



## Aspen/Pitkin County Airport ASE VISION PROCESS

May 7, 2019

### **Meeting Purpose**

### **EXPLORE**

potential implications of forecasted industry changes in service, aircraft/fleet and air space from a regional growth management perspective

#### **ESTABLISH**

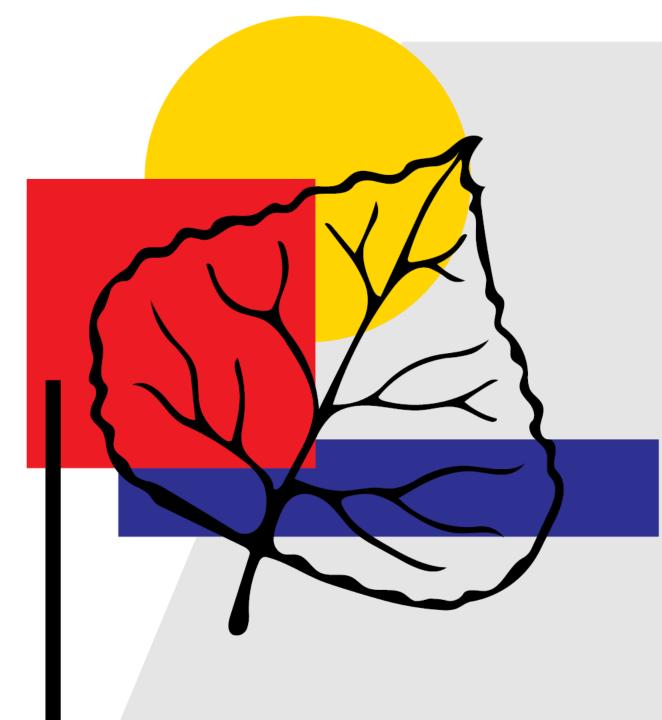
baseline of past and present air service and current conditions at ASE

#### BETTER UNDERSTAND

projected future trends in the air service industry

2







**Welcome and Introductions** 

Setting the Growth Context:

**Roaring Fork Valley** 

Past, Present and Projected: Air

Service, Aircraft/Fleet and Air Space

**Moderated Q&A** 

**Next Steps** 

### **Tonight's Speakers**

- Gabe Preston | RPI Consulting
  - 19 years of experience as community planner and economic analyst
  - Project lead on over 200 technical planning projects including economic analyses, demographic and market studies, fiscal analyses/impact fees, and transportation/connectivity planning
  - MA, Geography, University of Colorado, Boulder; BA, Mathematics and Philosophy, St. John's College, Santa Fe
- Linda Perry | Leigh Fisher
  - 34 years of experience in forecasting and economics
  - Specializes in economic analyses, aviation demand forecasting, and comparative evaluations of airline service, route networks, and airfares
  - Bachelors, Economics and Government, St. Lawrence University; Masters Economics, Boston College



## Announcements

## **Additional Meetings**

Visit <u>www.asevision.com/meetings</u> for all upcoming meetings and materials.

- Thursday, June 6th is the next joint meeting
- Community Character Working Group is meeting Thursday, May 23rd at the Pitkin County Offices, 4-6 PM.

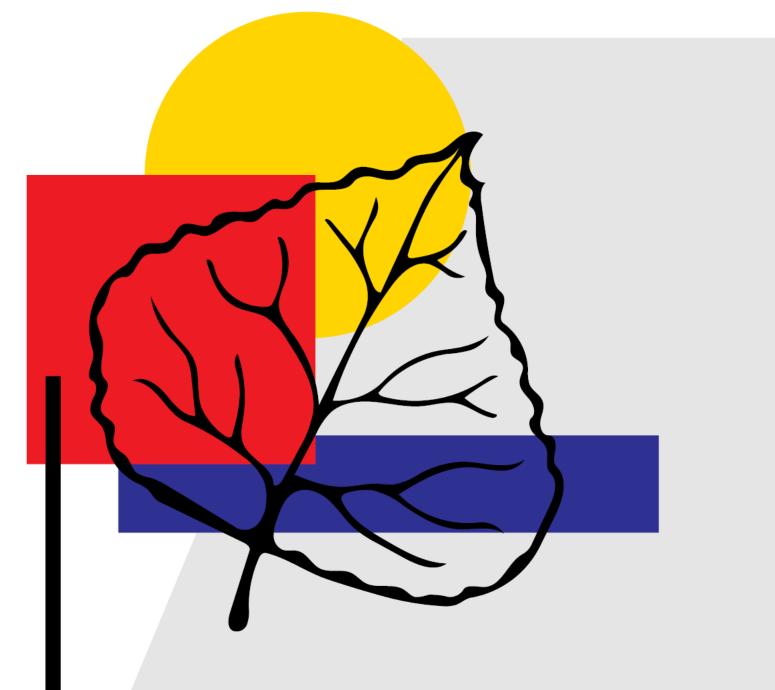
### **Airport Tours**

#### Monday, May 20<sup>th</sup>, 2-4 PM and Thursday, May 29<sup>th</sup>, 9-11 AM

 Limited to 8 people per tour, additional dates can be added depending on level of interest.

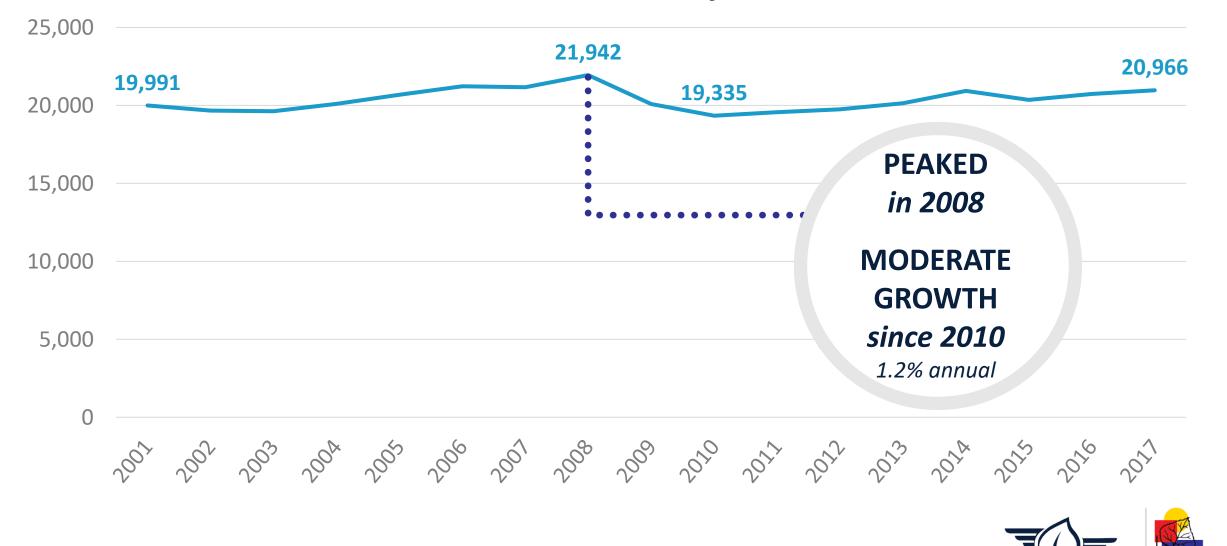


## **Setting the Growth Context: Roaring Fork** Valley



Local and Regional Growth Indicators Source: DOLA State Demography Office

**Total Jobs in Pitkin County, 2001-2017** 



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Source: DOLA State Demography Office

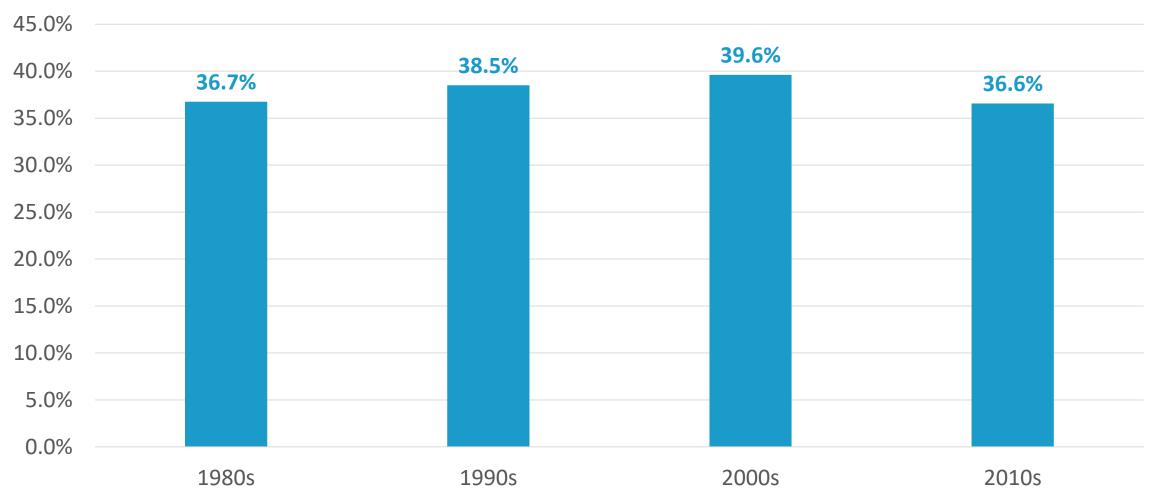
#### 16,000 13,397 12,960 14,000 11,901 **Housing** and 12,000 9,837 household 10,000 units grow at nearly the 8,000 8,491 same rate 8,156 6,000 7,248 5,877 4,000 2,000 0 1996 1998 2000 2003 2005 2005 2005 2009 2009 2011 2011 2013 2013 2013 2015 2015 2016 1985 986 1999 988 1992 1993 1994 1995 1997 2001 2002 2017 989 066 1991 987

#### **Pitkin County Housing Units and Households**

—Households —Total Housing Units



#### Average Housing Vacancy Rate by Decade, Pitkin County

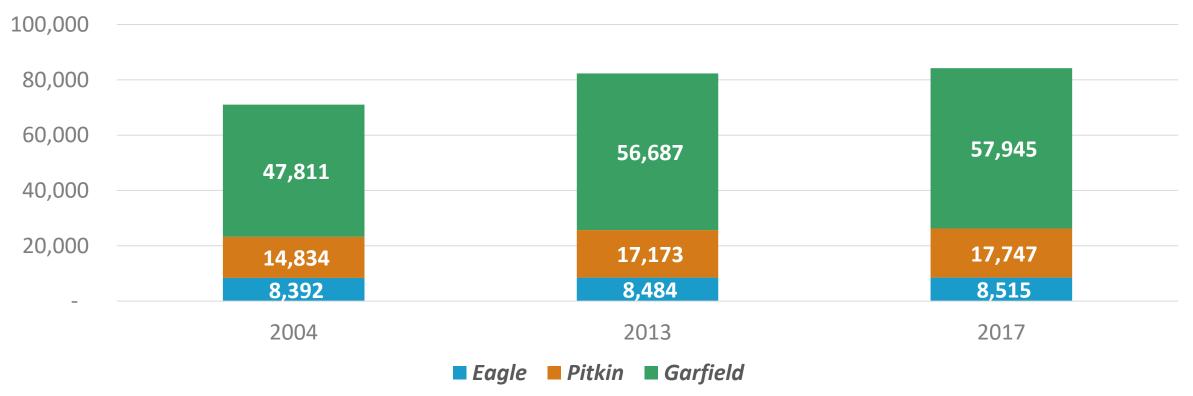


- Vacancy Rate is a sound indicator of part-time residences
- Vacancy Rate has not changed significantly over four decades
- 2006 NWCOG Second Home Study estimated 49.6%-55.2% part-time residences



Source: US Census Bureau

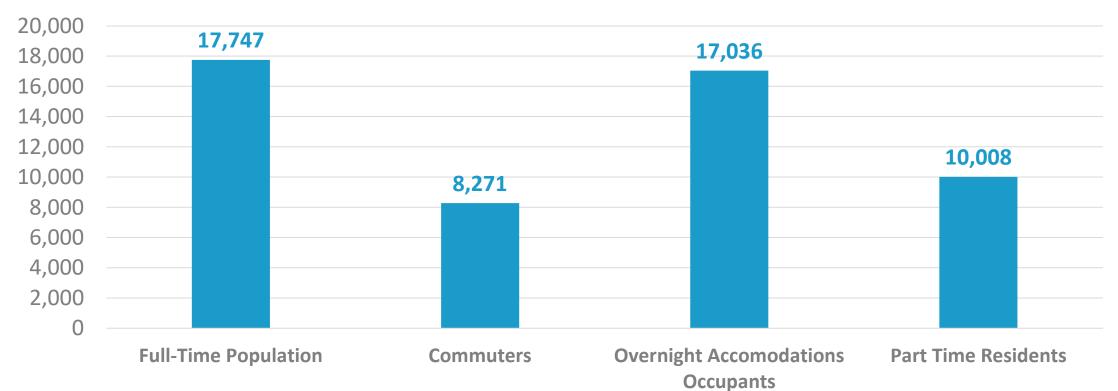
#### **Roaring Fork Valley Population Trends**



County	2004-2013 Annual % Change	2013-2017 Annual % Change
Eagle (in Roaring Fork)	0.1%	0.1%
Pitkin	1.8%	0.8%
Garfield	2.1%	0.6%

