

MEETING #2

# Project Advisory Committee (PAC)

April 11, 2019



Colorado Aviation System Plan  
and Economic Impact Study

# Introductions

- CDOT Aeronautics
- Kimley-Horn Team
- EDR Group
- KRAMER aerotek
- PAC Members



# Agenda

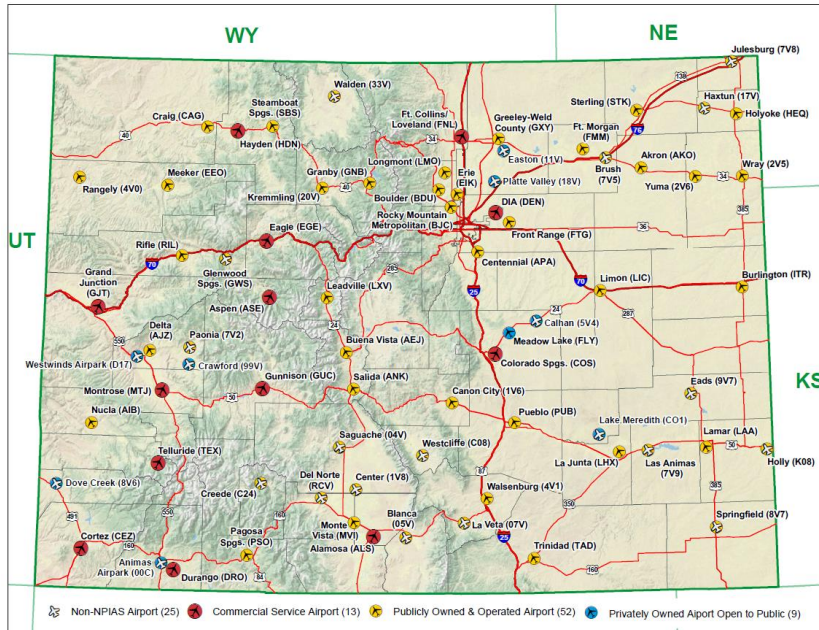
- Project Overview & Role of PAC
- PAC Meeting #1 Recap
- Inventory of System Condition
- Airport Roles and Classifications
- Facility & Service Objectives
- CASP Activity Forecasts
- Economic Impact Update
- Next Steps



# Project Overview & Role of PAC



# Colorado Aviation System Plan



Provides a framework for the **integrated planning, operation, and development** of Colorado's aviation assets

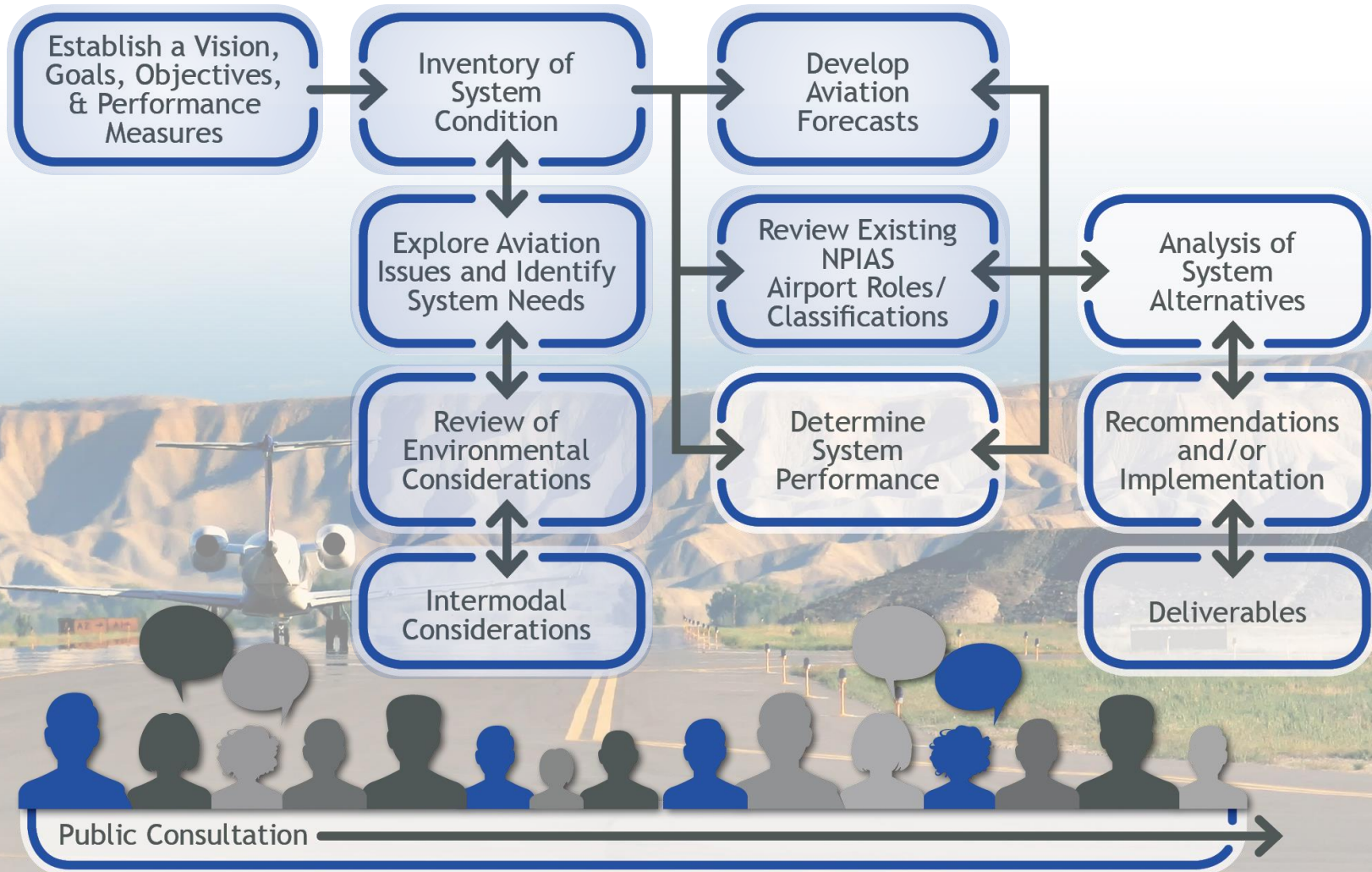


# Colorado Aviation Economic Impact Study

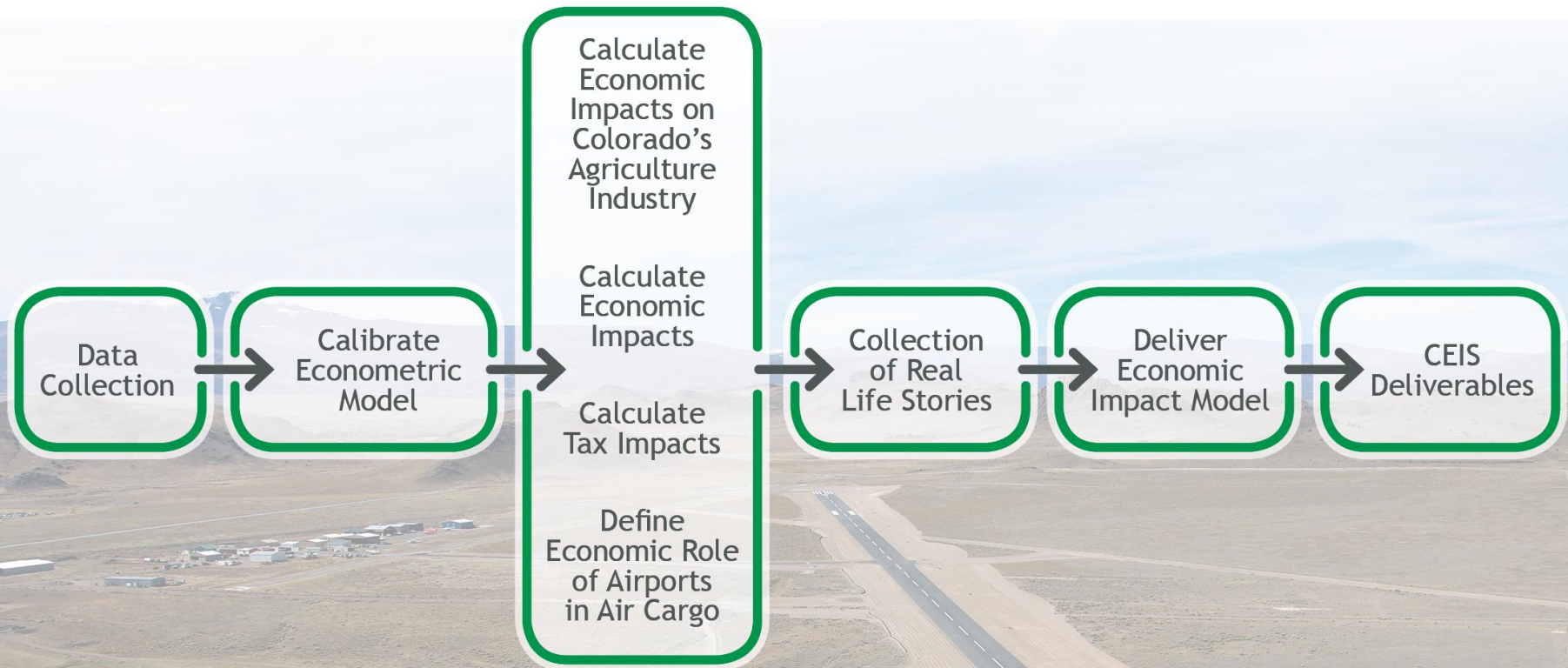


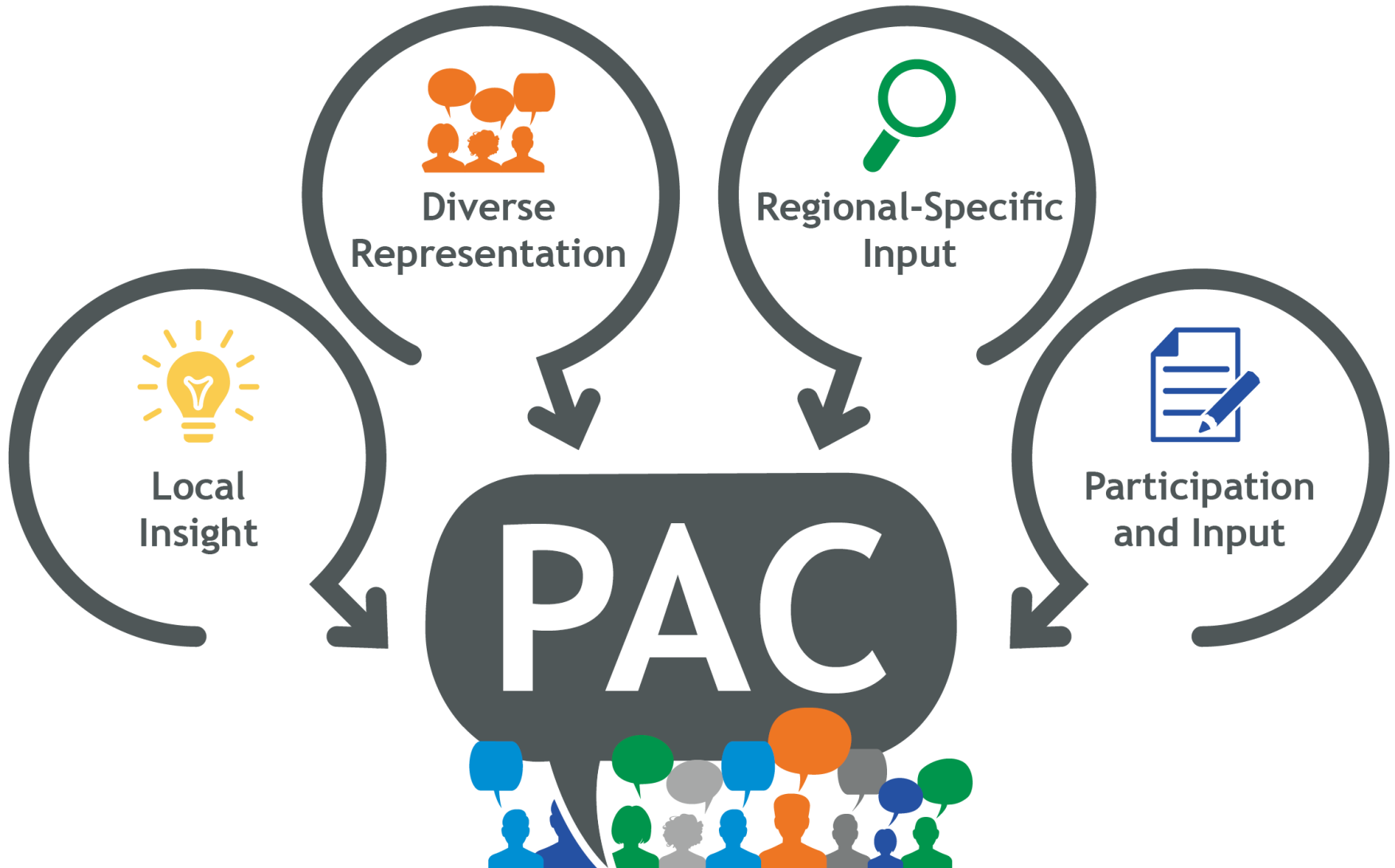
Conveys the **economic importance** of airports and how airports generate benefits for Colorado citizens

# CASP Process



# CEIS Process


















**PAC Meeting #1 Recap**  
*October 30, 2018*








# System Evaluation








# PAC Activity Results: System Measures

GOAL	OBJECTIVE	PERFORMANCE	AND SYSTEM INDICATORS	RELEVANCY
<p><b>Safety and Efficiency</b></p> <p>Advance Colorado's airport system by promoting and preserving <b>safe and efficient</b> facilities, on and off airports</p>	<p>Enhance airports abilities to operate safely and improve operational efficiency</p>	<p><i>Performance Measures</i></p>	<p>Adequate Rwy Length</p> <p>Percent of airports without close in obstructions</p> 	<p>Promotes the safety of pilots, passengers, and public in and around the airport environs</p>
			<p>Percent of airports with the level of activities to warrant an Air Traffic Control Tower (ATCT)</p> 	
			<p>Percent of airports with adequate crosswind coverage</p> 	
		<p><i>System Indicators</i></p>	<p>Percent of airports that have adopted appropriate land use controls</p> 	<p>Promotes the safety of pilots, passengers, and public in and around the airport environs</p>
			<p>Percent of airports that meet FAA design standards</p> 	
			<p>Percent of airports that have a formalized program for receiving, managing, and responding to on/near airport UAS use requests</p> 	
			<p>Percent of airports with a Wildlife Hazard Assessment (WHA) that have full perimeter wildlife fencing</p> 	
			<p>Percent of communities with emergency responders that have basic training in Aircraft Rescue and Fire Fighting (ARFF)</p> 	
		<p>Percent of airports that support aerial firefighting</p> 	<p>Supports critical rapid-response aerial firefighting activities across the state</p>	

