom	No	No	Yes
Salida	Harriet Alexander Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	Yes	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Sterling	Sterling Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Trinidad	Perry Stokes Airport	On-site ASOS or AWOS, or Super Unicom	ASOS	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	Yes	Yes
Walsenburg	Spanish Peaks Airfield	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Westcliffe	Silver West Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No
Wray	Wray Municipal Airport	On-site ASOS, AWOS, or Super Unicom	AWOS	No	No	Yes
Yuma	Yuma Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	No	No	No

** Indicates private ownership

As **Figure 6-10** shows, all airports in the Major Category have some type of on-site weather reporting equipment. In the Intermediate category, 71 percent of all airports now have some type of on-site weather reporting equipment. It is worth noting that since 2005, the percent of airports in the Intermediate category with on-site weather reporting equipment has increased from 63 percent to 71 percent, and when both Major and Intermediate Airports are considered, system performance increased from 79 percent in 2005 to 83 percent in 2011.

Figure 6-10: Weather Reporting

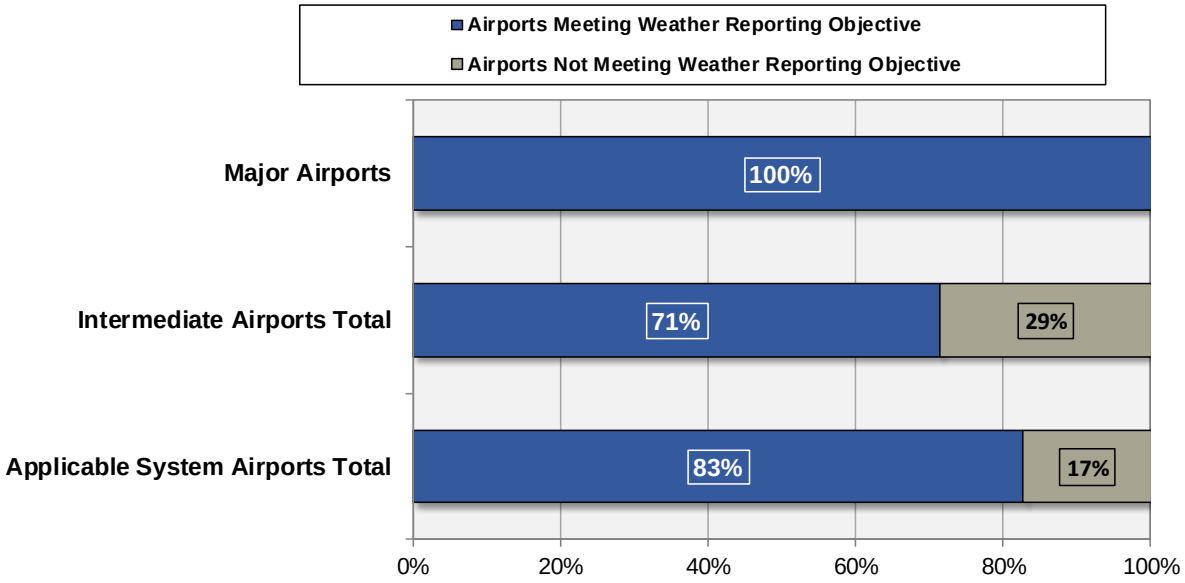


Table 6-23 identifies airports in the Intermediate category that still need on-site weather reporting equipment to meet objectives established in this plan.

Table 6-23: Intermediate Airports Not Meeting Their Weather Reporting Objective

City	Airport	Objective	Existing	Recommendation
Center	Leach Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Creede	Mineral County Memorial Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Del Norte	Astronaut Kent Rominger Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Durango	Animas Airpark **	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Eads	Eads Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Monte Vista	Monte Vista Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Springfield	Springfield Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Walsenburg	Spanish Peaks Airfield	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Westcliffe	Silver West Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom
Yuma	Yuma Municipal Airport	On-site ASOS, AWOS, or Super Unicom	None	Need On-site ASOS, AWOS, or Super Unicom

** Indicates private ownership

6.2.9 Objective for Telephone Service

Airports with phone service, which is accessible to the public, provide a service, especially to transient or visiting pilots and passengers. Ideally, all airports in the Colorado system should provide phone access for their customers. **Table 6-24** reports on the ability of airports in all three roles to meet this particular objective, and **Figure 6-11** summarizes the performance of the system for this objective. As this figure reflects, 100 percent of the Major Airports have public telephone service, 94 percent of the Intermediate Airports have telephone access for their users, and 56 percent of the Minor Airports report providing access to public telephone service.

Table 6-24: Facility and Service Objectives Telephone

City	Airport	Telephone Objective	Existing Telephone	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Telephone	Telephone	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Telephone	Telephone	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Telephone	Telephone	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Denver	Denver International Airport	Telephone	Telephone	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Telephone	Telephone	Yes	Yes	Yes
Eagle	Eagle County Regional AirportYes	Telephone	Telephone	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Telephone	Telephone	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Telephone	Telephone	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Meeker	Meeker Airport	Telephone	Telephone	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Telephone	Telephone	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Telephone	Telephone	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Telephone	Telephone	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Telephone	Telephone	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Telephone	Telephone	Yes	Yes	Yes

Table 6-24: Facility and Service Objectives Telephone

City	Airport	Telephone Objective	Existing Telephone	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Canon City	Fremont County Airport	Telephone	Telephone	Yes	Yes	Yes
Center	Leach Airport	Telephone	Telephone	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Telephone	Telephone	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Telephone	None	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Telephone	Telephone	No	No	Yes
Del Norte	Astronaut Kent Rominger Airport	Telephone	Telephone	Yes	Yes	Yes
Delta	Blake Field	Telephone	Telephone	Yes	Yes	Yes
Durango	Animas Airpark **	Telephone	Telephone	Yes	Yes	Yes
Eads	Eads Airport	Telephone	None	No	No	No
Erie	Erie Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Telephone	Telephone	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Telephone	Telephone	No	Yes	Yes
Kremmling	McElroy Field	Telephone	Telephone	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Leadville	Lake County Airport	Telephone	Telephone	Yes	Yes	Yes
Limon	Limon Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Nucla	Hopkins Field	Telephone	None	No	Yes	Yes
Rangely	Rangely Airport	Telephone	Telephone	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Telephone	Telephone	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Telephone	Telephone	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Telephone	Telephone	No	Yes	Yes
Walden	Walden-Jackson County Airport	Telephone	None	No	No	No
Walsenburg	Spanish Peaks Airfield	Telephone	None	No	Yes	Yes
Westcliffe	Silver West Airport	Telephone	Telephone	No	No	Yes
Wray	Wray Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Telephone	Telephone	No	No	Yes
Minor Airports						
Akron	Gebauer Airport **	Telephone	None	No	No	No
Blanca	Blanca Airport	Telephone	None	No	No	No

Table 6-24: Facility and Service Objectives Telephone

City	Airport	Telephone Objective	Existing Telephone	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Brush	Brush Municipal Airport	Telephone	Telephone	No	No	Yes
Calhan	Calhan Airport **	Telephone	Telephone	Yes	Yes	Yes
Crawford	Crawford Airport **	Telephone	Telephone	Yes	Yes	Yes
Delta	Westwinds Airpark **	Telephone	Telephone	No	No	Yes
Dove Creek	Dove Creek Airport **	Telephone	None	No	No	No
Ellicott	Colorado Springs East Airport **	Telephone	None	No	No	Yes
Greeley	Easton-Valley View Airport **	Telephone	Telephone	Yes	Yes	Yes
Haxtun	Haxtun Municipal Airport	Telephone	None	No	No	No
Holly	Holly Airport	Telephone	None	No	No	No
Hudson	Platte Valley Airpark **	Telephone	Telephone	Yes	Yes	Yes
Julesburg	Julesburg Municipal Airport	Telephone	Telephone	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	Telephone	None	No	No	No
Las Animas	Las Animas City & County Airport	Telephone	None	No	No	No
Mack	Mack Mesa Airport **	Telephone	Telephone	Yes	Yes	Yes
Paonia	North Fork Valley Airport	Telephone	Telephone	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	Telephone	None	No	No	No

** Indicates private ownership

Figure 6-11: Facility and Services Objective – Telephone

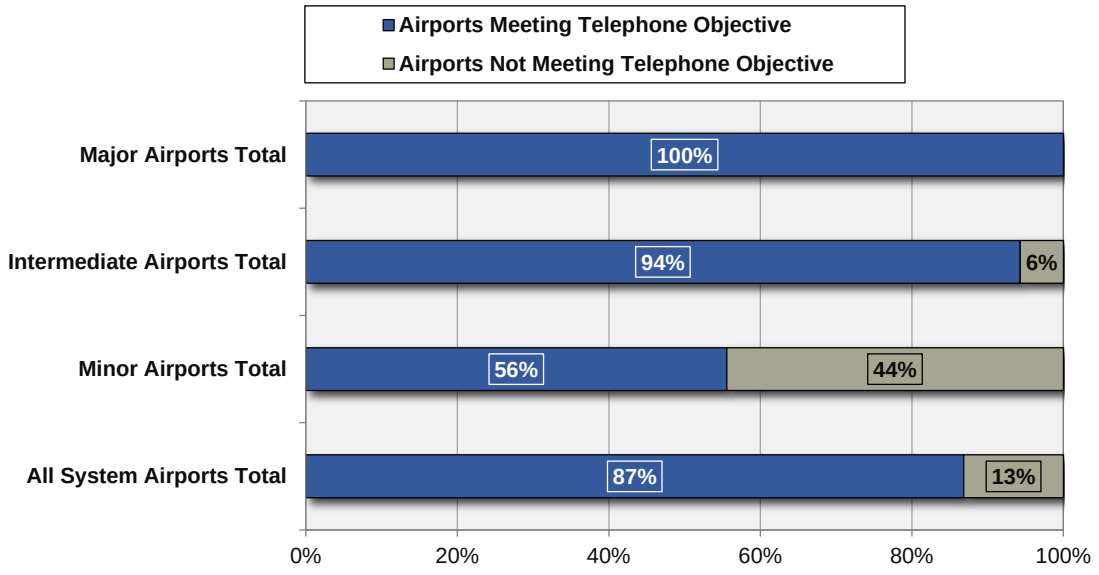


Table 6-25 reports those airports in the Intermediate and Minor Airport categories that need public telephone access in order for all system airports to meet this particular objective. With the proliferation of cell phones since the facility/service objectives were established in 2000, this objective may be eliminated in future updates to the system plan.

Table 6-25: Airports Not Meeting their Telephone Objective

City	Airport	Objective	Existing	Recommendation
Intermediate				
Eads	Eads Airport	Telephone	None	Need Telephone
Walden	Walden-Jackson County Airport	Telephone	None	Need Telephone
Minor				
Akron	Gebauer Airport **	Telephone	None	Need Telephone
Blanca	Blanca Airport	Telephone	None	Need Telephone
Dove Creek	Dove Creek Airport **	Telephone	None	Need Telephone
Haxtun	Haxtun Municipal Airport	Telephone	None	Need Telephone
Holly	Holly Airport	Telephone	None	Need Telephone
La Veta	Cuchara Valley Airport	Telephone	None	Need Telephone
Las Animas	Las Animas City & County Airport	Telephone	None	Need Telephone
Saguache	Saguache Municipal Airport	Telephone	None	Need Telephone

** Indicates private ownership

6.2.10 Objective for Restroom Access

Ideally, all public airports in the Colorado system should have public restrooms. **Table 6-26** provides information that shows which airports currently report having access to public restrooms for their customers. As **Figure 6-12** indicates, 100 percent of the airports in the Major category report having access to public restrooms for their customers. This same figure shows that 94 percent of the Intermediate Airports have public restrooms and 50 percent of Minor Airports have public restrooms. **Table 6-27** provides information that indicates airports in the Intermediate and Minor Airport categories that should have public restroom access for all airports to meet this particular objective.

Table 6-26: Facility and Service Objective – Restroom

City	Airport	Restroom Objective	Existing Restroom	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Major Airports						
Alamosa	San Luis Valley Airport	Restroom	Restroom	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Restroom	Restroom	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Restroom	Restroom	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Denver	Denver International Airport	Restroom	Restroom	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Restroom	Restroom	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Restroom	Restroom	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Restroom	Restroom	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Meeker	Meeker Airport	Restroom	Restroom	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Restroom	Restroom	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Restroom	Restroom	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Restroom	Restroom	Yes	Yes	Yes

Table 6-26: Facility and Service Objective – Restroom

City	Airport	Restroom Objective	Existing Restroom	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Restroom	Restroom	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Restroom	Restroom	Yes	Yes	Yes
Canon City	Fremont County Airport	Restroom	Restroom	Yes	Yes	Yes
Center	Leach Airport	Restroom	Restroom	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Restroom	Restroom	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Restroom	Restroom	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Restroom	Restroom	No	No	Yes
Del Norte	Astronaut Kent Rominger Airport	Restroom	Restroom	No	No	Yes
Delta	Blake Field	Restroom	Restroom	Yes	Yes	Yes
Durango	Animas Airpark **	Restroom	Restroom	Yes	Yes	Yes
Eads	Eads Airport	Restroom	None	No	No	No
Erie	Erie Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Restroom	Restroom	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Restroom	Restroom	No	Yes	Yes
Kremmling	McElroy Field	Restroom	Restroom	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Leadville	Lake County Airport	Restroom	Restroom	Yes	Yes	Yes
Limon	Limon Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Nucla	Hopkins Field	Restroom	Restroom	No	Yes	Yes
Rangely	Rangely Airport	Restroom	Restroom	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Restroom	Restroom	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Restroom	Restroom	Yes	Yes	Yes

Table 6-26: Facility and Service Objective – Restroom

City	Airport	Restroom Objective	Existing Restroom	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Intermediate, cont'd						
Sterling	Sterling Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Restroom	Restroom	No	Yes	Yes
Walden	Walden-Jackson County Airport	Restroom	None	No	No	No
Walsenburg	Spanish Peaks Airfield	Restroom	Restroom	Yes	Yes	Yes
Westcliffe	Silver West Airport	Restroom	Restroom	No	No	Yes
Wray	Wray Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Restroom	Restroom	No	No	Yes
Minor						
Akron	Gebauer Airport **	Restroom	None	No	No	No
Blanca	Blanca Airport	Restroom	None	No	No	No
Brush	Brush Municipal Airport	Restroom	Restroom	No	No	Yes
Calhan	Calhan Airport **	Restroom	Restroom	Yes	Yes	Yes
Crawford	Crawford Airport **	Restroom	Restroom	Yes	Yes	Yes
Delta	Westwinds Airpark **	Restroom	Restroom	No	No	Yes
Dove Creek	Dove Creek Airport **	Restroom	None	No	No	No
Ellicott	Colorado Springs East Airport **	Restroom	None	No	No	No
Greeley	Easton-Valley View Airport **	Restroom	Restroom	Yes	Yes	Yes
Haxtun	Haxtun Municipal Airport	Restroom	None	No	No	No
Holly	Holly Airport	Restroom	None	No	No	No
Hudson	Platte Valley Airpark **	Restroom	Restroom	Yes	Yes	Yes
Julesburg	Julesburg Municipal Airport	Restroom	Restroom	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	Restroom	None	No	No	No
Las Animas	Las Animas City & County Airport	Restroom	None	No	No	No
Mack	Mack Mesa Airport **	Restroom	Restroom	Yes	Yes	Yes
Paonia	North Fork Valley Airport	Restroom	Restroom	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	Restroom	None	No	No	No

** Indicates private ownership

Figure 6-12: Facilities and Service Objectives – Restroom

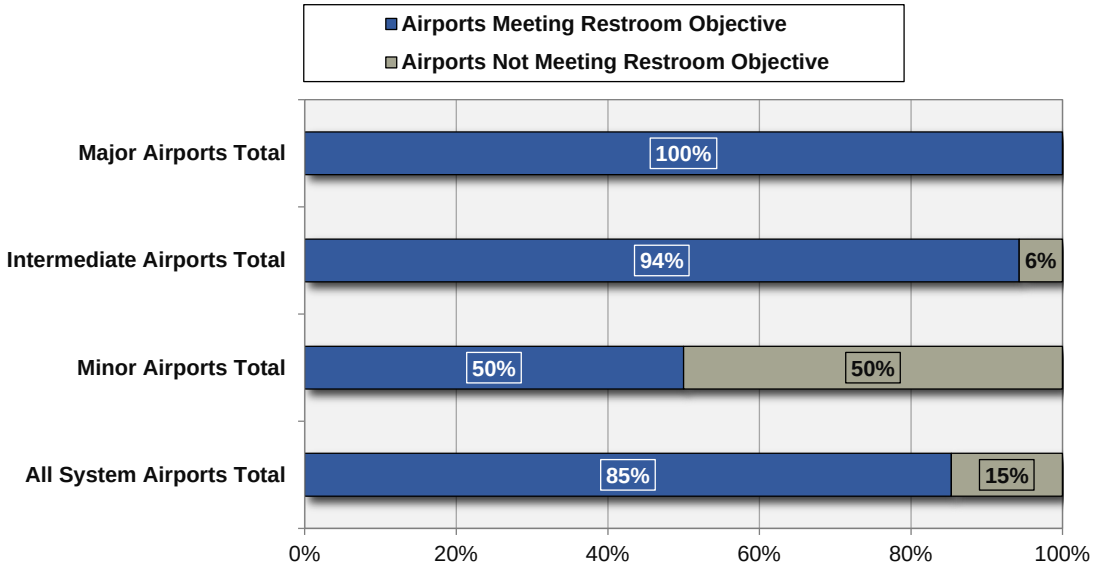


Table 6-27: Airports Not Meeting Restroom Objective

City	Airport	Objective	Existing	Recommendation
Intermediate Airports				
Eads	Eads Airport	Restroom	None	Needs Restroom
Walden	Walden-Jackson County Airport	Restroom	None	Needs Restroom
Minor Airports				
Akron	Gebauer Airport **	Restroom	None	Needs Restroom
Blanca	Blanca Airport	Restroom	None	Needs Restroom
Dove Creek	Dove Creek Airport **	Restroom	None	Needs Restroom
Ellicott	Colorado Springs East Airport **	Restroom	None	Needs Restroom
Haxtun	Haxtun Municipal Airport	Restroom	None	Needs Restroom
Holly	Holly Airport	Restroom	None	Needs Restroom
La Veta	Cuchara Valley Airport	Restroom	None	Needs Restroom
Las Animas	Las Animas City & County Airport	Restroom	None	Needs Restroom
Saguache	Saguache Municipal Airport	Restroom	None	Needs Restroom

** Indicates private ownership

6.2.11 Objective for Fixed Base Operator Services

Fixed base operators (FBOs) provide a wide variety of aviation related services. These services can include activities such as fueling, flight training, aircraft rental, charter flights, and aircraft maintenance. FBO services are provided primarily to general aviation aircraft; but at some airports, FBOs also provide services, such as fueling, to commercial carriers. While larger airports may have sufficient activity to support multiple FBOs, many of the airports in the Colorado system have only one FBO, and some airports do not have sufficient activity to support an FBO.

While FBO services are desirable for most airports, for this plan the presence of FBO services is an objective for only Major Airports. However, some airports in the Intermediate Airport category and some airports in the Minor Airport category also report some type of service associated with an FBO. **Table 6-28** provides information on airports in the system that currently report some type of FBO service. It is important to note that at lower activity airports the presence or absence of FBO related services can change fairly quickly. It is also worth noting that the range of services for airports reporting an FBO in Table 6-28 varies greatly. In some instances, service is comprehensive and in other instances, service is limited.

Table 6-28: Facility and Service Objectives FBO Objective

City	Airport	FBO Objective	Existing FBO	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Major Airports						
Alamosa	San Luis Valley Airport	FBO	FBO	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	FBO	FBO	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	FBO	FBO	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	FBO	FBO	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	FBO	FBO	Yes	Yes	Yes
Denver	Denver International Airport	FBO	FBO	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	FBO	FBO	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	FBO	FBO	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	FBO	FBO	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	FBO	FBO	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	FBO	FBO	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	FBO	FBO	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	FBO	FBO	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	FBO	FBO	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	FBO	FBO	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	FBO	FBO	Yes	Yes	Yes
Meeker	Meeker Airport	FBO	FBO	Yes	Yes	Yes
Montrose	Montrose Regional Airport	FBO	FBO	Yes	Yes	Yes
Pagosa Springs	Stevens Field	FBO	FBO	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	FBO	FBO	Yes	Yes	Yes

Table 6-28: Facility and Service Objectives FBO Objective

City	Airport	FBO Objective	Existing FBO	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Major Airports, cont'd						
Rifle	Garfield County Regional Airport	FBO	FBO	Yes	Yes	Yes
Telluride	Telluride Regional Airport	FBO	FBO	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	FBO	FBO	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	N/A	FBO	N/A	N/A	N/A
Boulder	Boulder Municipal Airport	N/A	FBO	N/A	N/A	N/A
Buena Vista	Central Colorado Regional Airport	N/A	FBO	N/A	N/A	N/A
Burlington	Kit Carson County Airport	N/A	FBO	N/A	N/A	N/A
Canon City	Fremont County Airport	N/A	FBO	N/A	N/A	N/A
Center	Leach Airport	N/A	None	N/A	N/A	N/A
Colorado Springs	Meadow Lake Airport **	N/A	FBO	N/A	N/A	N/A
Craig	Craig-Moffat County Airport	N/A	FBO	N/A	N/A	N/A
Creede	Mineral County Memorial Airport	N/A	None	N/A	N/A	N/A
Del Norte	Astronaut Kent Rominger Airport	N/A	None	N/A	N/A	N/A
Delta	Blake Field	N/A	FBO	N/A	N/A	N/A
Durango	Animas Airpark **	N/A	FBO	N/A	N/A	N/A
Eads	Eads Airport	N/A	None	N/A	N/A	N/A
Erie	Erie Municipal Airport	N/A	FBO	N/A	N/A	N/A
Fort Morgan	Fort Morgan Municipal Airport	N/A	FBO	N/A	N/A	N/A
Glenwood Springs	Glenwood Springs Municipal Airport	N/A	FBO	N/A	N/A	N/A
Granby	Granby-Grand County Airport	N/A	None	N/A	N/A	N/A
Holyoke	Holyoke Municipal Airport	N/A	FBO	N/A	N/A	N/A
Kremmling	McElroy Field	N/A	FBO	N/A	N/A	N/A
La Junta	La Junta Municipal Airport	N/A	FBO	N/A	N/A	N/A
Leadville	Lake County Airport	N/A	None	N/A	N/A	N/A
Limon	Limon Municipal Airport	N/A	FBO	N/A	N/A	N/A
Monte Vista	Monte Vista Municipal Airport	N/A	None	N/A	N/A	N/A
Nucla	Hopkins Field	N/A	None	N/A	N/A	N/A
Rangely	Rangely Airport	N/A	FBO	N/A	N/A	N/A
Salida	Harriet Alexander Airport	N/A	None	N/A	N/A	N/A
Springfield	Springfield Municipal Airport	N/A	None	N/A	N/A	N/A
Steamboat Springs	Steamboat Springs-Bob Adams Field	N/A	FBO	N/A	N/A	N/A
Sterling	Sterling Municipal Airport	N/A	None	N/A	N/A	N/A
Trinidad	Perry Stokes Airport	N/A	FBO	No	N/A	N/A
Walden	Walden-Jackson County Airport	N/A	FBO	N/A	N/A	N/A
Walsenburg	Spanish Peaks Airfield	N/A	FBO	N/A	N/A	N/A
Westcliffe	Silver West Airport	N/A	None	N/A	N/A	N/A
Wray	Wray Municipal Airport	N/A	FBO	N/A	N/A	N/A
Yuma	Yuma Municipal Airport	N/A	FBO	N/A	N/A	N/A

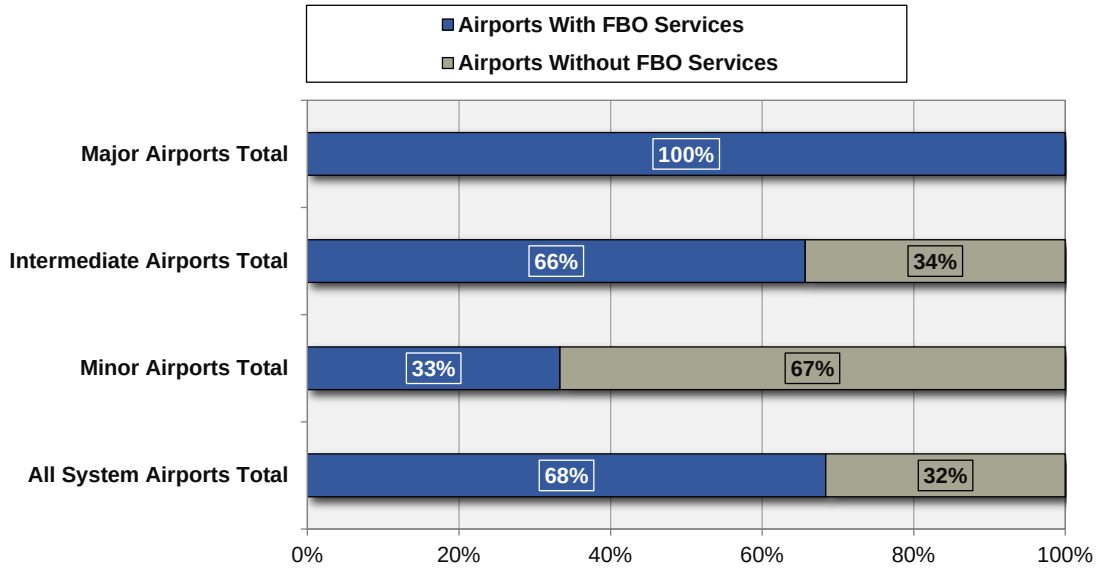
Table 6-28: Facility and Service Objectives FBO Objective

City	Airport	FBO Objective	Existing FBO	Met Objective in 2000	Met Objective in 2005	Met Objective in 2010
Minor Airports						
Akron	Gebauer Airport **	N/A	None	N/A	N/A	N/A
Blanca	Blanca Airport	N/A	None	N/A	N/A	N/A
Brush	Brush Municipal Airport	N/A	None	N/A	N/A	N/A
Calhan	Calhan Airport **	N/A	FBO	N/A	N/A	N/A
Crawford	Crawford Airport **	N/A	FBO	N/A	N/A	N/A
Delta	Westwinds Airpark **	N/A	None	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	N/A	None	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	N/A	None	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	N/A	FBO	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	N/A	None	N/A	N/A	N/A
Holly	Holly Airport	N/A	None	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	N/A	FBO	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	N/A	None	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	N/A	None	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	N/A	FBO	N/A	N/A	N/A
Mack	Mack Mesa Airport **	N/A	None	N/A	N/A	N/A
Paonia	North Fork Valley Airport	N/A	FBO	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	N/A	None	N/A	N/A	N/A

** Indicates private ownership

Since all airports in the Major category presently report having FBO services, there are no actions recommended for this particular service objective. **Figure 6-13** provides information that summarizes by airport role the presence of some level of FBO-related service at system airports. As shown on this figure, 66 percent of the airports in the Intermediate category and 33 percent of the airports in the Minor category report having some type of FBO service. Because the presence or absence of FBO service is market driven, there is no specific recommendation for this objective.

Figure 6-13: Airports with FBO Services



6.2.12 Objective for Aircraft Maintenance Services

This objective applies only to Major Airports. Maintenance service for general aviation aircraft is distinguished between airframe and power plant and between major and minor service. **Table 6-29** presents information on those airports in Colorado that currently have aircraft maintenance service available.

As noted, for this plan the presence or the absence of aircraft maintenance service is an objective for only Major Airports. However, some airports in the Intermediate Airport category and some airports in the Minor Airport category also report the availability of some type of aircraft maintenance service. Table 6-29 provides information on airports in the system which currently report having aircraft maintenance service. The presence or absence of aircraft maintenance service can change.

