

City of Austin-Department of Aviation Austin-Bergstrom International Airport 2040 Master Plan

Public Workshop #2

April 19, 2018

**THE AIRPORT OF CHOICE
FOR CENTRAL TEXAS**



DISCUSSION TOPICS

Introduction

About the Master Plan

Public Workshop #1 Recap

Aviation Forecasting Overview

Airfield Requirements

Terminal Requirements

Landside Requirements

Q&A

Next Steps



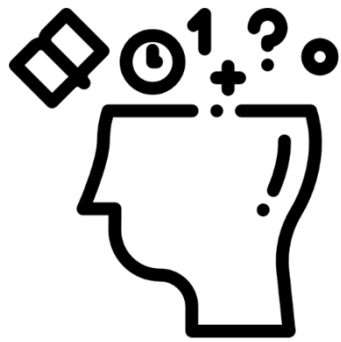
AUSTIN-BERGSTROM INTERNATIONAL AIRPORT (ABIA) OVERVIEW



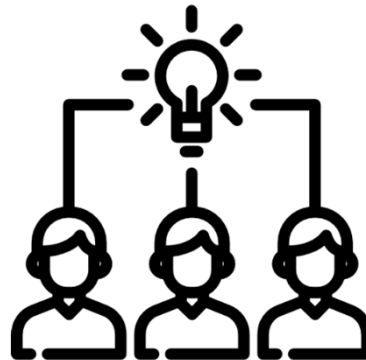
Austin-Bergstrom
International Airport



What is the Purpose of Today's Meeting?



**Educate
& Inform**



**Solicit
Input**



**Answer
Questions**

What is a Master Plan?

The ABIA 2040 Master Plan

is a vision for the future of the airport.



It is a new master plan.

The Master Plan addresses **emerging technologies**, future **facilities needs**, and the cost of anticipated **development**.

It will be completed by the Fall of 2018.

How Long Will this Take?



Ten Elements of a Master Plan

- 1) Sustainability
- 2) Public Involvement
- 3) Environmental Considerations
- 4) Existing Conditions
- 5) Aviation Forecasts
- 6) Facility Requirements
- 7) Alternatives Development Analysis
- 8) Airport Layout Plans
- 9) Facilities Implementation Plan
- 10) Financial Feasibility Analysis

How Can I Influence the Master Plan?

PUBLIC INPUT OPPORTUNITIES

4 Public Workshops
&
Technical Advisory
Committee
&
Project Advisory
Committee
&
Airport Advisory
Commission
&
City Council



SERVE

as a sounding board



GIVE US

your ideas, opinions
& concerns



SHARE INFO

with Neighbors
& Networks

Did You Know?: ABIA is Ranked 4th Best U.S. Domestic Airport

Voting Criteria: Access, Check-in/Security,
Design Shopping and Restaurants/Bars

#1: Portland International Airport (PDX)

#2: Indianapolis International Airport (IND)

