



Master Plan Update

Technical Advisory Committee (TAC) Meeting #1

DECEMBER 14, 2016

Welcome!

- Airport Team Members
 - Rebecca Hupp – Airport Director
 - Matt Petaja – Deputy Director
 - Jill Singer – Airport Project Manager

- Airport Consultant Team
 - Joe Birge – Ricondo & Associates
 - Damon Smith – Mead & Hunt
 - Max Braun – Ricondo & Associates
 - Joe Huy – Ricondo & Associates

Agenda

- Introductions
- TAC Expectations
- Master Plan Overview and Schedule
- Inventory of Existing Conditions
- Aviation Activity Forecast
 - Local Trends
 - Preliminary Forecast
- Comments and Questions
- Next Steps
- Closing Remarks

TAC Members

Austin Shontz, Western Aircraft	Andy Coose, TSA
Blake Martin, Turbo Air	General Gary Saylor, IDNG
Jeff Jackson, Jackson Jet Center	Kevin Hoffman, UPS
Derick O'Neill, City of Boise,	Darrell Wodowski, FedEx
Daren Fluke, City of Boise	Howard Harmon, Paradies
Meg Leatherman, Ada County Planning	Jeff Friedman, Delaware North
Holly Delay, ATCT	Paul Decloux, Enterprise
Scott Eaton, FAA	Steve Jones, Hertz
Rachel Rud-Scaraglino, Customs	Lauren Mclean, Boise City Council & Public at large
Russ Westerberg, General Aviation	Teri Sato, Alaska Airlines
Monica Del Rio, Southwest Airlines	Mike Pape, Idaho State Aeronautics

TAC Participation Guidelines

- Be present and participate
- Attend four meetings
 - Two hours on weekdays
- Review materials and be prepared to discuss
- Represent interests beyond your own
 - Including those of your peers, partners, and industry
 - Be respectful and open to differing opinions from fellow TAC members

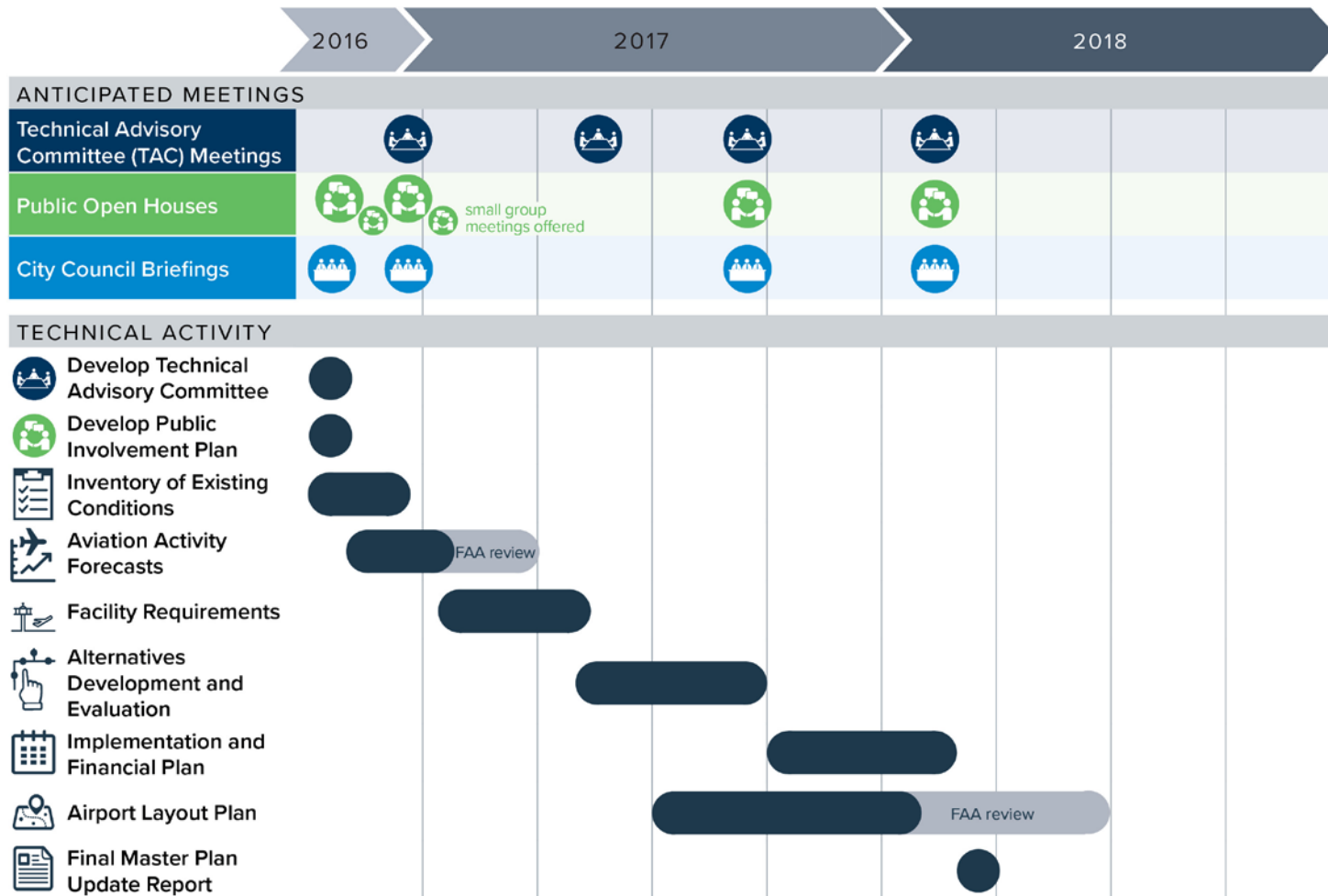
A Master Plan IS...

- A process stipulated in *FAA AC 150/5070-6B*
- A comprehensive study that describes the short, medium, and long-term airport development plans to meet future aviation demand
- Elements of a Master Plan studies
 - Public Involvement Program
 - Environmental Considerations
 - Inventory of Existing Conditions
 - Aviation Forecasts
 - Facility Requirements
 - Alternatives Development and Evaluation
 - Airport Layout Plans
 - Facilities Implementation Plan
 - Financial Feasibility Analysis

A Master Plan is NOT...

- A business or marketing plan
- A policy document
 - Informs future policy – does not set it
- Rigid and inflexible
- An FAA development mandate
 - ...or a guarantee of FAA funding
- A wish list
- A Military Aircraft Basing Study

Boise Airport Master Plan Update Schedule



Inventory of Existing Conditions

Purpose of Identifying Existing Conditions

- Inventory BOI's current state of condition as the basis for potential future development
- Collect data/information needed for technical elements of the Master Plan Update
 - Aviation activity forecasts
 - Current/historical aircraft operations, passenger counts, and socioeconomic data are important inputs to the forecast process
 - Facility requirements
 - Existing conditions are measured against forecast demand to determine future facility needs
 - Alternatives development and evaluation
 - Existing operational and environmental issues may restrict or necessitate certain development alternatives
 - Implementation/financial planning
 - Existing conditions can affect how future development is implemented/phased
 - Historical funding and other financial data serves as the basis for determining financial feasibility of the development alternatives

Approach for Identifying Existing Conditions

- Data/information has been gathered from interviews with and/or data requests made to:

- BOI Finance and Ground Transportation
- BOI Security and Operations
- BOI Facilities and Engineering
- BOI Property and Contracts
- Fixed Base Operators (Western Aircraft, Turbo Air, Jackson Jet Center)
- Cargo operators (FedEx, UPS)
- Military (Air National Guard, Army National Guard)
- National Interagency Fire Center (NIFC)
- FAA Airport Traffic Control Tower

- Types of data obtained to date include:

- Prior Master Plan Update report
- Current Airport Layout Plan and CAD drawings
- 2015 FAR Part 150 Study
- Ground transportation statistics
- Airfield pavement condition data
- Environmental and sustainability information
- Utilities information
- Aircraft gate use data
- Runway and taxiway usage
- Socioeconomic data and projections
- Airport parking analysis report
- Airport lease log
- Aviation activity data

Existing Conditions Elements

- Inventory data is organized into the following categories for documentation purposes:
 - Airfield facilities
 - Passenger terminal facilities
 - Support/ancillary facilities
 - Ground access and parking facilities
 - Utilities and stormwater drainage
 - Airspace and air traffic control procedures
 - Environmental inventory
 - Regional setting and land use
 - Nonaeronautical land/compatible land use planning
 - Socioeconomic data
 - Meteorological data

