

Chapter 2. Inventory of System Condition

2.1. Introduction

A critical step in the Colorado Aviation System Plan (CASP) planning process was to identify and gather information on existing facilities and services that are present at system airports. These data serve as the baseline for each variable chosen to evaluate the overall airport system performance. This chapter presents the results of an extensive data collection process that involved airports, the Colorado Department of Transportation (CDOT) Division of Aeronautics, and the Federal Aviation Administration (FAA). The results of the inventory data collection effort are presented in the following sections:

- Existing System
- Inventory Process
- Airside Facilities
- Landside Facilities
- Airport Activity
- Mobility and Access
- Airport Safety
- Airport Planning
- Land Use Compatibility and Business Development

2.2. Existing System

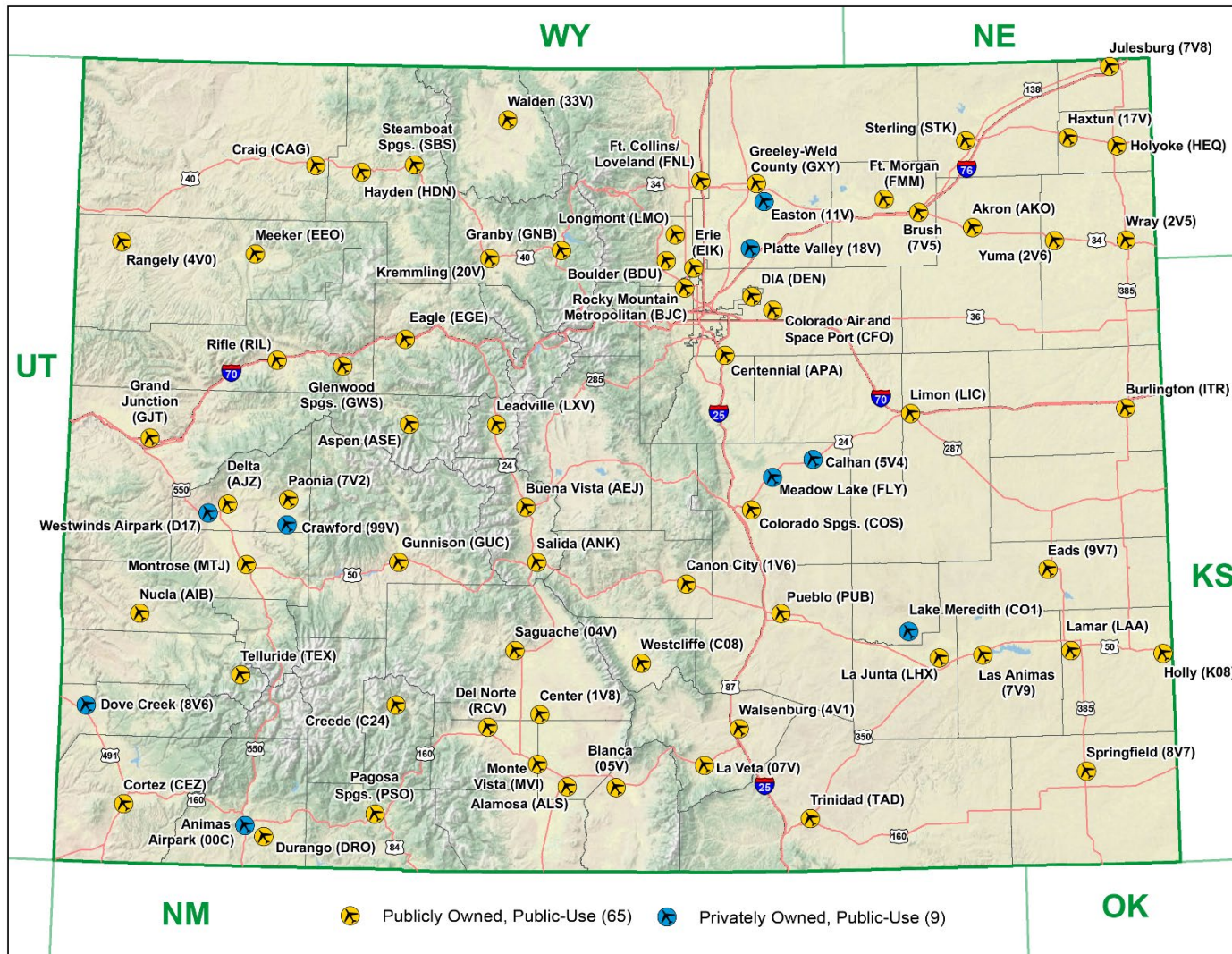
Colorado is home to nearly 450 aeronautical facilities, including airports, airstrips, airparks, helicopter pads, and seaplane bases. These facilities include a mixture of publicly and privately owned, as well as public- and private-use. The inventory process started with identification of the airports eligible for inclusion in the CASP.

2.2.1. Colorado Airports

The Airport Safety Data Program is the FAA's mechanism for obtaining the information on landing facilities, both privately-owned and publicly-owned, that are reported using the FAA Form 5010, Airport Master Record. The data from Form 5010 is maintained within the FAA's Aeronautical Information Service and included in the National Flight Data Center (NFDC). According to the NFDC Facilities Database, Colorado currently has 448 aeronautical facilities, of which 374 are private-use and 74 are public-use.

The 74 public-use airports in Colorado are considered the "Colorado System". These airports are shown in **Figure 2.1**.

Figure 2.1. Colorado System of Airports



Source: Kimley-Horn, 2019

2.2.2. 2020 CASP Airports

A critical factor for inclusion in the CASP is an airport’s eligibility to receive state funding from CDOT Division of Aeronautics. Colorado Revised Statute (CRS 43-10) limits funding eligibility to airports owned by public agencies and privately-owned airports included in the FAA’s National Plan of Integrated Airport Systems (NPIAS). This eliminates the 374 private-use airports as well as eight of the nine public-use, privately-owned airports from the system plan. The CDOT Division of Aeronautics and Project Advisory Committee (PAC) determined that the 2020 CASP would include the 65 publicly owned, public-use airports and Meadow Lake Airport (FLY)¹. Of these 66 CASP airports, 49 are included in the FAA’s NPIAS which means they have been recognized by the FAA as essential to the national air transportation system and are eligible for FAA funding through the Airport Improvement Program (AIP). The remaining 17 airports are considered Non-NPIAS as they are not recognized in the FAA’s NPIAS and are ineligible for FAA funding. The 66 airports included in the 2020 CASP are presented alphabetically by associated city in **Table 2.1** starting with the commercial service airports, followed by GA airports. Fourteen of the 66 airports support scheduled Part 121, Part 135, or Part 380 commercial service, the remaining 52 support general aviation (GA) operations.

Table 2.1. 2020 CASP Airports²

Associated City	Airport Name	FAA ID	NPIAS Status	Ownership	Use
<i>Commercial Service</i>					
Alamosa	San Luis Valley Regional/Bergman Field	ALS	NPIAS	Public	Public
Aspen	Aspen-Pitkin County/Sardy Field	ASE	NPIAS	Public	Public
Colorado Springs	City of Colorado Springs Municipal	COS	NPIAS	Public	Public
Cortez	Cortez Municipal	CEZ	NPIAS	Public	Public
Denver	Denver International	DEN	NPIAS	Public	Public
Durango	Durango-La Plata County	DRO	NPIAS	Public	Public
Eagle	Eagle County Regional	EGE	NPIAS	Public	Public
Grand Junction	Grand Junction Regional	GJT	NPIAS	Public	Public
Gunnison	Gunnison-Crested Butte Regional	GUC	NPIAS	Public	Public
Hayden	Yampa Valley	HDN	NPIAS	Public	Public
Fort Collins/ Loveland	Northern Colorado Regional	FNL	NPIAS	Public	Public
Montrose	Montrose Regional	MTJ	NPIAS	Public	Public
Pueblo	Pueblo Memorial	PUB	NPIAS	Public	Public
Telluride	Telluride Regional	TEX	NPIAS	Public	Public

¹ Meadow Lake Airport (FLY) is a privately owned, public-use airport located northeast of Colorado Springs. FLY was included as a CASP airport because of its classification as a reliever in the National Plan of Integrated Airport Systems (NPIAS) which makes the airport eligible for federal funding.

² The airport names for the following will be modified for the remainder of the CASP to reflect their more commonly referenced names as follows: San Luis Valley Regional, Aspen-Pitkin County, and Colorado Springs Municipal for commercial service airports; Las Animas-Bent County, Cuchara Valley, and Steamboat Springs for general aviation airports.

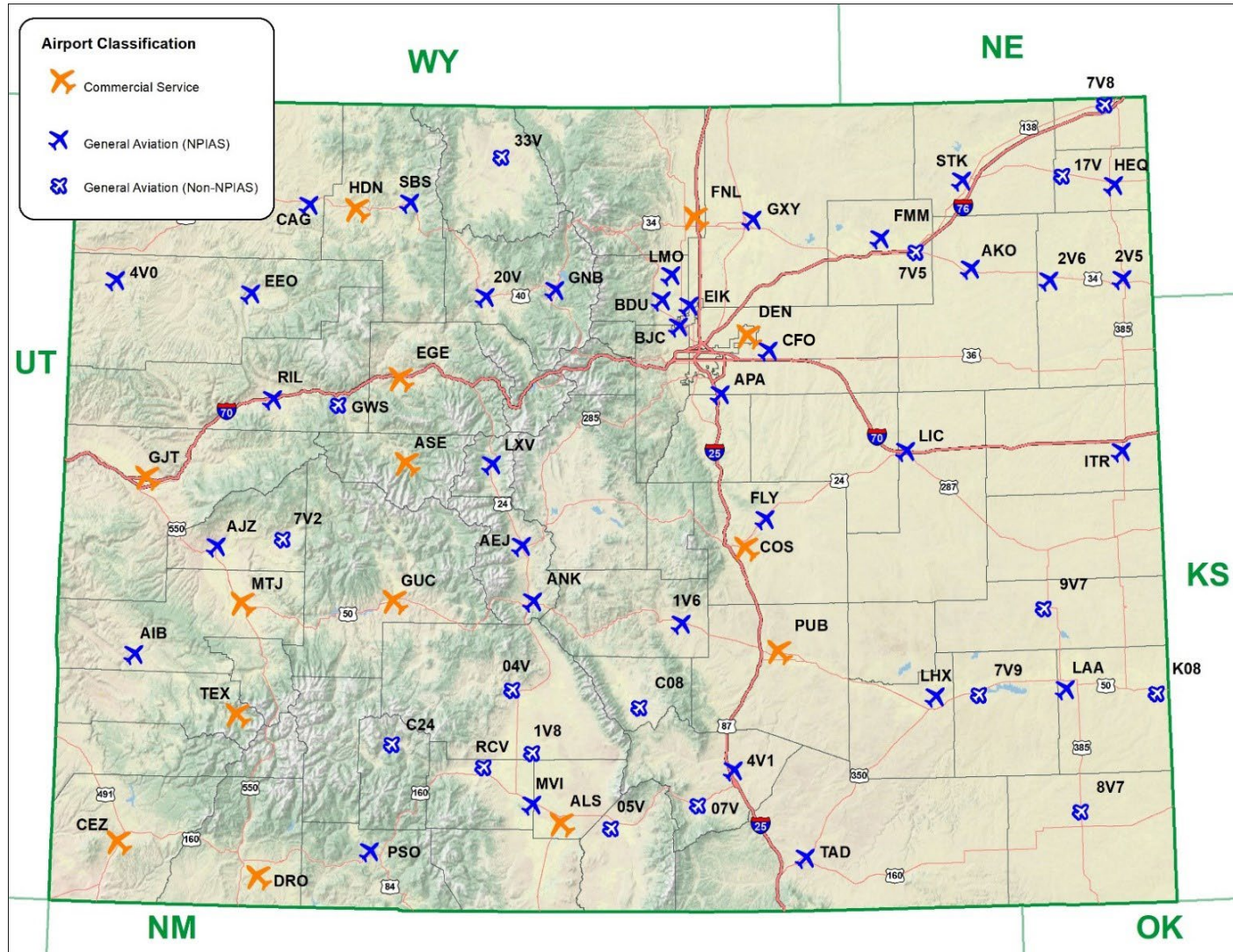
Associated City	Airport Name	FAA ID	NPIAS Status	Ownership	Use
<i>General Aviation</i>					
Akron	Colorado Plains Regional	AKO	NPIAS	Public	Public
Blanca	Blanca	05V	Non-NPIAS	Public	Public
Boulder	Boulder Municipal	BDU	NPIAS	Public	Public
Brush	Brush Municipal	7V5	Non-NPIAS	Public	Public
Buena Vista	Central Colorado Regional	AEJ	NPIAS	Public	Public
Burlington	Kit Carson County	ITR	NPIAS	Public	Public
Canon City	Fremont County	1V6	NPIAS	Public	Public
Center	Leach	1V8	Non-NPIAS	Public	Public
Colorado Springs	Meadow Lake	FLY	NPIAS	Private	Public
Craig	Craig-Moffat	CAG	NPIAS	Public	Public
Creede	Mineral County Memorial	C24	Non-NPIAS	Public	Public
Del Norte	Astronaut Kent Rominger	RCV	Non-NPIAS	Public	Public
Delta	Blake Field	AJZ	NPIAS	Public	Public
Denver	Centennial	APA	NPIAS	Public	Public
Denver	Rocky Mountain Metropolitan	BJC	NPIAS	Public	Public
Denver	Colorado Air and Space Port	CFO	NPIAS	Public	Public
Eads	Eads Municipal	9V7	Non-NPIAS	Public	Public
Erie	Erie Municipal	EIK	NPIAS	Public	Public
Fort Morgan	Fort Morgan Municipal	FMM	NPIAS	Public	Public
Glenwood Springs	Glenwood Springs Municipal	GWS	Non-NPIAS	Public	Public
Granby	Granby-Grand County	GNB	NPIAS	Public	Public
Greeley	Greeley-Weld County	GXY	NPIAS	Public	Public
Haxtun	Haxtun Municipal	17V	Non-NPIAS	Public	Public
Holly	Holly	K08	Non-NPIAS	Public	Public
Holyoke	Holyoke	HEQ	NPIAS	Public	Public
Julesburg	Julesburg Municipal	7V8	Non-NPIAS	Public	Public
Kremmling	Mc Elroy Airfield	20V	NPIAS	Public	Public
La Junta	La Junta Municipal	LHX	NPIAS	Public	Public
La Veta	Cuchara Valley at La Veta	07V	Non-NPIAS	Public	Public
Lamar	Lamar Municipal	LAA	NPIAS	Public	Public
Las Animas	City of Las Animas-Bent County	7V9	Non-NPIAS	Public	Public
Leadville	Lake County	LXV	NPIAS	Public	Public
Limon	Limon Municipal	LIC	NPIAS	Public	Public
Longmont	Vance Brand	LMO	NPIAS	Public	Public
Meeker	Meeker/Coulter Field	EEO	NPIAS	Public	Public
Monte Vista	Monte Vista Municipal	MVI	NPIAS	Public	Public
Nucla	Hopkins Field	AIB	NPIAS	Public	Public
Pagosa Springs	Stevens Field	PSO	NPIAS	Public	Public

Associated City	Airport Name	FAA ID	NPIAS Status	Ownership	Use
Paonia	North Fork Valley	7V2	Non-NPIAS	Public	Public
Rangely	Rangely	4V0	NPIAS	Public	Public
Rifle	Rifle Garfield County	RIL	NPIAS	Public	Public
Saguache	Saguache Municipal	04V	Non-NPIAS	Public	Public
Salida	Harriet Alexander Field	ANK	NPIAS	Public	Public
Springfield	Springfield Municipal	8V7	Non-NPIAS	Public	Public
Steamboat Springs	Steamboat Springs/Bob Adams Field	SBS	NPIAS	Public	Public
Sterling	Sterling Municipal	STK	NPIAS	Public	Public
Trinidad	Perry Stokes	TAD	NPIAS	Public	Public
Walden	Walden-Jackson County	33V	Non-NPIAS	Public	Public
Walsenburg	Spanish Peaks Airfield	4V1	NPIAS	Public	Public
Westcliffe	Silver West	C08	Non-NPIAS	Public	Public
Wray	Wray Municipal	2V5	NPIAS	Public	Public
Yuma	Yuma Municipal	2V6	NPIAS	Public	Public

Sources: FAA’s NPIAS 2019-2023; FAA’s NFDC 2019; Kimley-Horn, 2019

Figure 2.2 depicts the locations of the 66 CASP airports, differentiated by type of use (commercial service and GA) and inclusion in the NPIAS.

Figure 2.2. 2020 CASP Airports



Source: Kimley-Horn, 2019

2.3. Inventory Process

Obtaining accurate and complete data to assess the existing system's condition and performance is critical to the foundation of the 2020 CASP. Subsequent tasks rely on the data compiled during the inventory effort, such as evaluation of system performance and development of system recommendations.

A multi-prong data collection approach was used to complete a comprehensive inventory of the facilities and services available at the 66 CASP airports. To initiate the inventory process, an Inventory & Data Form was prepared, identifying all the essential data points required to evaluate the system. These data points included those necessary to measure the system's performance based on the established system goals, performance measures (PMs), and system indicators (SIs) as presented in **Chapter 1. Study Design and Goals**. Before the forms were issued to airport representatives (in most cases, the airport manager served as the representative), they were pre-populated with information specific to each individual airport. Only some of the data was pre-populated as many of the data points were not available from the FAA or other industry sources. Packages were distributed to airports with letters describing the purpose of the study and a hard copy of each airport's individual pre-populated Inventory & Data Form.

Through follow-up correspondence, the purpose of the study was further explained, and site visits were scheduled with each airport's representative. From November 2018 through February 2019, airport site visits were conducted throughout Colorado. During the site visit, assistance to the airport representative was offered to complete the Inventory and Data Form. Further, the site visits were used to discuss land ownership and land use concerns surrounding each airport. FAA safety areas (such as Federal Aviation Regulation [FAR] Part 77 Imaginary Surfaces (refer to section 2.10.2), and Runway Protection Zones [RPZs]) were plotted on aerial images for each airport in advance of the site visits to facilitate discussion regarding land use concerns, especially within the RPZ. Most Inventory & Data Forms were not completed in full during the airport site visit due to the extensive nature of the data request. As such, follow-up correspondence was made with the necessary airport representatives as needed in an attempt to complete the data set.

As a supplement to the inventory form and site visits, the following sources were gathered and examined for a more in-depth analysis of the airports and the system:

- FAA's Terminal Area Forecast (TAF)
- FAA's 5010 Master Record forms for individual airports
- FAA's National Flight Data Center (NFDC)
- Airport master plans and Airport Layout Plans (ALPs)³
- CDOT's 2018 Pavement Condition Index (PCI) Report

³ Colorado Airport Master Plans and Airport Layout Plans were obtained if possible during on-site visits, however, the majority were obtained before the data collection effort from the Denver FAA Airports District Office (ADO) and CDOT files.

In some instances, data was not available and was not provided by some system airports despite multiple attempts in person and over email and phone to collect the data. The tables in this chapter note “N/P” for “not provided” to reflect data that was not obtained from airports.

2.4. Airside Facilities

The following section details key airside facilities at CASP airports in 2018. This section is not all-inclusive of the facilities present at system airports. The facilities identified in this section are the subject of system performance measures or system indicators that are assessed in **Chapter 6. Current System Performance**.

2.4.1. Runways

The dominant feature on any airport is its runway(s). The pavement dimensions, surface type⁴, and associated lighting, NAVAIDs, and surrounding safety areas determine which aircraft under which conditions can be operated in a safe, efficient, and regulatory-compliant manner. The following documents the physical and operational characteristics of the runways at Colorado’s system airports.

2.4.1.1. Runway Length

Of the 66 primary runways⁵ analyzed in the CASP, eight measure at least 10,000 feet in length. These are located at Denver International (DEN), City of Colorado Springs Municipal (COS), Grand Junction Regional (GJT), Greeley-Weld County (GXY), Yampa Valley (HDN), Montrose Regional (MTJ), Pueblo Memorial (PUB), and Centennial (APA). The shortest primary runways in the system are located at Glenwood Springs Municipal (GWS) and Haxtun Municipal (17V) which are 3,305 feet and 3,860 feet, respectively. Fifty-one runways measure at least 5,000 feet in length, a generic minimum length considered as a potential indicator of an airport’s ability to accommodate many corporate aircraft⁶. Twenty-seven (41 percent) airports in the system have multiple runways. Primary runway lengths are summarized in **Table 2.4**.

2.4.1.2. Airport Reference Code (ARC)

The FAA classifies airports by an Airport Reference Code (ARC) which subsequently drives the overall planning and design criteria for airports. Establishing an ARC starts with selecting a “critical aircraft” or “design aircraft” that uses, or is expected to use, the runway. The critical aircraft is defined as the most demanding aircraft conducting at least 500 annual operations on the runway. An airport’s critical aircraft can reflect either a specific aircraft model or a grouping of aircraft with similar characteristics considered collectively.

The ARC classification system is based on groupings of aircraft types relative to their operating performance and geometric characteristics. It is comprised of an alpha-numeric identifier representing the Aircraft Approach Category (AAC) and Airplane Design Group (ADG). The AAC reflects the approach speed of the critical aircraft, and the ADG reflects the critical aircraft’s wingspan and tail height. The

⁴ Surface type for this Chapter is noted as either paved or unpaved, however, more in-depth surface types were identified during the site visit.

⁵ A primary runway is the runway that is preferred for takeoff and landing when an airport has multiple runways. Typically, the primary runway is the most accommodating runway at an airport.

⁶ 5,000-foot long runways are the general standard for jet aircraft at mean sea level with a standard temperature of 59 degrees for aircraft weights between 12,500 pounds and 60,000 pounds. Elevation, temperature, and runway gradient should be considered when determining adequate runway lengths at Colorado airports for corporate aircraft.

classifications are summarized in Table 2.2. It should be noted that airports, runways, and aircraft can be referred to by these characteristics.