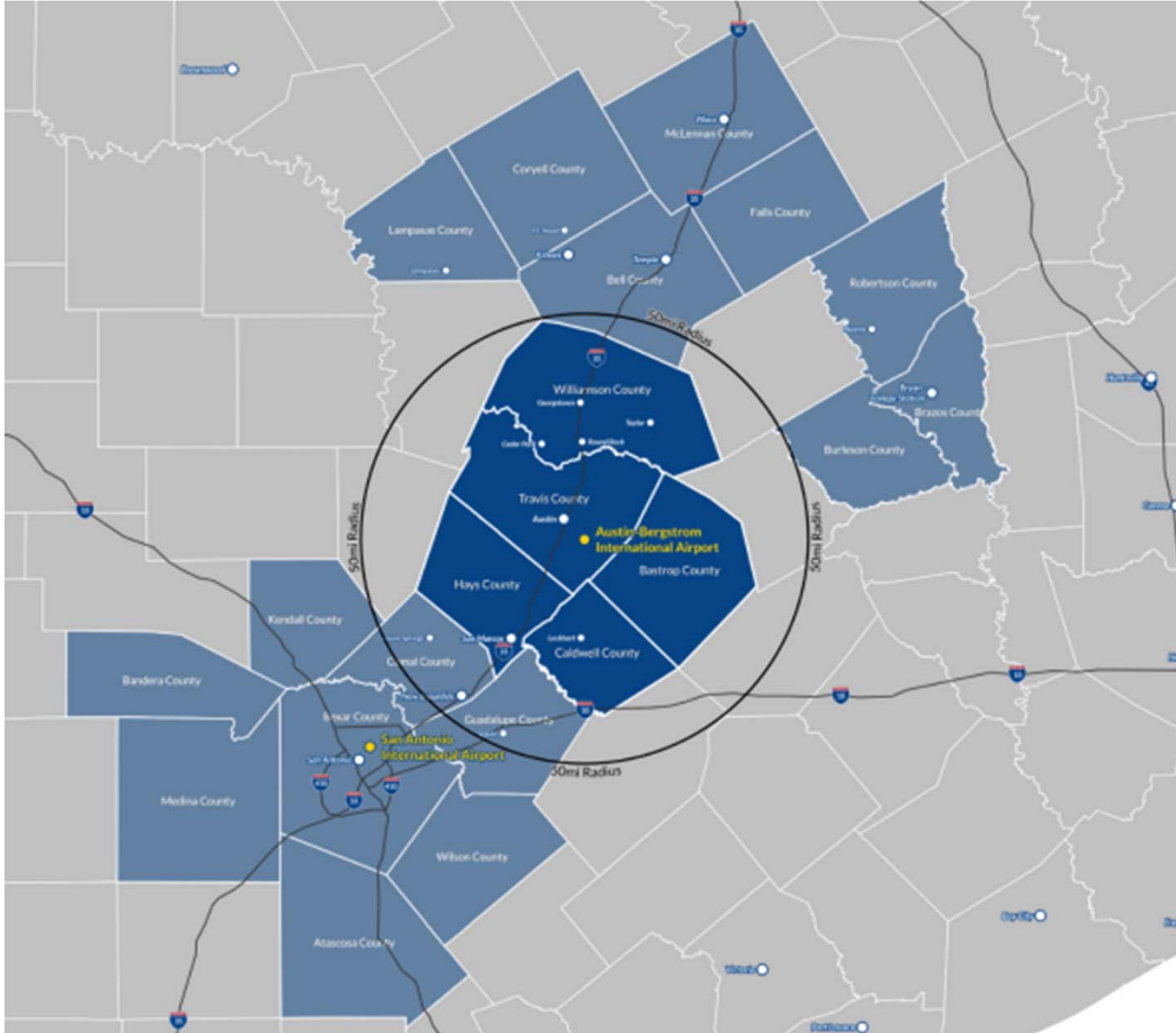
#3: Tampa International Airport (TPA)

#4: Austin-Bergstrom Int. Airport (AUS)

#5: Minneapolis-St. Paul International Airport (MSP)



