

Master Plan

Planning Advisory Committee (PAC)

December 3, 2014



PAC Welcome

→ Welcoming Comments

- ❖ Jill Van Deel, Airport Manager
- ❖ Brandy Reitter, Town Administrator

→ Introductions

- ❖ PAC Members
- ❖ Jviation Staff



Meeting Expectations

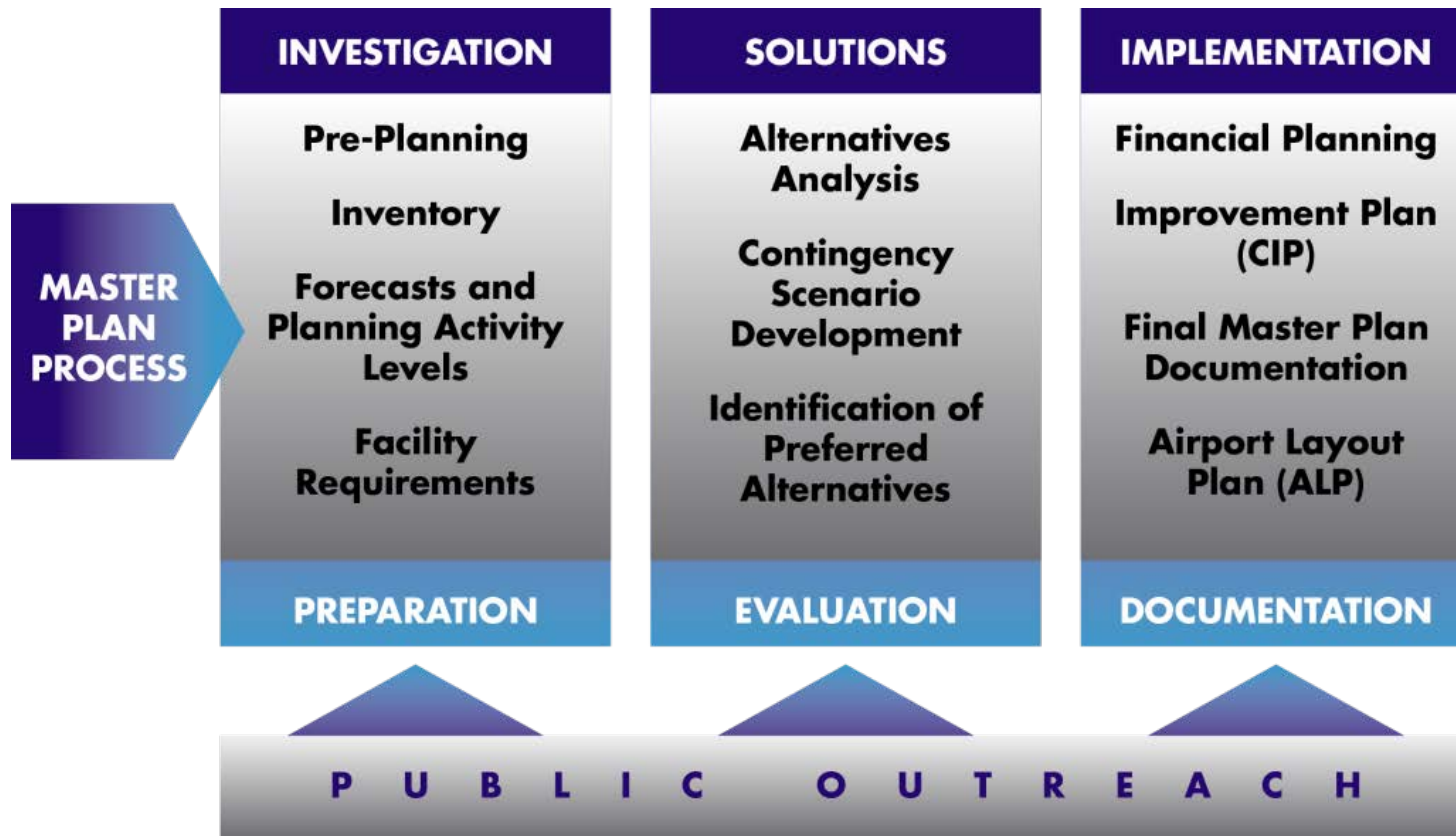
PAC members will leave with:

- ✓ An update on public outreach & education efforts
- ✓ Insight into general perceptions and future needs regarding the Airport and its facilities
- ✓ Knowledge of the inventory
- ✓ An understanding of forecasting and work-to-date
- ✓ An awareness of next steps

Meeting Ground Rules

- ✓ Start on time, end early
- ✓ One person speaks at a time
- ✓ Honor diversity of opinions
- ✓ Be hard on the issue, not the person
- ✓ Participate fully
- ✓ No sidebar conversations
- ✓ Stay focused and on point
- ✓ Disclose financial interests related to the airport
- ✓ Turn cells phones off/vibrate
- ✓ Use humor!

Master Plan Process

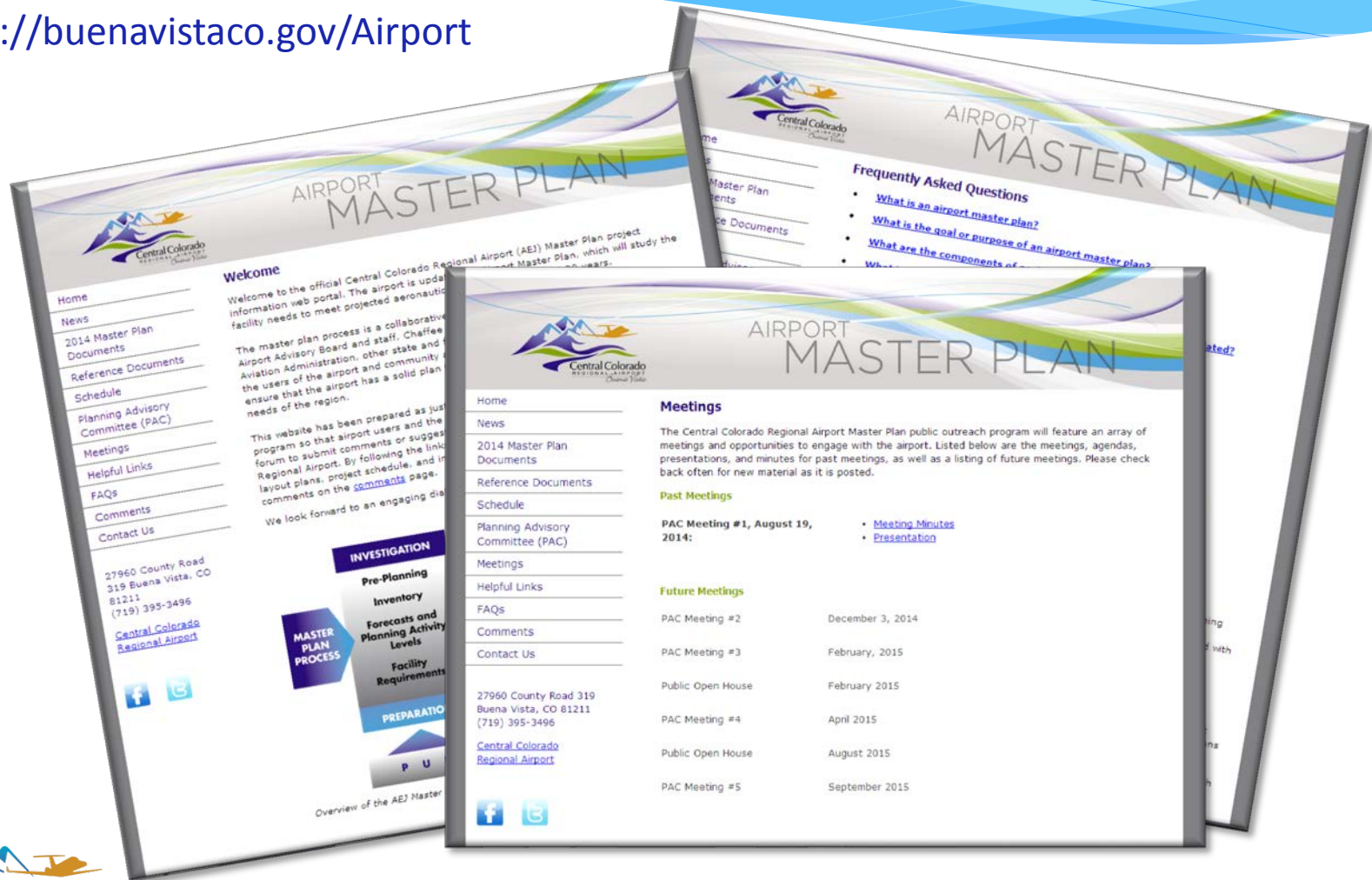




Public Engagement & Education

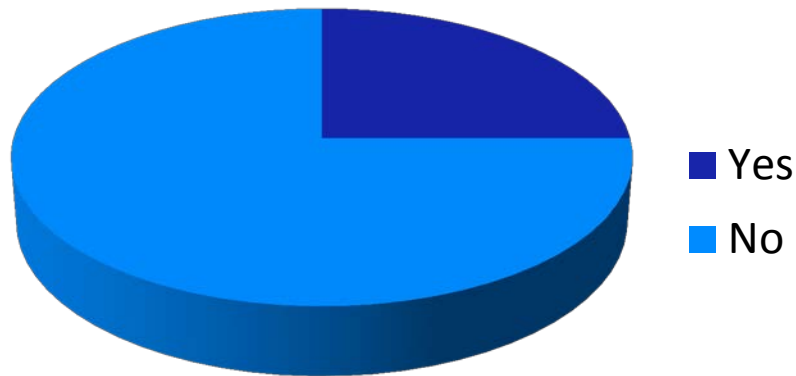
Airport Website:

<http://buenavistaco.gov/Airport>



Owner/Operator Survey Results

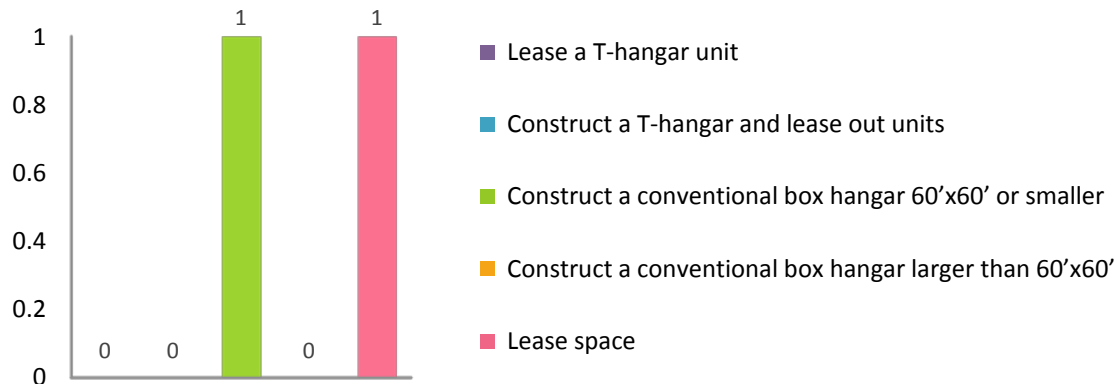
→ Do you desire any additional hangar space at AEJ?