Table 2.2. Airport Reference Code Summary

Aircraft Approach Category		Airplane Design Group		
Category	Approach Speed	Group	Wing Span (ft.)	Tail Height (ft.)
A	Less than 91	I	Less than 49	Less than 20
B	91 to 120	II	49 to 78	21 to 29
C	121 to 140	III	79 to 117	30 to 44
D	141 to 165	IV	118 to 170	45 to 59
E	166 or Greater	V	171 to 213	60 to 65
		VI	214 up to but less than 262	66 up to but less than 80

Source: FAA AC 150/5300-13A, Change 1, Airport Design, 2019

Aircraft with approach speeds in categories A and B are typically smaller piston-engine aircraft, whereas C, D, and E are normally larger turboprop or turbine-powered aircraft. Similarly, the wingspan and tail height of small, piston-engine aircraft normally correspond to design group I. Typical aircraft in design group II include a Beechcraft King Air, Cessna Citation, or smaller Gulfstream business jets. Design group III includes larger corporate jets such as Gulfstream G500/550 and air carrier aircraft such as the DeHavilland Dash-8 and Boeing B-737. Design groups IV and V represent larger narrow-body and wide-body air carrier aircraft such as Boeing B-757 and B-747, respectively. Group VI includes the largest of aircraft, such as an Airbus A-380 or a C-5 military transport aircraft.

Based on airport responses and a review of individual airport planning documents (master plans and ALPs), there is a broad range of ARCs at Colorado airports, with most runways designed to B-II standards (42 percent). Table 2.3 summarizes ARCs at CASP airports.

Table 2.3. ARC Summary

ARC	Number of Airports	Percentage of Total
A-I	8	12.1%
B-I	11	16.7%
B-II	28	42.4%
C-II	5	7.6%
C-III	3	4.5%
C-IV	3	4.5%
D-II	1	1.5%
D-III	3	4.5%
D-IV	3	4.5%
D-VI	1	1.5%
Total	66	100%

Source: 2018 Inventory & Data Form

2.4.1.3. Runway Lighting

The FAA recognizes three types of runway lighting: High, Medium, and Low Intensity Runway Lights referred to as HIRL, MIRL, and LIRL. Runway lighting is necessary for night-time operations and is present at 91 percent (60) of Colorado’s system airports. Of the 66 primary runways in the Colorado airport system, 18 runways have HIRLs, 38 runways have MIRLs, one runway has LIRLs, and six runways do not have lights. Brush Municipal (7V5), Haxtun Municipal (17V) and Holly (K08) have non-standard lighting (NSTD).

Table 2.4 presents a summary of the individual CASP airport runway facilities as described in this section, organized alphabetically by associated city and divided between commercial service and GA. All tables in this chapter are organized in the same manner.

Table 2.4. Primary Runway Facilities

Associated City	Airport Name	FAA ID	ARC	Runway			
				Orientation	Length/Width	Surface	Lighting
<i>Commercial Service</i>							
Alamosa	San Luis Valley Regional	ALS	C-II	02/20	8,519' x 100'	Paved	HIRL
Aspen	Aspen-Pitkin County	ASE	D-III	15/33	8,006' x 100'	Paved	MIRL
Colorado Springs	Colorado Springs Municipal	COS	C-IV	17L/35R	13,501' x 150'	Paved	HIRL
Cortez	Cortez Municipal	CEZ	B-II	03/21	7,205' x 100'	Paved	MIRL
Denver*	Denver International	DEN	D-VI	17L/35R	12,000' x 150'	Paved	HIRL
Durango	Durango-La Plata County	DRO	D-IV	03/21	9,201' x 150'	Paved	HIRL
Eagle	Eagle County Regional	EGE	D-IV	07/25	9,000' x 150'	Paved	HIRL
Grand Junction	Grand Junction Regional	GJT	D-III	11/29	10,501' x 150'	Paved	HIRL
Gunnison	Gunnison-Crested Butte Regional	GUC	C-IV	06/24	9,400' x 150'	Paved	HIRL
Hayden	Yampa Valley	HDN	C-IV	10/28	10,000' x 150'	Paved	HIRL
Fort Collins/ Loveland	Northern Colorado Regional	FNL	C-III	15/33	8,500' x 100'	Paved	HIRL
Montrose	Montrose Regional	MTJ	D-IV	17/35	10,000' x 150'	Paved	HIRL
Pueblo	Pueblo Memorial	PUB	C-III	08R/26L	10,496' x 150'	Paved	HIRL
Telluride	Telluride Regional	TEX	C-III	09/27	7,111' x 100'	Paved	HIRL
<i>General Aviation</i>							
Akron	Colorado Plains Regional	AKO	B-II	11/29	7,001' x 100'	Paved	MIRL
Blanca	Blanca	05V	A-I	03/21	6,160' x 52'	Unpaved	None
Boulder	Boulder Municipal	BDU	B-II	08/26	4,100' x 75'	Paved	MIRL
Brush	Brush Municipal	7V5	B-I	07/25	4,300' x 60'	Paved	NSTD
Buena Vista	Central Colorado Regional	AEJ	B-II	15/33	8,303' x 75'	Paved	MIRL
Burlington	Kit Carson County	ITR	B-II	15/33	5,199' x 75'	Paved	MIRL
Canon City	Fremont County	1V6	B-II	11/29	5,399' x 75'	Paved	MIRL
Center	Leach	1V8	A-I	12/30	7,000' x 50'	Paved	LIRL
Colorado Springs	Meadow Lake	FLY	B-I	15/33	6,000' x 60'	Paved	MIRL

Associated City	Airport Name	FAA ID	ARC	Runway			
				Orientation	Length/Width	Surface	Lighting
Craig	Craig-Moffat	CAG	B-II	07/25	5,606' x 100'	Paved	MIRL
Creede	Mineral County Memorial	C24	B-I	07/25	6,880' x 60'	Paved	None
Del Norte	Astronaut Kent Rominger	RCV	B-II	06/24	6,051' x 75'	Paved	MIRL
Delta	Blake Field	AJZ	B-II	03/21	5,598' x 75'	Paved	MIRL
Denver	Centennial	APA	D-III	17L/35R	10,001' x 100'	Paved	MIRL
Denver	Rocky Mountain Metropolitan	BJC	C-II	12L/30R	9,000' x 100'	Paved	HIRL
Denver	Colorado Air and Space Port	CFO	C-II	08/26	8,000' x 100'	Paved	HIRL
Eads	Eads Municipal	9V7	A-I	17/35	3,860' x 60'	Paved	MIRL
Erie	Erie Municipal	EIK	B-I	15/33	4,700' x 60'	Paved	MIRL
Fort Morgan	Fort Morgan Municipal	FMM	B-II	14/32	5,731' x 75'	Paved	MIRL
Glenwood Springs	Glenwood Springs Municipal	GWS	B-II	14/32	3,305' x 50'	Paved	None
Granby	Granby-Grand County	GNB	B-II	09/27	5,001' x 75'	Paved	MIRL
Greeley	Greeley-Weld County	GXY	C-II	17/35	10,000' x 100'	Paved	MIRL
Haxtun	Haxtun Municipal	17V	A-I	08/26	3,860' x 40'	Paved	NSTD
Holly	Holly	K08	A-I	17/35	4,140' x 40'	Unpaved	NSTD
Holyoke	Holyoke	HEQ	B-II	14/32	5,000' x 75'	Paved	MIRL
Julesburg	Julesburg Municipal	7V8	B-I	13/31	4,100' x 60'	Paved	MIRL
Kremmling	Mc Elroy Airfield	20V	B-II	09/27	5,540' x 75'	Paved	MIRL
La Junta	La Junta Municipal	LHX	B-II	08/26	6,849' x 75'	Paved	MIRL
La Veta	Cuchara Valley	07V	A-I	06/24	5,798' x 60'	Paved	MIRL
Lamar	Lamar Municipal	LAA	B-II	18/36	6,304' x 100'	Paved	MIRL
Las Animas	Las Animas-Bent County	7V9	B-I	08/26	3,870' x 40'	Paved	HIRL
Leadville	Lake County	LXV	B-II	16/34	6,400' x 75'	Paved	MIRL
Limon	Limon Municipal	LIC	B-I	16/34	4,700' x 60'	Paved	MIRL
Longmont	Vance Brand	LMO	B-II	11/29	4,799' x 75'	Paved	MIRL
Meeker	Meeker/Coulter Field	EEO	B-II	03/21	6,503' x 100'	Paved	MIRL
Monte Vista	Monte Vista Municipal	MVI	B-I	02/20	5,901' x 60'	Paved	MIRL

Associated City	Airport Name	FAA ID	ARC	Runway			
				Orientation	Length/Width	Surface	Lighting
Nucla	Hopkins Field	AIB	B-II	05/23	5,210 x 75'	Paved	MIRL
Pagosa Springs	Stevens Field	PSO	C-II	01/19	8,100' x 100'	Paved	MIRL
Paonia	North Fork Valley	7V2	A-I	05/23	4,500' x 60'	Paved	HIRL
Rangely	Rangely	4V0	B-II	07/25	6,409' x 75'	Paved	MIRL
Rifle	Rifle Garfield County	RIL	D-II	08/26	7,000' x 100'	Paved	HIRL
Saguache	Saguache Municipal	04V	A-I	11/29	7,957' x 55'	Unpaved	None
Salida	Harriet Alexander Field	ANK	B-II	06/24	7,351' x 75'	Paved	MIRL
Springfield	Springfield Municipal	8V7	B-I	17/35	5,000' x 60'	Paved	MIRL
Steamboat Springs	Steamboat Springs	SBS	B-II	14/32	4,452' x 100'	Paved	HIRL
Sterling	Sterling Municipal	STK	B-II	15/33	5,201' x 75'	Paved	MIRL
Trinidad	Perry Stokes	TAD	B-II	03/21	5,500' x 75'	Paved	HIRL
Walden	Walden-Jackson County	33V	B-II	04/22	5,900' x 75'	Paved	MIRL
Walsenburg	Spanish Peaks Airfield	4V1	B-I	09/27	4,504' x 75'	Paved	None
Westcliffe	Silver West	C08	B-I	13/31	6,954' x 55'	Paved	None
Wray	Wray Municipal	2V5	B-II	17/35	5,399' x 75'	Paved	MIRL
Yuma	Yuma Municipal	2V6	B-II	16/34	4,200' x 75'	Paved	MIRL

**Note: While DEN's primary runway is Runway 17L/35R, its longest Runway (and longest Runway in the U.S.) is Runway 16R/34L which is 16,000 feet long.*

Source: 2018 Inventory & Data Form

2.4.2. Taxiways

Taxiways provide aircraft access to and from the runway. There are four types of taxiways reported at CASP airports listed in order of importance as they relate to the CASP. The types of taxiways are defined as follows:

- **Full-length parallel** - connects at both ends of the runway and typically includes a connector taxiway near the mid-field.
- **Partial-parallel** - typically connects from one end of the runway to a point near the center of the runway.
- **Connector** - taxiway that connects from the apron directly to the runway
- **Turnaround** - widened sections of pavement or a designed lane to turn aircraft around⁷

Of the 66 primary runways analyzed as part of the CASP, 29 (44 percent) have a full-length parallel, 17 (26 percent) have a partial parallel, 10 (15 percent) rely on connector taxiways, and seven (11 percent) utilize turnaround taxiways, and three airports do not have a taxiway. **Table 2.5** summarizes the primary taxiway facilities serving the primary runway at CASP airports.

Table 2.5. Taxiway Facilities

Associated City	Airport Name	FAA ID	Taxiway	
			Type	Width
<i>Commercial Service</i>				
Alamosa	San Luis Valley Regional	ALS	Full Parallel	50
Aspen	Aspen-Pitkin County	ASE	Partial Parallel	50
Colorado Springs	Colorado Springs Municipal	COS	Full Parallel	75
Cortez	Cortez Municipal	CEZ	Full Parallel	50
Denver*	Denver International	DEN	Full Parallel	75
Durango	Durango-La Plata County	DRO	Full Parallel	75
Eagle	Eagle County Regional	EGE	Full Parallel	75
Grand Junction	Grand Junction Regional	GJT	Full Parallel	75
Gunnison	Gunnison-Crested Butte Regional	GUC	Full Parallel	75
Hayden	Yampa Valley	HDN	Full Parallel	75
Fort Collins/ Loveland	Northern Colorado Regional	FNL	Full Parallel	50
Montrose	Montrose Regional	MTJ	Full Parallel	75
Pueblo	Pueblo Memorial	PUB	Full Parallel	75
Telluride	Telluride Regional	TEX	Partial Parallel	50
<i>General Aviation</i>				
Akron	Colorado Plains Regional	AKO	Partial Parallel	35
Blanca	Blanca	05V	None	N/A
Boulder	Boulder Municipal	BDU	Full Parallel	45

⁷ For the purposes of this CASP, if an airport did not have a full-length or partial parallel taxiway, but had a connector and turnaround taxiway, the connector taxiway was reported as the primary taxiway type.

Associated City	Airport Name	FAA ID	Taxiway	
			Type	Width
Brush	Brush Municipal	7V5	Connector	40
Buena Vista	Central Colorado Regional	AEJ	Full Parallel	50
Burlington	Kit Carson County	ITR	Partial Parallel	35
Canon City	Fremont County	1V6	Full Parallel	35
Center	Leach	1V8	Connector	25
Colorado Springs	Meadow Lake	FLY	Full Parallel	25
Craig	Craig-Moffat	CAG	Turnaround	50
Creede	Mineral County Memorial	C24	Connector	25
Del Norte	Astronaut Kent Rominger	RCV	Partial Parallel	50
Delta	Blake Field	AJZ	Partial Parallel	35
Denver	Centennial	APA	Full Parallel	50
Denver	Rocky Mountain Metropolitan	BJC	Full Parallel	50
Denver	Colorado Air and Space Port	CFO	Full Parallel	50
Eads	Eads Municipal	9V7	Connector	20
Erie	Erie Municipal	EIK	Full Parallel	25
Fort Morgan	Fort Morgan Municipal	FMM	Turnaround	35
Glenwood Springs	Glenwood Springs Municipal	GWS	Full Parallel	20
Granby	Granby-Grand County	GNB	Partial Parallel	35
Greeley	Greeley-Weld County	GXY	Full Parallel	35
Haxtun	Haxtun Municipal	17V	None	N/A
Holly	Holly	K08	Turnaround	15
Holyoke	Holyoke	HEQ	Partial Parallel	35
Julesburg	Julesburg Municipal	7V8	Partial Parallel	15
Kremmling	Mc Elroy Airfield	20V	Turnaround	35
La Junta	La Junta Municipal	LHX	Full Parallel	75
La Veta	Cuchara Valley	07V	Connector	25
Lamar	Lamar Municipal	LAA	Full Parallel	35
Las Animas	Las Animas-Bent County	7V9	Turnaround	30
Leadville	Lake County	LXV	Partial Parallel	35
Limon	Limon Municipal	LIC	Partial Parallel	35
Longmont	Vance Brand	LMO	Full Parallel	35
Meeker	Meeker/Coulter Field	EEO	Partial Parallel	100
Monte Vista	Monte Vista Municipal	MVI	Partial Parallel	25
Nucla	Hopkins Field	AIB	Connector	50
Pagosa Springs	Stevens Field	PSO	Full Parallel	35
Paonia	North Fork Valley	7V2	Turnaround	25
Rangely	Rangely	4V0	Full Parallel	30
Rifle	Rifle Garfield County	RIL	Full Parallel	50
Saguache	Saguache Municipal	04V	None	N/A

Associated City	Airport Name	FAA ID	Taxiway	
			Type	Width
Salida	Harriet Alexander Field	ANK	Partial Parallel	35
Springfield	Springfield Municipal	8V7	Partial Parallel	30
Steamboat Springs	Steamboat Springs	SBS	Connector	60
Sterling	Sterling Municipal	STK	Full Parallel	35
Trinidad	Perry Stokes	TAD	Turnaround	50
Walden	Walden-Jackson County	33V	Connector	38
Walsenburg	Spanish Peaks Airfield	4V1	Connector	25
Westcliffe	Silver West	C08	Connector	30
Wray	Wray Municipal	2V5	Partial Parallel	35
Yuma	Yuma Municipal	2V6	Partial Parallel	35

**Note: Runway 16R/34L is served by Taxiways D, WA, and WB that are all 100 feet wide compared to the 75-foot wide taxiway that serves primary Runway 17L/35R.*

Sources: 2018 Inventory & Data Form; Google Earth, 2019

2.4.3. Approaches, NAVAIDs, and Visual Aids

The following section details runway approach types, navigational aids (NAVAIDs), visibility minimums, visual aids, and weather reporting facilities at CASP airports.

2.4.3.1. Approach Types

The series of procedures dictating an aircraft's route, direction, and rate of descent to a runway is known as an approach. The precision of the course guidance provided by NAVAIDS has improved to such a degree that it is possible to execute an approach within a few hundred feet of the ground.⁸ There are four types of approaches including visual, non-precision, near-precision, and precision.⁹

Visual Approach

A visual approach procedure is conducted under Visual Meteorological Conditions (VMC), which are defined as a cloud ceiling greater than 1,000 feet above ground level (AGL) and visibility conditions equal to or greater than three statute miles. Under VMC conditions, pilots approach an airport using only visual standards or cues and do not rely on any instrumentation. There are 22 CASP airports that have only visual approach procedures to land. These airports cannot be used during times of inclement weather or reduced visibility.

Non-Precision Instrument Approach

Non-precision instrument approaches provide only lateral guidance. Non-precision instrument approaches are the most common instrument approach nationwide. Visibility minimums are dependent upon several conditions and vary at all airports. There are 29 CASP airports that have non-precision instrument approaches as their primary approach procedure.

⁸ The Decision Altitude (DA) is the altitude at which the runway must be seen to initiate an approach. If the runway cannot be seen by the DA, the aircraft must not land.

⁹ Information on types of approach is specific to the most precise available approach at the airport.

Near-Precision Approach

Near-precision approaches, also known as Approach Procedures with Vertical Guidance (APV) are a relatively recent outcome of the FAA's NextGen program. These approach procedures use GPS technology to provide Instrument Landing System (ILS)-like approach capability without the need for traditional ground-based ILS NAVAID equipment.¹⁰ There are five CASP airports that accommodate near-precision approaches, however, all five airports also have ILS capability. As such, the airports with near-precision approaches will not be identified in **Table 2.6** as the airport's best available approach is a Precision approach.

Precision Approach

Precision instrument approaches provide both lateral and vertical guidance and have traditionally been supported by multiple ground based NAVAIDs collectively called an ILS.¹¹ An ILS includes a Localizer (providing lateral guidance), a Glideslope (providing vertical guidance), and an Approach Lighting System (ALS) (providing close-in visual guidance). There are 15 CASP airports that use precision approaches as their primary approach procedure. This approach provides the most guidance, allowing operation under most weather conditions, including those when pilots cannot see out the windshield and have to rely on instrumentation to land.

2.4.3.2. NAVAIDs

Navigational aids (NAVAIDs) were initially developed to provide directional information suitable for navigation from place-to-place. With the proliferation of NAVAIDs and improvements in technology over time, it became possible to use NAVAIDs to obtain information about a fixed physical location known as a fix. A fix is a radio-generated landmark. As a result, pilots can use a series of fixes to follow a specific course to align aircraft with the runway without the need to first circle and obtain visual confirmation of its physical location. A series of fixes can also be used to regulate an aircraft's rate of descent, with pilots descending to a lower altitude when reaching a certain point.

2.4.3.3. Visibility Minimums

Approach visibility minimums vary among airports and by approach types. Approach minimums are determined by individual airport and runway facilities, as well as topography and terrain characteristics of the approach and characteristics of the area surrounding the airport.

2.4.3.4. Controlling Obstructions

A controlling obstruction is the obstruction within the approach of a runway that determines the minimum approach slope to clear the obstruction. Maintaining the routes in and out of the airport (known as approaches) clear of natural or manmade features that could pose a physical obstruction to flight is critical. The FAA maintains records of approach slopes as well as the controlling obstruction (what it is, where it is located, how tall it is) in the FAA 5010 Master Record. Obstructions can include human-made infrastructure, such as buildings, transmission lines, and cell phone towers, as well as

¹⁰ An ILS provides both lateral and vertical guidance to safely guide aircraft to the runway on an optimal and consistent approach path. If a runway has a precision approach, it has an ILS.

¹¹ Lateral guidance gives pilots frame of reference to the runway centerline so they stay on the right track. Vertical guidance gives pilots frame of reference to the runway touchdown zone so the aircraft doesn't touchdown before the runway or too far down the runway. Vertical guidance provides an optimal approach slope so the aircraft has enough distance to reduce speed once it lands on the runway.

natural features like hills, mountains, and vegetation. Airports should maintain clear approaches to all runway ends to the greatest extent feasible to optimize aircraft safety, especially during inclement weather conditions.

Of the 66 CASP airports, 39 (59 percent) have controlling obstructions. Of those, 22 have obstructions that negatively impact the standard approach slope of 20:1, 34:1, or 50:1 which are dependent upon the runway type. These are denoted with an asterisk on the approach slope of column of **Table 2.6**.

2.4.3.5. Approach Lighting System (ALS)

An ALS provides a means to safely transition from Instrument Flight Rules (IFR) to Visual Flight Rules (VFR) for landing. An ALS is a series of marker lights off the runway end to signal the aircraft toward the touchdown zone. Some systems include high-intensity sequenced flashing lights that appear to the pilot as a ball of light traveling toward the runway. Four types of ALS's were identified at CASP airports. Those include:

- MALS - Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights
- MALSF - Medium-Intensity Approach Lighting System with Sequenced Flashing Lights
- ALSF2 - High-Intensity Approach Lighting System with Sequenced Flashing Lights
- ODALS - Omnidirectional Approach Lighting System

Of the 66 CASP airports, 16 (24 percent) have an ALS (12 commercial service, four GA).