ABIA Service Area



ABIA Campus

2
Terminals
(South & Barbara Jordan)

2
Runways

36
Airport Gates
(including expansion)

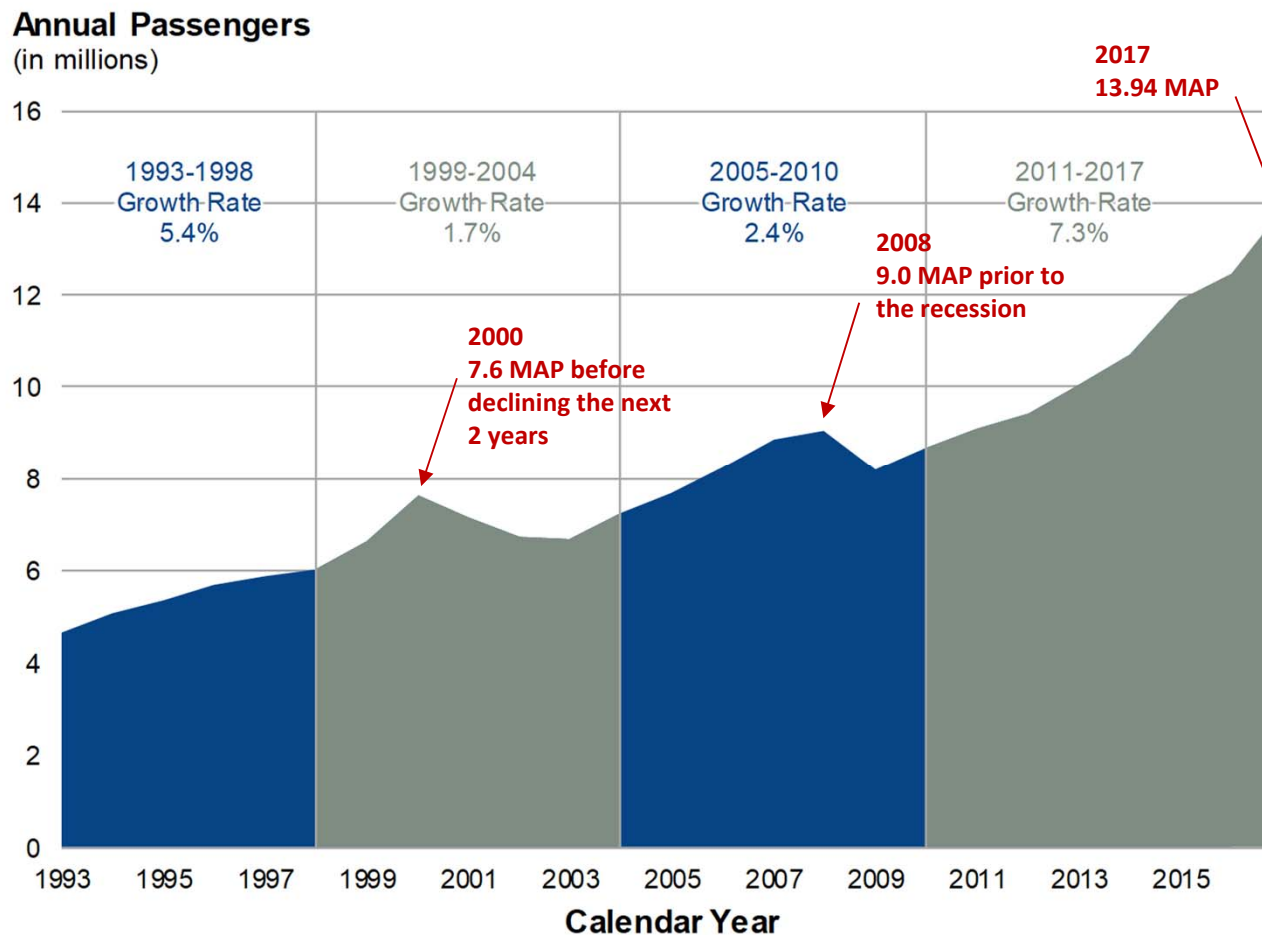
4,200
Acres of Land

13,882
Parking Spaces
(including new garage)

227,000 s.f.
Cargo Building



ABIA Growth Since 1993



Since 1999 passenger growth at ABIA has tripled at 4.2% average annual growth. The national average annual passenger growth rate is 2.1%.

Current Construction at ABIA



9-Gate Terminal Expansion

90,000 square feet



Parking & Admin Building

80,000 square feet
6,000 new parking spaces



New Maintenance Facility

16.4 acres

**Currently three projects
are in design or under construction.
They will be completed by 2020.**

WHAT WE HEARD FROM THE PUBLIC



Public Input Received

- Customers enjoy the “Austin Experience” at the Airport
- Transportation improvements needed around and within the airport (better wayfinding)



- Introduce more innovative technology (charging stations, lounges)
- Increase amount of direct flights (Dallas and Houston are regional hubs)

Airport, Project, and Technical Advisory Committee Input

- The cost of land will only increase (if needed for runway alternative)
- Facilities need to be flexible to account for Austin's growth



- Affects to the Del Valle region have to be considered
- What and who will be displaced by growth?
- Community discussion needed for proposed improvements