GOAL	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
<p><b>Safety and Efficiency</b></p> <p>Advance Colorado's airport system by promoting and preserving safe and efficient facilities, on and off airports</p>	<i>Performance Measures</i>	Percent of airports with approaches negatively impacted by obstructions	Promotes the safety of pilots, passengers, and public in and around the airport environs
		Percent of airports that have full perimeter wildlife fencing	
		Percent of airports that have adopted appropriate land use controls	
		Percent of NPIAS airports that meet current FAA design standards under AC 150/5300-13A	
	<i>System Indicators</i>	Percent of airports with adequate crosswind coverage	Promotes the safety of pilots, passengers, and public in and around the airport environs
		Percent of airports that meet runway length requirements for existing critical aircraft	
		Percent of airports that have a formalized program for receiving, managing, and responding to on-/near-airport Unmanned Aircraft Systems (UAS) use requests	
		Percent of airports with the level of activities to warrant an Air Traffic Control Tower (ATCT)	Provides critical ground-based services to people and aircraft in emergency situations
		Percent of communities with emergency responders that have basic training in Aircraft Rescue and Fire Fighting (ARFF)	
		Percent of airports that support aerial firefighting	Supports critical rapid-response aerial firefighting activities across the state
Percent of airports that support medical emergency/evacuation aircraft			







GOAL	OBJECTIVE	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
<p><b>Access and Mobility</b></p> <p>Provide Colorado's airports with infrastructure and sufficient capacity to <b>access</b> the versatile aviation activities and facilities in the state and provide adequate <b>mobility</b> for users</p>	<p>Support projects that improve access and mobility to serve the state's residents, visitors, and businesses</p>	<p><i>Performance Measures</i></p>	<p>Percent of population within a 30-minute drive time of a system airport</p>	<p>Supports access to airports deemed significant by CDOT Aeronautics</p>
			<p>Percent of population within a 30-minute drive time of an all-weather runway</p> <p></p>	<p>Provides airport accessibility during inclement weather conditions, especially for emergency response/transport</p>
			<p>Percent of airports with adequate terminal capacity</p> <p></p>	<p>Supports airport user throughput, both airside and landside</p>
			<p>Percent of airports with adequate shared hangar spaces</p>	<p>Supports transient aircraft overnight parking</p>
		<p><i>System Indicators</i></p>	<p>Percent of airports that provide ground transportation (courtesy car or other)</p> <p></p>	<p>Provides transportation services to transient airport users</p>
			<p>Percent of airports with a dedicated snow removal equipment (SRE) building</p> <p></p>	<p>Extends the life of airport assets that are critical to an operational airport</p>
			<p>Percent of airports providing access to remote communities</p> <p></p>	<p>Provides a gateway to remote communities, especially in emergency situations</p>

GOAL	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
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		<p>Percent of population within a 30-minute drive time of a system airport</p>	<p>Supports access to airports deemed significant by the Division</p>
		<p>Percent of airports providing access to remote &amp; rural communities</p>	<p>Provides a gateway to remote communities, especially in emergency situations</p>

GOAL	OBJECTIVE	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
<p><b>Economic Sustainability</b></p> <p>Support sustainable economic growth and development and continue Colorado's existing status as a leader in technology, testing, and the aerospace industry</p>	<p>Evaluate opportunities for airports to generate economic activity that contributes to a more sustainable system and community</p>	<p><i>Performance Measures</i></p>	<p>Percent of airports with appropriate fuel type, available 24/7 </p>	<p>Indicates demand and revenue generation at an airport</p>
			<p>Percent of airports that are recognized in local and/or regional comprehensive plans </p>	<p>Protects the airport from encroachment and indicates a relationship with the community</p>
			<p>Percent of airports that support jet aircraft</p>	<p>Supports airport activity most often used by business/corporate users</p>
		<p><i>System Indicators</i></p>	<p>Percent of airports with active development partnerships with chambers of commerce, tourism bureaus, organizations, industries, governments, and recreational user groups </p>	<p>Demonstrates the airport is advancing business opportunities, and developing partnerships</p>
			<p>Percent of airports with business parks or landside real estate development </p>	
			<p>Percent of airports that support the aerospace manufacturing, technology, and/or testing industry </p>	
			<p>Percent of airports accommodating Instrument Flight Rules (IFR) operations beyond 250 miles</p>	<p>Demonstrates the level of non-local visitors to an area</p>
			<p>Percent of airports that support aerial agricultural application</p>	<p>Supports the agriculture industry</p>
			<p>Percent of airports with adequate utilities</p>	<p>Facilitates aviation- and non-aviation development at an airport</p>



GOAL	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
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		Percent of airports that support the aerospace manufacturing, technology, and/or testing industry	
		Percent of airports with adequate utilities	Facilitates aviation and non-aviation development at an airport
	<i>System Indicators</i>	Percent of airports with active development partnerships with chambers of commerce, tourism bureaus, organizations, industries, governments, and recreational user groups	Demonstrates the airport is advancing business opportunities and developing partnerships
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		Percent of airports that support aerial agricultural application	Supports the agriculture industry

GOAL	OBJECTIVE	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
<p><b>System Sustainability</b></p> <p>Preserve airport <b>system</b> assets to promote fiscal responsibility and <b>sustainable</b>, cost-effective investments</p>	<p>Consider the sustainability of systemwide assets in the determination of new projects that support the state's aviation needs</p>	<i>Performance Measures</i>	<p>Percent of airports with the capacity and facilities to support flight training </p>	<p>Supports safe locations and facilities for flight training</p>
			<p>Percent of airports with on-site weather reporting (AWOS or ASOS) </p>	<p>Provides weather reporting information to pilots in a state that experiences dynamic weather conditions</p>
			<p>Percent of airports with an average runway and taxiway PCI of 70 or greater </p>	<p>Demonstrates responsible use of funds by devoting resources to extend the life of airport pavements</p>
		<i>System Indicators</i>	<p>Percent of airports that host aviation educational programs </p>	<p>Promotes aviation in the state and the development of the next generation of aviation and aerospace professionals</p>
			<p>Percent of airports with a sustainability plan </p>	<p>Provides guidance on sustainable actions to reduce environmental impacts, promote stable economic growth, and achieve social progress</p>
			<p>Number of Colorado pilots per capita</p>	<p>Indicates Colorado's relationship to the national commercial pilot shortage</p>
			<p>Percent of airports with pavement maintenance programs </p>	<p>Demonstrates responsible use of funds by devoting resources to extend the life of airport pavements</p>
			<p>Percent of airports that experience military operations</p>	<p>Affects airport safety design standards as well as airfield and airspace capacity</p>

GOAL	PERFORMANCE MEASURES AND SYSTEM INDICATORS		RELEVANCY
<p><b>System Sustainability</b></p> <p>Preserve airport system assets to promote fiscal responsibility and sustainable, cost-effective investments</p>	Performance Measures	Percent of airports with certified on-site weather reporting (AWOS or ASOS)	Provides weather reporting information to pilots in a state that experiences dynamic weather conditions
		Percent of airports with pavement maintenance programs	Demonstrates responsible use of funds by devoting resources to extend the life of airport pavements
		Percent of airports with an average runway and taxiway Pavement Condition Index (PCI) of 70 or greater	
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		Percent of airports with a sustainability plan	Provides guidance on sustainable actions to reduce environmental impacts, promote stable economic growth, and achieve social progress
		Number of Colorado pilots per capita	Indicates Colorado's relationship to the national commercial pilot shortage

# PAC Activity Results: Trends/Issues Level of Impact



- Cannabis industry
- ADS-B
- Remote Towers
- Autonomous air mobility
- Population/  
economic disparity
- Aging terminal buildings
- Land use compatibility
- Technology

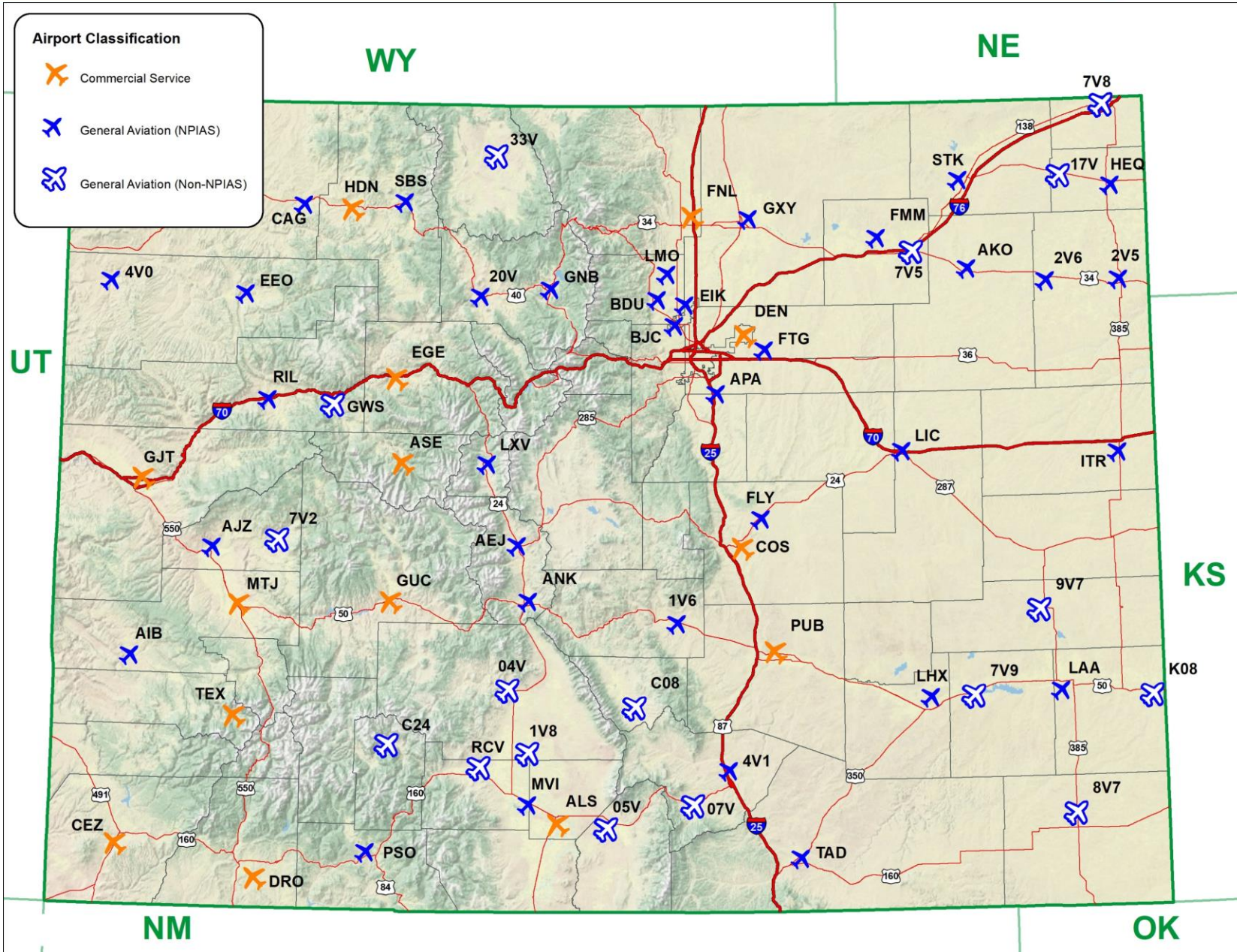


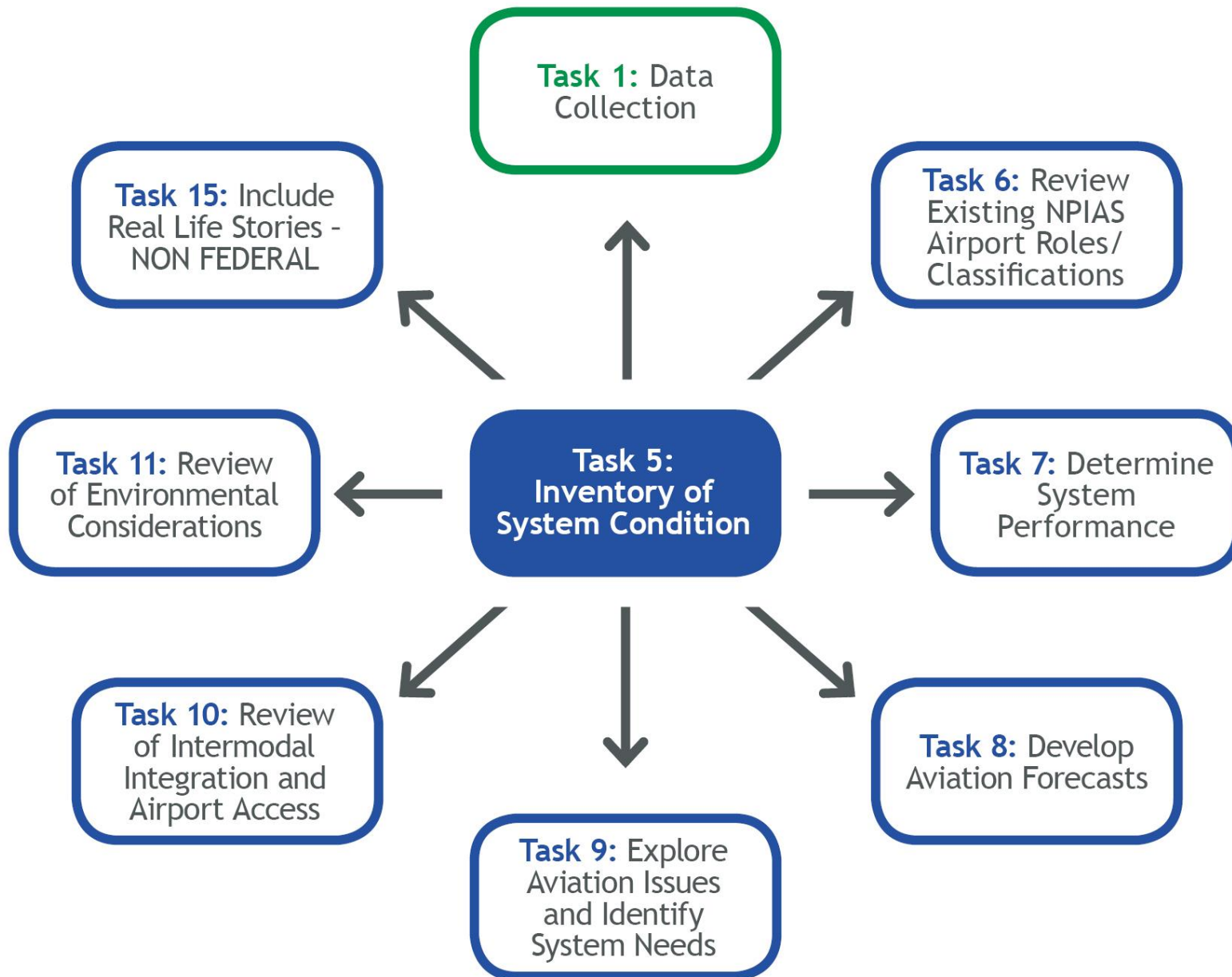
# Inventory of System Condition

# CASP Airports

**Airport Classification**

-  Commercial Service
-  General Aviation (NPIAS)
-  General Aviation (Non-NPIAS)





# How is the Data Collected?

- Surveys and site visits
  - Airport manager
  - Tenants
  - Businesses w/ based aircraft
  - Businesses reliance
  - Commercial Passenger
  - Transient GA
  - FBO
- Stakeholder Interviews
- Emergency service provider meeting
- Multi-modal and statewide/regional planning agency meetings

Airside Facilities:

Runway/Taxiway	Primary Rwy	Tertiary Rwy	Secondary Rwy	Other Rwy
Orientation (RWY #s) eg. 17/35	17L/35R	17R/35L	10/28	
Length and Width eg. 5000x100	10,001 x 100	7,001 x 75	4,800 x 75	
Surface Type – Condition (type-good)	ASPH - Good	ASPH - Good	ASPH - Good	
Runway Strength – (ex. Single Wheel)	SW 56.0 / DW 75.0	SW 30.0	SW 12.5	
Runway Lighting Type <sup>1</sup>	MIRL	MIRL	MIRL	
Displaced Thresholds (distance & runway end)			400/	
Taxiway Type <sup>2</sup>	TWY A Full	TWY B Full	Taxilane C Full	
Taxiway Width	50 ft	40 ft	35 ft	
Taxiway Pavement Condition Index	100	82	80	
Taxiway Lighting Type <sup>3</sup>	MIRL	MIRL	MIRL	
What is your airport's current FAA designated Airport Reference Code (ARC)?	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input checked="" type="checkbox"/> E <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input checked="" type="checkbox"/> IV <input type="checkbox"/> V <input type="checkbox"/> VI <input type="checkbox"/>			
Do you have sufficient historical wind data or a current wind rose for your runways?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
Does your airport have a pavement maintenance program/plan?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		If yes, has the program been followed? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> If no, please explain why:	
<b>Visual/Electronic Navigational Aids</b> Please use a "Y" if applicable on the corresponding runway end. If not applicable, write "N/A."				
VGSI (which end(s)) <sup>4</sup> eg. Y/N	Y/Y	Y/Y	Y/Y	
REIL (which end(s)) <sup>5</sup> eg. Y/N	NN	N/Y	Y/Y	
Approach Lights (which end(s)) <sup>6</sup> eg. Y/N	N/Y	NN	NN	
Air Traffic Control Tower	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
On-Site WX Reporting (ASOS/AWOS)	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
Do your ASOS/AWOS report to the National Weather Service?	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
Does your airport report to the National Airspace Data Interchange Network (NADIN)?	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
Rotating Beacon	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
Wind Cone	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	
Lighted Wind Cone	YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/>	

Notes: <sup>1</sup> MIRL, MIRL, LIRL, or reflectors for runways, please note if lighting is non-standard; <sup>2</sup> Full parallel, partial parallel, turnaround, or connectors; <sup>3</sup> HITL, MITL, LITL, or reflectors for taxiways, please note if lighting is non-standard; <sup>4</sup> P=PAPI, V=VASI; <sup>5</sup> Yes, No; <sup>6</sup> MALSR, ODALS, etc.