Table 6-29: Facility and Services Aircraft Maintenance Objective

City	Major Airport	Maintenance Objective	Existing Maintenance	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Maintenance	Maintenance	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Maintenance	Maintenance	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Maintenance	Maintenance	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Maintenance	Maintenance	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Maintenance	Maintenance	Yes	Yes	Yes
Denver	Denver International Airport	Maintenance	Maintenance	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Maintenance	None	Yes	Yes	No
Eagle	Eagle County Regional Airport	Maintenance	Maintenance	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Maintenance	Maintenance	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Maintenance	Maintenance	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Maintenance	Maintenance	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Maintenance	Maintenance	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Maintenance	None	Yes	Yes	No
Lamar	Lamar Municipal Airport	Maintenance	Maintenance	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Maintenance	Maintenance	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Maintenance	Maintenance	Yes	Yes	Yes
Meeker	Meeker Airport	Maintenance	Maintenance	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Maintenance	Maintenance	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Maintenance	None	Yes	Yes	No
Pueblo	Pueblo Memorial Airport	Maintenance	Maintenance	Yes	Yes	Yes

Table 6-29: Facility and Services Aircraft Maintenance Objective

City	Major Airport	Maintenance Objective	Existing Maintenance	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Rifle	Garfield County Regional Airport	Maintenance	Maintenance	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Maintenance	None	Yes	Yes	No
Watkins/Denver	Front Range Airport	Maintenance	Maintenance	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	N/A	Maintenance	N/A	N/A	N/A
Boulder	Boulder Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Buena Vista	Central Colorado Regional Airport	N/A	None	N/A	N/A	N/A
Burlington	Kit Carson County Airport	N/A	Maintenance	N/A	N/A	N/A
Canon City	Fremont County Airport	N/A	Maintenance	N/A	N/A	N/A
Center	Leach Airport	N/A	None	N/A	N/A	N/A
Colorado Springs	Meadow Lake Airport **	N/A	Maintenance	N/A	N/A	N/A
Craig	Craig-Moffat County Airport	N/A	None	N/A	N/A	N/A
Creede	Mineral County Memorial Airport	N/A	None	N/A	N/A	N/A
Del Norte	Astronaut Kent Rominger Airport	N/A	None	N/A	N/A	N/A
Delta	Blake Field	N/A	Maintenance	N/A	N/A	N/A
Durango	Animas Airpark **	N/A	Maintenance	N/A	N/A	N/A
Eads	Eads Airport	N/A	None	N/A	N/A	N/A
Erie	Erie Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Fort Morgan	Fort Morgan Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Glenwood Springs	Glenwood Springs Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Granby	Granby-Grand County Airport	N/A	None	N/A	N/A	N/A

Table 6-29: Facility and Services Aircraft Maintenance Objective

City	Major Airport	Maintenance Objective	Existing Maintenance	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Holyoke	Holyoke Municipal Airport	N/A	None	N/A	N/A	N/A
Kremmling	McElroy Field	N/A	Maintenance	N/A	N/A	N/A
La Junta	La Junta Municipal Airport	N/A	None	N/A	N/A	N/A
Leadville	Lake County Airport	N/A	None	N/A	N/A	N/A
Limon	Limon Municipal Airport	N/A	None	N/A	N/A	N/A
Monte Vista	Monte Vista Municipal Airport	N/A	None	N/A	N/A	N/A
Nucla	Hopkins Field	N/A	None	N/A	N/A	N/A
Rangely	Rangely Airport	N/A	None	N/A	N/A	N/A
Salida	Harriet Alexander Airport	N/A	None	N/A	N/A	N/A
Springfield	Springfield Municipal Airport	N/A	None	N/A	N/A	N/A
Steamboat Springs	Steamboat Springs-Bob Adams Field	N/A	Maintenance	N/A	N/A	N/A
Sterling	Sterling Municipal Airport	N/A	None	N/A	N/A	N/A
Trinidad	Perry Stokes Airport	N/A	None	N/A	N/A	N/A
Walden	Walden-Jackson County Airport	N/A	None	N/A	N/A	N/A
Walsenburg	Spanish Peaks Airfield	N/A	None	N/A	N/A	N/A
Westcliffe	Silver West Airport	N/A	None	N/A	N/A	N/A
Wray	Wray Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Yuma	Yuma Municipal Airport	N/A	Maintenance	N/A	N/A	N/A
Minor Airports						
Akron	Gebauer Airport **	N/A	None	N/A	N/A	N/A
Blanca	Blanca Airport	N/A	None	N/A	N/A	N/A

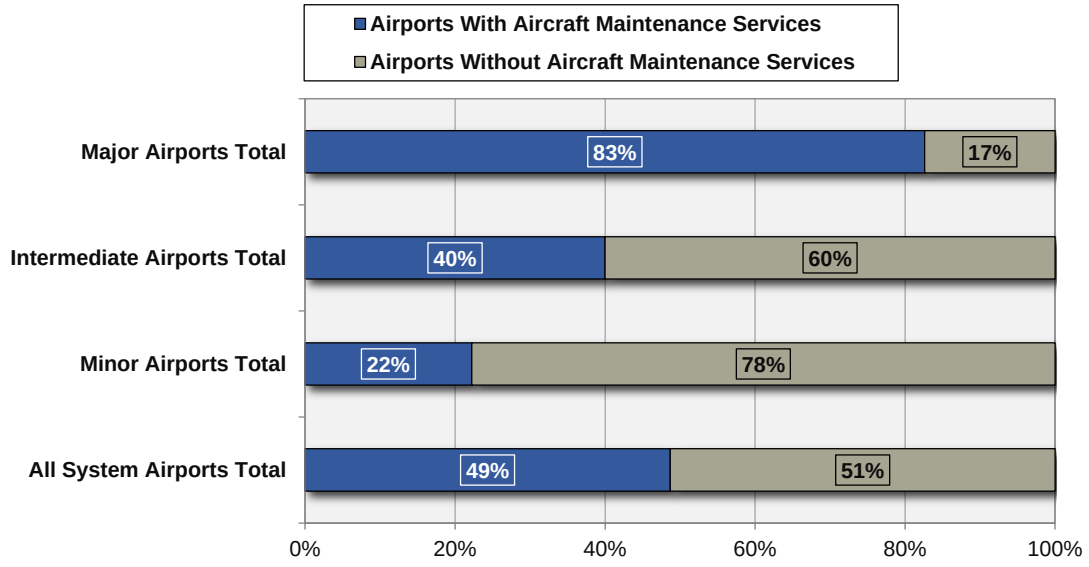
Table 6-29: Facility and Services Aircraft Maintenance Objective

City	Major Airport	Maintenance Objective	Existing Maintenance	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Brush	Brush Municipal Airport	N/A	None	N/A	N/A	N/A
Calhan	Calhan Airport **	N/A	None	N/A	N/A	N/A
Crawford	Crawford Airport **	N/A	None	N/A	N/A	N/A
Delta	Westwinds Airpark **	N/A	None	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	N/A	None	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	N/A	Maintenance	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	N/A	None	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	N/A	None	N/A	N/A	N/A
Holly	Holly Airport	N/A	None	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	N/A	None	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	N/A	None	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	N/A	None	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	N/A	Maintenance	N/A	N/A	N/A
Mack	Mack Mesa Airport **	N/A	Maintenance	N/A	N/A	N/A
Paonia	North Fork Valley Airport	N/A	Maintenance	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	N/A	None	N/A	N/A	N/A

** Indicates private ownership

Figure 6-14 provides information that summarizes by role the presence of aircraft maintenance service at system airports. As this figure shows, 83 percent of the Major Airports, 40 percent of the Intermediate Airports, and 22 percent of the Minor Airports report having aircraft maintenance service.

Figure 6-14: Airports with On-Site Maintenance Services



As stated, the objective is for all airports in the Major Airport category to have aircraft maintenance services. According to information provided by the airports during this study's inventory effort, Major Airports which presently report that they do not have on-site aircraft maintenance available include:

- Durango-La Plata County Airport
- Yampa Valley Regional Airport
- Stevens Field
- Telluride Regional Airport

The decision to provide or not provide aircraft maintenance at an airport is market driven. As a result, there are no specific actions that are recommended for this objective.

6.2.13 Objective for Airports with Aircraft Fuel

As discussed in Chapter 4, in association with benchmarks for system performances, fuel objectives were established as follows:

- Major Airports – access to both Jet A and 100LL fuel
- Intermediate Airport - access to either or both Jet A and 100LL fuel

- Minor Airports – no objective for providing access to fuel

Table 6-30 provides information for all system airports and indicates if the airport has both 100LL and Jet A fuel, only 100LL fuel, or no fuel. **Figure 6-15** summarizes the information presented in Table 6-27. As this figure illustrates, 100 percent of the Major Airports meet the system plan's objective for having both Jet A and 100 LL fuel. While 89 percent of the Intermediate Airports have fuel, four (4) of the Intermediate Airports or 11 percent do not. While it is not an objective of this plan for airports in the Minor category to necessarily have fuel, 44 percent of the airports in this category also have fuel.

Table 6-30: Facility and Service Fuel Objective

City	Airport	Fuel Objective	Existing Fuel	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes

Table 6-30: Facility and Service Fuel Objective

City	Airport	Fuel Objective	Existing Fuel	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Meeker	Meeker Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Jet A and 100LL	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Watkins	Front Range Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Canon City	Fremont County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Center	Leach Airport	Yes	100LL	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Yes	100LL	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Yes	None	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Yes	None	No	No	No
Delta	Blake Field	Yes	100LL	Yes	Yes	Yes
Durango	Animas Airpark **	Yes	Jet A and 100LL	Yes	Yes	Yes
Eads	Eads Airport	Yes	None	No	No	No
Erie	Erie Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes

Table 6-30: Facility and Service Fuel Objective

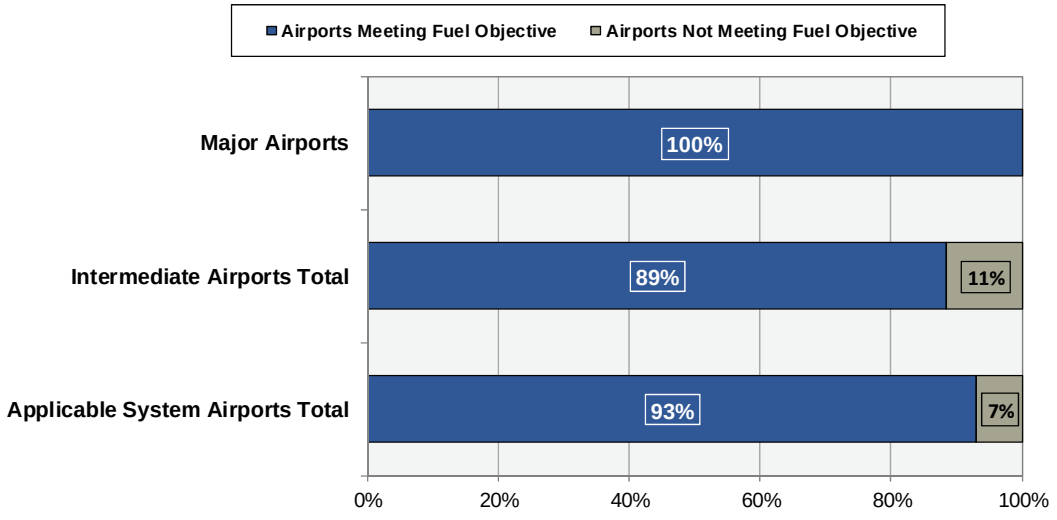
City	Airport	Fuel Objective	Existing Fuel	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	100LL	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Kremmling	McElroy Field	Yes	Jet A and 100LL	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Leadville	Lake County Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Limon	Limon Municipal Airport	Yes	100LL	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Nucla	Hopkins Field	Yes	Jet A and 100LL	Yes	Yes	Yes
Rangely	Rangely Airport	Yes	100LL	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Yes	None	No	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Jet A and 100LL	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Yes	Jet A and 100LL	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	Jet A and 100LL	No	No	Yes
Walsenburg	Spanish Peaks Airfield	Yes	100LL	Yes	Yes	Yes
Westcliffe	Silver West Airport	Yes	100LL	No	Yes	Yes
Wray	Wray Municipal Airport	Yes	100LL	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Yes	100LL	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	N/A	None	N/A	N/A	N/A
Blanca	Blanca Airport	N/A	None	N/A	N/A	N/A
Brush	Brush Municipal Airport	N/A	None	N/A	N/A	N/A
Calhan	Calhan Airport **	N/A	100LL	N/A	N/A	N/A
Crawford	Crawford Airport **	N/A	None	N/A	N/A	N/A

Table 6-30: Facility and Service Fuel Objective

City	Airport	Fuel Objective	Existing Fuel	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Delta	Westwinds Airpark **	N/A	100LL	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	N/A	None	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	N/A	100LL	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	N/A	Jet A and 100LL	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	N/A	None	N/A	N/A	N/A
Holly	Holly Airport	N/A	100LL	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	N/A	100LL	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	N/A	None	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	N/A	None	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	N/A	None	N/A	N/A	N/A
Mack	Mack Mesa Airport **	N/A	100LL	N/A	N/A	N/A
Paonia	North Fork Valley Airport	N/A	100LL	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	N/A	None	N/A	N/A	N/A

** Indicates private ownership

Figure 6-15: Airports with Fuel



While 100 percent of the airports in the Major category meet their system plan objectives for having fuel, 11 percent of the Intermediate Airports do not. Airports in the Intermediate category without fuel include the following:

- Mineral County Memorial Airport
- Astronaut Rominger Airport
- Eads Airport
- Springfield Municipal Airport

These same airports lacked fuel at the time the 2005 study was prepared.

The Division of Aeronautics participates in the development of public fueling facilities. However, there are economic and other factors that are considered as they relate to the provision of fuel. Nevertheless, for airports to be included in the Intermediate category, these airports should ideally provide their users with access to fuel.

6.2.14 Objectives for Ground Transportation Services

Providing airport customers with access to ground transportation is important for commercial airports, as well as for airports that serve higher volumes of transient or visiting general aviation aircraft. Once visitors to Colorado land, they need a means to reach their final travel destination. In association with this particular service, this plan has established the following objectives:

- Major Airports – an objective has been established for all Major Airports to have access to rental cars for their customers. Rental car services may be on-site at the airport or be arranged through the FBO. Most commercial airports in Colorado have not only access rental car services but also to other forms of ground transportation (shuttles and taxis). Commercial airports should have on-site rental car access.
- Intermediate Airports – this plan's objective for ground transportation service is for airports in this role to provide their customers with access to some form of ground transportation, whether that be rental cars, a courtesy car, taxis, or shuttles.
- Minor Airports – the system plan has not set an objective for airports in this role to provide access to ground transportation. This objective was set given the lower volumes of transient or visiting traffic that use these airports. Some airports in the Minor category do, however, have access to ground transportation services.

It is important to note that for most airports in the Intermediate and Minor roles that report having access to rental cars, these services are off-site and must be pre-arranged through the airport or FBO.

Table 6-31 provides information on those airports that report they offer access to various ground transportation services. This information is summarized in **Figure 6-16.** As Figure 6-16 shows, 100 percent of the Major Airports and 71 percent of the Intermediate Airports report having ground transportation services. In addition, 39 percent of the Minor Airports also report that their customers have access to ground transportation services. This translates into 72 percent of all system airports having ground transportation services.

Table 6-32 identifies those airports that need ground transportation services to meet this plan's objectives. Given the fact that ground transportation services are most often offered by third party providers, there are no specific recommendations for this objective.

Table 6-31: Facility and Service Objectives Ground Transportation Objective

City	Airport	Ground Transport Objective	Existing Ground Transportation	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Yes	Rental Car	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Rental Car	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes

Table 6-31: Facility and Service Objectives Ground Transportation Objective

City	Airport	Ground Transport Objective	Existing Ground Transportation	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Lamar	Lamar Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Meeker	Meeker Airport	Yes	Courtesy Car	Yes	Yes	No
Montrose	Montrose Regional Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Yes	Courtesy Car, Rental Car	No	No	Yes
Boulder	Boulder Municipal Airport	Yes	Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Canon City	Fremont County Airport	Yes	Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Center	Leach Airport	Yes	None	No	No	No
Colorado Springs	Meadow Lake Airport **	Yes	Rental Car	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes

Table 6-31: Facility and Service Objectives Ground Transportation Objective

City	Airport	Ground Transport Objective	Existing Ground Transportation	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Creede	Mineral County Memorial Airport	Yes	None	No	No	No
Del Norte	Astronaut Kent Rominger Airport	Yes	None	No	No	No
Delta	Blake Field	Yes	Courtesy Car, Taxi/Shuttle,	Yes	Yes	Yes
Durango	Animas Airpark **	Yes	Courtesy Car, Taxi/Shuttle	Yes	Yes	Yes
Eads	Eads Airport	Yes	None	No	No	No
Erie	Erie Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	Rental Car	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Yes	Courtesy Car	Yes	Yes	Yes
Kremmling	McElroy Field	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle	Yes	Yes	Yes
Leadville	Lake County Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Limon	Limon Municipal Airport	Yes	None	Yes	Yes	No
Monte Vista	Monte Vista Municipal Airport	Yes	None	Yes	Yes	No
Nucla	Hopkins Field	Yes	Courtesy Car	Yes	Yes	Yes
Rangely	Rangely Airport	Yes	None	No	No	No
Salida	Harriet Alexander Airport	Yes	Courtesy Car	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Yes	None	No	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Courtesy Car, Taxi/Shuttle, Rental Car	Yes	Yes	Yes

Table 6-31: Facility and Service Objectives Ground Transportation Objective

City	Airport	Ground Transport Objective	Existing Ground Transportation	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Trinidad	Perry Stokes Airport	Yes	Rental Car	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	Courtesy Car	No	No	Yes
Walsenburg	Spanish Peaks Airfield	Yes	Courtesy Car, Taxi/Shuttle	Yes	Yes	Yes
Westcliffe	Silver West Airport	Yes	None	Yes	No	No
Wray	Wray Municipal Airport	Yes	Courtesy Car, Rental Car	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Yes	None	No	No	No
Minor Airports						
Akron	Gebauer Airport **	N/A	Courtesy Car	N/A	N/A	N/A
Blanca	Blanca Airport	N/A	None	N/A	N/A	N/A
Brush	Brush Municipal Airport	N/A	None	N/A	N/A	N/A
Calhan	Calhan Airport **	N/A	None	N/A	N/A	N/A
Crawford	Crawford Airport **	N/A	Courtesy Car	N/A	N/A	N/A
Delta	Westwinds Airpark **	N/A	Taxi	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	N/A	Courtesy Car, Taxi/Shuttle	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport **	N/A	Rental Car	N/A	N/A	N/A
Greeley	Easton-Valley View Airport **	N/A	Rental Car	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	N/A	None	N/A	N/A	N/A
Holly	Holly Airport	N/A	None	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	N/A	None	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	N/A	None	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	N/A	None	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	N/A	Rental Car	N/A	N/A	N/A
Mack	Mack Mesa Airport **	N/A	None	N/A	N/A	N/A
Paonia	North Fork Valley Airport	N/A	Courtesy Car	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	N/A	None	N/A	N/A	N/A

** Indicates private ownership

Figure 6-16: Airports with Ground Transportation Services

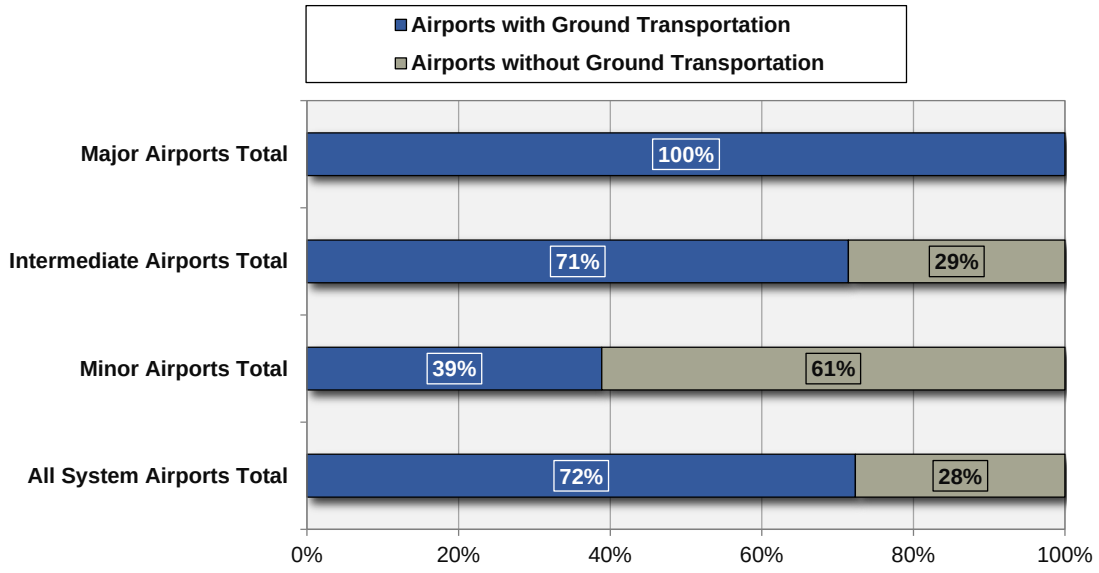


Table 6-32: Airports Not Meeting Ground Transportation Objective

City	Airport	Objective	Existing	Recommendation
Major Airports				
Meeker	Meeker Airport	Yes	Courtesy Car	Access to Rental Cars
Intermediate Airports				
Center	Leach Airport	Yes	None	Access to Ground Transportation
Creede	Mineral County Memorial Airport	Yes	None	Access to Ground Transportation
Del Norte	Astronaut Kent Rominger Airport	Yes	None	Access to Ground Transportation
Eads	Eads Airport	Yes	None	Access to Ground Transportation
Limon	Limon Municipal Airport	Yes	None	Access to Ground Transportation
Monte Vista	Monte Vista Municipal Airport	Yes	None	Access to Ground Transportation
Rangely	Rangely Airport	Yes	None	Access to Ground Transportation
Springfield	Springfield Municipal Airport	Yes	None	Access to Ground Transportation
Westcliffe	Silver West Airport	Yes	None	Access to Ground Transportation
Yuma	Yuma Municipal Airport	Yes	None	Access to Ground Transportation

6.2.15 Objectives for Terminal Buildings

Given their system role and the number of passengers/pilots they serve annually, an objective was established as part of the system plan for all airports in the Major category, both commercial and general aviation, to have a dedicated building/terminal to serve its passengers and pilots.

Table 6-33 provides information related to this objective. As shown in this table, all airports in the Major category currently report having some type of a terminal building to serve their commercial and/or general aviation passengers. While not an objective of this plan, several of the airports in the Intermediate category also report that they have a dedicated terminal building. According to information provided by the airports during this study's inventory effort, 60 percent of all airports in the Intermediate category also have a dedicated terminal/administration building.

Since all airports in the Major category now meet the objective for having a dedicated terminal building, there are no additional recommendations for this objective at this time. Despite the fact that there are no recommendations related to this objective, this does not preclude the possibility of Aeronautics issuing grants that may be needed related to rehabilitation, expansion, or replacement of such public facilities at system airports.

Table 6-33: Facility and Service Objectives Terminal Objective

City	Airport	Terminal Objective	Existing Terminal	Met Objective in 2000	Met Objective in 2005	Met Objective 2011
Major Airports						
Alamosa	San Luis Valley Airport	Yes	Yes	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Yes	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Yes	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Yes	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes	Yes	Yes

Table 6-33: Facility and Service Objectives Terminal Objective

City	Airport	Terminal Objective	Existing Terminal	Met Objective in 2000	Met Objective in 2005	Met Objective 2011
Major Airports, cont'd						
Lamar	Lamar Municipal Airport	Yes	Yes	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Yes	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes	Yes	Yes
Meeker	Meeker Airport	Yes	Yes	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Yes	Yes	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Yes	No	No	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	N/A	Yes	N/A	N/A	N/A
Boulder	Boulder Municipal Airport	N/A	Yes	N/A	N/A	N/A
Buena Vista	Central Colorado Regional Airport	N/A	Yes	N/A	N/A	N/A
Burlington	Kit Carson County Airport	N/A	Yes	N/A	N/A	N/A
Canon City	Fremont County Airport	N/A	Yes	N/A	N/A	N/A
Center	Leach Airport	N/A	No	N/A	N/A	N/A
Colorado Springs	Meadow Lake Airport **	N/A	No	N/A	N/A	N/A
Craig	Craig-Moffat County Airport	N/A	Yes	N/A	N/A	N/A
Creede	Mineral County Memorial Airport	N/A	No	N/A	N/A	N/A
Del Norte	Astronaut Kent Rominger Airport	N/A	No	N/A	N/A	N/A
Delta	Blake Field	N/A	Yes	N/A	N/A	N/A
Durango	Animas Airpark **	N/A	No	N/A	N/A	N/A
Eads	Eads Airport	N/A	No	N/A	N/A	N/A
Erie	Erie Municipal Airport	N/A	Yes	N/A	N/A	N/A
Fort Morgan	Fort Morgan Municipal Airport	N/A	Yes	N/A	N/A	N/A
Glenwood Springs	Glenwood Springs Municipal Airport	N/A	No	N/A	N/A	N/A
Granby	Granby-Grand County Airport	N/A	No	N/A	N/A	N/A
Holyoke	Holyoke Municipal Airport	N/A	No	N/A	N/A	N/A
Kremmling	McElroy Field	N/A	Yes	N/A	N/A	N/A

Table 6-33: Facility and Service Objectives Terminal Objective

City	Airport	Terminal Objective	Existing Terminal	Met Objective in 2000	Met Objective in 2005	Met Objective 2011
Intermediate Airports, cont'd						
La Junta	La Junta Municipal Airport	N/A	Yes	N/A	N/A	N/A
Leadville	Lake County Airport	N/A	Yes	N/A	N/A	N/A
Limon	Limon Municipal Airport	N/A	No	N/A	N/A	N/A
Monte Vista	Monte Vista Municipal Airport	N/A	Yes	N/A	N/A	N/A
Nucla	Hopkins Field	N/A	Yes	N/A	N/A	N/A
Rangely	Rangely Airport	N/A	Yes	N/A	N/A	N/A
Salida	Harriet Alexander Airport	N/A	Yes	N/A	N/A	N/A
Springfield	Springfield Municipal Airport	N/A	No	N/A	N/A	N/A
Steamboat Springs	Steamboat Springs-Bob Adams Field	N/A	Yes	N/A	N/A	N/A
Sterling	Sterling Municipal Airport	N/A	Yes	N/A	N/A	N/A
Trinidad	Perry Stokes Airport	N/A	Yes	N/A	N/A	N/A
Walden	Walden-Jackson County Airport	N/A	No	N/A	N/A	N/A
Walsenburg	Spanish Peaks Airfield	N/A	Yes	N/A	N/A	N/A
Westcliffe	Silver West Airport	N/A	No	N/A	N/A	N/A
Wray	Wray Municipal Airport	N/A	Yes	N/A	N/A	N/A
Yuma	Yuma Municipal Airport	N/A	No	N/A	N/A	N/A

** Indicates private ownership

6.2.16 Objectives for Aircraft Parking Aprons

Ideally, all system airports should provide some type of designated parking area for based and/or visiting (transient) aircraft. The size for an individual airport's aircraft parking area (also referred to as ramp or apron area) is best determined as part of an individual airport master plan. Apron size and strength are determined based on volume of traffic, the wingspan of the aircraft that use the airport, and the weight of these planes. As part of its Pavement Management Program, Aeronautics inspects and provides maintenance to keep these paved areas in good condition.

For some airports, aircraft apron areas are also important to efficient aircraft movement and operational capacity. Having an ample apron area so that aircraft can exit the active runway or taxiway system helps to support operational capacity and improve operational efficiency.

Table 6-34 provides apron area information by airport, and . **Figure 6-17** shows performance by airport role**.** Currently, all Colorado system airports report designated aircraft parking aprons.

Table 6-34: Facility and Service Objectives Apron Objective

City	Airport	Apron Objective	Existing Apron	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Yes	Yes	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Yes	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Yes	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Yes	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	Yes	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Yes	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes	Yes	Yes
Meeker	Meeker Airport	Yes	Yes	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Yes	Yes	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Yes	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Yes	Yes	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Yes	Yes	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	Yes	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Yes	Yes	Yes	Yes	Yes
Canon City	Fremont County Airport	Yes	Yes	Yes	Yes	Yes
Center	Leach Airport	Yes	Yes	Yes	Yes	Yes

Table 6-34: Facility and Service Objectives Apron Objective

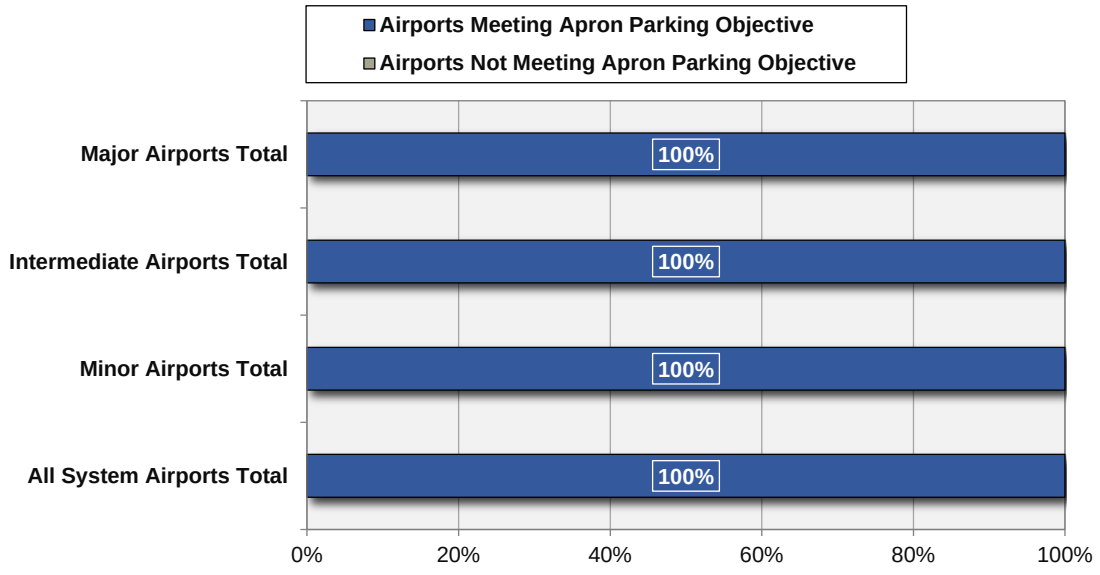
City	Airport	Apron Objective	Existing Apron	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Colorado Springs	Meadow Lake Airport **	Yes	Yes	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Yes	Yes	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Yes	Yes	Yes	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	Yes	Yes	Yes	Yes	Yes
Delta	Blake Field	Yes	Yes	Yes	Yes	Yes
Durango	Animas Airpark **	Yes	Yes	Yes	Yes	Yes
Eads	Eads Airport	Yes	No	Yes	Yes	Yes
Erie	Erie Municipal Airport	Yes	Yes	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	Yes	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	Yes	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Yes	Yes	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Yes	Yes	Yes	Yes	Yes
Kremmling	McElroy Field	Yes	Yes	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Yes	Yes	Yes	Yes	Yes
Leadville	Lake County Airport	Yes	Yes	Yes	Yes	Yes
Limon	Limon Municipal Airport	Yes	Yes	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	Yes	Yes	Yes	Yes
Nucla	Hopkins Field	Yes	Yes	Yes	Yes	Yes
Rangely	Rangely Airport	Yes	Yes	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Yes	Yes	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Yes	Yes	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Yes	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Yes	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Yes	Yes	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	Yes	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	Yes	Yes	Yes	Yes	Yes
Westcliffe	Silver West Airport	Yes	Yes	Yes	Yes	Yes
Wray	Wray Municipal Airport	Yes	Yes	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Yes	Yes	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	Yes	No	No	No	Yes
Blanca	Blanca Airport	Yes	Yes	Yes	Yes	Yes
Brush	Brush Municipal Airport	Yes	Yes	Yes	Yes	Yes
Calhan	Calhan Airport **	Yes	No	Yes	Yes	Yes

Table 6-34: Facility and Service Objectives Apron Objective

City	Airport	Apron Objective	Existing Apron	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Crawford	Crawford Airport **	Yes	Yes	Yes	Yes	Yes
Delta	Westwinds Airpark **	Yes	Yes	Yes	Yes	Yes
Dove Creek	Dove Creek Airport **	Yes	Yes	Yes	Yes	Yes
Ellicott	Colorado Springs East Airport **	Yes	Yes	Yes	Yes	Yes
Greeley	Easton-Valley View Airport **	Yes	Yes	Yes	Yes	Yes
Haxtun	Haxtun Municipal Airport	Yes	Yes	Yes	Yes	Yes
Holly	Holly Airport	Yes	No	No	No	Yes
Hudson	Platte Valley Airpark **	Yes	Yes	Yes	Yes	Yes
Julesburg	Julesburg Municipal Airport	Yes	Yes	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	Yes	Yes	Yes	Yes	Yes
Las Animas	Las Animas City & County Airport	Yes	Yes	Yes	Yes	Yes
Mack	Mack Mesa Airport **	Yes	Yes	Yes	Yes	Yes
Paonia	North Fork Valley Airport	Yes	Yes	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	Yes	Yes	Yes	Yes	Yes

** Indicates private ownership

Figure 6-17: Current Airport Performance Apron Parking Objective



6.2.17 Objective for Aircraft Hangars

Given Colorado's weather conditions, covered storage is preferable for based aircraft. The system plan set an objective for all airports in the Major and Intermediate categories to provide hangars for aircraft. Within this objective, the system plan does not specify the percentage of each airport's based aircraft that should be hangared, nor does the system plan identify whether hangars should be conventional style or T-Hangars. Those details are best determined within the context of an individual airport master plan. Hangars may be accounted for by an airport, an FBO, or individuals through a ground lease.

Table 6-35 provides information for each system airport, indicating the presence or absence of hangar storage. As this table shows, all airports in both the Major and the Intermediate categories provide some type of hangar storage. Therefore, the target for this particular objective is met. Aeronautics does not typically fund hangar related projects, but under certain circumstances could. Low interest loans are available in Colorado for hangar development.