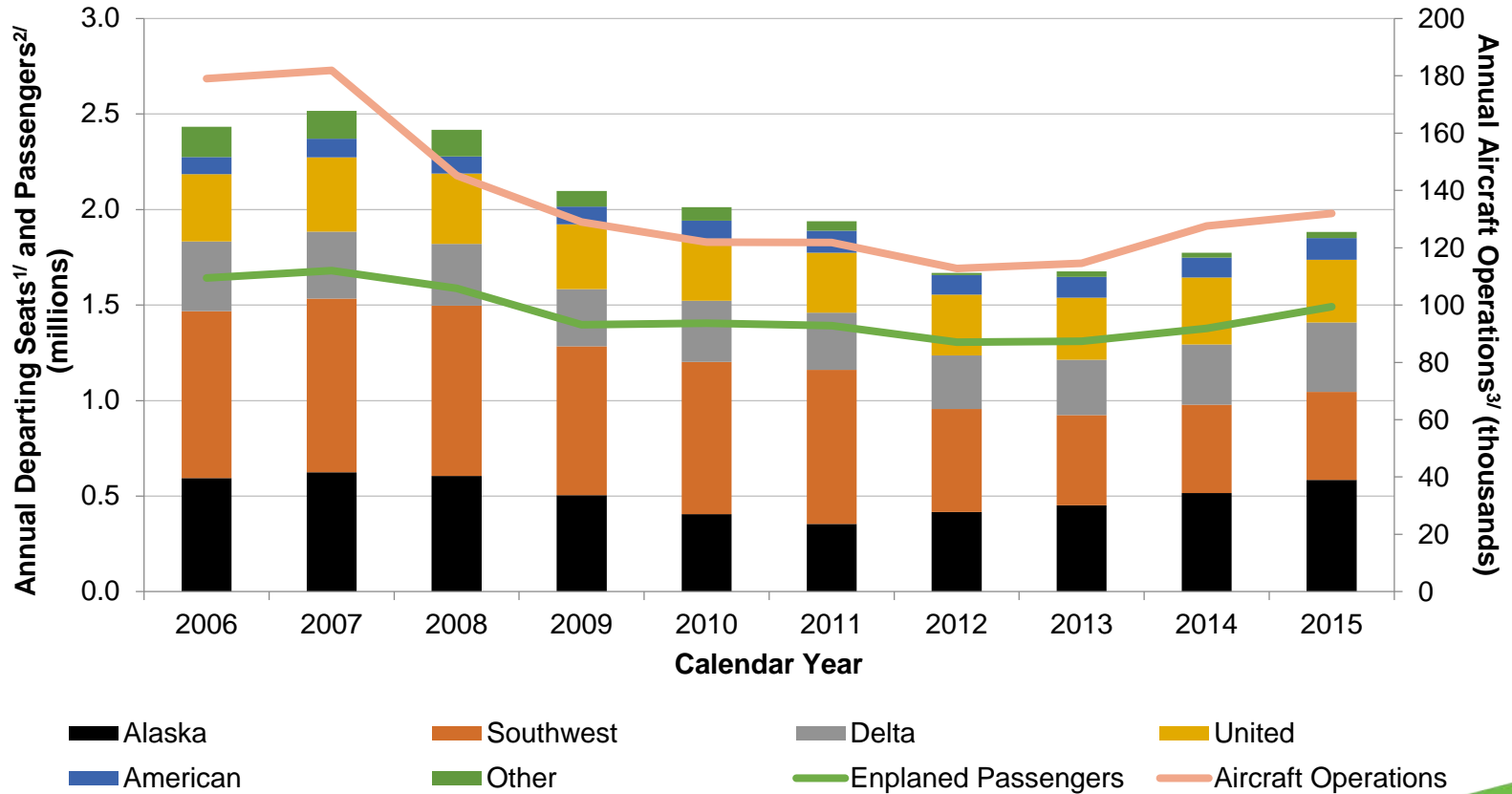
 - Aviation activity statistics (to be included in activity forecasts chapter)
 - Financial data (to be included in financial feasibility chapter)

Aviation Activity Forecast

Section One

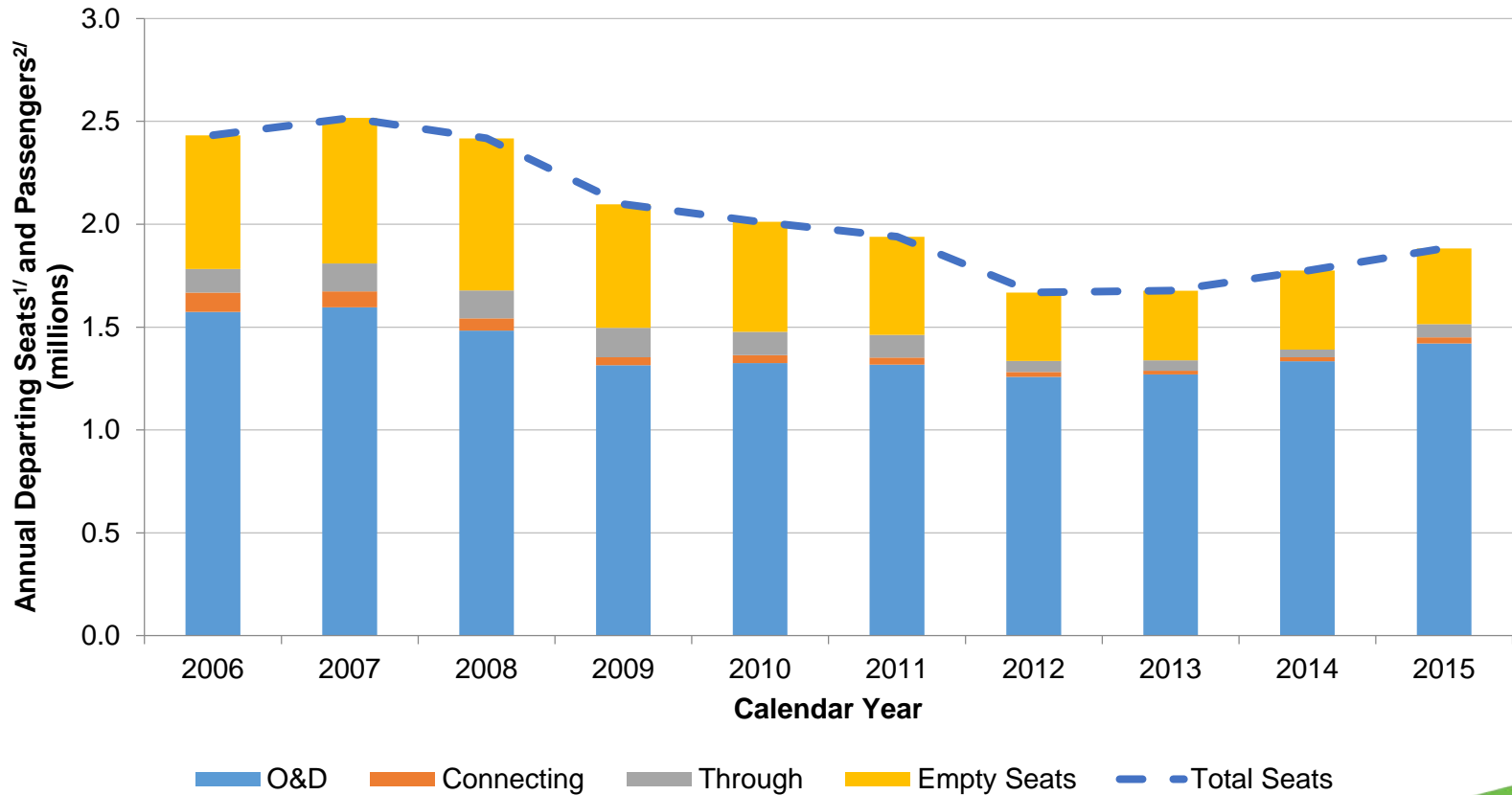
Local Trends

Despite Industry Consolidation the Air Service Market Continues to be Served by Multiple Airlines



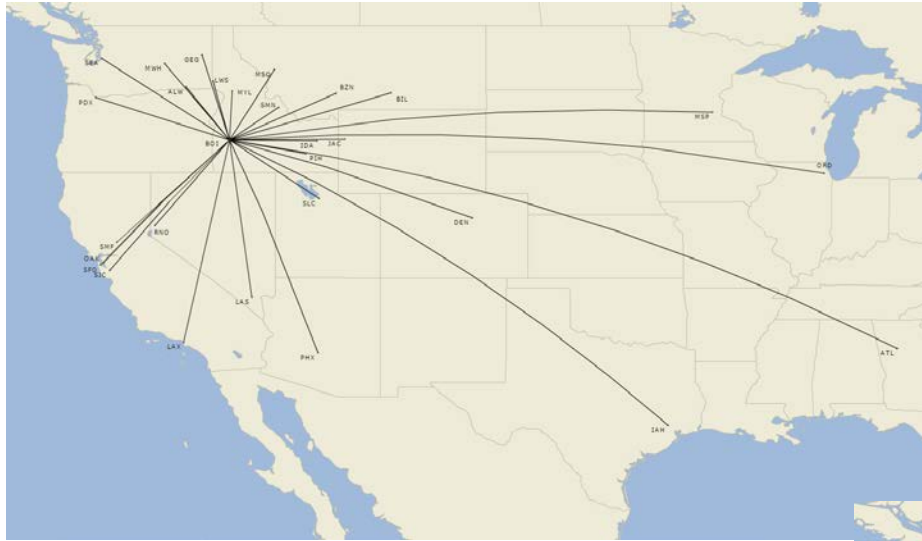
NOTES: 1/ Actual flown departing seats. 2/ Enplaned passengers are passengers boarding an airplane from BOI.
 3/ Total operations (arrivals and departures).
 SOURCE: City of Boise, Aviation Department, Traffic Reports, November 2016; FAA, OPSNET, November 2016;
 U.S. Department of Transportation (DOT), Form T-100, November 2016.

The Way Airlines Utilize Capacity at BOI is Changing



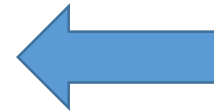
NOTES: 1/ Actual flown departing seats. 2/ Enplaned passengers are passengers boarding an airplane from BOI.
 SOURCES: U.S. DOT, DB1B Survey, November 2016; U.S. DOT, Form T-100, November 2016.