# Components of Inventory

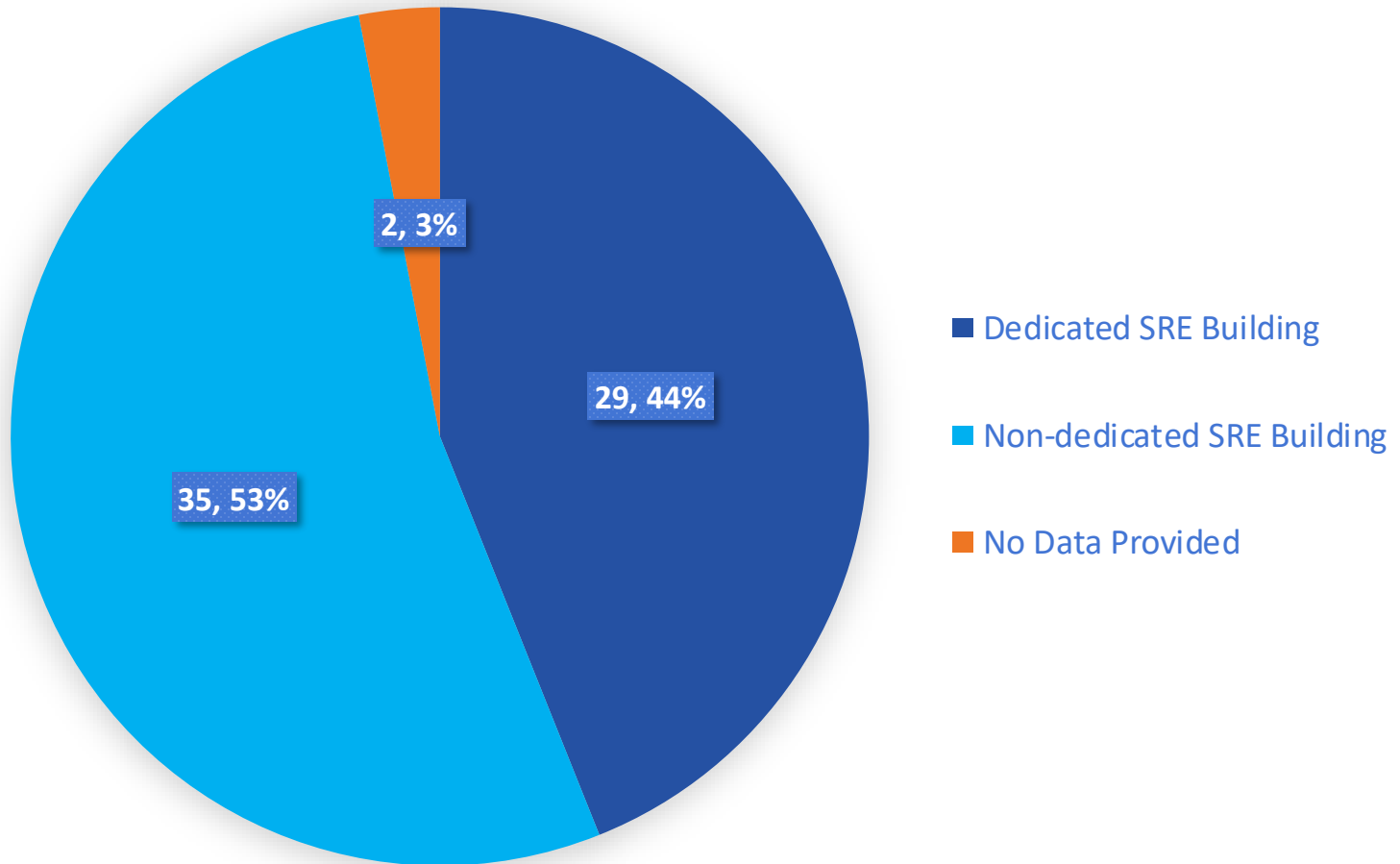
- Airside facilities
- Landside facilities
- Aviation services
- Airport activity
- Mobility and access
- Airport safety
- Airport planning
- Environment/land use compatibility
- Economic impact



# Facility and Services Inventory

- Examples include:
  - Terminal buildings
  - Runways
  - Fuel
  - Aircraft charter
  - SRE buildings
  - Taxiways
  - ARFF
  - Utilities
  - And many more

# Inventory Findings - Snow Removal Equipment (SRE) Buildings

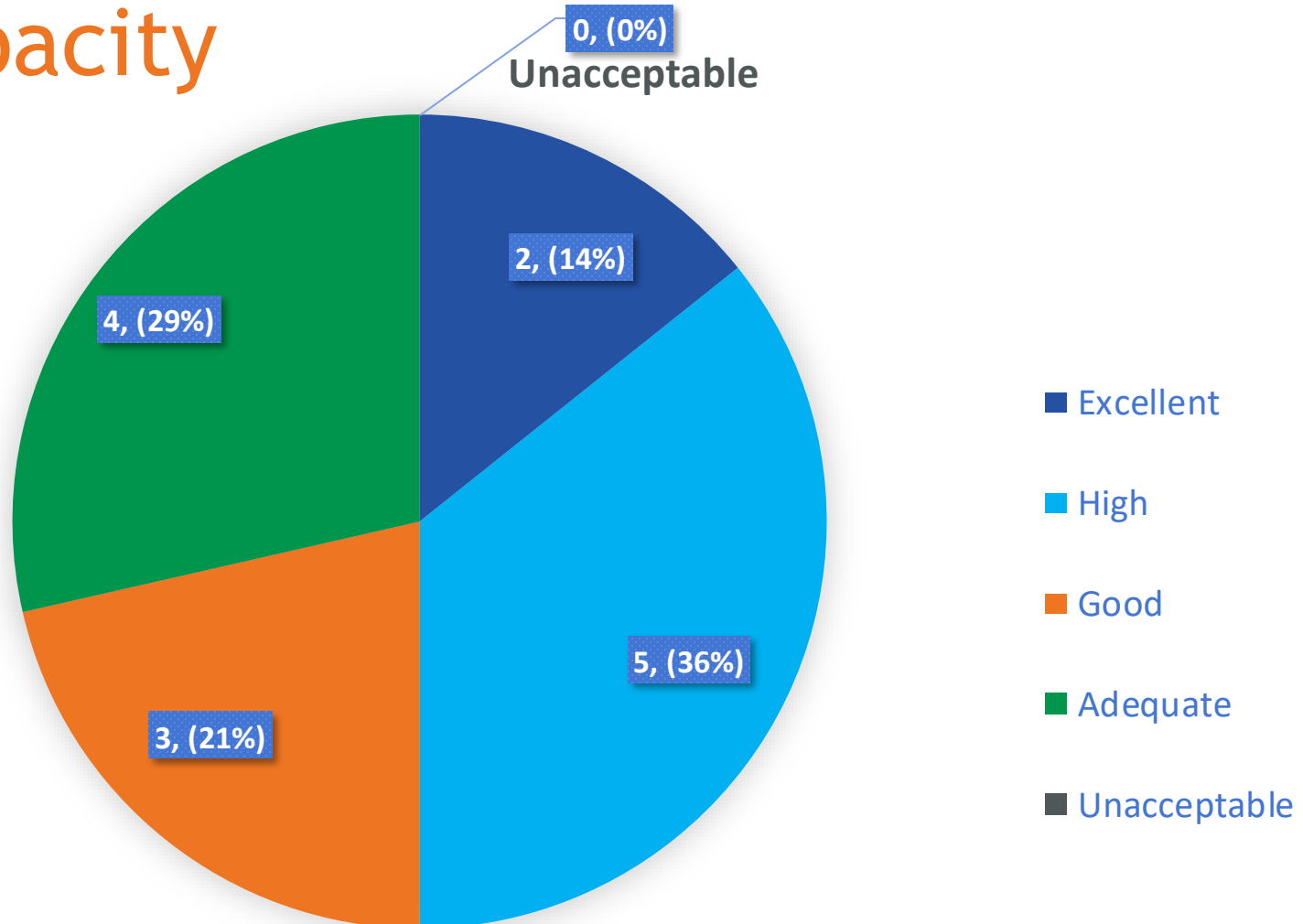


Source: 2018 Airport Inventory Form

# Terminal Capacity at Commercial Service Airports

- **Excellent** – Condition is free flow; no delays; excellent level of comfort
- **High** – Condition of stable flow; very few delays; high level of comfort
- **Good** – Condition of stable flow; acceptable brief delays; good level of comfort
- **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 comfort

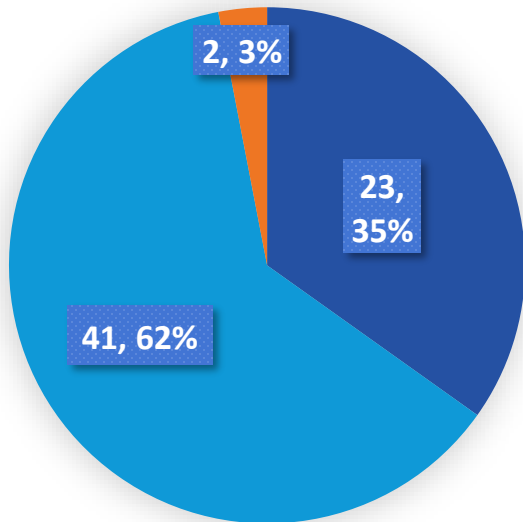
# Inventory Findings - CS Terminal Capacity



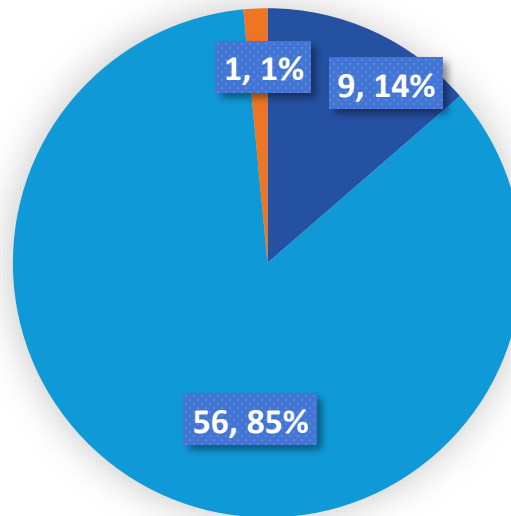
Source: 2018 Airport Inventory Form

\*Only includes the 14 Commercial Service Airports

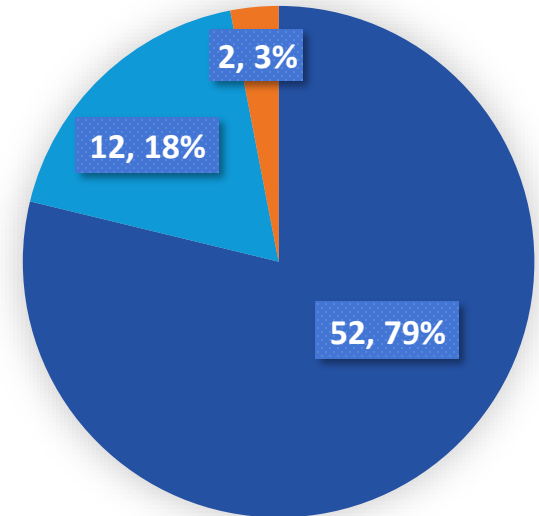
# Inventory Findings - Aerospace Manufacturing, Flight Testing, and Aerospace Technology Research



- Flight Testing
- No Flight Testing
- No Data Provided

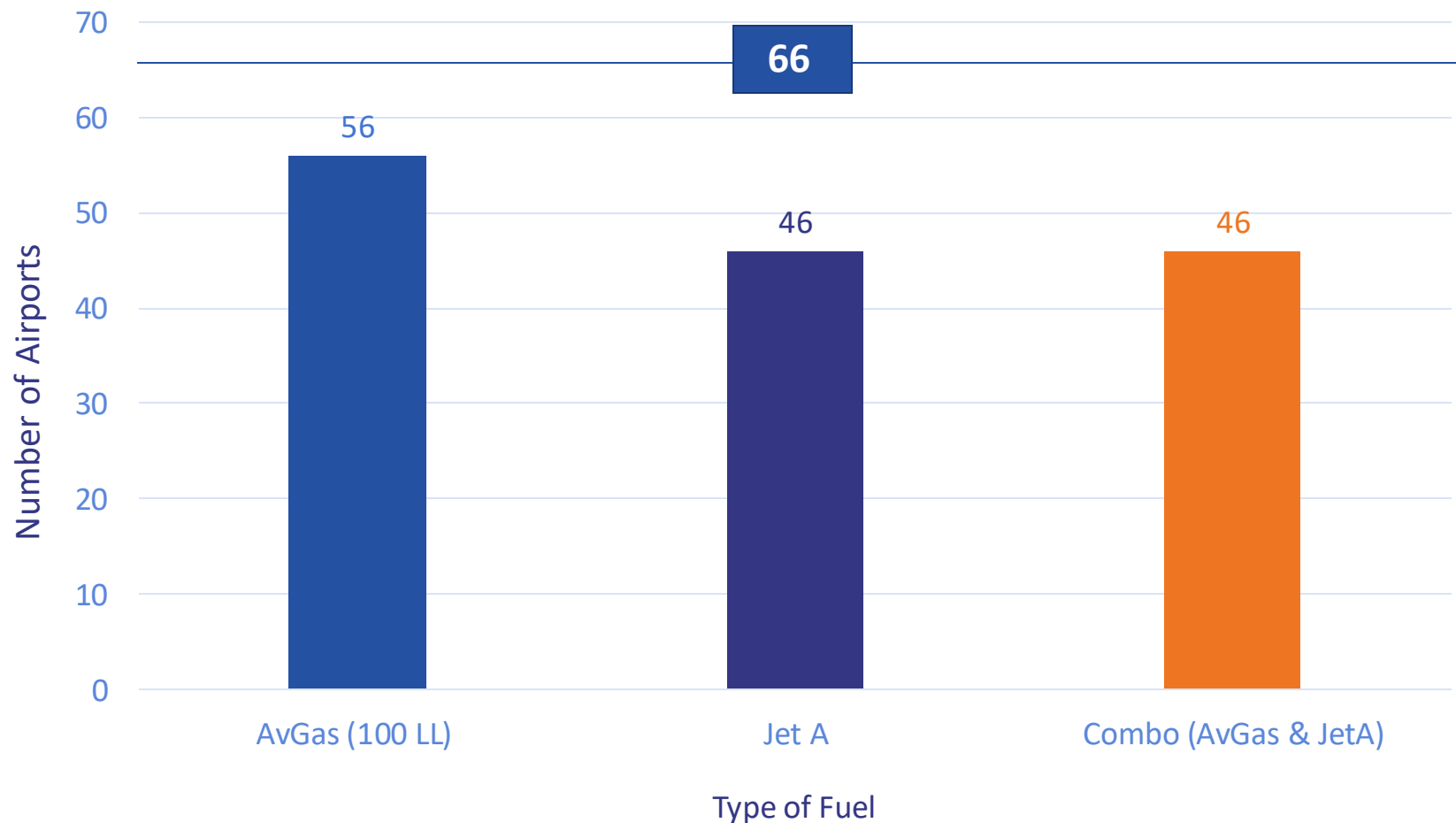


- Aerospace Manufacturing
- No Aerospace Manufacturing
- No Data Provided



- Aerospace Technology Research
- No Aerospace Technology Research
- No Data Provided

# Inventory Findings - Fuel Availability



Source: 2018 Airport Inventory Form



THANK YOU!