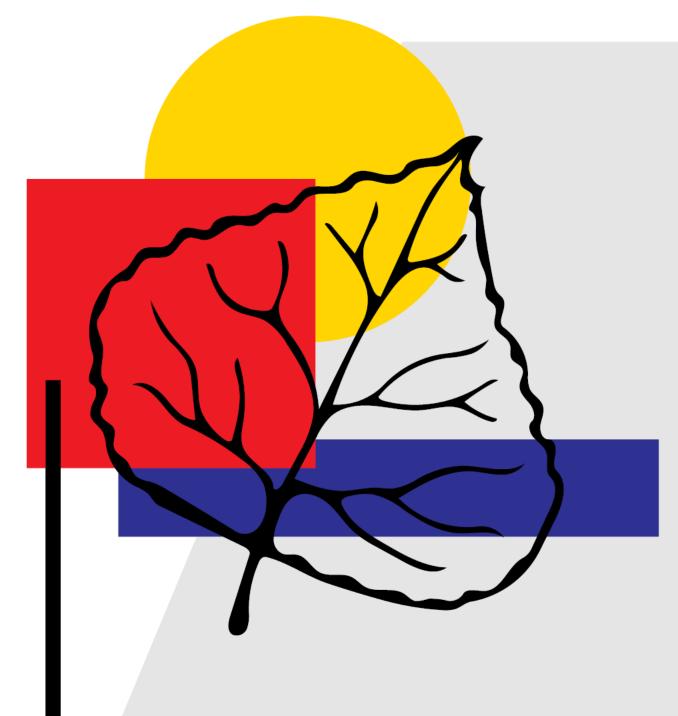


#### **Components of Peak Population**

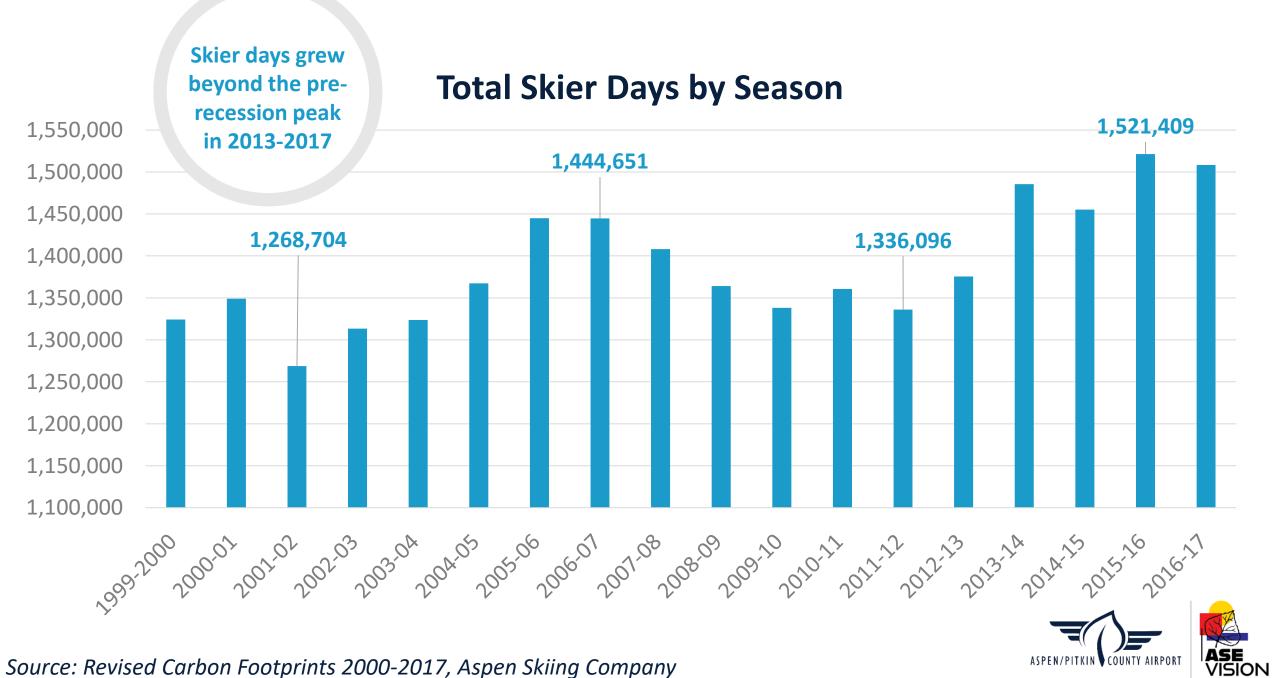


	Annual Average	Low Season	Peak Season
Full-Time Population	17,747	17,747	17,747
Commuters	7,319	5,855	8,271
<b>Overnight Accommodations Occupants</b>	12,597	6,011	17,036
Part Time Residents	6,102	4,211	10,008
Total	43,766	33,824	53,062





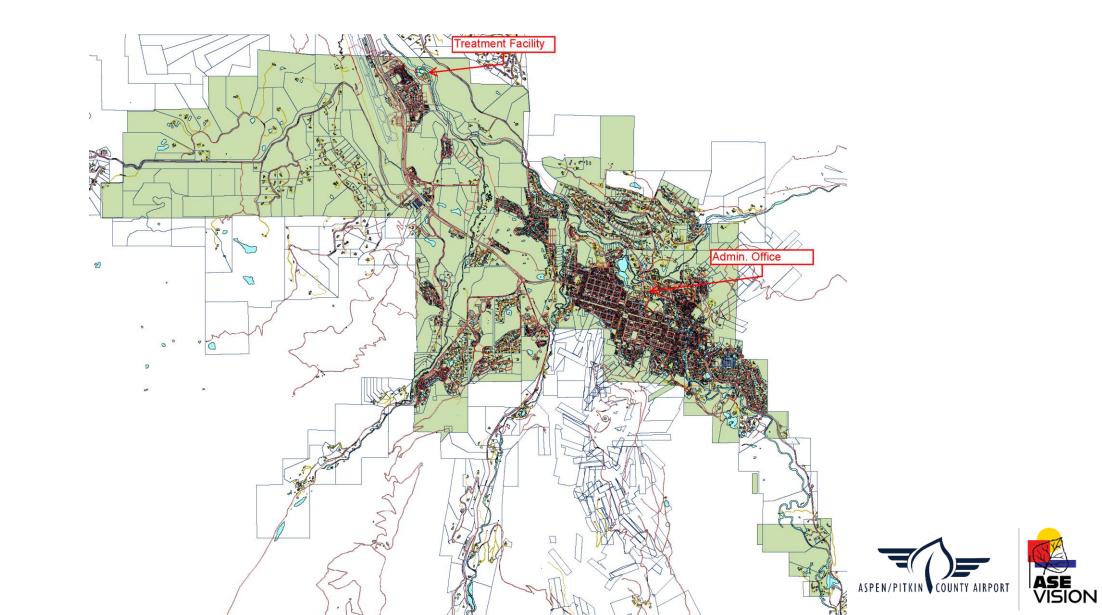
## Visitor Indicators



Source: Revised Carbon Footprints 2000-2017, Aspen Skiing Company

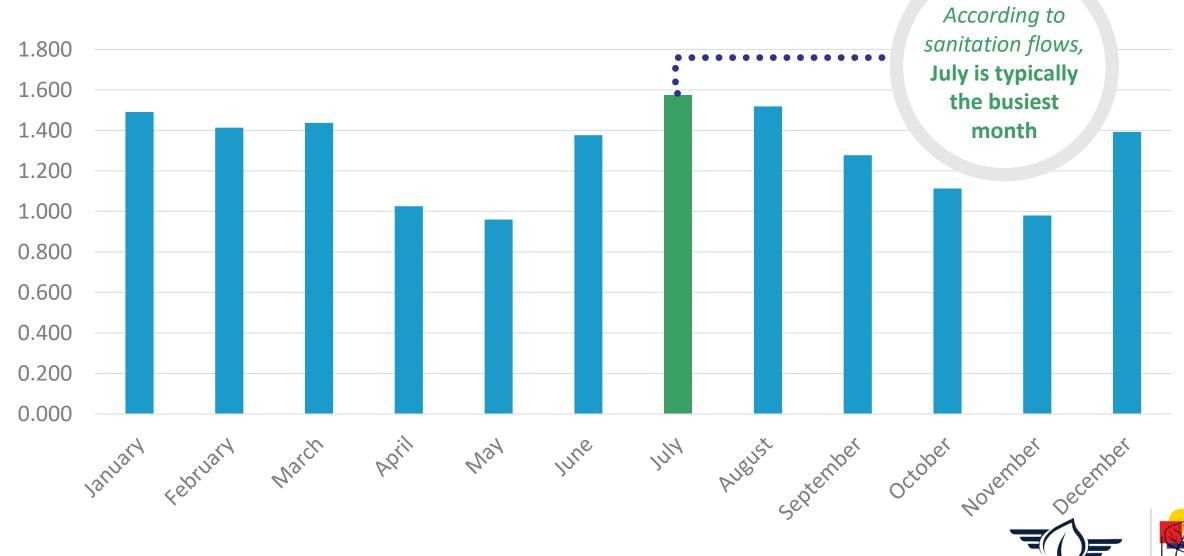
#### Aspen Consolidated Sanitation District Boundary Map

Source: Aspen Consolidated Sanitation District Website



#### Monthly Average Daily Influent Flows, 2015-2017

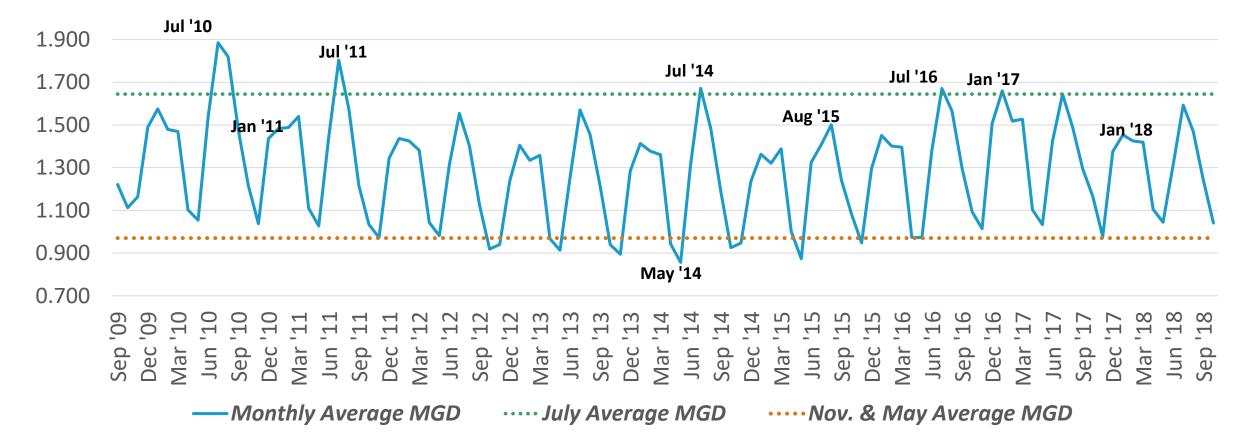
Source: Aspen Sanitation District



ASPEN/PITKIN COUNTY AIRPORT

Source: Source: Aspen Consolidated Sanitation District

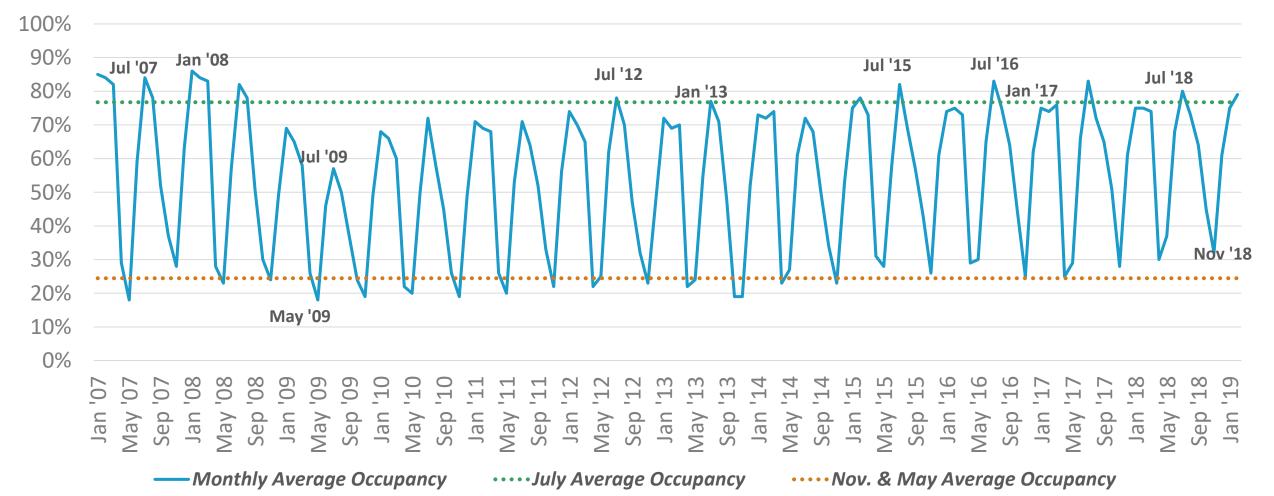
#### Wastewater Inflow Average Millions of Gallons Per Day (MGD) at ACSD



- Wastewater flows are an indicator of activity levels and peak population
- Flows have **not again reached the peak**, recorded in July 2010



#### **Monthly Average Occupancy**

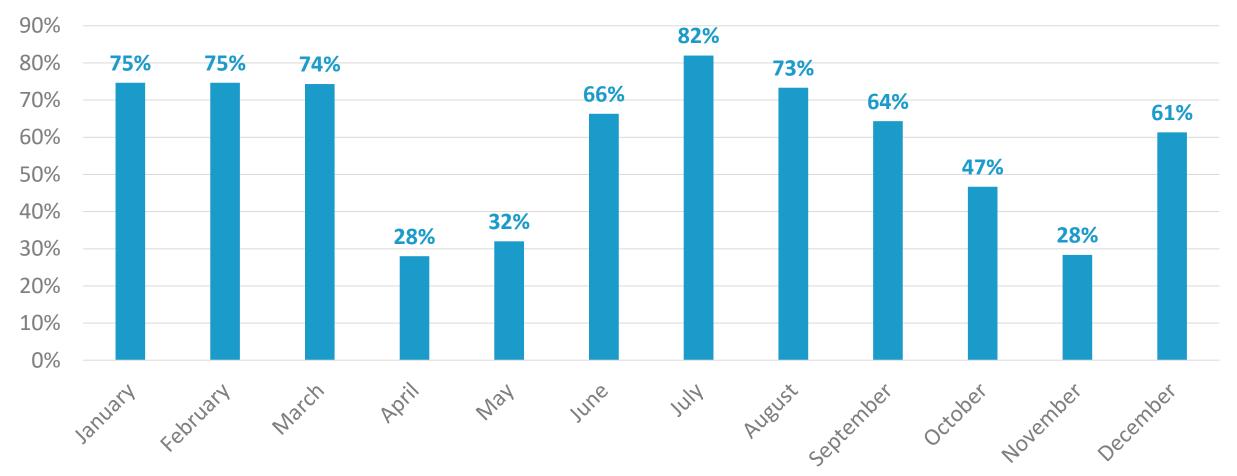


- Peak winter occupancy is almost as high as peak summer
- Recent low season occupancy is higher than pre-recession
- Haven't reached pre-recession high season occupancy, but getting close



Source: Aspen Area Resort Association

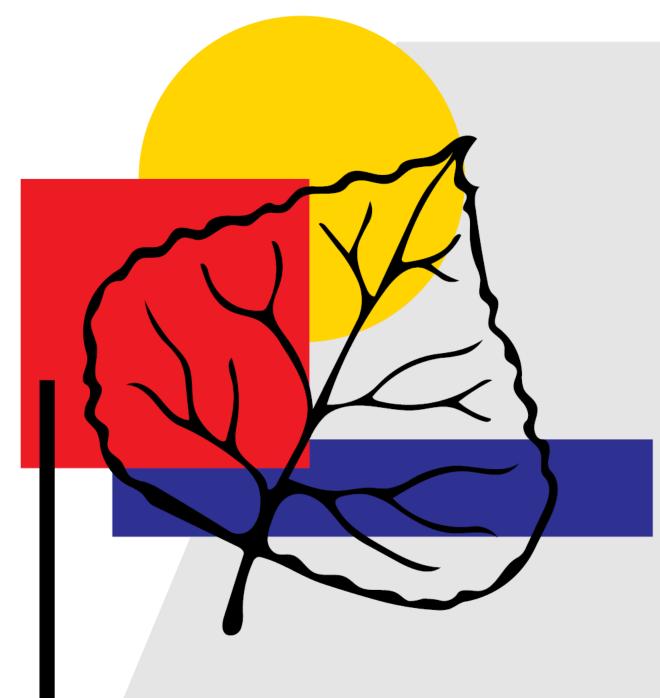
#### Monthly Average Occupancy, 2016-2018