Non Stop Destinations



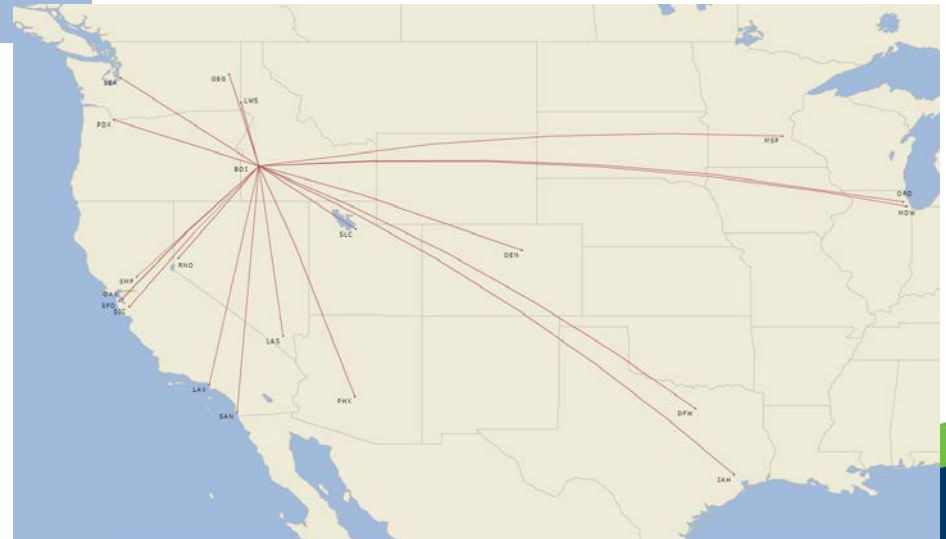
August 2006

- 28 Destinations Served by Scheduled Airlines
- 89 Average Daily Flights
- 7,247 Average Daily Departing Seats
- 4,385 Average Daily Departing Seats to Major Airline Hubs^{1/}



August 2016

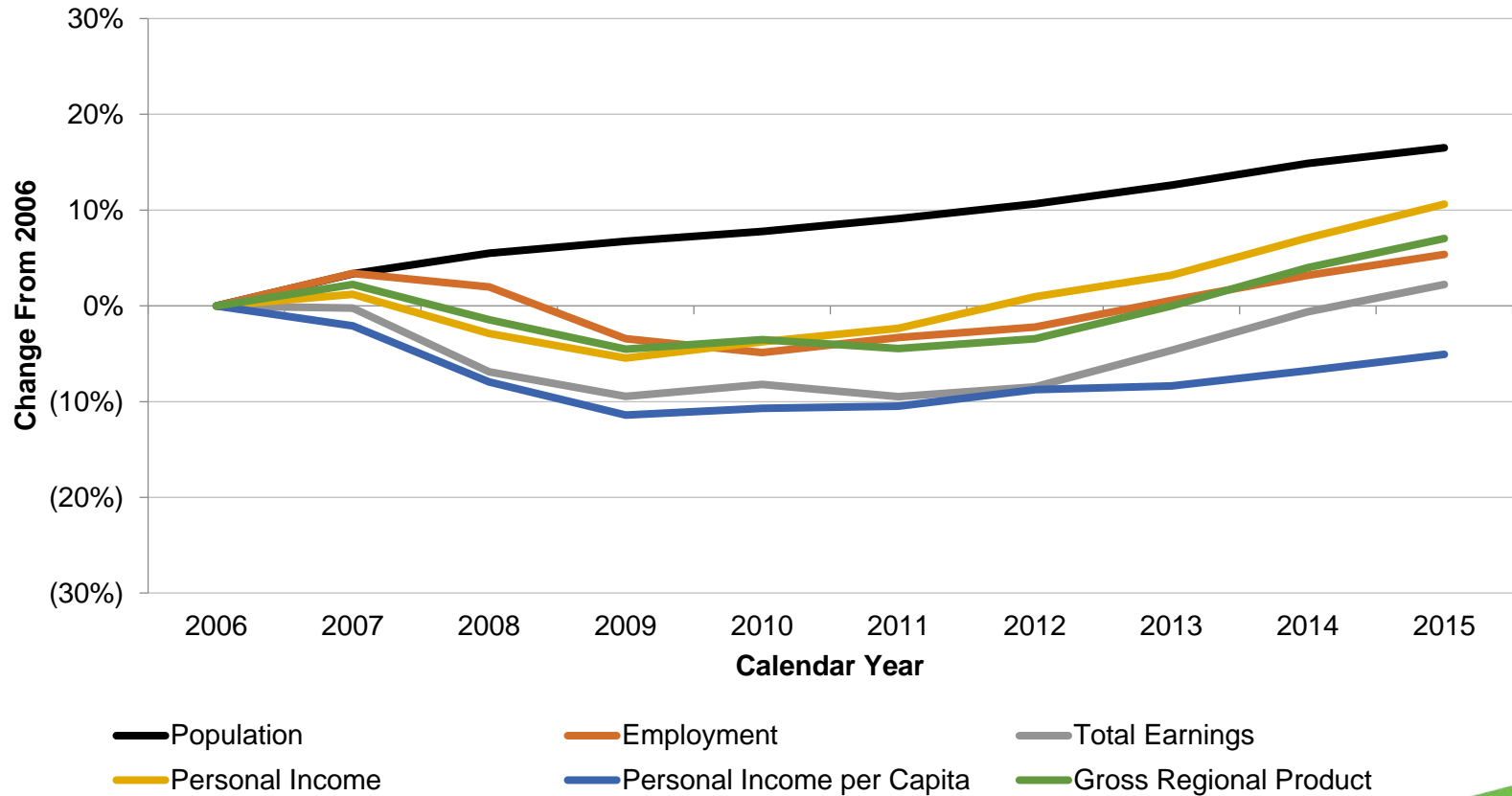
- 20 Destinations with Scheduled Service^{1/}
- 64 Average Daily Flights
- 5,999 Average Daily Departing Seats
- 3,967 Average Daily Departing Seats to Major Airline Hubs^{2/}



NOTE: 1/ As published in Innovata schedule data as of August 2016. 2/ Major airline hubs are Atlanta (ATL), Denver (DEN), Dallas-Ft. Worth (DFW), Houston-Intercontinental (IAH), Los Angeles (LAX), Chicago-Midway (MDW), Minneapolis/St. Paul (MSP), Chicago-O'Hare (ORD), Phoenix (PHX), Seattle (SEA), San Francisco (SFO), and Salt Lake City (SLC).

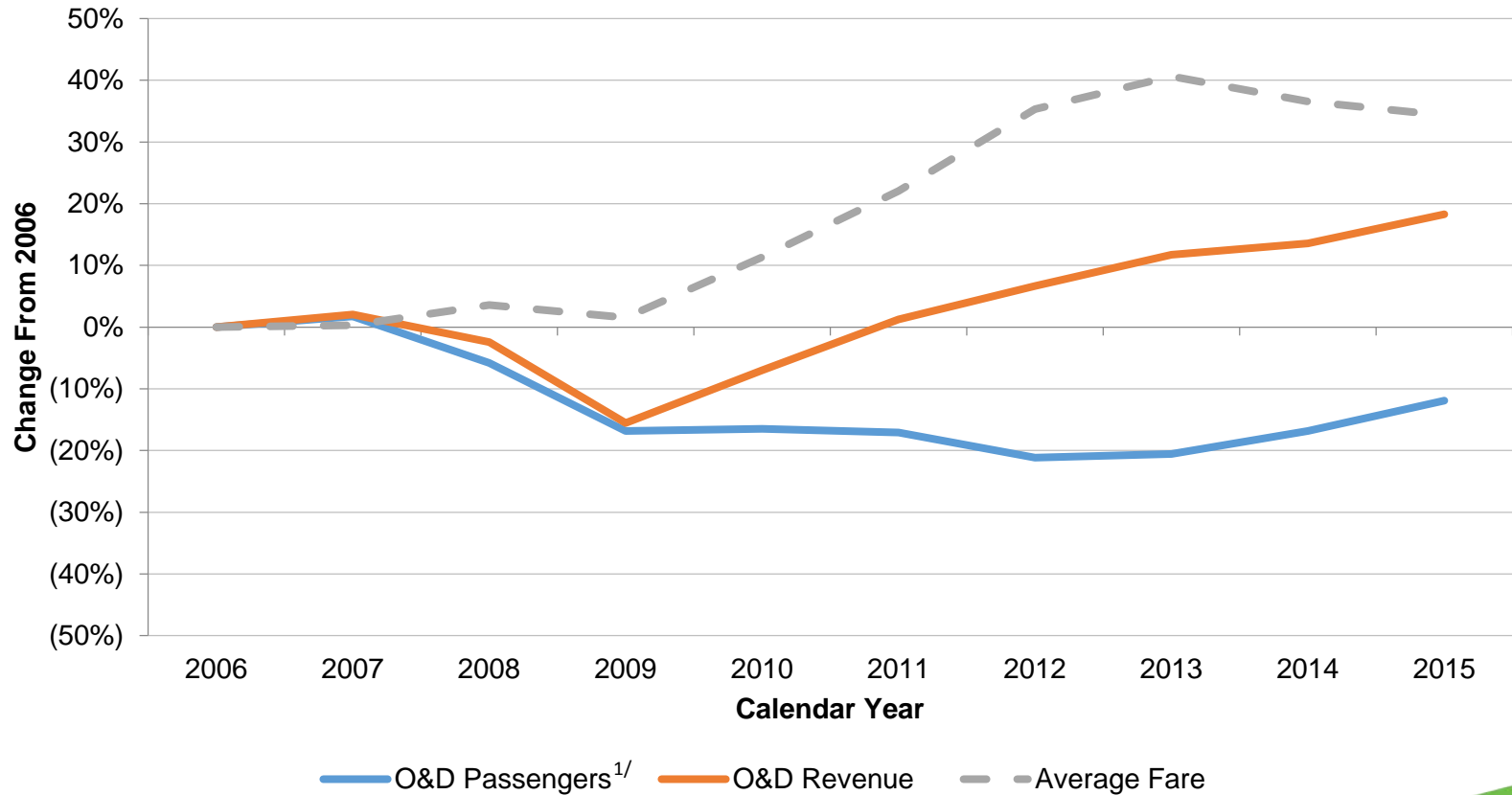
SOURCE: Innovata, November 2016.