For informational purposes, it is worth noting that there are Minor Airports which do not provide any hangar storage. These airports are as follows:

- Gebauer Airport (Minor Airport)
- Blanca Airport (Minor Airport)
- Dove Creek Airport (Minor Airport)
- Julesburg Municipal Airport (Minor Airport)
- Saguache Municipal Airport (Minor Airport)

Table 6-35: Facility and Service Objectives Hangar Objective

City	Airport	Hangar Objective	Existing Hangars	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Hangars	Hangars	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Hangars	Hangars	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Hangars	Hangars	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Denver	Denver International Airport	Hangars	Hangars	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Hangars	Hangars	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Hangars	Hangars	Yes	Yes	Yes

Table 6-35: Facility and Service Objectives Hangar Objective

City	Airport	Hangar Objective	Existing Hangars	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports, cont'd						
Englewood/Denver	Centennial Airport	Hangars	Hangars	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Hangars	Hangars	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Meeker	Meeker Airport	Hangars	Hangars	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Hangars	Hangars	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Hangars	Hangars	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Hangars	Hangars	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Hangars	Hangars	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Hangars	Hangars	Yes	Yes	Yes
Canon City	Fremont County Airport	Hangars	Hangars	Yes	Yes	Yes
Center	Leach Airport	Hangars	Hangars	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Hangars	Hangars	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Hangars	Hangars	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Hangars	Hangars	Yes	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	Hangars	Hangars	No	No	Yes
Delta	Blake Field	Hangars	Hangars	Yes	Yes	Yes
Durango	Animas Airpark **	Hangars	Hangars	Yes	Yes	Yes
Eads	Eads Airport	Hangars	Hangars	Yes	Yes	Yes

Table 6-35: Facility and Service Objectives Hangar Objective

City	Airport	Hangar Objective	Existing Hangars	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Erie	Erie Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Hangars	Hangars	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Kremmling	McElroy Field	Hangars	Hangars	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Leadville	Lake County Airport	Hangars	Hangars	Yes	Yes	Yes
Limon	Limon Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Nucla	Hopkins Field	Hangars	Hangars	Yes	Yes	Yes
Rangely	Rangely Airport	Hangars	Hangars	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Hangars	Hangars	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Hangars	Hangars	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Hangars	Hangars	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Hangars	Hangars	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	Hangars	Hangars	Yes	Yes	Yes
Westcliffe	Silver West Airport	Hangars	Hangars	Yes	Yes	Yes
Wray	Wray Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Hangars	Hangars	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	N/A	None	N/A	N/A	N/A
Blanca	Blanca Airport	N/A	None	N/A	N/A	N/A
Brush	Brush Municipal Airport	N/A	Hangars	N/A	N/A	N/A
Calhan	Calhan Airport **	N/A	Hangars	N/A	N/A	N/A
Crawford	Crawford Airport **	N/A	Hangars	N/A	N/A	N/A
Delta	Westwinds Airpark **	N/A	Hangars	N/A	N/A	N/A
Dove Creek	Dove Creek Airport **	N/A	None	N/A	N/A	N/A
Ellicott	Colorado Springs East Airport.**	N/A	Hangars	N/A	N/A	N/A

Table 6-35: Facility and Service Objectives Hangar Objective

City	Airport	Hangar Objective	Existing Hangars	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airports, cont'd						
Greeley	Easton-Valley View Airport **	N/A	Hangars	N/A	N/A	N/A
Haxtun	Haxtun Municipal Airport	N/A	Hangars	N/A	N/A	N/A
Holly	Holly Airport	N/A	Hangars	N/A	N/A	N/A
Hudson	Platte Valley Airpark **	N/A	Hangars	N/A	N/A	N/A
Julesburg	Julesburg Municipal Airport	N/A	None	N/A	N/A	N/A
La Veta	Cuchara Valley Airport	N/A	Hangars	N/A	N/A	N/A
Las Animas	Las Animas City & County Airport	N/A	Hangars	N/A	N/A	N/A
Mack	Mack Mesa Airport **	N/A	Hangars	N/A	N/A	N/A
Paonia	North Fork Valley Airport	N/A	Hangars	N/A	N/A	N/A
Saguache	Saguache Municipal Airport	N/A	None	N/A	N/A	N/A

** Indicates private ownership

There are no specific actions identified for meeting the objectives for aircraft hangar storage.

6.2.18 Objective for Auto Parking

In order for airports to effectively meet the needs of their customers and to adequately segregate landside activities from the active airfield, designated areas for automobile parking should be available. Having designated areas for automobile parking is an objective for all airports in the Major, Intermediate, and Minor categories. **Table 6-36** provides information on those airports that currently have designated auto parking spaces. The number of auto parking spaces needed at each airport to meet the needs of passengers, pilots, employees, and other airport related businesses is best determined within the context of an individual airport plan.

All airports in the Major and Intermediate categories have designated auto parking. **Table 6-37** provides a listing of airports in the Minor Airport category that need designated parking for automobiles for all system airports to meet this facility objective. It is worth noting at the time of the 2005 plan, nine airports in the Minor Airport category were without designated auto parking, this number has now been reduced to six.

Table 6-36: Current Airport Performance Auto Parking Objective

City	Airport	Auto Parking Objective	Existing Auto Parking	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Major Airports						
Alamosa	San Luis Valley Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Denver	Denver International Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Longmont	Vance Brand Municipal Apt.	Auto Parking	Auto Parking	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Meeker	Meeker Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Auto Parking	Auto Parking	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Intermediate Airports						
Akron	Colorado Plains Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Boulder	Boulder Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Canon City	Fremont County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes

Table 6-36: Current Airport Performance Auto Parking Objective

City	Airport	Auto Parking Objective	Existing Auto Parking	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Intermediate Airports, cont'd						
Center	Leach Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Auto Parking	Auto Parking	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Creede	Mineral County Memorial Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Del Norte	Astronaut Kent Rominger Airport	Auto Parking	Auto Parking	No	Yes	Yes
Delta	Blake Field	Auto Parking	Auto Parking	Yes	Yes	Yes
Durango	Animas Airpark **	Auto Parking	Auto Parking	Yes	Yes	Yes
Eads	Eads Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Erie	Erie Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Granby	Granby-Grand County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Kremmling	McElroy Field	Auto Parking	Auto Parking	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Leadville	Lake County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Limon	Limon Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Nucla	Hopkins Field	Auto Parking	Auto Parking	Yes	Yes	Yes
Rangely	Rangely Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Steamboat Springs	Steamboat Springs-Bob Adams Field	Auto Parking	Auto Parking	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	Auto Parking	Auto Parking	Yes	Yes	Yes
Westcliffe	Silver West Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Wray	Wray Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Minor Airports						
Akron	Gebauer Airport **	Auto Parking	None	No	No	No
Blanca	Blanca Airport	Auto Parking	Auto Parking	No	Yes	Yes

Table 6-36: Current Airport Performance Auto Parking Objective

City	Airport	Auto Parking Objective	Existing Auto Parking	Met Objective in 2000	Met Objective in 2005	Met Objective in 2011
Minor Airport, cont'd						
Brush	Brush Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Calhan	Calhan Airport **	Auto Parking	Auto Parking	Yes	Yes	Yes
Crawford	Crawford Airport **	Auto Parking	Auto Parking	Yes	No	Yes
Delta	Westwinds Airpark **	Auto Parking	Auto Parking	No	No	Yes
Dove Creek	Dove Creek Airport **	Auto Parking	None	No	No	No
Ellicott	Colorado Springs East Airport **	Auto Parking	Auto Parking	Yes	Yes	Yes
Greeley	Easton-Valley View Airport **	Auto Parking	None	No	No	No
Haxtun	Haxtun Municipal Airport	Auto Parking	None	No	No	No
Holly	Holly Airport	Auto Parking	None	No	No	No
Hudson	Platte Valley Airpark **	Auto Parking	Auto Parking	No	No	Yes
Julesburg	Julesburg Municipal Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
La Veta	Cuchara Valley Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Las Animas	Las Animas City & County Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Mack	Mack Mesa Airport **	Auto Parking	Auto Parking	No	Yes	Yes
Paonia	North Fork Valley Airport	Auto Parking	Auto Parking	Yes	Yes	Yes
Saguache	Saguache Municipal Airport	Auto Parking	None	No	No	No

** Indicates private ownership

The specific number of auto parking spaces that airports listed in Table 6-37 should have is best established by the individual airport. Since all of the airports lacking designated auto parking fall into the Minor category the number of auto parking spaces they need is limited. In order to establish a cost for improving the system to meet the auto parking facility/service objective, it was assumed that Minor Airports should have four designated auto parking spaces. It is appropriate for Aeronautics to participate in funding auto parking areas that are non-revenue generating.

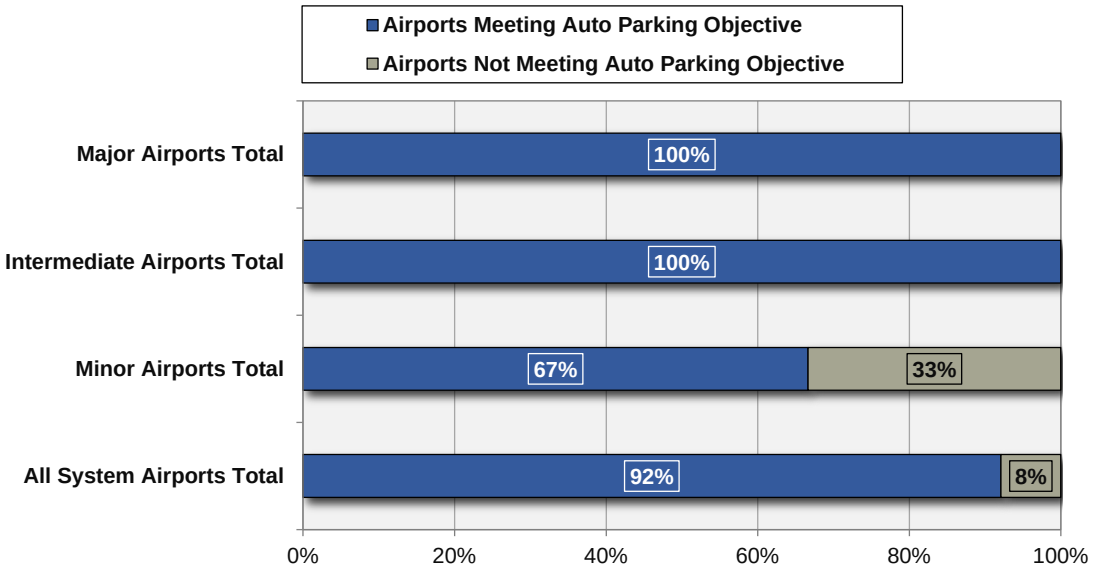
Table 6-37: Minor Airports without Auto Parking

City	Airport	Objective	Existing	Recommendation
Akron	Gebauer Airport **	Auto Parking	None	Need Auto Parking
Dove Creek	Dove Creek Airport **	Auto Parking	None	Need Auto Parking
Greeley	Easton-Valley View Airport **	Auto Parking	None	Need Auto Parking
Haxtun	Haxtun Municipal Airport	Auto Parking	None	Need Auto Parking
Holly	Holly Airport	Auto Parking	None	Need Auto Parking
Saguache	Saguache Municipal Airport	Auto Parking	None	Need Auto Parking

** Indicates private ownership

Performance by airport role is summarized in **Figure 6-18**.

Figure 6-18: Current Airport Performance Auto Parking



6.2.19 Objectives for Snow Removal and De-Icing Capabilities

Given Colorado's climate and topography, it is important for system airports to have snow removal equipment. An objective has been set for all airports in the Major and Intermediate categories to have snow removal equipment. In addition, airports in the Major category should have de-icing capabilities.

Table 6-38 shows airports in the Major and Intermediate categories that report having snow removal equipment. Since this objective was added as part of the 2011 update to the Colorado Aviation System Plan, there is no comparative information for the 2000 and the 2005 reporting periods. As Table 6-38 shows, most airports in both the Intermediate and the Major categories have some type of snow removal equipment or capability. Each airport's actual need for snow removal equipment varies and is influenced by the airport's number of paved runways and taxiways, along with other airport specific circumstances. Also for some system airports, especially general aviation airports, snow removal may be provided by the local owner (city or county) of the airport and the equipment might be shared. While it is possible for an airport to have snow removal equipment in place today, this equipment ages and replacement is often required. It is appropriate for the Division of Aeronautics to participate in providing grants to help system airports acquire new or replacement snow removal equipment.

Table 6-38: Current Airport Performance Snow Removal Equipment Objective

City	Airport	Snow Removal Equipment Objective	Existing Snow Removal Equipment	Met Objective in 2011
Major Airports				
Alamosa	San Luis Valley Airport	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	Yes	Yes
Longmont	Vance Brand Municipal Airport	Yes	Yes	Yes
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes
Meeker	Meeker Airport	Yes	Yes	Yes
Montrose	Montrose Regional Airport	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes
Intermediate Airports				
Akron	Colorado Plains Regional Airport	Yes	No	No
Boulder	Boulder Municipal Airport	Yes	Yes	Yes
Buena Vista	Central Colorado Regional Airport	Yes	Yes	Yes
Burlington	Kit Carson County Airport	Yes	Yes	Yes
Canon City	Fremont County Airport	Yes	Yes	Yes
Center	Leach Airport	Yes	Yes	Yes
Colorado Springs	Meadow Lake Airport **	Yes	Yes	Yes
Craig	Craig-Moffat County Airport	Yes	No	No
Creede	Mineral County Memorial Airport	Yes	No	No
Del Norte	Astronaut Kent Rominger Airport	Yes	No	No
Delta	Blake Field	Yes	Yes	Yes
Durango	Animas Airpark **	Yes	Yes	Yes
Eads	Eads Airport	Yes	Yes	Yes

Table 6-38: Current Airport Performance Snow Removal Equipment Objective

City	Airport	Snow Removal Equipment Objective	Existing Snow Removal Equipment	Met Objective in 2011
Intermediate Airport, cont'd				
Erie	Erie Municipal Airport	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal Airport	Yes	Yes	Yes
Glenwood Springs	Glenwood Springs Municipal Airport	Yes	No	No
Granby	Granby-Grand County Airport	Yes	Yes	Yes
Holyoke	Holyoke Municipal Airport	Yes	No	No
Kremmling	McElroy Field	Yes	Yes	Yes
La Junta	La Junta Municipal Airport	Yes	Yes	Yes
Leadville	Lake County Airport	Yes	Yes	Yes
Limon	Limon Municipal Airport	Yes	Yes	Yes
Monte Vista	Monte Vista Municipal Airport	Yes	No	No
Nucla	Hopkins Field	Yes	Yes	Yes
Rangely	Rangely Airport	Yes	Yes	Yes
Salida	Harriet Alexander Airport	Yes	Yes	Yes
Springfield	Springfield Municipal Airport	Yes	No	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	Yes	Yes	Yes
Sterling	Sterling Municipal Airport	Yes	Yes	Yes
Trinidad	Perry Stokes Airport	Yes	Yes	Yes
Walden	Walden-Jackson County Airport	Yes	Yes	Yes
Walsenburg	Spanish Peaks Airfield	Yes	Yes	Yes
Westcliffe	Silver West Airport	Yes	Yes	Yes
Wray	Wray Municipal Airport	Yes	Yes	Yes
Yuma	Yuma Municipal Airport	Yes	No	No

** Indicates private ownership

Information in **Table 6-39** shows that most airports in the Major Airport category report having de-icing capabilities. In some instances at the commercial airports, de-icing equipment may actually be provided by the airline(s) serving the airport. In addition to providing grants for de-icing equipment that does not have an exclusive user, the Division of Aeronautics may participate in funding de-icing pads or they may provide grants for other projects that are required to meet environmental regulations in areas where de-icing is performed.

Table 6-39: Major Airport Facility and Service Objectives De-Icing Equipment

City	Airport	De-Icing Equipment Objective	Existing De-Icing Equipment	Met Objective in 2011
Alamosa	San Luis Valley Airport	Yes	Yes	Yes
Aspen	Aspen-Pitkin County Airport	Yes	Yes	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal Airport	Yes	Yes	Yes
Cortez	Cortez-Montezuma Municipal Airport	Yes	Yes	Yes
Denver	Denver International Airport	Yes	Yes	Yes
Durango	Durango-La Plata County Airport	Yes	Yes	Yes
Eagle	Eagle County Regional Airport	Yes	Yes	Yes
Englewood/Denver	Centennial Airport	Yes	Yes	Yes
Grand Junction	Grand Junction Regional Airport	Yes	Yes	Yes
Greeley	Greeley-Weld County Airport	Yes	No	No
Gunnison	Gunnison-Crested Butte Regional Airport	Yes	Yes	Yes
Hayden	Yampa Valley Regional Airport	Yes	Yes	Yes
Lamar	Lamar Municipal Airport	Yes	No	No
Longmont	Vance Brand Municipal Airport	Yes	No	No
Loveland	Fort Collins-Loveland Municipal Airport	Yes	Yes	Yes
Meeker	Meeker Airport	Yes	No	No
Montrose	Montrose Regional Airport	Yes	Yes	Yes
Pagosa Springs	Stevens Field	Yes	Yes	Yes
Pueblo	Pueblo Memorial Airport	Yes	Yes	Yes
Rifle	Garfield County Regional Airport	Yes	Yes	Yes
Telluride	Telluride Regional Airport	Yes	Yes	Yes
Watkins/Denver	Front Range Airport	Yes	Yes	Yes

Table 6-40 and **Table 6-41** provide information on those system airports that should have snow removal or de-icing equipment to meet objectives established in the system plan. Some clarification related to the snow removal equipment needs of system airports is necessary. While some of the airports report "no" for snow removal equipment, that does not necessarily mean that the airport lacks snow removal capabilities or services. In many cases, the airport may not have its own snow removal equipment, but snow removal services are provided by the

local city or county. This arrangement works well for general aviation airports. However, when local govenments provide airport snow removal, the airport has to "compete" for its snow removal services. As conditions warrant, airports showing "no" snow removal equipment may apply for funds to acquire their own dedicated snow removal equipment. As these grant requests are submitted, it would be appropriate for Aeronautics to respond as it is able to these requests.

Table 6-40: Intermediate Airports that do not meet Snow Removal Objective

City	Airport	Objective	Existing	Recommendation
Akron	Colorado Plains Regional Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Craig	Craig-Moffat County Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Creede	Mineral County Memorial Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Del Norte	Astronaut Kent Rominger Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Glenwood Springs	Glenwood Springs Municipal Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Holyoke	Holyoke Municipal Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Monte Vista	Monte Vista Municipal Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Springfield	Springfield Municipal Airport	Snow Removal Equipment	No	Need Snow Removal Equipment
Yuma	Yuma Municipal Airport	Snow Removal Equipment	No	Need Snow Removal Equipment

Table 6-41: Major Airports without De-Icing Equipment

City	Airport	Objective	Existing	Recommendation
Greeley	Greeley-Weld County Airport	De-Icing Equipment	No	Need De-Icing Equipment
Lamar	Lamar Municipal Airport	De-Icing Equipment	No	Need De-Icing Equipment
Longmont	Vance Brand Municipal Airport	De-Icing Equipment	No	Need De-Icing Equipment
Meeker	Meeker Airport	De-Icing Equipment	No	Need De-Icing Equipment

6.2.20 Objective for Airports with Fencing

Fencing is often an important attribute to increase airport safety and security. Not only does fencing help protect airport assets, but fencing also helps to prevent wildlife intrusions. The location of and setting for many of Colorado's airports increases the potential for aircraft to encounter wildlife on the runway when taking off, landing, or taxiing. On an annual basis, the Division of Aeronautics provides grants to system airports to increase the safety and security of their operating environment through fencing projects.

The system plan has not established a specific objective related to which system airports should have fencing, nor has an objective been established as to how much fencing is appropriate, since conditions at each airport vary. However, as airports have needs for additional fencing or to replace fencing for safety or security reasons, it is appropriate for Aeronautics to issue grants to respond to these needs.

As part of this study's inventory effort, airports were asked to provide information on their current fencing; **Table 6-42** summarizes this information. **Figure 6-19** summarizes the fencing information for all system airports and for airports in each of the three airport roles. As Figure 6-19 shows, 91 percent of all airports in the Major Airport category report that they have fencing; 51 percent of all Intermediate Airports report that they have fencing; and 28 percent of all Minor Airports report that they have fencing. Fencing is a facility that from time to time needs to be replaced, and an airport's fencing needs can change over time. As needs change, Aeronautics may respond with grant allocations to address these needs and the percentages reported in Figure 6-19 may be different when this plan is updated in the future.

Table 6-42: Airport Safety/Security Fencing

City	Airport	NPIAS or Non-NPIAS	Safety / Security Fencing
Major Airports			
Alamosa	San Luis Valley Airport	NPIAS	Yes
Aspen	Aspen-Pitkin County Airport	NPIAS	Yes
Broomfield/Denver	Rocky Mountain Metropolitan Airport	NPIAS	Yes
Colorado Springs	Colorado Springs Municipal Airport	NPIAS	Yes
Cortez	Cortez-Montezuma Municipal Airport	NPIAS	Yes
Denver	Denver International Airport	NPIAS	Yes
Durango	Durango-La Plata County Airport	NPIAS	Yes
Eagle	Eagle County Regional Airport	NPIAS	Yes
Englewood/Denver	Centennial Airport	NPIAS	Yes
Grand Junction	Grand Junction Regional Airport	NPIAS	Yes
Greeley	Greeley-Weld County Airport	NPIAS	Yes
Gunnison	Gunnison-Crested Butte Regional Airport	NPIAS	Yes
Hayden	Yampa Valley Regional Airport	NPIAS	Yes

Table 6-42: Airport Safety/Security Fencing

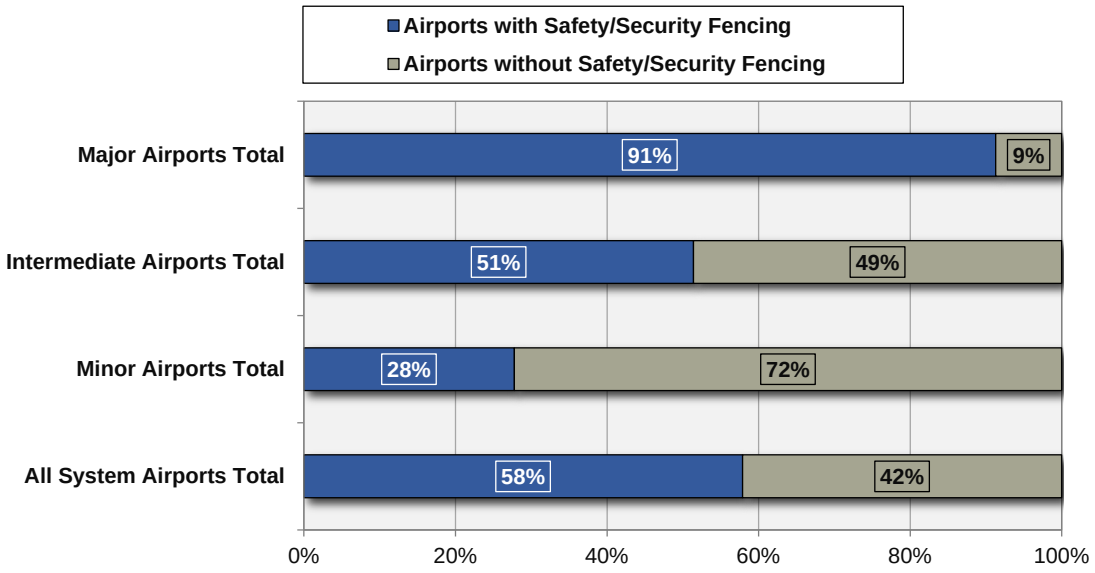
City	Airport	NPIAS or Non-NPIAS	Safety / Security Fencing
Major Airports, cont'd			
Lamar	Lamar Municipal Airport	NPIAS	Yes
Longmont	Vance Brand Municipal Airport	NPIAS	No
Loveland	Fort Collins-Loveland Municipal Airport	NPIAS	Yes
Meeker	Meeker Airport	NPIAS	Yes
Montrose	Montrose Regional Airport	NPIAS	Yes
Pagosa Springs	Stevens Field	NPIAS	Yes
Pueblo	Pueblo Memorial Airport	NPIAS	Yes
Rifle	Garfield County Regional Airport	NPIAS	Yes
Telluride	Telluride Regional Airport	NPIAS	Yes
Watkins/Denver	Front Range Airport	NPIAS	No
Intermediate Airports			
Akron	Colorado Plains Regional Airport	NPIAS	Yes
Boulder	Boulder Municipal Airport	NPIAS	No
Buena Vista	Central Colorado Regional Airport	NPIAS	Yes
Burlington	Kit Carson County Airport	NPIAS	Yes
Canon City	Fremont County Airport	NPIAS	No
Center	Leach Airport	Non-NPIAS	No
Colorado Springs	Meadow Lake Airport **	NPIAS	No
Craig	Craig-Moffat County Airport	NPIAS	Yes
Creede	Mineral County Memorial Airport	Non-NPIAS	No
Del Norte	Astronaut Kent Rominger Airport	Non-NPIAS	No
Delta	Blake Field	NPIAS	Yes
Durango	Animas Airpark **	Non-NPIAS	No
Eads	Eads Airport	Non-NPIAS	No
Erie	Erie Municipal Airport	NPIAS	No
Fort Morgan	Fort Morgan Municipal Airport	NPIAS	No
Glenwood Springs	Glenwood Springs Municipal Airport	Non-NPIAS	Yes
Granby	Granby-Grand County Airport	NPIAS	No
Holyoke	Holyoke Municipal Airport	NPIAS	No
Kremmling	McElroy Field	NPIAS	Yes
La Junta	La Junta Municipal Airport	NPIAS	Yes
Leadville	Lake County Airport	NPIAS	Yes
Limon	Limon Municipal Airport	NPIAS	No
Monte Vista	Monte Vista Municipal Airport	NPIAS	Yes

Table 6-42: Airport Safety/Security Fencing

City	Airport	NPIAS or Non-NPIAS	Safety / Security Fencing
Intermediate Airports, cont'd			
Nucla	Hopkins Field	NPIAS	No
Rangely	Rangely Airport	NPIAS	Yes
Salida	Harriet Alexander Airport	NPIAS	Yes
Springfield	Springfield Municipal Airport	Non-NPIAS	No
Steamboat Springs	Steamboat Springs-Bob Adams Field	NPIAS	Yes
Sterling	Sterling Municipal Airport	NPIAS	Yes
Trinidad	Perry Stokes Airport	NPIAS	Yes
Walden	Walden-Jackson County Airport	Non-NPIAS	Yes
Walsenburg	Spanish Peaks Airfield	NPIAS	No
Westcliffe	Silver West Airport	Non-NPIAS	Yes
Wray	Wray Municipal Airport	NPIAS	Yes
Yuma	Yuma Municipal Airport	NPIAS	No
Minor Airports			
Akron	Gebauer Airport **	Non-NPIAS	No
Blanca	Blanca Airport	Non-NPIAS	No
Brush	Brush Municipal Airport	Non-NPIAS	Yes
Calhan	Calhan Airport **	Non-NPIAS	No
Crawford	Crawford Airport **	Non-NPIAS	Yes
Delta	Westwinds Airpark **	Non-NPIAS	No
Dove Creek	Dove Creek Airport **	Non-NPIAS	No
Ellicott	Colorado Springs East Airport **	Non-NPIAS	Yes
Greeley	Easton-Valley View Airport **	Non-NPIAS	No
Haxtun	Haxtun Municipal Airport	Non-NPIAS	No
Holly	Holly Airport	Non-NPIAS	No
Hudson	Platte Valley Airpark **	Non-NPIAS	No
Julesburg	Julesburg Municipal Airport	Non-NPIAS	No
La Veta	Cuchara Valley Airport	Non-NPIAS	No
Las Animas	Las Animas City & County Airport	Non-NPIAS	No
Mack	Mack Mesa Airport **	Non-NPIAS	Yes
Paonia	North Fork Valley Airport	Non-NPIAS	Yes
Saguache	Saguache Municipal Airport	Non-NPIAS	No

** Indicates private ownership

Figure 6-19: Airports with Safety / Security Fencing



6.2.21 Additional Needs for System Airports

As part of this 2011 update to Colorado's aviation system plan, additional objectives were added related to equipment and more specialized facility needs. As part of the day-to-day operation of airports in Colorado, airports have a variety of equipment needs and some facility needs that are specific to their operation. No particular "objective" has been established as part of the system plan related to these needs. It is more likely, however, that airports in the Major and Intermediate categories will have grant requests related to these additional equipment and facility needs. It is important to note that equipment needs noted here may be for first time purchases, but it is just as likely that grant requests will be associated with equipment that has outlived it useful life.

Additional facilities and equipment that the Division of Aeronautics may fund to support the day-to-day operation and upkeep of system airports include, but are not necessarily limited to:

- Air Traffic Control Tower
- Ground Communications Outlet
- Electrical Vault
- ARFF (Airport Rescue Fire Fighting equipment/building)
- Tractors
- Mowers

- Maintenance vehicle
- Paint machine
- Crack fill machine

Over time as airports have the need for new, upgraded, or replacement equipment for any of the above, they may apply to CDOT for a grant to cover all or a portion of their costs.

6.3 Compliance with System Facility, Service, and Equipment Objectives

Tables in this section summarize information presented in this chapter. These tables show by airport role the ability of all airports in each role category to meet all applicable facility, service, and equipment objectives. In addition, comparative information from the 2005 plan is also presented so that changes in performance relative to the plan's facility, service, and equipment objectives can be seen.

Figure 6-20 and **Figure 6-21** compare system performance for Major Airports, **Figure 6-22** and **Figure 6-23** compare performance for Intermediate Airports, and **Figure 6-24** and **Figure 6-25** compare Minor Airport performance in 2005 and 2011.

For the Major Airports, notable changes include the following:

- Between 2005 and 2011, the percentage of airports in the Major category with a primary runway length meeting the system plan's objective decreased from 72 percent to 48 percent as a result of new runway length recommendations from the FAA.
- Between 2005 and 2011, the percentage of airports in the Major category meeting the strength objective for the primary runway increased from 88 percent to 91 percent.
- Between 2005 and 2011, the percentage of airports in the Major category with a parallel taxiway increased from 76 percent to 87 percent.
- Between 2005 and 2011, the percentage of airports in the Major category meeting all visual landing aid objectives increased from 80 percent to 96 percent.

For airports in the Intermediate category, notable changes between 2005 and 2011 include the following:

- Between 2005 and 2011, the percentage of airports in the Intermediate category meeting the runway width objective decreased from 84 percent to 63 percent as a result of the objective being increased from 60 to 75 feet.
- Between 2005 and 2011, the percentage of airports in the Intermediate category meeting the taxiway objective increased from 66 percent to 71 percent.

- Between 2005 and 2011, the percentage of airports in the Intermediate category meeting the objective for a published approach increased from 38 percent to 54 percent.
- Between 2005 and 2011, the percentage of airports in the Intermediate category meeting all visual landing aid objectives increased from 13 percent to 37 percent.
- Between 2005 and 2011, the percentage of airports in the Intermediate category with on-site weather reporting equipment increased from 63 percent to 71 percent.

For Minor Airports, the most notable changes between 2005 and 2011 were related to the number of airports in this category that reported providing access to public phones and restrooms for their customers.

Based on changes between 2005 and 2011 as shown in Figure 6-24 through Figure 6-25, the following conclusions can be drawn:

- The system has made notable progress in meeting objectives established in the system plan related to published approaches, on-site weather reporting equipment, and visual landing aids.
- Performance for the system decreased related to runway length objectives and runway with objectives as a result of increases for the primary runway length objective at some Major Airports and an increase in the runway width objective for all Intermediate Airports.
- Performance for the airports in the Major and Intermediate categories has shown progress, while performance for airports in the Minor category, as would be expected, has remained relatively unchanged.

Information presented in this chapter, along with system performance findings from Chapter Five, form the basis for system recommendations that are presented in the next and final chapter of the system plan.