FUTURE AIRPORT FACILITY NEEDS ANALYSIS

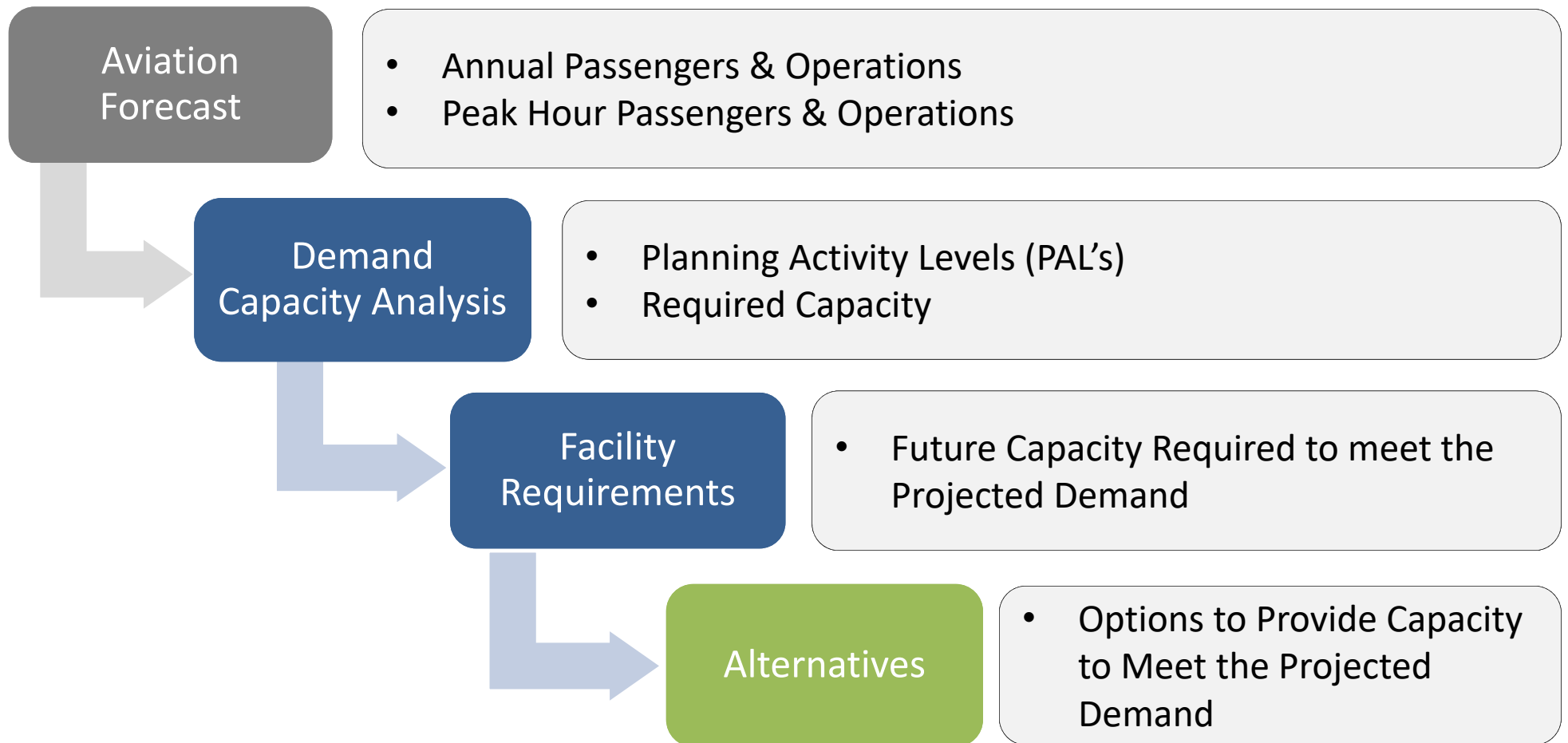
- **RUNWAY**
- **TERMINAL**
- **ROADWAY**



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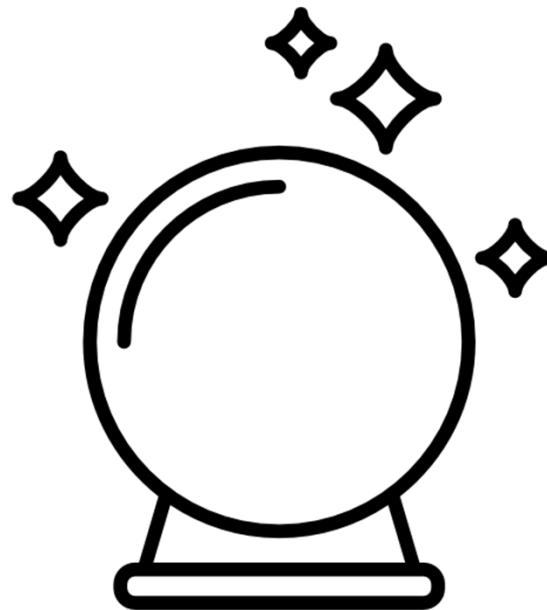
Demand Capacity Analysis & Facility Requirements Process



What is Aviation Forecasting?

an **estimate** of future airport activity
for both passenger & aircraft
operations.

It is the foundation of the
ABIA 2040 Master Plan.



Passenger Growth at ABIA

13.9 Million Annual Passengers
(MAP) Traveled thru ABIA in
2017

An 11.5% Increase from 2016



Anticipated 2x⁺ Passenger Activity (31 MAP) by 2037

Planning Activity Levels (PAL's)

- PAL's are future activity levels that are established to examine the ability of the airport's facilities to accommodate the projected demand.

For example, the next milestone for growth – PAL 1 – is 2019, where there will be between 16 and 22 million annual passengers.

The milestones that ABIA is focused on is PAL 3 (2027) and PAL 4 (2037). The predicted growth for these years shows the deficiencies of airport facilities.