- Paid occupancy typically **peaks in mid-July** and lower peak in Jan./Feb.
- Peak and off-season occupancy have slowly increased since 2009
- Reaching full capacity during July (practical capacity = 80%-90%)

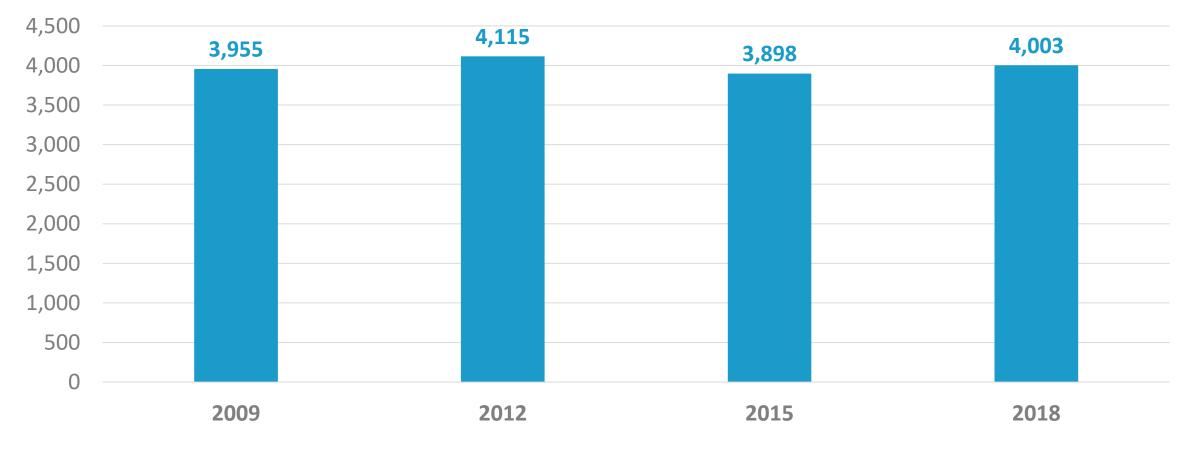


Lodging and Professionally **Managed Short-Term Rentals Inventory** and **Trends** 



Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018

#### **Aspen & Snowmass Combined Units**

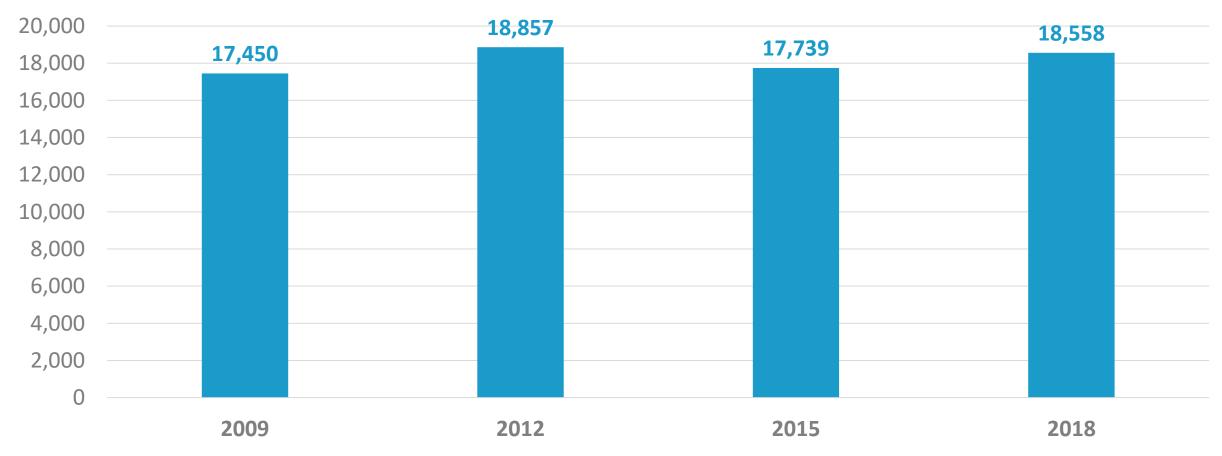


- Total units have been flat/slightly fluctuating since 2009
- Included: traditional lodging, professional managed short-term rental units, fractional ownership units, *does not include RBOs*



Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018

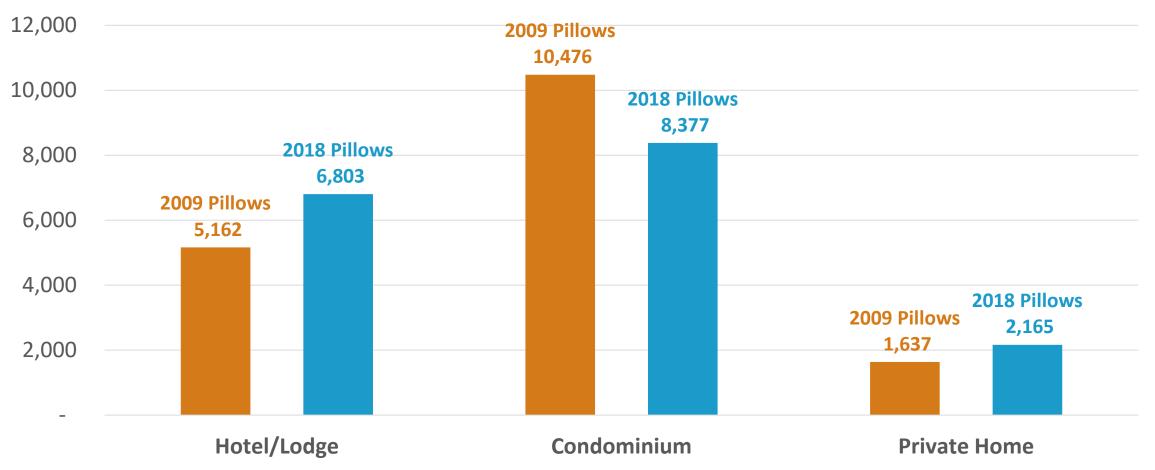
#### **Aspen & Snowmass Combined Pillows**



- Practical capacity other seasons = 80% occupancy
- Overall 2018 practical guest capacity = 15,000 guests



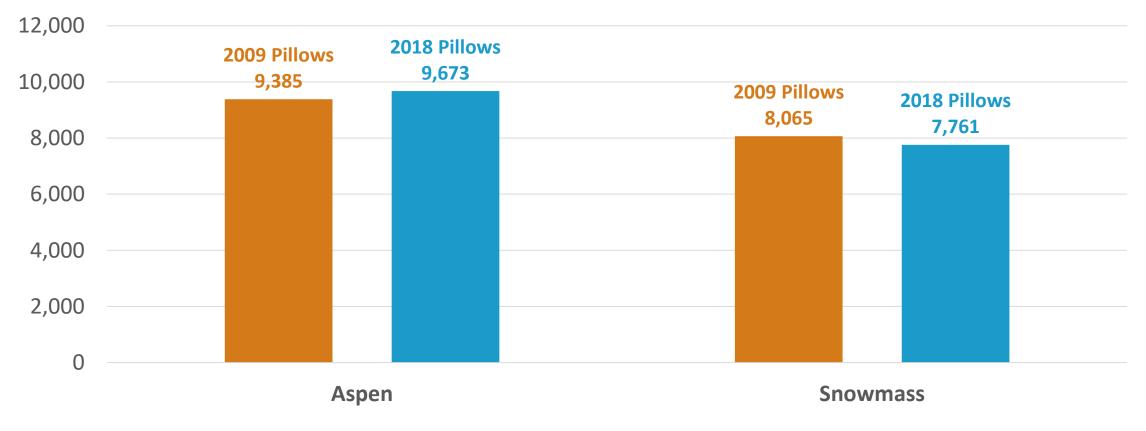
#### Pillows by Type of Unit, 2009 and 2018



• **GROWTH:** hotel/lodge pillows // **DECLINE:** condominium pillows



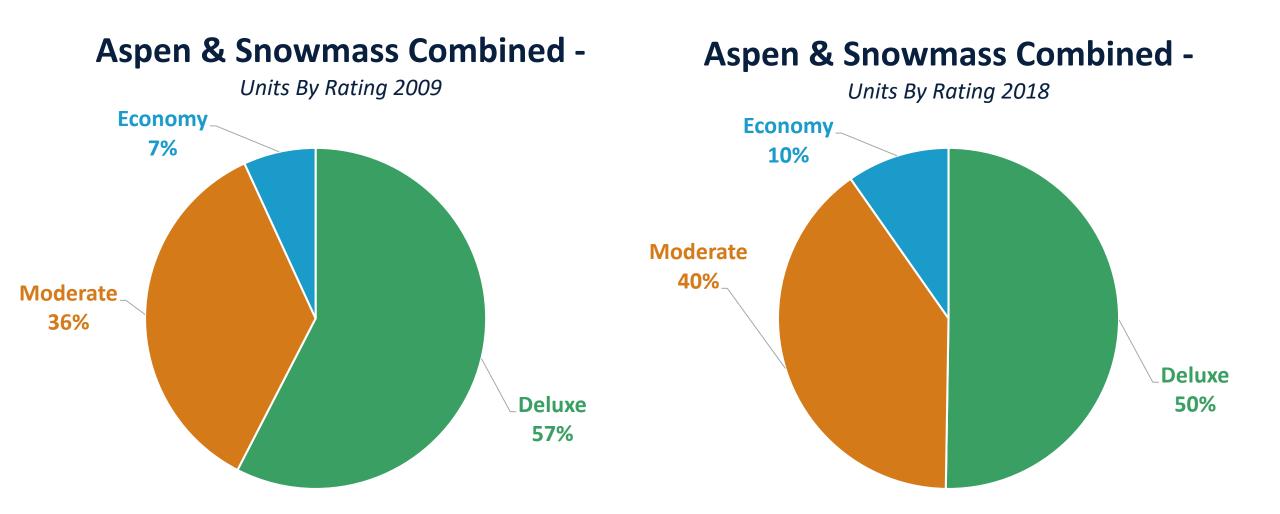
#### Pillows by Location, 2009 and 2018



• **GROWTH:** Aspen pillows // **DECLINE:** Snowmass Village pillows



Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018

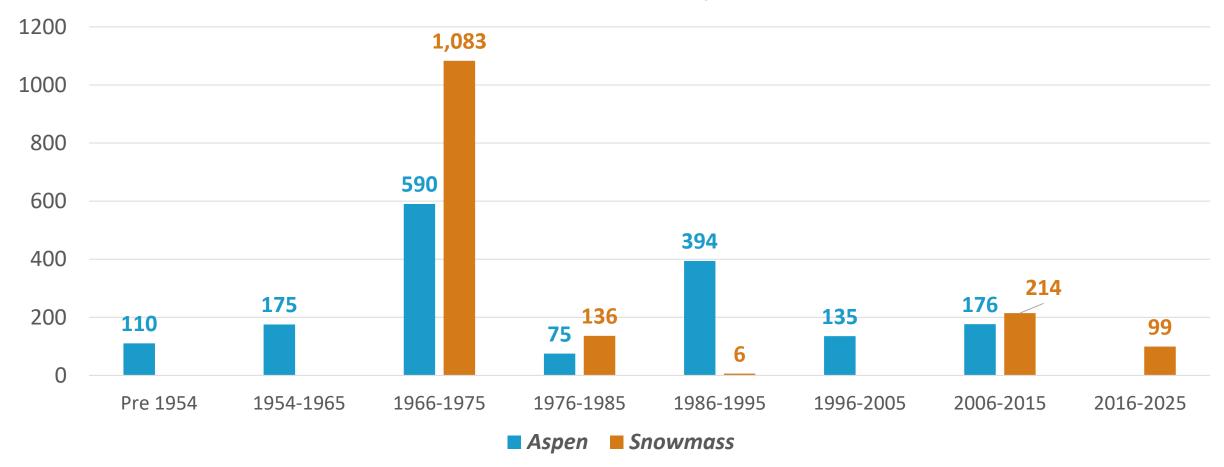


- **Deluxe** rated units have **declined** since 2009
- Moderate and Economy units have increased since 2009



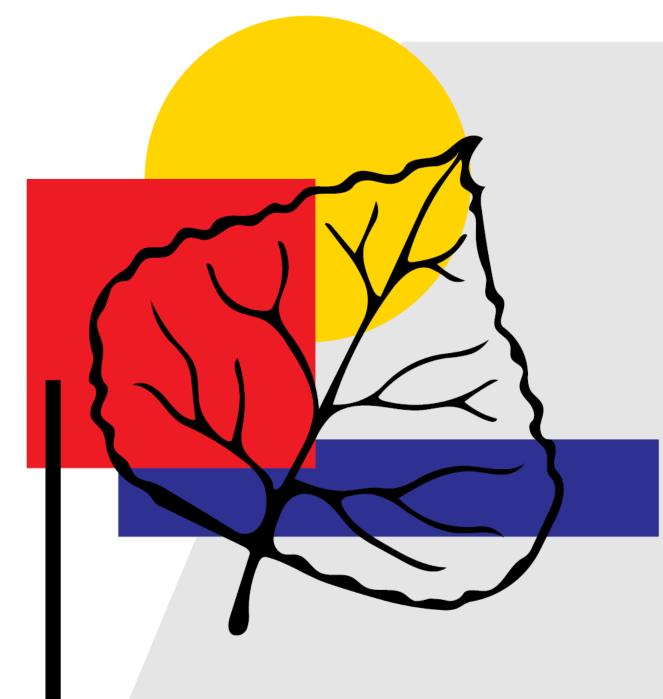
Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018

#### **Units Constructed by Decade**



- Most of the units inventoried were **constructed prior to 1995**
- Moderate units have increased since 2012





## **Rental by Owner** Inventory and Trends

## **RBO Analysis Definitions**

Why different? Owners decide when units are available.

- LISTINGS The count of listed units that were advertised for rent during the month or had a booked day in the month.
- BOOKED LISTINGS The count of Airbnb listings that had at least one booked day in the month.
- LISTING NIGHTS The sum of all nights that were available for rent and were booked in the month.