Figure 6-20: 2011 Facility and Service Objectives Compliance Major Airports

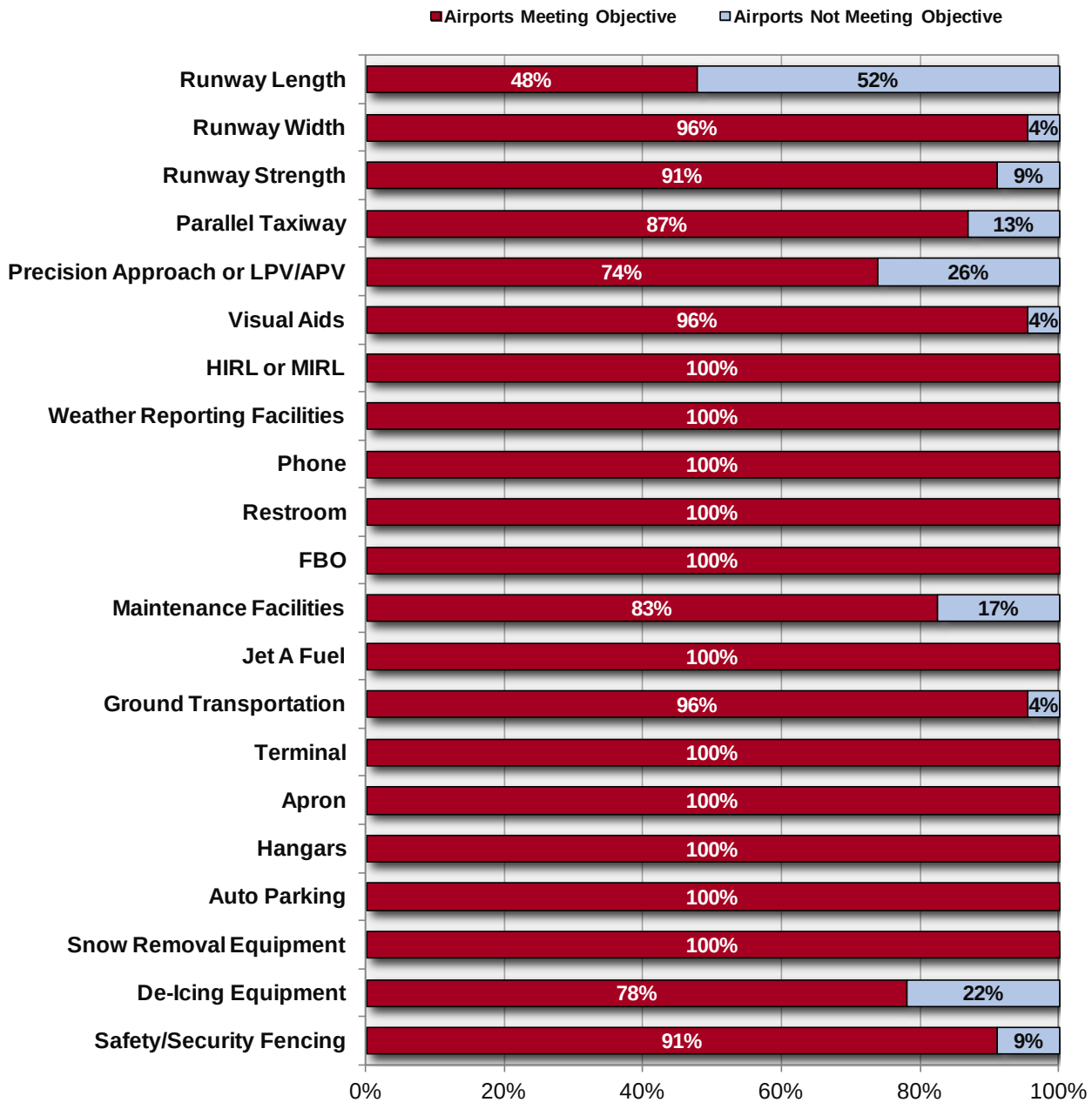


Figure 6-21: 2005 Facility and Service Objectives Compliance Major Airports

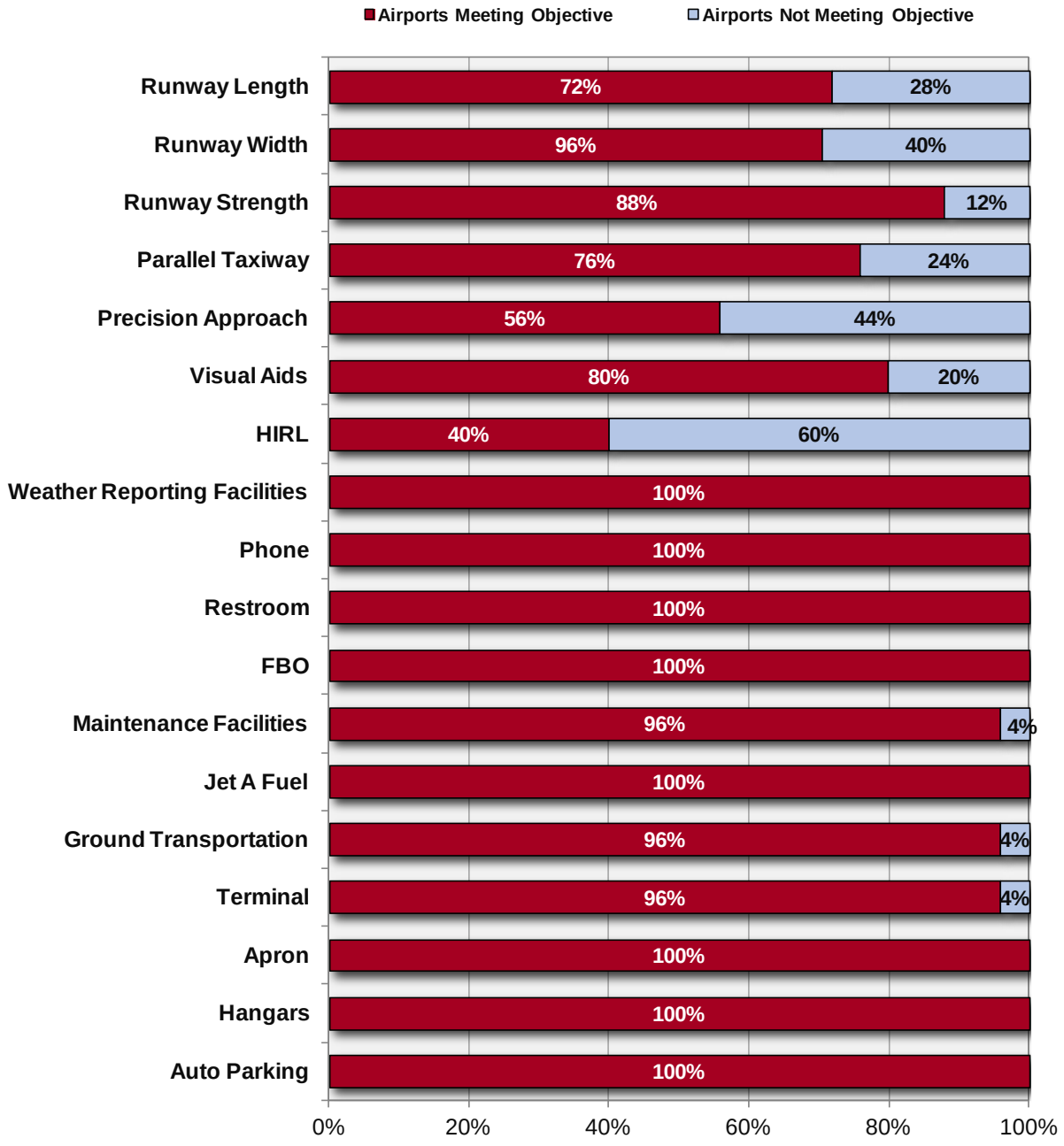


Figure 6-22: 2011 Facility and Service Objectives Compliance Intermediate Airports

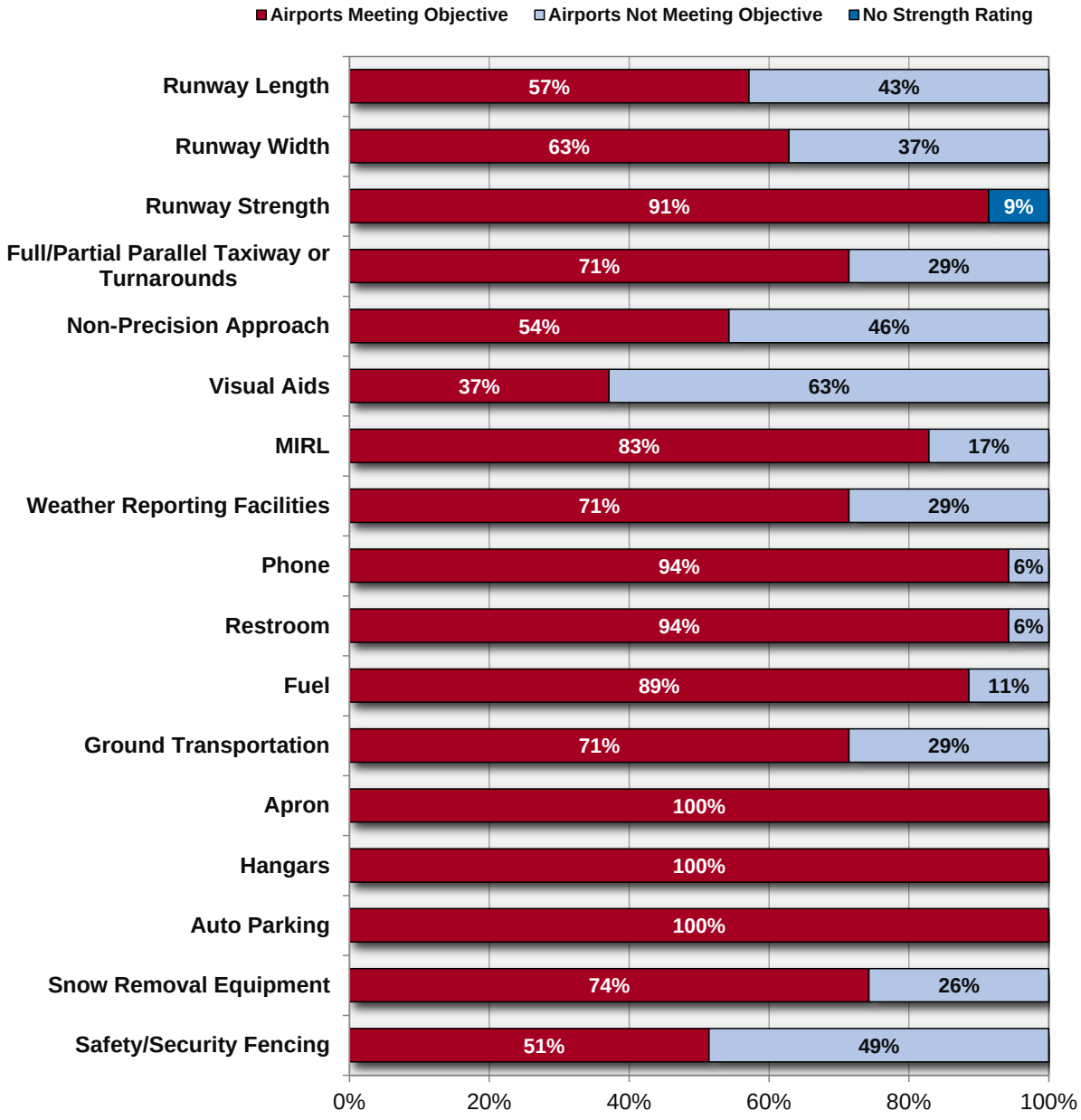


Figure 6-23: 2005 Facility and Service Objectives Compliance Intermediate Airports

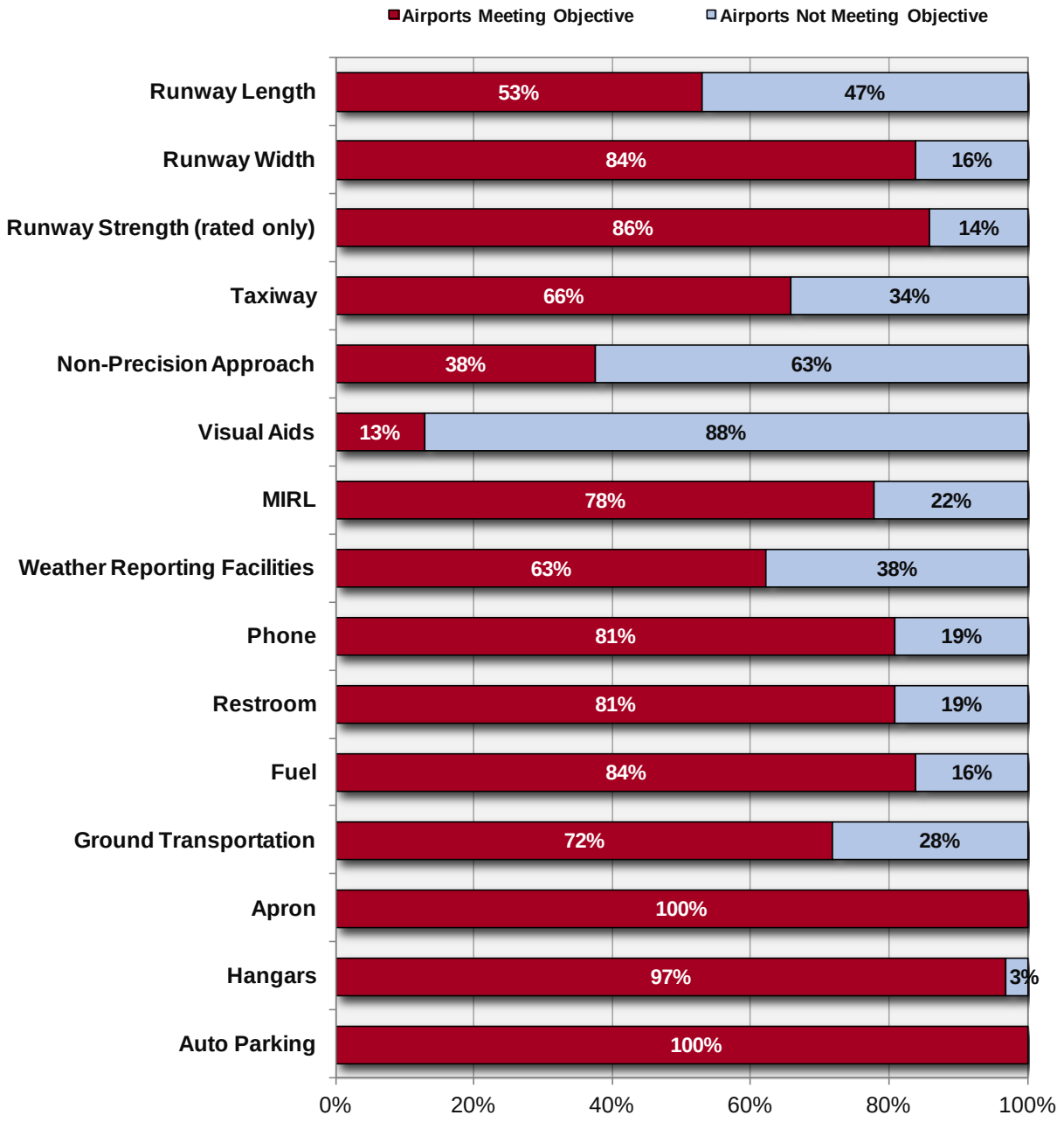


Figure 6-24: 2011 Facility and Service Objectives Compliance Minor Airports

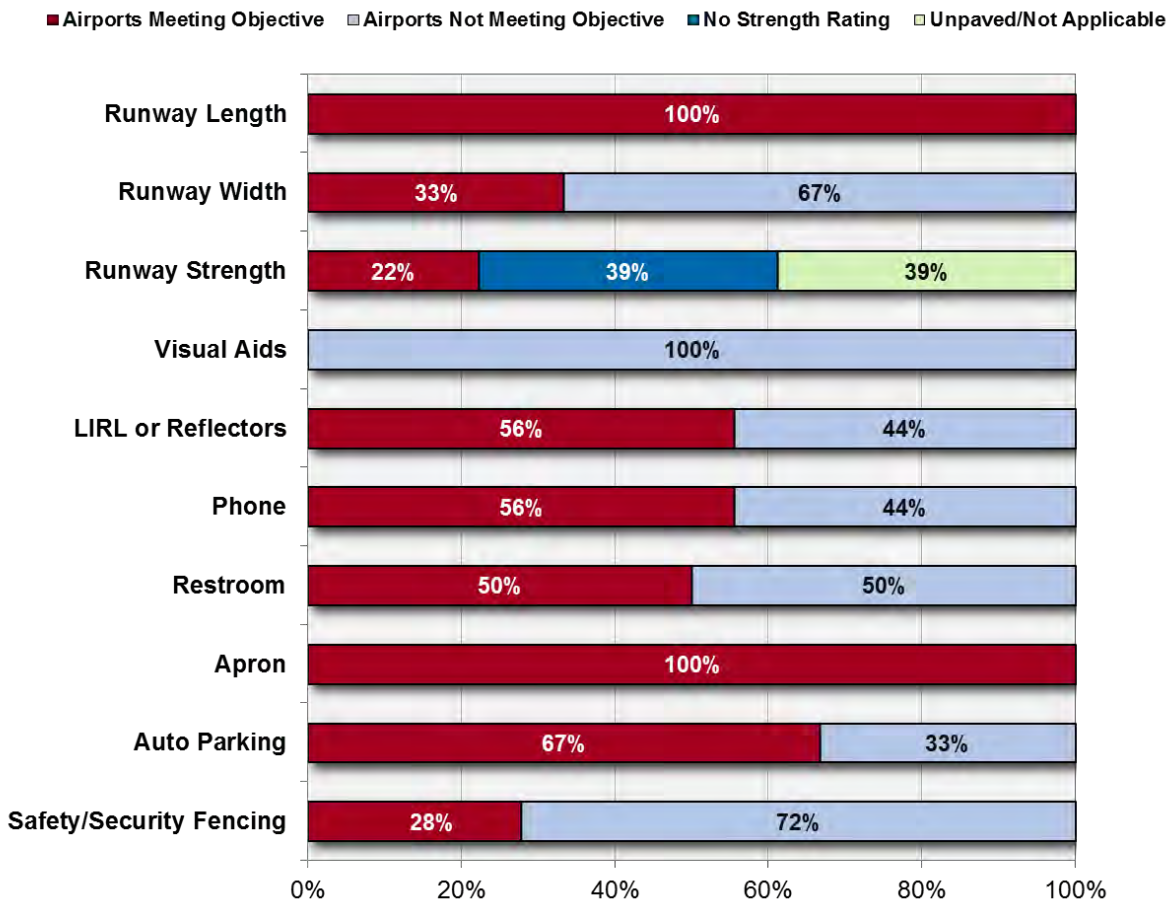
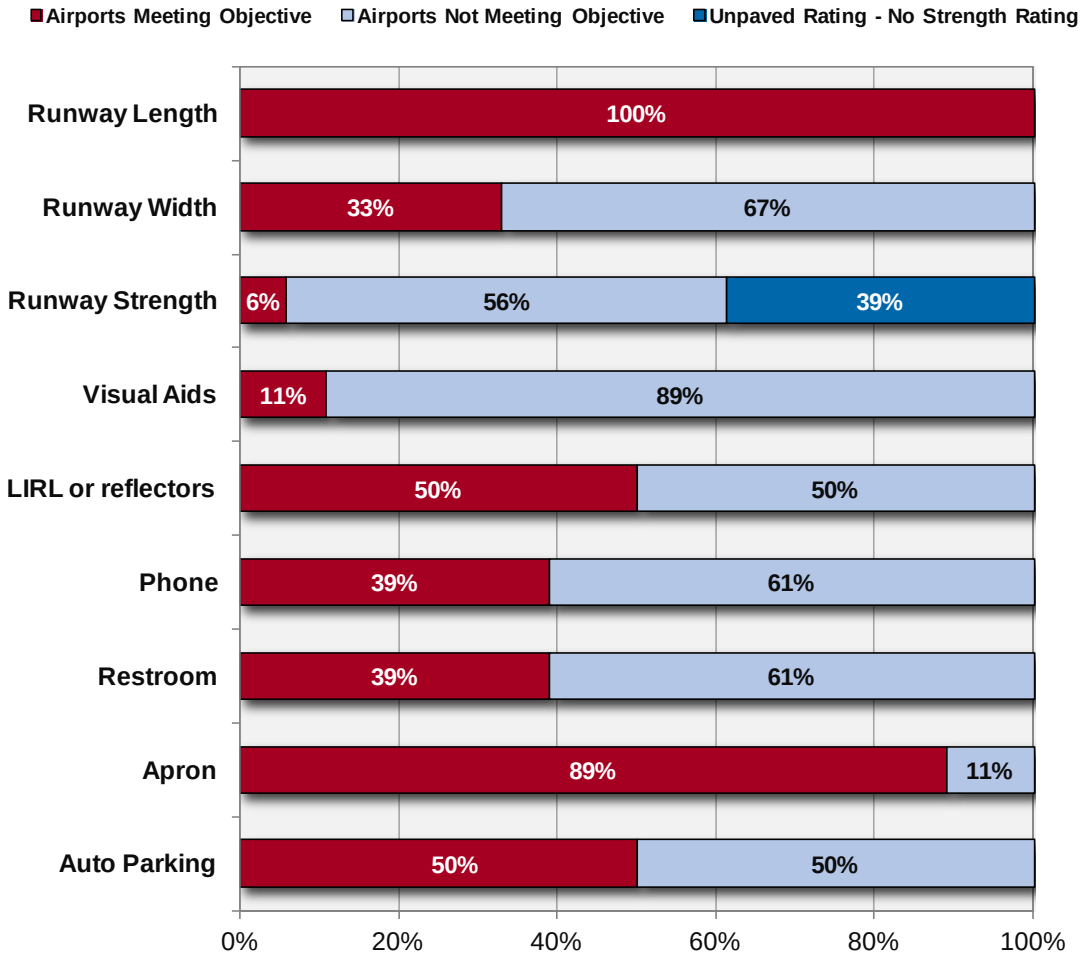


Figure 6-25: 2005 Facility and Service Objectives Compliance Minor Airports



6.4 Summary

An adequate airport system does all of the following:

- Provides users with ample operational capacity
- Accommodates change when demand warrants
- Supports the needs of the economy
- Provides ample access to users
- Offers sufficient facilities, services, and equipment
- Maintains an appropriate level of safety and security

These characteristics have been used to evaluate the Colorado's airport system's current performance in Chapter Five. Information from this chapter, Chapter Six, and Chapter Five provides a basis for recommendations for the Colorado airport system that will help to achieve a balanced, viable, effective, and efficient system of general aviation and commercial airports.

7 Recommendations

7.1 Overview

The Colorado Aviation System Plan enables the Colorado Department of Transportation (CDOT), Division of Aeronautics, to evaluate how well the Colorado airport system, as a whole, is performing. System performance is gauged using a series of performance measures and associated benchmarks. In addition, the aviation system plan's facility, service, and equipment objectives provide the framework for determining how individual airports in the Colorado system are performing, relative their assigned system role.

As part of the 2011 update to the system plan, additional pavement condition index (PCI) benchmarks and few modifications to the facility/service objectives were made to better align system and airport evaluation criteria with current FAA planning guidelines and aviation technology. A review of the Division of Aeronautics' historic grant allocations was also undertaken to demonstrate how grants relate to the system plan's evaluation benchmarks and/or to the plan's facility, service, and equipment objectives.

Table 7-1 present the results of the grant review process. This table helps to visually relate individual grants issued by Aeronautics to system benchmarks as well as to various facility, service, and equipment objectives within the system plan. What this table helps to demonstrate is that there are many types of individual projects which are funded that are directly related to the broader benchmarks and objectives contained in the Colorado Aviation System Plan.

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
Activity	Annual Demand/Capacity	Additional runways Runway extension Runway widening Partial or full parallel taxiways Additional taxiway exits Air Traffic Control Tower Apron development/upkeep Helipad development Land acquisition Site preparation Environmental assessment Airport Master Plan/ALP Published approach NAVAIDS Relocation of existing facilities, lighting, or NAVAIDS

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
Economic Support	Airports with Fuel	Fuel containment or tank detection systems Fuel tank rehabilitations Fuel tank relocation/removals Fueling aprons Lighting of fueling areas New or replacement fuel tanks Purchasing fuel truck Safety/security needs in fueling areas Self-service card readers Soil contamination issues Environmental standards
Economic Support	Airports with Jet Activity	Runway extension Runway strengthening Runway widening Precision approach Runway extension
Economic Support	Economic Impact Greater than $1 Million	Statewide economic impact study
Economic Support	Ground Transportation	Parking lot (non-revenue)
Economic Support	Precision Approach	Lighted wind cone Lighting (MIRL or HIRL) Rotating beacon NAVAIDS Runway markings/painting Obstruction removal or lighting Obstruction surveys On-site weather reporting Relocation of existing facilities, lighting, or NAVAIDS FAA safety area compliance Electrical vault Taxiway System Ground communication outlet Land acquisition Clearing Site preparation Airport Master Plan/ALP

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
Economic Support	Published Approach (Non-Precision)	Lighted wind cone Lighting (MIRL) Rotating beacon NAVAIDS Taxiway System Segmented circle Runway markings/painting Obstruction removal or lighting Obstruction surveys On-site weather reporting Relocation of existing facilities, lighting, or NAVAIDS FAA safety area compliance Electrical vault Ground communication outlet Land acquisition Clearing Site preparation Airport Master Plan/ALP
Economic Support	Rental Car Facilities	Parking lot (non-revenue)
Expansion Potential	Current Master Plans	Airport Master Plan/ALP Strategic plans
Expansion Potential	FAR Part 77 Compliancy	Obstruction marking and lighting Obstruction removal Other mitigation (related to manmade or natural features) Relocation
Expansion Potential	General	Land acquisition Acquisition of development rights Site preparation Environmental assessment Environmental mitigation Strategic plans Relocation of existing facilities Facilities that support unique activities or demand Infrastructure or utilities projects Fire suppression systems Electrical vault

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
Investment	Minimum Runway Length	Runway extension Runway grooving Runway markings/painting Runway strengthening Runway widening Related taxiway projects FAA safety area compliance Lighting (HIRL, MIRL, LIRL, Reflectors) Relocation of existing facilities, lighting, or NAVAIDS Relocation of existing on or off-airport structures or facilities Airport maintenance equipment (tractor, mowers, paint machine, maintenance vehicles, other) Signs Land acquisition Site preparation Environmental assessment Engineering studies Airport Master Plan/ALP
Investment	Primary Runway, Primary Taxiway, or Primary Apron Area	Pavement rehabilitation Pavement replacement/reconstruction Pavement slab replacement Pavement overlay Pavement surface treatment Runway markings/painting Crack fill Seal coat Chip seal Fog seal
Security and Safety	Fencing	Safety/security fencing Perimeter fencing Wildlife fencing Replacement fencing Automated gates
Security and Safety	General	Access controls Fencing Operations/security manuals Apron lighting Other lighting projects Signs

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
System Accessibility	General	Air Traffic Control Tower Airport maintenance equipment (tractor, mowers, paint machine, maintenance vehicles, other) Airport roads ARFF equipment/buildings Lighted wind cone Segmented circle Snow removal equipment De-icing equipment
System Accessibility	King Air B200 or Learjet 35 Emergency Aircraft	Runway extension Lighting (MIRL or HIRL) Published approach Rotating beacon On-site weather reporting
System Accessibility	Within 30 Minute Drive Time of a System Airport, or Within 90 Minute Drive Time of an Airport with Scheduled Commercial Service	Air Traffic Control Tower Terminal building (non-revenue) Administration building Parking lot (non-revenue) Apron development/upkeep Apron lighting Airport maintenance equipment (tractor, mowers, paint machine, maintenance vehicles, other) Airport roads Electrical vault Lighted wind cone Segmented circle Snow removal equipment De-icing equipment Land acquisition Airport feasibility studies Airport site selection studies All projects to develop a new airport State Aviation System Plan Air service studies

Table 7-1: Relationship of Performance Measures, Benchmarks and Grants

Performance Measure Activity	Benchmark	Project Type
System Accessibility	Weather Reporting (On-Site)	On-site weather reporting Lighting Computer/VHF/VHF radio Concrete pads Electrical, conduit, data cables Ground communications outlet Site mapping/surveying Site preparation

This final chapter of the system plan provides information on the following:

- Actions and projects desirable to improve system performance relative to the plan's benchmarks.
- Actions and projects desirable to improve system performance relative to airport-specific facility, service, and equipment objectives.
- Generalized cost estimates related to implementing improvements identified in the system plan update.

It is important to note that recommendations summarized in this section most often relate to more general actions that are deemed desirable to satisfy benchmarks and facility, service, and equipment objectives outlined in the system plan. It is important to note that other types of and more detailed projects, some of which are shown in Table 7-1, are also appropriate and should be funded to elevate the performance of the system as it relates to targets set in this plan.

It is not possible, within the context of this plan, to identify all types of projects that the Division of Aeronautics may fund in the ensuing years. It is possible, however, using the expanded framework established during this update to the Colorado Aviation System Plan to show how individual grants relate to and help to support the broader measures that are used to monitor the performance of Colorado's airport system.

7.2 Actions/Projects Related to Study Benchmarks

7.2.1 Recommendations Related to the *Activity* Performance Measure

For the Activity measure, each airport's ability to process annual operational demand, current and future, was examined. FAA demand/capacity triggers of 60 percent and 80 percent were used as indicators to identify system airports whose annual operational capacity is or could be tested by the airport's annual volume of aircraft operations. The target set for the system plan is for all airports to be operating under an annual demand/capacity ratio of 80 percent.

Analysis presented in Chapter Four (Table 4-1) shows that two airports, Centennial and Pueblo Memorial, are expected to operate over 60 percent demand/capacity, but under an 80 percent demand/capacity by 2030. Denver International is the only system airport projected to exceed the 80 percent demand/capacity ratio by 2030; it is important to note that this anticipated demand/capacity ratio is based on current operational capacity and not on future capacity that could be achieved as additional runways come online at this major international airport.

As Table 7-1 shows, there are many types of projects that Aeronautics funds to enhance operational capacity; some of these projects not only help to improve capacity and operational efficiency but also contribute to the airport's operational safety. Specific projects to address shortfalls in operational capacity are best determined through a master planning study. Because the operational needs of system airports can change, it is likely that Aeronautics will have funding requests in this category which are undefined at this time.

Pueblo Memorial is currently in the process of completing a runway redevelopment project, a project undertaken in direct response to its operational capacity constraints. In addition, Pueblo Memorial has implemented demand management strategies which include using other less congested, nearby airports to accommodate a portion of the airport's high volume of training activity. The Division of Aeronautics should continue to work with Pueblo to assist them with the final implementation of projects to increase operational capacity.

Previous studies indicated that Centennial Airport's ability to increase its operational capacity was largely limited to additional or high speed taxiway exits; since the completion of the 2005 system plan, these high speed taxiway exits have been developed. As noted in Chapter Three of this study, Centennial's annual operational levels have decreased. The demand/capacity ratio at this airport should continue to be monitored; but at this point, there are no additional recommendations related to increasing operational capacity at this airport.

Denver International is in the process of detailed planning studies which will determine the timing for building this airport's seventh runway. The airport is in the midst of simulation modeling which will determine the timing to develop the next runway. It is important to note that, for Denver International, hourly rather than annual operational capacity is the more important measure. The cost for providing an additional runway at Denver International has yet to be finalized; at this point, preliminary cost estimates for the seventh runway at the airport indicate that the cost will most likely exceed $250 million. The airport and the FAA are working together to determine when the additional runway will be built. The cost of this major project will have implications on funding other projects in the FAA's Northwest Mountain Region.