2.4.3.6. Visual Glide Slope Indicators (VGSIs)

A Visual Glide Slope Indicator (VGSIs) is a system of lights on the runway end that provides vertical guidance to the pilot on final approach to help determine if the aircraft is approaching too high, too low, or on course. VGSIs, such as Precision Approach Path Indicators (PAPIs) and Visual Approach Slope Indicators (VASIs) provide the basic means to transition from instrument flight to visual flight for landing. Operational requirements dictate the sophistication and configuration of the approach light system for a particular runway.

- **PAPIs** provide vertical-approach slope guidance to aircraft during approach to landing. PAPIs consist of a single row of either two or four lights normally installed on the left side of the runway. PAPIs have an effective visual range of approximately five miles during the day and up to 20 miles at night. PAPIs radiate a directional pattern of high-intensity red and white focused light beams that indicate whether the pilot is “on-path” if the pilot sees an equal number of white lights and red lights, “above path” if the pilot sees more white than red lights, or “below path” if the pilot sees more red than white lights.
- **VASIs** provide visual vertical approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high-intensity red and white focused light beams. These beams indicate if the pilot is “on path” (pilot sees red/white), “above path” (pilot sees white/white), and “below path” (pilot sees red/red). Some airports serving large aircraft have three-bar VASIs that provide two visual glide paths to the same runway.

54 of the 66 CASP airports (82 percent) are supported with VGSIs on at least one end of the primary runway.

2.4.3.7. Runway End Identifier Lights (REILs)

REILs provide rapid and positive identification of the end of the runway. The system consists of two synchronized, unidirectional flashing lights. The lights are positioned on each corner of the runway landing threshold facing the approach area and aimed at a 10 to 15-degree angle. The REIL provides three intensity settings with an approximate range of three miles in the daylight and twenty miles at night.

Forty of the 66 CASP airports are supported with REILs on at least one end of the primary runway.¹²

2.4.3.8. On-Site Weather Reporting

Surface weather observation stations are increasingly common at airports. These systems consist of various sensors, a processor, computer-generated voice subsystem, and transmitter to broadcast local, minute-by-minute weather data directly to the pilot. Prior to the initiation of an instrument approach, specific weather data must be obtained. When in operation, pilots can obtain weather data from the Air Traffic Control Tower (ATCT) at towered airports. At non-towered airports, information is primarily disseminated via automated weather reporting systems. The following describes surface weather observation systems at airports in Colorado:

- **Automated Weather Observing System (AWOS)** – An AWOS is a weather-data sensing, processing, and disseminating system designed to support weather forecast activities and aviation operations. The AWOS observes, archives, and transmits observations to pilots operating at or near the airport. An AWOS can include multiple types of systems based on the types of weather data needed.
- **Automated Surface Observing System (ASOS)** – With similar capabilities of an AWOS, the ASOS is a weather data sensing, processing, and disseminating system. ASOS are typically operated by the National Weather Service, Department of Defense and the FAA to inform the national weather system throughout the US, not just for aviation purposes.
- **Automated Unicom** – Provides completely automated weather, radio-check capability and airport advisory information. Availability should be published in the Airport/Facility Directory and approach charts¹³.

Nineteen CASP airports have an ASOS, 32 airports have an AWOS, two have an Automated Unicom, and 13 do not have weather-reporting capabilities. **Table 2.6** summarizes the approaches, NAVAIDS, and visual aids available at CASP airports.

¹² Includes DEN and APA which are shown as not having REILs due to ALS's.

¹³ Pilot/Controller Glossary and Airmen Information Manual, effective April 3, 2014.

Table 2.6. Visual Aids, NAVAIDs, and Approach Types at CASP Airports

Associated City	Airport Name	FAA ID	Runway End	Approach Type	Visibility Minimums	Controlling Obstruction (Marked [M]/Lighted [L])	Approach Slope	Approach Lighting System	VGSI	REILs	Best Available Approach	Weather Reporting
<i>Commercial Service</i>												
Alamosa	San Luis Valley Regional	ALS	02 20	ILS; RNAV (GPS) RNAV (GPS)	200-1/2; 200-1/2 400-1	TREE	50:1 27:1*	MALSR	P4L V4L	N Y	Precision	ASOS
Aspen	Aspen-Pitkin County	ASE	15 33	LOC/DME; VOR/DME-C LOC/DME; VOR/DME-C	2400-1 3/4 2400-1 3/4	ROAD	34:1 40:1	MALSF	P4L	N Y	Non-Precision	ASOS
Colorado Springs	Colorado Springs Municipal	COS	17L 35R	ILS ILS	200-1/2 200-3/4		50:1 50:1	MALSR	P4L P4R	N Y	Precision	ASOS
Cortez	Cortez Municipal	CEZ	03 21	RNAV (GPS) RNAV (GPS); VOR	600-1 300-1; 800-1	TREES ROAD	30:1* 30:1*		P4L V4L	Y Y	Non-Precision	ASOS
Denver	Denver International	DEN	17L 35R	ILS; RNAV (RNP); RNAV (GPS) ILS; RNAV (RNP); RNAV (GPS)	200-1/2; 200-1/2; 200-1/2 200-1/2; 200-1/2; 200-1/2		50:1 50:1	MALSR ALSF2	P4L P4R	N N	Precision	ASOS
Durango	Durango-La Plata County	DRO	03 21	ILS; RNAV (GPS)	200-1/2; 200-1/2		50:1 50:1	MALSR	P4L V4L	N Y	Precision	ASOS
Eagle	Eagle County Regional	EGE	07 25	LDA LDA	1800-3 1800-3	TREE	19:1* 50:1	MALSR	P4R	Y N	Non-Precision	AWOS
Grand Junction	Grand Junction Regional	GJT	11 29	ILS; RNAV (RNP); RNAV (GPS) RNAV (GPS); LDA/DME	200-1/2; 400-1; 200-1/2 500-1; 600-1		50:1 50:1	MALSR	P4L V4L	N Y	Precision	AWOS
Gunnison	Gunnison-Crested Butte Regional	GUC	06 24	ILS; RNAV (RNP) RNAV (RNP)	1000-3; 500-1 1/4 400-1		50:1 34:1	MALSF	P4L P4L	N Y	Precision	AWOS
Hayden	Yampa Valley	HDN	10 28	ILS; RNAV(RNP); RNAV (GPS) RNAV (GPS)	200-3/4; 500-1 1/8; 200-3/4 400-1	PLINE (M)	50:1 34:1	MALSF	P4L P4L	N Y	Precision	AWOS
Fort Collins/ Loveland	Northern Colorado Regional	FNL	15 33	RNAV (GPS) ILS; RNAV (GPS)	300-1 200-1/2; 200-1/2		50:1 50:1	MALSR	P4L P4L	Y N	Precision	AWOS
Montrose	Montrose Regional	MTJ	17 35	ILS; RNAV (GPS); RNAV (GPS) RNAV (GPS)	200-1/2; 400-1/2; 200-1/2 700-1		50:1 50:1	MALSR	P4L P4L	N Y	Precision	ASOS
Pueblo	Pueblo Memorial	PUB	08R 26L	ILS; RNAV (GPS) ILS; RNAV (GPS); VOR	200-1/2; 200-1/2 200-3/4; 200-3/4; 400-1		50:1 50:1	MALSR	P4L P4L	N Y	Precision	ASOS
Telluride	Telluride Regional	TEX	09 27	RNAV (GPS); RNAV (GPS); LOC	2500-1 1/4; 1600-1 1/4; 2300 1 1/4		34:1 20:1		P4L P4L	Y Y	Non-Precision	AWOS
<i>General Aviation</i>												
Akron	Colorado Plains Regional	AKO	11 29	RNAV (GPS) RNAV (GPS); VOR	300-1 300-1; 500-1	ROAD	30:1 50:1		P2L P2L	Y Y	Non-Precision	ASOS
Blanca	Blanca	05V	03 21			ROAD ROAD	0:1* 0:1*			N N	Visual	
Boulder	Boulder Municipal	BDU	08 26			TREES	19:1* 50:1		V4L	N N	Visual	AWOS

Associated City	Airport Name	FAA ID	Runway End	Approach Type	Visibility Minimums	Controlling Obstruction (Marked [M]/Lighted [L])	Approach Slope	Approach Lighting System	VGSI	REILs	Best Available Approach	Weather Reporting
Brush	Brush Municipal	7V5	07 25			TREE FENCE	18:1* 14:1*			N N	Visual	
Buena Vista	Central Colorado Regional	AEJ	15 33	RNAV (GPS)	1100-1 1/2	TREE	22:1 50:1		P2L P2L	N N	Non-Precision	AWOS
Burlington	Kit Carson County	ITR	15 33	RNAV (GPS); NDB LOC	300-1; 800-1 500-1		50:1 50:1		P4L P4L	Y Y	Non-Precision	ASOS
Canon City	Fremont County	1V6	11 29	RNAV (GPS)	300-3/4		50:1 50:1		P2L P2L	Y Y	Non-Precision	AWOS
Center	Leach	1V8	12 30			BLDG PLINE (M)	0:1* 0:1*		P2L	N N	Visual	
Colorado Springs	Meadow Lake	FLY	15 33			ROAD	17:1* 50:1		P2L P2L	N N	Visual	AWOS
Craig	Craig-Moffat	CAG	07 25	RNAV (GPS); VOR RNAV (GPS); VOR	700-1; 1100-1 1/4 600-1; 1700-1 1/4	PLINE TREE	37:1 22:1*		P4L	Y Y	Non-Precision	ASOS
Creede	Mineral County Memorial	C24	07 25				20:1 20:1			N N	Visual	
Del Norte	Astronaut Kent Rominger	RCV	06 24	RNAV (GPS)	300-1		50:1 50:1		P2L P2L	Y Y	Non-Precision	AWOS
Delta	Blake Field	AJZ	03 21	RNAV (GPS)	300-1		20:1 20:1		P2L P2L	N N	Non-Precision	AWOS
Denver	Centennial	APA	17L 35R	RNAV (GPS) ILS; RNAV (GPS)	200-3/4 200-1/2; 200-1/2	PLINE (L)	50:1 32:1*	MALSR	P4L P4L	N N	Precision	ASOS
Denver	Rocky Mountain Metropolitan	BJC	12L 30R	RNAV (GPS) ILS; RNAV (GPS); VOR/DME	400-1 200-1/2; 200-1/2; 300-1/2		50:1 50:1	MALSR	P4L P4L	Y N	Precision	AWOS
Denver	Colorado Air and Space Port	CFO	08 26	ILS; RNAV (GPS)	200-1/2; 200-1/2		50:1 50:1	MALSR	P2L P2L	Y N	Precision	AWOS
Eads	Eads Municipal	9V7	17 35			ROAD ROAD	11:1* 0:1*			N N	Visual	
Erie	Erie Municipal	EIK	15 33	VOR/DME or GPS-A VOR/DME or GPS-A	800-1 800-1	TREE HILL	32:1 22:1		P2L P2L	Y N	Non-Precision	AWOS
Fort Morgan	Fort Morgan Municipal	FMM	14 32	RNAV (GPS) RNAV (GPS)	300-1 300-1	ROAD	50:1 12:1*		P2L P2L	Y Y	Non-Precision	AWOS
Glenwood Springs	Glenwood Springs Municipal	GWS	14 32			TREES ROAD	5:1* 0:1*		P2L	N N	Visual	A-UNICOM
Granby	Granby-Grand County	GNB	09 27			FENCE	50:1 17:1*		P2L	Y Y	Visual	AWOS
Greeley	Greeley-Weld County	GXY	17 35	RNAV (GPS) ILS; RNAV (GPS)	200-3/4 200-3/4; 200-3/4		50:1 50:1		P2L P2L	Y Y	Precision	AWOS
Haxtun	Haxtun Municipal	17V	08 26			ROAD ROAD	0:1* 0:1*			N N	Visual	
Holly	Holly	K08	17 35			TREE FENCE	9:1* 19:1*			N N	Visual	

Associated City	Airport Name	FAA ID	Runway End	Approach Type	Visibility Minimums	Controlling Obstruction (Marked [M]/Lighted [L])	Approach Slope	Approach Lighting System	VGSI	REILs	Best Available Approach	Weather Reporting
Holyoke	Holyoke	HEQ	14 32	RNAV (GPS) RNAV (GPS)	500-1 400-1	TREE	10:1* 50:1		P4L P4L	Y Y	Non-Precision	AWOS
Julesburg	Julesburg Municipal	7V8	13 31			TANK PLINE	12:1* 37:1			N N	Visual	
Kremmling	Mc Elroy Airfield	20V	09 27	RNAV (GPS)	700-2	FENCE HILL	20:1 27:1		P2L P2L	Y Y	Non-Precision	AWOS
La Junta	La Junta Municipal	LHX	08 26	RNAV (GPS) RNAV(GPS)	300-1 300-1	ROAD	40:1 50:1		V4L P2L	Y Y	Non-Precision	ASOS
La Veta	Cuchara Valley	07V	06 24			ROAD	50:1 0:1*			N N	Visual	
Lamar	Lamar Municipal	LAA	18 36	RNAV (GPS) RNAV (GPS); VOR/DME	300-1 300-1; 500-1	ROAD	44:1 20:1		V4L P4L	Y Y	Non-Precision	ASOS
Las Animas	Las Animas-Bent County	7V9	08 26			TREE ROAD	6:1 19:1			Y Y	Visual	
Leadville	Lake County	LXV	16 34	RNAV (GPS)	300-1		50:1 50:1		P2L P2L	N N	Non-Precision	ASOS
Limon	Limon Municipal	LIC	16 34			PLINE TREES	47:1 22:1		P2L P2L	N N	Visual	ASOS
Longmont	Vance Brand	LMO	11 29	RNAV (GPS)	300-1	TREE ROAD	20:1 20:1*		V2L V2L	N N	Non-Precision	AWOS
Meeker	Meeker/Coulter Field	EEO	03 21	RNAV (GPS)	1800-1 1/4		50:1 50:1		P2L	Y Y	Non-Precision	ASOS
Monte Vista	Monte Vista Municipal	MVI	02 20	RNAV (GPS)	300-1	PLINE	50:1 30:1		P2L P2L	N N	Non-Precision	
Nucla	Hopkins Field	AIB	05 23				50:1 50:1			N N	Visual	AWOS
Pagosa Springs	Stevens Field	PSO	01 19	RNAV (GPS)	600-1	TREES	28:1 50:1		P4L P4R	Y Y	Non-Precision	AWOS
Paonia	North Fork Valley	7V2	05 23				20:1 20:1		P2L P2L	N N	Visual	
Rangely	Rangely	4V0	07 25	RNAV (GPS) RNAV (GPS)	400-1 1200-1 1/4	ROAD	50:1 26:1		P2L	Y Y	Non-Precision	AWOS
Rifle	Rifle Garfield County	RIL	08 26	RNAV (RNP); RNAV (GPS) ILS; RNAV (RNP); RNAV (RNP); RNAV (GPS)	300-1; 1900-1 1/4 1300-4; 900-2 1/2; 500-1; 800-2 1/4		50:1 50:1	ODALS	P4L P4L	Y Y	Precision	ASOS
Saguache	Saguache Municipal	04V	11 29			ROAD	5:1* 20:1			N N	Visual	AWOS
Salida	Harriet Alexander Field	ANK	06 24			ROAD	20:1 50:1		P2L P2L	N N	Visual	AWOS
Springfield	Springfield Municipal	8V7	17 35	RNAV (GPS)	600-1		50:1 50:1		P2L P2L	N N	Non-Precision	A-UNICOM

Associated City	Airport Name	FAA ID	Runway End	Approach Type	Visibility Minimums	Controlling Obstruction (Marked [M]/Lighted [L])	Approach Slope	Approach Lighting System	VGSI	REILs	Best Available Approach	Weather Reporting
Steamboat Springs	Steamboat Springs	SBS	04 32				50:1 50:1		P2L	N Y	Visual	AWOS
Sterling	Sterling Municipal	STK	15 33	RNAV (GPS) RNAV (GPS)	300-1 300-3/4	ROAD	26:1		P2L P2L	Y Y	Non-Precision	AWOS
Trinidad	Perry Stokes	TAD	03 21	RNAV (GPS) RNAV (GPS)	800-1 300-1	TREES	50:1 36:1		P2L P2L	Y Y	Non-Precision	ASOS
Walden	Walden-Jackson County	33V	04 22				50:1 50:1		P4L P4L	N N	Visual	AWOS
Walsenburg	Spanish Peaks Airfield	4V1	09 27	RNAV (GPS) RNAV (GPS)	300-1 300-1		20:1 20:1		P2L P2L	N N	Non-Precision	AWOS
Westcliffe	Silver West	C08	13 31			GND	50:1 0:1*			N N	Visual	
Wray	Wray Municipal	2V5	17 35	RNAV (GPS) RNAV (GPS)	200-1 300-1		50:1 50:1		P2L P2L	Y Y	Non-Precision	AWOS-3
Yuma	Yuma Municipal	2V6	16 34	RNAV (GPS) RNAV (GPS)	300-1 200-1	TREE OTHER	27:1 35:1		P2L P2L	Y Y	Non-Precision	AWOS-3

*Note: Airports with obstructions that negatively impact the standard approach slope are denoted with an asterisk.
Sources: 2018 Inventory & Data Form; FAA 5010 Master Record; SkyVector, 2019

2.4.4. Crosswind Coverage

Wind conditions affect all airplanes in varying degrees. Generally, the smaller the airplane, the more it is affected by wind, particularly crosswinds. Crosswinds blow in a perpendicular direction to the runway orientation, making it difficult for aircraft to land and takeoff during these conditions. In FAA Advisory Circular (AC) 150/5300-13A, the FAA instructs that a runway orientation should provide at least 95 percent wind coverage for the aircraft that are forecasted to use the airport on a regular basis. If the wind coverage is less than 95 percent, development of a crosswind runway should be considered. The allowable crosswind component per Runway Design Code (RDC) is shown in **Table 2.7**.

Table 2.7. Allowable Crosswind Component per Runway Design Code (RDC)

RDC	Allowable Crosswind Component
A-I and B-I	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through D-III, D-I through D-III	16 knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI, E-I through E-VI	20 knots

Source: FAA AC 150/5300-13A, Change 1, Airport Design

Adequacy of primary runway crosswind coverage at each CASP airport is further analyzed in **Chapter 6. Current System Performance**.

2.4.5. Pavement Maintenance Programs

Maintaining adequate pavement condition is critical to the safe and efficient operation of aircraft at airports. Pavement maintenance is often one of the costliest capital investments an airport makes. This section details the Pavement Condition Index (PCI) and associated pavement maintenance programs at CASP airports.

2.4.5.1. Runway Pavement Condition Index (PCI)

PCI is an industry standard for measuring and rating airport pavements so that maintenance and repair can be planned and implemented at the appropriate time during its lifecycle. PCI is expressed on a scale from 0 (failed pavement) to 100 (new pavement in perfect condition). According to CDOT PCI standards, pavement with a PCI of 63 to 100 is recommended to receive a preventative maintenance treatment, while a PCI between 62 and 41 is recommended for a major rehabilitation. PCI below 40 is recommended a full reconstruction. Since preventative maintenance is almost always significantly less costly than a major rehabilitation or reconstruction, the FAA and CDOT strongly encourage preventative maintenance when appropriate, rather than waiting until pavement is too deteriorated that it needs a more expensive rehabilitation. **Figure 2.3** depicts PCI ranges recognized by CDOT.

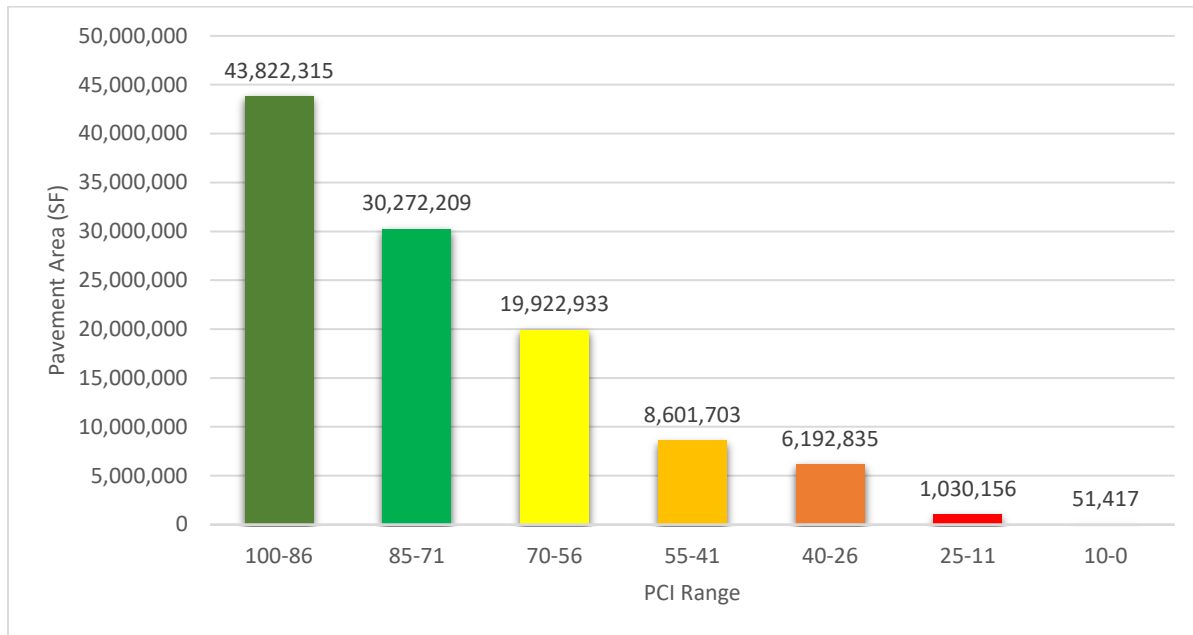
Figure 2.3. PCI Ranges

PCI Range		Typical Repair Strategy
86-100		Preventive Maintenance
71-85		
56-70		
41-55		Major Rehabilitation
26-40		
11-25		Reconstruction
0-10		

Source: CDOT Pavement Evaluation and Management, 2018

Approximately 110,000,000 square feet of runway, taxiway, apron, and helipad pavements were evaluated in CDOT Division of Aeronautics 2018 Airport Pavement Management System (APMS) Report. **Figure 2.4** shows a summary of the results, which indicate Colorado airfield pavements are generally in good condition with approximately two thirds of total pavements having PCIs over 70.