	Percent	Count
Yes	25%	2
No	75%	6
Total		8

Owner/Operator Survey Results

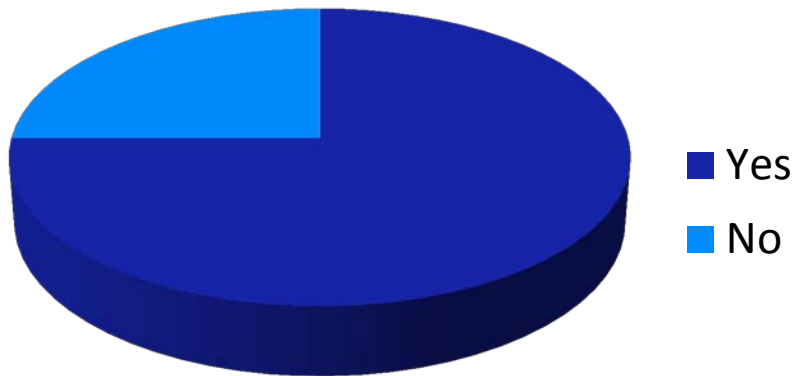
→ If yes, please describe the ownership arrangement, size, and type of hangar.



	Percent	Count
Lease a T-hangar unit	0.0%	0
Construct a T-hangar and lease out units	0.0%	0
Construct a conventional box hangar 60'x60' or smaller	50.0%	1
Construct a conventional box hangar larger than 60'x60'	0.0%	0
Lease space	50.0%	1
Total		2

Owner/Operator Survey Results

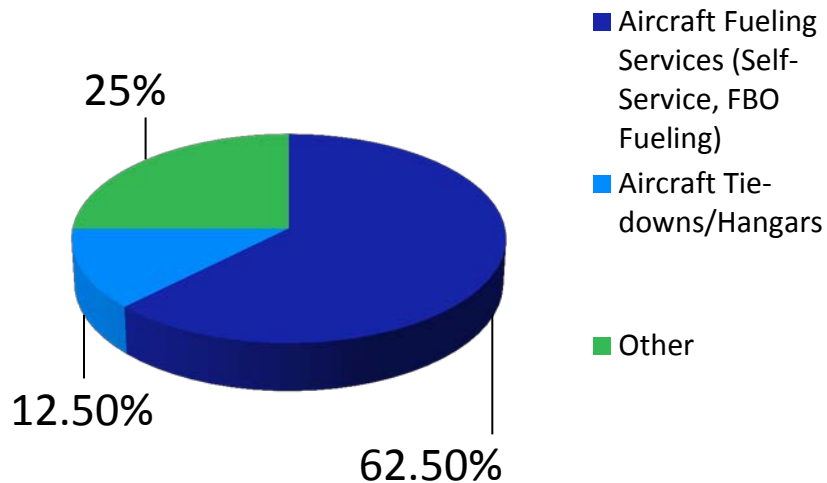
→ Are the FBO services provided adequate for your needs?



	Percent	Count
Yes	75%	6
No	25%	2
Total		8

Owner/Operator Survey Results

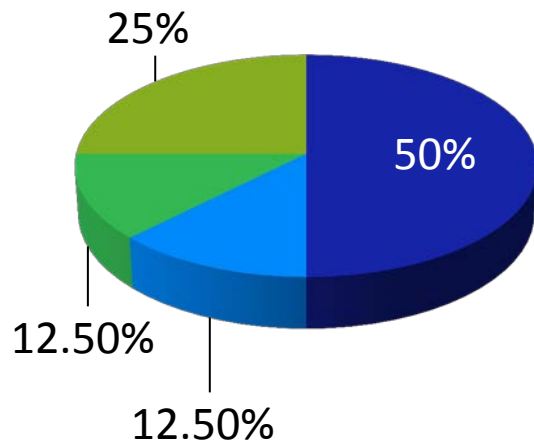
➔ What facilities, activities, or capabilities do you consider essential for the Airport to provide?



	Percent	Count
Aircraft Fueling Services (Self-Service, FBO Fueling)	62.5%	5
Aircraft Maintenance	0.0%	0
GA Terminal Facilities	0.0%	0
Aircraft Tie-downs/Hangars	12.5%	1
Rental Cars	0.0%	0
Fire & Rescue	0.0%	0
Tourism/Entertainment Related Activities	0.0%	0
Precision Instrument Approach (e.g. ILS, GPS)	0.0%	0
Flight Instruction, Aircraft Rentals, Aircraft Charter, or Other Activities	0.0%	0
Restaurant	0.0%	0
Other	25.0%	2
Total		8

Owner/Operator Survey Results

→ Please select one of the categories from question 11 that you believe should get the highest priority.

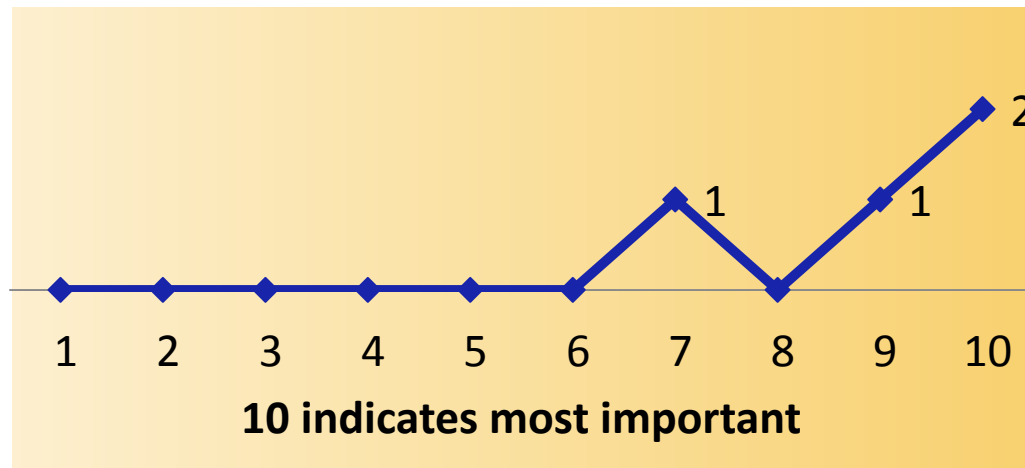


- Runway Orientation
- Condition of Pavements
- Hangar Space
- FBO Services

	Percent	Count
Runway Orientation	50.0%	4
Runway Length	0.0%	0
Condition of Pavements	12.5%	1
Instrument Approaches	0.0%	0
Visual Aids	0.0%	0
Navigational Aids	0.0%	0
Hangar Space	12.5%	1
Hangar/Pad Lease Rates	0.0%	0
FBO Services	25.0%	2
Unicom Services	0.0%	0
Apron Space	0.0%	0
Total		8

Business Survey Results

→ How important, on a scale from **1 to 10**, do you feel the Airport is to the local community and businesses?