Local Socioeconomic Conditions Have Stabilized in Recent Years



NOTES: Socioeconomic variables are for the BOI Air Trade Area, which includes Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington counties. Economic data are inflation-adjusted.
 SOURCE: Woods & Poole Economics, Inc., November 2016.

Both Passenger Volumes and Revenues Are Growing



NOTES: Includes passengers terminating at U.S. destinations only. 1/ O&D – Origin and Destination, passengers not connecting at the Airport.
 SOURCE: U.S. DOT, DB1B Survey, November 2016.

Aviation Activity Forecast

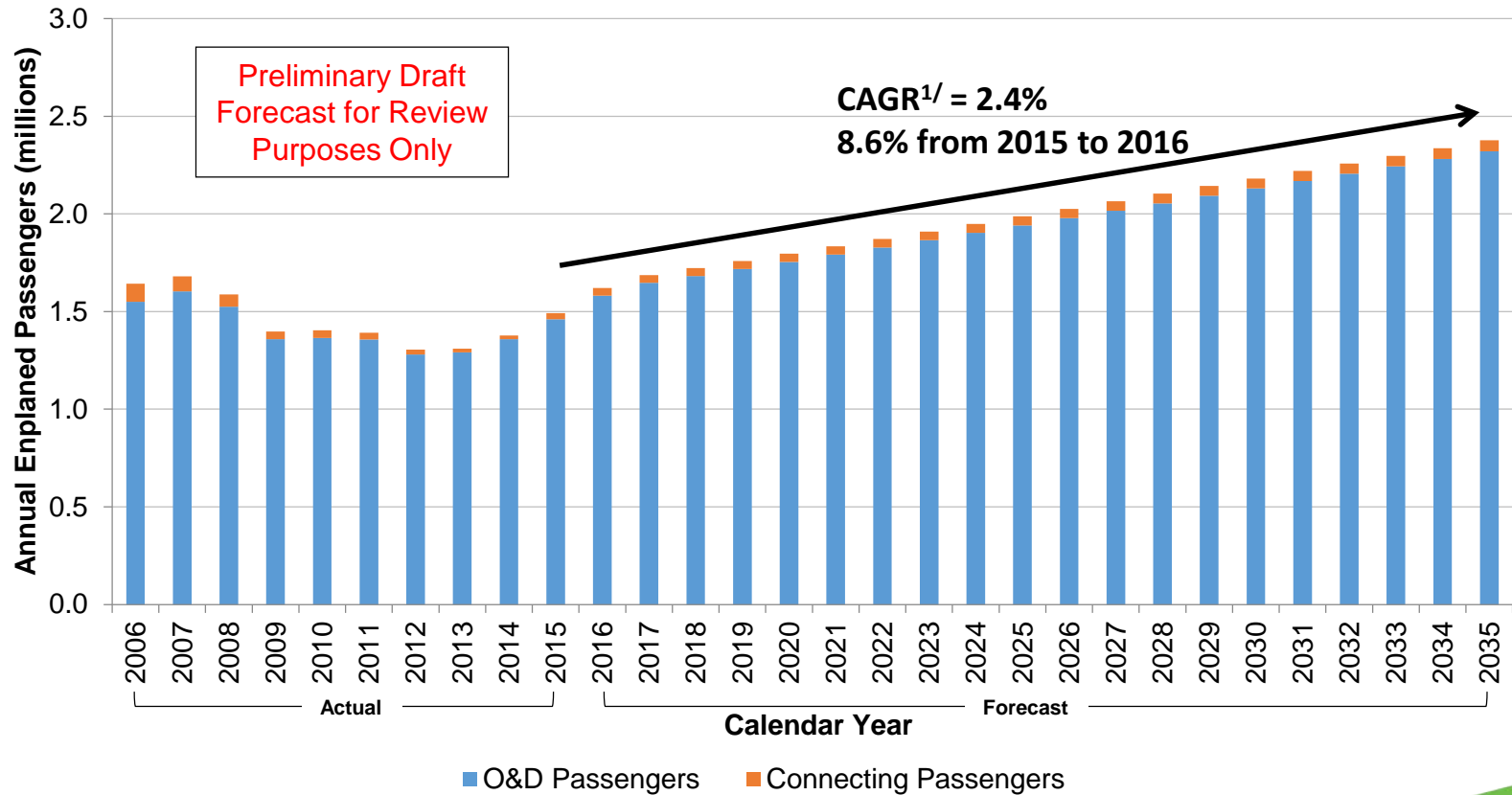
Section Two

Preliminary Forecast

Enplaned Passenger Forecast Methodology

- Short-Term (2016): Conducted analysis of published schedules, carrier announcements, and recent performance of carriers serving the Airport. Incorporated socioeconomic analysis to project underlying demand.
- Medium- to Long-Term (2017-2035): Conducted various socioeconomic analyses at the local and national levels to identify longer-term demand growth at the Airport. Resulting demand growth estimates were applied to estimate enplaned passengers.
- Overall: Assumed no additional industry “shocks”
 - Airline consolidation
 - Fuel spikes
 - Economic recession
- Forecast Scenarios
 - In addition to the baseline forecast, high and low growth scenario forecasts will be developed

O&D and Connecting Enplaned Passenger Forecast

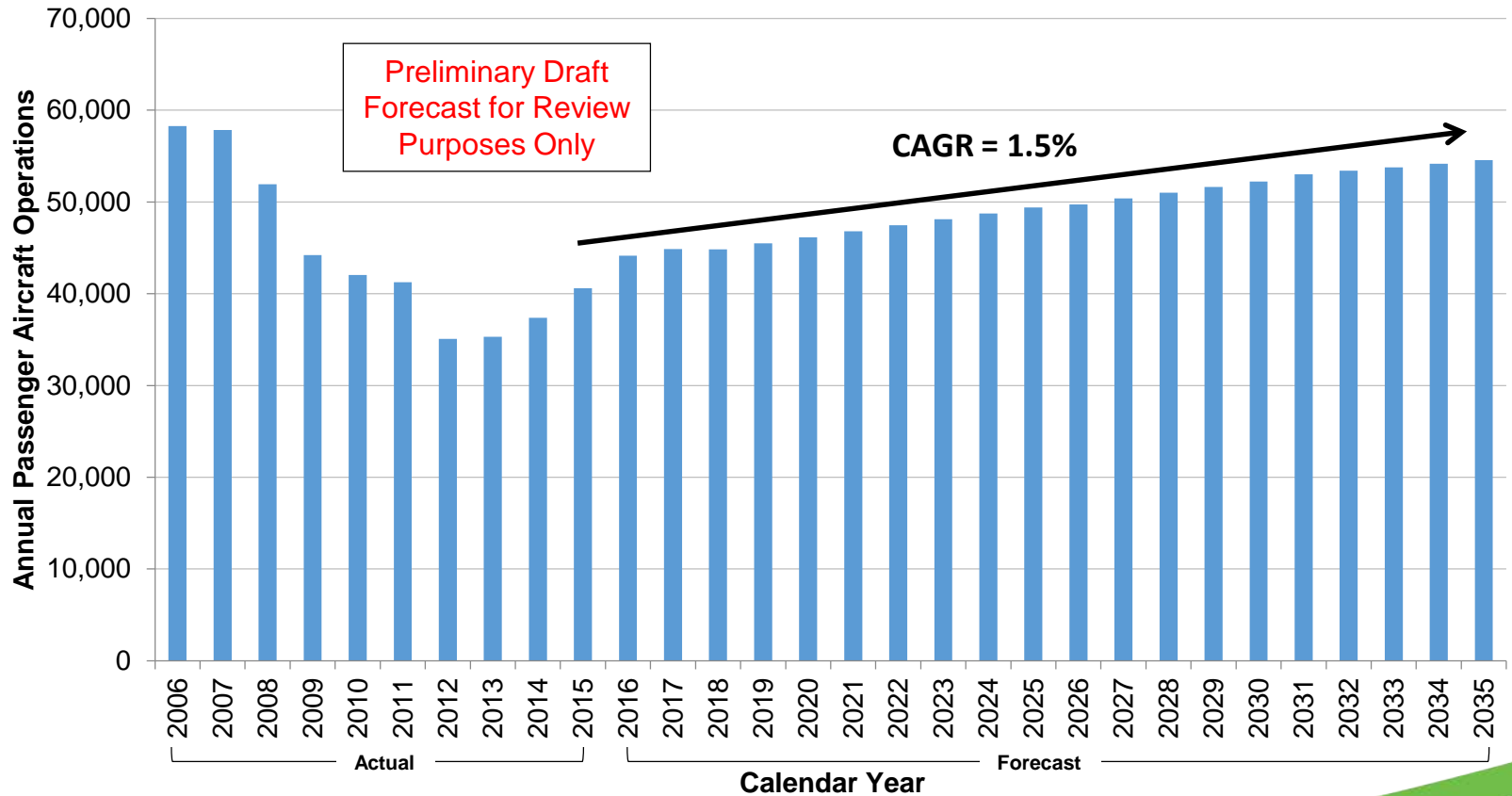


NOTE: 1/ CAGR – Compound Annual Growth Rate, the average annual growth.
 SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, DB1B Survey, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Passenger Aircraft Operations Methodology