Figure 2.4. 2018 PCI Summary



*Note: Summarizes all pavement (runways, taxiways, aprons, helipads). This chapter focuses on primary runways and taxiways.
Source: CDOT Pavement Evaluation and Management, 2018*

While the 2018 CDOT APMS includes all airfield pavements, the 2020 CASP focuses on the pavement condition of the primary runway and primary taxiway. Based on findings from CDOT’s 2018 pavement database, 43 airports (65 percent) have primary runways with PCIs at 71 or above. Two airports (three percent) have primary runway PCIs within the range of 0-40 requiring rehabilitation or full reconstruction. Eighteen airports (27 percent) have primary runway PCIs between 41 and 70. Three airports are not paved and therefore do not have a PCI. Thirty-five CASP airports (53 percent) have primary taxiways with PCIs at 71 or above. Five (eight percent) airports have primary taxiway PCIs within a range requiring rehabilitation or full reconstruction. Twenty CASP airports (30 percent) have primary taxiways with PCIs between 41 and 70. Six airports do not have taxiways and therefore do not have an associated PCI. **Table 2.8** details primary runway and taxiway PCIs at CASP airports.

Table 2.8. CASP Airport PCIs

Associated City	Airport Name	FAA ID	Primary Runway PCI	Primary Taxiway PCI
<i>Commercial Service</i>				
Alamosa	San Luis Valley Regional	ALS	100	66
Aspen	Aspen-Pitkin County	ASE	72	65
Colorado Springs	Colorado Springs Municipal	COS	89	86
Cortez	Cortez Municipal	CEZ	83	78
Denver	Denver International	DEN	84	95
Durango	Durango-La Plata County	DRO	59	73
Eagle	Eagle County Regional	EGE	73	63

Associated City	Airport Name	FAA ID	Primary Runway PCI	Primary Taxiway PCI
Grand Junction	Grand Junction Regional	GJT	90	53
Gunnison	Gunnison-Crested Butte Regional	GUC	94	76
Hayden	Yampa Valley	HDN	99	81
Fort Collins/ Loveland	Northern Colorado Regional	FNL	93	63
Montrose	Montrose Regional	MTJ	93	66
Pueblo	Pueblo Memorial	PUB	66	76
Telluride	Telluride Regional	TEX	93	92
<i>General Aviation</i>				
Akron	Colorado Plains Regional	AKO	64	99
Blanca	Blanca	05V	N/A	N/A
Boulder	Boulder Municipal	BDU	61	69
Brush	Brush Municipal	7V5	51	33
Buena Vista	Central Colorado Regional	AEJ	84	62
Burlington	Kit Carson County	ITR	91	82
Canon City	Fremont County	1V6	76	73
Center	Leach	1V8	59	N/A
Colorado Springs	Meadow Lake	FLY	61	46
Craig	Craig-Moffat	CAG	51	58*
Creede	Mineral County Memorial	C24	58	65
Del Norte	Astronaut Kent Rominger	RCV	90	89
Delta	Blake Field	AJZ	100	83
Denver	Centennial	APA	100	100
Denver	Rocky Mountain Metropolitan	BJC	83	68
Denver	Colorado Air and Space Port	CFO	100	93
Eads	Eads Municipal	9V7	71	33
Erie	Erie Municipal	EIK	85	95
Fort Morgan	Fort Morgan Municipal	FMM	93	94
Glenwood Springs	Glenwood Springs Municipal	GWS	100	69
Granby	Granby-Grand County	GNB	87	97
Greeley	Greeley-Weld County	GXY	100	77
Haxtun	Haxtun Municipal	17V	68	N/A
Holly	Holly	K08	N/A	N/A
Holyoke	Holyoke	HEQ	69	90
Julesburg	Julesburg Municipal	7V8	81	65
Kremmling	Mc Elroy Airfield	20V	36	38
La Junta	La Junta Municipal	LHX	69	62
La Veta	Cuchara Valley	07V	32	19
Lamar	Lamar Municipal	LAA	99	78

Associated City	Airport Name	FAA ID	Primary Runway PCI	Primary Taxiway PCI
Las Animas	Las Animas-Bent County	7V9	56	59
Leadville	Lake County	LXV	57	41
Limon	Limon Municipal	LIC	91	84
Longmont	Vance Brand	LMO	97	72
Meeker	Meeker/Coulter Field	EEO	90	95
Monte Vista	Monte Vista Municipal	MVI	56	97
Nucla	Hopkins Field	AIB	100	100
Pagosa Springs	Stevens Field	PSO	74	97
Paonia	North Fork Valley	7V2	70	N/A
Rangely	Rangely	4V0	91	81
Rifle	Rifle Garfield County	RIL	81	86
Saguache	Saguache Municipal	04V	N/A	N/A
Salida	Harriet Alexander Field	ANK	95	81
Springfield	Springfield Municipal	8V7	90	15
Steamboat Springs	Steamboat Springs	SBS	73	100*
Sterling	Sterling Municipal	STK	79	93
Trinidad	Perry Stokes	TAD	100	70*
Walden	Walden-Jackson County	33V	60	60
Walsenburg	Spanish Peaks Airfield	4V1	87	100
Westcliffe	Silver West	C08	67	72
Wray	Wray Municipal	2V5	74	70
Yuma	Yuma Municipal	2V6	100	71

*Note: Craig-Moffat and Steamboat Springs have second connector taxiways with average PCI values of 56 and 60. Perry Stokes has second and third taxiways with average PCI values of 59 and 55.

Sources: 2018 Inventory & Data Form; CDOT Pavement Evaluation and Management, 2018

2.5. Landside Facilities

Landside facilities examined in the 2020 CASP include terminal buildings (commercial service and GA), aircraft storage facilities (hangars, tie-downs, and aprons), dedicated snow removal equipment (SRE) storage buildings, the availability of fuel, Air Traffic Control Towers (ATCTs), and the availability of utilities. Each are explained in greater detail in this section.

2.5.1. Terminal Buildings

For this study, the availability of a terminal (whether a separate building or an area within another facility) was documented for GA and/or commercial passengers. Some terminal buildings had minimal services while larger GA and commercial service airports offered pilot's lounges and other amenities. Fifty-two of the 66 CASP airports offer a terminal building. The following sections provide terminal building information for both commercial service and GA terminals.

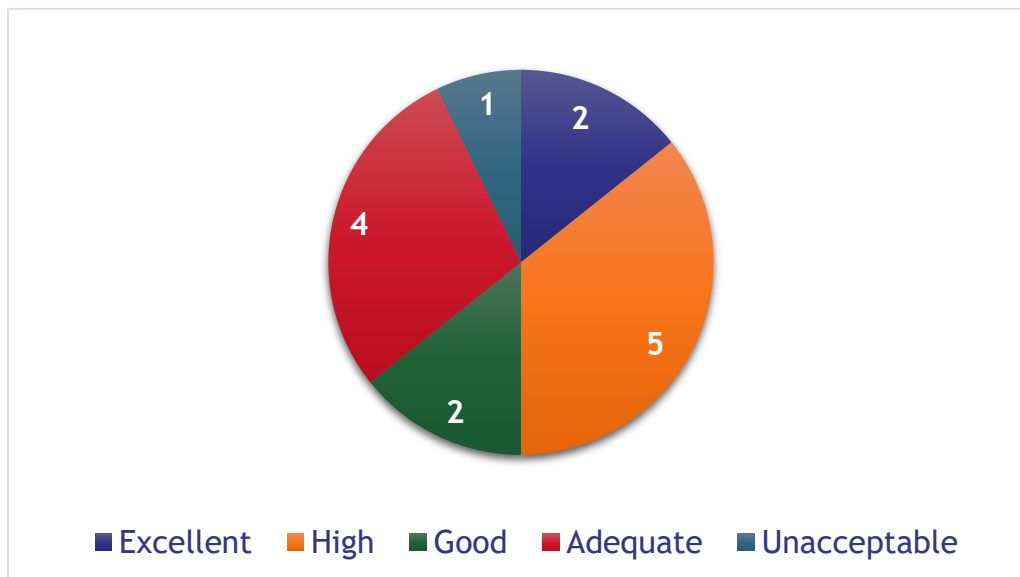
2.5.1.1. Commercial Service

Commercial service airport managers were asked a variety of questions pertaining to terminal building adequacy, including:

- Terminal building size (SF)
- Level of service (LOS)
 - Excellent - Condition is free flow; no delays; excellent level of service
 - High - Condition of stable flow; very few delays; high level of service
 - Good - Condition of stable flow; acceptable brief delays; good level of service
 - Adequate - Condition of unstable flow; condition acceptable for short periods of time; adequate level of comfort
 - Unacceptable - Condition of cross flows; system breakdown and unacceptable delays; unacceptable level of service
- Number of gates
- Gate expansion availability
- Types of delays/operational constraints
 - Insufficient ground transportation
 - Insufficient automobile parking
 - Insufficient terminal or gate space
 - Overcrowding of terminal apron space

Figure 2.5 summarizes the level of service documented by the 14 commercial service system airports. Sixty-four percent of commercial service airports were reported to provide at least a “good” level of service. Fifty percent of which providing high and excellent levels of service.

Figure 2.5. Level of Service



Source: 2018 Inventory & Data Form

Table 2.9 summarizes the responses from commercial service airport managers regarding their terminal buildings LOS and capacity issues and constraints.

Table 2.9. Commercial Service Terminal Buildings

Associated City	Airport Name	FAA ID	Terminal Size (SF)	LOS	Number of Gates	Gate Expansion Potential (number)	Delays/Constraints			
							Ground Transportation	Auto Parking	Terminal Space	Terminal Over-crowding
Alamosa	San Luis Valley Regional	ALS	8,400	High	0	0	No	No	No	No
Aspen	Aspen-Pitkin County	ASE	45,000	Adequate	8	0	No	Yes	Yes	Yes
Colorado Springs	Colorado Springs Municipal	COS	294,495	High	12	0	No	No	No	No
Cortez	Cortez Municipal	CEZ	3,500	Good	1	0	No	No	No	No
Denver*	Denver International	DEN	7,496,972	Excellent	112	200	No	No	No	No
Durango	Durango-La Plata County	DRO	37,617	Adequate	3	4	No	Yes	Yes	Yes
Eagle	Eagle County Regional	EGE	120,000	High	6	2	No	No	No	No
Grand Junction	Grand Junction Regional	GJT	76,000	High	6	8	No	No	No	No
Gunnison	Gunnison-Crested Butte Regional	GUC	34,800	Adequate	3	0	No	No	No	Yes
Hayden	Yampa Valley	HDN	71,695	Good	6	3	No	No	No	No
Fort Collins/ Loveland	Northern Colorado Regional	FNL	4,020	Good	1	0	No	No	Yes	Yes
Montrose	Montrose Regional	MTJ	35,000	Adequate	4	0	No	Yes	Yes	Yes
Pueblo	Pueblo Memorial	PUB	23,531	High	2	0	Yes	No	Yes	No
Telluride	Telluride Regional	TEX	20,000	Excellent	1	0	No	No	No	No

Notes: DEN's LOS will be enhanced to "Excellent" once the DEN Great Hall renovation efforts are complete. Also, the 112 gates are "Contact" gates. DEN also has 38 ground load positions. Lastly, DEN's gate expansion potential is fleet mix dependent.

Sources: 2018 Inventory & Data Form; Google Earth, 2018

2.5.1.2. General Aviation

Unlike commercial service airports, GA airport terminal buildings are less about the passenger experience and more tailored to the pilot experience. General aviation terminals typically require enough space for flight planning, resting between flights, food service, and other ancillary functions. Fifty-two CASP airports have a designated GA terminal building.

2.5.2. Aircraft Storage

Aircraft parking and storage were analyzed to provide a measure of landside capacity within CASP airports. An estimated 4,606 total of hangar spaces were identified as part of the inventory effort. This figure is comprised of conventional box hangar spaces, T-hangar spaces, and shade hangar spaces. An estimated 300 spaces are designated for transient aircraft storage. It is important to note that the figure listed is an approximation as the number of spaces available in each type of storage facility depends on the size of aircraft being accommodated.

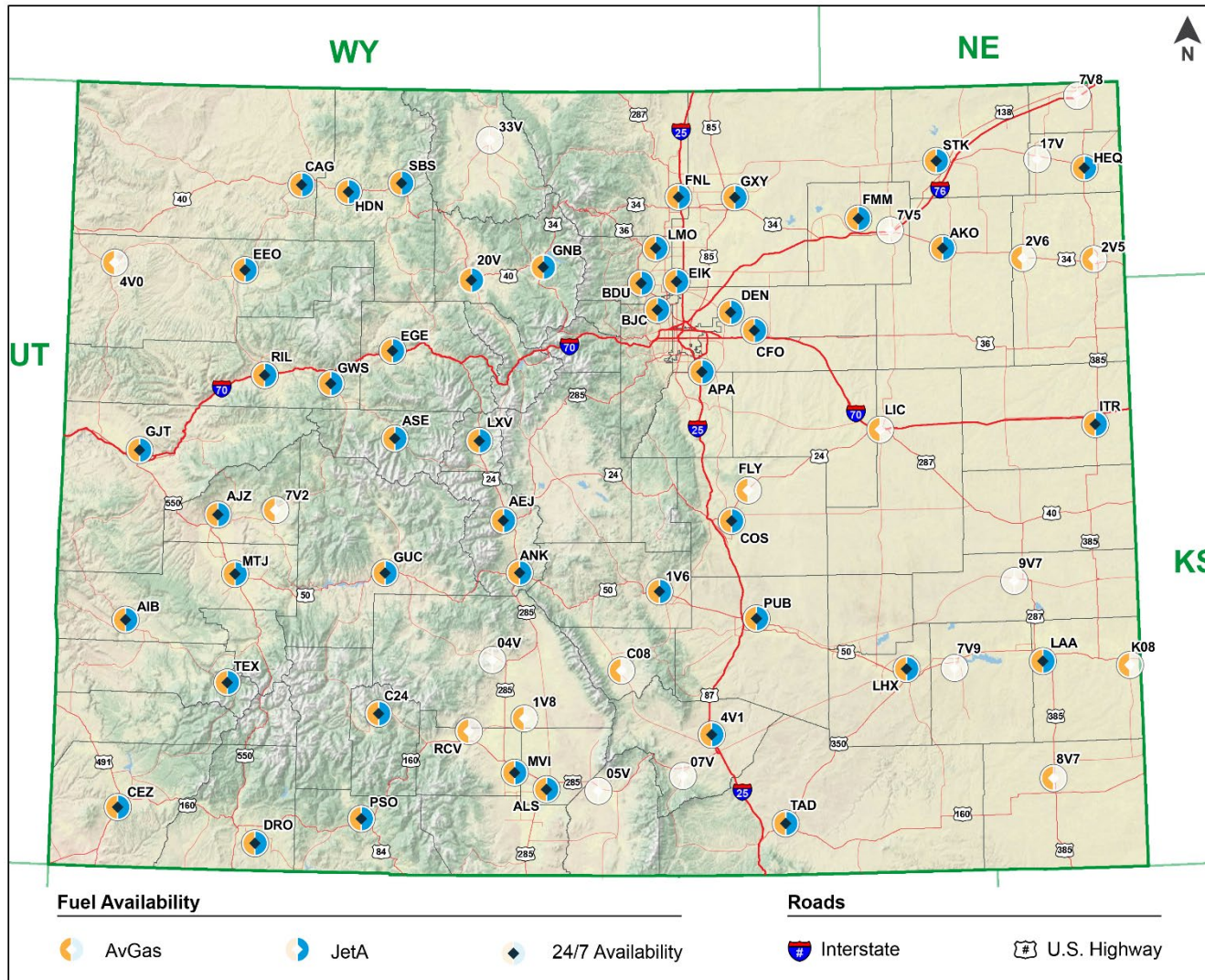
2.5.2.1. Dedicated Snow Removal Equipment (SRE) Buildings

Dedicated SRE storage buildings are critical at airports in Colorado because of the challenging winter weather conditions. Without dedicated storage, these costly machines and equipment can be subjected to extreme weather, be difficult to mobilize and require costly maintenance. Snow Removal Equipment is vital to keeping airports open during the winter season. Based on airport manager responses, 29 of the 66 CASP airports have dedicated SRE buildings.

2.5.3. Fuel

The availability of fuel at airports can be one of the most influential factors driving activity at airports. Fuel sales at GA airports are a substantial component of airport revenues. Fuel type availability is also an indicator of activity at an airport. Small, piston-engine aircraft rely on AvGas while turbine-engine aircraft rely on Jet A. A total of 57 CASP airports offer fuel (14 commercial service, 43 GA). Forty-six CASP airports offer both AvGas and Jet A. **Figure 2.6** depicts fuel availability at CASP airports.

Figure 2.6. CASP Fuel Availability



Source: 2018 Inventory & Data Form

2.5.4. Air Traffic Control Towers (ATCTs)

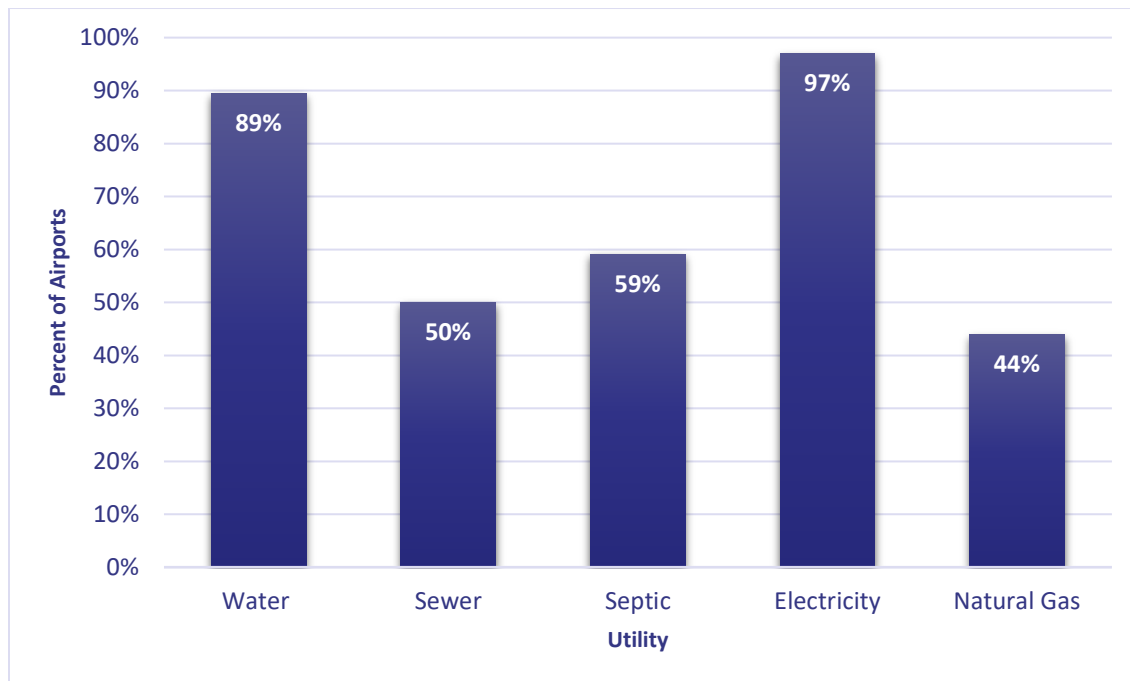
Air Traffic Control Towers (ATCTs) are indicators of high activity levels at an airport and are used to safely and efficiently guide aircraft within the airport environs.¹⁴ These facilities are located at nine CASP airports; six commercial service (Aspen-Pitkin County, Colorado Springs Municipal, Denver International, Eagle County Regional, Grand Junction Regional, and Pueblo Memorial) and three GA airports (Centennial, Rocky Mountain Metropolitan, and Colorado Air and Space Port)¹⁵.

2.5.5. Utilities

Utilities are a major capital investment at airports. They facilitate aviation and non-aviation development and are typically one of biggest factors in airport expansion, especially to businesses and tenants wanting to expand their footprint on the airport.

Airport managers were asked if utilities were present at the airport. Utilities include water, sewer, septic, electricity, and natural gas. **Figure 2.7** summarizes airport manager responses. A large percentage of CASP airports have water and electricity. Fifty-nine percent have septic, 50 percent have sewer, and 44 percent have natural gas.