# Airport Roles and Classifications

# Purpose of Roles/Classifications

- Classify functions and activities at airports
- Coordinate planning of facilities
- Identify facility needs based on activities supported
- Potential funding-related issues:
  - Develop different programs by classification
  - Define project priorities and eligibility
  - Measure system performance compared to investment



***To understand how airports contribute to community and state***

### 2011 Airport Roles

-  Major
-  Intermediate
-  Minor

WY

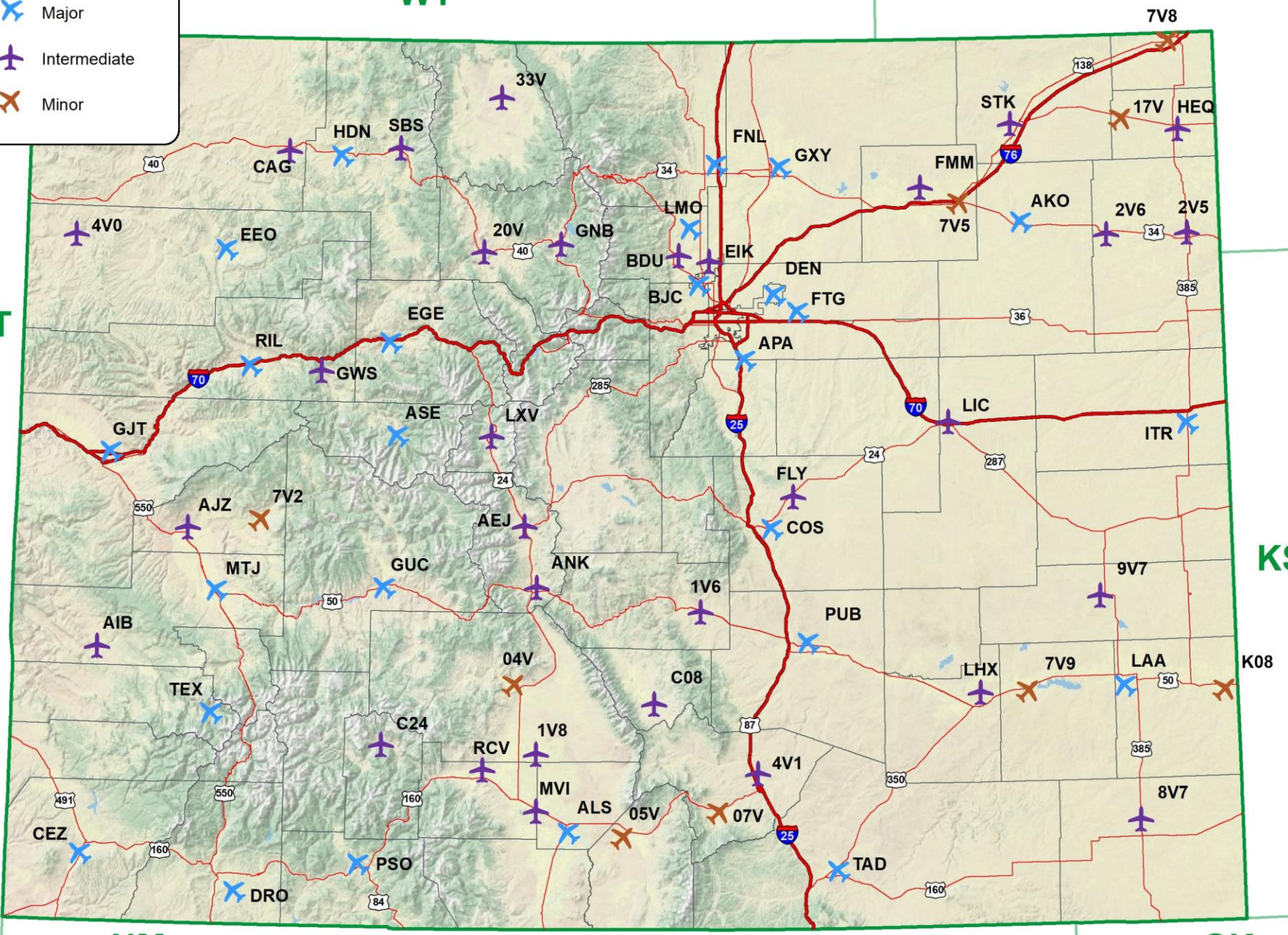
NE

UT

KS

NM

OK



7V8

17V HEQ

STK

FMM

7V5

AKO

2V6

2V5

FNL

GXY

LMO

BDU

EIK

DEN

FTG

APA

LIC

ITR

CAG

HDN

SBS

33V

20V

GNB

4V0

EEO

RIL

EGE

GWS

ASE

LXV

GJT

AJZ

7V2

MTJ

GUC

ANK

FLY

COS

AIB

TEX

04V

C08

PUB

1V6

9V7

7V9

LAA

K08

C24

RCV

1V8

MVI

ALS

05V

87

4V1

07V

TAD

8V7

491

550

160

84

PSO

DRO

350

160

385

50

LHX

7V9

LAA

K08

PUB

1V6

9V7

7V9

LAA

K08

C24

RCV

1V8

MVI

ALS

05V

87

4V1

07V

TAD

8V7

491

550

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PSO

DRO

350

160

385

50

LHX

7V9

LAA

K08

PUB

1V6

9V7

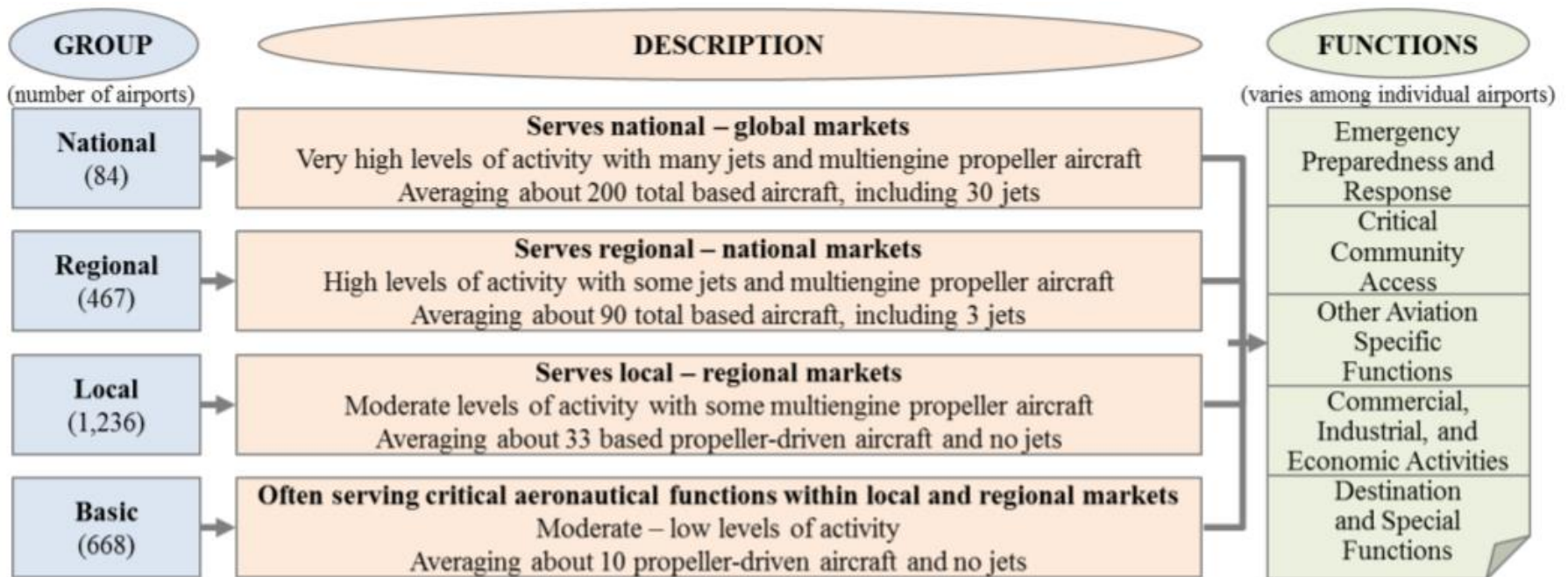
7V9

LAA

K08

# ASSET Classification Terminology

## FAA ASSET: GA Airport Categories



Source: FAA's General Aviation Airports: A National Asset (May 2012)

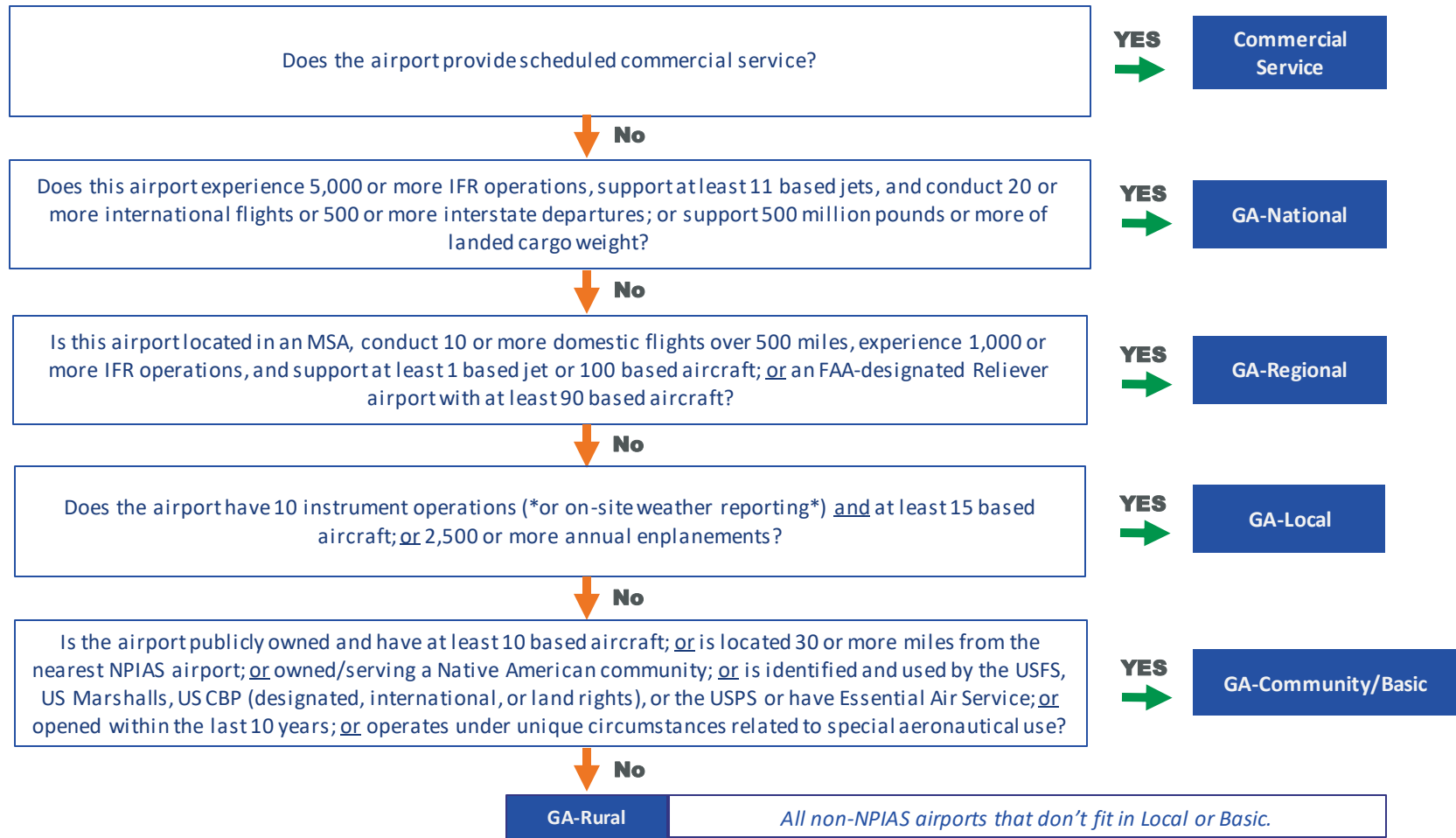
# ASSET Categories & Criteria

National	Regional	Local	Basic
Supports the national and state system by providing communities with access to national and international markets in multiple states and throughout the United States.	Supports regional economies by connecting communities to statewide and interstate markets.	Supplements communities by providing access to primarily intrastate and some interstate markets.	Links the community with national airport system and supports general aviation activities (e.g., emergency services, charter or critical passenger service, cargo operations, flight training, and personal flying).
<p>Airports in this category have:</p> <ul style="list-style-type: none"> <li>• 5,000 or more Annual Instrument operations,</li> <li>• <u>And</u> 11 or more Based Jets,</li> <li>• <u>And</u> Annual International Flights of 20+ or Interstate Departures of 500+;</li> <li>• OR at least 10,000 annual enplanements and charter passengers service of large certificated air carriers;</li> <li>• OR 500 million pounds of Cargo Landed Weight.</li> </ul>	<p>Airports in this category have:</p> <ul style="list-style-type: none"> <li>• MSA (Metro or Micro),</li> <li>• <u>And</u> 10 Annual domestic flights over 500 miles,</li> <li>• <u>And</u> 1,000 Annual Instrument Operations,</li> <li>• <u>And</u> 1 based jet or 100 or more based aircraft;</li> <li>• OR are Nonprimary CS within MSA – usually not scheduled service but aircraft for hire.</li> </ul>	<p>Airports in this category have:</p> <ul style="list-style-type: none"> <li>• 10 or more Annual Instrument operations,</li> <li>• <u>And</u> 15 or more based aircraft;</li> <li>• OR Annual passenger boardings of 2,500 or more – usually not scheduled service but charter.</li> </ul>	<p>Airports in this category have:</p> <ul style="list-style-type: none"> <li>• 10 or more based aircraft (airports);</li> <li>• OR 4 based helicopters (heliports);</li> <li>• OR 30 or more miles from the nearest NPIAS airport;</li> <li>• OR Critical Community Service Provided by a Federal Service such as: Forest Service, Marshals, Postal Service (Air Stop), Customs/Border Protection, U.S. DOT Essential Air Service</li> <li>• OR is a new airport or replacement facility activated after January 1, 2001.</li> </ul>
<i>An airport must currently be eligible for Federal funding.</i>			
497 NPIAS airports were not categorized. As a group, they have different activity levels and characteristics and cannot be described in their own unique category.			