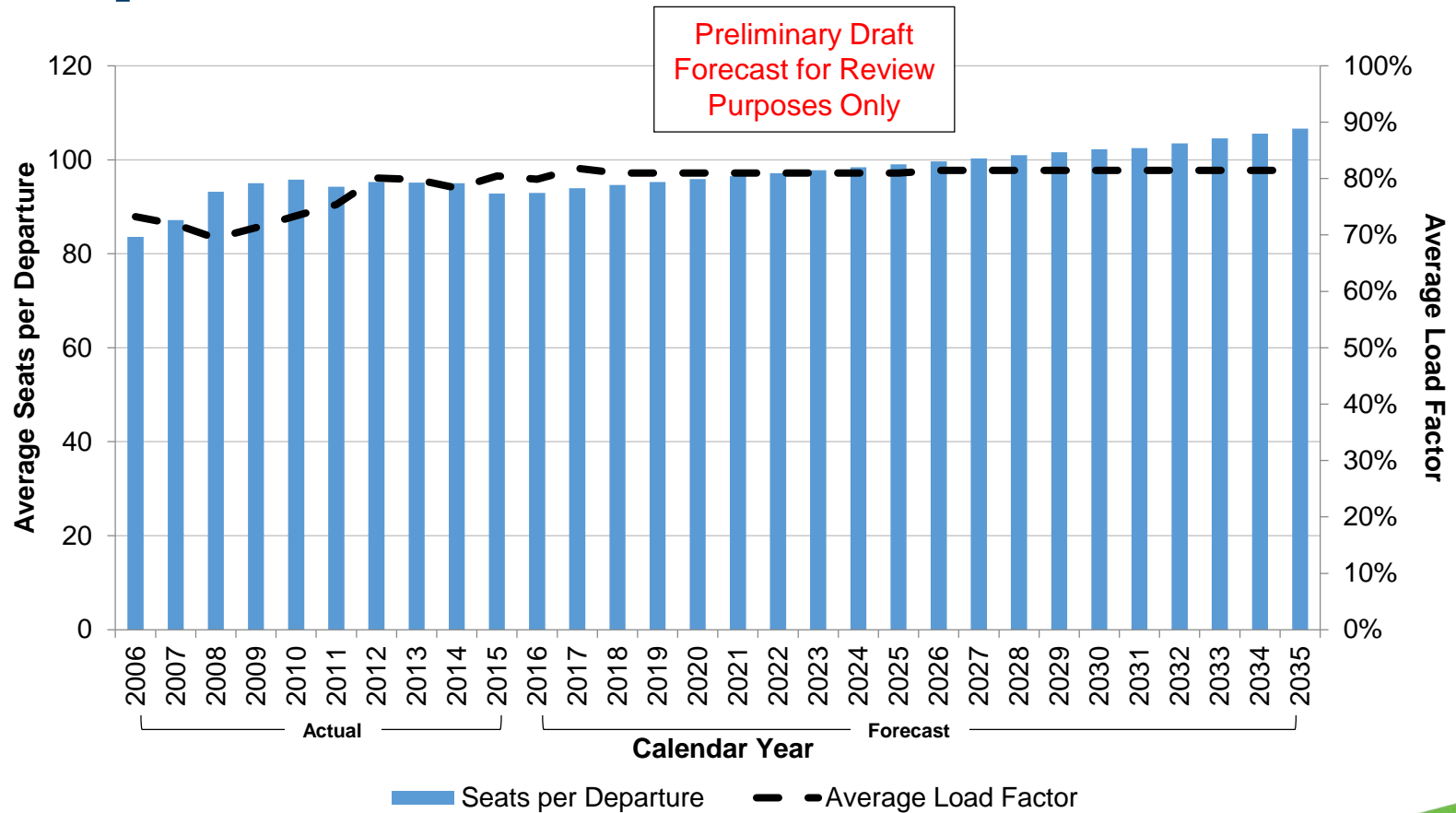
- Average seats per departure changed according to fleet mix projections
 - Aircraft orders
 - Operating characteristics of airlines serving the Airport
 - National trends favoring larger aircraft
- Used historical trends to estimate completion factor of scheduled operations
- Assumed average load factor would remain relatively consistent throughout the forecast period

Passenger Airline Operations Forecast



SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; Innovata, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Load Factor and Seats per Departure Forecast

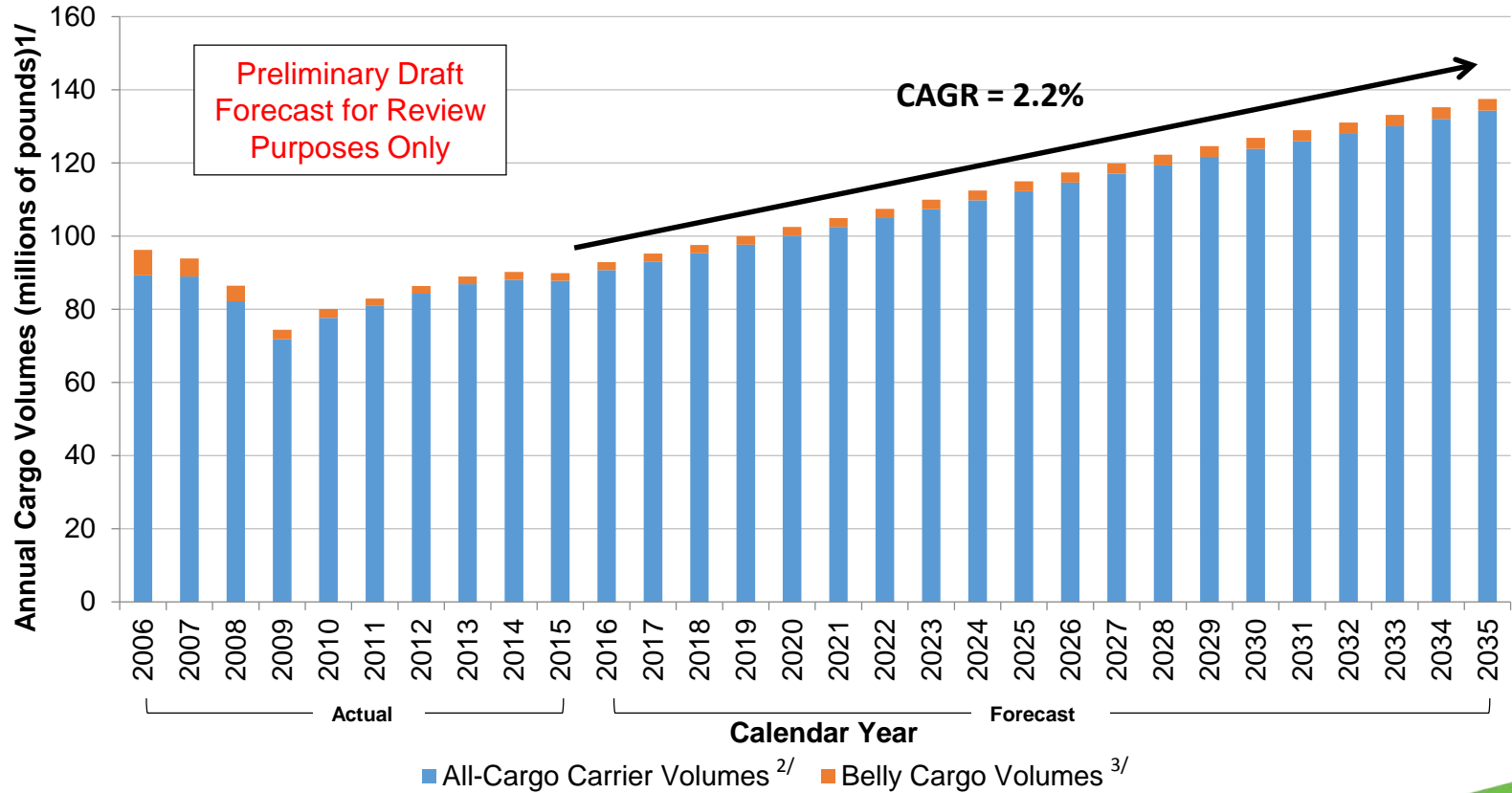


NOTE: 1/ Average number of enplaned passengers divided by total departing seats.
 SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; Federal Aviation Administration (FAA), OPSNET, November 2016; Innovata, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Cargo Volumes and Operations Forecast Methodology