Figure 2.7. Available Utilities at CASP Airports



Source: 2018 Inventory & Data Form

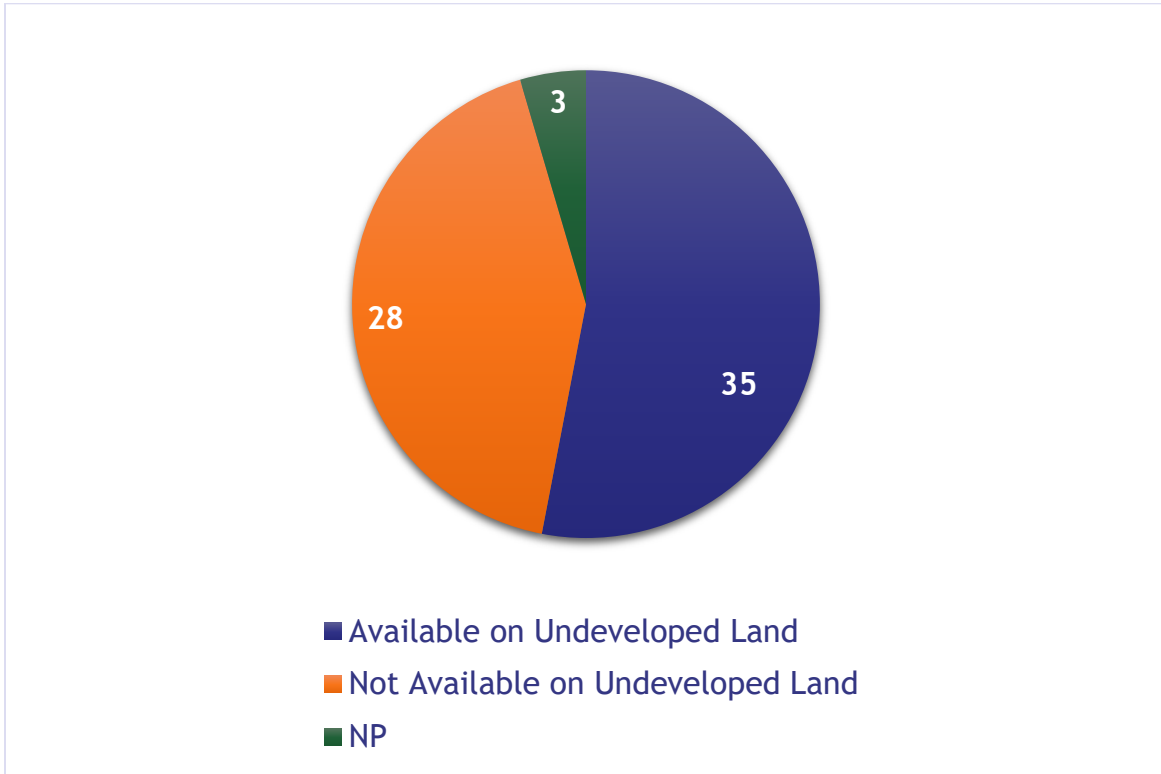
Figure 2.8 summarizes the availability of utilities for undeveloped land on CASP airports based on airport manager responses. This is important for airports as the availability of utilities on undeveloped land suggests the land could be developed as soon as funding is available. If undeveloped land does not

¹⁴ Air Route Traffic Control Centers (ARTCCs) safely and efficiently guide aircraft while en-route.

¹⁵ Does not include the remote tower at Northern Colorado Regional (FNL)

have utility connections, utility design and construction would be a costly and time-consuming first step. Over 50 percent of airports responded as having utilities on undeveloped land.

Figure 2.8. Utilities



Source: 2018 Inventory & Data Form

Table 2.10 summarizes key landside facilities at CASP airports, including terminal buildings, aircraft storage, SRE, fuel, and ATCTs.

Table 2.10. Landside Facilities

Associated City	Airport Name	FAA ID	GA Terminal Building	Conventional Hangar Spaces		T-Hangar Spaces		Dedicated SRE	Fuel Availability	ATCT
				Based	Transient	Based	Transient			
<i>Commercial Service</i>										
Alamosa	San Luis Valley Regional	ALS	Yes	2	2	40	0	No	AvGas; Jet A	No
Aspen	Aspen-Pitkin County	ASE	Yes	0	5	0	0	Yes	AvGas; Jet A	Yes
Colorado Springs	Colorado Springs Municipal	COS	Yes	140	15	106	0	Yes	AvGas; Jet A	Yes
Cortez	Cortez Municipal	CEZ	Yes	30	3	0	0	Yes	AvGas; Jet A	No
Denver	Denver International	DEN	Yes	0	3	0	0	Yes	AvGas; Jet A	Yes
Durango	Durango-La Plata County	DRO	Yes	30	0	36	0	Yes	AvGas; Jet A	No
Eagle	Eagle County Regional	EGE	Yes	84	25	0	0	Yes	AvGas; Jet A	Yes
Grand Junction	Grand Junction Regional	GJT	Yes	80	80	40	40	No	AvGas; Jet A	Yes
Gunnison	Gunnison-Crested Butte Regional	GUC	Yes	0	0	10	0	Yes	AvGas; Jet A	No
Hayden	Yampa Valley	HDN	Yes	4	4	0	0	Yes	AvGas; Jet A	No
Fort Collins/ Loveland	Northern Colorado Regional	FNL	Yes	51	2	161	0	Yes	AvGas; Jet A	No
Montrose	Montrose Regional	MTJ	Yes	111	25	10	0	No	AvGas; Jet A	No
Pueblo	Pueblo Memorial	PUB	Yes	72	10	38	0	No	AvGas; Jet A	Yes
Telluride	Telluride Regional	TEX	Yes	15	1	0	0	No	AvGas; Jet A	No
<i>General Aviation</i>										
Akron	Colorado Plains Regional	AKO	Yes	4	1	8	0	No	AvGas; Jet A	No
Blanca	Blanca	05V	No	0	0	0	0	N/P	None	No

Associated City	Airport Name	FAA ID	GA Terminal Building	Conventional Hangar Spaces		T-Hangar Spaces		Dedicated SRE	Fuel Availability	ATCT
				Based	Transient	Based	Transient			
Boulder	Boulder Municipal	BDU	Yes	8	0	96	0	No	AvGas; Jet A	No
Brush	Brush Municipal	7V5	No	5	0	0	0	No	None	No
Buena Vista	Central Colorado Regional	AEJ	Yes	18	4	12	0	Yes	AvGas; Jet A	No
Burlington	Kit Carson County	ITR	Yes	4	2	14	0	Yes	AvGas; Jet A	No
Canon City	Fremont County	1V6	Yes	65	0	16	0	Yes	AvGas; Jet A	No
Center	Leach	1V8	Yes	0	0	14	0	No	AvGas	No
Colorado Springs	Meadow Lake	FLY	No	199	0	218	0	No	AvGas	No
Craig	Craig-Moffat	CAG	Yes	8	0	12	0	No	AvGas; Jet A	No
Creede	Mineral County Memorial	C24	Yes	10	0	0	0	No	AvGas; Jet A	No
Del Norte	Astronaut Kent Rominger	RCV	No	45	0	0	0	No	AvGas	No
Delta	Blake Field	AJZ	Yes	60	6	4	0	No	AvGas; Jet A	No
Denver	Centennial	APA	Yes	469	33	90	0	Yes	AvGas; Jet A	Yes
Denver	Rocky Mountain Metropolitan	BJC	Yes	87	0	112	0	No	AvGas; Jet A	Yes
Denver	Colorado Air and Space Port	CFO	Yes	139	2	152	0	Yes	AvGas; Jet A	Yes
Eads	Eads Municipal	9V7	No	9	0	0	0	No	None	No
Erie	Erie Municipal	EIK	Yes	190	2	24	0	No	AvGas; Jet A	No
Fort Morgan	Fort Morgan Municipal	FMM	Yes	13	0	14	0	No	AvGas; Jet A	No
Glenwood Springs	Glenwood Springs Municipal	GWS	No	50	0	14	0	No	AvGas; Jet A	No
Granby	Granby-Grand County	GNB	Yes	44	0	5	0	Yes	AvGas; Jet A	No
Greeley	Greeley-Weld County	GXY	Yes	98	8	120	0	Yes	AvGas; Jet A	No

Associated City	Airport Name	FAA ID	GA Terminal Building	Conventional Hangar Spaces		T-Hangar Spaces		Dedicated SRE	Fuel Availability	ATCT
				Based	Transient	Based	Transient			
Haxtun	Haxtun Municipal	17V	No	2	0	0	0	No	None	No
Holly	Holly	K08	No	0	0	5	0	No	AvGas	No
Holyoke	Holyoke	HEQ	Yes	12	0	5	0	No	AvGas; Jet A	No
Julesburg	Julesburg Municipal	7V8	No	5	0	0	0	No	None	No
Kremmling	Mc Elroy Airfield	20V	Yes	3	1	15	0	Yes	AvGas; Jet A	No
La Junta	La Junta Municipal	LHX	Yes	6	1	10	1	No	AvGas; Jet A	No
La Veta	Cuchara Valley	07V	No	0	0	2	0	No	None	No
Lamar	Lamar Municipal	LAA	Yes	14	2	20	0	Yes	AvGas; Jet A	No
Las Animas	Las Animas-Bent County	7V9	No	3	0	5	1	N/P	None	No
Leadville	Lake County	LXV	Yes	8	6	0	0	Yes	AvGas; Jet A	No
Limon	Limon Municipal	LIC	Yes	18	0	0	0	Yes	AvGas	No
Longmont	Vance Brand	LMO	Yes	154	2	117	0	No	AvGas; Jet A	No
Meeker	Meeker/Coulter Field	EEO	Yes	12	10	0	0	No	AvGas; Jet A	No
Monte Vista	Monte Vista Municipal	MVI	Yes	16	0	0	0	No	AvGas; Jet A	No
Nucla	Hopkins Field	AIB	Yes	12	0	0	0	No	AvGas; Jet A	No
Pagosa Springs	Stevens Field	PSO	Yes	54	0	0	0	Yes	AvGas; Jet A	No
Paonia	North Fork Valley	7V2	No	12	0	0	0	No	AvGas	No
Rangely	Rangely	4V0	Yes	12	0	0	0	Yes	AvGas	No
Rifle	Rifle Garfield County	RIL	Yes	7	5	18	0	Yes	AvGas; Jet A	No
Saguache	Saguache Municipal	04V	No	0	0	0	0	No	None	No
Salida	Harriet Alexander Field	ANK	Yes	20	1	8	0	Yes	AvGas; Jet A	No
Springfield	Springfield Municipal	8V7	Yes	18	0	0	0	Yes	AvGas	No
Steamboat Springs	Steamboat Springs	SBS	Yes	29	0	19	1	Yes	AvGas; Jet A	No

Associated City	Airport Name	FAA ID	GA Terminal Building	Conventional Hangar Spaces		T-Hangar Spaces		Dedicated SRE	Fuel Availability	ATCT
				Based	Transient	Based	Transient			
Sterling	Sterling Municipal	STK	Yes	16	2	18	0	No	AvGas; Jet A	No
Trinidad	Perry Stokes	TAD	Yes	3	0	19	0	No	AvGas; Jet A	No
Walden	Walden-Jackson County	33V	No	2	0	6	0	No	None	No
Walsenburg	Spanish Peaks Airfield	4V1	Yes	23	0	0	0	Yes	AvGas; Jet A	No
Westcliffe	Silver West	C08	Yes	12	0	0	0	Yes	AvGas	No
Wray	Wray Municipal	2V5	Yes	33	0	4	0	Yes	AvGas	No
Yuma	Yuma Municipal	2V6	Yes	8	0	8	0	No	None	No

Sources: 2018 Inventory & Data Form; FAA 5010 Master Record, 2019

2.6. Airport Activity

One of the best ways to determine the level of activity at an airport is evaluate the number of based aircraft and annual aircraft operations. A based aircraft is generally defined as an aircraft that is stored at an airport for a majority (more than 6 months) of the year. An aircraft operation represents either a take-off or landing conducted by an aircraft. For example, a touch-and-go, which includes a take-off and landing, counts as two operations.

An accurate based aircraft recording can provide insight to the adequacy of aircraft storage and facility capacity at the airport. Similar to based aircraft, accurate annual aircraft operations data provide a detailed view of the airport’s capacity and assists airport planners in determining future facility needs. It is important to note that accurate annual aircraft operations data are only available from airports that have an ATCT. Non-towered airports typically estimate the number of operations using different methods that do not always reflect the actual total number of annual operations.

The information presented below for based aircraft, annual operations, and commercial passenger enplanements primarily reflects data reported by airports. A subsequent chapter will compare airport-reported data to that from other sources.

2.6.1. Based Aircraft

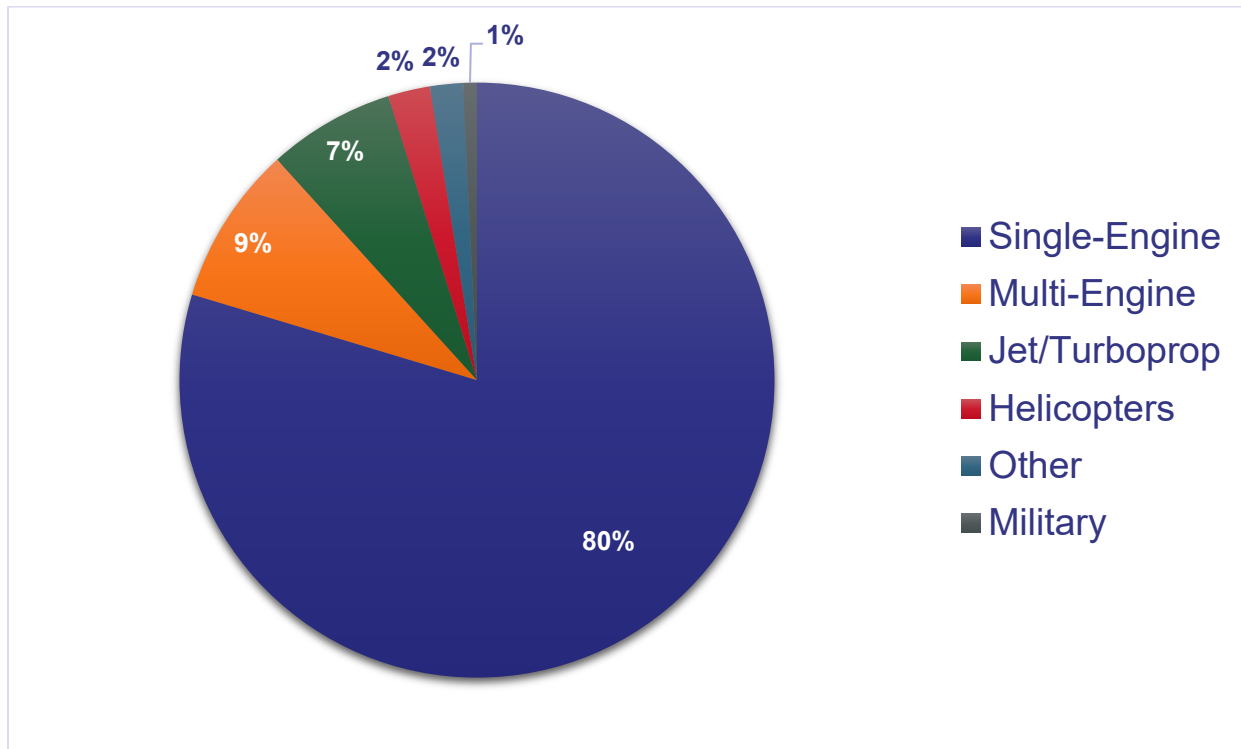
The total number of based aircraft by FAA category and class were identified for each system airport. **Table 2.11** and **Figure 2.9** summarize based aircraft at CASP airports by type. Since the 2011 CASP, the numbers for based single-engine aircraft have remained relatively flat while those for multi-engine have declined. The most significant increase being in the jet/turboprop (TP) category, a trend consistent with national averages per the FAA Aerospace Forecast 2019-2039.

Table 2.11. 2018 Statewide Based Aircraft by Type

Aircraft Type	2010		2018	
	Based Aircraft	Percent of Total	Based Aircraft	Percent of Total
Single-engine	4,091	78%	4,148	79.7%
Multi-engine	577	11%	450	8.6%
Jet/Turboprop	262	5%	359	6.9%
Helicopter	105	2%	119	2.3%
Other	52	1%	93	1.8%
Military	–	–	39	0.7%
Total	5,245	100%	5,208	100%

Sources: 2018 Inventory & Data Form; FAA 5010 Master Record, 2019

Figure 2.9. 2018 Statewide Based Aircraft



Sources: 2018 Inventory & Data Form; FAA 5010 Master Record, 2019

Table 2.12 (on the following pages) details the number of based aircraft by FAA category and class that were reported by airports. As shown, Centennial Airport (APA) reported the highest number of based aircraft (880) in 2018 while 13 airports recorded fewer than 10 based aircraft. Blanca and Saguache Municipal reported having no based aircraft.

Table 2.12. 2018 Based Aircraft by Type

Associated City	Airport Name	FAA ID	Single-engine	Multi-engine	Jet/TP	Heli-copters	Other	Military	Total
<i>Commercial Service</i>									
Alamosa	San Luis Valley Regional	ALS	33	4	0	1	0	0	38
Aspen	Aspen-Pitkin County	ASE	56	4	27	2	0	0	89
Colorado Springs	Colorado Springs Municipal	COS	151	25	25	4	0	26	231
Cortez	Cortez Municipal	CEZ	29	1	0	1	0	0	31
Denver	Denver International	DEN	0	0	0	0	2	0	2
Durango	Durango-La Plata County	DRO	49	7	4	1	2	0	63
Eagle	Eagle County Regional	EGE	48	2	22	2	4	13	91
Grand Junction	Grand Junction Regional	GJT	107	15	3	1	0	0	126
Gunnison	Gunnison-Crested Butte Regional	GUC	25	5	0	1	0	0	31
Hayden	Yampa Valley	HDN	4	8	0	0	0	0	12
Fort Collins/Loveland	Northern Colorado Regional	FNL	216	16	8	13	2	0	255
Montrose	Montrose Regional	MTJ	59	13	2	3	4	0	81
Pueblo	Pueblo Memorial	PUB	114	8	6	1	0	0	129
Telluride	Telluride Regional	TEX	30	2	10	2	0	0	44
<i>General Aviation</i>									
Akron	Colorado Plains Regional	AKO	12	1	0	1	0	0	14
Blanca	Blanca	05V	0	0	0	0	0	0	0
Boulder	Boulder Municipal	BDU	65	6	0	0	45	0	116
Brush	Brush Municipal	7V5	5	0	0	0	0	0	5
Buena Vista	Central Colorado Regional	AEJ	3	0	0	1	0	0	4
Burlington	Kit Carson County	ITR	20	0	3	0	0	0	23
Canon City	Fremont County	1V6	68	9	2	1	1	0	81
Center	Leach	1V8	4	0	0	0	0	0	4
Colorado Springs	Meadow Lake	FLY	422	12	4	5	7	0	450
Craig	Craig-Moffat	CAG	22	1	0	0	2	0	25

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Associated City	Airport Name	FAA ID	Single-engine	Multi-engine	Jet/TP	Heli-copters	Other	Military	Total
Creede	Mineral County Memorial	C24	9	0	1	0	0	0	10
Del Norte	Astronaut Kent Rominger	RCV	37	1	1	0	0	0	39
Delta	Blake Field	AJZ	62	1	1	1	0	0	65
Denver	Centennial	APA	594	115	149	22	0	0	880
Denver	Rocky Mountain Metropolitan	BJC	300	55	50	20	0	0	425
Denver	Colorado Air and Space Port	CFO	369	44	12	6	3	0	434
Eads	Eads Municipal	9V7	9	0	0	0	0	0	9
Erie	Erie Municipal	EIK	194	7	0	5	1	0	207
Fort Morgan	Fort Morgan Municipal	FMM	30	2	0	0	0	0	32
Glenwood Springs	Glenwood Springs Municipal	GWS	59	3	0	7	0	0	69
Granby	Granby-Grand County	GNB	21	3	0	0	0	0	24
Greeley	Greeley-Weld County	GXY	167	24	4	6	0	0	201
Haxtun	Haxtun Municipal	17V	1	0	0	0	0	0	1
Holly	Holly	K08	1	0	0	0	0	0	1
Holyoke	Holyoke	HEQ	14	0	0	1	0	0	15
Julesburg	Julesburg Municipal	7V8	5	0	0	0	0	0	5
Kremmling	Mc Elroy Airfield	20V	21	0	0	1	0	0	22
La Junta	La Junta Municipal	LHX	22	0	0	1	0	0	23
La Veta	Cuchara Valley	07V	2	0	0	0	0	0	2
Lamar	Lamar Municipal	LAA	26	2	0	0	0	0	28
Las Animas	Las Animas-Bent County	7V9	11	0	0	0	0	0	11
Leadville	Lake County	LXV	5	0	0	0	0	0	5
Limon	Limon Municipal	LIC	21	1	0	0	0	0	22
Longmont	Vance Brand	LMO	258	20	4	4	8	0	294
Meeker	Meeker/Coulter Field	EEO	10	0	0	0	0	0	10
Monte Vista	Monte Vista Municipal	MVI	12	3	0	0	0	0	15
Nucla	Hopkins Field	AIB	10	0	0	0	0	0	10

Associated City	Airport Name	FAA ID	Single-engine	Multi-engine	Jet/TP	Heli-copters	Other	Military	Total
Pagosa Springs	Stevens Field	PSO	34	5	0	0	1	0	40
Paonia	North Fork Valley	7V2	20	0	0	0	0	0	20
Rangely	Rangely	4V0	17	2	0	0	0	0	19
Rifle	Rifle Garfield County	RIL	32	7	5	2	2	0	48
Saguache	Saguache Municipal	04V	0	0	0	0	0	0	0
Salida	Harriet Alexander Field	ANK	32	2	4	1	2	0	41
Springfield	Springfield Municipal	8V7	10	0	0	0	0	0	10
Steamboat Springs	Steamboat Springs	SBS	65	7	11	2	1	0	86
Sterling	Sterling Municipal	STK	28	3	0	0	2	0	33
Trinidad	Perry Stokes	TAD	19	0	0	0	1	0	20
Walden	Walden-Jackson County	33V	3	0	0	0	0	0	3
Walsenburg	Spanish Peaks Airfield	4V1	17	2	0	0	0	0	19
Westcliffe	Silver West	C08	21	0	1	0	2	0	24
Wray	Wray Municipal	2V5	26	1	0	0	0	0	27
Yuma	Yuma Municipal	2V6	12	1	0	0	1	0	14
Total			4,148	450	359	119	93	39	5,208

Sources: 2018 Inventory & Data Form; FAA 5010 Master Record, 2019

2.6.2. Operations

The number and types of aircraft operations measure the activity of an airport and are factors in determining the health of the system. Aircraft operations are typically recorded on an annual basis into several categories by the FAA:

- **Air Carrier** - transporting people or goods by an aircraft with a seating capacity of 60 or more or a maximum payload of 18,000 pounds
- **Air Taxi/Commuter** - on-demand service that makes short flights on smaller commercial planes with less than 60 seats and a maximum payload of 18,000 pounds
- **GA** - civil operations other than scheduled air service
- **Military** - aircraft operations performed by the military and armed forces

Airport inventory forms requested operations counts for commercial airlines, air cargo/freight, air taxi, military, local general aviation, and itinerant general aviation. It should be noted that the operations categories requested on the inventory form do not reflect an exact match with the FAA classifications listed above, as the study warrants separation into additional categories. For example, DEN’s cargo activity is tracked primarily in terms of pounds of cargo, not by number of operations by the many carriers that provide cargo service, including scheduled passenger airlines that also serve cargo needs. The number of operations is recorded by the FAA ATCT according to the FAA’s traditional categories (air carrier, air taxi, general aviation, and military) which are reflected in the tables below.