Source: ASSET 2: In-Depth Review of the 497 Unclassified Airports , March 2014)

# 2020 Airport Roles/Classifications

## START



DRAFT

# Non-NPIAS Classification Analysis

Airport Name	3-letter ID	Ownership	County	Based Aircraft	On-Site Weather Reporting	2020 Proposed Role
Blanca	05V	Public	Costilla	0	None	GA-Rural (S)
Brush Municipal	7V5	Public	Morgan	5	None	GA-Rural (S)
Leach	1V8	Public	Saguache	5	None	GA-Rural (S)
Mineral County Memorial	C24	Public	Mineral	10	None	GA-Community/Basic (S)
Astronaut Kent Rominger	RCV	Public	Rio Grande	39	AWOS	GA-Local (S)
Eads Municipal	9V7	Public	Kiowa	9	None	GA-Rural (S)
Glenwood Springs Municipal	GWS	Public	Garfield	69	SuperUnicom	GA-Local (S)
Haxtun Municipal	17V	Public	Phillips	1	None	GA-Rural (S)
Holly Airport	K08	Public	Prowers	1	None	GA-Rural (S)
Julesburg Municipal	7V8	Public	Sedgwick	5	None	GA-Rural (S)
Cuchara Valley at La Veta	07V	Public	Huerfano	2	None	GA-Rural (S)
City of Las Animas - Bent County	7V9	Public	Bent	11	None	GA-Community/Basic (S)
North Fork Valley	7V2	Public	Delta	20	None	GA-Community/Basic (S)
Saguache Municipal	04V	Public	Saguache	0	AWOS	GA-Rural (S)
Springfield Municipal	8V7	Public	Baca	10	SuperUnicom	GA-Community/Basic (S)
Walden-Jackson County	33V	Public	Jackson	3	AWOS	GA-Rural (S)
Silver West	C08	Public	Custer	24	None	GA-Community/Basic (S)

# Comparison of Methodologies

Role/Classification	Prior Methodology
Major	26
Intermediate	31
Minor	18
<b>Total</b>	<b>75*</b>

Source: Colorado Aviation System Plan, May 2012

Role/Classification	2020 Methodology
Commercial Service	14
GA-National	2
GA-Regional	5
GA-Local	18
GA-Community/Basic	17
GA-Rural	10
<b>Total</b>	<b>66*</b>

\*2020 CASP does not include the following privately owned airports: *Animas Airpark, Gebauer, Calhan, Crawford, Westwinds, Dove Creek, Easton-Valley View, Platte Valley, or Mack Mesa*

Note: *Lake Meredith SPB is not in the 2020 CASP or CEIS but it is part of the Colorado System of Airports*



2020 Airport Roles

- Commercial Service
- GA-Local
- GA-National
- GA-Community/Basic
- GA-Regional
- GA-Rural

WY

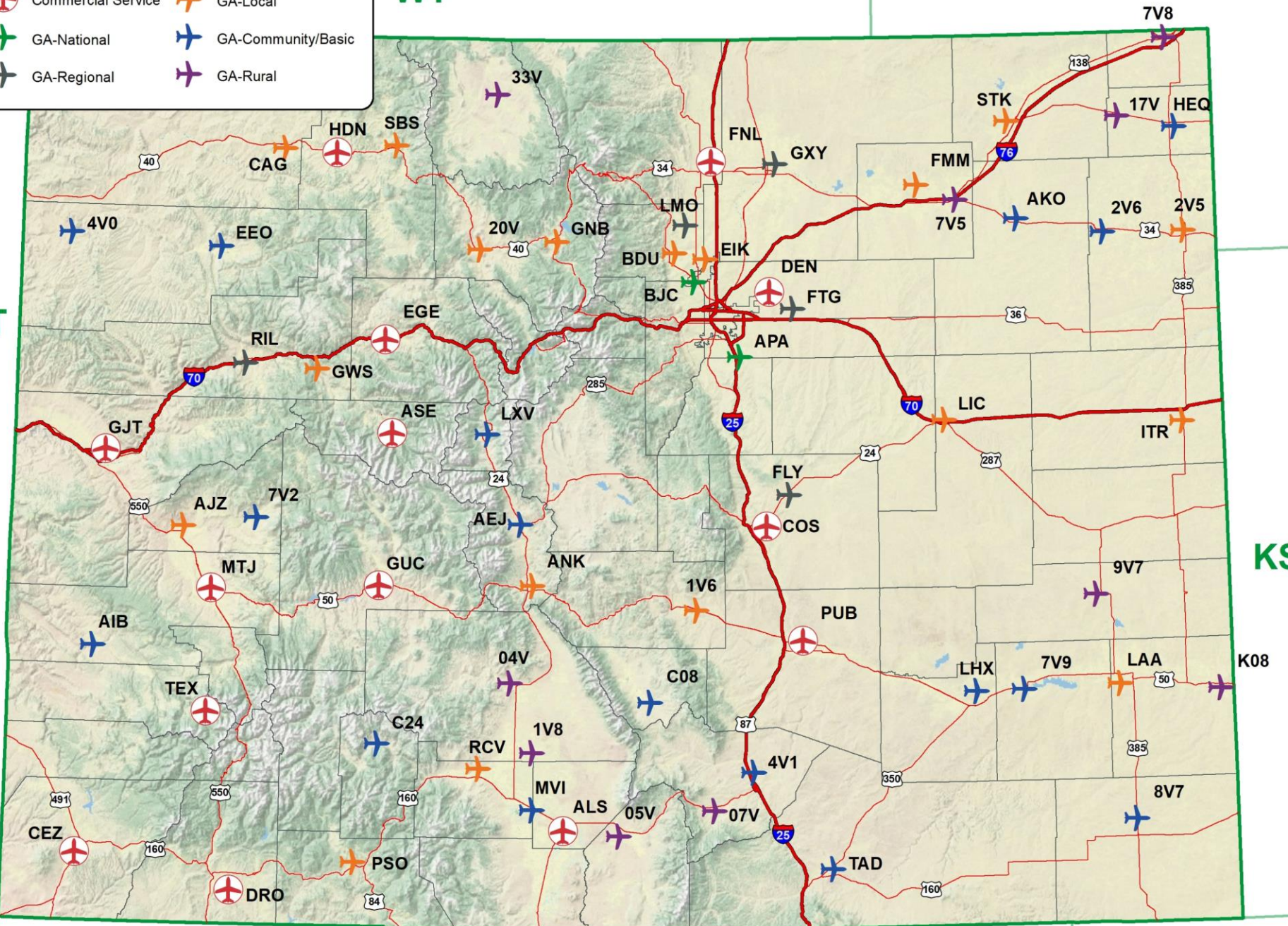
NE

UT

KS

NM

OK





# Group Review & Discussion



**Break**



# Facility & Service Objectives

# What are Facility & Service Objectives?

- Not standards or requirements
- Recommendations of provided services and facilities based on system role/classification
- Minimum levels of development



# Group Review & Discussion

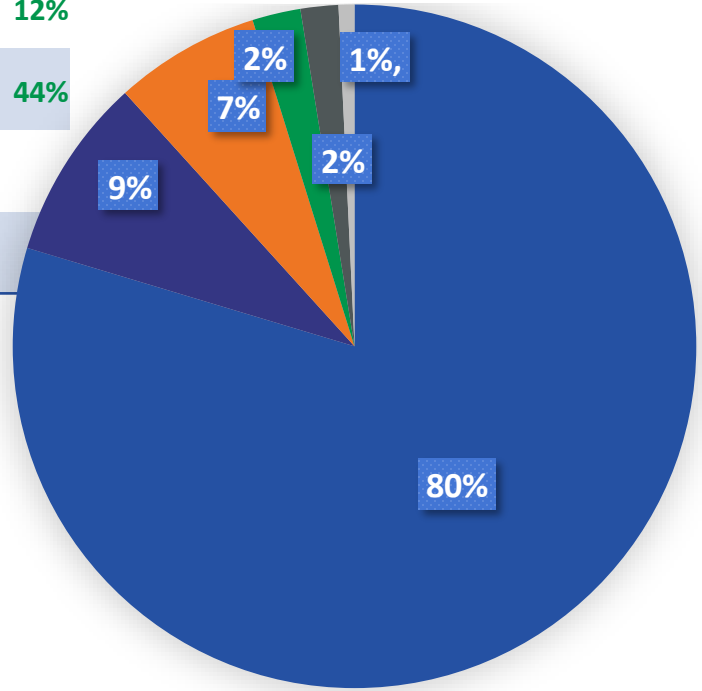


# CASP Activity Forecasts

# Inventory Findings - 2018 Based Aircraft

Aircraft by Type	2010	Percent of Total	2018	Percent of Total	Diff. (#)	Diff. (%)
Single-Engine	4,091	78%	4,148	80%	57	1%
Multi-Engine	577	11%	450	9%	-127	-28%
Jet/TP	262	5%	359	7%	97	27%
Helicopter	105	2%	119	2%	14	12%
Other	52	1%	93	2%	41	44%
Military	-	-	39	1%		
<b>Total</b>	<b>5,245</b>	<b>100%</b>	<b>5,198</b>	<b>100%</b>		

Source: 2018 Airport Inventory Form



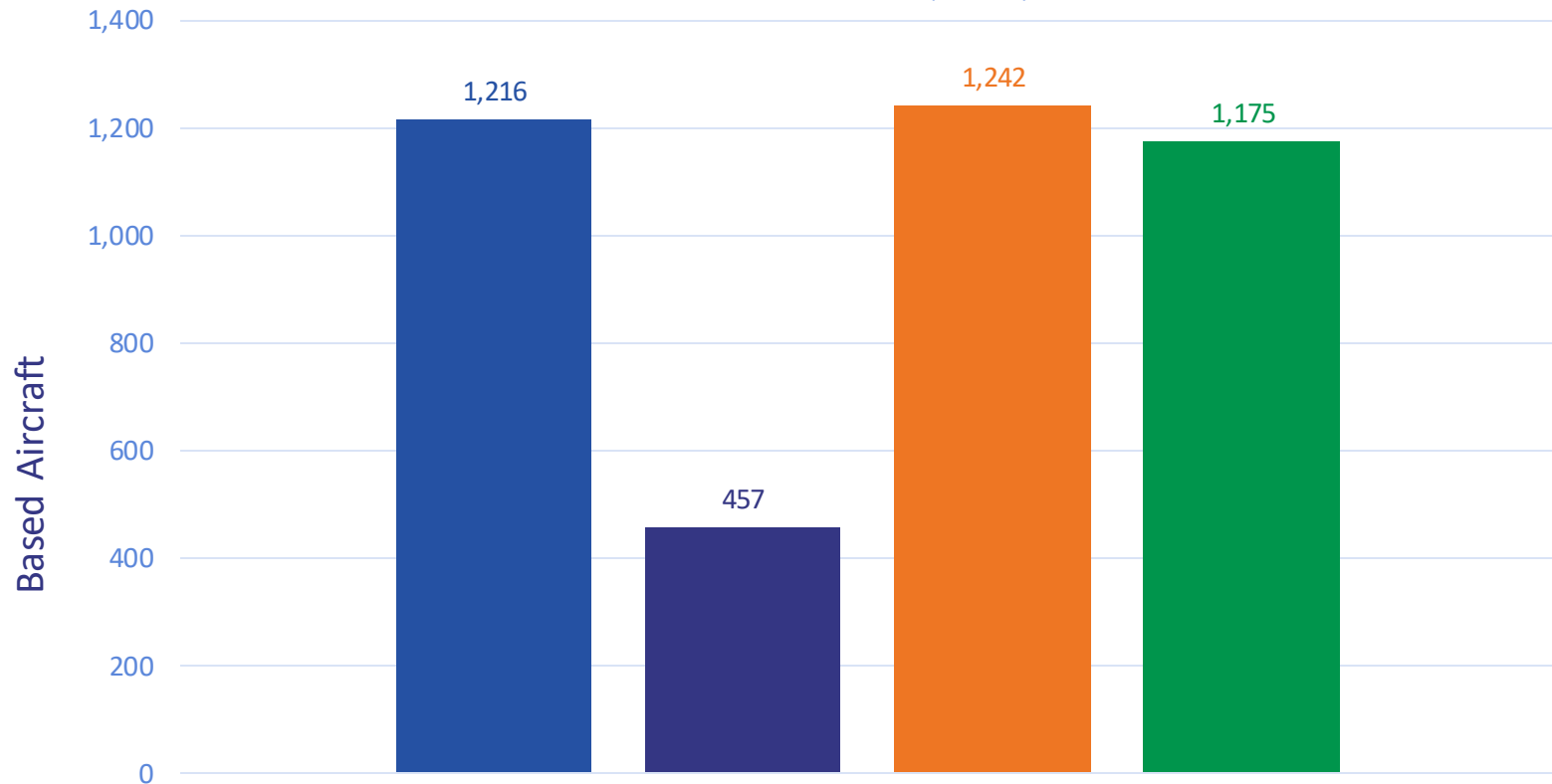
- Single-Engine
- Multi-Engine
- Jet/Turboprop
- Helicopters
- Ultralight/Other
- Military