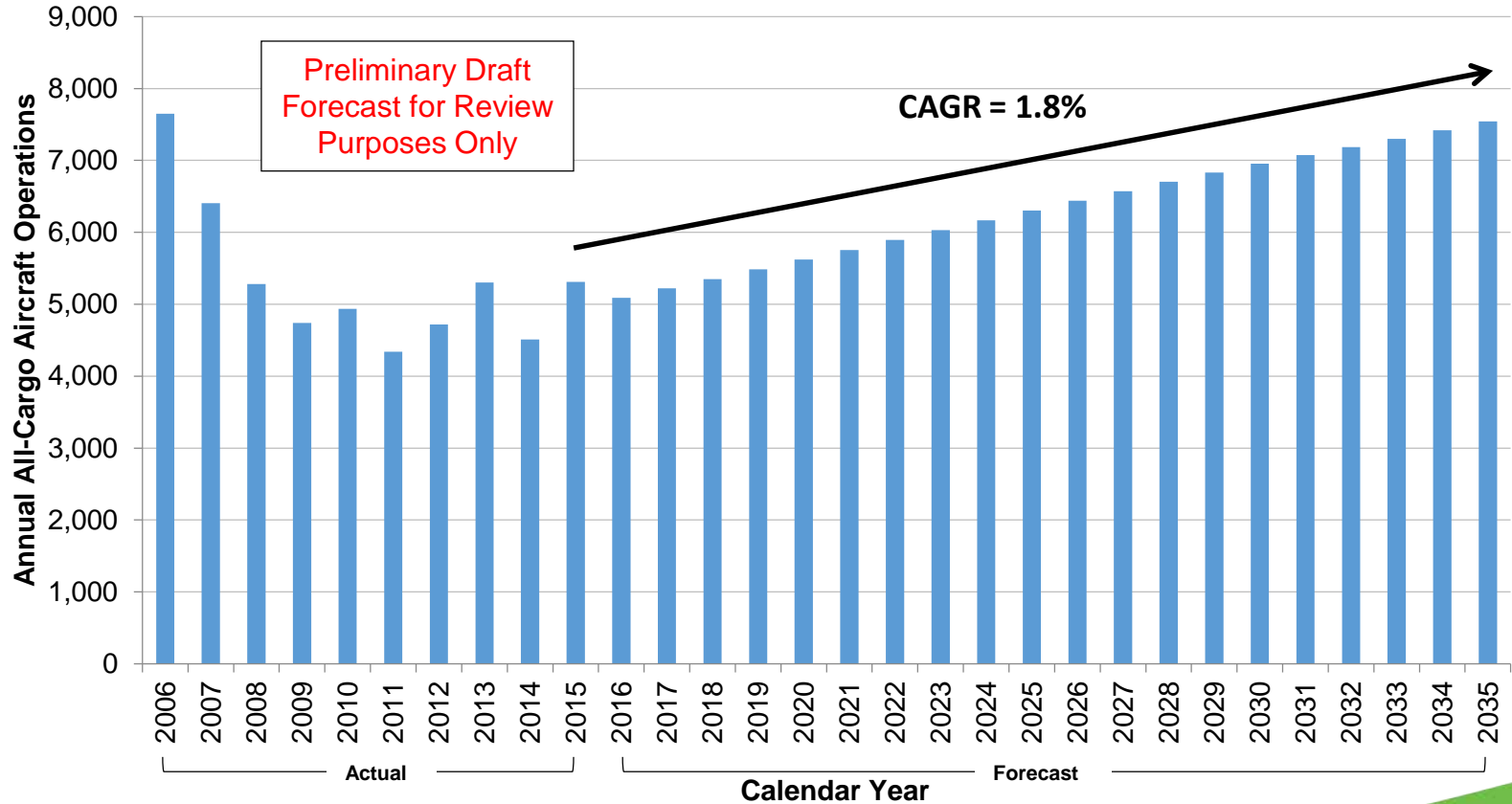
- Conducted socioeconomic regression analysis at the local and national levels to identify relationships between socioeconomic variable and total cargo volumes
- Used forecast socioeconomic variables and their relationship with total cargo volumes to project cargo volumes
- Used the historical relationship between total cargo volumes and all-cargo operations to forecast all-cargo operations

Cargo Volume Forecast



NOTES: 1/ Total volume, departing and arriving. 2/ All-cargo carriers do not transport passengers (e.g., FedEx, UPS). 3/ Belly cargo is cargo transported on passenger aircraft.
 SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

All-Cargo Aircraft Operations Forecast

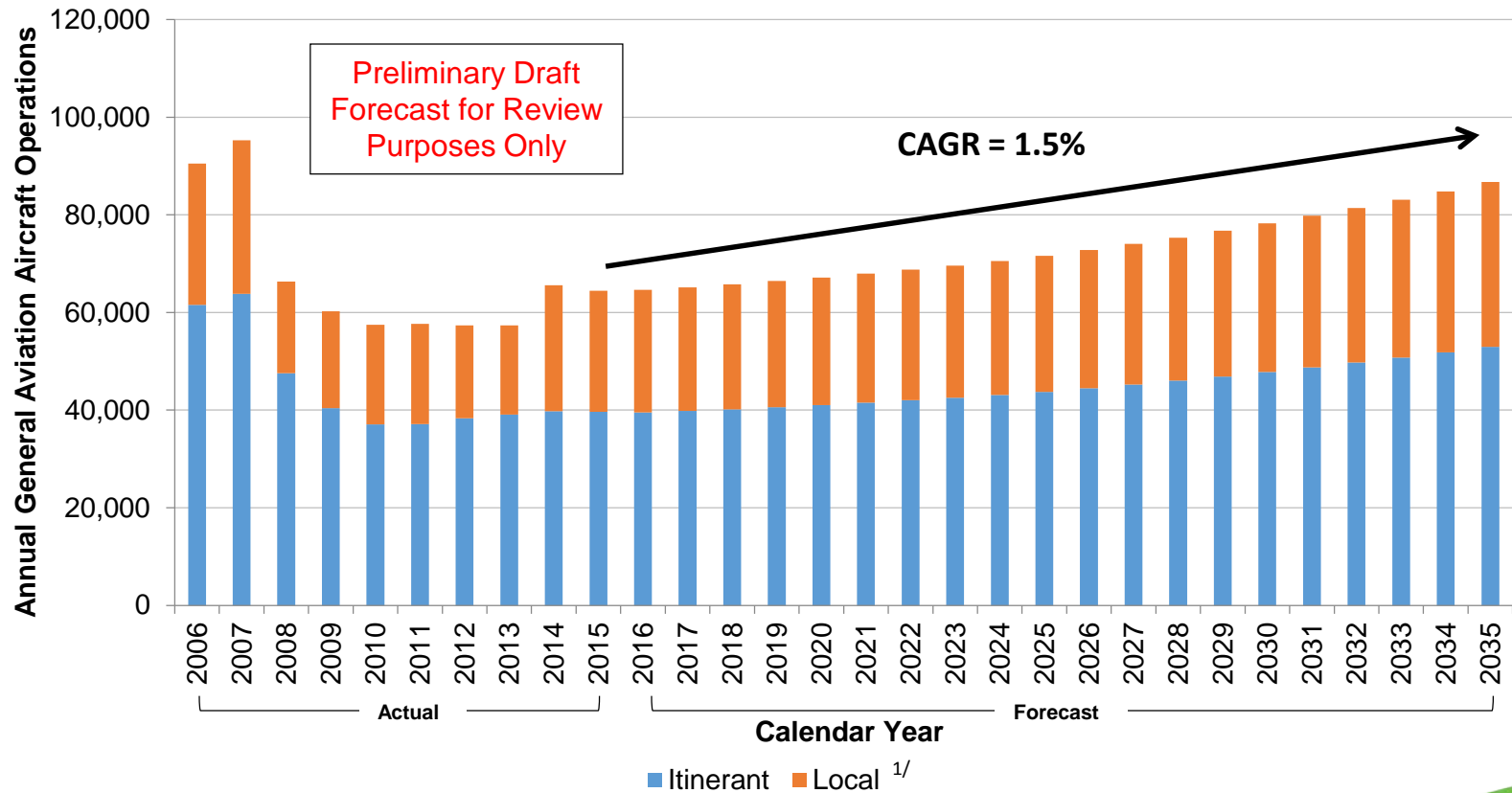


SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

General Aviation/Other Air Taxi Aircraft Forecast Methodology

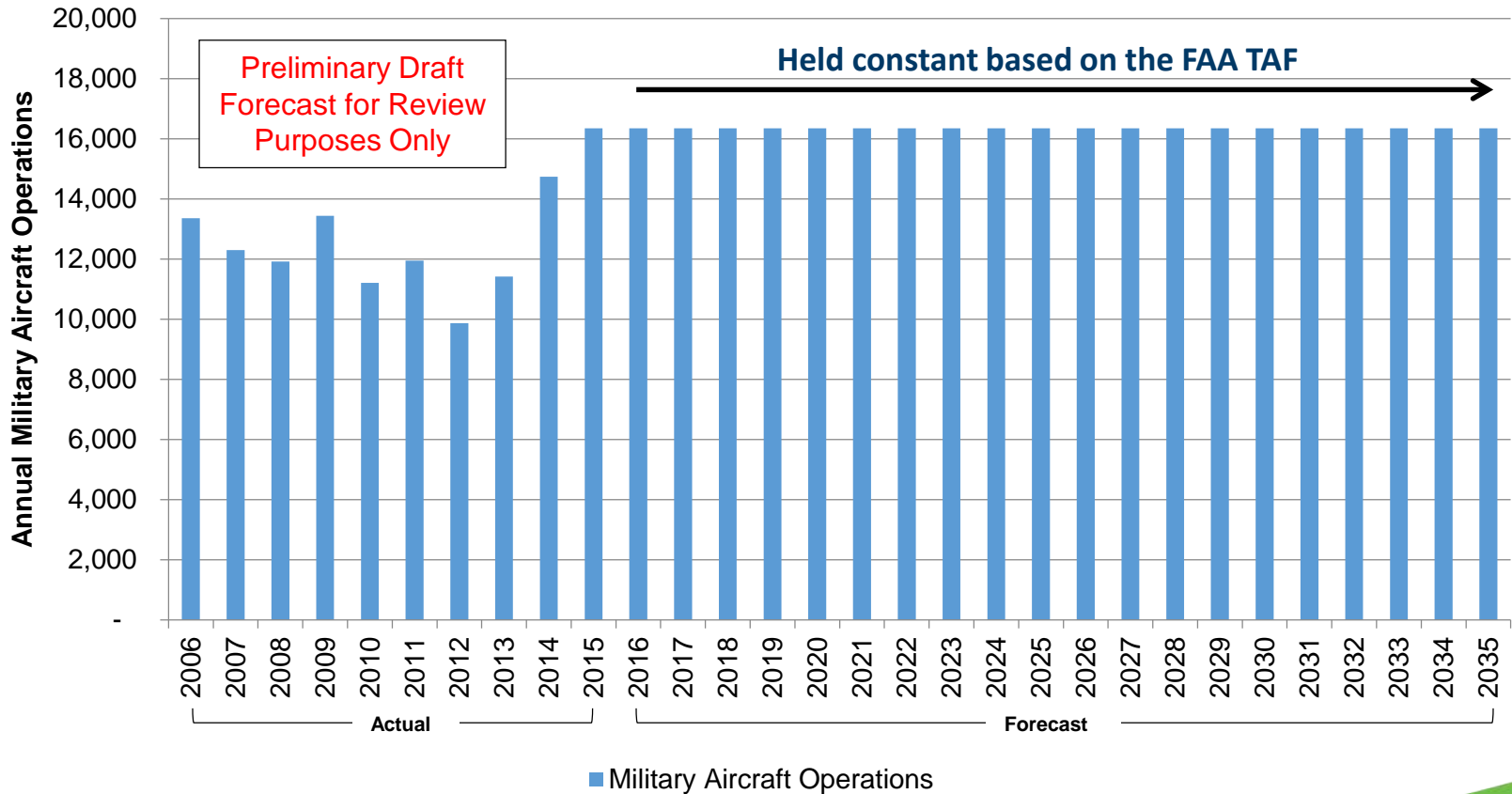
- Analyzed historical relationship between national and local general aviation activity
- Used the historical relationship and projected growth in general aviation hours flown in the FAA Aerospace Forecast to forecast operations by aircraft type
 - Piston
 - Turbine
 - Jet
 - Other