- OCCUPANCY Booked Listing Nights divided by Available Listing Nights
- ROOM NIGHTS Listing Nights/month multiplied by the number of bedrooms in each listing. One room = 1 pillow
- BOOKED ROOM NIGHTS Number of available room nights that were booked during the month.



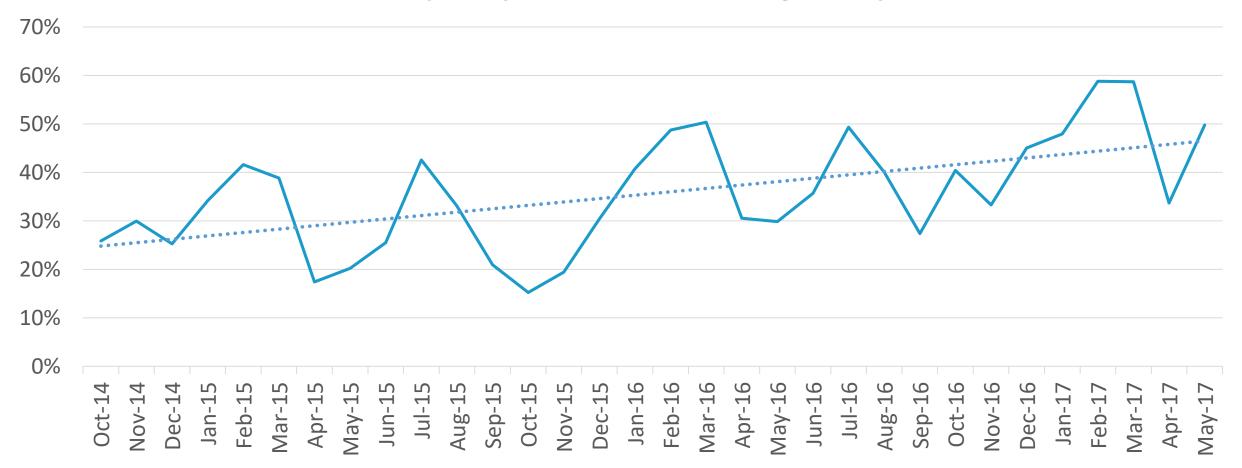
#### **RBO Listings and Booked Listings - Oct. 2014 to May 2017** (*Airbnb and Homeaway only*)



RBOs listed & booked **increased** through May 2017
 Data does not include VRBO platform until June 2017



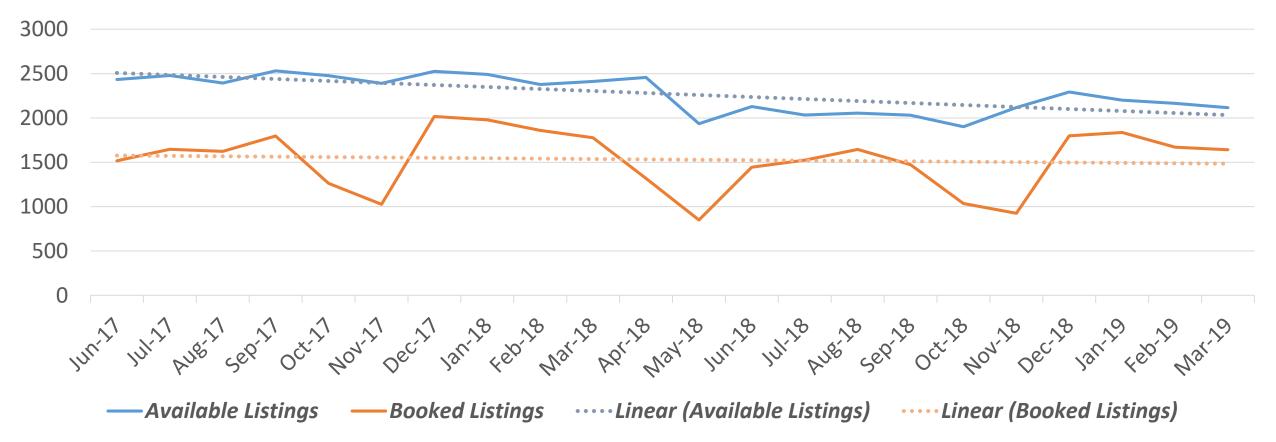
#### **RBO Occupancy - Oct 2014 through May 2017**



- RBO occupancy grew along with the available listings
- Peak occupancy rose from just over 40% to just under 60%



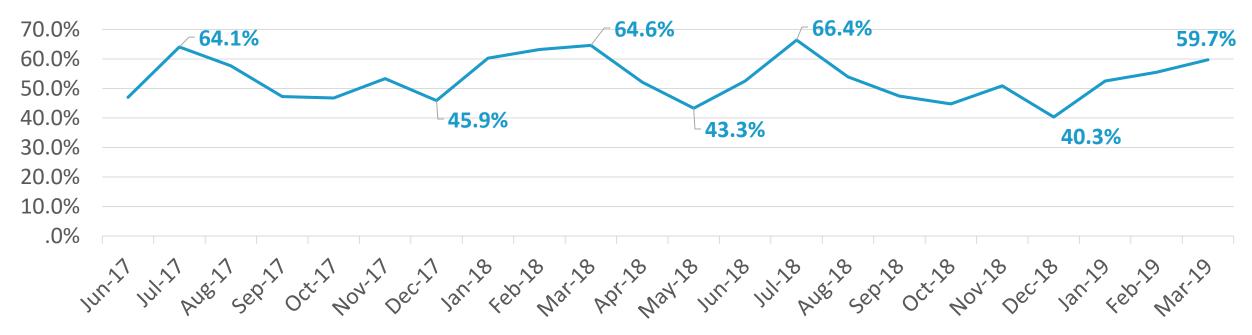
#### RBOs Available Listings and Booked Listings Airbnb, HomeAway, VRBO June 2017 to March 2019



- Slow decline in listed units June 2017 March 2019
- Booked listings fluctuate, trendline is flat
- **Remarkable stability** in listings, given fluidity of the market



#### RBOs Occupancy Airbnb, HomeAway, VRBO June 2017 to March 2019



- Seasonal occupancy appears to have stabilized since June 2017
- Winter occupancy rivals peak summer occupancy
- Peak occupancy lower compared to paid lodging (>80%)
- Off season occupancy is higher compared to paid lodging (≈30%)

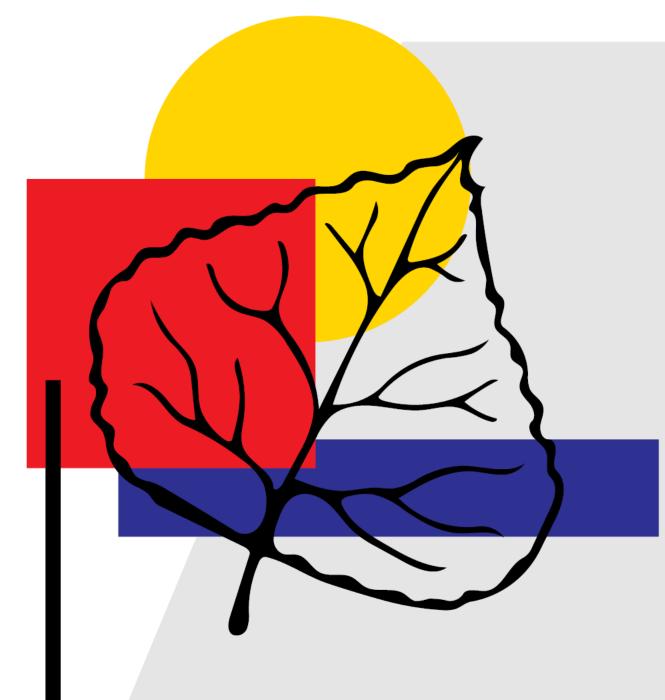


#### RBOs-Average Daily Roomnights for Airbnb, HomeAway and VRBO



- Room nights are the best proxy for pillows
- Peak winter booked (occupied) similar to July booked roomnights





# Current Overnight Visitor Capacity

Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018 and Airdna Custom Report, April 2019

Accommodations Type	2018 PEAK SUMMER Overnight Visitors (July)	2018 PEAK WINTER Overnight Visitors (Jan. and Feb.)	2018 LOW SEASON Overnight Visitors (May)
Traditional Lodging and Professionally Managed Units	14,846	13,919	5,230
<b>Rental by Owner Units</b>	2,190	2,422	781
All Overnight Accommodations	17,036	16,341	6,011

- Peak summer overnight visitors exceeded peak winter by 705 visitors
- Winter visitors staying in RBOs exceeded summer
- Peak season overnight visitor population is about triple May's visitors



	2018 Peak Summer Overnight Visitors Capacity (July)	2018 Peak Winter Overnight Visitor Capacity (Jan. and Feb.)	2018 Low Season Overnight Visitor Capacity (May)
Traditional Lodging and Professionally Managed Units	16,702	16,702	14,846
Rental by Owner	3,478	4,189	781
Total Average Peak Season Overnight Capacity	20,180	20,891	15,627

- Peak summer overnight visitors exceeded peak winter by 705 visitors
- Winter visitors staying in RBOs exceeded summer
- Peak season overnight visitor population is about triple May's visitors



Source: DestiMetrics, Stay Aspen Snowmass Transient Inventory Study, July 2018 and Airdna Custom Report, April 2019

	2018 Peak Summer (July)	2018 Peak Winter (Jan. and Feb.)	2018 Low Season (May)
Total Overnight Visitors	17,036	16,341	6,011
Total Overnight Visitor Capacity	or Capacity 20,180 20		15,627
Remaining Capacity	3,144	4,551	9,616

- Average daily capacity 2018
- RBOs: 1 room = 1 pillow equivalent
- Practical capacity is 80% of maximum capacity



# **Key Findings**

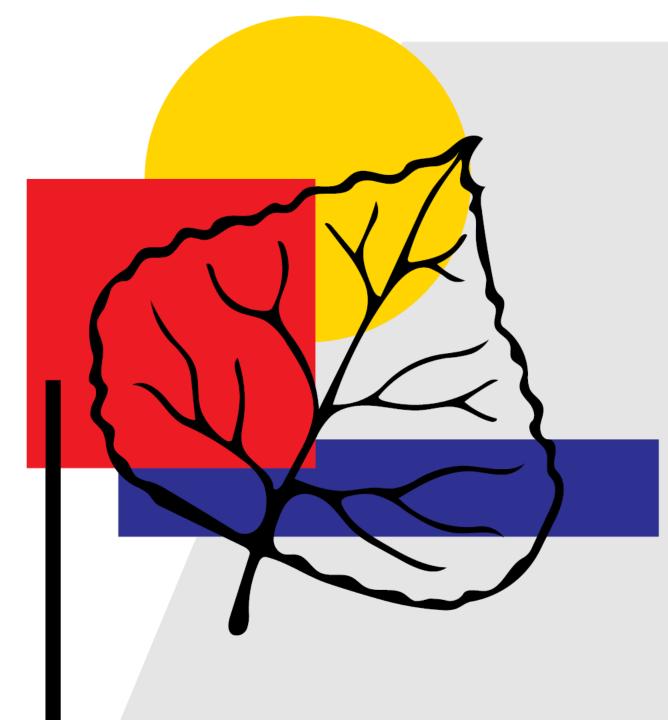
- Continued modest growth in Pitkin County population, jobs, housing units
- Significant population growth in Garfield County
- Aspen-Snowmass peak population and occupancy bottomed out in 2009 and again in 2013/2014, have nearly recovered to pre-recession levels today
- Skier days have been on the rise, so has winter occupancy
- Traditional lodging and professionally managed short-term rentals have been flat/fluctuating since 2009, but occupancy has risen
- RBO supply accelerated 2014-2017 then leveled off

- Today, RBOs can accommodate nearly
  3,500 visitors during peak season
- Peak population is 34,000 low season and 53,000 peak season
- Existing lodging and RBO inventory could accommodate 3,000-4,500 additional overnight visitors during peak season





Past, Present and Projected: Air Service, **Aircraft/Fleet** and Air Space



# Topics

**The Aviation Forecasting Process** 

**ASE's Service Region** 

**Key Drivers of Airline Traffic** 

**Airport Role** 

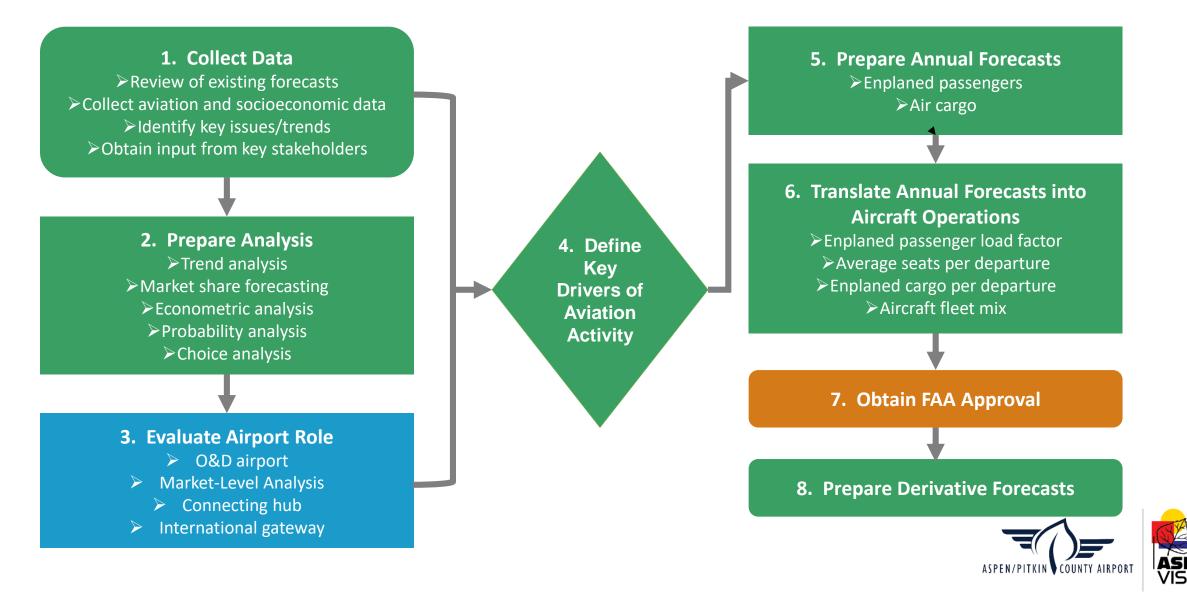
**Historical Passenger Airline Traffic** 