Planning Activity Levels (PAL's)

**PAL 3
(2027)**

**PAL 4
(2037)**

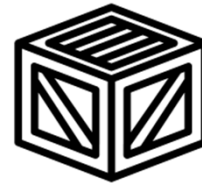
20-22



Million Annual Passengers

27-31

129,800 – 513,500



Tons of Enplaned Cargo

161,000 – 1.5 M

247,800 – 287,200



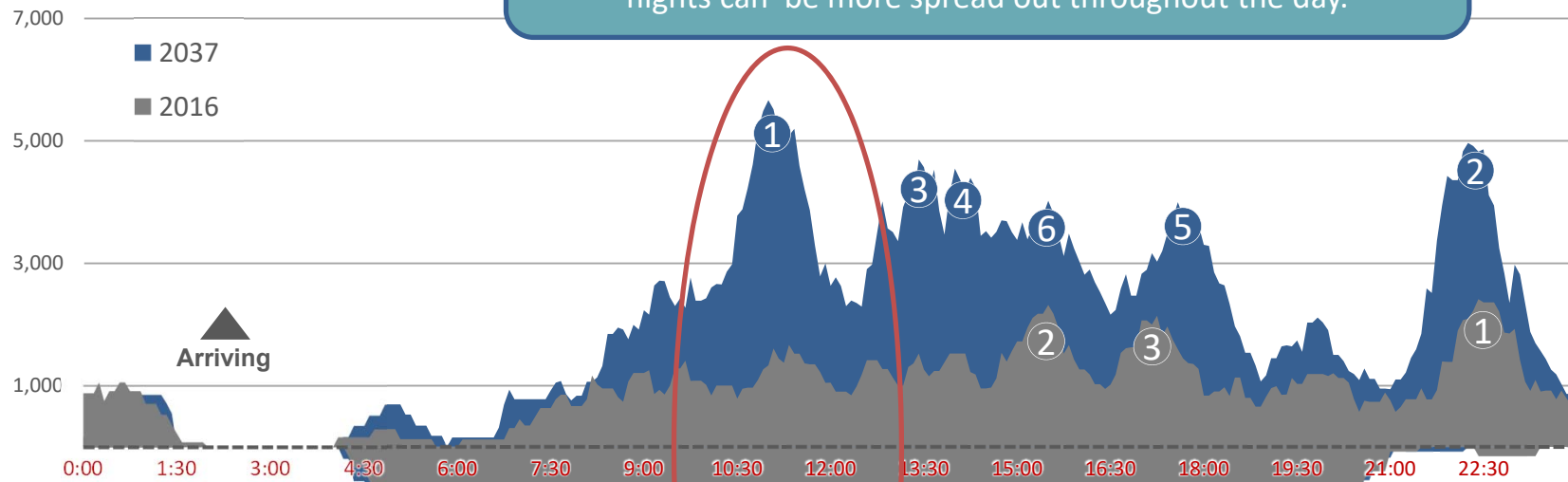
Annual Aircraft Operations

296,500 – 426,6000

Peak Hour Growth

Late morning arrivals and departures are clustered to increased frequency. As the market matures and demand increases, the flights can be more spread out throughout the day.

Hourly Seats Comparison - 2016 vs 2037



Early morning departure peak period will grow as new destinations are added

Afternoon departures and arrivals busy periods are widening to accommodate increased destinations and frequencies