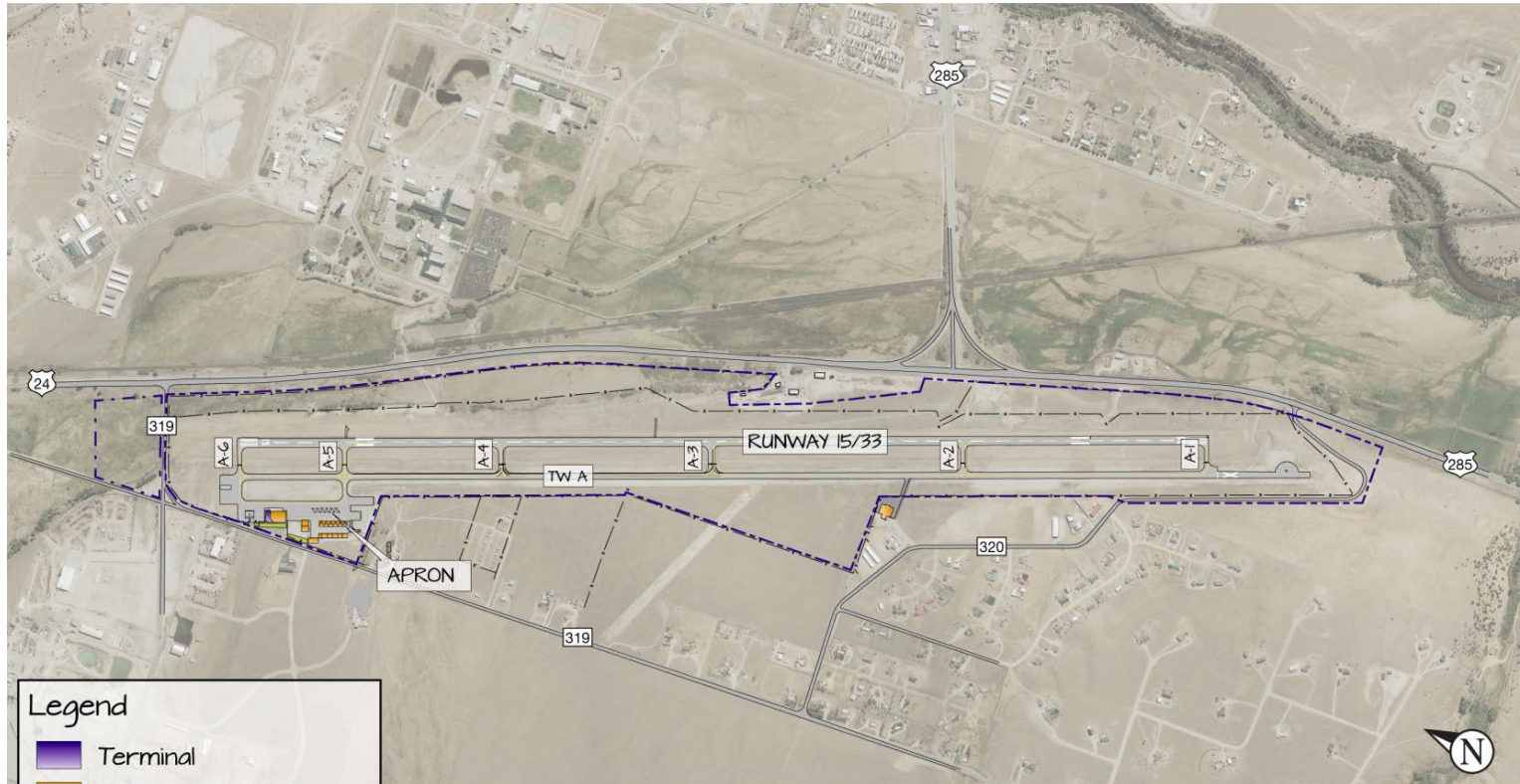


	Percent	Count
1	0.0%	0
2	0.0%	0
3	0.0%	0
4	0.0%	0
5	0.0%	0
6	0.0%	0
7	25.0%	1
8	0.0%	0
9	25.0%	1
10	50.0%	2
Total		4



Inventory

Airport Overview



Legend

-  Terminal
-  Buildings/Hangars
-  Pavement
-  Parking Lots
-  Airport Property Line

Inventory Elements

- Runway Design Code & Airfield Design Standards
- Airfield/Airspace
- GA Facilities
- Airport Equipment & Support Facilities
- Access, Circulation, & Parking
- Economic Impact / Financial
- Meteorological Data
- Utilities
- Regional Setting & Land Use
- Environmental Overview

Runway Design Code

Made up of 3 components: Aircraft Approach Category (AAC), Airplane Design Group (ADG), and approach visibility minimums

SINGLE ENGINE

Aircraft Design Group
A1



Cessna 150



Cessna Caravan

→ Small aircraft typically used for flight training and personal use.

MULTI ENGINE

Aircraft Design Group
A1-C1



Piper Navajo



Cessna 402

→ Aircraft having more than one engine but aren't jets.
→ Typically larger and faster than single engine aircraft.
→ Used for both personal and commercial operations.

TURBO PROP

Aircraft Design Group
B1-B11



Cessna 208B-
Grand Caravan



King Air 100

→ Can be both single and multi-engine aircraft.
→ Rather than being powered by a piston, these aircraft have a propeller driven by a turbine engine.
→ These aircraft are typically faster and more demanding than a piston powered airplane.
→ Frequently used in commercial operations and as charter and business aircraft.

Airport Reference
Code (ARC) A-I to
B-II

AEJ Meets Current
FAA B-II Design
Criteria

Runway Designation

- Determined by magnetic north and adjusted orientation.
- Earth's magnetic shifting is measured, recorded, and applied to an airport's runway numerals.
- Magnetic bearing of a runway changes as location of magnetic north shifts.
- Different numbers are therefore periodically painted on the runway to accurately represent the magnetic heading of the runway.

AEJ Runway Designation

→ Current true bearing:

- Runway 15 is N 160°49' 41.2" W
- Runway 33 is S 340°50' 2.5"

→ AEJ's runway designation should be adjusted to reflect the magnetic changes – Runway 16/34

Pavements

Item	Description
Runway 15/33	8,303 feet by 75 feet Asphalt Published Strength: 30,000 pounds Single Wheel (SW) and Dual Wheel Gear (DW)
Taxiways	Parallel Taxiway A Connector Taxiways A1 through A6
Apron	General Aviation (GA) / Fixed Base Operator (FBO): 950 feet by 175 feet



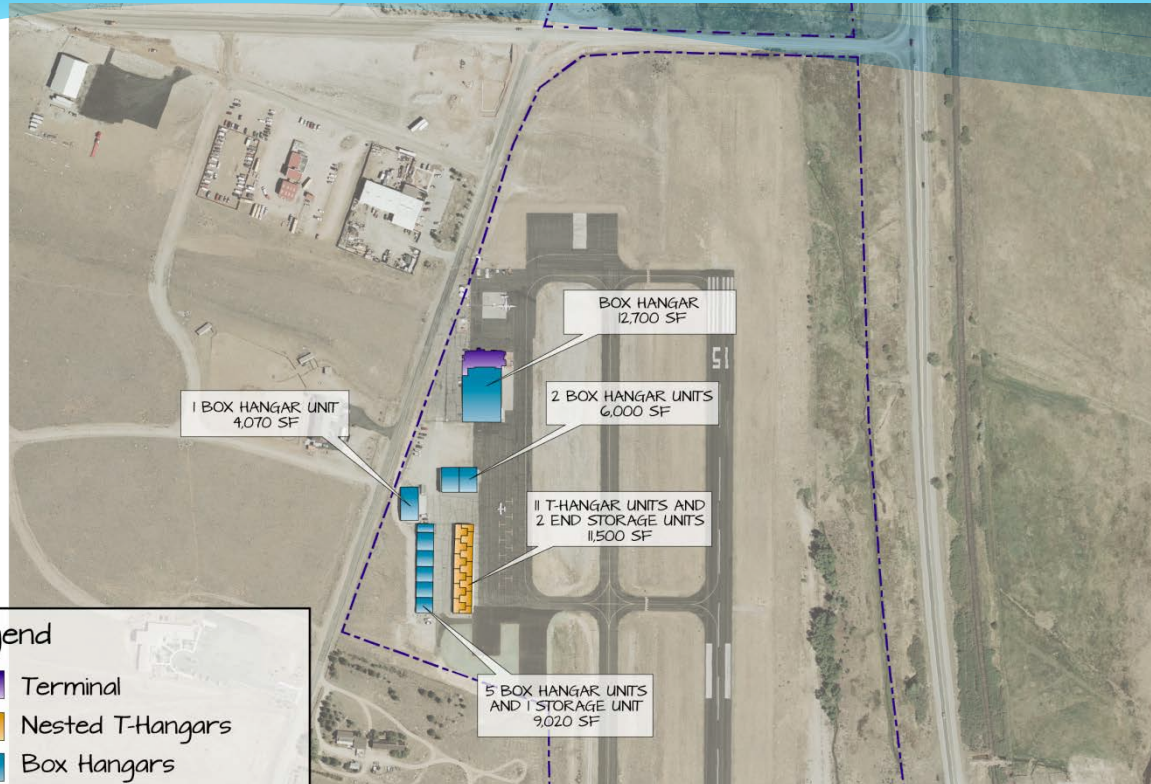
Wind Coverage

→ According to FAA, desirable wind coverage is 95 percent during all weather conditions

All Weather	10.5-Knots	13-Knots	16-Knots	20-Knots
Runway 15/33	90.64%	93.95%	96.96%	98.93%

Sources: Mal Sillars, Consulting Meteorologist, and FAA AGIS Wind Rose Form, <https://airports-gis.faa.gov/airportgis/publicToolbox/windroseForm.jsp>

Hangars



Legend

- Terminal
- Nested T-Hangars
- Box Hangars
- Airport Property Line

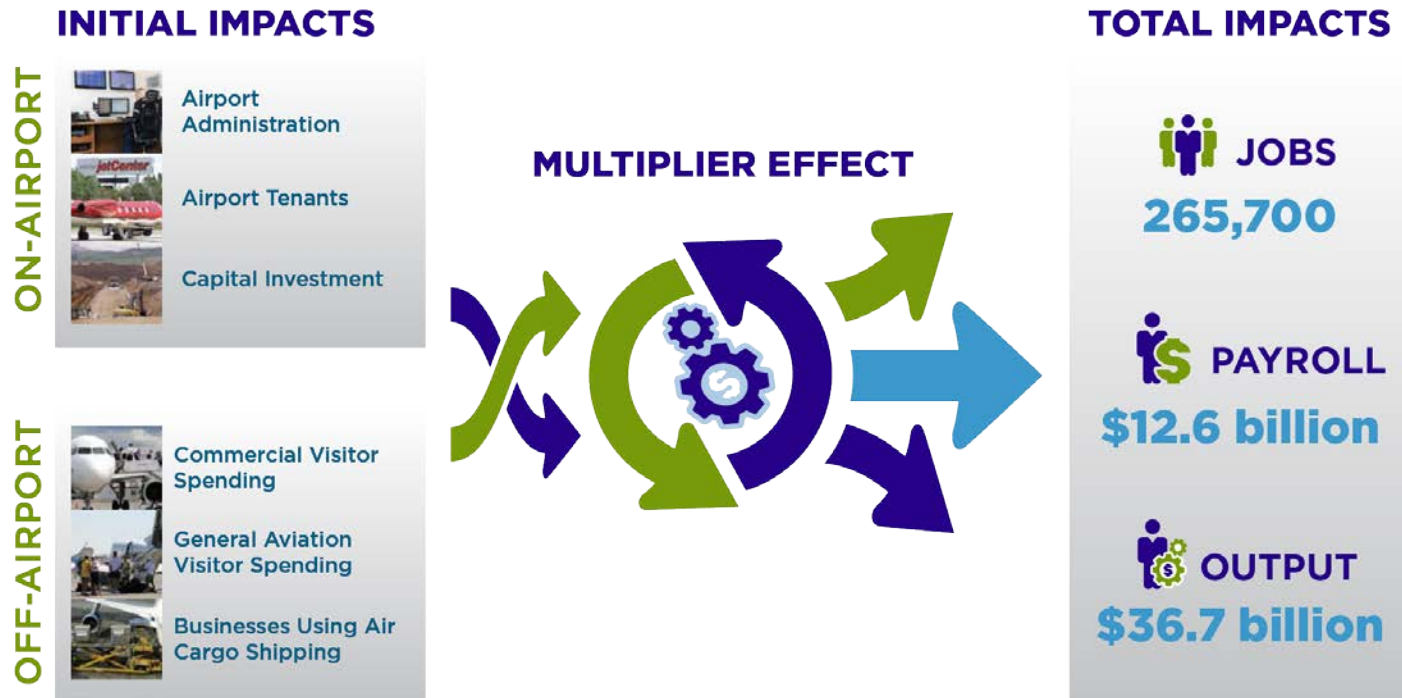
Type	Name	Units	Area (square feet)	Year Constructed	Condition	Utilities
Box	Mandy Hangar	1	12,700	1983	Fair	E
Box	Twin Peaks	2	6,000	2007	Good	E
Box	Jay Jones	1	4,070	2012	Excellent	E
T-hangar	B	11	11,500	2004	Good	E
Box	A	5	9,020	1985	Fair/Good	E
Box - TTF	TTF	6	9,438	1995	Good	E