The 66 CASP airports reported a total of 2,557,641 annual operations for 2018. **Table 2.13** summarizes the estimates of operations at system airports by type.

Table 2.13. 2018 Statewide Operations by Type

Operations Type	2010		2018	
	Number of Operations	Percent of Total	Number of Operations	Percent of Total
Commercial Service*	1,311,640	54%	750,493	29.3%
Cargo/Freight*	–	–	14,038	0.6%
GA-Local	–	–	864,497	33.8%
GA-Itinerant	–	–	655,910	25.6%
General Aviation	1,119,820	46%	1,520,407	59.4%
Military	–	–	272,703	10.7%
Total	2,431,460	100%	2,557,641	100%

Note: Commercial Service operations are the sum of air carrier and air taxi/commuter operations. DEN’s cargo operations are included in the Commercial Service operations numbers.

Source: 2018 Inventory & Data Form

Table 2.14 details the number of annual aircraft operations, by type, that were reported by airports on their Inventory & Data Forms.

Table 2.14. 2018 Annual Operations by Type

Associated City	Airport Name	FAA ID	Air Carrier	Air Taxi/Commuter	Cargo/Freight	GA-Local	GA-Itinerant	Military	Total
<i>Commercial Service</i>									
Alamosa	San Luis Valley Regional	ALS	0	2,535	0	690	3,702	1,476	8,403
Aspen	Aspen-Pitkin County	ASE	11,590	9,514	0	4,260	15,715	159	41,238
Colorado Springs	Colorado Springs Municipal	COS	13,263	13,418	769	33,511	30,402	37,073	128,436
Cortez	Cortez Municipal	CEZ	2,400	130	0	4,400	4,400	0	11,330
Denver*	Denver International	DEN	462,276	137,027	0	0	3,979	121	603,403
Durango	Durango-La Plata County	DRO	7,909	302	2,190	12,179	12,179	552	35,311
Eagle	Eagle County Regional	EGE	4,380	8,153	0	24,787	0	4,962	42,282
Grand Junction	Grand Junction Regional	GJT	4,611	8,787	844	10,826	20,452	2,364	47,884
Gunnison	Gunnison-Crested Butte Regional	GUC	566	763	720	1,990	4,938	460	9,437
Hayden	Yampa Valley	HDN	3,578	0	1,653	2,273	4,042	17	11,563
Fort Collins/Loveland	Northern Colorado Regional	FNL	46	3,500	3	35,150	56,000	200	94,899
Montrose	Montrose Regional	MTJ	6,850	200	0	14,300	15,100	2,000	38,450
Pueblo	Pueblo Memorial	PUB	600	1,839	1,839	5,729	15,832	167,712	193,551
Telluride	Telluride Regional	TEX	1,100	1,500	0	2,500	8,500	500	14,100
<i>General Aviation</i>									
Akron	Colorado Plains Regional	AKO	0	0	0	8,000	11,500	1,000	20,500
Blanca	Blanca	05V	0	0	0	770	230	0	1,000
Boulder	Boulder Municipal	BDU	0	0	0	43,305	7,277	0	50,582

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Associated City	Airport Name	FAA ID	Air Carrier	Air Taxi/Commuter	Cargo/Freight	GA-Local	GA-Itinerant	Military	Total
Brush	Brush Municipal	7V5	0	31	0	1,170	260	0	1,461
Buena Vista	Central Colorado Regional	AEJ	0	0	0	1,760	2,800	140	4,700
Burlington	Kit Carson County	ITR	0	0	1	3,200	4,713	87	8,001
Canon City	Fremont County	1V6	0	0	520	16,100	335	255	17,210
Center	Leach	1V8	0	0	0	733	100	0	833
Colorado Springs	Meadow Lake	FLY	0	0	0	38,250	14,250	22,500	75,000
Craig	Craig-Moffat	CAG	0	0	0	9,000	3,000	0	12,000
Creede	Mineral County Memorial	C24	0	0	0	720	719	0	1,439
Del Norte	Astronaut Kent Rominger	RCV	0	0	0	4,380	1,095	0	5,475
Delta	Blake Field	AJZ	0	0	0	1,886	1,144	0	3,030
Denver	Centennial	APA	0	34,000	1,144	162,200	141,056	5,250	343,650
Denver	Rocky Mountain Metropolitan	BJC	535	5,902	0	94,138	67,480	4,002	172,057
Denver	Colorado Air and Space Port	CFO	0	36	0	54,096	34,381	3,087	91,600
Eads	Eads Municipal	9V7	0	0	0	825	425	0	1,250
Erie	Erie Municipal	EIK	0	0	0	31,200	22,800	60	54,060
Fort Morgan	Fort Morgan Municipal	FMM	0	800	0	5,000	4,000	200	10,000
Glenwood Springs	Glenwood Springs Municipal	GWS	0	20	0	17,600	4,400	0	22,020
Granby	Granby-Grand County	GNB	0	0	0	1,980	600	20	2,600
Greeley	Greeley-Weld County	GXY	0	0	0	74,500	47,500	0	122,000
Haxtun	Haxtun Municipal	17V	0	0	0	30	60	0	90
Holly	Holly	K08	0	0	0	740	345	0	1,085

Associated City	Airport Name	FAA ID	Air Carrier	Air Taxi/Commuter	Cargo/Freight	GA-Local	GA-Itinerant	Military	Total
Holyoke	Holyoke	HEQ	0	0	0	5,500	3,000	0	8,500
Julesburg	Julesburg Municipal	7V8	0	0	0	300	12	0	312
Kremmling	Mc Elroy Airfield	20V	0	72	0	522	1,206	0	1,800
La Junta	La Junta Municipal	LHX	0	0	75	766	8,141	438	9,420
La Veta	Cuchara Valley	07V	0	0	0	12	2	36	50
Lamar	Lamar Municipal	LAA	0	400	1,040	420	3,780	100	5,740
Las Animas	Las Animas-Bent County	7V9	0	0	0	624	208	24	856
Leadville	Lake County	LXV	0	0	0	1,800	1,000	2,000	4,800
Limon	Limon Municipal	LIC	0	0	0	2,965	2,965	70	6,000
Longmont	Vance Brand	LMO	0	0	0	52,076	22,606	420	75,102
Meeker	Meeker/Coulter Field	EEO	0	250	0	2,400	5,400	10	8,060
Monte Vista	Monte Vista Municipal	MVI	0	0	0	3,584	2,416	0	6,000
Nucla	Hopkins Field	AIB	0	0	0	1,600	2,700	0	4,300
Pagosa Springs	Stevens Field	PSO	0	500	0	3,500	1,750	120	5,870
Paonia	North Fork Valley	7V2	0	0	0	2,000	0	0	2,000
Rangely	Rangely	4V0	0	0	0	22,500	2,500	0	25,000
Rifle	Rifle Garfield County	RIL	0	0	2,300	4,760	7,292	6	14,358
Saguache	Saguache Municipal	04V	0	0	0	65	7	0	72
Salida	Harriet Alexander Field	ANK	0	200	300	3,100	2,950	400	6,950
Springfield	Springfield Municipal	8V7	0	0	0	4,500	75	0	4,575
Steamboat Springs	Steamboat Springs	SBS	0	800	40	500	7,753	82	9,175
Sterling	Sterling Municipal	STK	0	110	0	1,740	1,366	24	3,240
Trinidad	Perry Stokes	TAD	0	0	0	3,580	1,700	600	5,880
Walden	Walden-Jackson County	33V	0	0	0	439	658	6	1,103

Associated City	Airport Name	FAA ID	Air Carrier	Air Taxi/Commuter	Cargo/Freight	GA-Local	GA-Itinerant	Military	Total
Walsenburg	Spanish Peaks Airfield	4V1	0	0	0	104	1,274	14,040	15,418
Westcliffe	Silver West	C08	0	0	0	600	200	130	930
Wray	Wray Municipal	2V5	0	0	0	16,862	7,738	0	24,600
Yuma	Yuma Municipal	2V6	0	0	0	3,500	1,500	0	5,000
Total			519,704	230,789	13,438	864,497	655,910	272,703	2,557,041

Note: DEN's cargo activity is tracked primarily in terms of pounds of cargo, not by number of operations by the many carriers that provide cargo service, including scheduled passenger airlines that also serve cargo needs. The number of operations is recorded by the FAA ATCT according to the FAA's traditional categories (air carrier, air taxi, general aviation, and military) which are reflected in this table.

Source: 2018 Inventory & Data Form

2.6.3. Passenger Enplanements

A passenger enplanement is defined as a revenue-paying passenger who boards an aircraft and departs to travel to a different airport destination. Passenger enplanements occur at airports that serve commercial airlines. There are different levels of commercial service provided at airports in the state, ranging from large commercial service airports that serve multiple airlines, such as Denver International (DEN), to small commercial service airports that serve a single airline such as San Luis Valley Regional (ALS) and Pueblo Memorial (PUB).

Table 2.15 documents the passenger enplanements as reported by airport managers at commercial service airports in 2018. The FAA TAF was used if passenger enplanements were not provided by the airport.

Table 2.15. 2018 Commercial Passenger Enplanements

Associated City	Airport Name	FAA ID	Enplanements
Alamosa	San Luis Valley Regional	ALS	6,798
Aspen	Aspen-Pitkin County	ASE	285,472
Colorado Springs	Colorado Springs Municipal	COS	883,776
Cortez	Cortez Municipal	CEZ	8,089
Denver	Denver International	DEN	30,849,992
Durango	Durango-La Plata County	DRO	189,771
Eagle	Eagle County Regional	EGE	174,369
Grand Junction	Grand Junction Regional	GJT	239,063
Gunnison	Gunnison-Crested Butte Regional	GUC	38,213
Hayden	Yampa Valley	HDN	103,410
Fort Collins/Loveland	Northern Colorado Regional	FNL	3,390
Montrose	Montrose Regional	MTJ	134,106
Pueblo	Pueblo Memorial	PUB	10,500
Telluride	Telluride Regional	TEX	19,109
Total			32,946,058

Sources: 2018 Inventory & Data Form; FAA TAF, 2018

2.6.4. Types of Activity

In addition to traditional commercial service operations and business and leisure GA operations, a variety of other types of activity occur at CASP airports. This section describes some key aviation activities occurring at system airports, such as aerial firefighting and medical evacuation.

2.6.4.1. Aerial Wildland Firefighting

Aerial wildland firefighting is conducted by using fixed-wing aircraft and helicopters to combat wildfires from the air using water, foams, and gels. This also includes smokejumpers who parachute and firefighters who rappel from helicopters into wildfires. Many CASP airports support aerial wildland firefighting as an integral component of aviation throughout the state, region, and country. Wildfires emerge in unpredictable locations and response time is vital to reduce the spread. When many airports throughout a state or region can accommodate these aircraft, the time to extinguish can be drastically

reduced. Based on responses to the Inventory & Data Form, 42 CASP airports indicated they supported aerial wildland firefighting in 2018 while two airports did not provide information.

In September 2019, a lightning strike started what would be known as the Decker Fire just two miles south of Salida. Over the next eight weeks, the Decker Fire grew to nearly 9,000 acres and skirted perilously close to Salida. Harriet Alexander Field (ANK) was used as the base for five helicopters and two fixed wing aircraft conducting an aerial firefighting assault on the fire. Fortunately, a snowstorm moved in near the end of October and helped firefighters contain the blaze without significant harm to the surrounding communities.

2.6.4.2. Aerospace Manufacturing, Technology, and Aircraft Flight Testing

Colorado has emerged as a national leader in aerospace manufacturing, aerospace technology, and flight testing. According to PricewaterhouseCoopers, Colorado ranked fifth among states for aerospace manufacturing in 2018. Large aerospace contracting companies such as Ball, Boeing, Lockheed Martin, Northrop Grumman, Raytheon, and the Department of Defense have a major foothold on- and off-airports within the state. Some of Colorado's small, general aviation airports are also experiencing this upsurge. For instance, Leadville-Lake County Airport, known for being the highest elevation airport in the U.S., facilitates various high-altitude flight-testing activities by aviation and aerospace companies from all over the globe. These enterprises evaluate new aircraft and aircrew flight equipment capabilities in the rarified conditions provided at this unique location. Activities such as these often generate additional demand and increased revenue at airports. Further, Pilatus Aircraft, a Swiss aircraft manufacturing company that specializes in the manufacturing of versatile prop and jet aircraft, has a U.S. headquarters in Broomfield, Colorado. The Swiss-made aircraft are assembled, polished, and delivered from Rocky Mountain Metropolitan Airport (BJC). These endeavors promote the continued advancement of the aviation industry as a whole by developing new technologies and exposing them to future generations of aviators. Of the 66 system airports inventoried, nine (14 percent) reported aerospace manufacturing activity at their facility, 13 (20 percent) reported aerospace technology activity, and 23 (35 percent) reported aircraft flight testing activity. 24 (36 percent) reported having at least one of the three activity types.

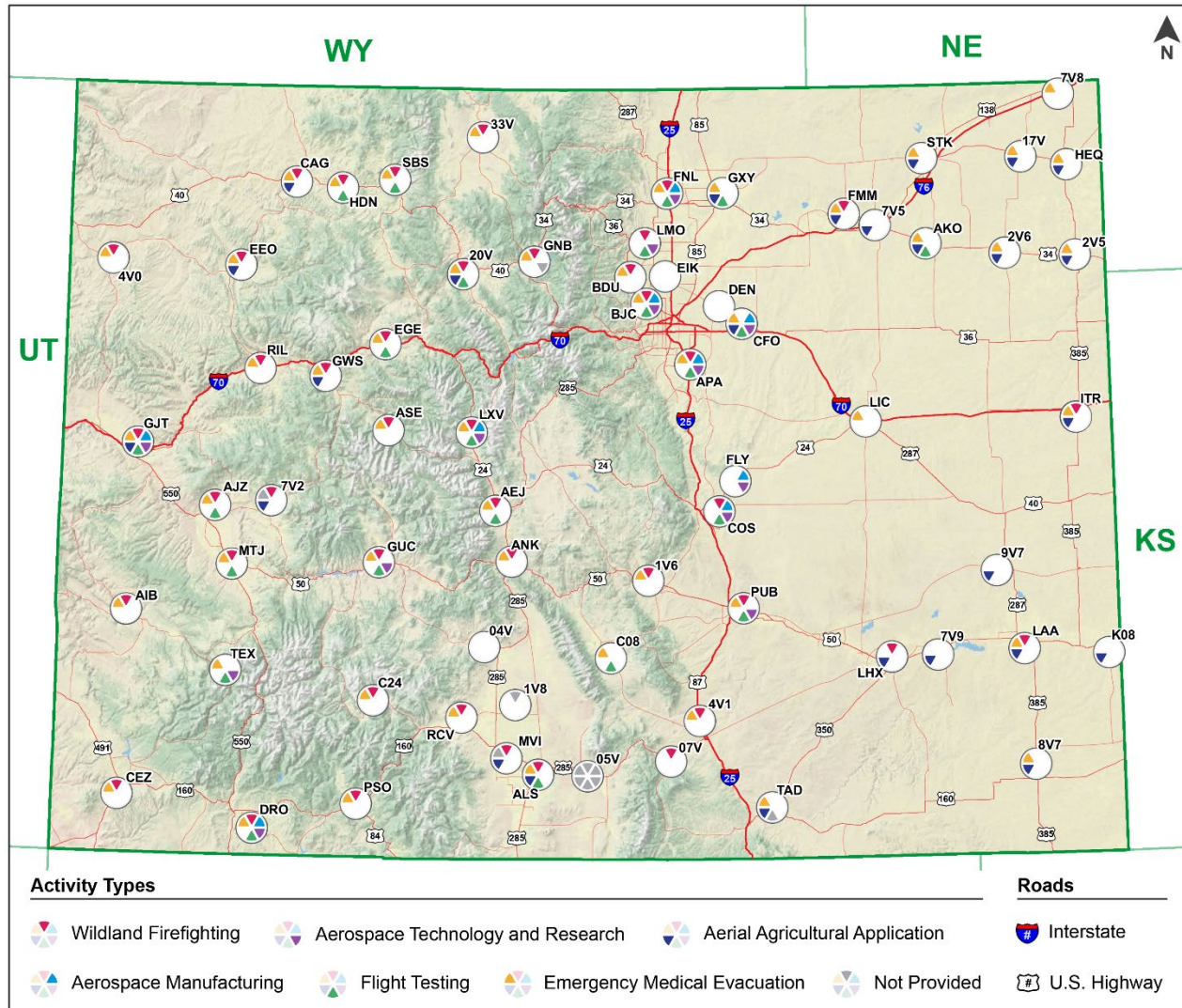
2.6.4.3. Aerial Agricultural Application

Aerial agricultural application provides a highly effective means of delivering crop protection products, produces maximum crop yields, and safeguards agricultural land from damage by surface application equipment. Aerial application is vital for producers to deliver quality and profitable quantities of their crops to the communities they support. Twenty-six system airports reported supporting agricultural application activities at their facilities.

2.6.4.4. Medical Emergency/Evacuation

Medical flights offer access to patients in need of specialized or emergency medical care, as well as transport of healthcare supplies and personnel to rural areas to provide care. These services are particularly important for residents of remote and/or Tribal communities without nearby access to medical facilities. Providing a network of airports to connect medical professionals and supplies with patients is one of the most important functions an aviation system can provide. Of the 66 CASP airports, 50 identified having medical emergency or evacuation activity at their facility. **Figure 2.10** and **Table 2.16** document the range of activities supported by CASP airports.

Figure 2.10. Activity Types at CASP Airports



Source: 2018 Inventory & Data Form

Table 2.16. Other Types of Aviation Activities Occurring at CASP Airports

Associated City	Airport Name	FAA ID	Aerial Wildland Firefighting	Aerospace Manufacturing	Aerospace Technology Research	Flight Testing	Aerial Agricultural Application	Emergency Medical Evacuation
<i>Commercial Service</i>								
Alamosa	San Luis Valley Regional	ALS	✓			✓	✓	✓
Aspen	Aspen-Pitkin County	ASE	✓					✓
Colorado Springs	Colorado Springs Municipal	COS	✓	✓	✓	✓		
Cortez	Cortez Municipal	CEZ	✓					✓
Denver	Denver International	DEN						
Durango	Durango-La Plata County	DRO	✓	✓	✓	✓		✓
Eagle	Eagle County Regional	EGE	✓			✓		✓
Grand Junction	Grand Junction Regional	GJT	✓	✓	✓	✓	✓	✓
Gunnison	Gunnison-Crested Butte Regional	GUC	✓		✓	✓		✓
Hayden	Yampa Valley	HDN	✓			✓		✓
Fort Collins/ Loveland	Northern Colorado Regional	FNL	✓	✓	✓	✓		✓
Montrose	Montrose Regional	MTJ	✓			✓		✓
Pueblo	Pueblo Memorial	PUB	✓		✓	✓		✓
Telluride	Telluride Regional	TEX			✓	✓		✓
<i>General Aviation</i>								
Akron	Colorado Plains Regional	AKO				✓	✓	✓

Associated City	Airport Name	FAA ID	Aerial Wildland Firefighting	Aerospace Manufacturing	Aerospace Technology Research	Flight Testing	Aerial Agricultural Application	Emergency Medical Evacuation
Blanca	Blanca	05V	N/P	N/P	N/P	N/P	N/P	N/P
Boulder	Boulder Municipal	BDU	✓					✓
Brush	Brush Municipal	7V5					✓	
Buena Vista	Central Colorado Regional	AEJ	✓			✓		✓
Burlington	Kit Carson County	ITR	✓				✓	✓
Canon City	Fremont County	1V6	✓					✓
Center	Leach	1V8	N/P					
Colorado Springs	Meadow Lake	FLY		✓	✓			
Craig	Craig-Moffat	CAG	✓				✓	✓
Creede	Mineral County Memorial	C24	✓					✓
Del Norte	Astronaut Kent Rominger	RCV	✓					✓
Delta	Blake Field	AJZ	✓			✓		✓
Denver	Centennial	APA	✓	✓	✓	✓		✓
Denver	Rocky Mountain Metropolitan	BJC	✓	✓	✓	✓		✓
Denver	Colorado Air and Space Port	CFO		✓	✓	✓	✓	✓
Eads	Eads Municipal	9V7					✓	
Erie	Erie Municipal	EIK						
Fort Morgan	Fort Morgan Municipal	FMM	✓				✓	✓
Glenwood Springs	Glenwood Springs Municipal	GWS	✓				✓	✓
Granby	Granby-Grand County	GNB	✓		N/P			✓