SUMMARY OF AIRPORT FACILITY NEEDS



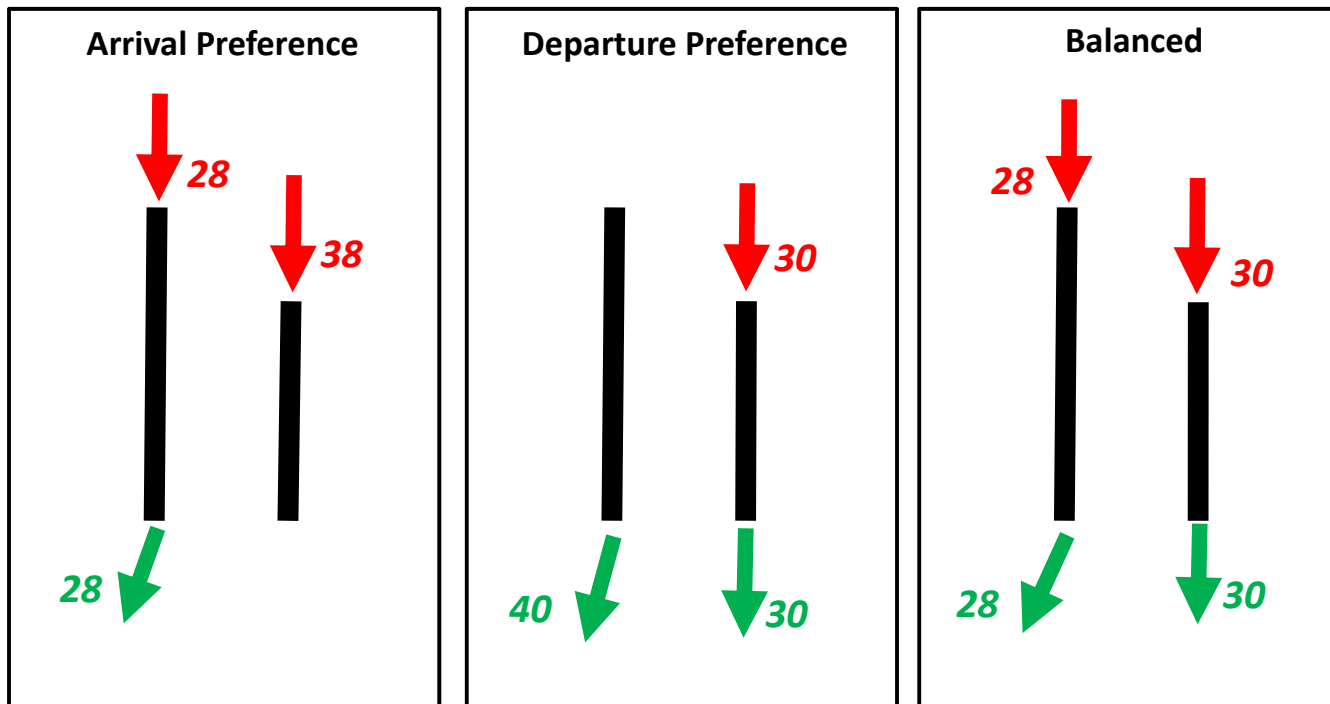
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2037 AIRFIELD REQUIREMENTS



Existing Runway Peak Hour Capacities



Arrival Preference		Departure Preference		Balanced		ATMs	MAP
Arr.	Dept.	Arr.	Dept.	Arr.	Dept.		
66	28	30	70	58	58	445,000	40.0

Existing Airfield Average Delay Curve

The Demand for Annual Aircraft Operations will be 426,000 in the year 2037 at 31 MAP (which will lead to about **5 minute average** delays).



Existing airfield capacity is 445,000 annual operations at 40 MAP

The threshold for acceptable delays is **10 minutes**, which will be reached in the year 2048 if we make no changes to the existing airfield.

Effects of Closing Runways



Using data from the forecasting analysis, aviation planners predicted **how closing each runway will affect flight schedules and delays.**

Closure of Runway 17R-35L

The delay threshold of 10 minutes will be reached by **2032**, or 360,000 annual operations



Closure of Runway 17L-35R

The delay threshold of 10 minutes will be reached by **2029**, or 313,000 annual operations

2037 RUNWAY LENGTH REQUIREMENTS



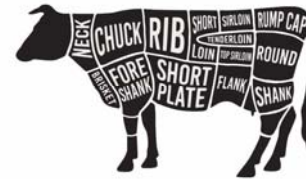
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DID YOU GUESS CORRECTLY?



How many tons of brisket were sold at ABIA last year?



**ABIA has two runways.
How long is ABIA's longest runway?**



Runway Length Requirements

Takeoffs



Cargo ~ 11,300 – 6,200

International ~ 11,200 – 9,000

Domestic ~ 10,500 – 5,800

Landings

Cargo ~ 9,000 – 5,856

International ~ 7,200 – 6,500

Domestic ~ 6,900 – 5,405

RUNWAY ALTERNATIVES DEVELOPMENT



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Runway Alternatives Development

Using industry standards, the ABIA team looked at two different approaches to runways.

Closely-Spaced:

A runway that is a minimum 1,200 feet away from the existing runway will have less overall impacts and capacity.



Widely-Spaced:

A runway that is a minimum of 4,300 feet away from the existing runway. These have a larger capacity, but require more land acquisition.