7.2.2 Recommendations Related to the *Expansion Potential* Performance Measure

As Table 7-1 shows, there are many types of projects that an airport may need to undertake and that Aeronautics may fund to support expansion potential. As examples, to expand, airports may need utility projects, access projects, relocation projects, or land acquisition projects. Helping airports to expand to meet the needs of their users is one of the primary missions of the Division of Aeronautics. Over the planning period, there will be many grant requests related to the expansion needs of system airports that have not been adequately captured or costed as part of this update to the aviation system plan. Nevertheless, it will be important for Aeronautics to support these grant requests to maintain an effective and efficient system of airports and to meet the objectives of the system plan.

As part of Colorado's aviation system plan, two specific indicators are tracked related to monitoring the expansion potential of system airports. If airports have current master plans and if they identify and protect areas within their FAR Part 77 surfaces, the likelihood that they will be able to expand, when demand warrants, is significantly increased.

Master Plan Recommendations

Working with the Denver Airports District Office (ADO) of the FAA during this update to the Colorado Aviation System Plan, the decision was made to revise the system plan's objective for what constitutes a current master plan. For publicly-owned and NPIAS general aviation airports, master plans are now considered current if they have been developed within the past 10 years. For commercial airports in Colorado, master plans are considered current if they have been prepared within the past seven (7) years. Table 5-5 in Chapter Five of this report provided information on those airports which are currently in need of a master plan to meet these objectives; these airports are shown here in **Table 7-2**.

Table 7-2: Master Plan Recommendations

City	Airport	Recommendation
Major Airports		
Hayden	Yampa Valley Regional Airport	Need Master Plan Update
Telluride	Telluride Regional Airport	Need Master Plan Update
Intermediate Airports		
Center	Leach Airport	Need Master Plan Update
Eads	Eads Airport	Need Master Plan Update
Glenwood Springs	Glenwood Springs Municipal Airport	Need Master Plan Update
Springfield	Springfield Municipal Airport	Need Master Plan Update
Westcliffe	Silver West Airport	Need Master Plan Update
Minor Airports		
Brush	Brush Municipal Airport	Need Master Plan Update
Haxtun	Haxtun Municipal Airport	Need Master Plan Update
Holly	Holly Airport	Need Master Plan Update
Julesburg	Julesburg Municipal Airport	Need Master Plan Update
La Veta	Cuchara Valley Airport	Need Master Plan Update

Table 7-2: Master Plan Recommendations

City	Airport	Recommendation
Minor Airports, cont'd		
Las Animas	Las Animas City & County Airport	Need Master Plan Update
Paonia	North Fork Valley Airport	Need Master Plan Update

Over this study's 20-year planning horizon, the currency of all master plans will expire at various intervals. Information presented in Table 5-5 was used to determine the number of master plans that will be needed at commercial and general aviation airports to meet the revised objectives established in this update. The actual cost of an airport master plan varies based on the individual circumstances of the airport and parameters of the plan. For planning purposes, generalized cost estimates for master plans for commercial airports and general aviation airports were established. These costs were used to develop an estimated cost for helping system airports to meet the objective set for the master planning benchmark over the coming years. These costs are included in **Table 7-26**.

In addition to funding the master plans themselves, there are projects that will be identified in these plans that Aeronautics may also help to fund. Master plans are essential tools for establishing runway lengths, runway strengths, taxiway needs, and appropriate design standards for all airports. Because the "currency" of airport master plans is continually changing, a target has been established to have 70 percent of all publicly-owned and all NPIAS airports with current master plans at any given time. It is worth noting that Aeronautics just approved a master plan for Brush Municipal Airport in April 2012.

Part 77 Recommendations

System airports should take steps to identify and protect areas within their Part 77 surfaces. Part 77 surfaces, as established by FAA, help to identify those areas around each airport that should be protected from objects which may impact the safety of airport operations and from activities that are incompatible with aircraft operations. For this plan, an objective was adopted for all NPIAS and publicly-owned airports to have current Part 77 surfaces and for these same airports to then take steps to have their Part 77 surfaces incorporated into local planning or zoning documents.

As Table 7-1 indicates, there are many types of projects that Aeronautics may fund to help airports resolve obstructions within their Part 77 surfaces. The intent of the system plan was not to identify obstructions within Part 77 surfaces at system airports, but rather to identify which airports have current Part 77 surfaces. Over the course of the planning period, there will be grant requests from airports that need to resolve or to mitigate obstructions or other incompatibilities within their Part 77 surfaces, but these costs are not identified as part of the system plan update. Nevertheless, the Division of Aeronautics should respond to grant requests of airports needing to address obstructions within current or future Part 77 surfaces.

Table 7-3 shows the airports that either need to identify their current Part 77 surfaces; need to take steps to have their Part 77 surfaces incorporated into local planning/zoning documents; or need both of these items/actions..

Table 7-3: Part 77 Surface Recommendations

City	Airport	Recommendation
Major Airports		
Colorado Springs	Colorado Springs Municipal Airport	Need Zoning
Durango	Durango-La Plata County Airport	Need Zoning
Eagle	Eagle County Regional Airport	Need Zoning
Lamar	Lamar Municipal Airport	Need Zoning
Pueblo	Pueblo Memorial Airport	Need Zoning
Rifle	Garfield County Regional Airport	Need Zoning
Intermediate Airports		
Center	Leach Airport	Need Zoning
Colorado Springs	Meadow Lake Airport **	Need Zoning
Delta	Blake Field	Need Zoning
Eads	Eads Airport	Need Drawings, Need Zoning
Erie	Erie Municipal Airport	Need Zoning
Fort Morgan	Fort Morgan Municipal Airport	Need Zoning
Glenwood Springs	Glenwood Springs Municipal Airport	Need Drawings
Kremmling	McElroy Field	Need Zoning
Rangely	Rangely Airport	Need Zoning
Salida	Harriet Alexander Airport	Need Zoning
Sterling	Sterling Municipal Airport	Need Zoning
Trinidad	Perry Stokes Airport	Need Zoning
Westcliffe	Silver West Airport	Need Drawings
Minor Airports		
Blanca	Blanca Airport	Need Drawings, Need Zoning
Brush	Brush Municipal Airport	Need Drawings, Need Zoning
Crawford	Crawford Airport	Need Drawings, Need Zoning
Delta	Westwinds Airpark	Need Drawings, Need Zoning
Dove Creek	Dove Creek Airport	Need Drawings, Need Zoning
Haxtun	Haxtun Municipal Airport	Need Drawings, Need Zoning
Holly	Holly Airport	Need Drawings, Need Zoning
Julesburg	Julesburg Municipal Airport	Need Drawings, Need Zoning
La Veta	Cuchara Valley Airport	Need Drawings, Need Zoning
Las Animas	Las Animas City & County Airport	Need Drawings, Need Zoning
Paonia	North Fork Valley Airport	Need Drawings, Need Zoning
Saguache	Saguache Municipal Airport	Need Drawings, Need Zoning

** Indicates private ownership
Note: Only NPIAS airports that are not compliant shown

Part 77 surfaces are typically identified as part of an airport master plan. As a result, if airports have current master plans, they should also have current Part 77 surfaces. There is no additional cost associated with actions that are needed to identify Part 77 surfaces or to have Part 77 surfaces incorporated into local planning or zoning documents. It is important for Aeronautics to work with system airports on the importance of having current Part 77 surfaces, of having these surfaces incorporated into local planning/zoning documents, and of addressing any

incompatibilities within these surfaces. It is recommended that Aeronautics undertake a statewide study to address Part 77 and land use issues at system airports; the cost for this statewide planning effort is reflected in Table 7-26.

7.2.3 Recommendations for the *Economic Support* Performance Measure

For airports in Colorado to effectively support both the State and local economies, they must be accessible and have various support services. Several of the benchmarks associated with this particular performance measure are also part of the facility objectives for airports assigned to certain system roles. When crossover between the study's benchmarks and airport specific facility objectives occurs, recommendations and costs are presented in this chapter in association with the applicable benchmark.

Approaches

For system airports to be accessible from the air, the system plan has adopted an objective for airports in the Major category to ideally have a precision approach and for airports in the Intermediate category to have a non-precision approach. When airports in the Major category cannot meet requirements for a precision approach, these airports should ideally have an approach with vertical guidance.

Chapter Six of this report considered input from previous studies to identify airports in both the Major and the Intermediate categories that have the greatest potential to accommodate their recommended approach. Two of the airports in the Major category that are without a precision ILS approach, Cortez-Montezuma Municipal and Lamar, do have LPV/APV approaches. At this time, there are not any pending precision ILS approaches for any of the system airports. Airports in the Major category should be equipped with the most precise approach that the airport's individual airport circumstances can accommodate; this includes more precise LPV/APV approaches. Approach recommendations for Major Airports are shown in **Table 7-4**.

There are a total of 16 airports in the Intermediate category that currently do not have a published approach; however, two of these airports, Fort Morgan and Spanish Peaks Municipal, are currently programmed by the FAA to receive a non-precision GPS approach. The airports in the Intermediate category that should ideally have a non-precision approach are also shown in Table 7-4.

Table 7-4: Published Approach Recommendations

City	Airport	Recommendation
Major Airports		
Aspen	Aspen-Pitkin County Airport	Consider for vertical guidance approach
Eagle	Eagle County Regional Airport	Consider for vertical guidance approach
Longmont	Vance Brand Municipal Airport	Consider for vertical guidance approach
Meeker	Meeker Airport	Consider for vertical guidance approach
Pagosa Springs	Stevens Field	Consider for vertical guidance approach
Telluride	Telluride Regional Airport	Consider for vertical guidance approach

Table 7-4: Published Approach Recommendations

City	Airport	Recommendation
Intermediate Airports		
Boulder	Boulder Municipal Airport	Consider for Non-Precision Approach
Center	Leach Airport	Consider for Non-Precision Approach
Colorado Springs	Meadow Lake Airport **	Consider for Non-Precision Approach
Creede	Mineral County Memorial Airport	Consider for Non-Precision Approach
Del Norte	Astronaut Kent Rominger Airport	Consider for Non-Precision Approach
Delta	Blake Field	Consider for Non-Precision Approach
Durango	Animas Airpark **	Consider for Non-Precision Approach
Eads	Eads Airport	Consider for Non-Precision Approach
Fort Morgan	Fort Morgan Municipal Airport	Non-Precision Approach Pending
Glenwood Springs	Glenwood Springs Municipal Airport	Consider for Non-Precision Approach
Granby	Granby-Grand County Airport	Consider for Non-Precision Approach
Limon	Limon Municipal Airport	Consider for Non-Precision Approach
Rangely	Rangely Airport	Consider for Non-Precision Approach
Walsenburg	Spanish Peaks Airfield	Non-Precision Approach Pending
Westcliffe	Silver West Airport	Consider for Non-Precision Approach
Yuma	Yuma Municipal Airport	Consider for Non-Precision Approach

** Indicates private ownership

Approach technology is continually evolving; Aeronautics should respond as appropriate with grants to assist airports with projects to upgrade their approach capabilities. As discussed in Chapter Four of this report, there are a variety of projects which may include improvements to primary surfaces, runway protection zones, or taxiways that can be required to support a non-precision approach. In addition, as airports undertake other runway related projects, alterations to existing approaches and the lighting, marking, and equipment that support these approaches will sometimes be required. Consequently, grants may be requested not only to install approaches, but also to maintain, relocate, or upgrade approaches.

Within the context of the system plan, it is not possible predict all changes to existing approaches that may be required between now and the end of the 20-year planning period. Costs included in the system plan are related exclusively to providing the new approaches noted in Table 7-4. Over the planning period, however, Aeronautics will most certainly receive, and should fund, grant requests for other approach related projects.

Fuel

The system plan's objective related to fuel is for all airports in the Major category to have both Jet A and 100LL fuel and for airports in the Intermediate category to have at least 100LL fuel. At larger airports, FBOs and private hangar owners sometimes install their own fueling systems. It is important to note the Division of Aeronautics does not fund fuel related grants from third party providers; grants related to fuel are restricted to publicly-owned fueling facilities. As Table 7-1 indicates, they are many types of grants that Aeronautics issues related to providing and maintaining fueling facilities at system airports.

All Major Airports currently meet system plan objectives related to providing fuel. Airports in the Intermediate category which do not currently meet plan objectives related to providing fuel are shown in **Table 7-5**.

Table 7-5: Fuel Recommendations

City	Airport	Recommendation
Intermediate Airports		
Creede	Mineral County Memorial Airport	Need to Meet Fuel Objective
Del Norte	Astronaut Kent Rominger Airport	Need to Meet Fuel Objective
Eads	Eads Airport	Need to Meet Fuel Objective
Springfield	Springfield Municipal Airport	Need to Meet Fuel Objective

There are many State and Federal environmental regulations that fueling facilities at Colorado airports must comply with. Furthermore, as fuel tanks age, they must be replaced; and as an airport's activity increases, it may be necessary for the airport to add additional fueling capabilities. Cost estimates shown in Table 7-26 are those related to providing fuel at those airports that currently do not meet this plan's objective for providing fuel. Costs in Table 7-26 do not reflect other grants for additional fueling capabilities, to address environmental issues related to fuel, or to relocate or replace existing fueling facilities. Over the planning period, however, Aeronautics will most certainly also receive grant requests for these additional types of fuel related projects; and to maintain the integrity of the system, these grants should be approved as appropriate.

Ground Transportation Services

The system plan's objective is for all airports in the Major category to have access to rental cars, and commercial airports in the Major category should have rental cars on-site. Most all Major Airports currently meet their ground transportation services objective. For airports in the Intermediate category, the objective is for these airports to have access to some form of ground transportation service.

Providing ground transportation services to visitors who arrive in Colorado by air is important to airports being able to fulfill their system role. In addition, as Aeronautics re-visits airports roles, having information on which airports have ground transportation services for their customers is one factor that helps differentiate between

airports within the same role category. **Table 7-6** shows the airports in the Major and Intermediate categories that not do currently meet ground transportation objectives.

Table 7-6: Ground Transportation Services Recommendations

City	Airport	Recommendation
Major Airports		
Meeker	Meeker Airport	Need Access To Car Rental Facilities
Intermediate Airports		
Center	Leach Airport	Need Ground Transportation Service
Creede	Mineral County Memorial Airport	Need Ground Transportation Service
Del Norte	Astronaut Kent Rominger Airport	Need Ground Transportation Service
Eads	Eads Airport	Need Ground Transportation Service
Limon	Limon Municipal Airport	Need Ground Transportation Service
Monte Vista	Monte Vista Municipal Airport	Need Ground Transportation Service
Rangely	Rangely Airport	Need Ground Transportation Service
Springfield	Springfield Municipal Airport	Need Ground Transportation Service
Westcliffe	Silver West Airport	Need Ground Transportation Service
Yuma	Yuma Municipal Airport	Need Ground Transportation Service

Ground transportation services are most often available through third party providers. Consequently, Aeronautics does not typically issue grants related directly to providing ground transportation services. As Table 7-1 implies, however, other grants could indirectly contribute to an airport's ability to support ground transportation services. Table 7-26 does not include any costs related to providing ground transportation services at those airports that currently do not meet plan objectives. Airports in the Intermediate category should attempt to either provide access to a courtesy car or work with a third party provider to secure ground access to and from their airport.

Jet Activity

The system plan has not established an objective for which airports should serve jet activity. It is important, however, to have information on system airports that serve jet aircraft operations on a regular basis. Among other things, this information is important to refining roles for system airports. Understanding where jet activity is taking place in the system and knowing where this type of activity is increasing also helps to prepare for improvement projects at system airports that may be required to support this type of activity.

As Table 7-1 shows, there are many projects related to an airport's capability to serve jet aircraft. Projects related to an airport serving jet aircraft most frequently are tied to runway length, runway strength, runway lighting, and runway approach type. The system plan does not have any recommendations as to which airports should serve jet

aircraft activity, nor does Table 7-26 reflect any specific costs related to this particular benchmark. It is important to note, however, that other projects and costs, especially those related to runway length, strength, lighting, and approach capabilities, often support the ability of system airports to serve jet aircraft.

As part of the 2011 system plan update, information was collected for the first time on trends in business jet activity at system airports. Trends in business jet operations reported in the 2010-2011 time frame should be compared to those reported at the time of the next system plan update, approximately 2017. Comparing trends in business jet activity may help to further define changes in airport roles that could be appropriate at the time of the next system plan.

Economic Impact

There is no objective in the system plan for airports in any role category related to the level of annual economic the airport should generate. It is important, however, for the Division of Aeronautics to have information on the annual economic impact associated with each system airport. This information is important in refining roles for system airports, and annual economic impact is one factor used by Aeronautics each year in its grant allocation process.

As Table 7-1 shows, there are projects that are related to an airport's annual economic impact; Table 7-26, however, does not reflect any airport specific costs related to the economic impact benchmark. Given the importance of economic impact information to individual airports in Colorado, as well as the importance of this information to Aeronautics, the statewide economic impact study for all system airports should be updated at five year intervals through the end of the planning period. Table 7-26 reflects the cost for these economic impact study updates.

7.2.4 Recommendations for the *Coverage & Emergency Access* Performance Measure

For the Colorado airport system to effectively meet the needs of its customers, airports should be readily accessible from the ground by customers and passengers and from the air by pilots. As with the pervious performance measure, some of the benchmarks used to evaluate system performance relative to this measure are also part of the facility and service objectives for some system airports. Where this duplication occurs, recommendations and costs are discussed in relationship to the benchmark.

Access to Airports with Scheduled Commercial Service

A target has been set to have 95 percent of Colorado's population within a 90 minute or less drive time of an airport with scheduled airline service. Analysis completed in the system plan shows that when all commercial airports in Colorado, along with the commercial airports in neighboring states, are considered this target is met. However, a number of the airports that contribute to this coverage have service that is supported by subsidies from the Essential Air Service (EAS) program.

In the deregulated airline environment, there is little that the State or local communities can do to influence carriers to provide scheduled service, short of providing significant subsidies to underwrite the cost of service. Related to this benchmark, Colorado should continue to monitor through the National Association of State Aviation Officials (NASAO), Federal elected officials from Colorado, and other organizations, the status of EAS. As analysis in Chapter Five of this report indicated, while loss of service supported by EAS subsidies would reduce area coverage, the impact on population coverage would not be as significant.

As Table 7-1 shows, CDOT provides funding for facilities that help to meet the needs of commercial airlines. However, simply providing the physical facilities that airlines require does not necessarily translate into the provision of scheduled service. Over the planning period, Aeronautics may assist airports with studies to evaluate their facilities which help to address air service needs and with other projects that are identified as part of airport specific master plans or the system plan that help to support commercial aircraft. There are, however, no specific funding requirements associated with this benchmark.

Coverage from Precision and Non-Precision Approaches

Recommendations for precision and non-precision approaches have been previously discussed in association with the Economic Support Performance Measure. The system plan has set the following accessibility targets for precision and non-precision approaches:

- Precision approach or approach with vertical guidance – 95 percent of population and 95 percent of land area within 90 nautical miles of an airport with a precision approach or an approach with vertical guidance.
- Non-precision approach – 100 percent of population and 100 percent of land area within 60 nautical miles of an airport with a non-precision approach.

As was discussed in Chapter Six (and in this chapter in association with the Economic Support Performance Measure) while all commercial and general aviation airports in the Major category should ideally have a precision approach, constraints at many airports make it infeasible for them to meet FAA requirements.

Most airports in the Major category that do not have a precision ILS approach have been investigated thoroughly for their ability to accommodate such an approach. Results of these investigations show that these airports lack the ability to accommodate approach lighting systems, as well as other dimensional criteria associated with a precision ILS approach. Costs to implement additional approaches have been previously included with the Economic Support Performance Measure. Colorado's most promising opportunities for improved approach capabilities at system airports lie with improved satellite technology, such as LPV/APV approaches, which provide near precision approach capabilities for aircraft equipped to fly such an approach.

As Table 7-1 has shown, there are many types of projects, including lighting, other landing aids, and taxiways, that are related to an airport's ability to have a published approach. Over the planning period, Aeronautics may have grant requests that are associated with not only providing new but also maintaining the integrity of existing approaches, and it will be important for them to respond to these requests.

As discussed in association with the Economic Support Performance Measure, there are a number of airports in the Intermediate category that should continue to be considered as candidates for a published approach. The costs associated with these additional approaches have been included in Table 7-26. While both population and land area coverage targets, for published approaches are currently met, Aeronautics should continue to advocate for and fund projects to support additional approaches. Published approaches also help to support access for operators of emergency aircraft. All airports continue to be included in the Intermediate category should have a published approach.

Access to Any System Airport

Following FAA guidelines for entering airports into the NPIAS, Colorado set a target to have 95 percent of its population and 50 percent of its land area within a 30 minute or less drive time of a system airport. Based on the current system of airports, 94 percent of the State's population and 54 percent of its land area are within a 30 minute or less drive time of a system airport. It is possible that over time, if population continues to grow in existing populated areas of the State, the target for population coverage could be met, even without system expansion.

The need and justification for additional system airports is primarily demand driven or driven by the fact that existing airports are constrained and cannot be expanded. As Chapter Three of this report discussed, since the 2005 system plan was published, general aviation activity has declined, even at Colorado's busiest general aviation airports. While the NPIAS includes a new general aviation airport in the Wellington, Colorado area, at this point, there does not appear to be a significant need for this additional airport, at least from a demand standpoint. Furthermore, the local initiative to develop this additional general aviation airport appears to be dormant. It is worth noting that Forbes Magazine recently reported that the Fort Collins-Loveland area is one of

the fastest growing in the U.S. The need for an additional general aviation airport in this area should be monitored and considered at the time of the next update to Colorado's Aviation System Plan.

Over the planning period, if there is need and justification, the Division of Aeronautics should support the development of this additional airport, or perhaps even others. In order to develop a new airport, steps could include: airport feasibility analysis, airport site selection, airport master planning, business planning, environmental assessment, engineering studies, land acquisition, mitigation/relocation, site preparation, and facility development. At this point, the costs for these projects are not included in Table 7-26.

It is important to note that the Division of Aeronautics should monitor the need for additional airports over the planning period. As conditions warrant, they should provide funding support for new airport development. As part of its process to monitor system airports, Aeronautics should also monitor the continued need for various airports to be included in the State Airport System, making them eligible for State funding. Aeronautics should also monitor the ability of airports in Colorado included in the NPIAS to meet FAA's criteria for NPIAS eligibility. Updating the Colorado Aviation System Plan at regular intervals will help provide this important decision-making information. Costs to update the State Aviation System Plan are included in Table 7-26.

Airports with and Coverage from Weather Reporting Equipment

Timely weather reporting is critical to pilots using airports in Colorado. As a result, the system plan has established an objective for all airports in the Major and Intermediate categories to have some type of on-site weather reporting equipment. In addition, the system plan has established a target to have 85 percent of the State and 100 percent of its population with 25 nautical miles of on-site weather reporting equipment. To meet this target, weather reporting systems can be located at one of the system airports or in a mountain pass where the Division of Aeronautics has installed seven additional weather reporting systems. Currently, 99 percent of Colorado's population and 81 percent of its land area are within 25 nautical miles of weather reporting equipment.

Currently, all airports in the Major category meet this plan's objective for having on-site weather reporting equipment. There are, however, several airports in the Intermediate category that presently do not have on-site weather reporting equipment, and it is a recommendation of this plan that these airports have this equipment. Airports in the Intermediate category that need on-site weather reporting equipment are shown in **Table 7-7**.

Table 7-7: Weather Reporting Recommendations

City	Airport	Recommendation
Intermediate Airports		
Center	Leach Airport	Need On-Site Weather Reporting Equipment
Creede	Mineral County Memorial Airport	Need On-Site Weather Reporting Equipment
Del Norte	Astronaut Kent Rominger Airport*	Need On-Site Weather Reporting Equipment
Durango	Animas Airpark **	Need On-Site Weather Reporting Equipment
Eads	Eads Airport	Need On-Site Weather Reporting Equipment
Monte Vista	Monte Vista Municipal Airport	Need On-Site Weather Reporting Equipment
Springfield	Springfield Municipal Airport	Need On-Site Weather Reporting Equipment
Walsenburg	Spanish Peaks Airfield	Need On-Site Weather Reporting Equipment
Westcliffe	Silver West Airport	Need On-Site Weather Reporting Equipment
Yuma	Yuma Municipal Airport	Need On-Site Weather Reporting Equipment

* Grant issued
** Indicates private ownership

As Table 7-1 shows, there are many types of projects that are associated with providing an airport with on-site weather reporting equipment, and it would be appropriate for Aeronautics to provide grants for any of these projects at airports in the Intermediate category that presently lack on-site weather reporting capabilities. In addition, existing weather reporting systems at some system airports may require upgrades or replacement. Table 7-26 provides an estimate of the cost for providing new weather reporting equipment for the airports identified in this section, but does not include additional costs and grant requests in association with maintaining or upgrading existing weather reporting equipment. In addition, to better serve the needs of pilots using airports in Colorado, Aeronautics may over the course of the planning period determine that it is appropriate to install other weather reporting systems not specifically identified in this system plan update. It is important to note that Aeronautics has already issued a grant to provide on-site weather reporting at Del Norte/Astronaut Rominger Airport.

Emergency Aircraft Access

Airports in Colorado play a unique and important role in serving emergency medical needs and the needs of medical personnel and physicians who use aviation to reach patients in more rural areas of the State and patients who are being transported to larger hospitals. When the 2000 System Plan was developed, operators of emergency aircraft identified the specific criteria that they desire when flying the King Air B200 or the Learjet 35 for emergency purposes.

Emergency aircraft operators identified the following operating requirements as being needed to support their aircraft:

- Minimum runway length/dependent on aircraft type and airport temperature and elevation
- Published Approach

- On-site weather reporting equipment
- Rotating beacon
- Runway lighting (HIRL or MIRL)

Facilities and equipment that are important to emergency operators are, for the most part, addressed within Colorado's system plan either as part of the study's benchmarks or as part of the facility, service, and equipment objectives established for system airports. As a result, costs to improve system airports to meet the needs of emergency operators are already included in association with other benchmarks or as part of airport specific facility/equipment objectives.

King Air B200 Emergency Aircraft Recommendations

Ideally, all airports in the Major and Intermediate categories should be able to meet all of the minimum operating needs of the King Air B200. Analysis completed earlier in the system plan (Chapter Four) shows that all airports in the Major category now meet the minimum operating requirements for the King Air B200 emergency aircraft.

Out of the 35 airports included in the Intermediate category, 14 of these airports also meet all requirements for emergency operators flying the King Air B200. According to facility, service, and equipment objectives contained in the system plan for airports in the Intermediate category, all airports in the Intermediate category should ideally have the facilities identified by the emergency operators, with perhaps the exception of the desired runway length**. Table 7-8** summarizes facility/equipment updates needed for airports in the Intermediate category for each to be fully capable of meeting all needs of emergency operators flying the King Air B200.

Table 7-8: King Air B200 Facility/Equipment Recommendations

City	Airport	Current Runway Length	King Air B200 Objective	Recommendations
Intermediate Airports				
Boulder	Boulder Municipal Airport	4,100	4,800	Need Published Approach, Runway Length Deficit
Center	Leach Airport	7,000	5,300	Need Weather Reporting, Published Approach, MIRL or HIRL
Colorado Springs	Meadow Lake Airport **	6,000	4,800	Need Published Approach
Creede	Mineral County Memorial Airport	6,880	5,300	Need Weather Reporting, Rotating Beacon, Published Approach, MIRL or HIRL
Del Norte	Astronaut Kent Rominger Airport	6,050	5,300	Need Weather Reporting, Rotating Beacon, Published Approach, MIRL or HIRL
Delta	Blake Field	5,598	5,300	Need Published Approach
Durango	Animas Airpark **	5,010	5,300	Need Weather Reporting, Rotating Beacon, Published Approach, Runway Length Deficit

Table 7-8: King Air B200 Facility/Equipment Recommendations

City	Airport	Current Runway Length	King Air B200 Objective	Recommendations
Intermediate Airports, cont'd				
Eads	Eads Airport	3,860	4,600	Need Weather Reporting, Rotating Beacon, Published Approach, Runway Length Deficit
Erie	Erie Municipal Airport	4,700	4,800	Runway Length Deficit
Fort Morgan	Fort Morgan Municipal Airport	5,219	4,600	Need Published Approach
Glenwood Springs	Glenwood Springs Municipal Airport	3,305	5,300	Need Rotating Beacon, Published Approach, MIRL or HIRL, Runway Length Deficit
Granby	Granby-Grand County Airport	5,000	5,300	Need Published Approach, Runway Length Deficit
Limon	Limon Municipal Airport	4,700	4,800	Need Published Approach, Runway Length Deficit
Monte Vista	Monte Vista Municipal Airport	5,900	5,300	Need Weather Reporting
Nucla	Hopkins Field	4,600	5,300	Runway Length Deficit
Rangely	Rangely Airport	6,408	5,300	Need Published Approach
Springfield	Springfield Municipal Airport	5,000	4,600	Need Weather Reporting
Steamboat Springs	Steamboat Springs-Bob Adams Field	4,452	5,300	Runway Length Deficit
Walsenburg	Spanish Peaks Airfield	4,896	4,800	Need Weather Reporting, Rotating Beacon, Published Approach, MIRL or HIRL
Westcliffe	Silver West Airport	7,000	5,300	Need Weather Reporting, Rotating Beacon, Published Approach, MIRL or HIRL
Yuma	Yuma Municipal Airport	4,200	5,300	Need Weather Reporting, Published Approach, Runway Length Deficit

** Indicates private ownership

One important piece of information related to Table 7-8 is that emergency operators have recently announced that they will start using Fort Morgan Municipal Airport for their flights. As Table 7-8 shows, the only item missing from this airport is a published approach. As mentioned earlier in this chapter, Fort Morgan Municipal is on FAA's schedule for having a published GPS approach approved.

One of the most important features lacking at the airports identified in Table 7-8 is sufficient runway length to serve the needs of the King Air B200. **Table 7-9** compares three important runway lengths: the airport's current runway length, the airport's runway length objective established in the system plan, and the minimum runway length identified by the system plan for the airport to serve the King Air B200 emergency aircraft.

Table 7-9: Comparisons of Runway Lengths for Intermediate Airports to Serve the King Air B200

City	Airport	Current Runway Length	Runway Length Objective	King Air B200 Objective
Intermediate Airports				
Boulder	Boulder Municipal Airport	4,100	4,710 (no extension)	4,800
Durango	Animas Airpark **	5,010	5,720 (no extension)	5,300
Eads	Eads Airport	3,860	4,160 (no extension)	4,600
Erie	Erie Municipal Airport	4,700	4,660 (meets objective)	4,800
Glenwood Springs	Glenwood Springs Municipal Airport	3,305	5,120 (no extension)	5,300
Granby	Granby-Grand County Airport	5,000	7,050 (maintain length based on constraints)	5,300
Limon	Limon Municipal Airport	4,700	4,720 (meets objective)	4,800
Nucla	Hopkins Field	4,600	5,050 (extend 450 feet)	5,300
Steamboat Springs	Steamboat Springs-Bob Adams Field	4,452	5,770 (extend 900 feet)	5,300
Yuma	Yuma Municipal Airport	4,200	4,080 (meets objective)	5,300

** Indicates private ownership

The existing runway lengths at Erie Municipal, Limon Municipal, and Yuma Municipal all meet the runway length objective established in the system plan, but not the runway length identified by emergency operators. Since these airports meet their system plan runway length objective, a cost to extend the runways at these airports to meet the needs of emergency operators is not included in the plan. However, if over the planning period, these airports undertake master planning studies, consideration should be given, along with other justification, to examining the need and the benefit/cost of extending the runways at these three airports to meet the needs of emergency operators.