Associated City	Airport Name	FAA ID	Aerial Wildland Firefighting	Aerospace Manufacturing	Aerospace Technology Research	Flight Testing	Aerial Agricultural Application	Emergency Medical Evacuation
Greeley	Greeley-Weld County	GXY				✓	✓	✓
Haxtun	Haxtun Municipal	17V					✓	✓
Holly	Holly	K08					✓	
Holyoke	Holyoke	HEQ					✓	✓
Julesburg	Julesburg Municipal	7V8						✓
Kremmling	Mc Elroy Airfield	20V	✓			✓	✓	✓
La Junta	La Junta Municipal	LHX	✓				✓	
La Veta	Cuchara Valley	07V	✓					
Lamar	Lamar Municipal	LAA	✓				✓	✓
Las Animas	Las Animas-Bent County	7V9					✓	
Leadville	Lake County	LXV	✓	✓	✓	✓		✓
Limon	Limon Municipal	LIC						✓
Longmont	Vance Brand	LMO	✓		✓	✓		
Meeker	Meeker/Coulter Field	EEO	✓				✓	✓
Monte Vista	Monte Vista Municipal	MVI	✓				✓	N/P
Nucla	Hopkins Field	AIB	✓					✓
Pagosa Springs	Stevens Field	PSO	✓					✓
Paonia	North Fork Valley	7V2	✓				✓	N/P
Rangely	Rangely	4V0	✓					✓
Rifle	Rifle Garfield County	RIL	✓					✓
Saguache	Saguache Municipal	04V						
Salida	Harriet Alexander Field	ANK	✓					✓
Springfield	Springfield Municipal	8V7					✓	✓
Steamboat Springs	Steamboat Springs	SBS	✓			✓		✓

Associated City	Airport Name	FAA ID	Aerial Wildland Firefighting	Aerospace Manufacturing	Aerospace Technology Research	Flight Testing	Aerial Agricultural Application	Emergency Medical Evacuation
Sterling	Sterling Municipal	STK					✓	✓
Trinidad	Perry Stokes	TAD				N/P	✓	✓
Walden	Walden-Jackson County	33V	✓					✓
Walsenburg	Spanish Peaks Airfield	4V1	✓					✓
Westcliffe	Silver West	C08				✓		✓
Wray	Wray Municipal	2V5					✓	✓
Yuma	Yuma Municipal	2V6					✓	✓
		Total	42	9	13	23	26	50

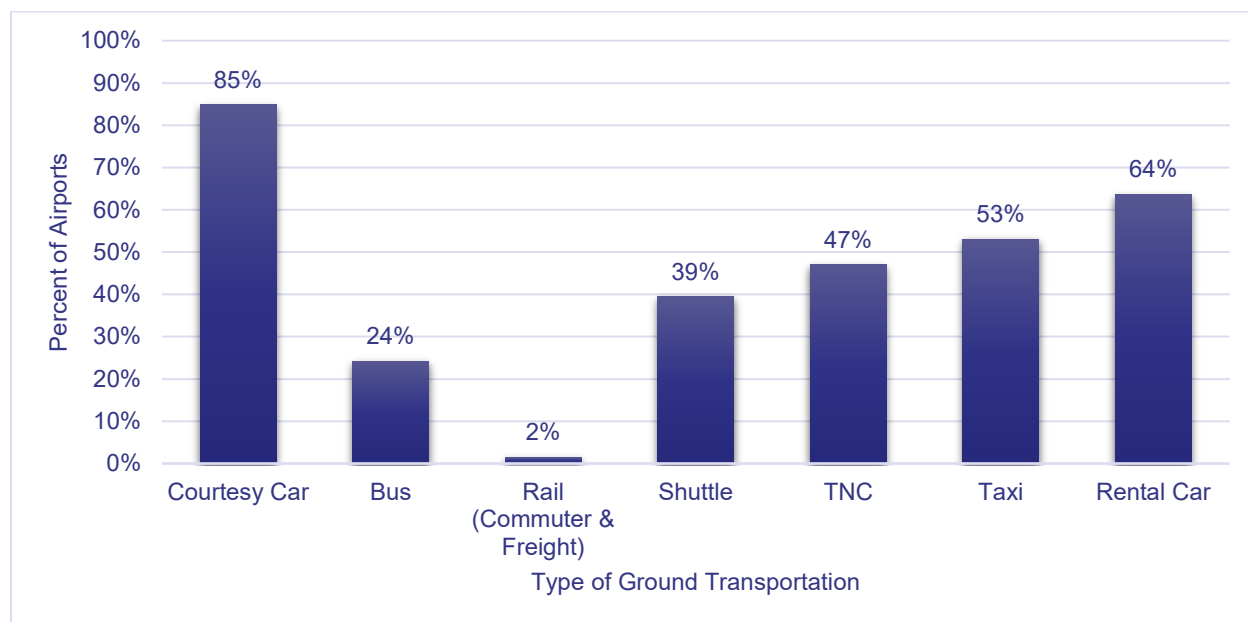
Source: 2018 Inventory & Data Form

2.7. Mobility and Access

Airports represent one of the multiple transportation modes that provide residents and visitors with access to all areas of Colorado. Connections between remote communities, large cities, and recreational areas are made even more accessible through aviation. The connectivity provided by airports is important, but other forms of transportation are required to tie the state together, both public and private, such that users can leave the airport environment and conduct activities outside of the airport. The ability of airports to promote intermodal connectivity is vital for many users of the state transportation system and communities in Colorado. Airports that offer transportation services such as courtesy cars, buses, rail (commuter & Freight), rental cars, shuttles, Transportation Network Companies (TNCs)¹⁶, or connections to public transportation can attract more itinerant air traffic.¹⁷

CASP airports support a variety of ground transportation options, connecting passengers to their final destinations. Of the 66 CASP airports, 60 (91 percent) support at least one type of ground transportation option.¹⁸ **Figure 2.11** and **Table 2.17** detail ground transportation availability by airport. A more detailed analysis of intermodal connectivity in Colorado is presented in **Chapter 3. Supplemental System Context**.

Figure 2.11. 2018 Statewide Ground Transportation Summary



Source: 2018 Inventory & Data Form

¹⁶ Uber and/or Lyft

¹⁷ An itinerant aircraft is one that lands at an airport having arrived from a different airport.

¹⁸ A more detailed analysis of intermodal integration and airport access can be found in Chapter 3.

Table 2.17. Ground Transportation Options Provided by CASP Airports

Associated City	Airport Name	FAA ID	Rental Car	Courtesy Car	Bus	Rail (Commuter & Freight)	Shuttle	TNC	Taxi
<i>Commercial Service</i>									
Alamosa	San Luis Valley Regional	ALS	✓				✓	✓	✓
Aspen	Aspen-Pitkin County	ASE	✓	✓	✓		✓	✓	✓
Colorado Springs	Colorado Springs Municipal	COS	✓	✓	✓		✓	✓	✓
Cortez	Cortez Municipal	CEZ	✓	✓			✓	✓	✓
Denver	Denver International	DEN	✓	✓	✓	✓	✓	✓	✓
Durango	Durango-La Plata County	DRO	✓	✓			✓	✓	✓
Eagle	Eagle County Regional	EGE	✓	✓	✓		✓	✓	✓
Grand Junction	Grand Junction Regional	GJT	✓	✓	✓		✓	✓	✓
Gunnison	Gunnison-Crested Butte Regional	GUC	✓	✓	✓				
Hayden	Yampa Valley	HDN	✓	✓			✓	✓	
Fort Collins/ Loveland	Northern Colorado Regional	FNL	✓	✓	✓		✓	✓	✓
Montrose	Montrose Regional	MTJ	✓	✓	✓		✓		
Pueblo	Pueblo Memorial	PUB	✓	✓	✓			✓	✓
Telluride	Telluride Regional	TEX	✓	✓			✓		✓
<i>General Aviation</i>									
Akron	Colorado Plains Regional	AKO	✓	✓			✓		
Blanca	Blanca	05V							
Boulder	Boulder Municipal	BDU	✓	✓	✓				
Brush	Brush Municipal	7V5		✓					
Buena Vista	Central Colorado Regional	AEJ	✓	✓			✓	✓	✓
Burlington	Kit Carson County	ITR	✓	✓				✓	
Canon City	Fremont County	1V6	✓	✓				✓	✓
Center	Leach	1V8							

Associated City	Airport Name	FAA ID	Rental Car	Courtesy Car	Bus	Rail (Commuter & Freight)	Shuttle	TNC	Taxi
Colorado Springs	Meadow Lake	FLY			✓			✓	✓
Craig	Craig-Moffat	CAG	✓	✓					✓
Creede	Mineral County Memorial	C24		✓				✓	
Del Norte	Astronaut Kent Rominger	RCV		✓					
Delta	Blake Field	AJZ	✓	✓				✓	✓
Denver	Centennial	APA	✓	✓			✓	✓	✓
Denver	Rocky Mountain Metropolitan	BJC	✓	✓	✓		✓	✓	✓
Denver	Colorado Air and Space Port	CFO	✓	✓			✓	✓	✓
Eads	Eads Municipal	9V7		✓					
Erie	Erie Municipal	EIK	✓	✓				✓	✓
Fort Morgan	Fort Morgan Municipal	FMM	✓	✓					✓
Glenwood Springs	Glenwood Springs Municipal	GWS	✓	✓			✓	✓	✓
Granby	Granby-Grand County	GNB	✓	✓			✓	✓	✓
Greeley	Greeley-Weld County	GXY	✓	✓			✓	✓	✓
Haxtun	Haxtun Municipal	17V		✓	✓				
Holly	Holly	K08							
Holyoke	Holyoke	HEQ		✓					
Julesburg	Julesburg Municipal	7V8		✓					
Kremmling	Mc Elroy Airfield	20V	✓	✓	✓				✓
La Junta	La Junta Municipal	LHX	✓	✓				✓	
La Veta	Cuchara Valley	07V		✓					
Lamar	Lamar Municipal	LAA	✓	✓			✓		
Las Animas	Las Animas-Bent County	7V9					✓		
Leadville	Lake County	LXV		✓					✓
Limon	Limon Municipal	LIC		✓				✓	
Longmont	Vance Brand	LMO	✓	✓	✓		✓	✓	✓
Meeker	Meeker/Coulter Field	EEO	✓	✓					

Associated City	Airport Name	FAA ID	Rental Car	Courtesy Car	Bus	Rail (Commuter & Freight)	Shuttle	TNC	Taxi
Monte Vista	Monte Vista Municipal	MVI							
Nucla	Hopkins Field	AIB		✓					
Pagosa Springs	Stevens Field	PSO	✓	✓					✓
Paonia	North Fork Valley	7V2		✓					
Rangely	Rangely	4V0		✓					
Rifle	Rifle Garfield County	RIL	✓	✓				✓	✓
Saguache	Saguache Municipal	04V							
Salida	Harriet Alexander Field	ANK	✓	✓			✓		✓
Springfield	Springfield Municipal	8V7		✓				✓	
Steamboat Springs	Steamboat Springs	SBS	✓	✓			✓	✓	✓
Sterling	Sterling Municipal	STK	✓	✓	✓		✓	✓	✓
Trinidad	Perry Stokes	TAD	✓						✓
Walden	Walden-Jackson County	33V		✓					
Walsenburg	Spanish Peaks Airfield	4V1	✓	✓					✓
Westcliffe	Silver West	C08							
Wray	Wray Municipal	2V5	✓	✓					
Yuma	Yuma Municipal	2V6		✓					✓
Total			42	56	16	1	26	31	35

Source: 2018 Inventory & Data Form

2.8. Airport Safety

Airports utilize a number of means to protect their facilities and aircraft operations. This section documents some of the ways in which airports promote the safety of pilots, passengers, and the public in an around the airport environs.

2.8.1. Wildlife Fencing

Airport fencing is often the first line of protection at airports and the types of fencing used varies widely based on the type of airport and need. Ideally, airports would have their entire perimeter fenced with 6-foot to 8-foot tall security fence with 1-foot of three-strand barbed wire; however, this can be very costly, especially when airports have a large land envelope and even more so when they are not eligible to receive federal funding. As such, some airports have only partial perimeter fencing around critical operational areas (e.g. runways) or have different fencing types, such as wildlife fencing which is typically ten feet tall, etc. to protect against wildlife entering the airport environs. Of the 66 CASP airports, 32 reported having full perimeter wildlife fencing around their airport, one reported having wildlife fencing around the runway area only, and two reported having wildlife fencing around the terminal apron area only.

2.8.2. Unmanned Aerial Systems (UAS)

The prevalence of UAS, sometimes referred to as drones, has rapidly increased in recent years. Until recently, drone operators were required to notify the airport operator and air traffic control (ATC) before flying within five miles of the airport. Newly announced airspace authorization now requires drone operators to obtain an airspace authorization prior to flying a drone in controlled airspace. The controlled, drone-designated airspace are referred to as “fixed sites” shown on Unmanned Aircraft Systems Facility Maps.¹⁹ While there are few airports in the system that prohibit UAS operations at their facilities, they can still be a threat to traditional aircraft operations if not managed appropriately. To better understand where UAS activity is occurring at or near CASP airports and if those facilities have formal policies or processes to monitor, limit, or prohibit this activity, airport managers were asked if their airport has a formal process to receive, manage, and respond to on/near-airport UAS use requests (e.g., AirMap). Nineteen system airports reported having a formal process in place. More information on UAS is presented in **Chapter 4. Aviation Issues**.

2.8.3. Aircraft Rescue and Fire Fighting (ARFF)

Airports complying with Title 14 Code of Federal Regulations (CFR) Part 139²⁰ are required to have emergency response equipment (called Aircraft Rescue and Fire Fighting [ARFF] equipment) and personnel to respond to aircraft-in-distress emergencies. Sixteen airports in the CASP are Part 139 certified and have ARFF equipment and trained personnel to respond to incidents. The remaining 50 system airports are not required to have facilities or trained personnel on site, however it is beneficial to have local, off-airport first responders trained to respond to airport and aircraft incidents should it be necessary. Based on airport manager responses, 22 CASP airports have off-airport, ARFF-trained first

¹⁹ <https://www.faa.gov/news/updates/?newsId=93769>

²⁰ A Part 139 airport serves scheduled air carrier operations in aircraft designed for between 10 and 30 passenger seats, or scheduled and unscheduled air carrier operations in aircraft with more than 30 seats.

responders.²¹ It is important to note that if a Part 139 airport reported “No” to having local, ARFF-trained first responders, it does not mean that they do not meet the Part 139 on-airport ARFF requirement. **Table 2.18** summarizes airport safety indicators at CASP airports.

Table 2.18. Airport Safety Indicators at CASP Airports

Associated City	Airport Name	FAA ID	Wildlife Fencing	Managed UAS	ARFF-Trained
<i>Commercial Service</i>					
Alamosa	San Luis Valley Regional	ALS	Full Perimeter	Yes	Yes
Aspen	Aspen-Pitkin County	ASE	Full Perimeter	Yes	N/P
Colorado Springs	Colorado Springs Municipal	COS	Full Perimeter	Yes	Yes
Cortez	Cortez Municipal	CEZ	Full Perimeter	No	Yes
Denver	Denver International	DEN	Full Perimeter	Yes	No
Durango	Durango-La Plata County	DRO	N/P	Yes	N/P
Eagle	Eagle County Regional	EGE	Full Perimeter	No	Yes
Grand Junction	Grand Junction Regional	GJT	Terminal Apron Area	No	No
Gunnison	Gunnison-Crested Butte Regional	GUC	Full Perimeter	No	N/P
Hayden	Yampa Valley	HDN	Full Perimeter	Yes	Yes
Fort Collins/ Loveland	Northern Colorado Regional	FNL	Full Perimeter	Yes	Yes
Montrose	Montrose Regional	MTJ	Full Perimeter	No	Yes
Pueblo	Pueblo Memorial	PUB	Terminal Apron Area	No	N/P
Telluride	Telluride Regional	TEX	Full Perimeter	Yes	No
<i>General Aviation</i>					
Akron	Colorado Plains Regional	AKO	Partial Perimeter	No	Yes
Blanca	Blanca	05V	N/P	N/P	N/P
Boulder	Boulder Municipal	BDU	Full Perimeter	Yes	Yes
Brush	Brush Municipal	7V5	N/P	No	N/P
Buena Vista	Central Colorado Regional	AEJ	Full Perimeter	Yes	No
Burlington	Kit Carson County	ITR	N/P	No	Yes
Canon City	Fremont County	1V6	N/P	No	N/P
Center	Leach	1V8	N/P	No	No

²¹ The 22 CASP airports with ARFF-trained first responders is a mix of both Part 139 and non-Part 139 airports.

Associated City	Airport Name	FAA ID	Wildlife Fencing	Managed UAS	ARFF-Trained
Colorado Springs	Meadow Lake	FLY	N/P	No	N/P
Craig	Craig-Moffat	CAG	Full Perimeter	No	N/P
Creede	Mineral County Memorial	C24	N/P	No	N/P
Del Norte	Astronaut Kent Rominger	RCV	N/P	Yes	N/P
Delta	Blake Field	AJZ	N/P	No	No
Denver	Centennial	APA	Full Perimeter	Yes	Yes
Denver	Rocky Mountain Metropolitan	BJC	Full Perimeter	Yes	Yes
Denver	Colorado Air and Space Port	CFO	N/P	Yes	Yes
Eads	Eads Municipal	9V7	N/P	No	No
Erie	Erie Municipal	EIK	N/P	Yes	Yes
Fort Morgan	Fort Morgan Municipal	FMM	N/P	No	N/P
Glenwood Springs	Glenwood Springs Municipal	GWS	N/P	No	NP
Granby	Granby-Grand County	GNB	Full Perimeter	No	N/P
Greeley	Greeley-Weld County	GXY	Full Perimeter	No	Yes
Haxtun	Haxtun Municipal	17V	N/P	No	N/P
Holly	Holly	K08	N/P	No	N/P
Holyoke	Holyoke	HEQ	N/P	No	N/P
Julesburg	Julesburg Municipal	7V8	N/P	No	N/P
Kremmling	Mc Elroy Airfield	20V	Full Perimeter	No	Yes
La Junta	La Junta Municipal	LHX	Full Perimeter	No	No
La Veta	Cuchara Valley	07V	N/P	No	N/P
Lamar	Lamar Municipal	LAA	Full Perimeter	No	N/P
Las Animas	Las Animas-Bent County	7V9	N/P	No	No
Leadville	Lake County	LXV	Full Perimeter	No	Yes
Limon	Limon Municipal	LIC	N/P	No	Yes
Longmont	Vance Brand	LMO	Partial Perimeter	Yes	No
Meeker	Meeker/Coulter Field	EEO	Full Perimeter	No	No
Monte Vista	Monte Vista Municipal	MVI	Runway Area	No	N/P
Nucla	Hopkins Field	AIB	N/P	No	N/P
Pagosa Springs	Stevens Field	PSO	Full Perimeter	Yes	Yes
Paonia	North Fork Valley	7V2	Full Perimeter	No	N/P
Rangely	Rangely	4V0	Full Perimeter	No	No
Rifle	Rifle Garfield County	RIL	Full Perimeter	Yes	Yes
Saguache	Saguache Municipal	04V	N/P	No	No

Associated City	Airport Name	FAA ID	Wildlife Fencing	Managed UAS	ARFF-Trained
Salida	Harriet Alexander Field	ANK	Full Perimeter	No	No
Springfield	Springfield Municipal	8V7	N/P	No	No
Steamboat Springs	Steamboat Springs	SBS	Full Perimeter	Yes	No
Sterling	Sterling Municipal	STK	Full Perimeter	No	Yes
Trinidad	Perry Stokes	TAD	Full Perimeter	No	N/P
Walden	Walden-Jackson County	33V	N/P	No	Yes
Walsenburg	Spanish Peaks Airfield	4V1	Full Perimeter	No	N/P
Westcliffe	Silver West	C08	N/P	N/P	N/P
Wray	Wray Municipal	2V5	N/P	No	No
Yuma	Yuma Municipal	2V6	N/P	No	N/P

Source: 2018 Inventory & Data Form

2.9. Airport Planning

Focused local airport planning is needed to reflect the market conditions and community environment of a specific airport. Airport master plans (MPs) and Airport Layout Plans (ALPs) lay the framework for planning at the local airport level. This section focuses on master plan and ALP availability at each CASP airport as well as the availability of a Wildlife Hazard Assessment (WHA) and Sustainability Plan.

2.9.1. Master Plan

Master plans are designed and developed to:

- Provide a graphic representation of the existing airport features, future airport development, and anticipated land use
- Establish a realistic schedule for implementation of the proposed development
- Identify a realistic financial plan to support the proposed development
- Validate the plan technically and procedurally through an investigation of concepts and alternatives on technical, economic, and environmental grounds
- Prepare and present a plan to the public that adequately addresses all relevant issues and satisfies local, state, and federal regulations
- Establish a framework for a continuous planning process

The FAA approves specific components of an MP as opposed to the entire document. These components consist of the forecasts of aviation demand, selection of critical aircraft, and the ALP.²² It is from these elements that the FAA determines eligibility of Airport Improvement Program (AIP) funding for the proposed development referenced in the MP and shown on the ALP.

²² ALPs are a graphic representation of the existing and planned development of the airport. ALPs are sometimes conducted as standalone documents and are updated as development is realized. ALPs are discussed in more detail in Chapter 6. Existing System Performance.

54 CASP airports (82 percent) reported having an airport master plan. One of the 54 airports who reported having a master plan did not know the date of which it was completed. Two airports did not answer the question.

2.9.2. Airport Layout Plan

The ALP is a critical planning tool that depicts both existing facilities and planned development for an airport. A current ALP is a prerequisite for issuance of an AIP grant for airport development. When an airport sponsor accepts AIP funding for airport development, they are obligated by a series of grant assurances, one of which is to “keep the ALP up-to-date at all times,” making the process cyclical. ALPs are designed and developed to:

- Identify the boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes
- Depict the location and nature of existing and proposed airport facilities and structures
- Establish the location on the airport of existing and proposed non-aviation areas and improvements

60 CASP airports (91 percent) reported having an ALP. One of the airports who reported having an ALP did not know the year in which it was completed.

2.9.3. Wildlife Hazard Assessment

A Wildlife Hazard Assessment (WHA) is a study that inspects for evidence of animals in the airport environs and/or other wildlife concerns that may have developed specific to an airport. Part 139 airports are required by the FAA to conduct a WHA when any of the following events occur²³:

- An air carrier aircraft experiences multiple bird strikes
- An air carrier aircraft experiences substantial damage from striking wildlife
- An air carrier aircraft experiences an engine ingestion of wildlife
- Wildlife of a large enough size, or in numbers that are capable of causing an accident, is observed to have access to any airport flight pattern or aircraft movement area

25 CASP airports reported having completed a WHA. Two airports noted having a WHA but did not know the date of which it was completed. It is important to note that airports only complete a WHA if they are required by the FAA or if the airport has a justified need for one.