# 2018 Baseline Comparison Based Aircraft

Colorado Airport Based Aircraft Data

Commercial Service Airports Only



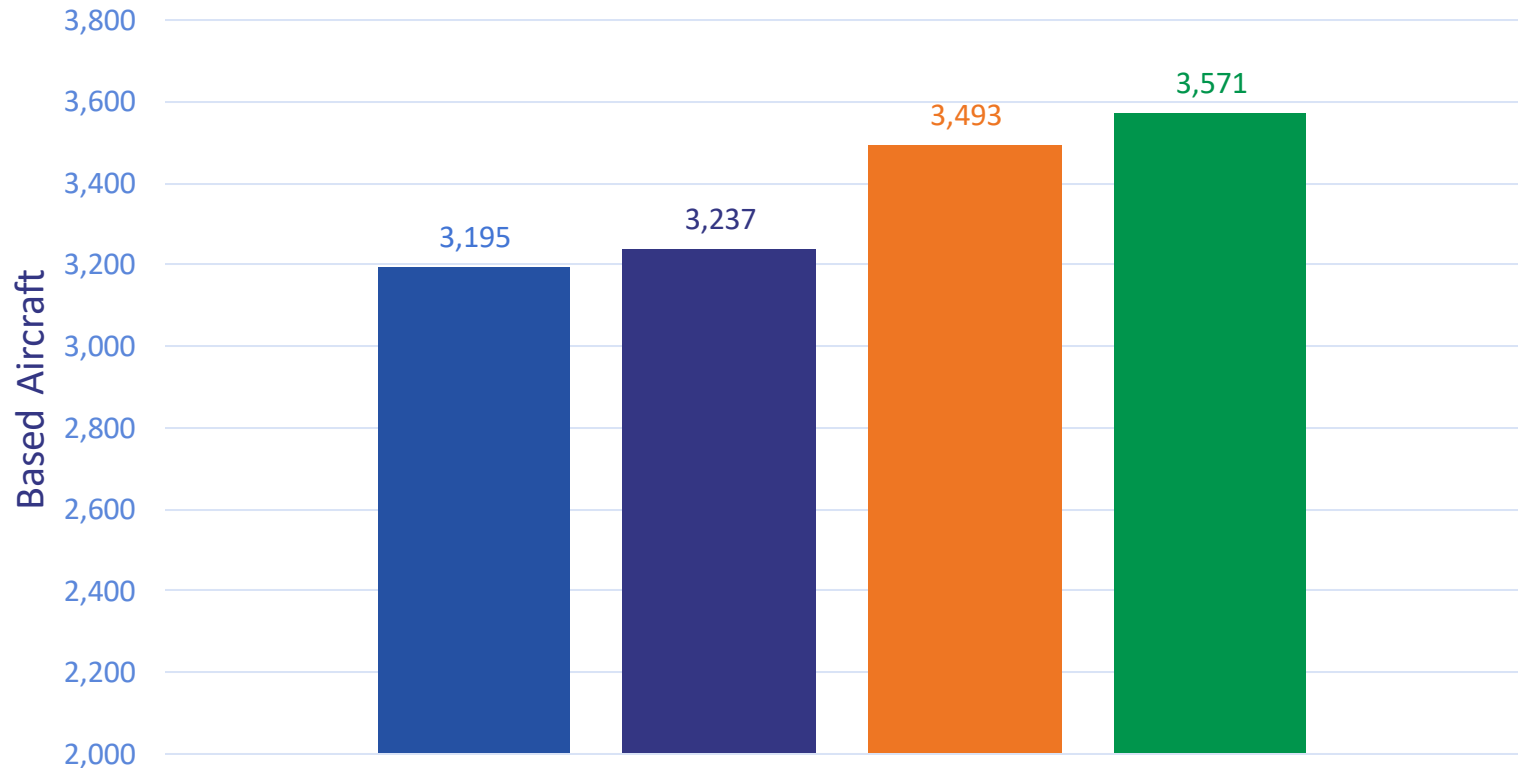
■ 5010 Based Aircraft ■ BasedAircraft.Com ■ FAA TAF Based Aircraft ■ Inventory Based Aircraft

Source: 2018 Airport Inventory Form, FAA 5010 Master Record, FAA Terminal Area Forecast (TAF) 2018, FAA Based Aircraft Registry 2018

# 2018 Baseline Comparison Based Aircraft

Colorado Airport Based Aircraft Data

General Aviation NPIAS Airports



■ 5010 Based Aircraft ■ BasedAircraft.Com ■ FAA TAF Based Aircraft ■ Inventory Based Aircraft

Source: 2018 Airport Inventory Form, FAA 5010 Master Record, FAA Terminal Area Forecast (TAF) 2018, FAA Based Aircraft Registry 2018

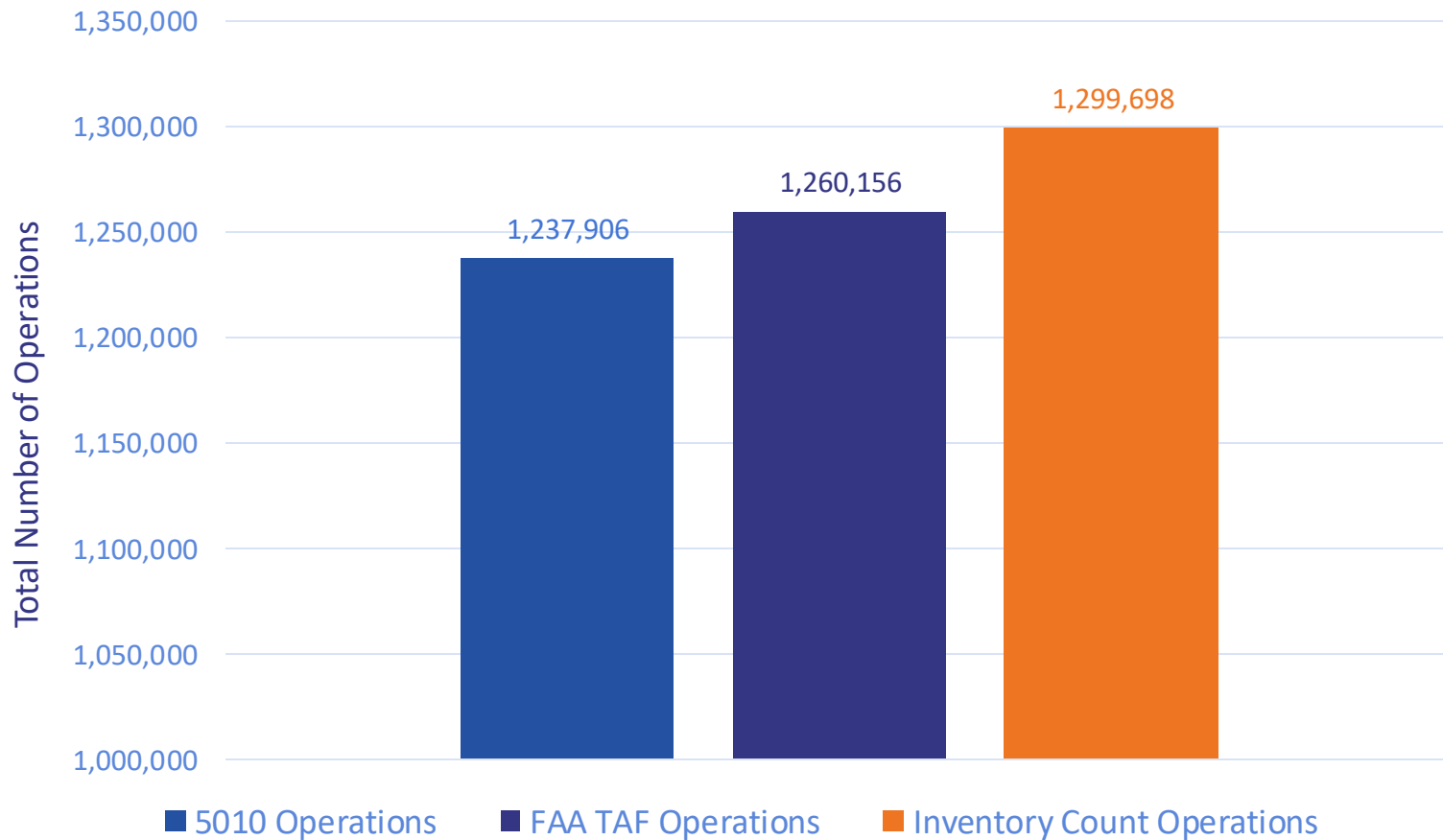
# Inventory Findings - 2018 Total Aircraft Operations

Operations by Type	2010	Percent of Total	2018	Percent of Total	Diff. (#)	Diff. (%)
Commercial Service	1,311,640	54%	1,260,156	42%	<b>-51,484</b>	<b>-3.9%</b>
Cargo/Freight	–	–	13,318	0%	–	–
Military	–	–	248,277	8%	–	–
GA-Local	–	–	853,468	28%	–	–
GA-Itinerant	–	–	647,279	21%	–	–
General Aviation	1,119,820	46%	1,500,747	50%	<b>380,927</b>	<b>34.0%</b>
Total	2,431,460	100%	3,022,498	100%	<b>591,038</b>	<b>24.3%</b>

# 2018 Baseline Comparison Operations

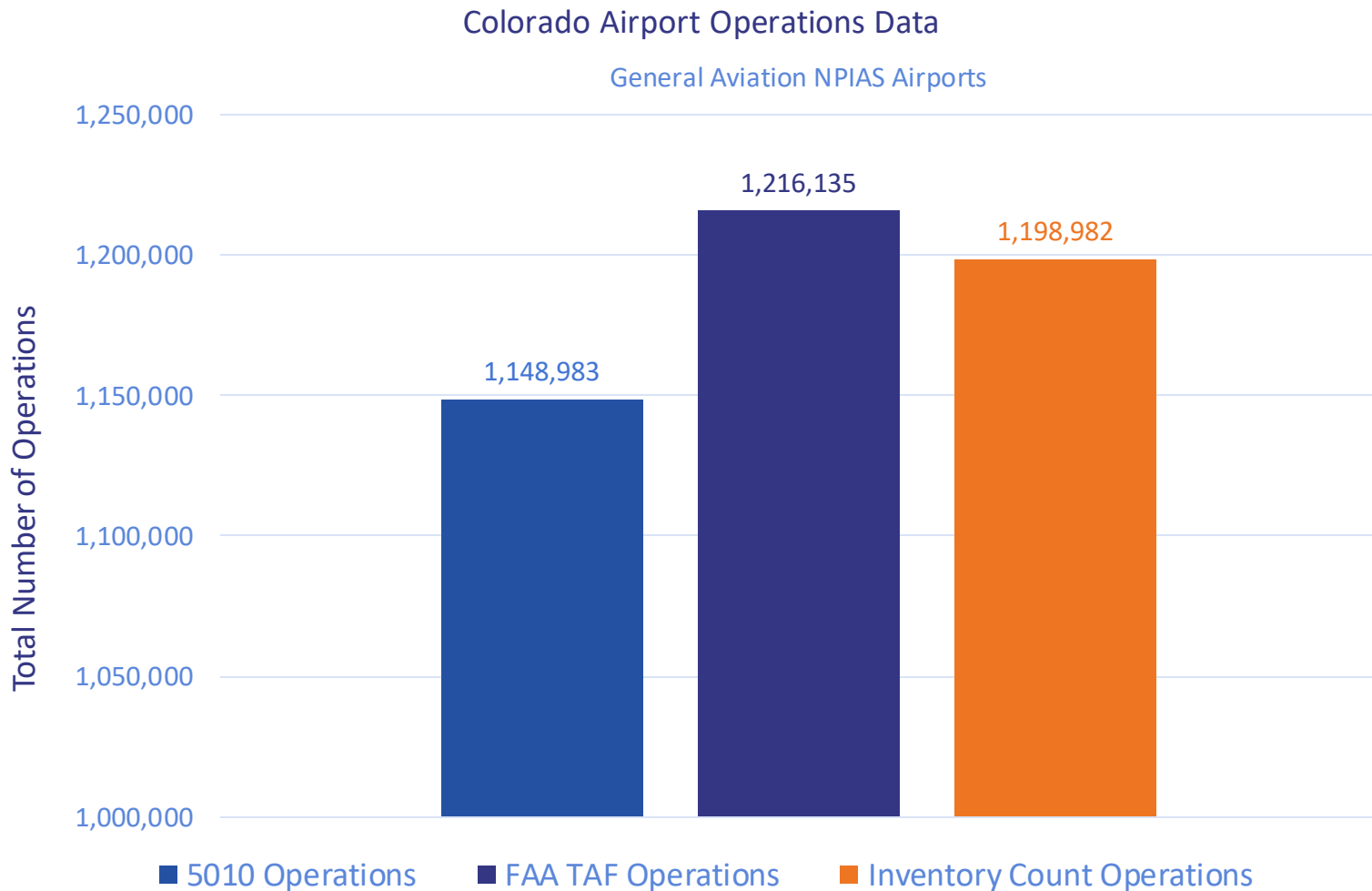
Colorado Airport Operations Data

Commercial Service Airports Only



Source: 2018 Airport Inventory Form, FAA 5010 Master Record, FAA Terminal Area Forecast (TAF) 2018

# 2018 Baseline Comparison Operations



Source: 2018 Airport Inventory Form, FAA 5010 Master Record, FAA Terminal Area Forecast (TAF), 2018

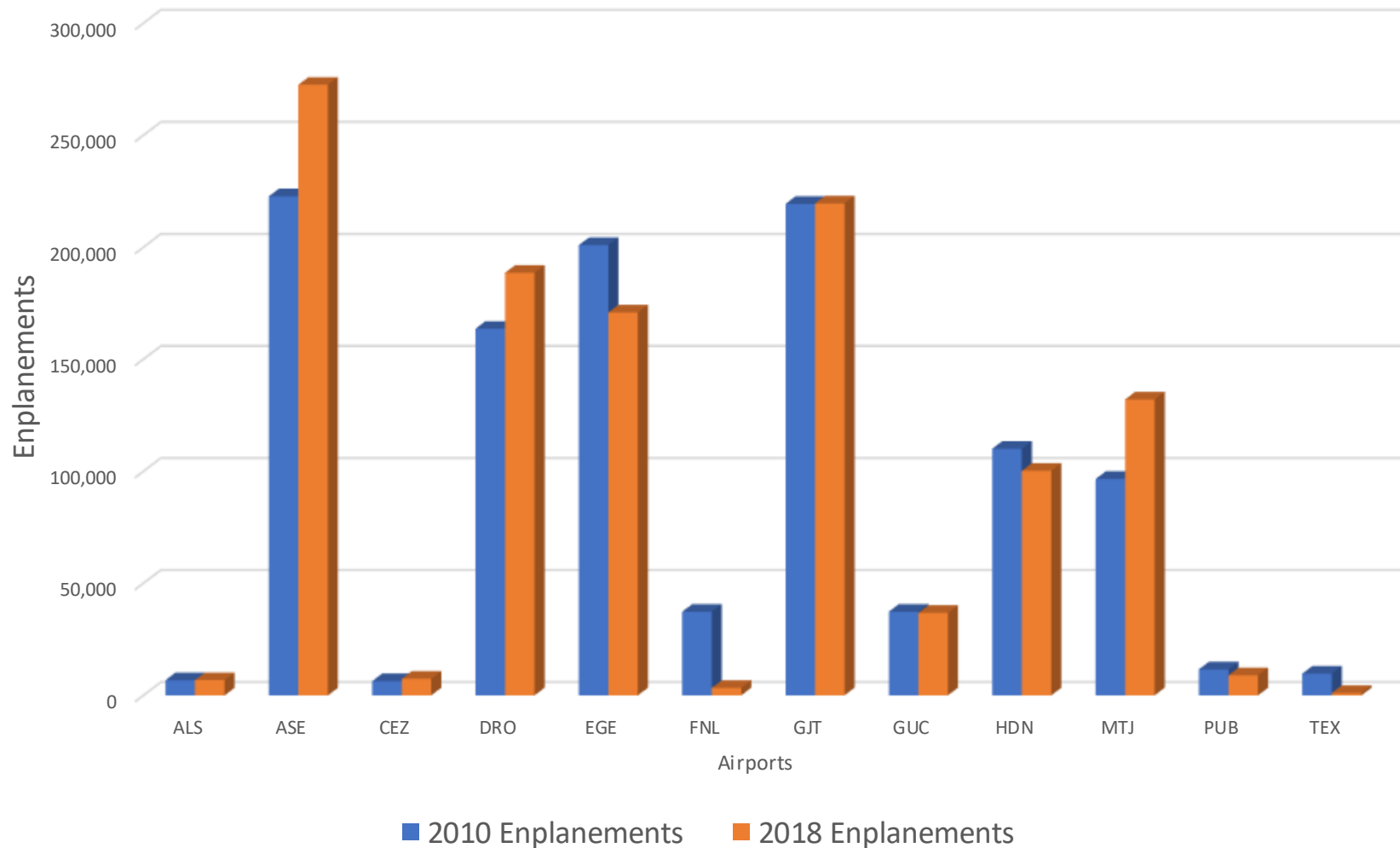
# FAA TAF Enplanements

## Commercial Service Airports

Associated City	Airport	FAA ID	2010 Enplanements	2018 Enplanements	Difference (#)	Difference (%)
Alamosa	San Luis Valley Regional/Bergman Field	ALS	6,740	6,798	58	0.9%
Aspen	Aspen-Pitkin County/Sardy Field	ASE	222,760	272,535	49,775	22.3%
Colorado Springs	City of Colorado Springs Municipal	COS	877,370	873,626	-3,744	-0.4%
Cortez	Cortez Municipal	CEZ	6,340	7,397	1,057	16.7%
Denver	Denver International	DEN	26,024,620	30,849,992	4,825,372	18.5%
Durango	Durango-La Plata County	DRO	163,610	188,616	25,006	15.3%
Eagle	Eagle County Regional	EGE	201,010	170,906	-30,104	-15.0%
Fort Collins/Loveland	Fort Collins-Loveland Municipal	FNL	37,320	3,288	-34,032	91.2%
Grand Junction	Grand Junction Regional	GJT	219,360	219,570	210	0.1%
Gunnison	Gunnison-Crested Butte Regional	GUC	37,320	36,828	-492	-1.3%
Hayden	Yampa Valley	HDN	110,040	100,255	-9,785	-8.9%
Montrose	Montrose Regional	MTJ	96,600	132,076	35,476	36.7%
Pueblo	Pueblo Memorial	PUB	11,640	8,972	-2,668	-22.9%
Telluride	Telluride Regional	TEX	9,680	1,061	-8,619	-89.0%
<b>Total</b>			<b>28,024,410</b>	<b>32,868,632</b>	<b>4,844,222</b>	<b>17.3%</b>