**General Aviation Activity** 

**Aviation Activity Forecasts** 

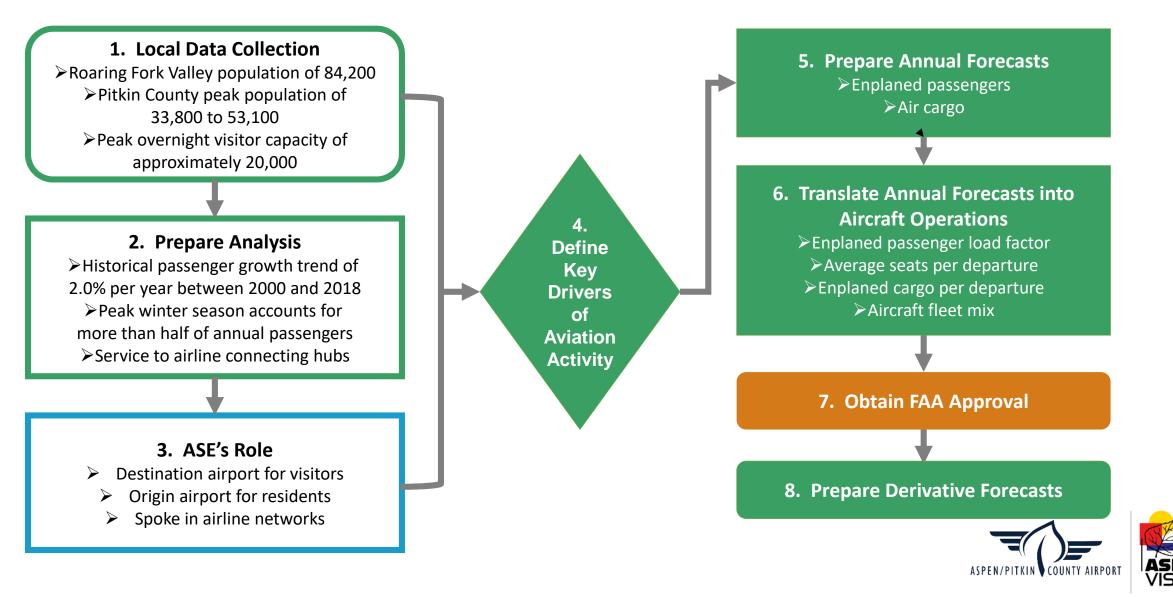
### **The Aviation Forecasting Process**

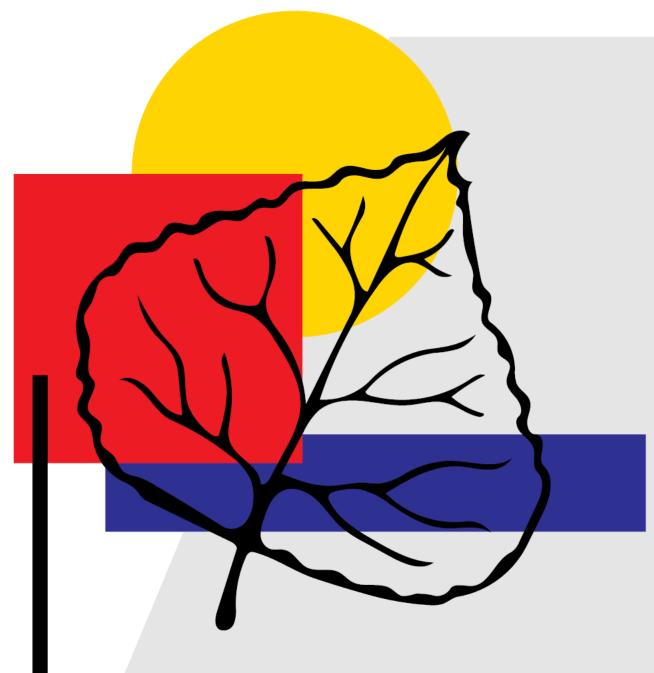
The key elements, decisions and input for preparing forecasts for planning



### **Forecast Approach for ASE**

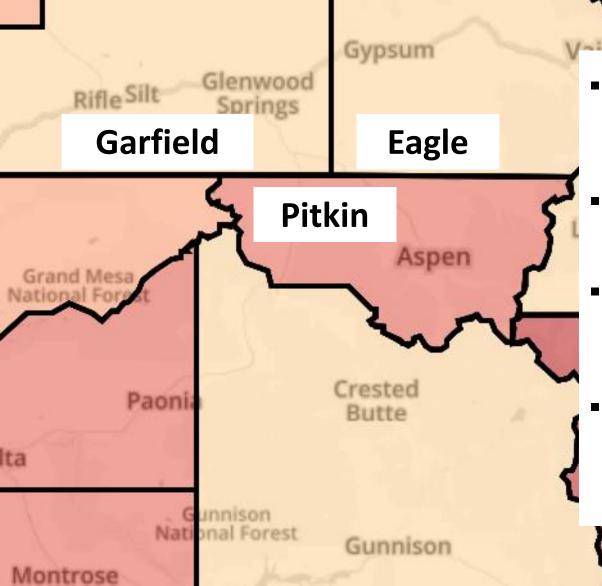
The key elements, decisions and input for preparing forecasts for planning





# ASE's Service Region

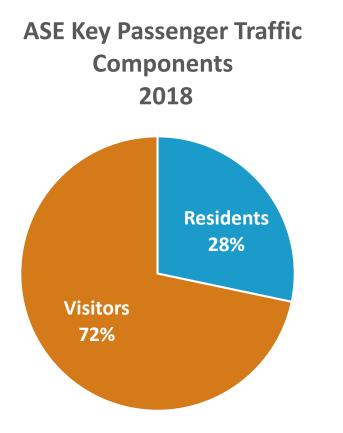
## **ASE's Airport Service Region**



- ASE's overall Airport Service Region includes Pitkin, Eagle, and Garfield counties with a combined population of 132,724 in 2017, according to the U.S. Census Bureau
- The Roaring Fork Valley is the primary area within the Airport Service Region, with a population of 84,207 in 2017, 63% of the entire region
- In 2018, the number of trips per person in the Roaring Forks Valley averaged 3.4 (283,877 enplaned passengers divided by a population of 84,207 = 3.4)
- Of the average 3.4 trips per person, Roaring Fork Valley resident took an average of one airline trip per year, while visitors accounted for the remaining 2.4 trips, on average

<u>A© Map Box and OpenStreetMap</u>

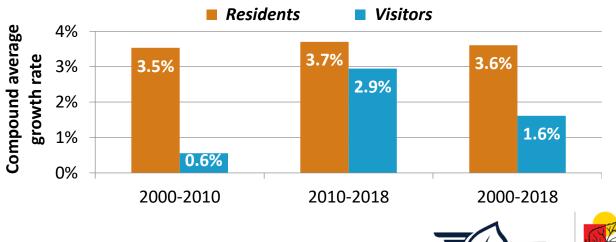
# ASE Key Passenger Traffic Components and Drivers



Source: U.S. Department of Transportation, Origin-Destination Survey of Airline Passenger Traffic, Domestic, online database, access April 2019.

#### **Key Drivers**

- Underlying socioeconomic conditions (population, employment, per capita income)
- Visitor infrastructure (hotel rooms)
- Cost of travel (airfares and ancillary fees)
- Route networks of hubbing airlines
- Airline service decisions related to connecting hub and international gateway operations
- Alternate transportation modes (ground)





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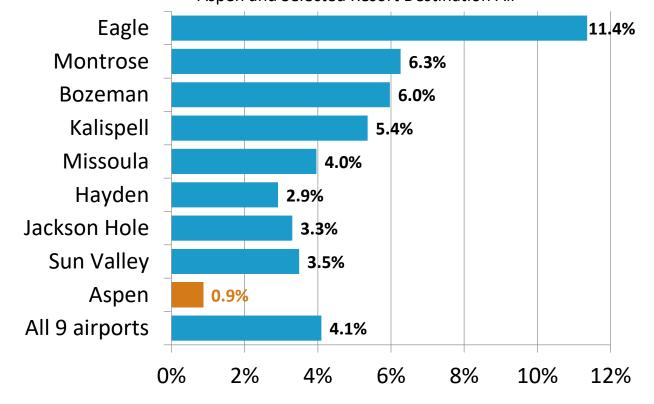


# Key Drivers of Airline Traffic

# **Defining the Key Drivers of ASE Airline Traffic**

#### FAA Forecast Guidance

- Forecast methods used to project airport activity should reflect the underlying causal relationships that drive aviation activity
- The demand for aviation is largely a function of demographic and economic activity
- Aviation activity levels result from the interaction of demand and supply factors
- Supply factors that influence activity levels include cost and competition



#### Compound annual growth rate in enplaned passengers: 1990-2018

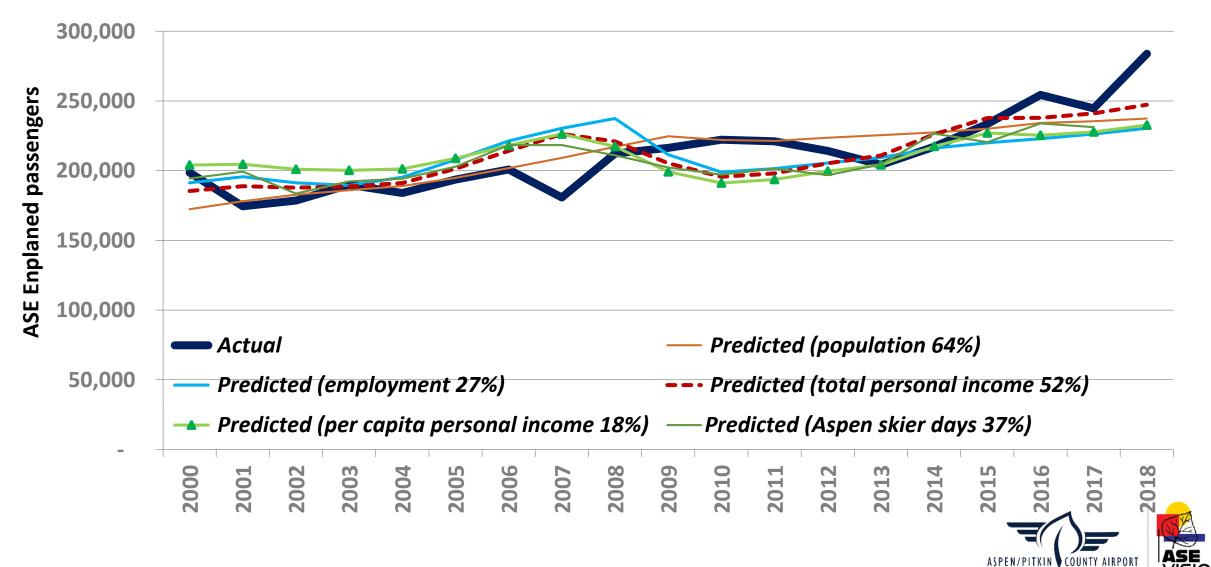


Historical Passenger Traffic Growth Rates: 1990-2018 Aspen and Selected Resort Destination Air

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## **Regional Economic Activity**

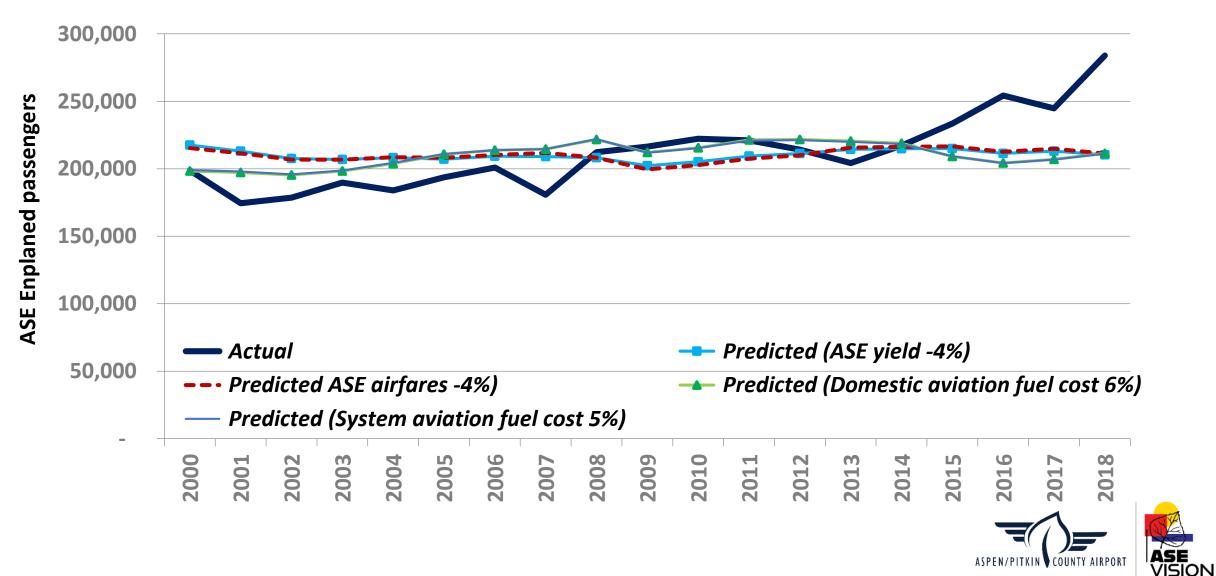
Regional economic activity accounts for 18% to 64% of the historical variation in ASE passengers



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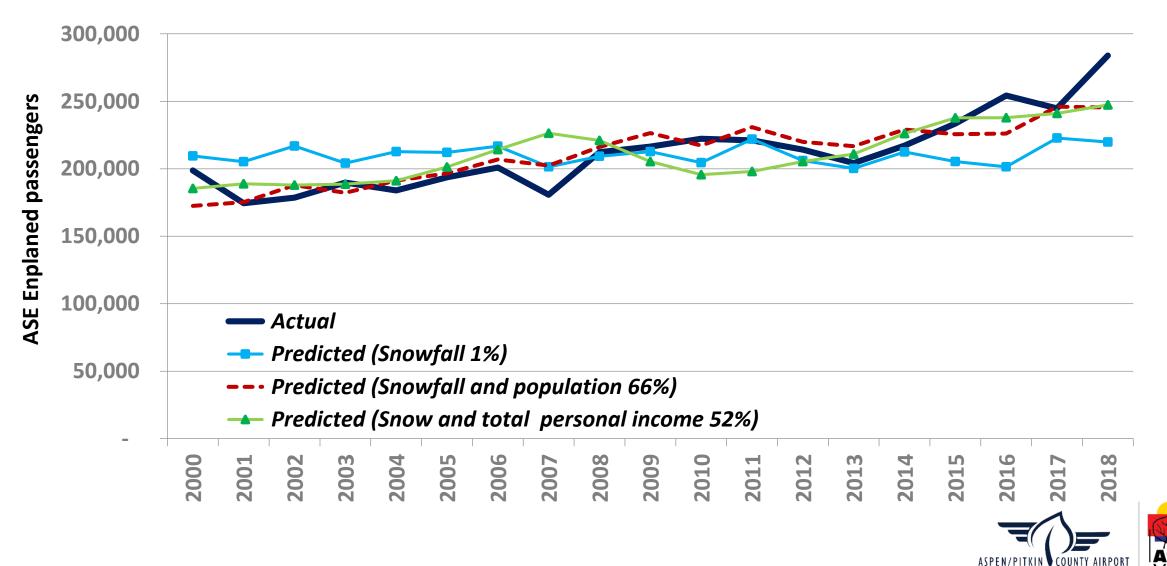
## **Cost of Travel**