Based on previous airport specific analysis and other considerations, the system plan is not recommending runway extensions at Boulder Municipal, Animas Airpark, Eads Airport, Glenwood Springs Municipal, or Granby-Grand County.

The system plan includes recommendations to extend the runways at Hopkins Field and Steamboat Springs-Bob Adams Field. The recommended extension at Steamboat Springs-Bob Adams Field, if it can be implemented, would be sufficient to meet the needs of emergency operators flying the King Air B200.

To meet its system plan's objective for runway length, an extension of 450 feet is needed at Nucla/Hopkins Field; however, to meet the needs of emergency operators, the runway would need to be extended by a total of 700 feet. A review of the service areas for airports capable of serving the King Air B200 emergency aircraft (See Chapter Four Exhibit 4-13) shows that there are no other airports in the immediate vicinity of Hopkins Field that can meet the needs of the King Air B200. As a result, the system plan recommends that this airport's runway be extended by 700 feet to meet not only the airport's runway length objective but also the runway length identified by emergency operators.

The system plan has set a target for 93 percent of Colorado's population and 50 percent of its land area to be within 25 miles of an airport fully capable of meeting the requirements of emergency operators flying the King Air B200. With increased runway lengths, Hopkins Field and Steamboat Springs-Bob Adams Field would be able to serve the needs of King Air emergency aircraft operators. When its approach is approved, Fort Morgan Municipal will also be fully equipped to meet the needs of this emergency aircraft. As these and other airports in the Intermediate category are upgraded (see Table 7-8), the system plan's objective for coverage from airports able to serve the Air King B200 emergency aircraft will be met.

Table 7-8 shows other facilities needed by airports in the Intermediate category to make them fully capable of meeting all needs of the operators of emergency aircraft. Specific recommendations on runway length and the cost to extend runways discussed in this section are included in the discussion of the Investment Performance Measure (costs related to runway extensions are shown in Table 7-26). System needs related to additional published approaches have been previously discussed in relationship to the Economic Support Performance Measure, and needs for additional on-site weather reporting facilities were discussed earlier in association with this performance measure. Costs for additional approaches and weather reporting equipment are shown in Table 7-26. Facility needs related to rotating beacons and runway lighting will be discussed later in this chapter in association with airport specific facility and service objectives.

Learjet 35 Emergency Aircraft Recommendations

In addition to the King Air B200, the Learjet 35 is also flown to support emergency and medical needs in Colorado. Ideally, all airports in the Major category should be able to accommodate the operating needs of the Learjet 35 emergency aircraft. It is also possible that some airports in the Intermediate category will have the facilities, service, and equipment to meet the minimum operating needs of this emergency aircraft.

Airports in the Intermediate category that now meet all minimum operating requirements for the Learjet 35 emergency aircraft include:

- Akron – Colorado Plains Regional Airport
- Buena Vista – Central Colorado Regional Airport
- La Junta – La Junta Municipal Airport
- Salida – Harriet Alexander Airport

As other airports in the Intermediate category undertake future master plans, they should consider the needs of operators flying the Learjet 35 emergency aircraft and incorporate these needs into their planning as practical.

All airports in the Major category should ideally be able to meet all of the minimum operating requirements of the Learjet 35 emergency aircraft. One of the airports in the Major category that does not currently meet all of the requirements of operators flying the Learjet 35 emergency aircraft is Vance Brand Municipal. According to analysis completed in the 2000 Colorado System Plan, airports in the Front Range should ideally have a runway length of 6,400 feet to meet the minimum operating requirements of the Learjet 35 emergency aircraft.

The runway length objectives established for Vance Brand Municipal in the system plan call for the airport's existing runway to be extended to 6,320 feet; just 80 feet shy of the length needed for the Learjet 35 emergency aircraft. However, a recent master plan for this airport identified a runway extension to 5,800 feet, a length short of both the runway length objective established in the system plan and short of the minimum runway length needed by operators of the Learjet 35 emergency aircraft. Based on noted constraints, the system plan includes a runway extension of 1,000 feet for the Vance Brand Municipal Airport.

Meeker is the only other airport in the Major category that cannot currently meet all of the operating requirements of the Learjet 35 emergency aircraft. The system plan's runway length objective for this airport is 7,730 feet, and this airport's current runway length is 6,497 feet. The minimum runway length objective for the Learjet 35 emergency aircraft at Western Slope airports is 6,800 feet. If the airport's runway were extended, it would also be capable of serving the minimum operating requirements identified by operators of the Learjet 35 emergency aircraft.

The system plan has established a target for 90 percent of Colorado's population and 30 percent of its land area to be within a 30 minute drive of an airport capable of serving the Learjet 35 emergency aircraft. Currently, approximately 89 percent of the State's population and 27 percent of its land area are within a 30 minute drive of an airport capable of serving all of the minimum operating requirements of the Learjet 35 emergency aircraft. If the runway at the Meeker Airport were extended to meet the needs of the Learjet 35 emergency aircraft, the system would come closer to meeting the target for this benchmark.

Over time, as system airports are expanded, it is possible that a few additional airports may be able to serve all of the minimum requirements of operators flying the Learjet 35 emergency aircraft. The biggest obstacle to improving system performance, related to this benchmark, is runway length, the deficiency most difficult and most costly to address. The system plan, as part of the Investment Performance Measure, has identified airports which could benefit from runway extensions to meet system plan objectives for runway length. The next update to the system plan will show if additional progress has been made as related to meeting the target set for accessibility to airports that meet all of the minimum operating requirements for the Learjet 35 emergency aircraft.

7.2.5 Recommendations for the *Investment* Performance Measure

Each year, a considerable portion of the Division of Aeronautics' annual budget is allocated to grants that are needed to maintain and improve the condition of existing pavement at system airports. Further when runways at system airports need to be extended, this also results in considerable expenditure, typically over a multi-year period. Recommendations summarized in association with this performance measure focus on those related to runway extensions and those that are currently needed to improve the pavement condition index (PCI) on primary runways, taxiways, and aircraft apron areas. The next section addresses specific recommendations related to facility, service, and equipment objectives for airports in each of the three role categories which also relate to the Investment Performance Measure.

Runway Length

Using FAA guidelines and airport specific temperatures and elevations, the system plan has established runway length objectives for all Major and Intermediate Airports. The objective contained in the system plan is for all airports in the Minor Airport category to maintain their current runway length. The runway lengths identified in the system plan for Major and Intermediate Airports are those that are generally consistent with the needs of larger aircraft that operate at each airport on a regular basis. It is worth noting that runway length requirements must be confirmed within the context of an airport specific master plan; as a result of more detailed, airport specific analysis, it is likely that runway lengths established through the master planning process will vary from those identified in the system plan. Recommendations contained in the system plan related to runway length are important, however, because they provide information on airports that could require runway extensions and the general cost for these extensions. This type of information is important for overall planning and budgeting purposes. As Table 7-1 reflects, there are many types of projects that Aeronautics may fund related to runway length.

As discussed in Chapter Six in relationship to the system plan's facility objectives, many system airports identified for runway extensions have been previously studied, through the master planning process, related to their ability to accommodate such extensions. Prior studies have in some cases concluded that the runway in question cannot be extended or that the runway cannot be extended to the optimum length identified in the system plan. This study's recommendations incorporate these important findings. It is also important to note that some of the runway extensions contained in this plan's final recommendations may not be able to be implemented as shown; and based on local conditions, some airports not identified as needing extensions may in fact need extensions to their current runway lengths.

The system plan has developed "planning level" cost estimates for implementing runway extensions identified in this section. These costs consider, as such factors are readily apparent and apply, actions that would be required related to relocations, property acquisition, obstruction removal, and/or environmental mitigation. Costs for runway extensions shown in Table 7-26 are related to the runway extensions for Major and Intermediate Airports.

Major Airport Runway Extensions

Runway extensions for Major Airports are discussed here. In some instances even though the airport's runway does not currently meet the system plan's runway length objective, the existing runway length has been designated as being sufficient for the airport's system role. This designation was assigned when the current runway length is within a few hundred feet or less of the length specified by the system plan's objective. As **Table 7-10** shows, the system plan includes recommended runway extensions for five Major Airports: Cortez Montezuma Municipal, Vance Brand Municipal, Meeker, Stevens Field, and Front Range.

Table 7-10: Runway Extension Recommendations for Major Airports

City Name	Airport Name	Runway Length Objective	Current Runway Length	Objective Deficit	Identified Action
Alamosa	San Luis Valley Airport	8,600	8,519	81 feet	Length sufficient for recommended role
Aspen	Aspen-Pitkin County Airport	10,000	8,000	2,000 feet	Length sufficient based on documented constraints
Broomfield/Denver	Rocky Mountain Metropolitan Airport	9,560	9,000	560 feet	Length sufficient for recommended role
Cortez	Cortez-Montezuma Municipal Airport	8,690	7,205	1,485 feet	Extend by 1,485 feet based on demand/costs/benefits
Durango	Durango-La Plata County Airport	9,300	9,201	99 feet	Length sufficient for recommended role
Eagle	Eagle County Regional Airport	9,400	9,000	400 feet	Length sufficient for recommended role
Longmont	Vance Brand Municipal Airport	6,320	4,800	1,520 feet	Extend by 1,000 feet based on previous analysis
Loveland	Fort Collins-Loveland Municipal Airport	8,910	8,500	410 feet	Length sufficient for recommend role
Meeker	Meeker Airport	7,730	6,497	1,233 feet	Extend by 1,233 feet based on demand/costs/benefits
Pagosa Springs	Stevens Field	9,200	8,100	1,100 feet	Extend by 1,000 feet based on demand/costs/benefits
Telluride	Telluride Regional Airport	8,840	7,111	1,729 feet	Length sufficient based on documented constraints
Watkins/Denver	Front Range Airport	8,950	8,000	950 feet	Extend 950 feet based on demand/costs/benefits

Intermediate Airport Runway Extensions

Runway extensions for Intermediate Airports are discussed below. As noted, in some instances even though the airport's runway does not currently meet the system plan's runway length objective, the existing runway length has been designated as being sufficient for the airport's system role. This designation was assigned when the current runway length is within few hundred feet or less of the length specified by the system plan's objective. As **Table 7-11** shows, the system plan includes recommended runway extensions for nine Intermediate Airports:

Mineral County Memorial, McElory Field, Lake County, Monte Vista, Hopkins Field, Steamboat Springs-Bob Adams Field, Walden-Jackson County, and Spanish Peaks. As noted in the discussion of airports meeting the requirements of emergency aircraft, the recommended runway extension for Hopkins Field has been increased from 450 feet to 700 feet so that this airport can also meet the minimum runway length requirement of the King Air B200.

Table 7-11: Runway Length Extension Recommendations for Intermediate Airports

City	Airport	Runway Length Objective	Current Runway Length	Objective Deficit	Identified Action
Boulder	Boulder Municipal Airport	4,710	4,100	610 feet	Length sufficient based on documented constraints
Creede	Mineral County Memorial Airport	7,410	6,880	530 feet	Extend by 530 feet based on demand/costs/benefits
Durango	Animas Airpark**	5,720	5,010	710 feet	Length sufficient based on documented constraints
Eads	Eads Airport	4,160	3,860	300 feet	Length sufficient based on documented constraints
Glenwood Springs	Glenwood Springs Municipal Airport	5,120	3,305	1,815 feet	Length sufficient based on documented constraints
Granby	Granby-Grand County Airport	7,050	5,000	2,050 feet	Length sufficient based on documented constraints
Kremmling	McElroy Field	6,250	5,540	710 feet	Extend by 710 feet based on demand/costs/benefits
Leadville	Lake County Airport	8,540	6,400	2,140 feet	Extend by 1,200 feet based on previous analysis
Limon	Limon Municipal Airport	4,720	4,700	20 feet	Length sufficient for recommended role
Monte Vista	Monte Vista Municipal Airport	6,400	5,900	500 feet	Extend by 500 feet based on demand/costs/benefits
Nucla	Hopkins Field	5,050	4,600	450 feet	Extend by 700 feet based on additional considerations
Steamboat Springs	Steamboat Springs-Bob Adams Field	5,770	4,452	1,318 feet	Extend by 900 feet based on previous analysis
Walden	Walden-Jackson County Airport	6,880	5,900	980 feet	Extend by 980 feet based on demand/costs/benefits
Walsenburg	Spanish Peaks Airfield	5,230	4,896	334 feet	Extend by 334 feet based on demand/costs/benefits
Westcliffe	Silver West Airport	7,130	7,000	130 feet	Length sufficient for recommended role

** Indicates private ownership

Pavement Condition Index (PCI Ratings)

The system plan has set an objective for primary pavements (runways, taxiways, and aircraft aprons) at system airports to have a PCI of 75 or greater. This objective applies to all airports that are part of the Pavement Management Program. This rating generally signifies pavement that is in good condition. Pavement conditions at system airports are continually changing. Therefore, system performance for this benchmark also continually changes, and airports which meet objectives this year, may not meet the objectives next year. On an annual basis, a considerable portion of the budget for the Division of Aeronautics is allocated to maintaining pavements that are already in place, and spending related to pavement maintenance is expected to be a priority in the ensuing years.

While this section identifies airports that are currently in need of actions to improve their PCI ratings, it is important to note that additional system airports will also require pavement maintenance investment. Furthermore, even when a pavement has a rating of 75 or greater, it is possible that investment may be appropriate related to certain types of preventative maintenance.

Pavement Condition Index for Primary Runways

All Major and Intermediate Airports are included in the Division of Aeronautics' Pavement Management Program. In addition, there are six airports in the Minor Airport category that are also included in the program. Ideally, all pavements on primary runways at these airports should have a PCI of 75 or greater. Given the fact that pavement conditions change continually, the system plan has adopted a target to have 70 percent or more of all applicable airports with a PCI of 75 or greater on their primary runway.

System airports with primary runways not currently meeting the PCI objective of 75 or greater are shown in **Table 7-12**. This list of airports, however, is not considered all inclusive for pavement maintenance projects that will be needed for primary runways in the near term.

Table 7-12: Airports Not Meeting Primary Runway PCI Rating Objective

City	Airport	Primary Runway	Current PCI Rating
Major Airports			
Lamar	Lamar Municipal Airport	18/36	60
Meeker*	Meeker Airport	3/21	55
Intermediate Airports			
Akron*	Colorado Plains Regional Airport	11/29	68
Burlington	Kit Carson County Airport	15/33	73
Center*	Leach Airport	12/30	66
Colorado Springs*	Meadow Lake Airport **	15/33	64
Creede*	Mineral County Memorial Airport	7/25	71
Durango	Animas Airpark **	1/19	64
Eads	Eads Airport	17/35	66
Fort Morgan	Fort Morgan Municipal Airport	14/32	37

Table 7-12: Airports Not Meeting Primary Runway PCI Rating Objective

City	Airport	Primary Runway	Current PCI Rating
Intermediate Airports, cont'd			
Glenwood Springs*	Glenwood Springs Municipal Airport	14/32	68
Kremmling	McElroy Field	9/27	68
Leadville*	Lake County Airport	16/34	66
Nucla*	Hopkins Field	5/23	50
Trinidad*	Perry Stokes Airport	3/21	62
Walden*	Walden-Jackson County Airport	4/22	63
Walsenburg*	Spanish Peaks Airfield	8/26	67
Yuma*	Yuma Municipal Airport	16/34	26
Minor Airports			
Brush	Brush Municipal Airport	7/25	66
La Veta	Cuchara Valley Airport	6/24	32
Las Animas*	Las Animas City & County Airport	8/26	65

* Grant issued
** Indicates private ownership

Table 7-26 reflects the cost to address the current deficiencies noted above. It is worth noting that the Division of Aeronautics has already issued grants for runway pavement projects for more than half of airports in Table 7-12. The runway at Meeker, for example, is being totally rebuilt.

Pavement Condition Index for Primary Taxiways

It is important to note that several of the airports included in the pavement management program do not have paved primary taxiways. As a result, these airports are not included in the analysis for this benchmark. Given the fact that pavement conditions change continually, the system plan has adopted a target to have 70 percent or more of all applicable airports with a PCI of 75 or greater on their primary taxiway.

System airports with primary taxiways not meeting the PCI objective of 75 or greater are shown in **Table 7-13**. This list of airports, however, is not considered all inclusive of the pavement maintenance projects that will be needed for primary taxiways in the near term. There are no airports in the Minor Airport category that are part of the Pavement Management Program that have a paved primary taxiway.

Table 7-13: Airports Not Meeting Primary Taxiway PCI Rating Objective

City	Airport	Current Taxiway PCI Rating
Major Airports		
Grand Junction	Grand Junction Regional Airport	69
Lamar	Lamar Municipal Airport	74
Loveland*	Fort Collins-Loveland Municipal Airport	70
Watkins/Denver*	Front Range Airport	58

Table 7-13: Airports Not Meeting Primary Taxiway PCI Rating Objective

City	Airport	Current Taxiway PCI Rating
Intermediate Airports		
Canon City	Fremont County Airport	64
Colorado Springs*	Meadow Lake Airport **	64
La Junta*	La Junta Municipal Airport	28
Springfield*	Springfield Municipal Airport	15

* Grant issued
** Indicates private ownership

Table 7-26 reflects the cost to address the current deficiencies noted above. The Division of Aeronautics has already issued grants for pavement improvement on the primary taxiway for half of the airports in Table 7-13.

Pavement Condition Index for Primary Apron Areas

A few of the airports included in the pavement management program do not have paved aircraft parking or apron areas. As a result, they are not included in the analysis for this benchmark. Given the fact that pavement conditions change continually, the system plan has adopted a target to have 70 percent or more of all applicable airports with a PCI of 75 or greater on their primary apron area.

System airports with primary aircraft apron area not meeting the PCI objective of 75 or greater are shown in **Table 7-14**. This list of airports is not considered inclusive of all pavement maintenance projects that will be needed for primary apron areas in the near term.

Table 7-14: Airports Not Meeting Primary Apron Area PCI Rating Objective

City	Airport	Current Apron Area PCI Rating
Major Airports		
Broomfield/Denver*	Rocky Mountain Metropolitan Airport	75
Durango*	Durango-La Plata County Airport	69
Lamar*	Lamar Municipal Airport	23
Meeker*	Meeker Airport	64
Pagosa Springs*	Stevens Field	59
Pueblo*	Pueblo Memorial Airport	37
Intermediate Airports		
Akron	Colorado Plains Regional Airport	51
Boulder*	Boulder Municipal Airport	66
Del Norte	Astronaut Kent Rominger Airport	51
Delta*	Blake Field	66

Table 7-14: Airports Not Meeting Primary Apron Area PCI Rating Objective

City	Airport	Current Apron Area PCI Rating
Intermediate Airports, cont'd		
Durango	Animas Airpark **	65
Fort Morgan*	Fort Morgan Municipal Airport	24
Glenwood Springs	Glenwood Springs Municipal Airport	64
Springfield*	Springfield Municipal Airport	17
Sterling*	Sterling Municipal Airport	56
Walden	Walden-Jackson County Airport	43
Yuma*	Yuma Municipal Airport	39
Minor Airports		
Brush	Brush Municipal Airport	72
Julesburg	Julesburg Municipal Airport	69
La Veta	Cuchara Valley Airport	16
Las Animas*	Las Animas City & County Airport	27

^ Rocky Mountain Metropolitan Airport has an Apron PCI value of 74.5
* Grant issued
** Indicates private ownership

Table 7-26 reflects the cost to address the current deficiencies noted above. Aeronautics has already issued grants for pavement maintenance on primary apron areas for more than half of the 21 airports shown in Table 7-14. Since pavement maintenance costs for primary runways, taxiways, and apron areas are annual and on-going, past investment related to pavement maintenance was reviewed to develop estimated costs for meeting the pavement-related benchmarks over the planning period.

7.2.6 Recommendations for the *Security* Performance Measure

The Security Performance Measure was added in the 2005 System Plan Update in response to security guidelines for general aviation airports that were issued by the Transportation Security Administration (TSA) in 2004. TSA security guidelines for general aviation airports identify appropriate security procedures and equipment that are matched to each airport's potential risk; consequently, not all procedures and equipment related guidelines are applicable to all airports. There are 62 general aviation airports in Colorado's system that TSA's general aviation security guidelines apply to.

Table 7-15 shows those airports in need of actions or investment to meet their TSA security guidelines. For airports to meet many of their TSA guidelines shown in Table 7-15, no investment is needed from Aeronautics. Table 7-26 includes costs for security related deficiencies that do require investment.

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
Signs		
Rifle	Garfield County Airport	Need Signs
Trinidad	Perry Stokes Airport	Need Signs
Buena Vista	Central Colorado Regional Airport	Need Signs
Canon City	Fremont County Airport	Need Signs
Craig	Craig-Moffat County Airport	Need Signs
Del Norte	Astronaut Kent Rominger Airport	Need Signs
Durango	Animas Airpark	Need Signs
Eads	Eads Airport	Need Signs
Erie	Erie Municipal Airport	Need Signs
Fort Morgan	Fort Morgan Municipal Airport	Need Signs
Glenwood Springs	Glenwood Springs Municipal Airport	Need Signs
Granby	Granby-Grand County Airport	Need Signs
Holyoke	Holyoke Municipal Airport	Need Signs
La Junta	La Junta Municipal Airport	Need Signs
Limon	Limon Municipal Airport	Need Signs
Monte Vista	Monte Vista Municipal Airport	Need Signs
Nucla	Hopkins Field	Need Signs
Rangely	Rangely Airport	Need Signs
Springfield	Springfield Municipal Airport	Need Signs
Sterling	Sterling Municipal Airport	Need Signs
Walsenburg	Spanish Peaks Airfield	Need Signs
Akron	Gebauer Airport	Need Signs
Blanca	Blanca Airport	Need Signs
Calhan	Calhan Airport	Need Signs
Delta	Westwinds Airpark	Need Signs
Dove Creek	Dove Creek Airport	Need Signs

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
Signs, cont'd		
Ellicott	Colorado Springs East Airport	Need Signs
Greeley	Easton-Valley View Airport	Need Signs
Haxtun	Haxtun Municipal Airport	Need Signs
Holly	Holly Airport	Need Signs
Julesburg	Julesburg Municipal Airport	Need Signs
Las Animas	Las Animas City & County Airport	Need Signs
Paonia	North Fork Valley Airport	Need Signs
Documented Security Procedures		
Burlington	Kit Carson County Airport	Need Documented Security Procedures
Longmont	Vance Brand Municipal Airport	Need Documented Security Procedures
Meeker	Meeker Airport	Need Documented Security Procedures
Trinidad	Perry Stokes Airport	Need Documented Security Procedures
Boulder	Boulder Municipal Airport	Need Documented Security Procedures
Buena Vista	Central Colorado Regional Airport	Need Documented Security Procedures
Center	Leach Airport	Need Documented Security Procedures
Colorado Springs	Meadow Lake Airport	Need Documented Security Procedures
Craig	Craig-Moffat County Airport	Need Documented Security Procedures
Creede	Mineral County Memorial Airport	Need Documented Security Procedures
Del Norte	Astronaut Kent Rominger Airport	Need Documented Security Procedures
Delta	Blake Field	Need Documented Security Procedures
Durango	Animas Airpark	Need Documented Security Procedures
Eads	Eads Airport	Need Documented Security Procedures
Fort Morgan	Fort Morgan Municipal Airport	Need Documented Security Procedures
Glenwood Springs	Glenwood Springs Municipal Airport	Need Documented Security Procedures
Granby	Granby-Grand County Airport	Need Documented Security Procedures
Holyoke	Holyoke Municipal Airport	Need Documented Security Procedures
Kremmling	McElroy Field	Need Documented Security Procedures
La Junta	La Junta Municipal Airport	Need Documented Security Procedures
Leadville	Lake County Airport	Need Documented Security Procedures
Limon	Limon Municipal Airport	Need Documented Security Procedures
Monte Vista	Monte Vista Municipal Airport	Need Documented Security Procedures
Nucla	Hopkins Field	Need Documented Security Procedures
Rangely	Rangely Airport	Need Documented Security Procedures
Springfield	Springfield Municipal Airport	Need Documented Security Procedures
Steamboat Springs	Steamboat Springs-Bob Adams Field	Need Documented Security Procedures
Sterling	Sterling Municipal Airport	Need Documented Security Procedures
Walsenburg	Spanish Peaks Airfield	Need Documented Security Procedures
Westcliffe	Silver West Airport	Need Documented Security Procedures
Yuma	Yuma Municipal Airport	Need Documented Security Procedures

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
Documented Security Procedure, cont'd		
Akron	Gebauer Airport	Need Documented Security Procedures
Blanca	Blanca Airport	Need Documented Security Procedures
Brush	Brush Municipal Airport	Need Documented Security Procedures
Calhan	Calhan Airport	Need Documented Security Procedures
Delta	Westwinds Airpark	Need Documented Security Procedures
Dove Creek	Dove Creek Airport	Need Documented Security Procedures
Haxtun	Haxtun Municipal Airport	Need Documented Security Procedures
Holly	Holly Airport	Need Documented Security Procedures
Hudson	Platte Valley Airpark	Need Documented Security Procedures
Julesburg	Julesburg Municipal Airport	Need Documented Security Procedures
La Veta	Cuchara Valley Airport	Need Documented Security Procedures
Las Animas	Las Animas City & County Airport	Need Documented Security Procedures
Mack	Mack Mesa Airport	Need Documented Security Procedures
Paonia	North Fork Valley Airport	Need Documented Security Procedures
Saguache	Saguache Municipal Airport	Need Documented Security Procedures
Positive Passenger/Cargo/Baggage ID		
Buena Vista	Central Colorado Regional Airport	Need Passenger/Cargo/Baggage ID
Colorado Springs	Meadow Lake Airport	Need Passenger/Cargo/Baggage ID
Creede	Mineral County Memorial Airport	Need Passenger/Cargo/Baggage ID
Durango	Animas Airpark	Need Passenger/Cargo/Baggage ID
Eads	Eads Airport	Need Passenger/Cargo/Baggage ID
Fort Morgan	Fort Morgan Municipal Airport	Need Passenger/Cargo/Baggage ID
Glenwood Springs	Glenwood Springs Municipal Airport	Need Passenger/Cargo/Baggage ID
Holyoke	Holyoke Municipal Airport	Need Passenger/Cargo/Baggage ID
Limon	Limon Municipal Airport	Need Passenger/Cargo/Baggage ID
Salida	Harriet Alexander Airport	Need Passenger/Cargo/Baggage ID
Springfield	Springfield Municipal Airport	Need Passenger/Cargo/Baggage ID
Yuma	Yuma Municipal Airport	Need Passenger/Cargo/Baggage ID
Akron	Gebauer Airport	Need Passenger/Cargo/Baggage ID
Blanca	Blanca Airport	Need Passenger/Cargo/Baggage ID
Calhan	Calhan Airport	Need Passenger/Cargo/Baggage ID
Delta	Westwinds Airpark	Need Passenger/Cargo/Baggage ID
Dove Creek	Dove Creek Airport	Need Passenger/Cargo/Baggage ID
Haxtun	Haxtun Municipal Airport	Need Passenger/Cargo/Baggage ID
Holly	Holly Airport	Need Passenger/Cargo/Baggage ID
Julesburg	Julesburg Municipal Airport	Need Passenger/Cargo/Baggage ID
Las Animas	Las Animas City & County Airport	Need Passenger/Cargo/Baggage ID
Paonia	North Fork Valley Airport	Need Passenger/Cargo/Baggage ID

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
All Aircraft Secured		
Creede	Mineral County Memorial Airport	Need All Aircraft Secured
Eads	Eads Airport	Need All Aircraft Secured
Holyoke	Holyoke Municipal Airport	Need All Aircraft Secured
Nucla	Hopkins Field	Need All Aircraft Secured
Springfield	Springfield Municipal Airport	Need All Aircraft Secured
Akron	Gebauer Airport	Need All Aircraft Secured
Blanca	Blanca Airport	Need All Aircraft Secured
Brush	Brush Municipal Airport	Need All Aircraft Secured
Julesburg	Julesburg Municipal Airport	Need All Aircraft Secured
Las Animas	Las Animas City & County Airport	Need All Aircraft Secured
Community Watch Program		
Center	Leach Airport	Need Community Watch Program
Colorado Springs	Meadow Lake Airport	Need Community Watch Program
Craig	Craig-Moffat County Airport	Need Community Watch Program
Creede	Mineral County Memorial Airport	Need Community Watch Program
Eads	Eads Airport	Need Community Watch Program
Holyoke	Holyoke Municipal Airport	Need Community Watch Program
Kremmling	McElroy Field	Need Community Watch Program
Leadville	Lake County Airport	Need Community Watch Program
Limon	Limon Municipal Airport	Need Community Watch Program
Springfield	Springfield Municipal Airport	Need Community Watch Program
Walden	Walden-Jackson County Airport	Need Community Watch Program
Akron	Gebauer Airport	Need Community Watch Program
Blanca	Blanca Airport	Need Community Watch Program
Brush	Brush Municipal Airport	Need Community Watch Program
Dove Creek	Dove Creek Airport	Need Community Watch Program
Ellicott	Colorado Springs East Airport	Need Community Watch Program
Greeley	Easton-Valley View Airport	Need Community Watch Program
Haxtun	Haxtun Municipal Airport	Need Community Watch Program
Holly	Holly Airport	Need Community Watch Program
Julesburg	Julesburg Municipal Airport	Need Community Watch Program
Las Animas	Las Animas City & County Airport	Need Community Watch Program
Paonia	North Fork Valley Airport	Need Community Watch Program
Saguache	Saguache Municipal Airport	Need Community Watch Program
Contact List		
Center	Leach Airport	Need Conctact List
Eads	Eads Airport	Need Conctact List
Holyoke	Holyoke Municipal Airport	Need Conctact List
Akron	Gebauer Airport	Need Conctact List

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
Contact List, cont'd		
Brush	Brush Municipal Airport	Need Conctact List
Delta	Westwinds Airpark	Need Conctact List
Julesburg	Julesburg Municipal Airport	Need Conctact List
Las Animas	Las Animas City & County Airport	Need Conctact List
Paonia	North Fork Valley Airport	Need Conctact List
Saguache	Saguache Municipal Airport	Need Conctact List
Law Enforcement Officer Support		
Del Norte	Astronaut Kent Rominger Airport	Need Law Enforcement Officer Support
Brush	Brush Municipal Airport	Need Law Enforcement Officer Support
Ellicott	Colorado Springs East Airport	Need Law Enforcement Officer Support
Paonia	North Fork Valley Airport	Need Law Enforcement Officer Support
Security Committee		
Broomfield/Denver	Rocky Mountain Metropolitan Airport	Need Security Committee
Meeker	Meeker Airport	Need Security Committee
Rifle	Garfield County Airport	Need Security Committee
Watkins	Front Range Airport	Need Security Committee
Boulder	Boulder Municipal Airport	Need Security Committee
Craig	Craig-Moffat County Airport	Need Security Committee
Del Norte	Astronaut Kent Rominger Airport	Need Security Committee
Erie	Erie Municipal Airport	Need Security Committee
Kremmling	McElroy Field	Need Security Committee
Limon	Limon Municipal Airport	Need Security Committee
Rangely	Rangely Airport	Need Security Committee
Steamboat Springs	Steamboat Springs-Bob Adams Field	Need Security Committee
Sterling	Sterling Municipal Airport	Need Security Committee
Brush	Brush Municipal Airport	Need Security Committee
Hudson	Platte Valley Airpark	Need Security Committee
Mack	Mack Mesa Airport	Need Security Committee
Paonia	North Fork Valley Airport	Need Security Committee
Transient Pilot Sign-In/Out Procedures		
Greeley	Greeley-Weld County Airport	Need Transient Pilot Procedures
Lamar	Lamar Municipal Airport	Need Transient Pilot Procedures
Longmont	Vance Brand Municipal Airport	Need Transient Pilot Procedures
Rifle	Garfield County Airport	Need Transient Pilot Procedures
Boulder	Boulder Municipal Airport	Need Transient Pilot Procedures
Buena Vista	Central Colorado Regional Airport	Need Transient Pilot Procedures
Colorado Springs	Meadow Lake Airport	Need Transient Pilot Procedures
Craig	Craig-Moffat County Airport	Need Transient Pilot Procedures
Erie	Erie Municipal Airport	Need Transient Pilot Procedures

Table 7-15: Airports that Need to Take Steps to Address Security Enhancements

City	Airport	Recommendation
Transient Pilot Sign-In/Out Procedure, cont'd		
Fort Morgan	Fort Morgan Municipal Airport	Need Transient Pilot Procedures
Holyoke	Holyoke Municipal Airport	Need Transient Pilot Procedures
Kremmling	McElroy Field	Need Transient Pilot Procedures
Leadville	Lake County Airport	Need Transient Pilot Procedures
Limon	Limon Municipal Airport	Need Transient Pilot Procedures
Steamboat Springs	Steamboat Springs-Bob Adams Field	Need Transient Pilot Procedures
Sterling	Sterling Municipal Airport	Need Transient Pilot Procedures
Wray	Wray Municipal Airport	Need Transient Pilot Procedures
Brush	Brush Municipal Airport	Need Transient Pilot Procedures
Paonia	North Fork Valley Airport	Need Transient Pilot Procedures
Access Controls		
Watkins	Front Range Airport	Need Access Controls
Boulder	Boulder Municipal Airport	Need Access Controls
Colorado Springs	Meadow Lake Airport	Need Access Controls
Erie	Erie Municipal Airport	Need Access Controls
Lighting System		
Ellicott	Colorado Springs East Airport	Need Lighting System
Personnel ID System		
Longmont	Vance Brand Municipal Airport	Need Personnel ID System
Watkins	Front Range Airport	Need Personnel ID System
Boulder	Boulder Municipal Airport	Need Personnel ID System
Colorado Springs	Meadow Lake Airport	Need Personnel ID System
Erie	Erie Municipal Airport	Need Personnel ID System
Ellicott	Colorado Springs East Airport	Need Personnel ID System
Vehicle ID System		
Longmont	Vance Brand Municipal Airport	Need Vehicle ID System
Watkins	Front Range Airport	Need Vehicle ID System
Boulder	Boulder Municipal Airport	Need Vehicle ID System
Canon City	Fremont County Airport	Need Vehicle ID System
Colorado Springs	Meadow Lake Airport	Need Vehicle ID System
Erie	Erie Municipal Airport	Need Vehicle ID System
Ellicott	Colorado Springs East Airport	Need Vehicle ID System
Challenge Procedures		
Pagosa Springs	Stevens Field	Need Challenge Procedures
Boulder	Boulder Municipal Airport	Need Challenge Procedures
Erie	Erie Municipal Airport	Need Challenge Procedures

7.3 Actions/Projects Related to Facility, Service, and Equipment Objectives

In addition to recommendations needed to elevate performance relative to system performance measures and benchmarks, additional actions are also needed to enable system airports to meet facility, service, and equipment objectives that are applicable to their role within Colorado's airport system. As previously indicated, in some instances, there is some crossover between the benchmarks and the facility and service objectives. In those instances, recommendations and costs are presented in association with the benchmark, and this will be noted in this section.