Source: FAA Terminal Area Forecast (TAF), 2018

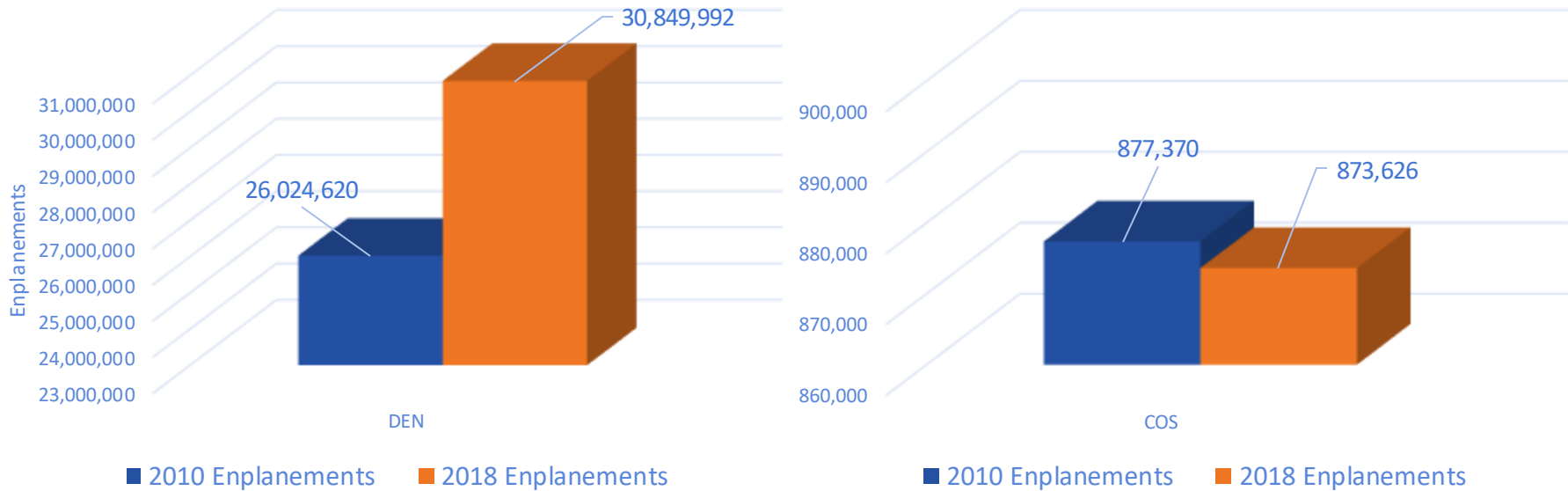
# FAA TAF Enplanements(cont.)



Source: FAA Terminal Area Forecast (TAF)

\*Does not include DEN or COS

# DEN and COS Enplanements



## Commercial Service Airports

Associated City	Airport	FAA ID	2010 Enplanements	2018 Enplanements	Difference (#)	Difference (%)
Colorado Springs	City of Colorado Springs Municipal	COS	877,370	873,626	-3,744	-0.4%
Denver	Denver International	DEN	26,024,620	30,849,992	4,825,372	18.5%



# Forecasting Process

- Select baseline data source for all indicators (decided)
- Examine industry trends, national and CO-specific
- Develop up to 3 methodologies per indicator for implementation such as:
  - Socioeconomic (population and/or employment)
  - FAA forecast growth rates
  - Trendline
  - Other
- *Preferred forecast methodologies by indicator will be selected in conjunction with CDOT and the FAA*
- Examine FAA TFMSC data by airport for instrument ops
- Conduct sensitivity analysis for ops (those with 75,000+ ops)
- Compare results to TAF and/or master plans
- Submit to FAA for approval

# Forecast Methodologies

- Commercial Service

- Data is reported by commercial service airports to the FAA on an annual basis
- The FAA uses this data to project future activity levels in the TAF for:
  - Enplanements
  - Air carrier and air taxi/commuter aircraft operations
  - Based aircraft
- CASP uses the TAF as the data source for all commercial forecasts

# Forecast Methodologies - CS Airports

- Utilize TAF data for all CS airports since it's required to compare our results to TAF (baseline and forecasts):
  - Based aircraft
  - Operations by type
  - Enplanements
- Develop separate alternative scenarios
  - Utilize available master plan (or other airport-reported forecasts) forecasts and/or other baseline data
  - Provides range of forecasts for each indicator

# Forecast Methodologies - GA Airports

- Utilize FAA sources for NPIAS and airport-reported for non-NPIAS for baseline data
- Examine type of airport activity and compare to FAA growth rates for individual types
  - TFMSC by aircraft type (approach category and design group)
  - Examine type of activities at airport (training, ag, corporate)
- Consider socioeconomic characteristics of region
- Develop separate alternative scenarios (especially NPIAS airports)
  - Utilize available master plan (or other airport-reported forecasts) forecasts and/or other baseline data
  - Provides range of forecasts for each indicator

# Socioeconomic Factors



*Population and economic levels create ripple effects in both commercial service and general aviation activity in the state through the planning horizon.*

# Trends

- Project aviation activity over the planning horizon
- Utilizes data from the airport, FAA and other sources
- Considers key trends at all scaled





# Economic Impact Study Update

# Surveys, Audiences, and Timelines

## Colorado Aviation System Plan and Economic Impact Study Data Collection

November/December	January	February	March	April
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Inventory Type and Audience

<b>Airport Managers</b> <i>Airport managers</i>					
<b>Airport Tenants</b> <i>On-airport tenants with employees at a Colorado airport</i>					
	<b>Air Carrier Passenger (multi-airline airports)</b> <i>Out of state visitors departing from Colorado at a commercial service airport served by multiple airlines</i>				
	<b>Air Carrier Passenger (single airline airports)</b> <i>Out of state visitors departing from Colorado at a commercial service airport served by a single airline</i>				
	<b>Fixed Based Operator</b> <i>On-airport FBOs with employees at a Colorado airport</i>				
<b>General Aviation (GA) Pilots/Visitors</b> <i>Pilots and passengers visiting a GA airport from out of state</i>					
		<b>Businesses that Own/Lease Aircraft</b> <i>Aircraft owners and leaseholders that use their aircraft for business purposes</i>			
		<b>Businesses that Rely on CO Airports</b> <i>Off-airport businesses that rely on a Colorado airport to conduct business activities</i>			



# Surveys and Data Collection

- Extensive follow-up with airports
  - Tenant (97 complete out of 301 identified\*)
  - GA Passenger (108 complete)
  - Commercial Passenger (1,168 complete\*\*)
  - Local/Non-Local Business Reliance (5 complete)

### Surveys Overview

As part of the update of the Colorado Statewide Aviation Economic Impact Study (CEIS), there are numerous questionnaires that are used to collect data from various aviation-related stakeholders regarding their use of the airports and contributions to the economic impact. If you represent any of the following stakeholders and have not received and/or completed a questionnaire for the CEIS, please follow the links below to the appropriate survey for completion:

1. **Airport Tenants Survey** - this survey is intended for on-airport businesses (except FBOs - see separate survey below)  
[Transmittal Letter](#) | [Fillable PDF](#) | [Online Survey Link](#)
2. **Fixed Base Operators (FBO) Survey** - this survey is intended for FBOs  
[Transmittal Letter](#) | [Fillable PDF](#) | [Online Survey Link](#)
3. **Business that Own or Lease Aircraft Survey** - this survey is intended for businesses that have a based aircraft at a Colorado airport but are not operating a business directly on the airport  
[Transmittal Letter](#) | [Fillable PDF](#) | [Online Survey Link](#)
4. **Businesses that Rely on Colorado Airports Survey** - this survey is intended for businesses that are not located at airports but do utilize aviation in conducting their business such as commercial airline flights, own or lease general aviation aircraft, and/or cargo/freight services  
[Transmittal Letter](#) | [Fillable PDF](#) | [Online Survey Link](#)
5. **Commercial Air Passenger Survey** - this survey is intended for passengers who flew on commercial service airlines in Colorado. The surveys were conducted in-person at many airports and were available as hard copy and online through a weblink.  
[Fillable PDF](#) | [Online Survey Link](#)
6. **Transient General Aviation Pilot & Passenger Survey** - this survey is intended for pilots and passengers who flew on general aviation aircraft and landed in Colorado. Signs were posted in airport terminal and FBO facilities with a weblink and QR code.  
[Fillable PDF](#) | [Online Survey Link](#)

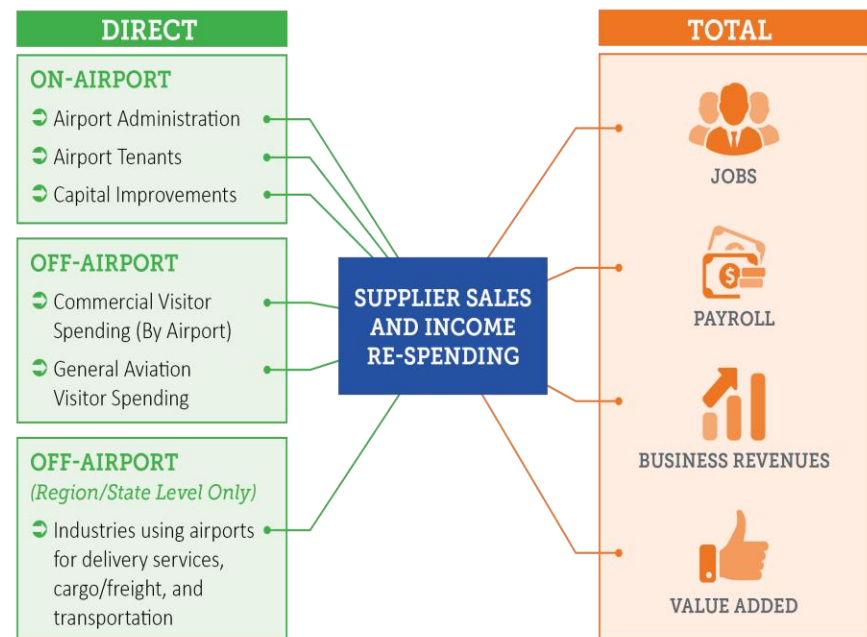
The information you provide will be combined with all other respondents for the airports; individual business information will not be presented in the report.

\* Number identified does not include APA or TEX

\*\* Does not include DEN or PUB

# CEIS Methodology & Approach Webinar

- Hosted online February 25
- Invited all airport sponsors to attend
- Provided explanation of CEIS
  - Methodology of study
  - Terminology
  - Data presentation
  - Survey populations



# Tenant Surveys

- 10 airports are facilitating tenant surveys
  - San Luis Valley Regional/Bergman Field
  - Fremont County
  - Colorado Springs Municipal
  - Meadow Lake
  - Pueblo Memorial
  - Cortez Municipal
  - Animas Airpark
  - Durango/La Plata County
  - Telluride Regional
  - Centennial



# Economic Impact Dynamic Model

- Model will be managed by CDOT
- Analysis of economic impacts from potential or realized changes in activity
  - New tenant
  - Increased itinerant ops or enplanements
  - Loss of activity (business, airline service)
- Developing an airport request form for CDOT to run scenarios

## REPORT 1-2

### 2018 SUMMARY IMPACT – MINIMAL MULTIPLIER REPORT

Airport	
3-Digit Identifier	
City	
County	
Region	

Enplanements	
Total visitors	
GA Operations	
Transient GA Operations	
Passengers Per Aircraft	
Total GA Visitors	

# Example Report (1)

Impact Type	Jobs	Payroll (\$M)	Value Added (\$M)	Business Revenues (\$M)
<b>Direct Impacts</b>	<b>559</b>	<b>17.78</b>	<b>30.88</b>	<b>66.10</b>
On - Airport	218	7.86	15.07	37.01
Temporary Construction	50	2.86	3.92	7.84
Visitor Spending	291	7.05	11.89	21.25
<b>Multiplier Impacts</b>	<b>257</b>	<b>13.93</b>	<b>22.01</b>	<b>39.01</b>
<b>Total Impacts</b>	<b>816</b>	<b>31.71</b>	<b>52.88</b>	<b>105.11</b>
On - Airport	403	17.55	29.75	63.31
Temporary Construction	50	3.95	5.81	11.09
Visitor Spending	351	10.21	17.32	30.72

*In this example, supplier sales and income respending multiplier streams are provided and consolidated into "Multiplier Impacts".*

## REPORT 1-3

### 2018 IMPACT - MULTIPLIER DETAIL

Airport	
3-Digit Identifier	
City	
County	
Region	

Enplanements	
Total visitors	
GA Operations	
Transient GA Operations	
Passengers Per Aircraft	
Total GA Visitors	