The cost of travel accounts for an insignificant share of the historical variation in ASE passengers



## **Average Annual Snowfall**

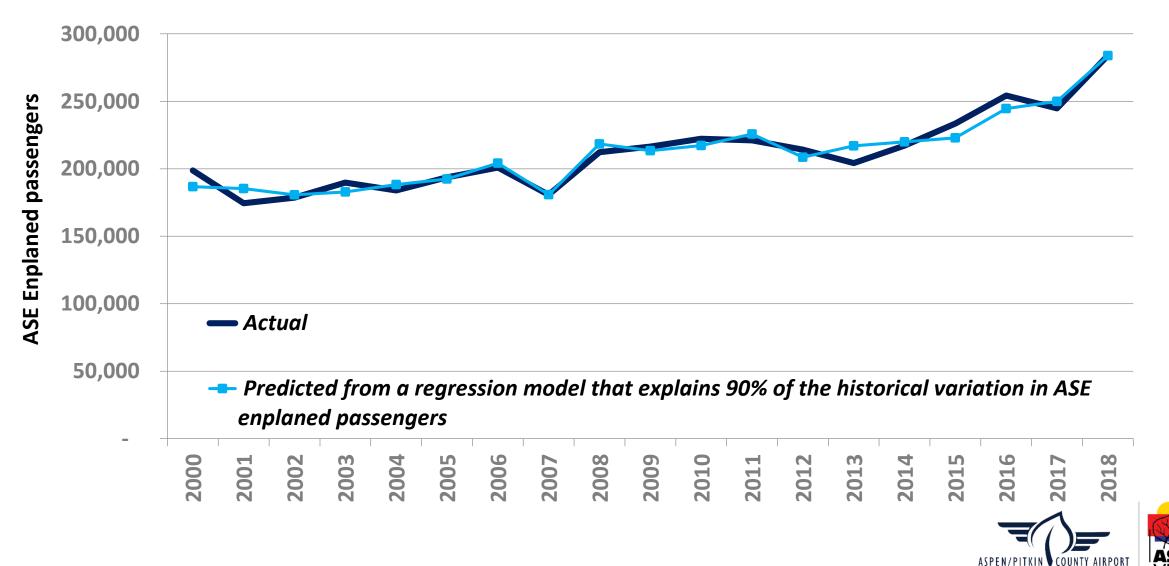
Average annual snowfall accounts for an insignificant share of the historical variation in ASE passengers

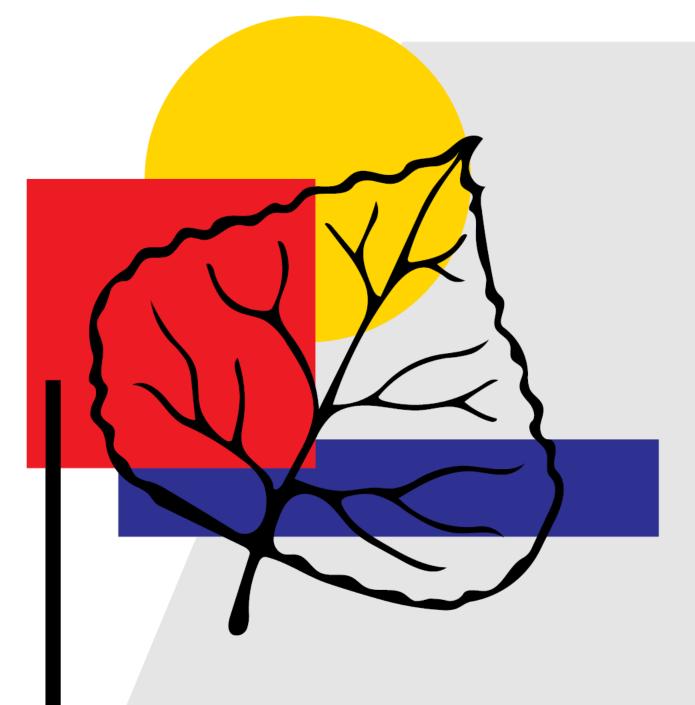


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## **Representative Model—ASE Passengers**

Population and airline yield together account for 90% of the historical variation in ASE passengers



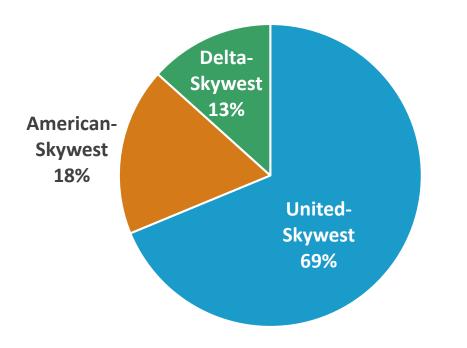


# Airport Role

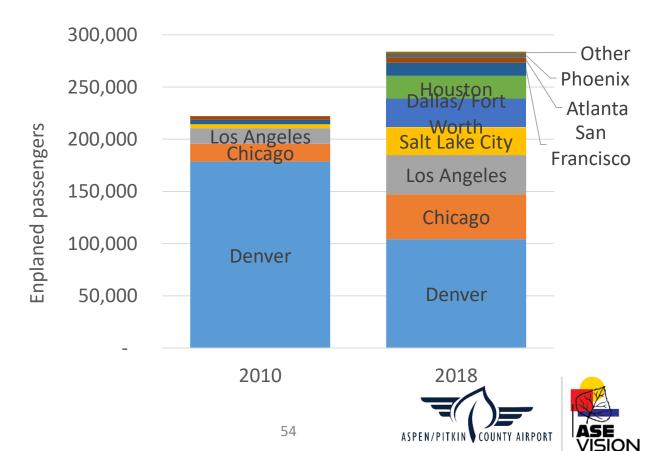
# Passenger Airlines Serving ASE

#### ASE is a Spoke in Airline Networks

Airline Shares of Enplaned Passengers in 2018



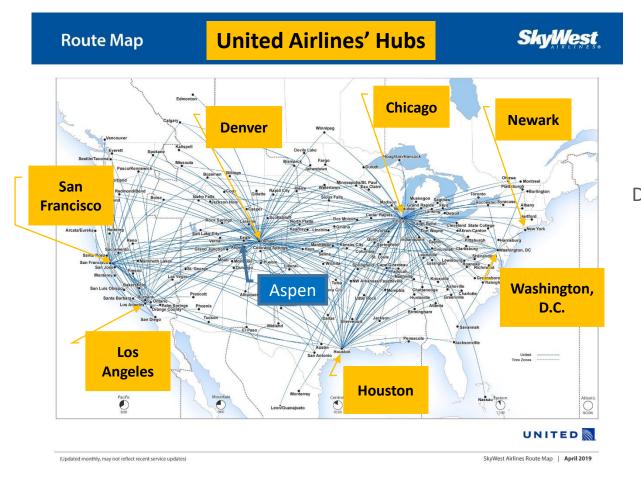
#### Enplaned Passengers by Nonstop Flight Segment Service to Nine Markets on One Regional Airline Affiliated with Three Airlines

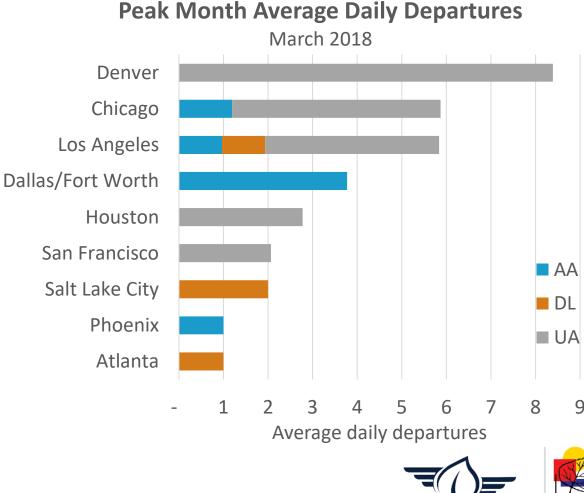


Note: ASE's peak month is March. Source: U.S. Department of Transportation, Schedule T100, online database, access April 2019.

# **Passenger Service to Airline Hubs**

#### ASE is a Spoke in Airline Networks



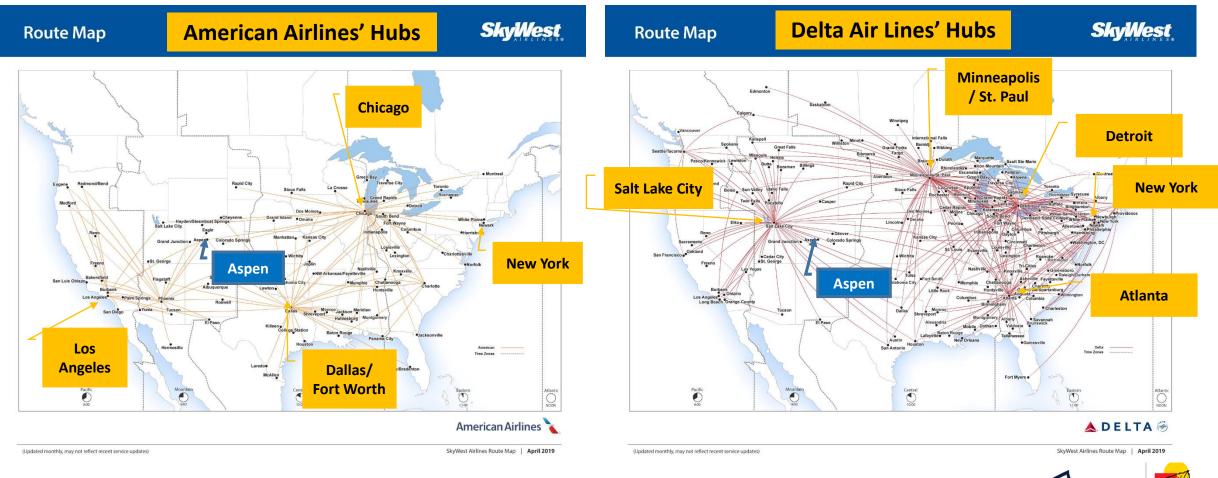


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# **Passenger Service to Airline Hubs**

#### **ASE is a Spoke in Airline Networks**



Source: Skywest Airlines, www.skywest.com, accessed April 2019.

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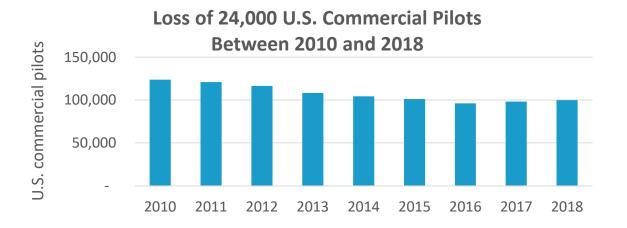
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## **Regional Airline Pilot Shortage**

#### **Threatens Passenger Airline Service to Small Communities**

- Outsourcing to regional airlines limited by pilot contracts
- Decrease in military pilots (Navy and Air Force expect shortages in 2020 and 2022, respectively)
- High expense of flight training
- Legislative changes reduced the supply of pilots
  - In 2009, the hours flown for new pilots increased to a minimum of 1,500 from 250 hours
  - In 2010, the duty time rule decreased to mitigate pilot fatigue
- In 2009, the mandatory retirement for airline pilots changed from 60 to 65 to offset decreases in the pilot workforce







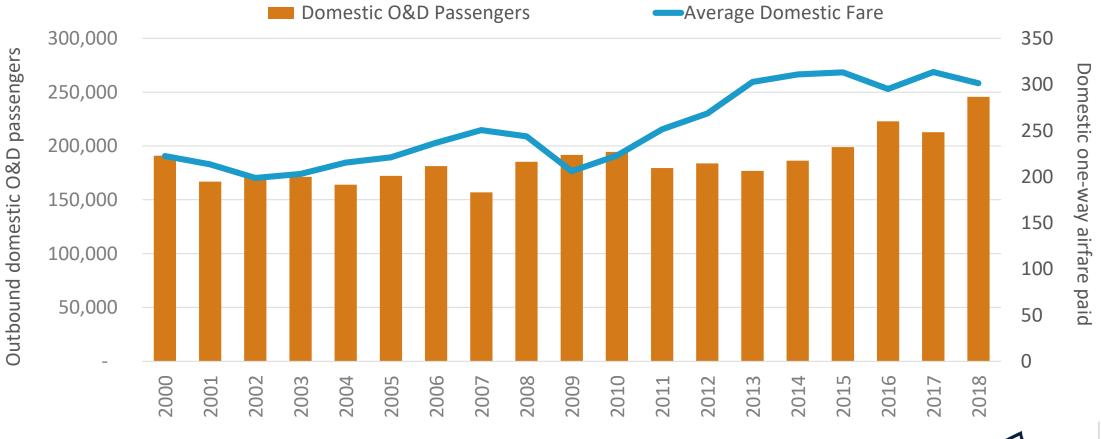


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## **Origin-Destination (O&D) Passenger Traffic Increases Despite Airfare Increases**

#### **Aspen/Pitkin County Airport**



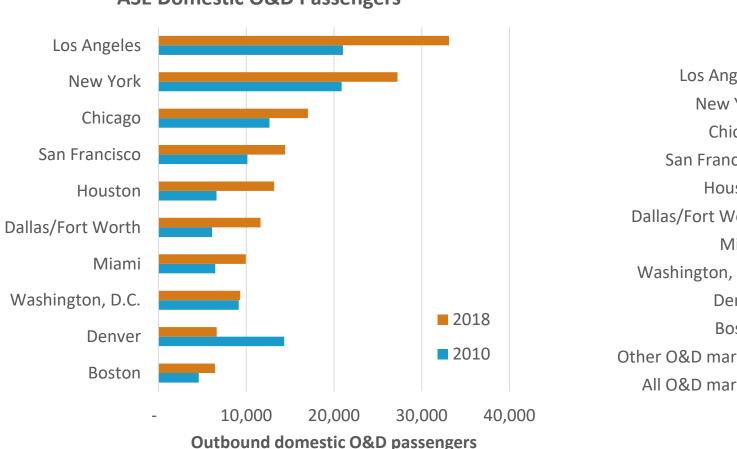
Source: U.S. Department of Transportation, Origin-Destination Survey of Airline Passenger Traffic, Domestic, online database, access April 2019.