High Altitude & Military Testing

- Constant since 2002
- Typically during summer months (June – September)
- Augusta, Bell, Boeing, Sikorsky, Qinetiq, and the U.S. Army, Air Force, & Navy Seals

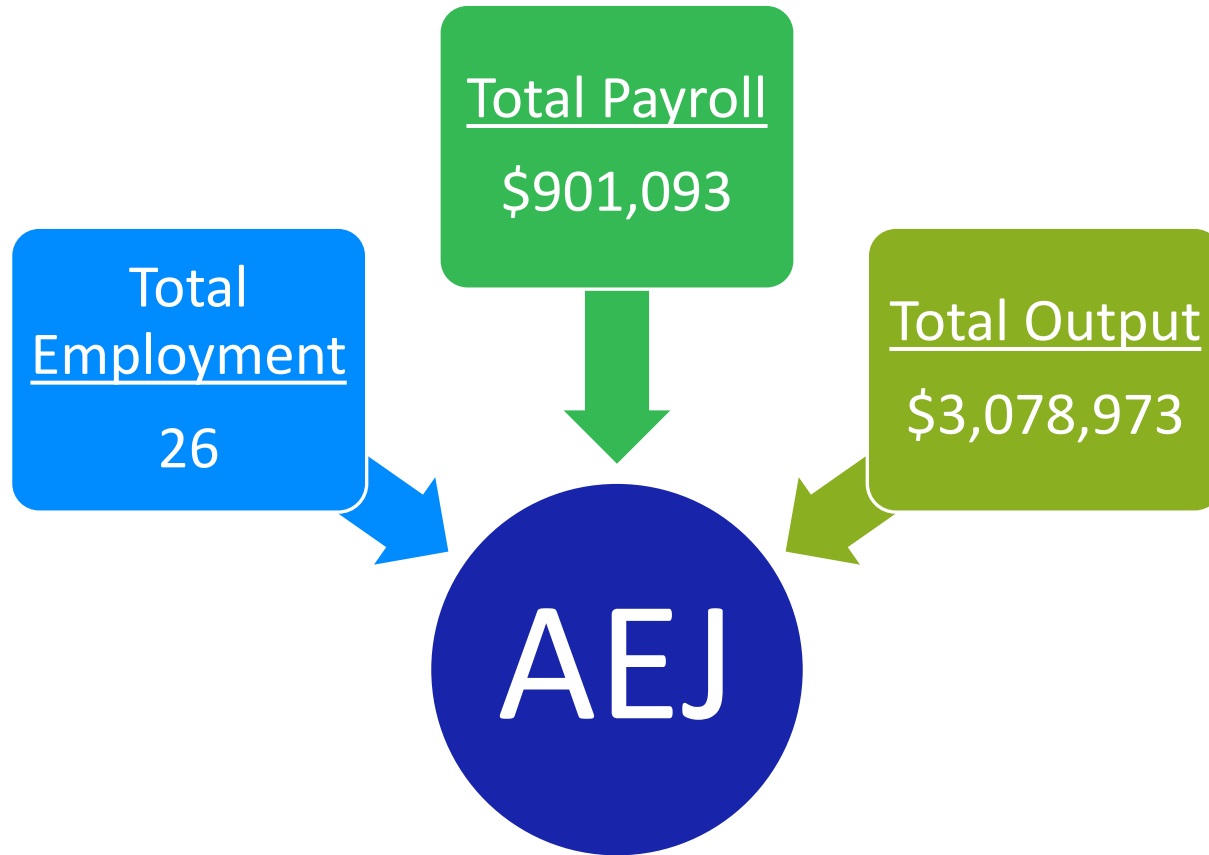


CDOT Economic Impact Study – Multiplier Effect (Colorado Airports)



Source: Colorado Department of Transportation, Division of Aeronautics, Economic Impact Study, 2013

Economic Impact – Total Annual Output



Source: CDOT, Division of Aeronautics, Economic Impact Study, 2013

Environmental Overview

Wetlands



Endangered Species



Noise



Historic



Hazardous Materials



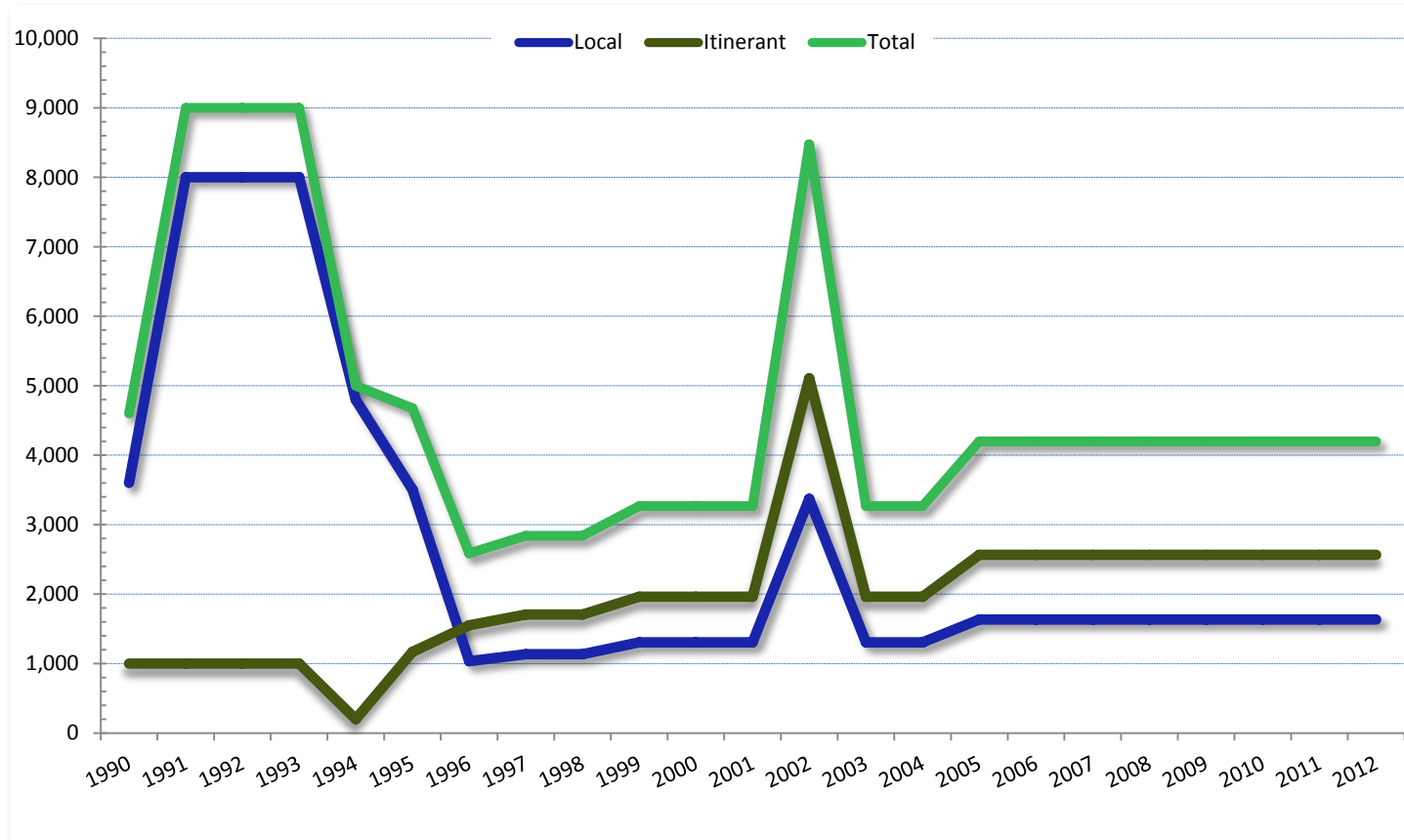
Aviation Forecast

Non-Towered Airports

- Little Hard Data Available
- Activity Levels Estimated – Not Counted
- Various Electronic Counters Available
 - Acoustical & Video
 - Expensive and Labor Intensive
- FlightAware, Passur, GCR Sell Traffic Data
- FAA Compiles Flight Plan & ATC Data
- Towered Airports Experienced Traffic Declines