General Aviation/Other Air Taxi Aircraft Operations Forecast



NOTE: 1/ Local operations are aircraft operating only in the local traffic pattern of the Airport. All other operations are itinerant.
 SOURCES: FAA, OPSNET, November 2016; FAA, Traffic Flow Management System Counts (TFMSC), November 2016; FAA, FAA Aerospace Forecast: Fiscal Years 2016-2036, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Military Aircraft Operations Forecast



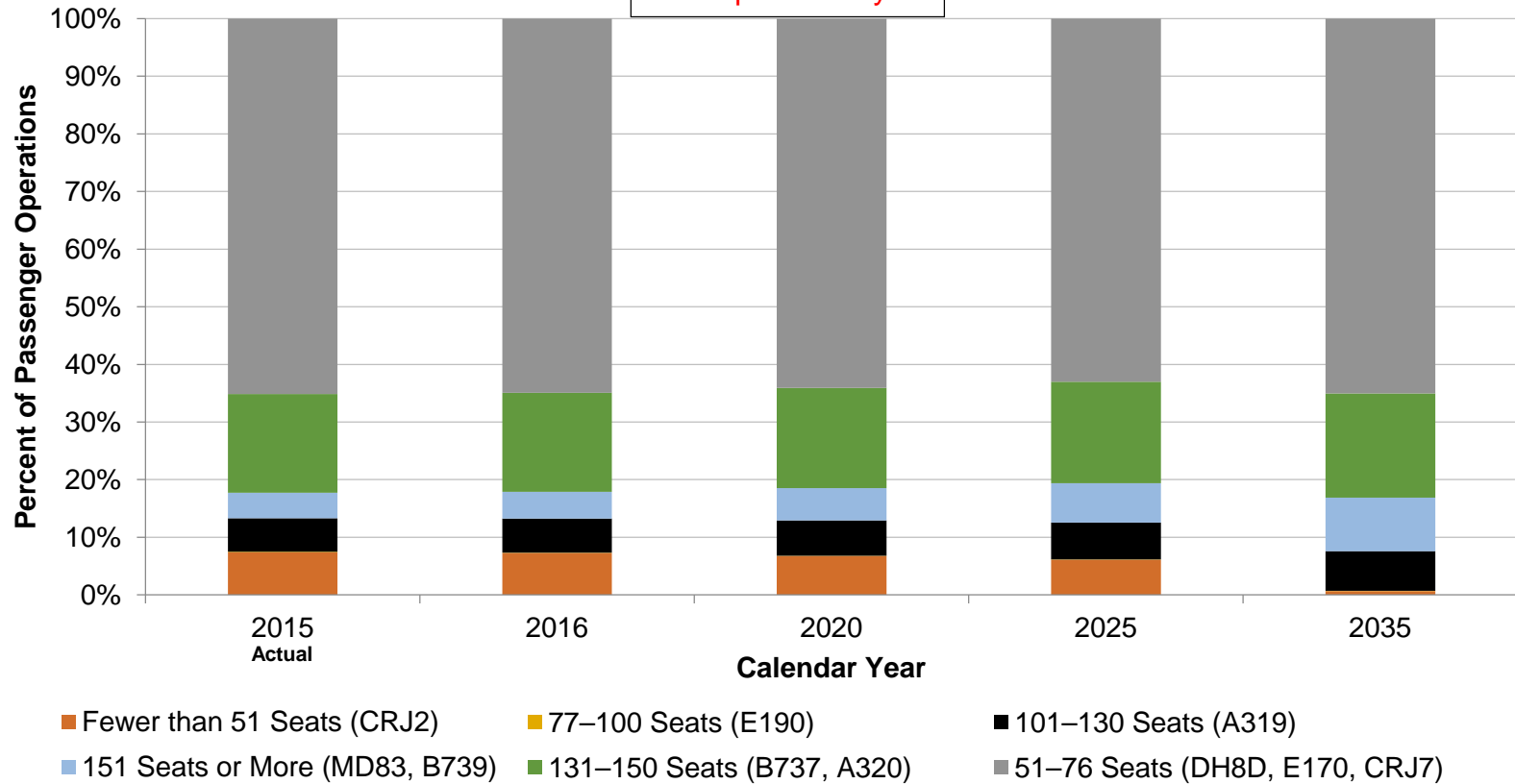
NOTE: Forecast military operations are held constant at 2015 levels, consistent with the approach in the FAA Terminal Area Forecast (TAF) for the Airport. Military operations are mission specific and have the potential for high variability depending on military needs.
 SOURCES: FAA OPSNET, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Aircraft Fleet Mix Methodology Forecast

- Passenger airline fleet mix projections were based on:
 - Aircraft orders
 - Operating characteristics of airlines serving the Airport
 - National trends favoring larger aircraft
- Cargo fleet mix was projected to remain at 2015 levels
- General aviation fleet mix was based on forecast operations by aircraft type

Passenger Fleet Mix Forecast

Preliminary Draft
Forecast for Review
Purposes Only

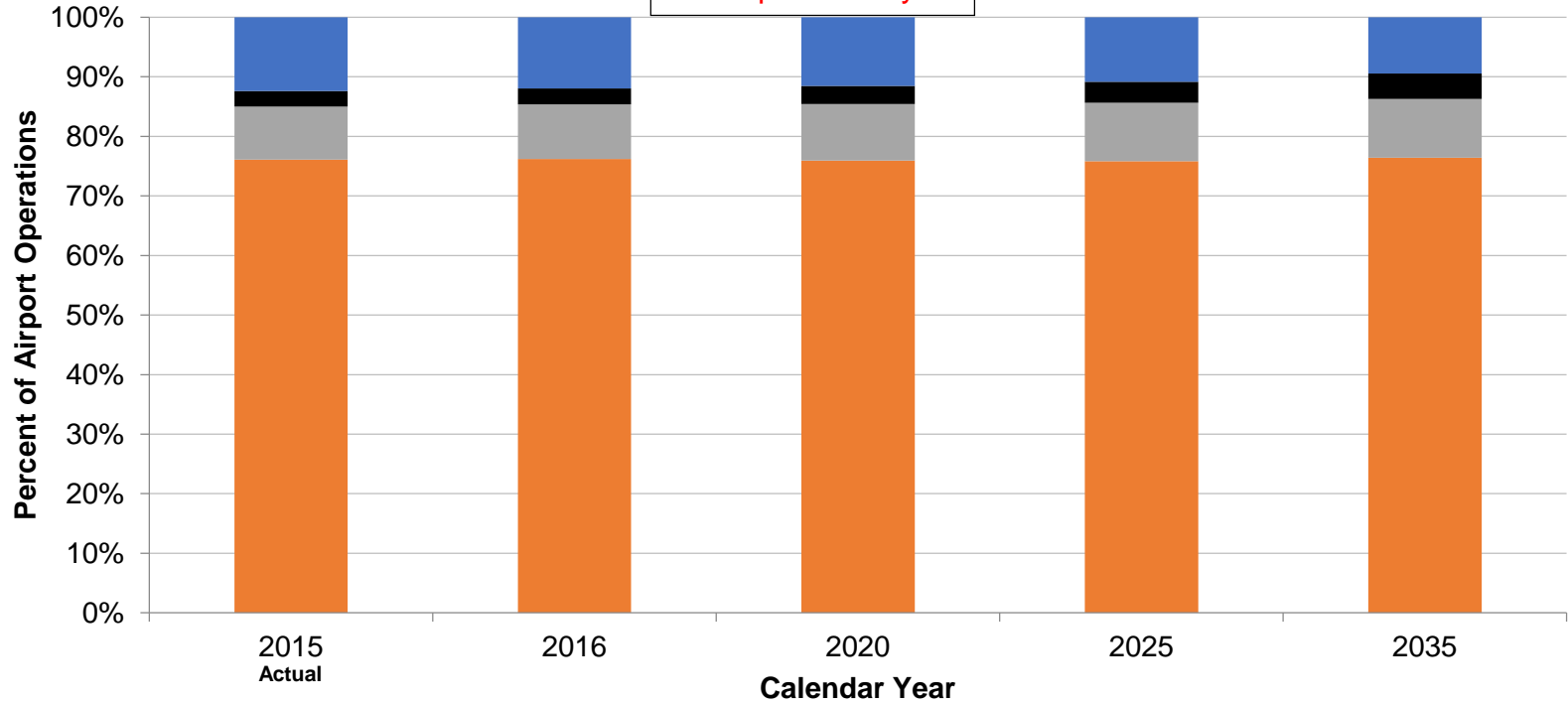


NOTE: The representative aircraft indicated are not exhaustive and do not imply any particular aircraft will operate at the Airport in the future. They are provided as a comparison to aircraft seen operating at BOI in 2015.

SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; FAA, OPSNET, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Airport Total Fleet Mix Forecast

Preliminary Draft
Forecast for Review
Purposes Only

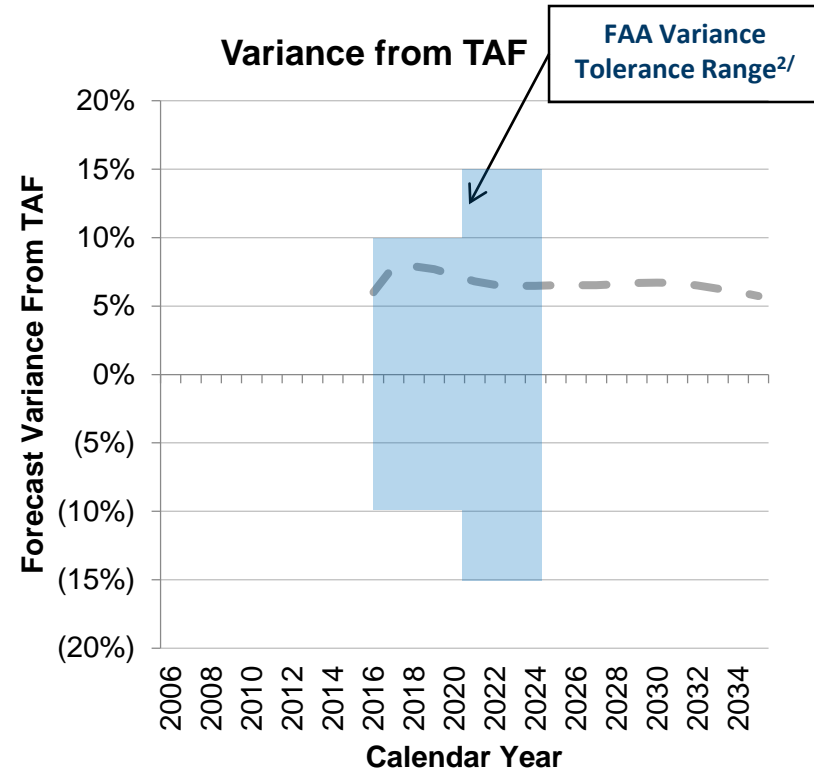
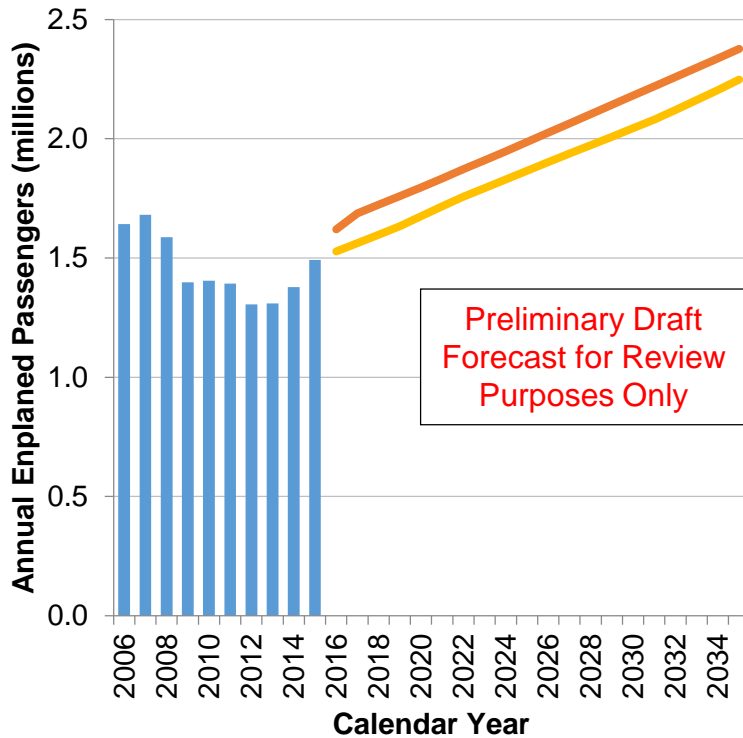


- GA/Small (C206, CRJ2, DH8D, E170, UH1)
 ■ Narrowbody (A320, B737, B752)
- Widebody (A306, A310, B763)
 ■ Military (A-10, UH-60, C-130, F-15)

NOTE: The representative aircraft indicated are not exhaustive and do not imply any particular aircraft will operate at the Airport in the future. They are provided as a comparison to aircraft seen operating at BOI in 2015.

SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; FAA, OPSNET, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Comparison of Enplaned Passenger Forecasts



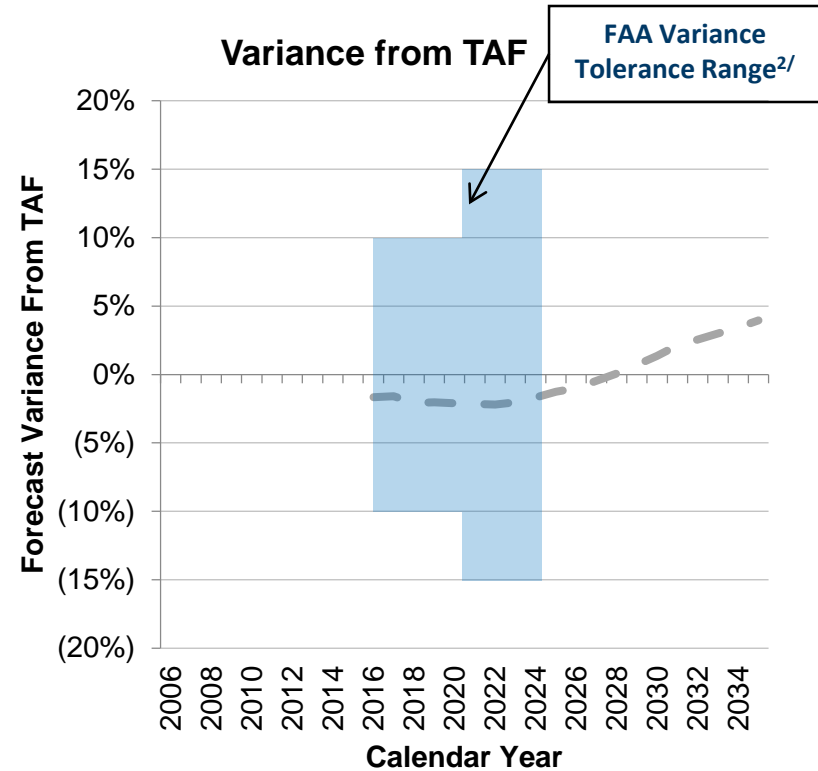
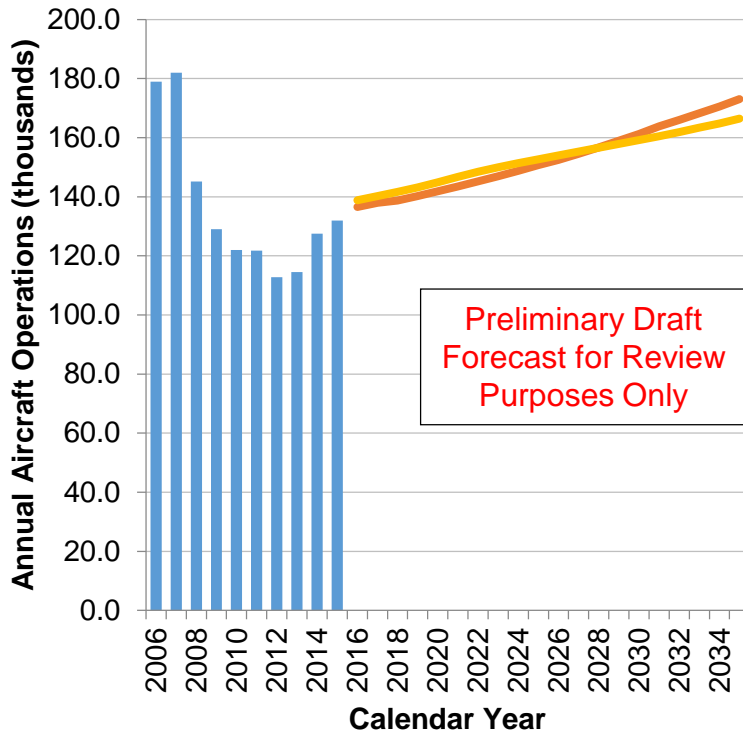
■ Historical — 2016 BOI Master Plan Forecast — 2015 FAA TAF^{1/}

— Variance from TAF

NOTES: 1/ Adjusted to calendar year for comparison. 2/ Variance tolerance levels are 10% within 5 years and 15% within 10 years (FAA AC 150/5070-6B).

SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016; FAA, 2015 Terminal Area Forecast, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Comparison of Aircraft Operations Forecasts



■ Historical ■ 2016 BOI Master Plan Forecast ■ 2015 FAA TAF^{1/}

— Variance from TAF

NOTES: 1/ Adjusted to calendar year for comparison. 2/ Variance tolerance levels are 10% within 5 years and 15% within 10 years (FAA AC 150/5070-6B).

SOURCES: City of Boise, Aviation Department, Traffic Reports, November 2016; U.S. DOT, Form T-100, November 2016;

FAA, OPSNET, November 2016; FAA, FAA Aerospace Forecast: FY 2016-2036, November 2016; FAA, 2015 Terminal Area Forecast, November 2016; Ricondo & Associates, Inc., November 2016 (forecast).

Comments and Questions

Next Steps

- Finalize forecast numbers and documentation
- Submit draft forecast to FAA for review/ approval
- Begin analysis of facility requirements

- Next TAC meeting: May 2017, to be determined in February
 - Topics: Facility requirements and initiation of alternatives development

Master Plan Update Information and Master Plan Comments

Master Plan Update Website:

<http://www.iflyboise.com/about-boi/master-plan/>

Public Involvement Program

Public Open House – Tonight

- Boise River Room
 - Third Floor of Airport
- Two Sessions
 - 5 p.m. – 6 p.m.
 - 7 p.m. – 8 p.m.

Parking will be validated

Thank you!