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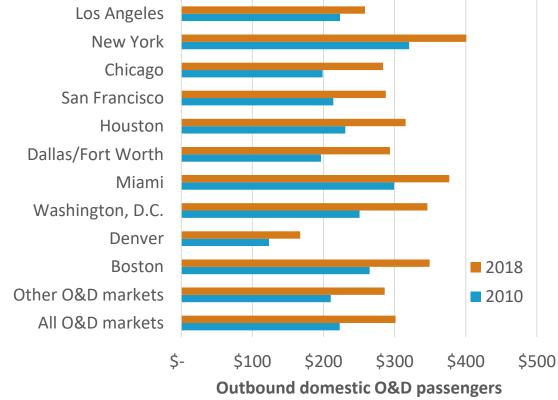
## **ASE's Busiest 10 Domestic O&D Markets**

#### **Passenger Traffic Increases in 9 of 10 Markets Despite Airfare Increases**



**ASE Domestic O&D Passengers** 

Source: U.S. Department of Transportation, Origin-Destination Survey of Airline Passenger Traffic, Domestic, online database, access April 2019.



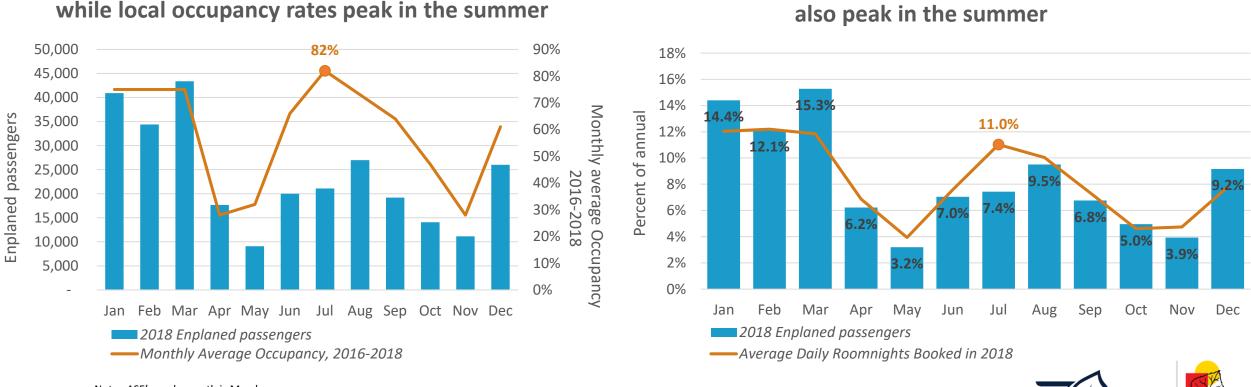
ASE Average One-Way Domestic Airfares Paid



### Seasonality Aspen/Pitkin County Airport

ASE's enplaned passengers peak in the winter

- March is the peak month for enplaned passengers at ASE and accounts for approximately 15% of annual activity
- December through March together account for more than half of annual passengers



Average daily room nights booked also peak in the summer

Note: ASE's peak month is March.

Source: U.S. Department of Transportation, Schedule T100, online database, access April 2019.



ASPEN/PITKIN



### **Passenger Airline Aircraft Fleets and Operations Aspen/Pitkin County Airport**

The Airplane Design Group (ADG) is an FAA-defined grouping of aircraft types which has six groups based on wingspan and tail height

Table 1-1. A	Airplane Design	Groups	(ADG)
--------------	-----------------	--------	-------

Group #	Tail Height (ft)	Wingspan (ft)		
Ι	<20	<49		
П	20 - <30	49 - <79		
III	30 - <45	79 - <118		
IV	45 - <60	118 - <171		
V	60 - <66	171 - <214		
VI	66 - <80	214 - <262		

Note: Airplane Design Group (ADG). A classification of aircraft based on wingspan and tail height. When the aircraft wingspan and tail height fall in different groups, the higher group is used. FAA Advisory Circular, AC 150/5300-13A, February 26, 2014. Source: OAG Worldwide Aviation Ltd, online database, accessed April 2019.



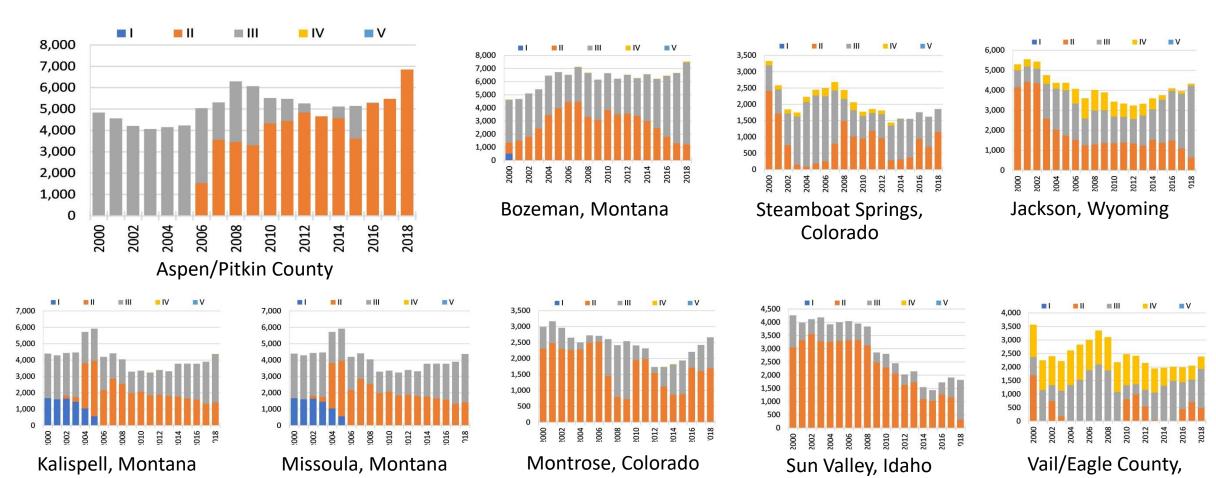
■ Group III aircraft



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## Scheduled Departures by Airplane Design Group

**Aspen and Selected Resort Destination Airports** 



Note: Airplane Design Group (ADG). A classification of aircraft based on wingspan and tail height. When the aircraft wingspan and tail height fall in

different groups, the higher group is used. FAA Advisory Circular, AC 150/5300-13A, February 26, 2014.

Source: OAG Worldwide Aviation Ltd, online database, accessed April 2019.



Colorado

## **Passenger Airline Aircraft Fleets and Orders** SkyWest Airlines

SkyWest operates all scheduled flights at ASE under agreements with American, Delta, and United

	Aircraft type	Equipment	Aircraft fleet		Seat	Average age		Removals
			Number	Percent	configuration	(years)	Orders	from fleet
$\equiv$ III	Regional jets	CRJ200s	200	40.3%	50	16.3		-16 (a)
$\equiv$ III		E175s	146	29.4%	70-76	2.2	12	
<b>I</b> I		CRJ700s (b)	109	22.0%	65-70	12.9		-15 (b)
= 111		CRJ900s (c)	41	8.3%	76	10.2	15	-9 (c)
	Total fleet		496	100.0%				

Note: ExpressJet, formerly a subsidiary of Skywest, Inc., was acquired by a United Airlines venture in January 2019. Data exclude 100 ERJ145 operated by ExpressJet under a fixed-fee agreement and aircraft lease with United.

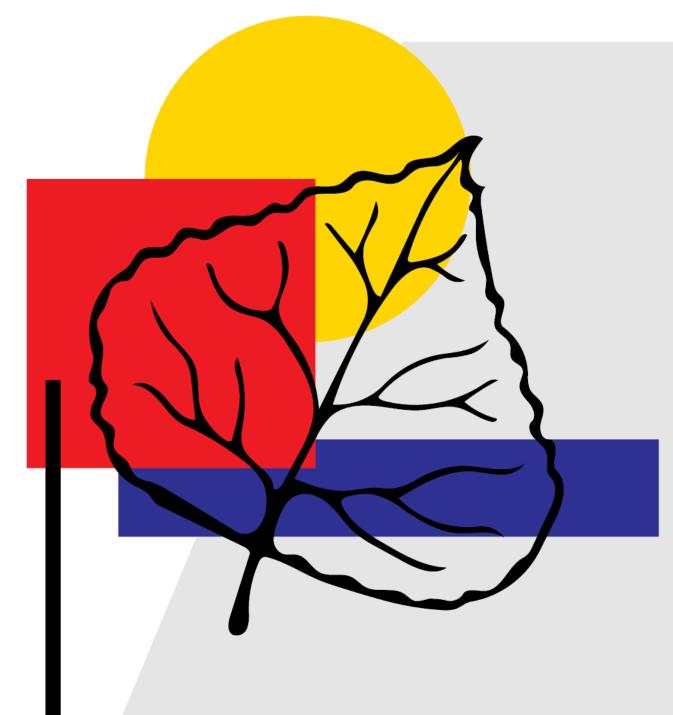
(a) Leased to ExpressJet beginning in January 2019.

(b) Removed from service for Delta with the addition of 15 new CRJ900 aircraft.

(c) Removed from service for Delta with the addition of 12 new E175 aircraft.

Source: Individual airline SEC filings from annual 10-K reports, accessed April 2019.

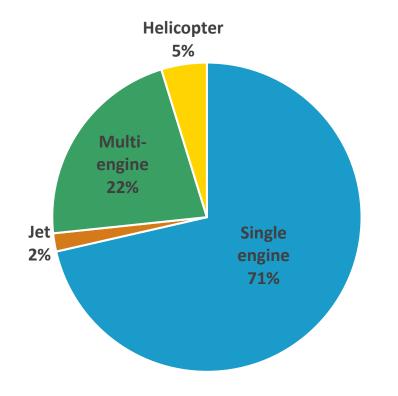




General Aviation Activity

### **General Aviation Aircraft** Aspen-Pitkin County Airport

Single engine aircraft accounted for 71% of aircraft based at ASE in 2018





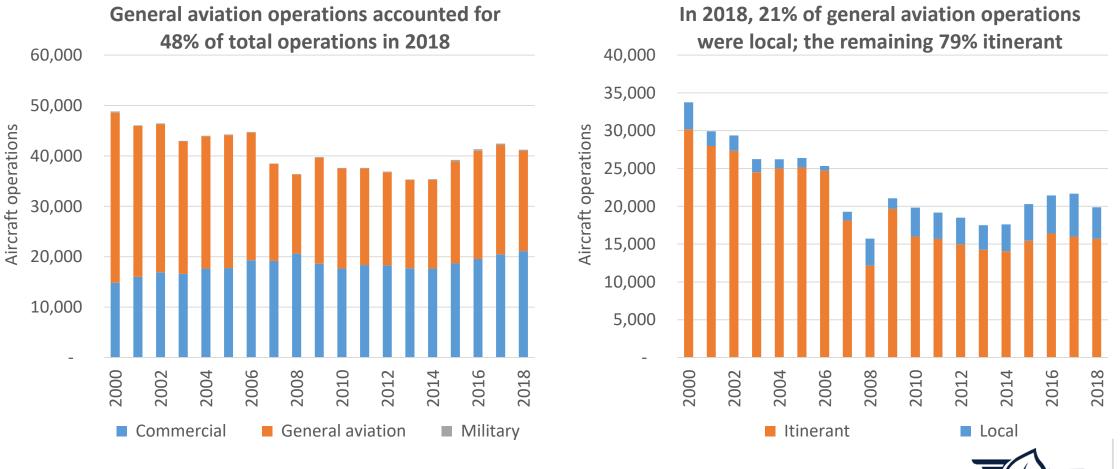
#### Sources: Federal Aviation Administration, Terminal Area Forecasts, and Traffic Flow Management System Counts, www.aspm.faa.gov.

ASPEN/PITKIN COUNTY AIR



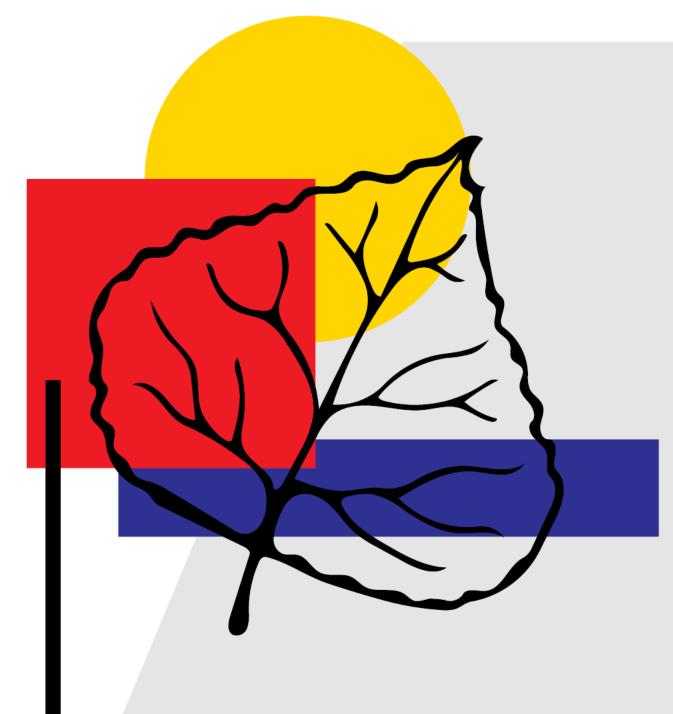
# General Aviation Operations







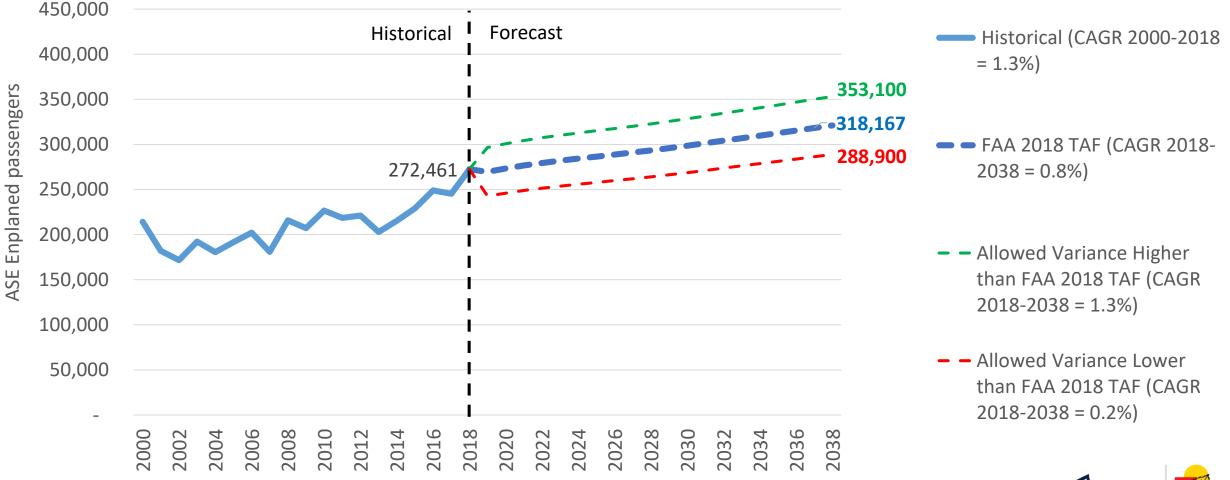
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Aviation Activity Forecasts

## FAA 2018 TAF of Enplaned Passengers

#### Aspen/Pitkin County Airport



CAGR = Compound annual growth rate

Source: Federal Aviation Administration, 2018 Terminal Area Forecasts, published February 2019, www.faa.gov.