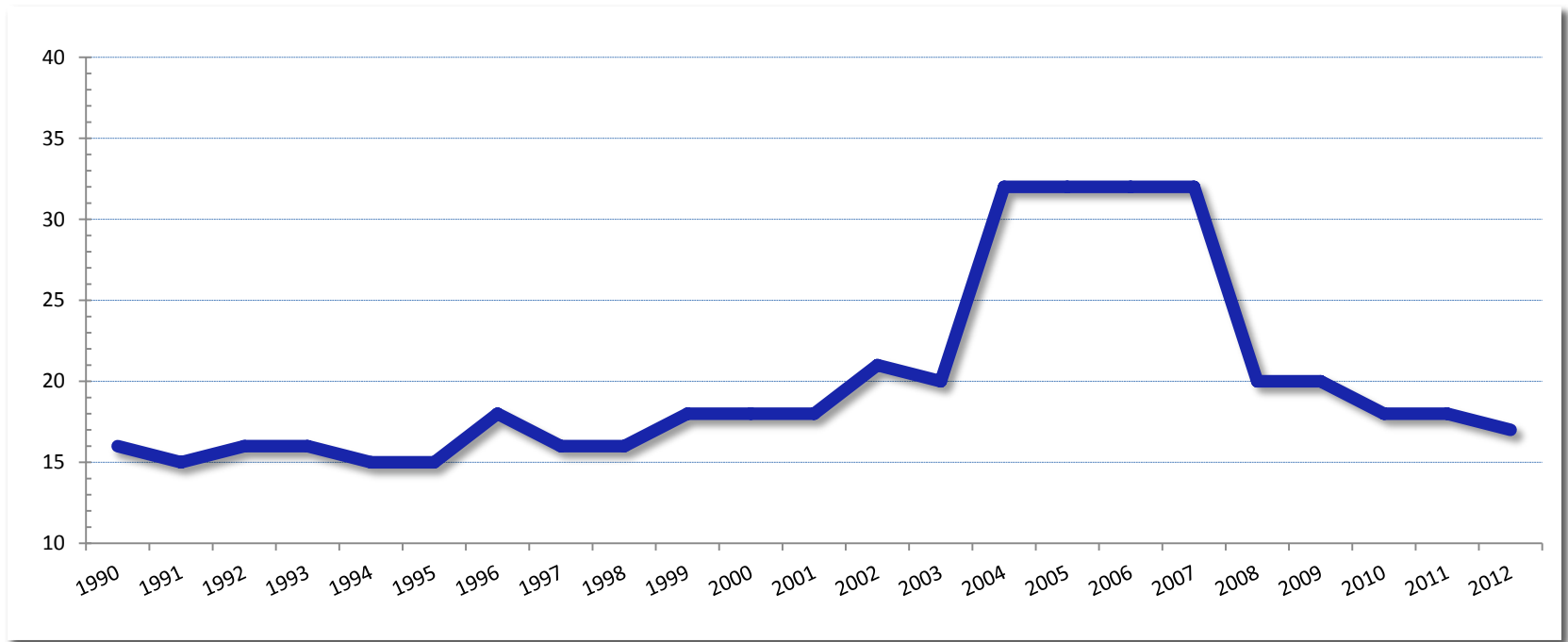
Aircraft Operations: 1990-2012

FAA Terminal Area Forecast (TAF)



Based Aircraft: 1990-2012

FAA Terminal Area Forecast (TAF)



Why Prepare Activity Forecasts?

- Facility Requirements & Operational Needs
- Identify Design Aircraft
- Aeronautical & Non-Aeronautical Revenue
- Operation & Maintenance and Capital Costs
- Environmental Issues
- Capital Improvement Program (CIP)
- Airport Layout Plan (ALP)
- Marketing Programs

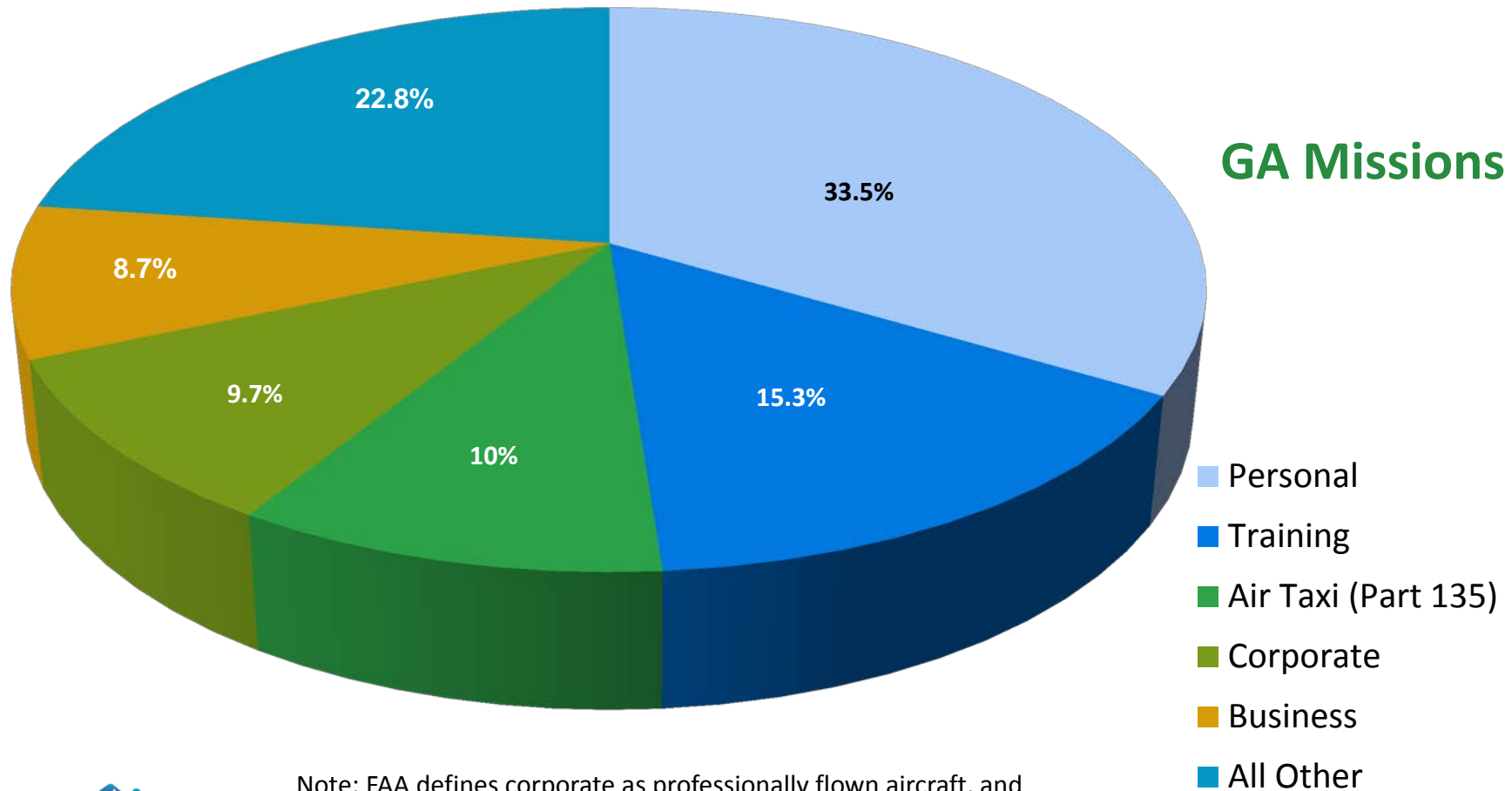
Why Prepare Activity Forecasts?

- *“I always avoid prophesying before hand because it is much better to prophesy after the event has already taken place.”*
Winston Churchill
- *“Prophesy is a good line of business, but it is full of risks.”*
Mark Twain
- *“An expert is one who will know tomorrow why the things he predicted yesterday didn’t happen today.”* Evan Esar
- *“If you have to forecast, forecast often.”* Edgar R. Fiedler

Forecasting Sources and Methods

- FAA Terminal Area Forecast (TAF) - 2014
- FAA Form 5010-1, Airport Master Record
- FAA Advisory Circular 150/5070-6B, Airport Master Plans
- ACRP – Airport Aviation Activity Forecasting
- ACRP – Counting Aircraft Operations at Non-Towered Airports
- CDOT Aeronautics' State Aviation System Plan - 2011
- Forecasting Aviation Activity by Airport, GRA, Inc.

General Aviation Hours Flown by Actual Use (Nationally)



Note: FAA defines corporate as professionally flown aircraft, and business as flown by the aircraft owner

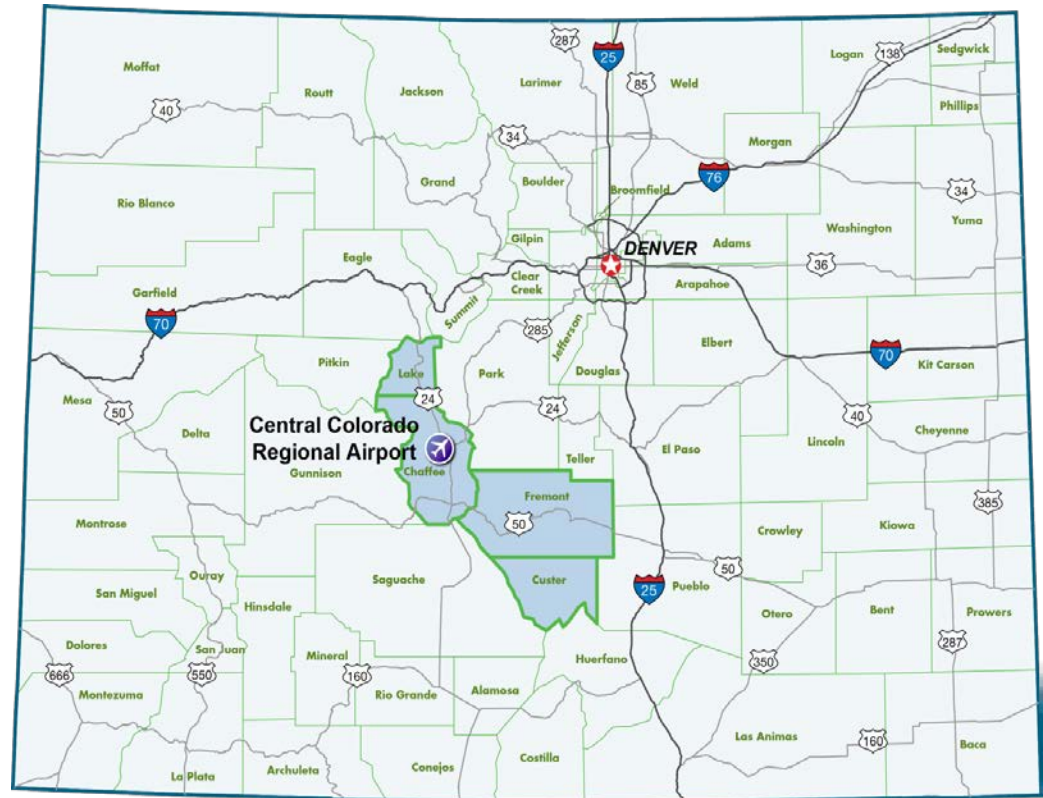
Source: FAA GA and Air Taxi Activity Survey, 2012

Factors Influencing Aviation Activity at AEJ

- Aviation fuel prices
- Availability of 100LL avgas and a drop-in replacement
 - Drop in replacement means another fuel can be used in the same storage tanks and aircraft engines with no modifications
- Cost of airplane ownership: acquisition, maintenance, storage, insurance, etc.
- Airport and/or airspace security regulations
- Number of licensed pilots, and pilot demographics
- Demographic and Socioeconomic trends

Demographic & Socioeconomic Factors

Town of Buena Vista and Chaffee County are part of the Upper Arkansas Region (State Region 13) which consists of Chaffee, Lake, Fremont, and Custer Counties .