2.9.4. Sustainability Plan

CDOT Division of Aeronautics developed a “first of its kind” sustainability project that was created to provide tools and guidance for airports in Colorado to develop sustainability plans for their own facilities. The mission of the program is to maintain and enhance the long-term viability of airports across Colorado in a way that properly balances economic, social, and environmental pressures while still meeting the operational needs of an airport. The sustainability plans generated through this project provide a host of benefits to the airports that include:

²³ American Association of Airport Executives (AAAE) - *Airport Operations, Security, and Maintenance*, 2018.

- Increased competitiveness through lean operations
- Optimized use of airport assets
- Reduced environmental impacts of the facility
- Continued and increased support from the community
- Improved working environment for employees leading to higher productivity
- Reduced health and safety risks

11 system airports (17 percent) reported having a sustainability program, 6 of which are GA airports. Two CASP airports noted having a plan but did not indicate what year it was completed. Four of the 11 system airports that indicated having a sustainability program completed the plan via the Colorado Airport Sustainability Program. Those airports include Centennial, Rifle Garfield County, Fremont County, and Rocky Mountain Metropolitan. Other plans were created separately and are not necessarily consistent with this program.

Denver International (DEN) has initiated and completed several sustainability projects in the terminal and around the airfield. Since 2004, the airport has had a partnership with Excel Energy to install and maintain solar arrays on the terminal, parking facilities, and around the airfield. DEN also has two concrete and asphalt recycling yards that processed approximately 194,000 tons of paving materials in 2019, reducing the airport's need for new paving materials. Finally, DEN is developing holistic land management programs to help support native pollinator species on property, including one active hive of honey bees at Fire Station 35 on the south side of the airfield.

2.9.5. Local/Regional Comprehensive Plan

FAA guidance on state aviation system plans emphasizes coordination between multi-modal and regional planning partners to promote consideration of air travel and aviation facilities in other transportation and related plans. One way this is accomplished is through recognizing airports in local and/or regional comprehensive plans that typically consider land use, transportation, recreation, utilities, and housing within a municipality or region. Of the 66 CASP airports, 44 reported being included in either a local or regional comprehensive plan, and five did not provide information. **Table 2.19** details the availability and dates of planning documents at CASP airports.

Table 2.19. Availability of Airport Planning Documents for CASP Airports

Associated City	Airport Name	FAA ID	Master Plan	Airport Layout Plan	Wildlife Hazard Assessment	Sustainability Plan	Local/Regional Comp. Plans
<i>Commercial Service</i>							
Alamosa	San Luis Valley Regional	ALS	2005	2007	Yes (date N/P)	N/P	Yes
Aspen	Aspen-Pitkin County	ASE	2012	2013	2012	2013	No
Colorado Springs	Colorado Springs Municipal	COS	2013	2013	2013	—	Yes
Cortez	Cortez Municipal	CEZ	2010	2010	2013	—	No
Denver	Denver International	DEN	2015	2015	2018	Yes (date N/P)	Yes
Durango	Durango-La Plata County	DRO	2015	2015	2013	—	Yes
Eagle	Eagle County Regional	EGE	2014	2014	—	2014	Yes
Grand Junction	Grand Junction Regional	GJT	2009	2009	2011	—	Yes
Gunnison	Gunnison-Crested Butte Regional	GUC	2015	2016	2005	—	N/P
Hayden	Yampa Valley	HDN	2015	2017	—	—	Yes
Fort Collins/ Loveland	Northern Colorado Regional	FNL	2007	2007	2018	—	Yes
Montrose	Montrose Regional	MTJ	2017	2018	2010	—	No
Pueblo	Pueblo Memorial	PUB	1992	2007	2012	—	No
Telluride	Telluride Regional	TEX	2016	2016	2014	—	Yes
<i>General Aviation</i>							
Akron	Colorado Plains Regional	AKO	2017	2005	—	—	No
Blanca	Blanca	05V	N/P	—	—	N/P	N/P
Boulder	Boulder Municipal	BDU	2006	2006	2015	—	Yes
Brush	Brush Municipal	7V5	2014	2014	—	—	Yes

Associated City	Airport Name	FAA ID	Master Plan	Airport Layout Plan	Wildlife Hazard Assessment	Sustainability Plan	Local/ Regional Comp. Plans
Buena Vista	Central Colorado Regional	AEJ	2016	2017	—	—	Yes
Burlington	Kit Carson County	ITR	2002	2002	—	—	N/P
Canon City	Fremont County	1V6	2013	2013	—	2016	No
Center	Leach	1V8	—	—	—	—	No
Colorado Springs	Meadow Lake	FLY	2018	2018	—	—	Yes
Craig	Craig-Moffat	CAG	2018	2018	—	—	No
Creede	Mineral County Memorial	C24	2005	2005	Yes (date N/P)	—	Yes
Del Norte	Astronaut Kent Rominger	RCV	2019	2018	—	—	Yes
Delta	Blake Field	AJZ	2015	2015	2015	—	Yes
Denver	Centennial	APA	2008	2009	2013	2017	Yes
Denver	Rocky Mountain Metropolitan	BJC	2011	2018	2012	2017	Yes
Denver	Colorado Air and Space Port	CFO	2018	2006	2013	—	Yes
Eads	Eads Municipal	9V7	1991	1991	—	—	No
Erie	Erie Municipal	EIK	2015	2016	2014	—	Yes
Fort Morgan	Fort Morgan Municipal	FMM	2016	2018	2018	—	Yes
Glenwood Springs	Glenwood Springs Municipal	GWS	—	1999	—	—	Yes
Granby	Granby-Grand County	GNB	2018	2018	—	—	Yes
Greeley	Greeley-Weld County	GXY	2015	2016	2015	—	Yes
Haxtun	Haxtun Municipal	17V	—	—	—	—	No
Holly	Holly	K08	—	—	—	—	No
Holyoke	Holyoke	HEQ	2017	2017	—	—	Yes
Julesburg	Julesburg Municipal	7V8	—	—	—	—	No
Kremmling	Mc Elroy Airfield	20V	2007	2015	—	—	Yes

Associated City	Airport Name	FAA ID	Master Plan	Airport Layout Plan	Wildlife Hazard Assessment	Sustainability Plan	Local/ Regional Comp. Plans
La Junta	La Junta Municipal	LHX	2008	2008	—	—	Yes
La Veta	Cuchara Valley	07V	—	1984	—	N/P	Yes
Lamar	Lamar Municipal	LAA	2004	2009	—	—	Yes
Las Animas	Las Animas-Bent County	7V9	—	2015	—	—	No
Leadville	Lake County	LXV	2015	2015	—	2014	Yes
Limon	Limon Municipal	LIC	2017	2017	—	—	Yes
Longmont	Vance Brand	LMO	2012	2018	2016	—	Yes
Meeker	Meeker/Coulter Field	EEO	2009	2009	—	—	Yes
Monte Vista	Monte Vista Municipal	MVI	2006	2017	N/P	—	Yes
Nucla	Hopkins Field	AIB	2017	2017	—	—	No
Pagosa Springs	Stevens Field	PSO	2008	2009	—	N/P	Yes
Paonia	North Fork Valley	7V2	N/P	Yes (date N/P)	N/P	N/P	N/P
Rangely	Rangely	4V0	2017	2017	—	—	N/P
Rifle	Rifle Garfield County	RIL	2015	2015	2018	2018	Yes
Saguache	Saguache Municipal	04V	—	2006	—	—	No
Salida	Harriet Alexander Field	ANK	2018	2018	—	—	Yes
Springfield	Springfield Municipal	8V7	Yes (date N/P)	2013	N/P	N/P	No
Steamboat Springs	Steamboat Springs	SBS	2008	2008	—	2016	Yes
Sterling	Sterling Municipal	STK	2004	2004	2016	—	Yes
Trinidad	Perry Stokes	TAD	2014	2014	—	—	Yes
Walden	Walden-Jackson County	33V	—	2007	—	—	Yes
Walsenburg	Spanish Peaks Airfield	4V1	2011	2011	—	—	Yes

Associated City	Airport Name	FAA ID	Master Plan	Airport Layout Plan	Wildlife Hazard Assessment	Sustainability Plan	Local/Regional Comp. Plans
Westcliffe	Silver West	C08	—	—	N/P	N/P	Yes
Wray	Wray Municipal	2V5	2017	2016	2016	—	No
Yuma	Yuma Municipal	2V6	2018	2018	—	—	Yes

Sources: 2018 Inventory & Data Form; CDOT, 2018

2.10. Land Use Compatibility and Business Development

Protecting the land use and airspace around an airport is critical to an airport’s long-term viability. In general, the objective of airport compatible land use is to promote development that is considered appropriate for airport environments and precludes land uses that pose a threat to safe aircraft operations and the safety of people and property on the ground. For the purposes of this study, a review of land use and ownership within each airport’s FAR Part 77 Imaginary Surfaces and RPZs was conducted with airport sponsors. The following sections summarize the findings related to Part 77 surfaces, close-in obstructions, and land use controls.

2.10.1. Land Use Controls

Effective airport land use controls are vital in precluding incompatible uses such as those that are noise sensitive (e.g. residential areas, schools), tall structures (e.g. phone lines, trees), visual obstructions (e.g. solar panel glare, mining operation dust), wildlife attractants (e.g. bodies of water, landfills), and high concentrations of people (e.g. hospitals, malls) near airports. When asked if their airport/community had adopted land use controls to protect the airport environment and operations, 41 CASP airports reported having land use controls while six airports did not provide information. Thirty-eight CASP airports reported having height controls while seven airports did not provide information. A total of 42 (64 percent) system airports have either land use or height controls, or both.

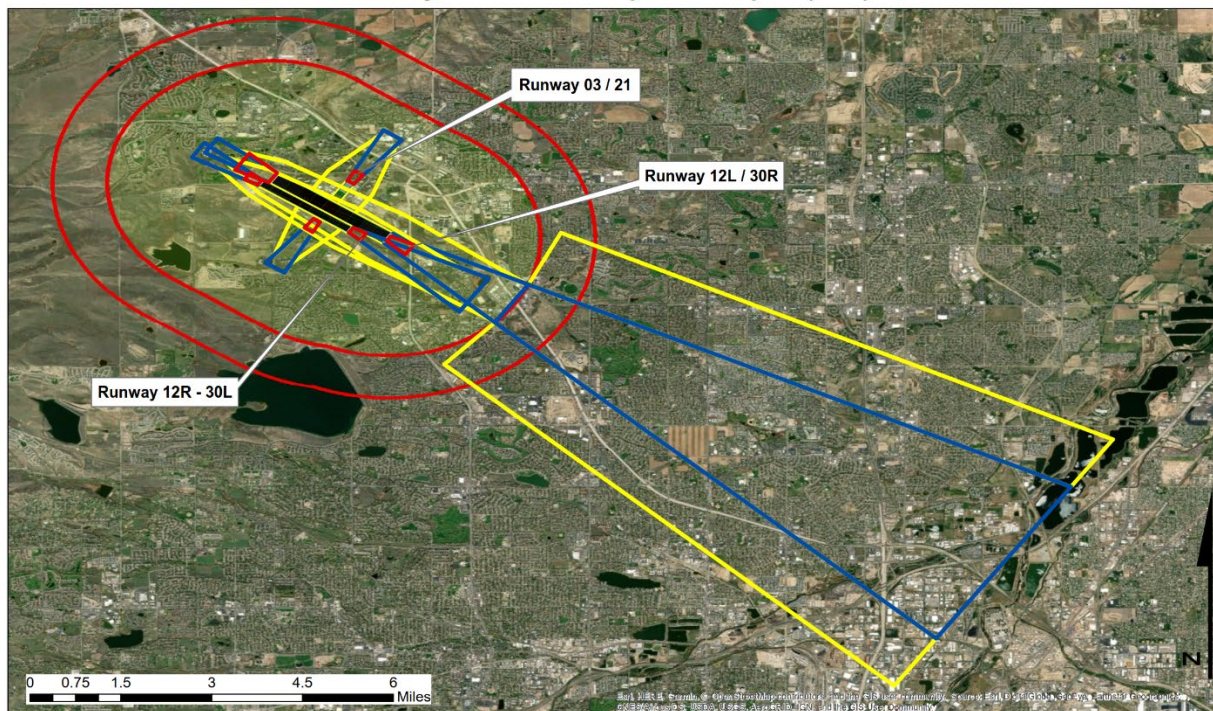
2.10.2. Part 77 Surfaces

FAR Part 77, “Objects Affecting Navigable Airspace” initially went into effect in 1965 to protect the nation’s navigable airspace as a limited resource to be used efficiently and to ensure the safety of aircraft. Now called FAR Part 77 “Safe, Efficient Use and Preservation of the Navigable Airspace,” the regulation lays out specific airspace dimensions as “imaginary surfaces” based on the design criteria of airports that should not be penetrated by objects or structures. These surfaces are designed to allow aircraft to operate within the airport’s traffic pattern and along established approaches/routes into and out of the airport, clear of obstructions. As mentioned previously, a map of the Part 77 surfaces applicable to each airport were plotted on an airport aerial and were discussed with airport representatives during the site visits. This was done to educate representatives on protected airspace and identify areas of concern or areas for future land acquisition. Forty-two CASP airports reported having enforced Part 77 surfaces²⁴. **Figure 2.12** includes a Part 77 airspace exhibit used during a site visit.

²⁴ For the purposes of this plan, “enforced” means that Part 77 surfaces are acknowledged and protected by local municipalities.

Figure 2.12. Part 77 Map Developed for the BJC Site Visit

Rocky Mountain Metropolitan Airport (BJC)



Source: Kimley-Horn, 2018

2.10.3. Development Partnerships and Landside Business Parks

While an airport primarily facilitates air travel, it also operates as a business to generate revenues to pay for capital and operational expenses. Airports can develop partnerships with chambers of commerce, tourism bureaus, local/regional organizations and industries, governments, and/or recreational user groups to support and promote use of the facility as a community asset. These partnerships can result in the advancement of business opportunities, such as attracting new businesses to locate within a community. Thirty-four CASP airports reported having active development partnerships while three did not provide information. Fifteen CASP airports reported having landside business parks while two did not provide information. **Table 2.20** presents land use compatibility and business development efforts identified by CASP airports.

Table 2.20. Land Use Compatibility and Business Development at CASP Airports

Associated City	Airport Name	FAA ID	Primary Runway	Adopted		Adopted Part 77	Active Development Partnerships	Landside Business Parks
				Land Use Controls	Height Controls			
<i>Commercial Service</i>								
Alamosa	San Luis Valley Regional	ALS	02/20	N/P	N/P	N/P	Yes	No
Aspen	Aspen-Pitkin County	ASE	15/33	Yes	Yes	Yes	Yes	No
Colorado Springs	Colorado Springs Municipal	COS	17L/35R	Yes	Yes	Yes	Yes	Yes
Cortez	Cortez Municipal	CEZ	03/21	No	No	No	No	No
Denver	Denver International	DEN	17L/35R	Yes	Yes	Yes	Yes	Yes
Durango	Durango-La Plata County	DRO	03/21	Yes	Yes	Yes	No	No
Eagle	Eagle County Regional	EGE	07/25	Yes	Yes	N/P	Yes	No
Grand Junction	Grand Junction Regional	GJT	11/29	Yes	No	Yes	Yes	Yes
Gunnison	Gunnison-Crested Butte Regional	GUC	06/24	No	No	Yes	Yes	No
Hayden	Yampa Valley	HDN	10/28	Yes	Yes	Yes	Yes	No
Fort Collins/ Loveland	Northern Colorado Regional	FNL	15/33	Yes	Yes	Yes	Yes	No
Montrose	Montrose Regional	MTJ	17/35	Yes	Yes	Yes	Yes	No
Pueblo	Pueblo Memorial	PUB	08R/26L	No	No	Yes	Yes	No
Telluride	Telluride Regional	TEX	09/27	Yes	Yes	Yes	Yes	No
<i>General Aviation</i>								
Akron	Colorado Plains Regional	AKO	11/29	Yes	Yes	Yes	Yes	Yes
Blanca	Blanca	05V	03/21	N/P	N/P	N/P	N/P	N/P

Associated City	Airport Name	FAA ID	Primary Runway	Adopted		Adopted Part 77	Active Development Partnerships	Landside Business Parks
				Land Use Controls	Height Controls			
Boulder	Boulder Municipal	BDU	08/26	Yes	Yes	N/P	No	No
Brush	Brush Municipal	7V5	07/25	N/P	N/P	N/P	No	No
Buena Vista	Central Colorado Regional	AEJ	15/33	Yes	Yes	Yes	Yes	Yes
Burlington	Kit Carson County	ITR	15/33	No	No	No	No	No
Canon City	Fremont County	1V6	11/29	Yes	Yes	Yes	No	Yes
Center	Leach	1V8	12/30	No	No	No	No	No
Colorado Springs	Meadow Lake	FLY	15/33	Yes	Yes	No	No	Yes
Craig	Craig-Moffat	CAG	07/25	No	No	Yes	Yes	No
Creede	Mineral County Memorial	C24	07/25	Yes	Yes	Yes	No	Yes
Del Norte	Astronaut Kent Rominger	RCV	06/24	Yes	Yes	Yes	Yes	No
Delta	Blake Field	AJZ	03/21	No	No	Yes	Yes	No
Denver	Centennial	APA	17L/35R	Yes	Yes	Yes	Yes	Yes
Denver	Rocky Mountain Metropolitan	BJC	12L/30R	Yes	Yes	Yes	Yes	Yes
Denver	Colorado Air and Space Port	CFO	08/26	Yes	Yes	Yes	Yes	No
Eads	Eads Municipal	9V7	17/35	No	No	No	No	No
Erie	Erie Municipal	EIK	15/33	Yes	Yes	Yes	Yes	Yes
Fort Morgan	Fort Morgan Municipal	FMM	14/32	Yes	Yes	No	N/P	No
Glenwood Springs	Glenwood Springs Municipal	GWS	14/32	No	No	No	No	No
Granby	Granby-Grand County	GNB	09/27	Yes	Yes	Yes	No	No

Associated City	Airport Name	FAA ID	Primary Runway	Adopted		Adopted Part 77	Active Development Partnerships	Landside Business Parks
				Land Use Controls	Height Controls			
Greeley	Greeley-Weld County	GXY	17/35	Yes	Yes	Yes	Yes	No
Haxtun	Haxtun Municipal	17V	08/26	Yes	No	No	No	No
Holly	Holly	K08	17/35	No	No	No	No	No
Holyoke	Holyoke	HEQ	14/32	Yes	Yes	Yes	No	No
Julesburg	Julesburg Municipal	7V8	13/31	No	No	No	No	No
Kremmling	Mc Elroy Airfield	20V	09/27	Yes	Yes	Yes	Yes	No
La Junta	La Junta Municipal	LHX	08/26	Yes	Yes	Yes	Yes	Yes
La Veta	Cuchara Valley	07V	06/24	N/P	N/P	N/P	No	No
Lamar	Lamar Municipal	LAA	18/36	Yes	Yes	Yes	Yes	No
Las Animas	Las Animas-Bent County	7V9	08/26	No	No	No	No	No
Leadville	Lake County	LXV	16/34	Yes	Yes	Yes	Yes	No
Limon	Limon Municipal	LIC	16/34	Yes	Yes	Yes	Yes	No
Longmont	Vance Brand	LMO	11/29	Yes	Yes	Yes	Yes	No
Meeker	Meeker/Coulter Field	EEO	03/21	No	No	Yes	No	No
Monte Vista	Monte Vista Municipal	MVI	02/20	No	No	No	Yes	No
Nucla	Hopkins Field	AIB	05/23	No	No	No	Yes	No
Pagosa Springs	Stevens Field	PSO	01/19	Yes	Yes	Yes	No	No
Paonia	North Fork Valley	7V2	05/23	N/P	N/P	N/P	N/P	N/P
Rangely	Rangely	4V0	07/25	No	Yes	Yes	No	No
Rifle	Rifle Garfield County	RIL	08/26	Yes	Yes	Yes	No	No
Saguache	Saguache Municipal	04V	11/29	No	No	No	No	No
Salida	Harriet Alexander Field	ANK	06/24	Yes	No	Yes	Yes	No
Springfield	Springfield Municipal	8V7	17/35	No	No	No	No	No
Steamboat Springs	Steamboat Springs	SBS	14/32	N/P	N/P	Yes	Yes	Yes

Associated City	Airport Name	FAA ID	Primary Runway	Adopted		Adopted Part 77	Active Development Partnerships	Landside Business Parks
				Land Use Controls	Height Controls			
Sterling	Sterling Municipal	STK	15/33	Yes	Yes	Yes	Yes	No
Trinidad	Perry Stokes	TAD	03/21	Yes	Yes	Yes	No	No
Walden	Walden-Jackson County	33V	04/22	Yes	Yes	No	No	No
Walsenburg	Spanish Peaks Airfield	4V1	09/27	Yes	Yes	Yes	No	No
Westcliffe	Silver West	C08	13/31	Yes	Yes	Yes	No	Yes
Wray	Wray Municipal	2V5	17/35	No	No	No	Yes	Yes
Yuma	Yuma Municipal	2V6	16/34	Yes	N/P	Yes	No	No

Sources: 2018 Inventory & Data Form; FAA 5010 Master Record, 2019

2.11. Summary

This chapter includes a focused, in-depth view of CASP airport facilities (airside and landside), services, and other assets such as ground transportation options, safety, airport planning, and land use compatibility. This data is essential to the subsequent evaluation of the system's adequacy and resultant facility needs. Results from this chapter are used as the baseline for analysis in subsequent chapters.