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## **Comparison of ASE Planning Forecasts with the FAA 2018 TAF**

#### **FAA Forecast Guidance**

Locally developed forecasts for operations, based aircraft, and enplaned passengers are considered consistent with FAA's Terminal Area Forecasts (TAF) if they meet the following criteria:

- Forecast differs by less than 10 percent in the 5-year forecast period and 15 percent in the 10year period, or
- Forecast activity levels do not affect the timing or scale of an airport project

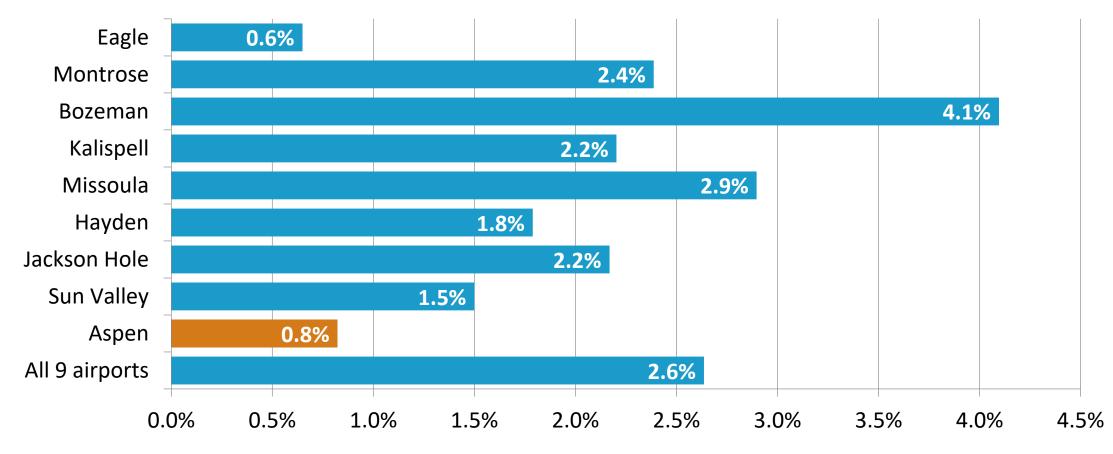
In order to facilitate the process of approving a forecast, the FAA also suggests completion of a template which covers the key forecast elements and calculates the percentage differences between the airport planning forecast and the TAF

Allow time (30 to 45 days) in the project schedule for FAA approval of the forecasts



## FAA Forecasts of Passenger Traffic Growth

#### **ASE and Selected Resort Destination Airports**

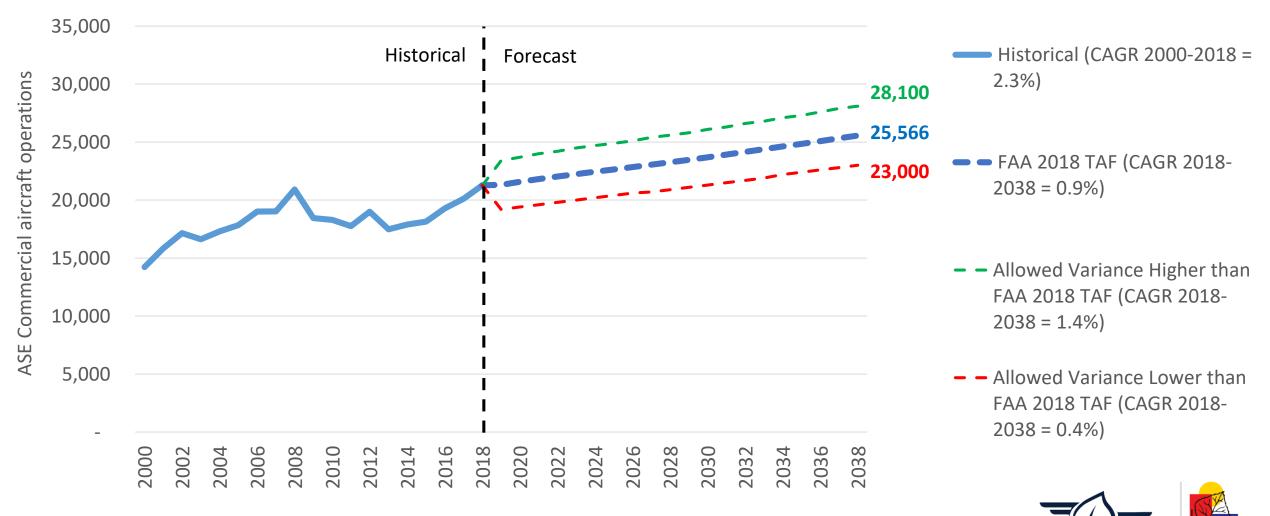


Compound annual growth rate in enplaned passengers: 2018-2038



## FAA 2018 TAF of Commercial Aircraft Operations

#### Aspen/Pitkin County Airport

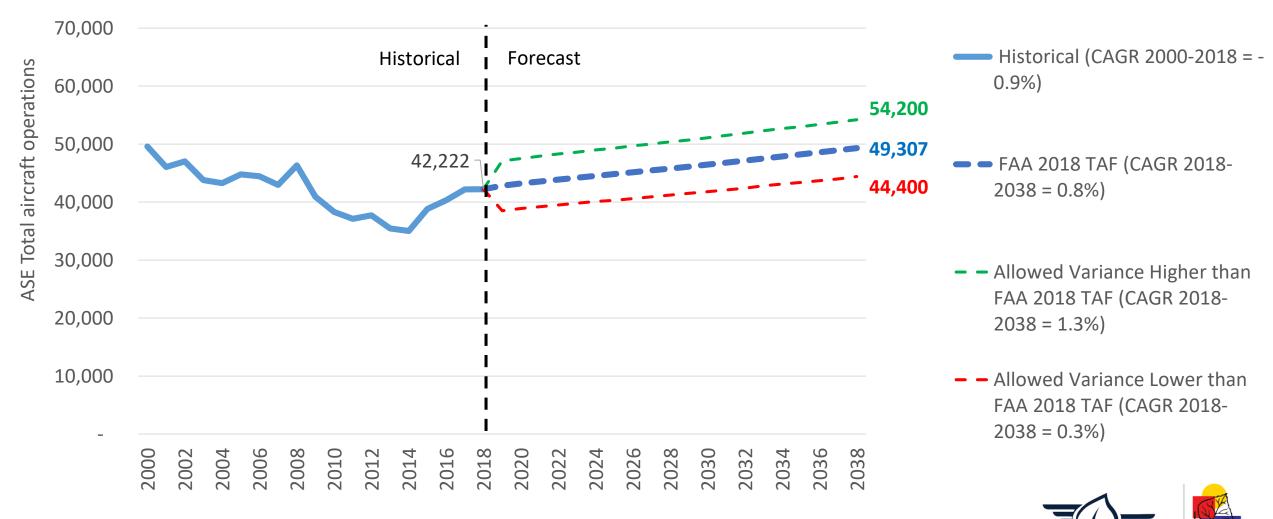


Note: Commercial aircraft operations include air carrier and air taxi. CAGR = Compound average growth rate Source: Federal Aviation Administration, 2018 Terminal Area Forecasts, published February 2019, www.faa.gov.

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### FAA 2018 TAF of Total Aircraft Operations

#### Aspen/Pitkin County Airport



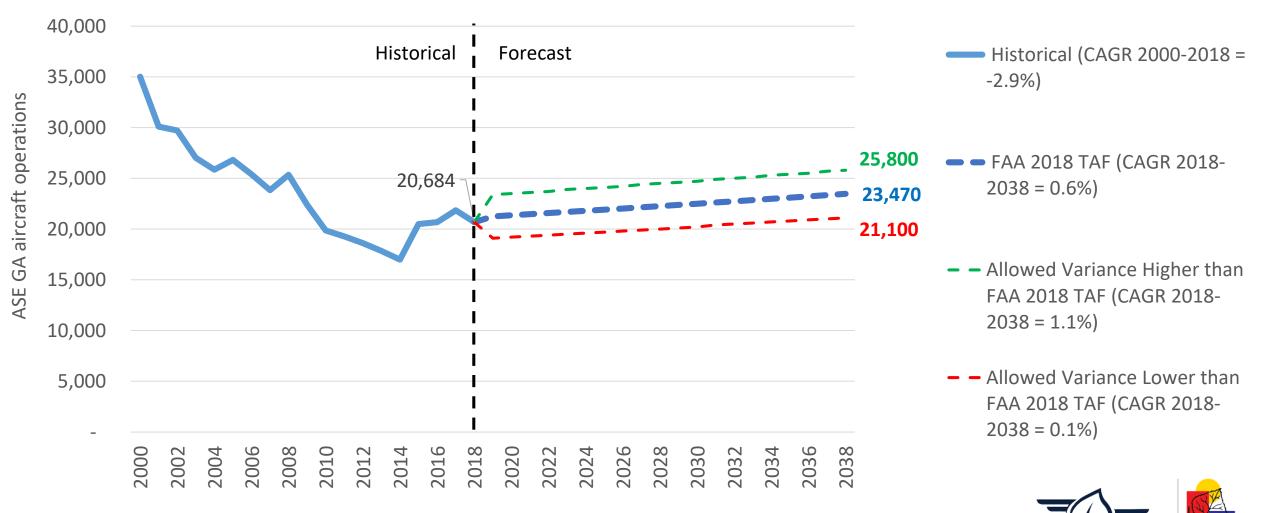
Note: Commercial aircraft operations include air carrier and air taxi. CAGR = Compound average growth rate Source: Federal Aviation Administration, 2018 Terminal Area Forecasts, published February 2019, www.faa.gov.

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COUNTY AIRPO

## FAA 2018 TAF of General Aviation Aircraft Operations

#### Aspen/Pitkin County Airport



Note: Commercial aircraft operations include air carrier and air taxi. CAGR = Compound average growth rate Source: Federal Aviation Administration, 2018 Terminal Area Forecasts, published February 2019, www.faa.gov.

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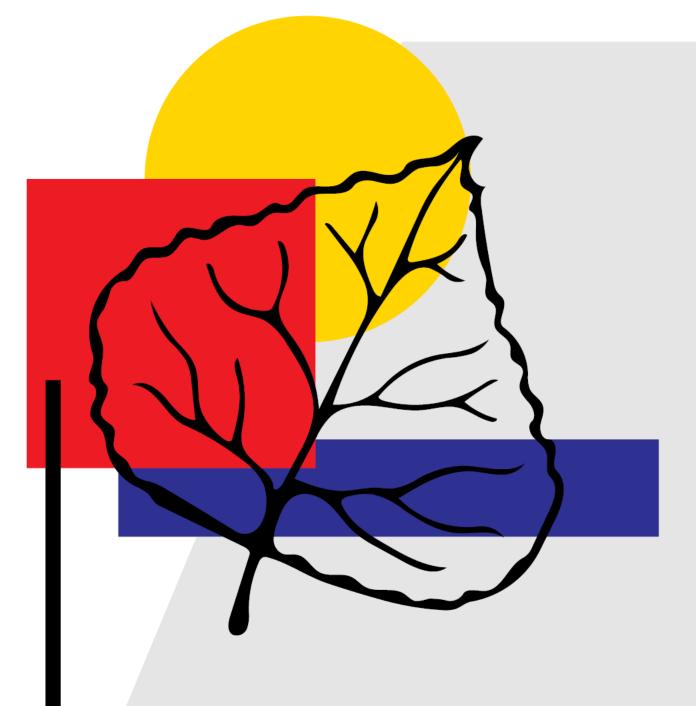
# Key Takeaways

- ASE's overall Airport Service Region includes Pitkin, Eagle, and Garfield counties with a combined population of 132,724 in 2017
- ASE is Spoke in airline networks, a destination airport for visitors, and an origin airport for residents
- Residents accounted for 28% of ASE passengers in 2018; the remaining 72% are visitors
- December through March together account for more than half of ASE's annual passengers

- A shortage of regional airline pilots threatens passenger airline service to small communities
- General aviation operations accounted for 48% of total operations in 2018
- The FAA forecasts enplaned passengers at ASE to increase an average of 0.8% per year between 2018 and 2038



# Moderated Q&A



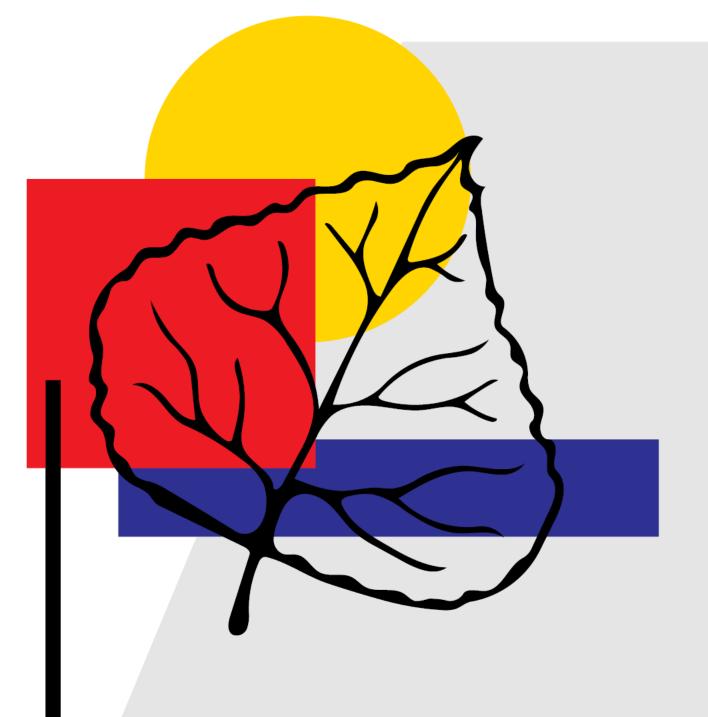
# Your Questions. Answered.

- Tonight's meeting includes Q&A
- Panel: John Kinney, Jon Peacock, Linda Perry, Gabe Preston
- Continue to send questions to <u>info@asevision.com</u>





# Questions and Comments



# **Next Steps**

# **Mid-Point Evaluation**

Take the survey!

ASEvision.com/survey

You will get an email from the project team prompting you to take a survey to evaluate the meetings and interactions to date.



## Your Questions. Answered.



## DO YOU HAVE FOLLOW-UP QUESTIONS? Send them to info@asevision.com