7.3.1 Recommendations for *Primary Runway Length* Objectives

The system plan's recommendations related to length for primary runways have been previously discussed in association with the Investment Performance Measure.

7.3.2 Recommendations for *Primary Runway Width* Objectives

In addition to meeting objectives for runway length, system airports should ideally meet objectives for runway width. Each airport's runway width is typically determined by the wingspan of the largest aircraft that uses the airport on a regular basis; this determination is typically part of the airport master planning process. For the system plan, "average" runway width objectives were adopted for airports assigned to each system role.

In this 2011 update to the Colorado Aviation System Plan, the runway width objective for airports in the Intermediate category was increased from 60 feet to 75 feet. It may not be practical or necessary for all airports shown as needing wider runways to respond to this objective of the system plan. Wider runways often are associated in an increase in the airport's aircraft design category or its airport reference code (ARC). When the ARC is increased, there are other design and separation standards that must also be met.

As part of the system plan, an overview of each airport's ability to meet system plan objectives related to runway width was completed. This overview resulted in the recommendations related to the system plan's runway width objectives presented in **Table 7-16**.

As noted, a modified recommendation to widen or maintain runways at Leach, Animas Airpark, Fort Morgan, and Glenwood Springs to 60 instead of 75 feet has been adopted for this plan. Runway widening projects shown for Crawford and Easton-Valley View are most likely in excess of actual need but remain part of this plan's objectives. The Division of Aeronautics has already funded projects that will increase Meeker's runway width to 100 feet.

Table 7-16: Runway Width Recommendations

City	Airport	Runway Width Objective	Existing Runway Width	Runway Width Deficit	Identified Action
Major Airports					
Meeker	Meeker Airport	75	60	15	Widen as shown
Intermediate Airports					
Center	Leach Airport	75	50	25	60 feet
Colorado Springs	Meadow Lake Airport**	75	60	15	Widen as shown
Creede	Mineral County Memorial Airport	75	60	15	Widen as shown
Durango	Animas Airpark**	75	50	25	60 feet
Eads	Eads Airport	75	60	15	Widen as shown
Erie	Erie Municipal Airport	75	60	15	Widen as shown
Fort Morgan	Fort Morgan Municipal Airport	75	60	15	60 feet
Glenwood Springs	Glenwood Springs Municipal Airport	75	50	25	60 feet
Limon	Limon Municipal Airport	75	60	15	Widen as shown
Monte Vista	Monte Vista Municipal Airport	75	60	15	Widen as shown
Springfield	Springfield Municipal Airport	75	60	15	Widen as shown
Walsenburg	Spanish Peaks Airfield	75	60	15	Widen as shown
Westcliffe	Silver West Airport	75	55	20	Widen as shown
Minor Airports					
Blanca	Blanca Airport	60	52	8	Widen as shown
Calhan	Calhan Airport**	60	50	10	Widen as shown
Crawford	Crawford Airport**	60	20	40	Widen as shown
Delta	Westwinds Airpark**	60	40	20	Widen as shown
Dove Creek	Dove Creek Airport**	60	50	10	Widen as shown
Ellicott	Colorado Springs East Airport**	60	42	18	Widen as shown
Greeley	Easton-Valley View Airport**	60	25	35	Widen as shown
Haxtun	Haxtun Municipal Airport	60	40	20	Widen as shown
Holly	Holly Airport	60	40	20	Widen as shown
Hudson	Platte Valley Airpark**	60	40	20	Widen as shown
Las Animas	Las Animas City & County Airport	60	40	20	Widen as shown
Saguache	Saguache Municipal Airport	60	55	5	Widen as shown

** Indicates private ownership

Planning level cost estimates to increase runway widths shown above are included in Table 7-26.

7.3.3 Recommendations for *Primary Runway Strength* Objectives

Need related to the load bearing capacity of a runway or the runway's strength is again determined by the largest aircraft that uses the airport on a regular basis. Specific recommendations for runway strength are best determined within the context of an airport master plan; but based on airport roles, the system plan has established general strength objectives for each airport's primary runway, assuming the airport's runway is paved. As runways are lengthened, widened, or maintained, consideration should be given to meeting the recommendations for runway strength shown in **Table 7-17**.

Table 7-17: Runway Strength Recommendations

City Name	Airport Name	Strength Objective	Existing Strength	Objective Deficit	Identified Action
Major Airports					
Cortez	Cortez-Montezuma Municipal Airport	60,000 lbs	56,000 lbs	4,000 lbs	Increase Runway Strength
Meeker	Meeker Airport	30,000 lbs	21,000 lbs	9,000 lbs	Increase Runway Strength
Intermediate Airports					
Center	Leach Airport	12,500 lbs	12,000 lbs	500 lbs	Obtain Rating
Durango	Animas Airpark**	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Eads	Eads Airport	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Nucla	Hopkins Field	12,500 lbs	9,000 lbs	3,500 lbs	Obtain Rating
Walsenburg	Spanish Peaks Airfield	12,500 lbs	5,000 lbs	7,500 lbs	Obtain Rating
Westcliffe	Silver West Airport	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Minor Airports					
Brush	Brush Municipal Airport	12,500 lbs	6,000 lbs	6,500 lbs	Obtain Rating
Crawford	Crawford Airport**	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Delta	Westwinds Airpark**	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Ellicott	Colorado Springs East Airport**	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Haxtun	Haxtun Municipal Airport	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Hudson	Platte Valley Airpark**	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Julesburg	Julesburg Municipal Airport	12,500 lbs	12,000 lbs	500 lbs	Obtain Rating
La Veta	Cuchara Valley Airport	12,500 lbs	Not Rated	Not Rated	Obtain Rating
Las Animas	Las Animas City & County Airport	12,500 lbs	5,000 lbs	7,500 lbs	Obtain Rating
Mack	Mack Mesa Airport**	12,500 lbs	Not Rated	Not Rated	Obtain Rating

** Indicates private ownership

As noted above, for some airports, information on the strength of the primary runway is not currently available and is shown above as being "not rated." As part of the Pavement Management Program, the strength of the primary runway at these should be determined before any investment is made relative to this particular facility objective. For airports in the Intermediate and Minor categories with a runway strength objective of 12,500

pounds single-wheel, it may not be necessary to strengthen the runway from an engineering standpoint even though the current strength rating is below 12,500 pounds. Table 7-26 contains general cost estimates for increasing the strength of the primary runway at the other airports shown above to meet system plan objectives. The runway at the Meeker Airport is undergoing a total rebuild; when this project is complete, this airport's runway strength objective will be met.

7.3.4 Recommendations for *Taxiway System* Objectives for Primary Runways

Taxiways are important to operational safety, efficiency, and capacity. The system plan includes objectives for primary runways at airports in the Major and Intermediate categories to be supported by some type of taxiway system. For commercial airports in the Major category, airports should ideally have a full parallel taxiway supporting the primary runway. For general aviation airports in the Major category, the primary runway should be supported by at least a partial parallel taxiway. For Intermediate Airports, the primary runway should be supported by at least taxiway turnarounds. Depending on visibility approach minimums, some Intermediate Airports may also need a parallel taxiway system to support their published approach. When airports in the Intermediate category are investigated for their ability to support a published approach, at that time, the need for a parallel taxiway should be determined.

The information in **Table 7-18** shows the recommendations for additional taxiway projects that should be considered to meet system plan objectives. It is important to note that taxiway projects shown below are not all inclusive as additional taxiway exits, taxiway reconstruction, and taxiway widening projects may also be needed. In addition, under the benchmark addressing PCI, there are primary taxiway systems that need projects now and in the future to maintain a PCI of 75 or greater.

Table 7-18: Recommendation for Taxiway Objectives

City Name	Airport Name	Taxiway Objective	Existing Taxiway	Recommendation
Major Airports				
Aspen	Aspen-Pitkin County Airport	Full Parallel	Partial Parallel	Partial Parallel Based on Identified Constraints
Meeker	Meeker Airport	Full or Partial Parallel	Turnaround	Full Parallel Taxiway
Telluride	Telluride Regional Airport	Full Parallel	Partial Parallel	Full Parallel Taxiway
Intermediate Airports				
Center	Leach Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Creede	Mineral County Memorial Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds

Table 7-18: Recommendation for Taxiway Objectives

City Name	Airport Name	Taxiway Objective	Existing Taxiway	Recommendation
Intermediate Airports, cont'd				
Durango	Animas Airpark**	Full or Partial Parallel or Turnarounds	None	Turnarounds
Eads	Eads Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Monte Vista	Monte Vista Municipal Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Nucla	Hopkins Field	Full or Partial Parallel or Turnarounds	None	Turnarounds
Steamboat Springs	Steamboat Springs-Bob Adams Field	Full or Partial Parallel or Turnarounds	None	Turnarounds
Walden	Walden-Jackson County Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds
Walsenburg	Spanish Peaks Airfield	Full or Partial Parallel or Turnarounds	None	Turnarounds
Westcliffe	Silver West Airport	Full or Partial Parallel or Turnarounds	None	Turnarounds

** Indicates private ownership

The recommendations shown above reflect analysis completed in the system plan related to the ability of system airports to meet their specific objective related to taxiways to support their primary runway. In some instances, previous analysis or noted constraints indicate that it is not feasible for some system airports to meet their taxiway objective; recommendations shown in Table 7-18 reflect this information. Costs related to the taxiway objective shown in Table 7-26 reflect only costs for those projects that appear to be feasible.

7.3.5 Recommendations for *Runway Approach* Objectives

System plan recommendations for precision approaches, approaches with vertical guidance, or non-precision approaches have been previously presented and discussed in association with the Economic Support Performance Measure.

7.3.6 Recommendations for *Visual Landing Aids* Objectives

Visual landing aids help to improve airport operational efficiency and safety. The system plan's objectives for visual landing aids vary based on airport role; Table 6-18 in Chapter Six previously identified visual landing aid objectives for all system airports and compared these objectives to current visual landing aids available at airports in the Major, Intermediate, and Minor categories. As all of the visual aid objectives for all system airports is a recommendation for a rotating beacon. It is worth noting that a rotating beacon is also one of the facilities needed by operators of emergency aircraft. Consequently, meeting this particular visual aid objective will also help airports meet the needs of emergency aircraft operators.

Recommendations for additional facilities to meet all visual aid objectives for each airport's particular system role are shown in **Table 7-19**.

Table 7-19: Visual Aids Recommendations

City	Airport	Recommendation
Major Airports		
Longmont	Vance Brand Municipal Airport	REILs
Intermediate Airports		
Boulder	Boulder Municipal Airport	REILs
Buena Vista	Central Colorado Regional Airport	REILs
Canon City	Fremont County Airport	Segmented Circle
Center	Leach Airport	REILs PAPI/VASIs Segmented Circle
Colorado Springs	Meadow Lake Airport **	REILs
Creede	Mineral County Memorial Airport	Rotating Beacon REILs PAPI/VASIs
Del Norte*	Astronaut Kent Rominger Airport	Rotating Beacon REILs PAPI/VASIs Segmented Circle
Delta	Blake Field	REILs
Durango	Animas Airpark **	Rotating Beacon REILs PAPI/VASIs

Table 7-19: Visual Aids Recommendations

City	Airport	Recommendation
Intermediate Airports, cont'd		
Eads	Eads Airport	Rotating Beacon REILs PAPI/VASIs Segmented Circle
Glenwood Springs	Glenwood Springs Municipal Airport	Rotating Beacon REILs
Leadville	Lake County Airport	REILs
Limon	Limon Municipal Airport	REILs
Monte Vista	Monte Vista Municipal Airport	REILs
Nucla	Hopkins Field	REILs PAPI/VASIs
Salida	Harriet Alexander Airport	REILs
Springfield	Springfield Municipal Airport	REILs
Trinidad	Perry Stokes Airport	REILs Segmented Circle
Walden	Walden-Jackson Country Airport	REILs
Walsenburg	Spanish Peaks Airfield	Rotating Beacon REILs PAPI/VASIs Segmented Circle
Westcliffe*	Silver West Airport	Rotating Beacon REILs PAPI/VASIs Segmented Circle
Wray	Wray Municipal Airport	Segmented Circle
Minor Airports		
Akron	Gebauer Airport **	Rotating Beacon Segmented Circle
Blanca	Blanca Airport	Rotating Beacon Segmented Circle
Brush	Brush Municipal Airport	Rotating Beacon Segmented Circle
Calhan	Calhan Airport **	Rotating Beacon
Crawford	Crawford Airport **	Rotating Beacon Segmented Circle
Delta	Westwinds Airpark **	Rotating Beacon Segmented Circle

Table 7-19: Visual Aids Recommendations

City	Airport	Recommendation
Minor Airports, cont'd		
Dove Creek	Dove Creek Airport **	Rotating Beacon Segmented Circle
Ellicott	Colorado Springs East Airport **	Rotating Beacon
Greeley	Easton-Valley View Airport **	Rotating Beacon Segmented Circle
Haxtun	Haxtun Municipal Airport	Rotating Beacon Segmented Circle
Holly	Holly Airport	Rotating Beacon Segmented Circle
Hudson	Platte Valley Airpark **	Segmented Circle
Julesburg	Julesburg Municipal Airport	Segmented Circle
La Veta	Cuchara Valley Airport	Segmented Circle
Las Animas*	Las Animas City & County Airport	Rotating Beacon Segmented Circle
Mack	Mack Mesa Airport **	Rotating Beacon Segmented Circle
Paonia	North Fork Valley Airport	Rotating Beacon Segmented Circle
Saguache	Saguache Municipal Airport	Rotating Beacon Segmented Circle

* Grant issued to address at least partial deficiency
** Indicates private ownership

As the recommendations shown in Table 7-19 reflect, many of the airports in the Intermediate category need runway end identifier lights (REILs) to meet all visual aid land objectives identified by the system plan. While most of the airports in the Minor category have a wind cone and a segmented circle, most Minor Airports need a rotating beacon to be fully compliant with the system plan's visual landing aid objectives. Table 7-26 includes cost estimates to meet visual landing aid objectives for all system airports as shown in Table 7-19. It is important to note that grants have already been issued to provide REILs and PAPIs at Del Norte; a segmented circle at Westcliffe; and a segmented circle and REILs at Las Animas.

7.3.7 Recommendations for *Runway Lighting* Objectives

Runway lighting is important to pilots flying at night or during periods of reduced visibility, and operators of emergency aircraft list runway lighting as one of their required facility needs. As a result, investment in runway lighting helps to not only meet facility objectives for system airports but also to elevate the system's performance relative to its ability to serve emergency aircraft operations. System plan facility objectives call for HIRL at Major Airports when the approach minimum requires this lightning, MIRL at other Major Airports, MIRL at Intermediate Airports, and LIRL or reflectors at Minor Airports.

Recommendations for runway lighting at system airports are shown in **Table 7-20** below.

Table 7-20: Runway Lighting Recommendations

City	Airport	Recommendation
Intermediate Airports		
Center	Leach Airport	Need MIRL
Creede	Mineral County Memorial Airport	Need MIRL
Del Norte	Astronaut Kent Rominger Airport	Need MIRL
Glenwood Springs	Glenwood Springs Municipal Airport	Need MIRL
Walsenburg	Spanish Peaks Airfield	Need MIRL
Westcliffe	Silver West Airport	Need MIRL
Minor Airports		
Akron	Gebauer Airport **	Need LIRL or Reflectors
Blanca	Blanca Airport	Need LIRL or Reflectors
Delta	Westwinds Airpark **	Need LIRL or Reflectors
Dove Creek	Dove Creek Airport **	Need LIRL or Reflectors
Greeley	Easton-Valley View Airport **	Need LIRL or Reflectors
Las Animas*	Las Animas City & County Airport	Need LIRL or Reflectors
Mack	Mack Mesa Airport **	Need LIRL or Reflectors
Saguache	Saguache Municipal Airport	Need LIRL or Reflectors

* Grant issued to address deficiency
** Indicates private ownership

Table 7-26 reflects estimated costs for improving or providing runway lighting to meet the recommendations shown above. A grant has already been issued for runway lighting at Las Animas.

7.3.8 Recommendations for *Weather Reporting* Objectives

Recommendations for airports that should have on-site weather reporting equipment were previously reported in association with the Coverage and Emergency Access Performance Measure.

7.3.9 Recommendations for *Telephone and Restroom* Objectives

For airports in Colorado to meet the needs of users who base their aircraft at an airport or the needs of visiting aircraft that use one of Colorado's system airports, airports should provide access to telephones and public restrooms. Airports in all three role categories, Major, Intermediate and Minor, should provide access to these facilities for their customers.

While all airports in Major category meet these objectives, there are airports in both the Intermediate and Minor Airport categories which lack these facilities. Recommendations for airports needing access to telephones and restrooms for their customers are shown in **Table 7-21**.

Table 7-21: Restroom and Telephone Objectives

City	Airport	Recommendation
Intermediate Airports		
Eads	Eads Airport	Need Telephone and Restroom
Walden	Walden-Jackson County Airport	Need Telephone and Restroom
Minor Airports		
Akron	Gebauer Airport **	Need Telephone and Restroom
Blanca	Blanca Airport	Need Telephone and Restroom
Dove Creek	Dove Creek Airport **	Need Telephone and Restroom
Ellicott	Colorado Springs East Airport **	Need Restroom
Haxtun	Haxtun Municipal Airport	Need Telephone and Restroom
Holly	Holly Airport	Need Telephone and Restroom
La Veta	Cuchara Valley Airport	Need Telephone and Restroom
Las Animas	Las Animas City & County Airport	Need Telephone and Restroom
Saguache	Saguache Municipal Airport	Need Telephone and Restroom

** Indicates private ownership

For airports to be classified in the Intermediate category, they should provide access to restrooms for their customers. Going forward, as airport roles are examined in the future, access to basic facilities could be a factor in further differentiating roles for airports within the three previously established categories. With the proliferation of cell phones, this objective may be removed in the next system plan update. Table 7-26 reflects estimated costs for improving airports to meet these particular facility objectives.

7.3.10 Recommendations for *FBO and Aircraft Maintenance* Objectives

For airports to be "full service", ideally they should have FBO services and provide access to general aviation aircraft maintenance services. Service objectives established in the system plan call for all airports in the Major category to have access to these types of services. Currently, all Major Airports report having FBO services. There are, however, a few airports in the Major category that report they do not have on-site general aviation aircraft maintenance services. These airports are as follows:

- Durango-La Plata County
- Yampa Valley Regional
- Stevens Field
- Telluride Regional

Ideally, these Major Airports should have aircraft maintenance services; it likely that the airports noted above can arrange for aircraft maintenance service as needed. Since both FBO and aircraft maintenance services are market driven and are most often provided through third parties, the system plan does not "recommend" that the airports noted above have on-site aircraft maintenance service. Table 7-26 does not include any estimated costs for meeting these particular service objectives.

Table 6-28 and Table 6-29 in Chapter Six previously provided information for all system airports as to which airports have FBO and aircraft maintenance services. As airport roles are examined in the future, access to FBO and/or aircraft maintenance services at Intermediate and Minor Airports could be a factor to further differentiate roles for airports within each category.

7.3.11 Recommendations for *Airport Fuel* Objectives

Recommendations related to aircraft fuel have been previously discussed in association with the Economic Support Performance Measure.

7.3.12 Recommendations for *Ground Transportation* Objectives

Recommendations related to ground transportation services have been previously discussed in association with the Economic Support Performance Measure.

7.3.13 Recommendations for *Terminal/Administration Building and Paved Auto Parking*

The system plan has established an objective for all airports, both commercial and general aviation, in the Major category to have a dedicated terminal or administration building. All Major Airports now meet this facility objective.

While it is not a system plan facility objective for airports in the Intermediate category to have a dedicated terminal/administration building, several airports in this role category do. As airport roles are examined in the future, the presence or the absence of a dedicated terminal/administration building for airports in the Intermediate category could be a factor to further differentiate roles for airports within this category.

The system plan recommends that all airports should have designated auto parking spaces. All airports in the Major and the Intermediate categories currently meet this objective. There are a few lower activity airports in the Minor Airport category that do not have designated automobile parking spaces. These Minor Airports are shown in **Table 7-22**.

Table 7-22: Auto Parking Recommendation

City	Airport	Objective	Existing	Recommendation
Minor Airports				
Akron	Gebauer Airport **	Auto Parking	None	Need Auto Parking
Dove Creek	Dove Creek Airport **	Auto Parking	None	Need Auto Parking
Greeley	Easton-Valley View Airport **	Auto Parking	None	Need Auto Parking
Haxtun	Haxtun Municipal Airport	Auto Parking	None	Need Auto Parking
Holly	Holly Airport	Auto Parking	None	Need Auto Parking
Saguache	Saguache Municipal Airport	Auto Parking	None	Need Auto Parking

** Indicates private ownership

For airports without designated auto parking, a minimum of four (4) spaces has been recommended. The cost to provide auto parking at system airports is included in Table 7-26.

7.3.14 Recommendations for *Hangars and Aircraft Parking Aprons*

The need to provide covered storage for based aircraft is determined on an airport-by-airport basis. The actual provision of hangar facilities is dependent upon demand for such facilities and on each airport's ability to fund hangar development. In some cases, hangars are actually developed and leased by third party providers, or they are developed through a land lease by individual owners or businesses.

The system plan does not have a specific objective for the number of hangar storage spaces that should be provided at any system airport, as this number is specific to each airport. As a result of Colorado's weather conditions, however, all airports should ideally provide the option for covered aircraft storage. There are only five airports in the system that do not have any hangar storage; these airports are shown below:

- Gebauer Airport (Minor Airport)
- Blanca Airport (Minor Airport)
- Dove Creek Airport (Minor Airport)
- Julesburg Municipal Airport (Minor Airport)
- Saguache Municipal Airport (Minor Airport)

Since Aeronautics does not typically participate in funding hangar development, Table 7-26 does not reflect any costs associated with providing hangars at the airports noted above. As airport roles are examined in the future, the provision of hangars could be a factor to further differentiate roles for airports within the Minor Airport category.

In addition to hangar storage, system airports should ideally have designated parking areas for both based and visiting aircraft. The system plan, however, does not have a specific objective for how large each airport's parking area for aircraft should be; this size is best determined within the context of an airport master plan or on the individual airport level. All airports in the system have designated aircraft apron areas, and the system plan has an objective for pavement maintenance related to paved primary aircraft aprons. Maintenance costs for primary apron areas have been previously included in Table 7-26 as part of the PCI benchmark for aircraft apron areas. Over the planning period, airports with existing aircraft apron areas may need to expand these areas; and it is possible that CDOT funding may be requested to support these apron area expansions. At this time, however, other than costs already included for maintenance on primary apron areas, Table 7-26 does not include any costs for aircraft parking aprons.

7.3.15 Recommendations for *Snow Removal and De-Icing Equipment*

Equipment objectives established in the system plan call for all airports, both commercial and general aviation, in the Major and Intermediate categories to have snow removal equipment. Furthermore, airports in the Major category should also have de-icing equipment.

The nine Intermediate Airports that currently lack on-site snow removal equipment are shown in **Table 7-23**.

Table 7-23: Snow Removal Equipment Recommendations

City	Airport	Recommendation
Intermediate Airports		
Akron	Colorado Plains Regional Airport	Need Snow Removal Equipment
Craig	Craig-Moffat County Airport	Need Snow Removal Equipment
Creede	Mineral County Memorial Airport	Need Snow Removal Equipment
Del Norte	Astronaut Kent Rominger Airport	Need Snow Removal Equipment
Glenwood Springs	Glenwood Springs Municipal Airport	Need Snow Removal Equipment
Holyoke	Holyoke Municipal Airport	Need Snow Removal Equipment
Monte Vista	Monte Vista Municipal Airport	Need Snow Removal Equipment
Springfield	Springfield Municipal Airport	Need Snow Removal Equipment
Yuma	Yuma Municipal Airport	Need Snow Removal Equipment

Table 7-24 shows the four Major Airports that reportedly lack de-icing equipment.

Table 7-24: De-Icing Equipment Recommendations

City	Airport	Recommendation
Major Airports		
Greeley	Greeley-Weld County Airport	Need De-Icing Equipment
Lamar	Lamar Municipal Airport	Need De-Icing Equipment
Longmont	Vance Brand Municipal Airport	Need De-Icing Equipment
Meeker	Meeker Airport	Need De-Icing Equipment

The specific snow removal needs for system airports are best determined on the individual airport level. Over the planning period, Aeronautics will receive grant requests from airports that already have snow removal equipment to replace aging equipment or for additional equipment. These costs are not included in Table 7-26. Table 7-26 includes only estimated costs to provide snow removal and/or de-icing equipment for those airports above that report they do not have on-site snow removal and/or de-icing capabilities.

7.3.16 Recommendations for *Fencing*

Fencing needs for system airports vary based on the airport's location, but airports in Colorado have fencing needs that can be either or both security or safety related. In particular, many system airports need fencing to prevent wildlife intrusions on active airfield areas. The system plan does not have an objective as to how much fencing an airport should have, but the security benchmark calls for general aviation airports to have fencing to meet their specific security needs.

As part of this study's inventory effort, airports were asked to provide information on their current fencing. Airports that reported that they do not have fencing are shown in **Table 7-25**.

Table 7-25: Airports Reporting to Safety/Security Fencing

City	Airport	Safety/Security Fencing
Major Airports		
Longmont	Vance Brand Municipal Airport	No
Watkins/Denver	Front Range Airport	No
Intermediate Airports		
Boulder	Boulder Municipal Airport	No
Canon City	Fremont County Airport	No
Center	Leach Airport	No
Colorado Springs	Meadow Lake Airport **	No
Creede	Mineral County Memorial Airport	No
Del Norte	Astronaut Kent Rominger Airport	No
Durango	Animas Airpark **	No
Eads	Eads Airport	No
Erie	Erie Municipal Airport	No
Fort Morgan	Fort Morgan Municipal Airport	No
Granby	Granby-Grand County Airport	No
Holyoke	Holyoke Municipal Airport	No
Limon	Limon Municipal Airport	No
Nucla	Hopkins Field	No
Springfield	Springfield Municipal Airport	No
Walsenburg	Spanish Peaks Airfield	No
Yuma	Yuma Municipal Airport	No

Table 7-25: Airports Reporting to Safety/Security Fencing

City	Airport	Safety/Security Fencing
Minor Airports		
Akron	Gebauer Airport **	No
Blanca	Blanca Airport	No
Calhan	Calhan Airport **	No
Delta	Westwinds Airpark **	No
Dove Creek	Dove Creek Airport **	No
Greeley	Easton-Valley View Airport **	No
Haxtun	Haxtun Municipal Airport	No
Holly	Holly Airport	No
Hudson	Platte Valley Airpark **	No
Julesburg	Julesburg Municipal Airport	No
La Veta	Cuchara Valley Airport	No
Las Animas	Las Animas City & County Airport	No
Saguache	Saguache Municipal Airport	No

** Indicates private ownership

The system plan's objective is for airports to have fencing that is appropriate to their specific conditions and needs. Over the planning period, system airports will have needs for both additional and for replacement fencing. Historic expenditures for fencing were examined to determine an average cost for providing this facility. This information was used to develop the fencing related cost estimate shown in Table 7-26. Recent grants for fencing projects at Fremont County, Granby-Grand County, and Las Animas have been issued.

7.4 Cost Estimates

The preceding sections have summarized actions and projects that are needed to elevate system performance relative to performance measures and benchmarks and relative to specific facility, service, and equipment objectives established in the plan for system airports. As appropriate, generalized cost estimates to implement these recommendations have been developed and are summarized in this section.

Annually, grants issued by CDOT Aeronautics fall into the following general categories:

- Grants issued to match FAA AIP grants
- Grants issued to maintain pavements
- Grants issued to fund AIP eligible projects not funded by FAA
- Grants issued to fund projects not eligible for AIP
- Grants issued to fund projects that are essential to the system or to the mission of the Division of Aeronautics

Grants in the first four categories are those that will be required to address system deficiencies noted in this chapter. Anticipated costs for implementing system plan recommendations are discussed in the next section of this chapter. System essential and mission essential grants are discussed below.