Runway Alternatives Development

INPUTS

Industry Standards

Processing Rates

Industry Initiatives

New Technologies



OUTPUTS

Runway Throughput

Aircraft Delays

Taxi Times

Taxi Flows

Runway Closure Capacity

14
Runway
Alternatives

5
Shortlisted by
ABIA

3
Shortlisted
based on Public
Input

1
Preferred
Alternative
Based on
Technical and
Public Input

Runway Alternatives Evaluation Criteria



Runway Separation



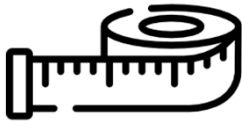
Environmental Impact



Constructability



Cost



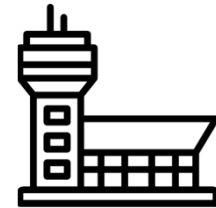
Runway Length



Annual Total Movements



Peak Hour Balance



Potential Terminal Development



Million Annual Passengers



Roadway Impact



Land Development Impacts



Land Acquisition

TERMINAL FACILITY REQUIREMENTS

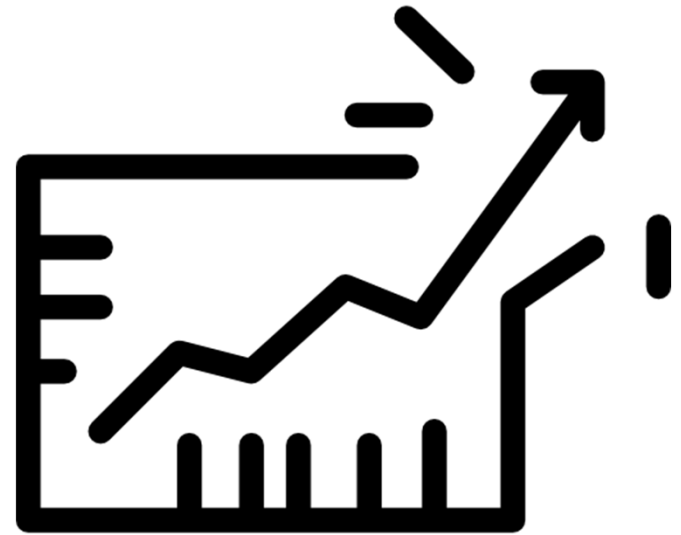


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Summary of Terminal Requirements

When the Barbara Jordan East Terminal expansion opens in 2019, most of the **Airport's facilities will be at capacity** so the next phase of improvements must begin.



In 2027, an anticipated 22 Million Annual Passengers make it necessary for **substantial capacity expansion**.

Objectives for Terminal Alternatives

Address near-term expansion requirements

Maintain or increase number of available gates during construction of the next phase

Minimize disruption to passengers or operations during expansion

Maintain or enhance passenger experience

Invest in the near-term while maintaining flexibility to adapt in the long-term

Terminal Gate Requirements

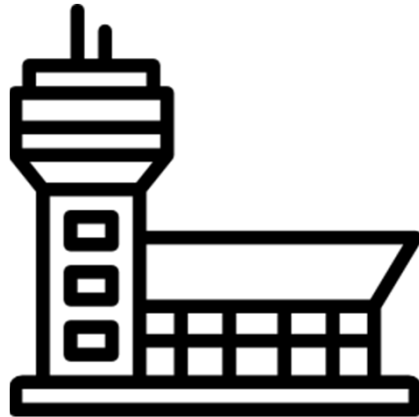
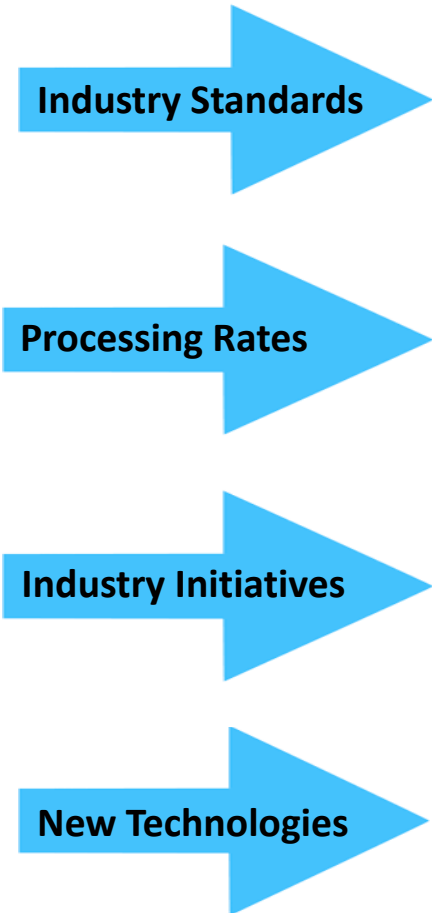
- 12 additional gates will be required to meet the 10-year demand.
- 28 additional gates will be required for the 20-year demand.
- Increased Remote positions are required to accommodate diversions from surrounding airports and regular major events, such as SXSW.