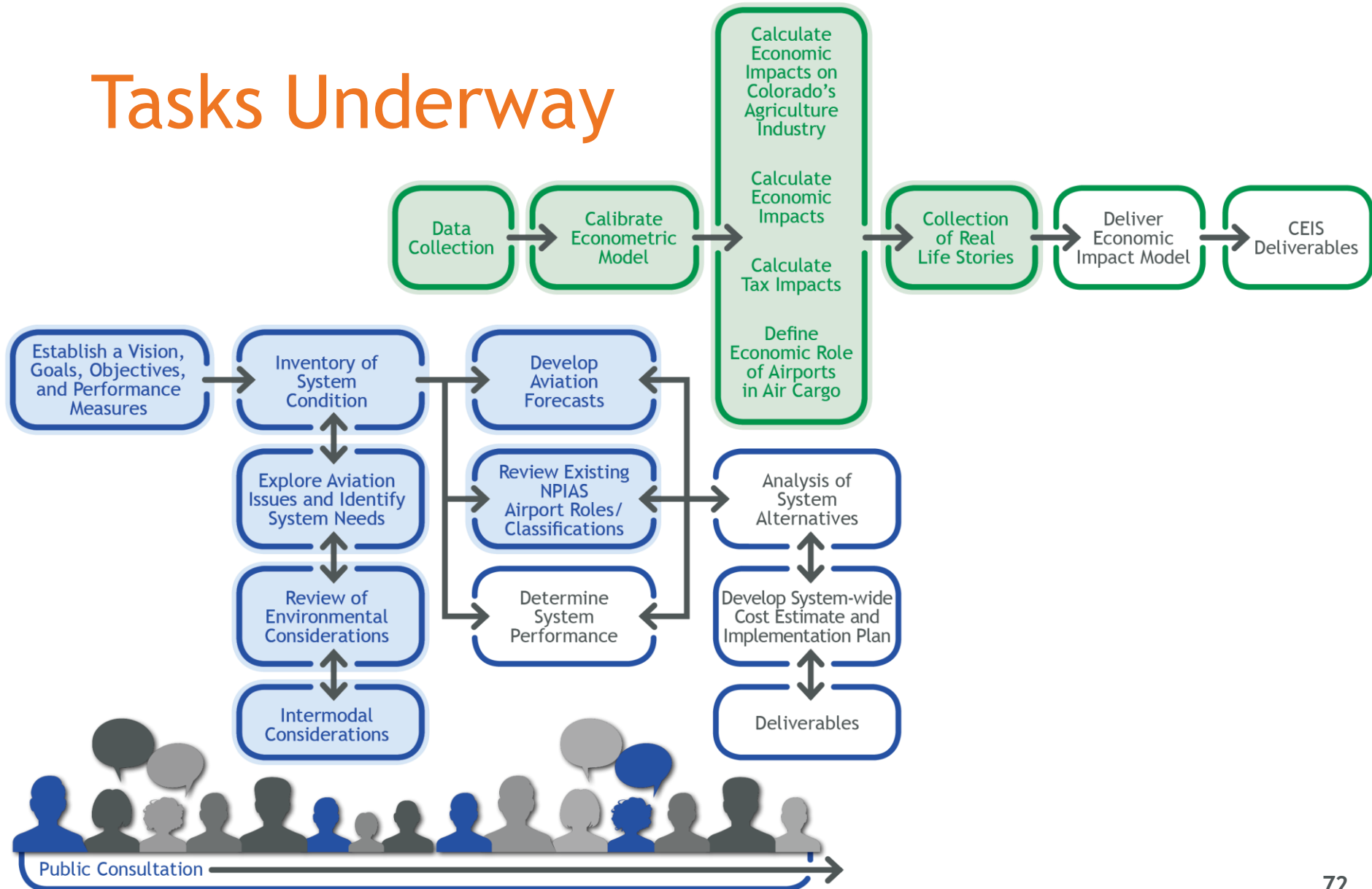
# Example Report (2)

Impact Type	Jobs	Payroll (\$M)	Value Added (\$M)	Business Revenues (\$M)
<b>Direct Impacts</b>	<b>559</b>	<b>17.78</b>	<b>30.88</b>	<b>66.10</b>
On - Airport	218	7.86	15.07	37.01
Temporary Construction	50	2.86	3.92	7.84
Visitor Spending	291	7.05	11.89	21.25
<b>Supplier Sales Impacts</b>	<b>148</b>	<b>7.81</b>	<b>11.82</b>	<b>21.18</b>
On - Airport	113	5.75	8.47	15.16
Temporary Construction	5	0.48	0.79	1.38
Visitor Spending	30	1.59	2.56	4.64
<b>Income Responding Impacts</b>	<b>109</b>	<b>6.12</b>	<b>10.19</b>	<b>17.83</b>
On - Airport	72	3.95	6.21	11.14
Temporary Construction	7	0.61	1.11	1.87
Visitor Spending	30	1.57	2.86	4.83
<b>Total Impacts</b>	<b>816</b>	<b>31.71</b>	<b>52.88</b>	<b>105.11</b>
On - Airport	403	17.55	29.75	63.31
Temporary Construction	50	3.95	5.81	11.09
Visitor Spending	351	10.21	17.32	30.72

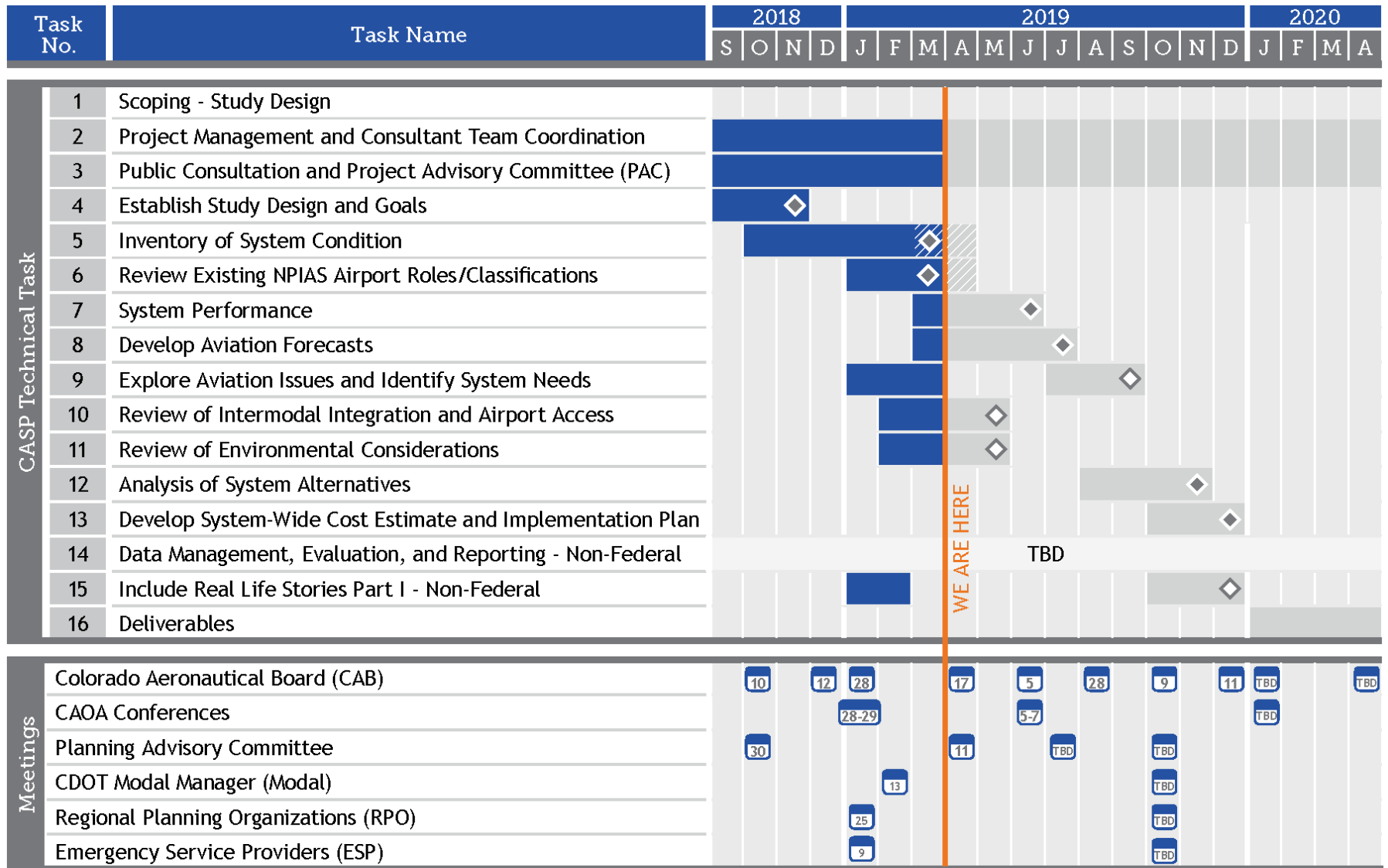


# Next Steps

# Tasks Underway



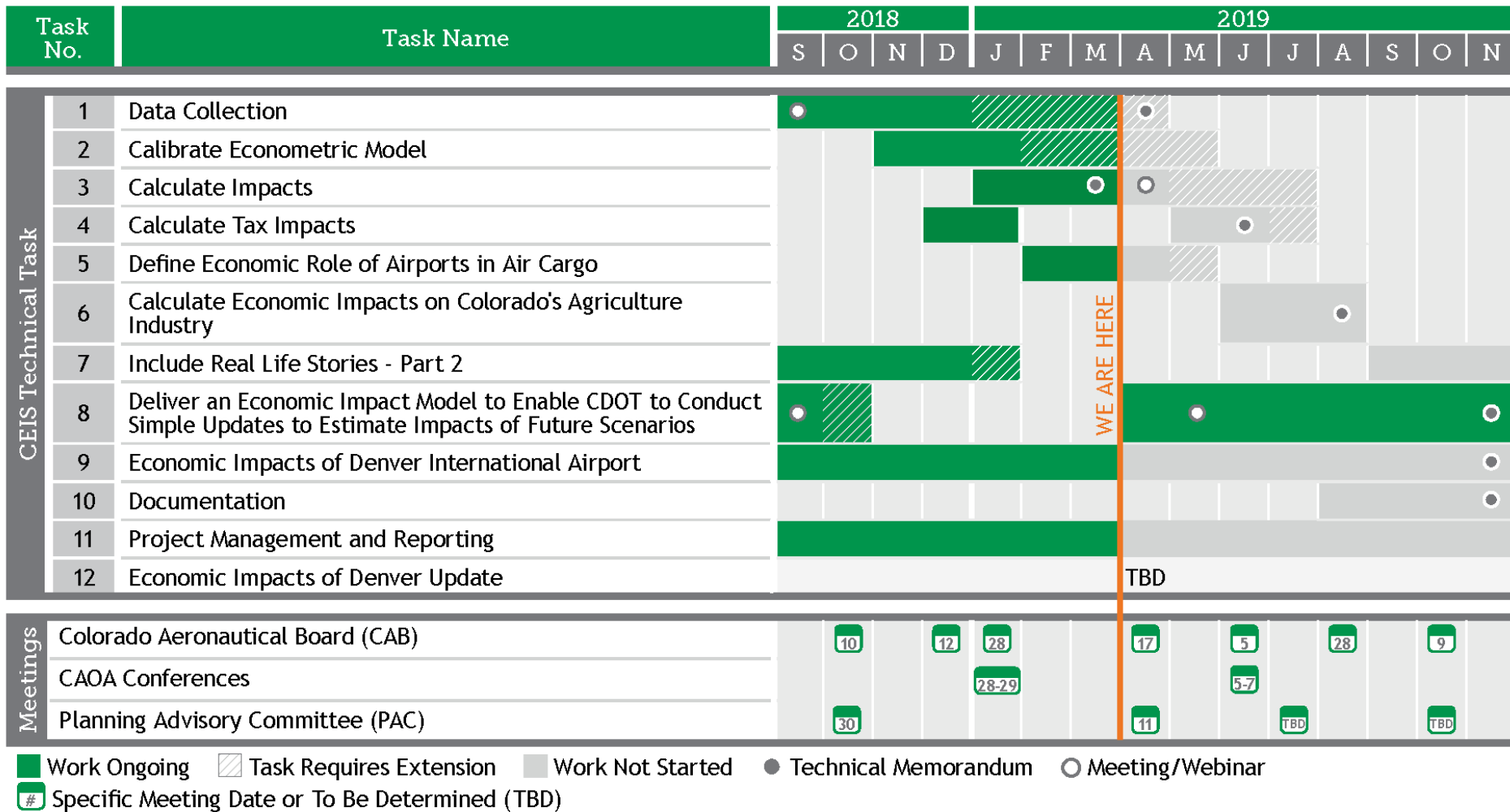




WE ARE HERE

TBD

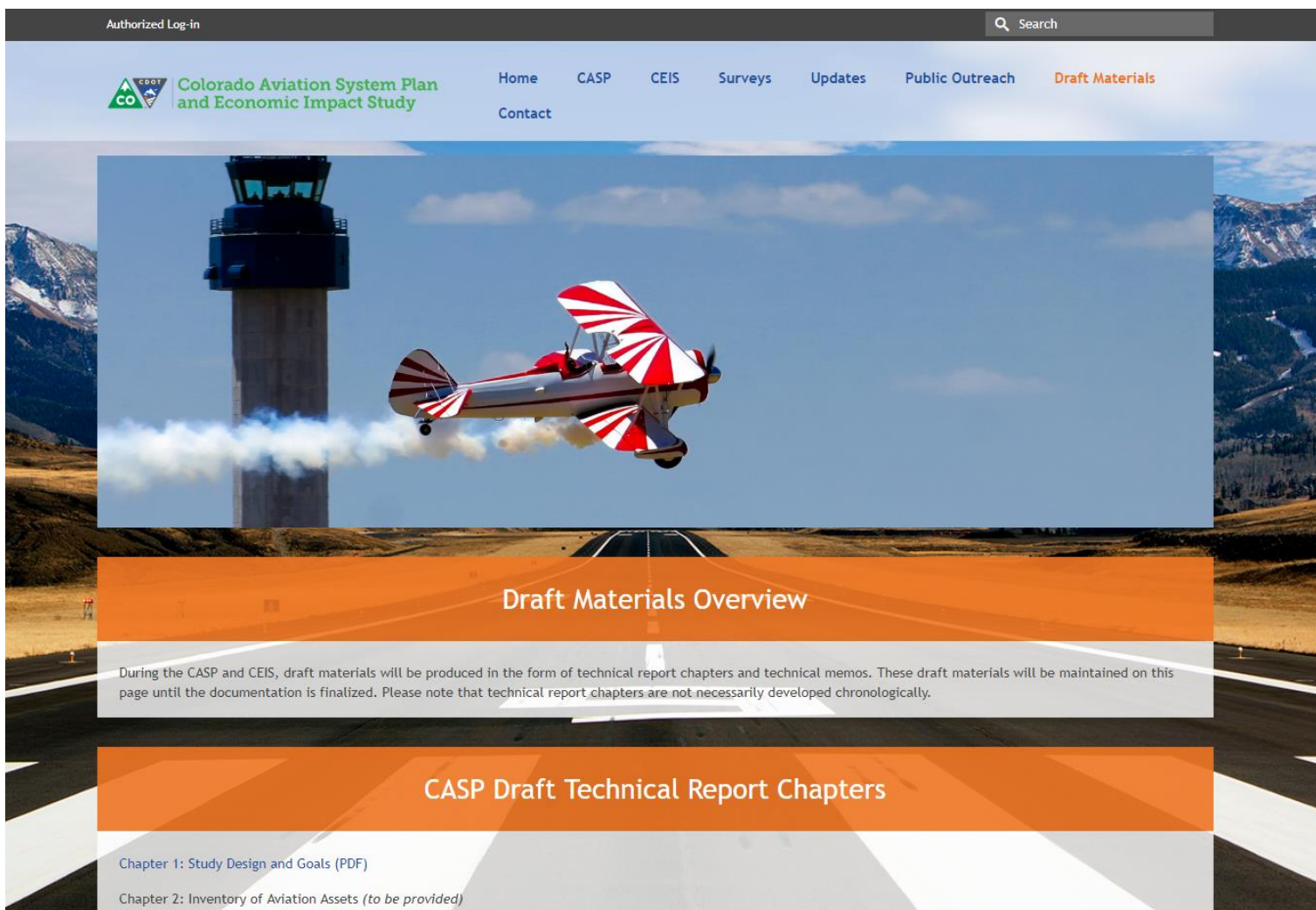
Work Ongoing
  Task Requires Extension
  Work Not Started
  Chapter
  White Paper/Content to be Included in Chapter
   
 Specific Meeting Date or To Be Determined (TBD)



## Next Steps

- Finalize inventory chapter
- Finalize airport roles/classifications and write chapter
- Draft forecasts chapter
- Draft environmental, issues, and intermodal access chapter
- Finalize economic survey effort to determine direct airport impacts
- Distribute direct impacts to airports for review
- Commercial passenger surveys at DEN
- Presentation at CAO

# Project Website



# Questions?

Thank you for your participation!

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