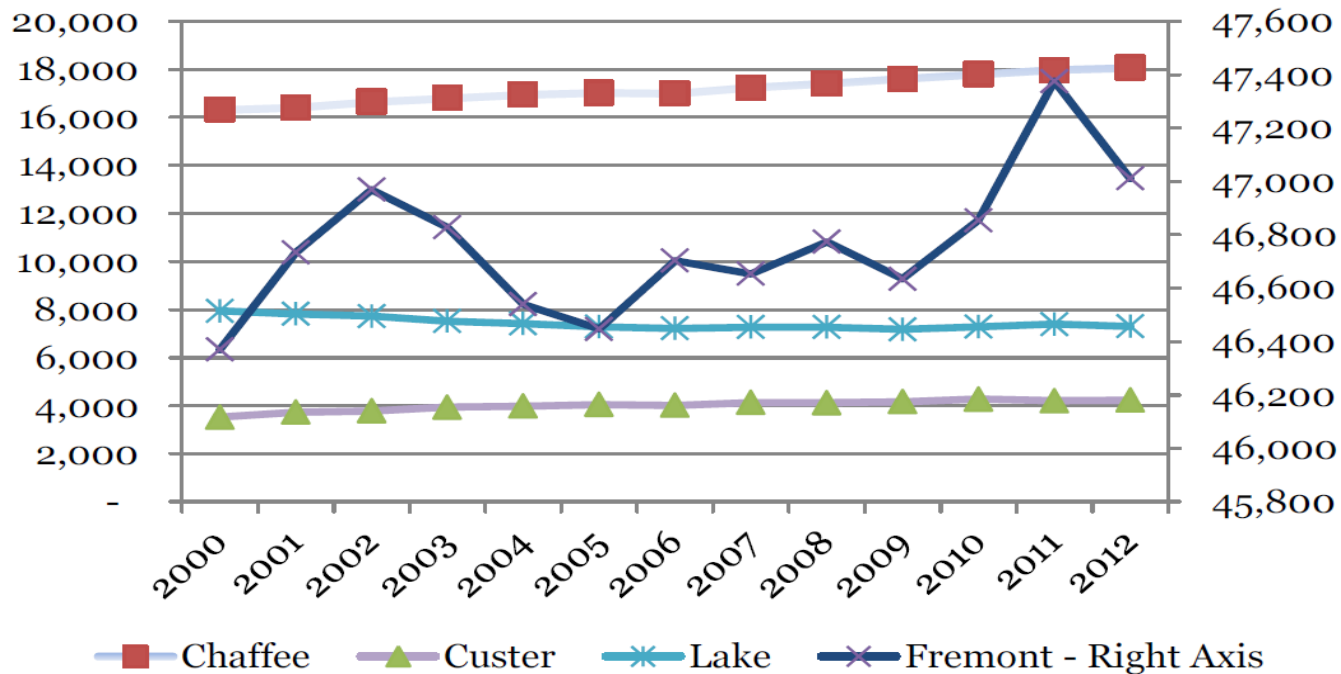
Demographic & Socioeconomic Factors

The Southern Colorado Economic Development District published the Chaffee County 2010 CEDS report.

Summary:

- Chaffee County's population increased steadily between 2000 and 2012, by approximately 11 percent.
- Travel spending generated a significant amount of revenue , ~\$53 million spent in 2009
- Strong tourism base supported by efficient network of transportation including AEJ.
- Primary economic development focus was identified to “attract new businesses and support and assist existing businesses to expand”.
- One of top 5 economic development strategies is to assure the infrastructure (including AEJ) can accommodate future growth.

Demographic & Socioeconomic Factors – Population Estimates by County



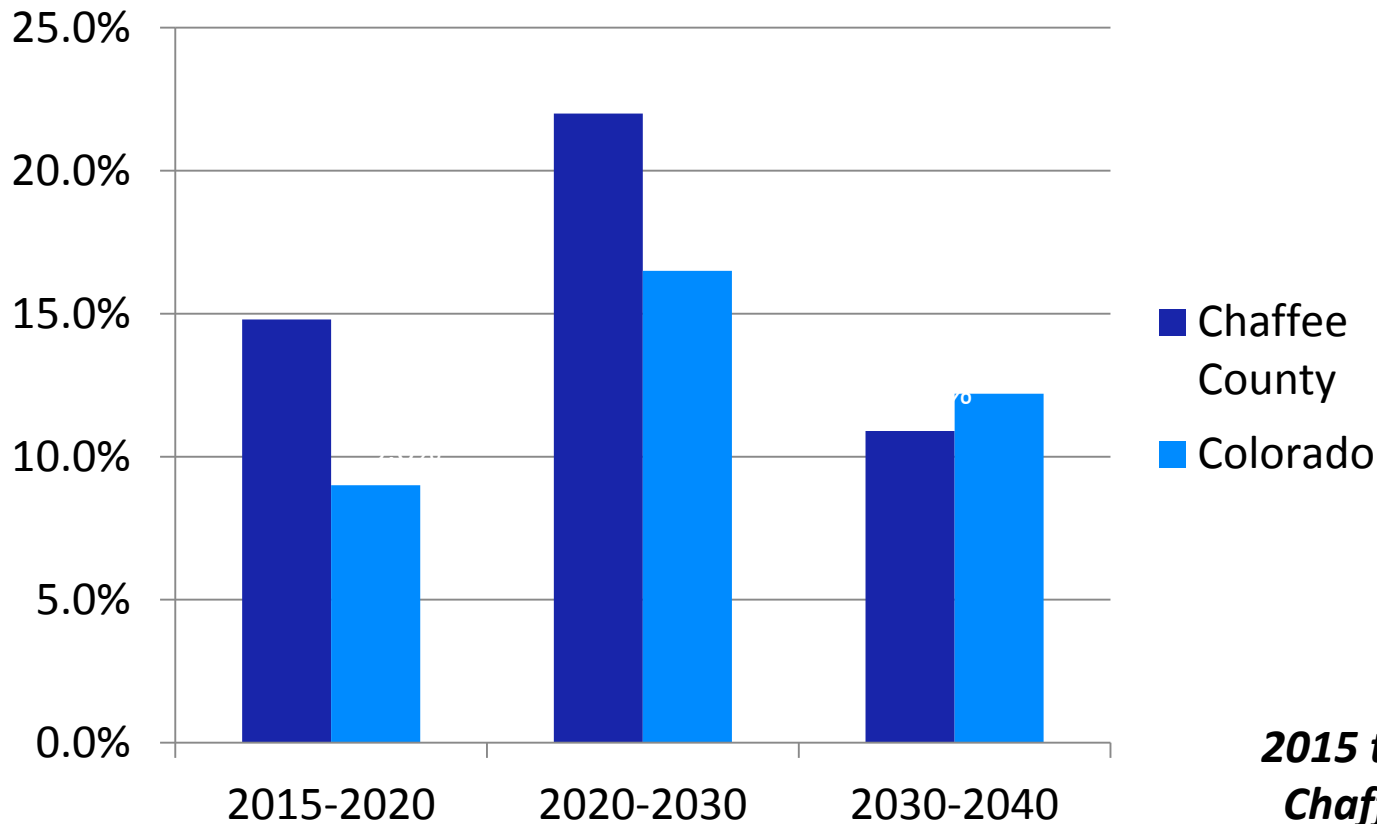
Source: Chaffee County CEDS Report, 2010, Southern Colorado Economic Development District. <http://www.scedd.com/Chaffee-County>

Demographic & Socioeconomic Factors

State Demography Office (SDO) projections for State Region 13:

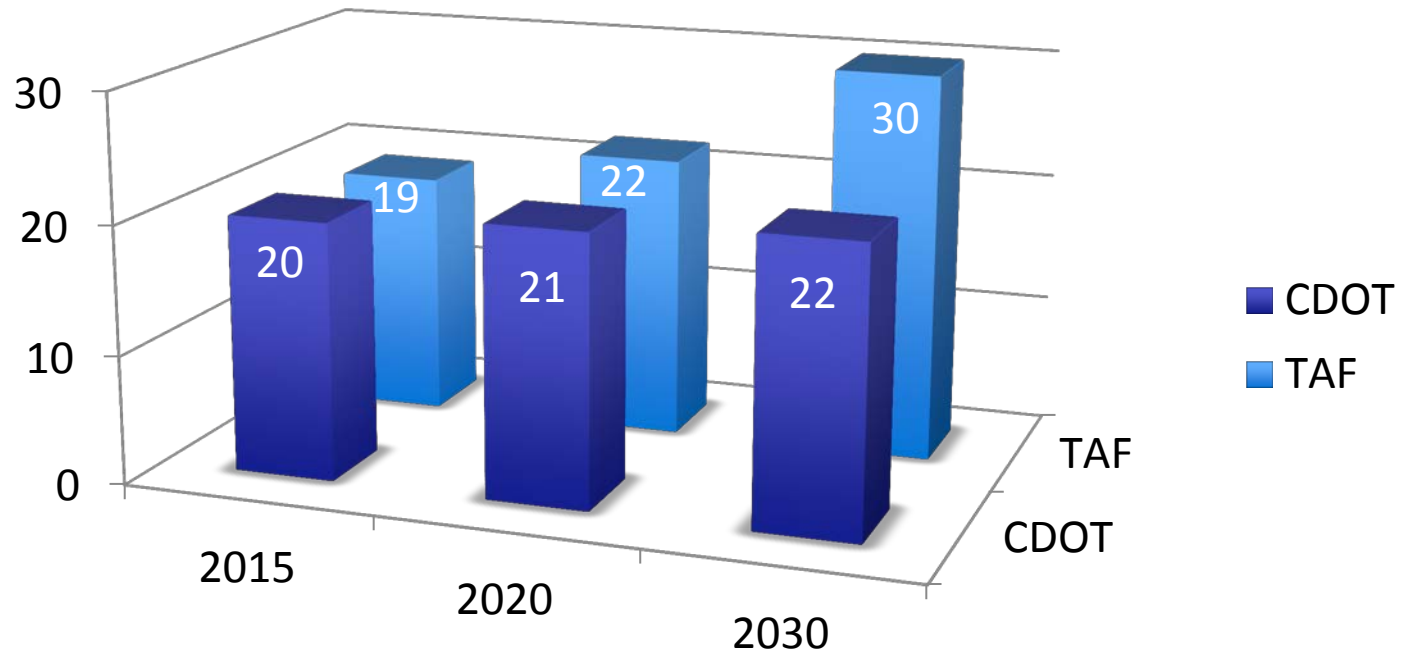
- Strong population growth through 2040; population expected to reach 100,000 by 2030 at a 2 percent annual growth rate
- Job growth is estimated to increase at more than 2 percent annually from 2015 to 2025, exceeding population growth rate
 - Overall job growth will slow by 2030 but a steady increase through 2040 is expected.

Demographic & Socioeconomic Factors – Population Forecast

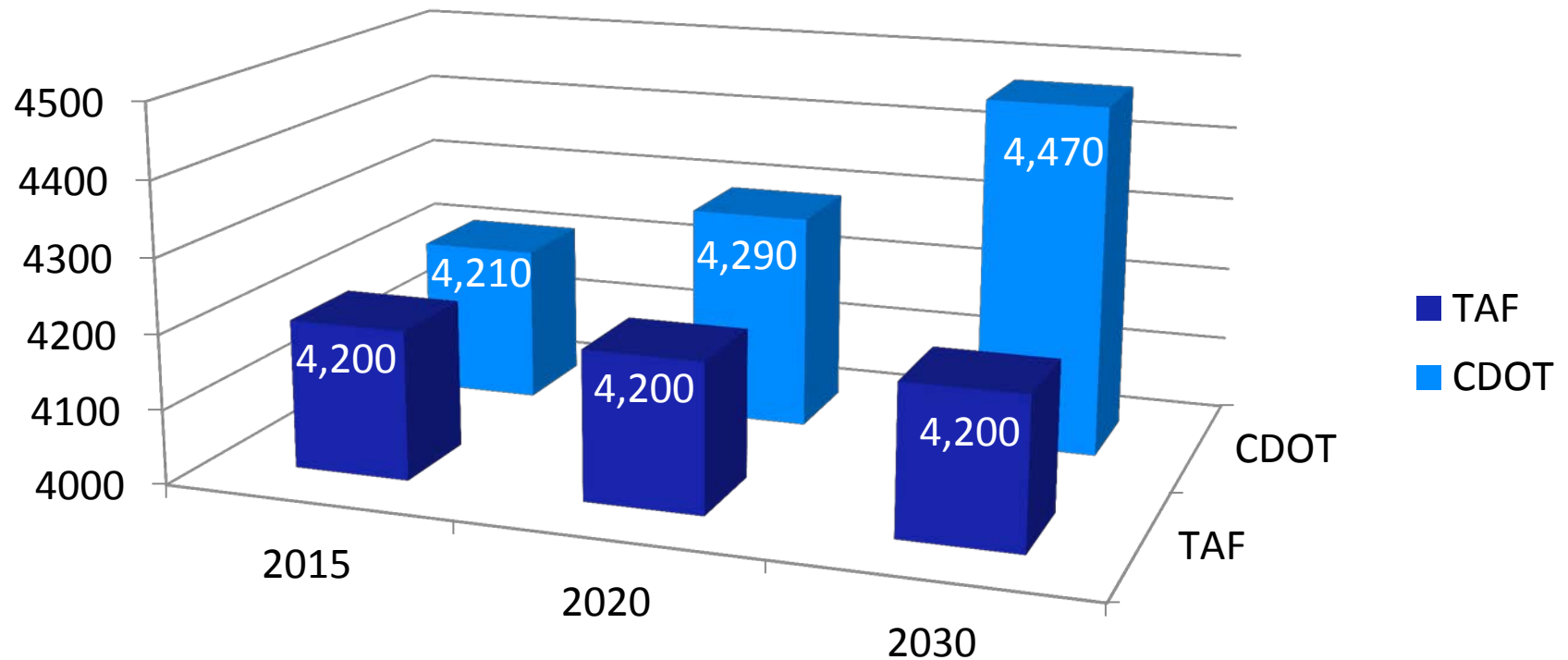


2015 to 2040:
Chaffee County = 55%
Colorado = 42%

Other AEJ Based Aircraft Forecasts



Other AEJ Operations Forecasts



Forecast Scenarios

- Forecast Scenario 1 – Status Quo/Slow Growth
- Forecast Scenario 2 – High Growth
- Forecast Scenario 3 - Decline

Forecast Scenario 1 – Status Quo/Slow Growth

Assumptions:

- Future cost of GA aircraft ownership/operation will rise at or near the overall rate of inflation.
- Drop-in replacement fuel for 100LL developed prior to 2020 at a retail price equal to existing 100LL prices.
- No new security regulations will be imposed that would further restrict GA airports or airspace.
- Socioeconomic trends in Chaffee County will continue to outpace the state through 2034 as projected by Colorado Department of Local Affairs.

Forecast Scenario 2 – High Growth

Assumptions:

- Future cost of GA aircraft ownership/operation will decrease in relation to the average rate of inflation.
- Drop-in replacement fuel for 100LL developed prior to 2020 at a retail price equal to existing 100LL prices.
- Aviation fuel prices will remain stable or possibly decline throughout forecast period.
- No new security regulations will be imposed that would further restrict GA airports or airspace.
- Regional and state economy will grow steadily at 3 to 4 percent per year.
- Inflation rate will remain below 2 percent.
- Stock market and corporate profits will increase steadily at 5 percent or more per year.
- Socioeconomic trends in Chaffee County will continue to outpace the state through 2034 as projected by Colorado Department of Local Affairs.

Forecast Scenario 3 – Decline

Assumptions:

- One or more significant setbacks to the GA industry and/or economy will occur.
 - Discontinuation of 100LL fuel or sudden price increase due to limited availability
 - New access restrictions imposed on GA airports and airspace due to security concerns
 - Airlines and military significantly reduce pilot hiring/training
 - Onset of another deep economic recession with a prolonged decline in corporate profits and the stock market
- Socioeconomic growth in Chaffee County will slow by end of this decade.

Conclusions

- ➔ Likely that a combination of some downward pressures on GA activity will be offset by positive developments.
 - Scenario 2 – High Growth and Scenario 3 – Decline are considered to be less likely to occur than Scenario 1 – Status Quo
- ➔ Scenario 1 – Status Quo/Slow Growth best represents the future level of activity at AEJ through 2034.
 - A balance between the optimistic and downward trend scenarios
 - Likely actual activity levels will fluctuate over time, trending upwards over the long-term

Forecast Summary

GA Operations

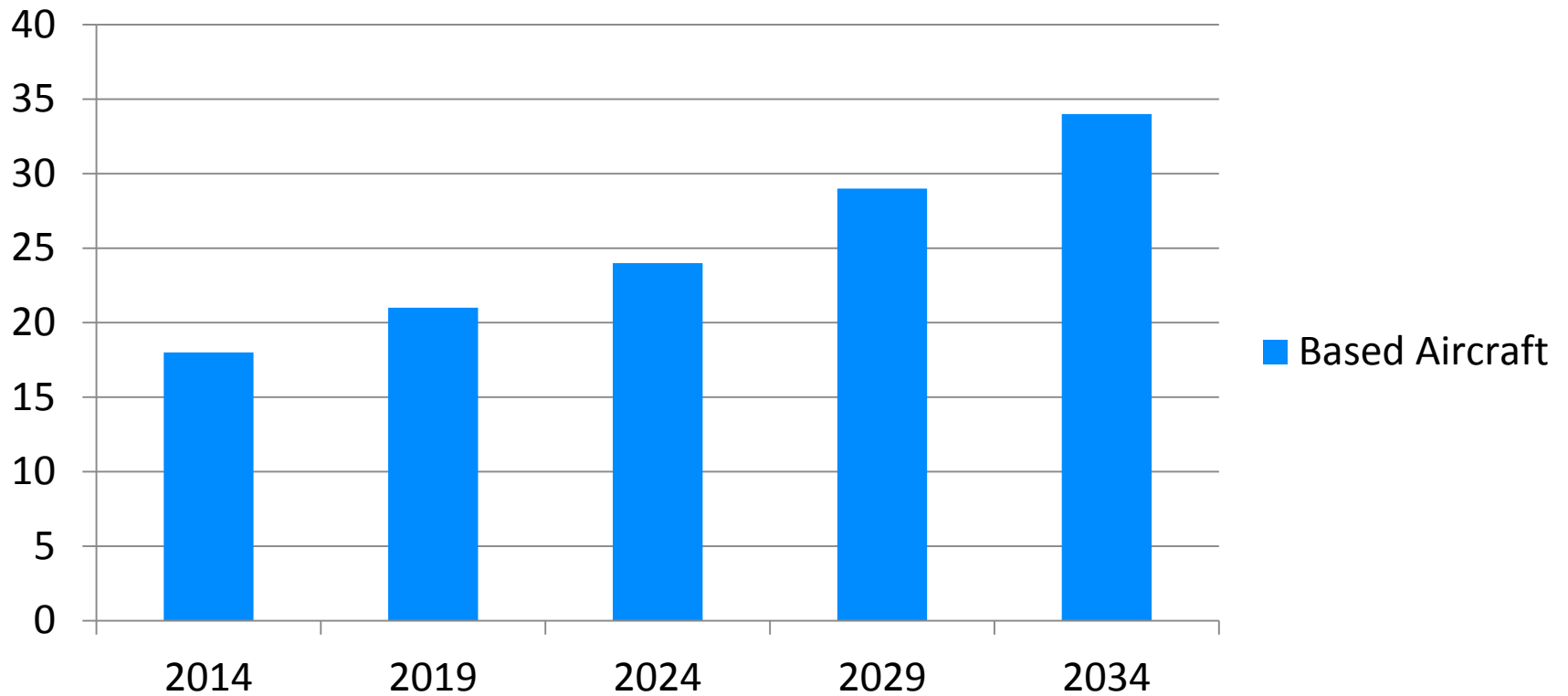
- Growing at 2.3 percent annually
- From 4,293 in 2014 to 6,713 in 2034
- Local vs. Itinerant Operations
 - 1,668 vs. 2,625 in 2014
 - 2,478 vs. 4,237 in 2034