GATES	Existing (2019) ^{1/}	2027	2037
Domestic	32	42	57
International	4	6	7
SUB-TOTAL GATES	36	48	64
Remote	42	58	74
TOTAL POSITIONS	78	106	138

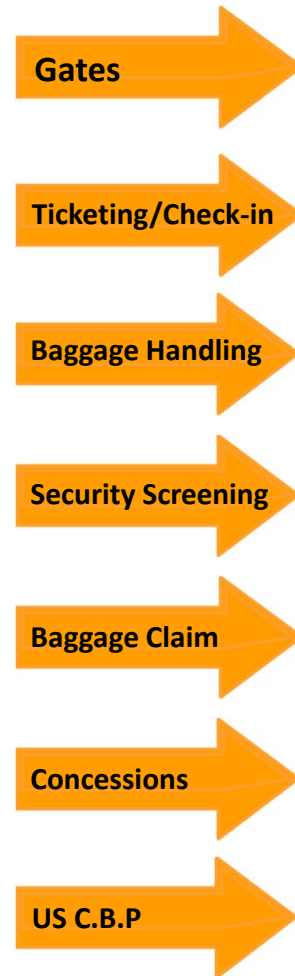
1/ Existing 2019 includes BJT east expansion and South Terminal gates.

Terminal Facility Alternatives Development

INPUTS



OUTPUTS



Terminal Facility Evaluation Criteria



Maintains ABIA Experience



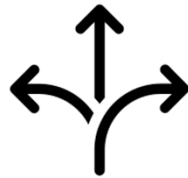
Intuitive Wayfinding



Flexible Gate Growth



Passenger Movement



Operational Flexibility



Air Traffic Control Flexibility



New Central Plant



General Aviation Impacts



Impacts on Current CIP Projects



Fuel Storage Impacts

Terminal Expansion Strategy

TERMINAL EXPANSION SCHEDULE	YEARS									
	1	2	3	4	5	6	7	8	9	
NEAR-TERM EXPANSION (2018-2021)										
DESIGN / ENGINEERING	█									
CONSTRUCTION				█						
LONG-TERM EXPANSION (2019-2024)										
DESIGN / ENGINEERING	█									
CONSTRUCTION / TESTING					█					

- Near-term expansion will provide immediate terminal and gate capacity to address current short-falls
- Long-term expansion will be constructed in phases to provide additional capacity in increments to accommodate growth as it occurs

We Want to Hear from You!

How has Austin-Bergstrom's current terminal layout shaped your travel experience?

What are the most important aspects of the airport experience you want to maintain at ABIA?

ROADWAY FACILITY REQUIREMENTS



Roadway Facility Alternatives Development

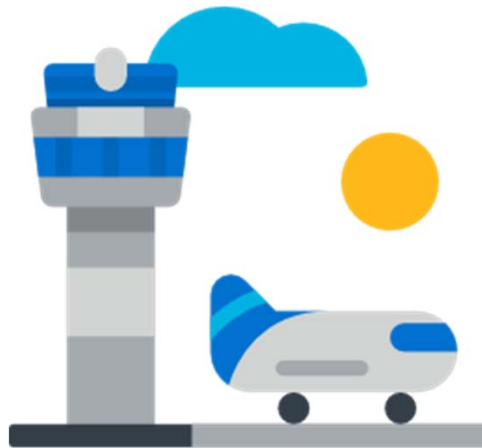
INPUTS

Existing Conditions

Passenger Growth

Regional Plans

New Technologies



OUTPUTS

Parking

Terminal Curbside

Regional Roadways

On-Campus Roadways

Ground Trans. Center

Personal Rapid Transit

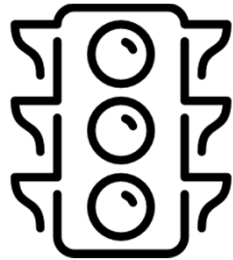
Intermodal Trans.

TBD

Evaluation Criteria for Roadway Alternatives



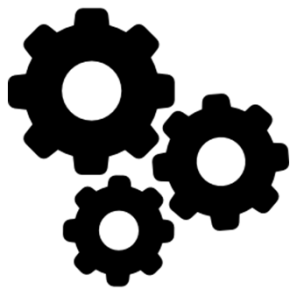
Clear and Simple



No Stops



Intermodal



Development



Sense of Place



Costs

Transportation and Innovation

The use of shared vehicles and the innovations being made in driverless vehicles makes an impact on roadway alternatives and facility requirements (parking garages).



Let's take a poll...

How do you travel to and from the airport?

I drive and park my car at the airport or remote parking lot.

I ride public transit.

I get a ride from a friend, take a taxi or a rideshare.

Next Steps

- Airfield, terminal and roadway alternatives analysis and evaluation process
- Conducted the alternatives review with the AAAC, TAC & PAC earlier this week
- Receive input from these committees and present the alternatives at the next public meeting
- Next public meeting in June 2018
 - Alternatives analysis & feedback

THANK YOU

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