7.4.1 System Essential and Mission Essential Grants

System Essential Grants

In 2005 the Colorado Department of Transportation, Division of Aeronautics, undertook a project to address capacity and access problems for Colorado mountain airports. The mountainous terrain surrounding ski country airports in Colorado resulted in a large volume of airspace not covered by radar from the Denver Center. During frequent periods of bad weather, experienced especially during the winter, capacity and access to these airports was adversely impacted and aircraft were frequently diverted to non-destination airports. Diversions to alternate airports resulted in adding highway traffic to the already congested I-70 corridor and in lost revenue to Colorado when visitors opted not to return because of a bad travel experience.

As a result of the low level of annual activity at the mountain airports, a traditional solution, employing conventional radar, did not support a viable business case. In March 2006, following an extensive examination of various options, it was concluded that the emerging technology of Wide Area Multilateration (WAM) offered the best and most cost effective solution. WAM was chosen because it did not require any new aircraft avionics equipment and could provide immediate benefits.

The Colorado Division of Aeronautics and the FAA partnered in the project and decided to approach the solution in two phases in order to reduce program risk. For Phase I of the Colorado Surveillance Project (also referred to as

the Mountain Radar Project), Aeronautics provided funding in the amount of approximately $4.5 million, and the FAA invested $2.2 million via the Vision 100 Cost Share Program.

In Phase I, surveillance services were installed for airports serving Craig, Hayden, Steamboat Springs, and Rifle. Local governments utilized a grant from the Department of Local Affairs to provide funding in the amount of $500,000. Site Acceptance Testing was complete on September 12, 2009 at which time the FAA took ownership of the system, and it began a one year evaluation period. In December 2010, Phase I of the Colorado Surveillance System was formally commissioned into the National Airspace System.

When Phase I of the project became operational, the surveillance system supported an increase in airport capacity during periods of bad weather and peak demand. In addition, the improved surveillance provide by Phase I places aircraft on more direct and precise flight paths to their destination airport which saves fuel, avoids environmentally sensitive areas, and reduces carbon emissions. Before the new surveillance was in place, controllers had to place aircraft in a holding pattern to allow an aircraft to report clear of the airspace or clear of the runway. The new system increases capacity and safety, while reducing costs and aircraft emissions.

With the successful completion and certification of Phase I, Phase II of the Colorado Surveillance Project was undertaken to install similar surveillance for the airports serving Durango, Gunnison, Montrose, and Telluride. In order to coordinate the program with the FAA's NextGen deployment, Phase II was included under the FAA's National Service Provider Program. This provides advantages that Phase I did not by incorporating ADS-B technology with WAM. The FAA has mandated that all aircraft be equipped with ADS-B avionics by 2020.

The Phase II project puts Colorado airports at the forefront of the latest technology. Colorado provided $8 million as its total Phase II contribution, along with $5 million from FAA's NextGen Office. The total cost of Phase II is projected to be between $55 million and $63 million, the remainder of which will come from FAA funding. Phase II of the project will begin to come on-line later in 2012 and will be complete in 2013.

Phase III of the project will support an even more advanced technology known as "blended airspace." Blended airspace is FAA's NextGen air traffic control tool that will provide seamless air traffic control from En Route high altitude airspace to the surface of airports that do not have an Air Traffic Control Tower. This capability was an unexpected benefit of the Phase I and II programs. The Blended Airspace Project will be developed by employing local FAA resources and facilities in concert with the Colorado Division of Aeronautics. The Blended Airspace Project may provide a viable solution to air traffic control issues at non-towered airports, increasing capacity and safety and reducing the costs associated with conventional air traffic control towers.

Grants to Support Aeronautics' Mission

Primary missions of Aeronautics are to foster aviation and to promote outreach that results in a better understanding of aviation. To support its mission, grants related to aviation education, training and outreach are issued. Examples of these grants are noted below:

- Wings Over the Rockies Airspace Museum – Aeronautics has provided grants to support a teacher's program that helps middle school age children gain an appreciation of how math and science relate to aviation. The program provides training materials for teachers and tools for students. Aeronautics measures the effectiveness of the program and monitors the number of students that participate in the program on a regular basis.
- Mountain Flying Program – flying to mountain airports in Colorado presents a unique set of circumstances for pilots who are not experienced in mountain flying. To help educate pilots on special techniques for mountain flying, Aeronautics provided a grant to the Colorado Pilots Association.
- Colorado Airport Operators Association (CAOA) – The Division of Aeronautics has provided several grants to CAOA to further educational, informational, and outreach efforts. As examples, grants have been issued to CAOA for airfield related electrical training. Through Aeronautics grants, CAOA also subscribes to a service that feeds information from AWOS systems at Colorado airports into a national distribution system. The Division of Aeronautics also supports CAOA's Colorado Aviation Recovery and Support Team; this group is available to provide support to airports throughout Colorado during times of crisis.

Grants to Improve System Performance

The cost, based on estimates developed in conjunction with this plan, to fully implement the projects identified to meet the system performance measures and benchmarks, as well as the facility, service, and equipment objectives, would be at least $615.3 million. This estimate includes Federal, State and local funds. The cost estimates provided throughout this section were not developed to the level of detail that is typically found in master planning, a financial feasibility analysis, or an engineering study. The costs discussed in this section do, however, provide Aeronautics with an understanding of the general cost range that could be associated with achieving a higher rate of compliance for each of the system performance measures as determined through this system planning effort.

Table 7-26 identifies costs associated with achieving by project type; while **Table 7-27** identifies the estimated costs (a higher rate of compliance) for each airport role and the Colorado Airport System as a whole. The cost estimates used in this analysis were derived from State and consultant estimates as well as from Aeronautics' six-year Capital Improvement Program (CIP) for all airports included in the State Airport System. Funding needs for Colorado's Major Airports is estimated to be approximately $444.3 million, while funding for the Intermediate and Minor Airports is estimated at approximately $139.7 million and $17.4 million, respectively.

Table 7-26: Summary of Total Estimated System Plan Costs by Project Type

Project Type	Major Airports	Intermediate Airports	Minor Airports	Other State-Wide Costs	Total Estimated Costs
Pavement Maintenance	$403,452,335	$102,654,575	$1,210,625	N/A	$507,317,535
Taxiway Improvements	$6,809,778	$3,111,111	N/A	N/A	$9,920,889
Other	$1,760,000	$1,452,000	$259,400	$10,200,000	$13,671,400
Planning Studies	$21,000,000	$9,300,000	$1,620,000	$3,700,000	$35,620,000
Runway Improvements	$11,168,444	$19,313,811	$13,367,453	N/A	$43,849,708
Visual Aids/Approaches/Weather	$120,000	$3,900,00	$910,000	N/A	$4,894,500
Total	**$444,310,557**	**$135,831,497**	**$17,367,478**	**$13,900,000**	**$615,274,032**

Table 7-27: Summary of Total Estimated System Plan Costs by Airport Role

Airport Classification	Total Estimated Costs*
Major	$444,300,000
Intermediate	$139,700,000
Minor	$17,400,000
Other State-Wide Costs	$13,900,000
Total System Costs	**$615,300,000**

*** Numbers rounded to millions**

Figure 7-1 summarizes development costs over the next 20 years by project type. The majority of costs could be incurred to respond to pavement maintenance projects on all runways, taxiways, and aprons. These projects would include pavement rehabilitation, reconstruction, seal coats, and crack fills. Pavement costs are expected to account for 82.5 percent of all projected system costs. Runway improvements account for the second largest percentage of the estimated costs at 7.1 percent; runway projects include runway extensions, widening, strengthening, and lighting. Statewide planning studies accounts for 5.7 percent of total costs and include economic impacts studies, master plans, state aviation system plans, and land use compatibility studies. Taxiway improvements would account for 1.6 percent of costs and include parallel taxiways, partial parallel taxiways, and turnarounds. Visual aids/approaches/weather account for 0.8 percent of all estimated costs; while projects in the "Other" category would account for the final 2.2 percent. The "Other" category includes equipment, fencing, landside projects, and support facilities.

Figure 7-1: System Plan Development Costs Through 2031 by Project Type

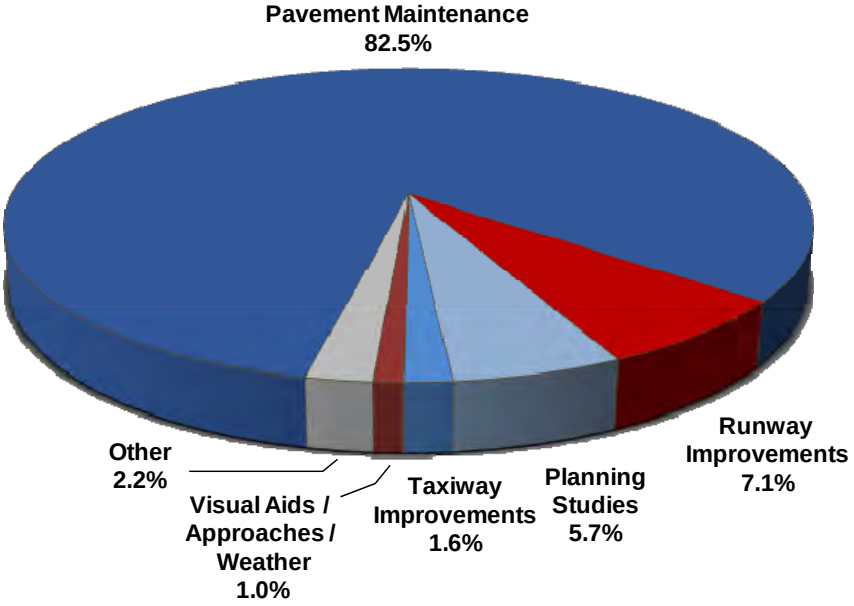
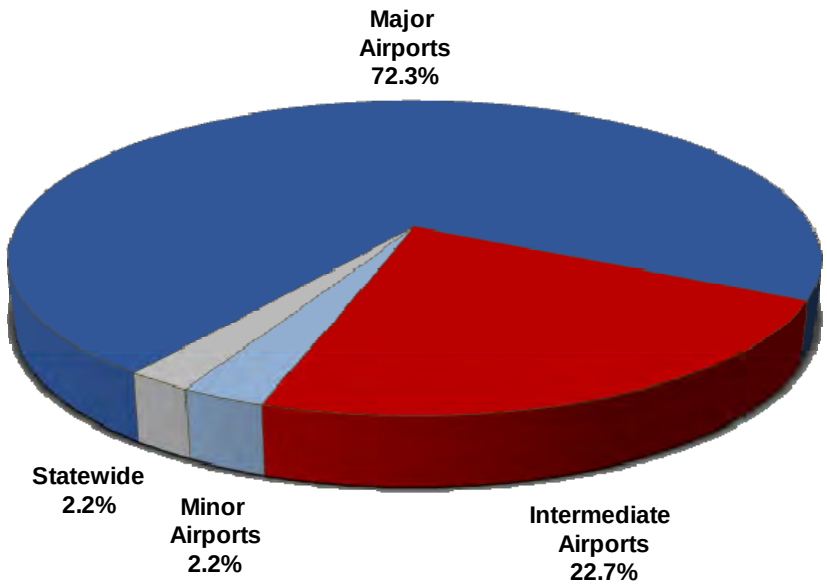


Figure 7-2 summarizes 20-year costs by airport role. As depicted, the majority of the costs, 72.3 percent, would be incurred to raise the level of performance for the Major Airports and 22.7 percent would be incurred for Intermediate Airports. The remaining 5 percent would be needed to raise the level of performance of the Minor Airports, as well as to complete various statewide planning projects (economic impact studies, master plans, state aviation system plans, and land use compatibility studies).

Figure 7-2: System Plan Development Costs Through 2031 by Airport Role



7.4.2 CIP and NPIAS Costs

In addition to the projects identified through this system plan, many Colorado airports have additional needs identified through local planning. Airport-specific capital projects and costs planned through 2017 are identified in six-year Capital Improvement Plans (CIPs). Aeronautics also works closely with the FAA to identify projects that may be needed in the longer term (up to 20 years); these projects are included in the NPIAS.

This cost summary is most likely not all inclusive of all airport projects that will be needed over the next 20 years. The estimate does not include all projects included in individual airport master plans and CIPs that are locally funded or projects that are not requesting State or Federal funding. It is difficult to estimate all projects and associated costs that system airports may have in the next 20 years. Additionally, fuel prices and construction costs have experienced a steep increase in recent years which makes longer range costs difficult to predict. Rising costs can significantly impact the project cost estimates reflected in the six-year State CIP for system airports. Airports should update cost estimates annually or as part of detailed construction design to ensure actual costs are reflected.

7.4.3 Cost Summary

In summary, the approximate funding needs to raise the level of performance of airports and the Colorado airport system as a whole to meet the system plan objectives would be at least $615.3 million. Further, other airport projects contained in individual airport CIPs may require an additional $1.6 billion for a total need of just over $2.2 billion over the planning period. Twenty-year CIP needs were estimated by extending costs reflected in the current six-year CIP over the remainder of the planning period. It is important to note that the estimated costs to implement the system plan and the CIP do not reflect any development or maintenance needs for Denver International.

Federal, State, and local funding sources and investment since the release of the 2005 Colorado Airport System Plan were analyzed as part of this study. During the past seven years (2006 – 2012), the most significant change in available funding came from the State, whose investment increased from $3 million in 2006 to $20 million in 2012. Federal and local funding amounts remained relatively more consistent through the period. Based on input from the Division of Aeronautics and FAA and informed by historical funding trends, a “normalized” annual funding average was identified to project future available funding. For this study, a combined annual average of $66 million of Federal, State and local funds is projected. These anticipated funds do not include additional funding for Denver International.

Available funding from these three sources over the next 20 years could total approximately $1.32 million. This leaves a potential gap in funding over the planning period of an estimated $900 million. Reductions in AIP or in funds available to CDOT through the State fuel tax program have the potential to widen this funding gap. Conversely, if airport related CIP costs decline in future years, the estimated funding gap could be reduced. For Colorado to have a balanced and viable airport system, strategic investment in those airports and those projects that are most essential to the success of the Colorado airport system is important. Below is brief summary of the Federal, State, and local funding sources available to Colorado airports today.

7.4.4 Funding Sources

When planning for the future of Colorado's Airport System, available funding sources for airport capital improvement projects is a significant consideration. In order to meet the system's needs, airports typically rely on funding sources beyond their own revenue. The ability of individual airport sponsors to identify funding sources, and to successfully obtain such funding, directly impacts the ability of the airport sponsor to develop their airport.

Currently there are various sources of funding available to Colorado airport sponsors for capital improvement projects. In general, these funding sources include: Federal (FAA), State (Division of Aeronautics), local, or private funds. Combined, these funding sources are critical to the maintenance and development of the statewide airport system. This said, each year, funding requests most often far outweigh available funding. Implementation of the recommendations presented in this 2011 Colorado Aviation System Plan Update will require continued, significant investment on the part of all funding agencies.

Federal Funding Sources

The FAA Airport Improvement Program (AIP) was created by the Airport and Airways Act of 1982 to assist in the development of a nationwide system of public-use airports. The FAA through AIP distributes funds back to the nation's airport system from the Aviation Trust Fund. The Aviation Trust Fund was established in 1970, and provisions for this trust have been amended on several occasions. The Aviation Trust Fund obtains its funds from the users of the nation's airport system. Funds from the Trust can only be used for airport improvements. Only airports included in the National Plan of Integrated Airport Systems (NPIAS) are eligible for FAA AIP funding. Not all airports in Colorado's State Airport System are included in the NPIAS.

Of the 76 Colorado public-use system airports, 49 are currently part of the NPIAS and are eligible for federal funding. An additional new airport site has been reserved in the NPIAS for an additional general aviation airport in northern Colorado (currently identified as the Wellington site). Of the current NPIAS airports in Colorado, 14 are commercial service airports, with the remaining 35 being general aviation airports. In 2011, the AIP provided approximately $3.5 billion in funding to eligible NPIAS airports throughout the U.S.

The FAA Modernization and Reform Act was passed in 2012. Historically, Federal AIP participation was 90 percent of the eligible cost of airport projects, leaving the airport sponsor responsible for the additional 10 percent. After September 11, 2001 Congress authorized an increase in Federal participation from 90 percent to 95 percent because of the adverse economic impact 9/11 had on local resources (Vision-100). On February 15, 2012, Congress passed the FAA Modernization and Reform Act of 2012; this bill provides four years (2012 to 2015) of funding for FAA projects and programs, including AIP. The most recent AIP legislation decreases the Federal participation on AIP grants from 95 percent back to the historical 90 percent. This puts an increased funding requirement on local and state governments for the remaining match. Annually, a notable portion of the Division of Aeronautics' grant allocations are awarded to help fund local match for AIP eligible projects.

Types of funding available from the FAA are as follows:

- **Federal Discretionary Funding for Colorado.** General aviation and commercial service airports compete for Federal Discretionary funds. Approximately half of the AIP appropriations each year are dispersed by the FAA at their discretion, and the distribution of this funding is based on priority ratings that the FAA assigns to each potential project. AIP Discretionary funding is typically reserved for the very expensive, highest priority projects at primary commercial airports and larger general aviation airports. Project examples include: runway safety areas and projects which improve overall system capacity (e.g. new runways at hub airports). Large projects and airports compete for FAA discretionary funds on a national and regional basis; and, as a result, access to this type of funding is very competitive. To obtain these funds, the airport must have eligible projects programmed in the State's CIP and the NPIAS.

- **Commercial Service Entitlements for Colorado.** Primary commercial service airports enplaning 10,000 or more passengers per year receive a minimum entitlement of $1,000,000 each year in FAA funding. Entitlement funding is based on a graduated methodology that increases the entitlement funding amount up to a maximum of $22,000,000 per year. In Colorado, 11 of the 14 commercial airports were considered Primary Airports in 2011.

- **State Apportionment & Non-Primary Entitlement Funding for Colorado.** FAA State Apportionment (ST) funding is formulated for each of the 50 states. ST funding is a discretionary funding source available to all eligible Non-Primary airports in Colorado, this includes smaller commercial (those with less than 10,000 annual enplaned passengers) and general aviation airports included in the NPIAS. ST funding is typically reserved for large scale, high priority projects within the state. It is anticipated that ST funding will be necessary to complete many projects included in the system plan and the CIPs for general aviation NPIAS airports. Since its inception in 2001, the Non-Primary Entitlement (NPE) program has provided general aviation airports and commercial service airports with fewer than 10,000 annual enplaned passengers, on average, $150,000 a year in the form of an entitlement for FAA eligible projects. This program has given non-primary airports the opportunity to enhance their facility via maintenance and small capital improvement projects. Airports have the ability to carry over their NPE funds for 3 years so that they can be accumulated to accomplish a single larger project. To obtain the funds from this source, the airport must have eligible projects programmed in their CIP and the NPIAS. State funds are often combined with Non-Primary Entitlement (NPE) funds to accomplish larger projects.

- **Passenger Facility Charges.** Passenger Facility Charges (PFCs) are airport fees attached to commercial airline tickets purchased by the traveling public. PFCs are only collected by commercial service airports. Commercial service airports apply to the FAA for approval to assess a PFC on travelers departing from their airport. The airlines collect the fees and make monthly disbursements to airports, at a maximum of $4.50 per enplaned passenger. The requirements for a project to be eligible to use PFC funds are almost identical to the eligibility of typical AIP projects. PFCs can also be used to pay debt service and to finance costs incurred on that portion of a bond issued to carry out approved projects. Further, PFCs can be used to meet the non-federal share or local share of the cost of projects funded under the FAA's AIP.

State Funding Program

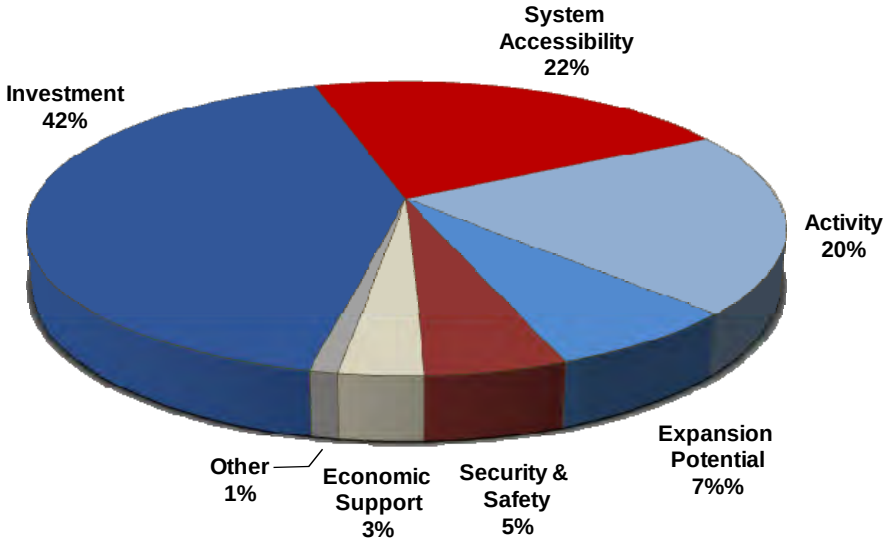
State grant funds for aviation projects in Colorado are administered and dispersed through the Colorado Aeronautical Board and the Division of Aeronautics via its Colorado Discretionary Aviation Grant (CDAG) program. CDAG funds are generated exclusively from a tax on aviation fuel. Currently an excise and sales tax is placed on all aviation fuel pumped in Colorado. AVGAS has a $0.06 per gallon tax and non-airline jet fuel has $0.04 per gallon excise tax. In addition, all jet fuel is subject to a 2.9 percent sales tax. All of the excise tax collected from jet fuel goes back to the airport-of-origin, and $0.04 of the $0.06 excise tax from AVGAS goes back the airports. The remaining $0.02 is collected by Aeronautics to help fund the State grant program and administrative budget. Of the 2.9 percent sales tax on jet fuel, Aeronautics reimburses 65 percent of the sales tax back to the airport-of-origin in the form of regular entitlement funds. The remaining 35 percent of the aviation sales tax revenue is allocated to the CDAG Program to address the maintenance, capital equipment, and developmental needs of Colorado's 76 public-use airports.

In June 2003, Colorado Senate Bill 49 was passed, which continuously appropriates fuel tax dollars into the Colorado Aviation Fund instead of annual appropriations. This legislation provides Aeronautics with more flexibility when dispersing discretionary grants. As previously mentioned, during the past seven years (2006 – 2012), CDAG funds awarded increased from $3 million in 2006 to $20 million in 2012. This increase is attributable to an accumulation of undispersed aviation fuel taxes collected for the CDAG program, combined with the additional sales tax tied to the increased price of jet fuel in recent years.

For State only funded projects, where no AIP dollars are being used, the State provides 90 percent of the project cost and the remaining 10 percent is the responsibility of the local airport sponsor.

Figure 7-3 presents the total historic funding available in the CDAG program between 2009 and 2012 according to the share assigned to each of the established performance measures for the airport system.

Figure 7-3: Historic Colorado Discretionary Aviation Grant Funding by Performance Measure (2009-2012)



Historically speaking CDAG funding has been dispersed for the following major project types:

- **Federal Matching Funds.** The Division of Aeronautics participates in matching Federal funds provided for projects that are part of FAA's AIP. Aeronautics has typically provided a grant for half of the sponsor's local matching share on AIP grants. As previously mentioned, after 2001 the AIP/local match split was 95/5, with Aeronautics typically funding half (2.5%) of the 5 percent local match requirement. With passage of the 2012 AIP bill, the federal portion of the AIP is now 90 percent, with the sponsor to cover the remaining 10 percent. This means that State and local sources will each match 5 percent of the Federal funds. Going forward, a higher percentage of State funds will be required to match FAA AIP grants.

- **Safety/Security Needs.** Safe airport operation is a top priority for Aeronautics. Types of projects included in this category are: fencing, land acquisition/easements for safety areas, lighting, and markings.

- **Weather/Navigation.** Aeronautics has a program in place to improve weather reporting throughout the State. Types of projects included in this category are: weather reporting (ASOS, AWOS, etc.), PAPIs, and rotating beacons.

- **General Facility Enhancements.** These projects include various projects across the State that will enhance airport facilities and include: terminals, parking, equipment purchases, and planning documents.

- **Pavement Projects.** Maintaining airport pavement, such as runways, taxiways and aprons, is a high priority for the CAB and Aeronautics. The Division of Aeronautics' Pavement Maintenance Program includes routine maintenance, such as slurry seal, crack fill, and fog seal. Pavement maintenance projects also include pavement rehabilitations, reconstructions, and overlays of runway, taxiways, and aprons.

Other types of State related funding and financing are noted below:

- **Colorado State Infrastructure Bank Loan Program.** The Colorado State Infrastructure Bank (SIB) Loan Program was enacted by the Colorado Legislature in 1998. The program was implemented by CDOT in 1999. This program helps fund transportation facilities throughout the State by providing low-interest loans. The SIB Program represents another source of funds to Colorado public-use airports and provides loans to fund projects such as capital airport improvements, air traffic control towers, snow removal equipment, airport pavement reconstruction, and land acquisitions to protect airports from incompatible land-use. The current rate for these loans is 3.25 percent, and interest rate is revisited every six months. The term of the loan is up to ten years, and the loans are available for most airport/aviation related projects.

Local Funding Sources

Local funding can be derived from income resulting from the operation of the airport itself or contributions from the sponsoring agency (or agencies) of the airport from the general or other local funds. Local funds are typically used for FAA local match requirements. Local funds also support airport operations including, administration, maintenance, or other projects not eligible for FAA or State funding. Due to FAA and State project eligibility limitations, local funding sources are often drawn upon for utilities and infrastructure development such as hangars and terminal buildings.

Typical sources of local funding and other funding for airports in Colorado follows:

- **Bond Issues.** Airport authorities can issue bonds without approval from a city or county. However, they must use their own revenue to repay the bonds. Airport revenue and property tax revenue are typically used to repay these bonds. Many cities and counties are airport sponsors. For these sponsors, bond issues for funding the local share of airport development projects must compete with bond issues for other types of community improvements, such as schools, highways, and sewer systems. Similar to a general fund apportionment, bond issues supporting airport development depend greatly on the priority assigned to each project and the airport by the local community.

- **Private Funding Sources.** Private funding sources are typically financial contributions to the airport or airport sponsor by an individual(s) or business entity. Typical donors extensively use the airport and are contributing to the maintenance, expansion, and operation of the facility. Considering the many expensive needs of airports, and the limited amount of public funding available to meets these needs, the use of private funds to offset airport costs is a concept that continues to receive attention.

- **Other Funding Sources**. Other sources of funding may also be available; these typically include financial contributions from Federal agencies other than the FAA. For instance, if extensive forest firefighting activity takes place at an airport, supplemental funding from the U.S. Bureau of Land Management (BLM) and the U.S. Forest Service may be contributed to airport sponsors to support the needed facilities at the airport. The airport, as an important part of planned economic growth, is sometimes leveraged by agencies such as the State Economic Development Associations (EDA), farm loan boards, or the U.S. Department of Agriculture via its rural economic development grant program. This program aids rural agricultural communities by providing economic development opportunities that sometimes extend to the airport. It is highly encouraged that airport sponsors and the Division of research these potential funding sources to aid future development of the airport system. However, it must also be noted that Federal funds from one source cannot be used as a match for Federal funds from another source, and the available for funding from these alternative sources is limited

7.4.5 Continuous Planning

The Division of Aeronautics understands the importance of continuous planning as a way to measure the success of the airport system and to meet the goals established in this system plan. As discussed throughout the study, comparisons to the previous system plans in 2000 and 2005, have recorded the changes that have occurred. How the system performance has changed since 2000 and 2005 was documented in Chapter Five. By comparing system performance among the three reporting periods (2000, 2005, and 2011), Aeronautics can determine where the system has improved, stayed the same, or shown regression. By evaluating the system on regular intervals, Aeronautics is able to demonstrate how investment helps to improve the system's performance relative to the benchmarks and the facility, service, and equipment objectives contained in the system plan. To continue to monitor the performance of the system, the Colorado's Aviation System Plan should be updated on approximately five-year intervals. This indicates that the next update should be undertaken in approximately the 2016-2017 timeframe.

Monitoring System Performance

The Division of Aeronautics should continue to monitor the aviation system's performance in the future through the system planning process. The following actions are also recommended as part of the continuous planning process.

- **System Report Card.** The system report card is a tool which allows Aeronautics to visualize their achievement of target goals over the life span of the system plan. It is recommended that the report card be updated every 5 years to ensure its accuracy and to track the progression of the airports in Colorado.

- **Aviation System Plan.** The Colorado Aviation System Plan provides Aeronautics with a blueprint for the development of its airport system. As the aviation industry changes over time, as Colorado airports grow, and as the State's socioeconomic and demographic characteristics change, the system plan should be updated on regular intervals. It is recommended that Aeronautics continue to update the system plan at 5-year intervals, with the next update taking place in the 2016-2017 timeframe.

- **Tracking Tool.** The tracking tool developed as part of this 2011 update to the system plan provides the Division of Aeronautics with the ability to track how individual grants are related to performance measures, benchmarks, and facility, service, and equipment objectives contained in the system plan. The tracking tool contains a record of historic grants issued between 2009 and 2012. Aeronautics should continue to update the tracking tool in subsequent grant cycles and to use the reporting capabilities of the tool to relate grants (investment) to the system plan and system performance.

State Follow-On Programs/Studies

Analysis completed as part of the Colorado Aviation System Plan 2011 identified a need for follow-on special studies that are desirable to address needs of the system. As part of the continuous system planning process, the need for the following special studies or programs have been identified:

- **Land Use Compatibility Study.** Analysis as part of this and past state aviation system plans for Colorado indicates that it would be beneficial to conduct a statewide land use compatibility study. The encroachment of incompatible land use upon system airports represents a significant threat to the long-term viability of airports in Colorado. This study would help the State identify deficiencies in land use planning around airports as they relate to airspace protection (including a more accurate reading on the number of entities surrounding airports in Colorado that have taken steps to adopt Part 77 recommendations) and incompatible use of land. It is anticipated this study would also provide general recommendations to the State and local communities as to the various mechanisms and steps necessary to ensure compatible land use planning around Colorado's airports such as local zoning ordinances, land use maps, avigation easements, and Fair Disclosure documentation. General guidelines for compatible land use around Colorado airports could also be developed as part of this study.

- **Economic Impact Studies.** Colorado's airport are a significant economic asset to the citizens of the State. The Division of Aeronautics has been proactive in capturing the economic value of the Colorado Airport System via the update of its statewide airport economic impact studies. As the system evolves and economic conditions continue to change, future updates are important and warranted throughout the study period. Like the system plan updates, it is recommended that the economic impact study be updated every 5 years. The last statewide economic impact study was published in 2008 so an update to this study is needed in the near term, 2012.

- **Pavement Management Plan (Continuous).** One of the objectives for the system plan is for all airports to have a pavement condition index (PCI) of at least 75 on their primary runway, taxiway, and apron. Colorado has a program in place to conduct pavement management assessments on a continuous basis for the publicly-owned airport in the system. This annual inspection and maintenance program should be continued.

7.5 Conclusions

Airports in Colorado are critical transportation and economic resources. For communities throughout Colorado, airports are important economic catalysts. By responding to performance measure, benchmarks, and facility/service objectives outlined in this system plan, Colorado's Airport System will remain balanced and viable in the coming years.

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Denver International Airport. Photo by Shahn Sederberg