Based Aircraft

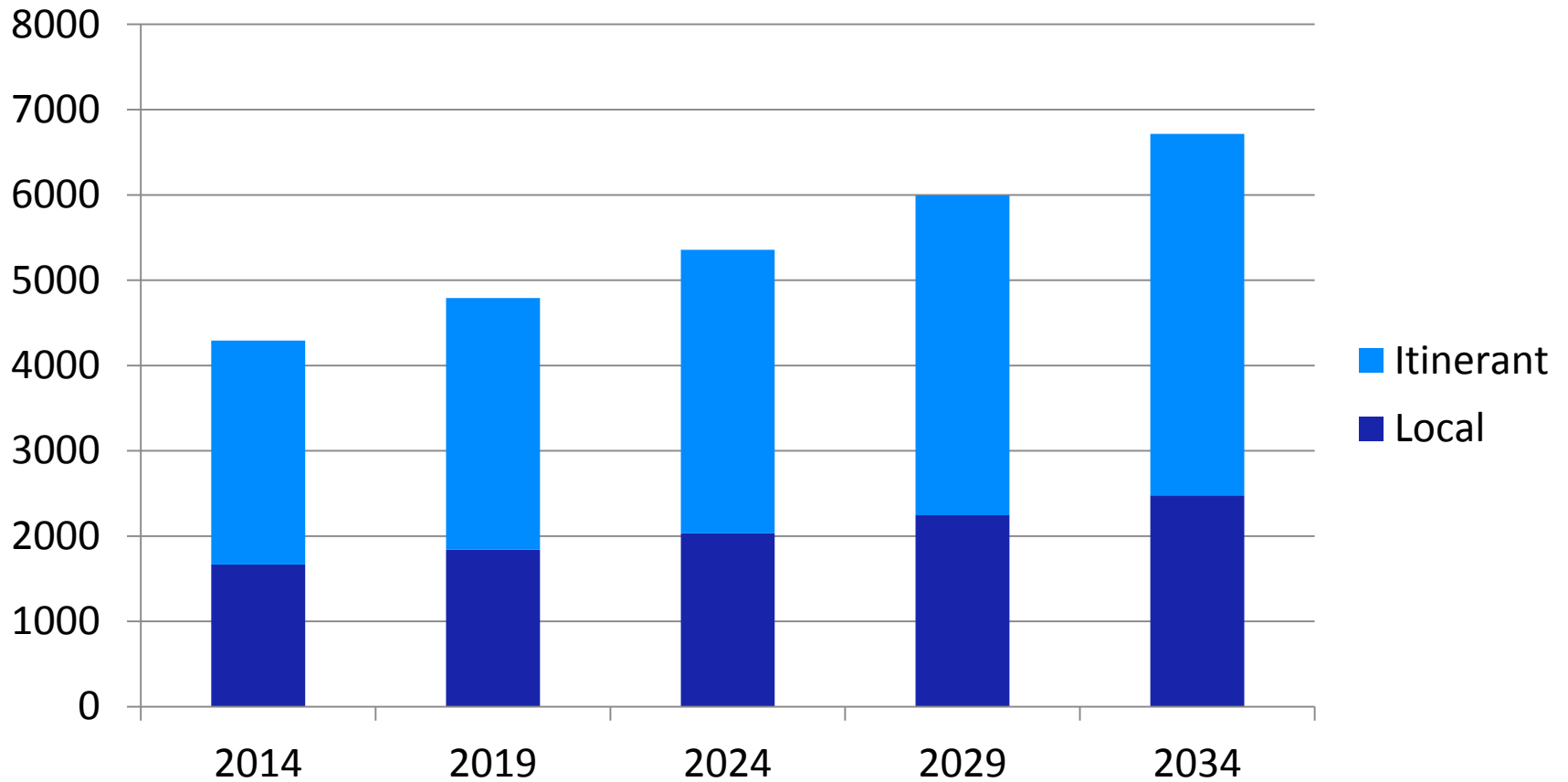
- Growing at 3.2 percent annually
- From 18 aircraft in 2014 to 34 in 2034

Based Aircraft Forecast

Based Aircraft



Operations Forecast



Critical Aircraft and Runway Design Code (RDC)

→ Most demanding aircraft or family of aircraft that account for at least 500 annual operations.

→ Currently: Cessna Citation CJ2

- Aircraft Approach Category (AAC) – B
- Airplane Design Group (ADG) – II



→ Future: *Maintain the current RDC of B-II*

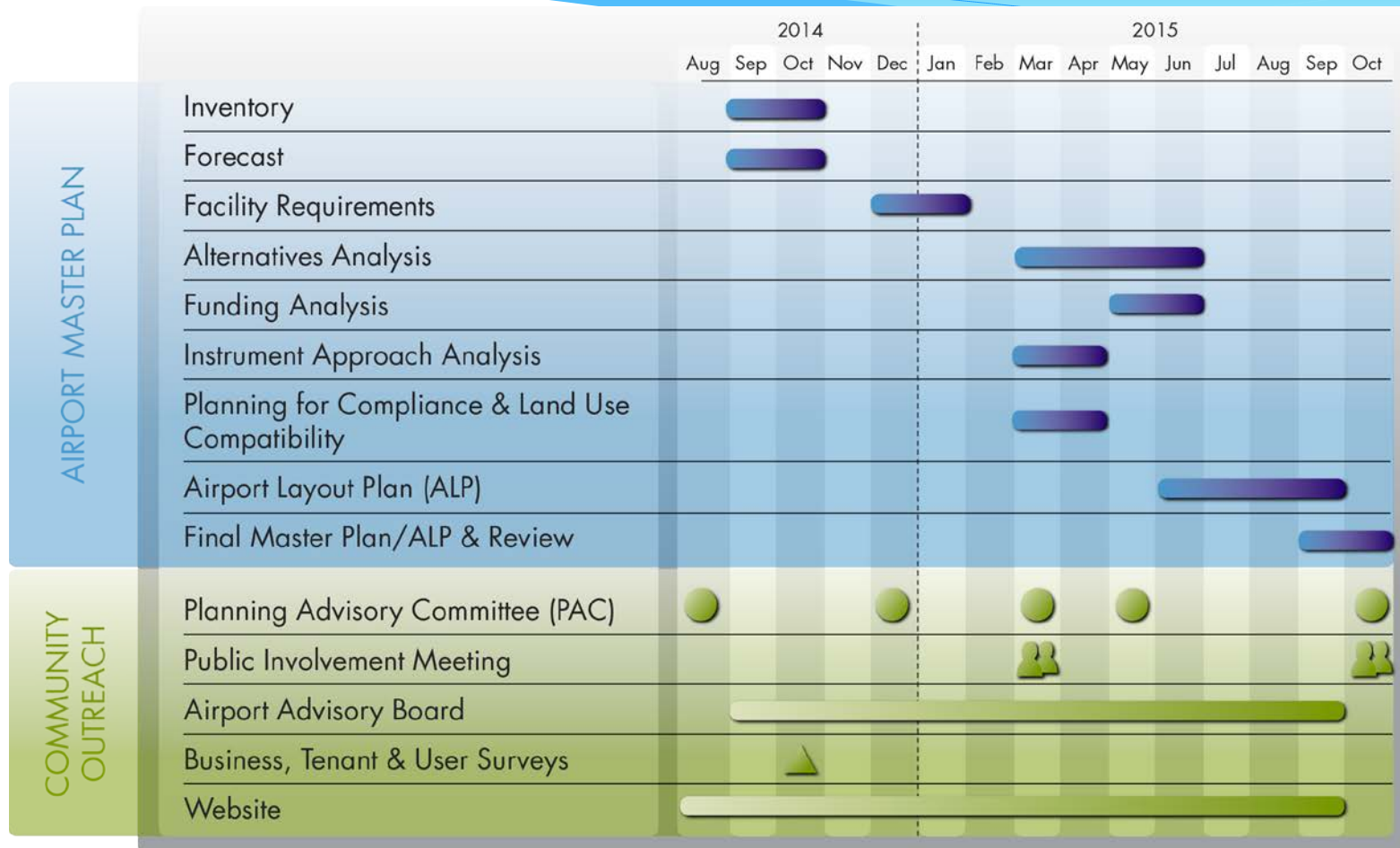


**QUESTIONS,
COMMENTS?**



Next Steps

Master Plan Timeline



Next Steps

→ Working Paper #1

- ❖ Introduction, Inventory, & Forecast – *submitted to FAA on 12/3/14*
- ❖ Respond to FAA comments

→ Working Paper #2

- ❖ Facility Requirements – draft to Sponsor late January 2015 / submit to FAA February 2015

→ Working Paper #3

- ❖ Alternatives Analysis
- ❖ Instrument Approach Analysis

→ PAC Meeting & Public Open House (March 2015)



**QUESTIONS,
COMMENTS?**

Thank you!

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