

Airport Expansion Development Program

Joint Sustainability Committee Meeting



Austin-Bergstrom
International Airport



April 27, 2022



AUS Outreach

AUS Overview

AUS Master Plan

Sustainability & Resiliency Overview

Airport Expansion Development Program
Overview

Airport Fuel Facility Update



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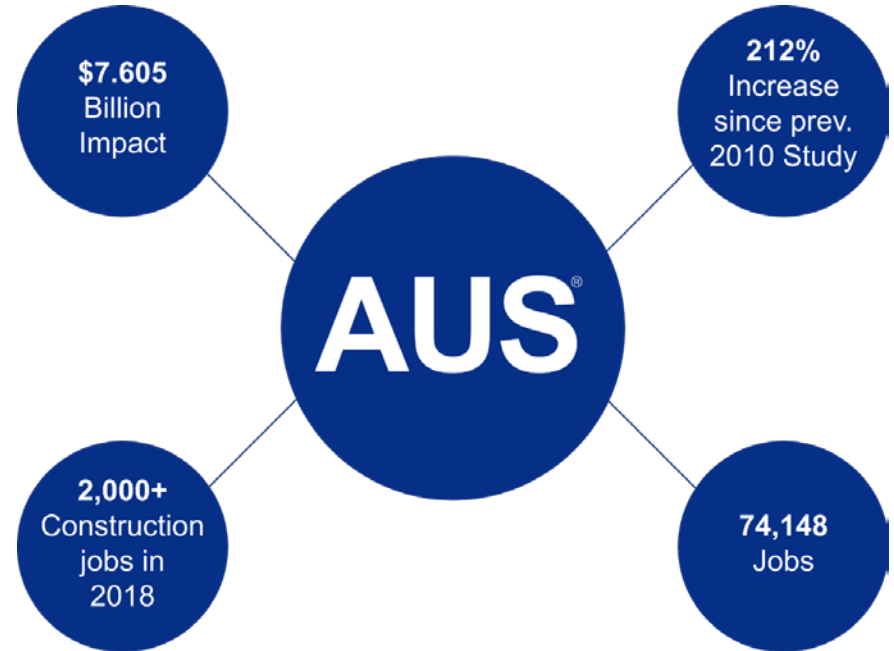
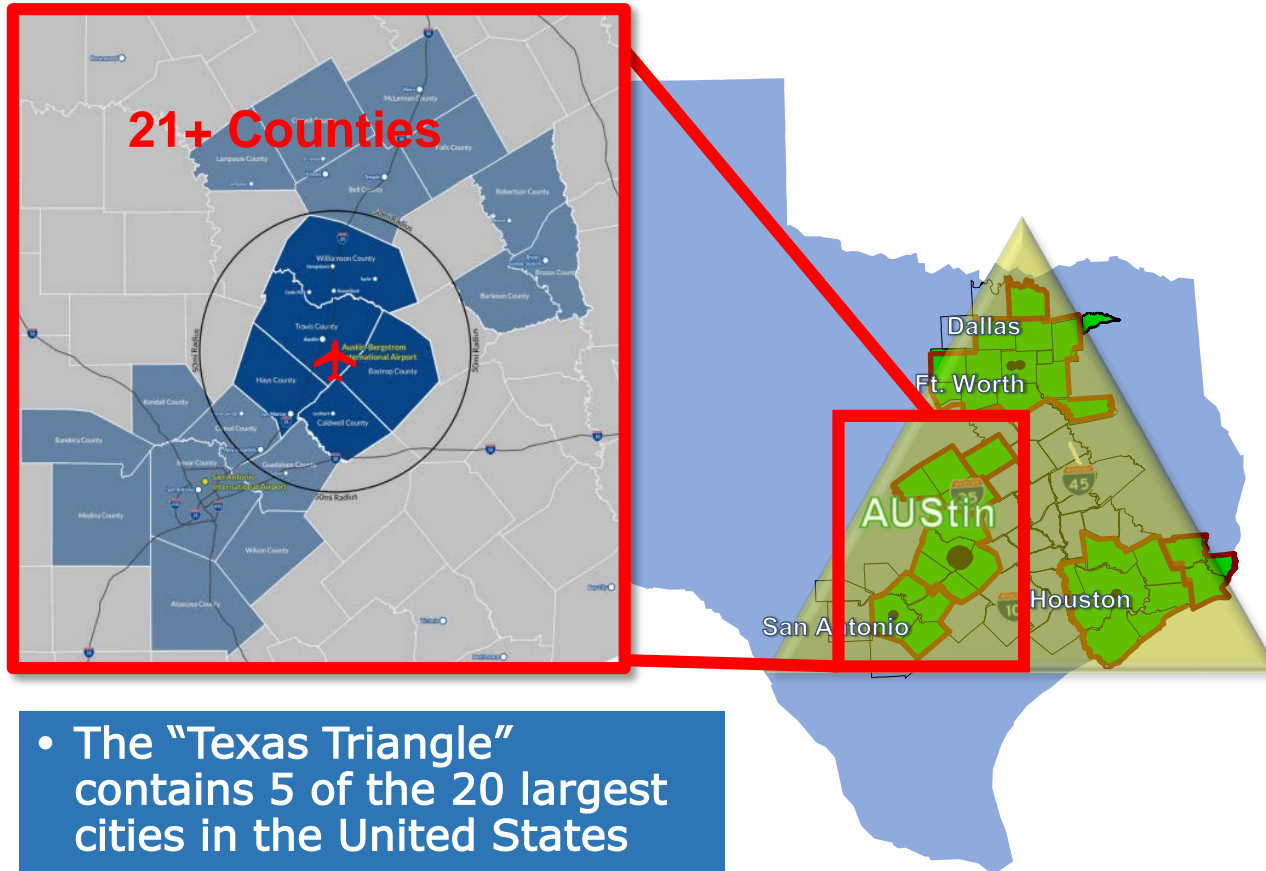
AUS Overview



Austin-Bergstrom
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AUS Service Area & Economic Impact



- The "Texas Triangle" contains 5 of the 20 largest cities in the United States
- Home to 80% of all Texans
- 6% of the U.S. population

AUS Campus and Facilities



- 4,242 acres owned by the City
- 2 wide spaced parallel runways simultaneous landings and takeoffs
 - 18L-36R Length of 9,000 ft.
(CAT IIIb runway)
 - 18R-36L Length of 12,250 ft.
- 34 Gate Passenger Terminal – 930,000+ s.f.
- 1.6M S.F. Car Rental Facility
- 18,250 Parking Spaces
- Two FBOs: 200+ based aircraft
- 25 acre cargo apron
- Diverse base of carriers (11) – no major carrier and top two carriers account for 53% of traffic.
- Hilton Hotel – 262 rooms
- Hyatt Hotel – 139 rooms
- 40 acre Texas national guard

AUS Strategic Aim



Our Vision: Gateway to the world for all — the AUS way every day.

Our Mission: To provide safe journeys to the world, economic opportunity to our community, and be the employer of choice.

Our AUS Promise: We commit to put people first and provide a safe and enjoyable experience for all AUS guests, employees, and partners.



City of Austin Strategic Direction 2023 (SD23)

Getting us where we want to go, when we want to get there, safely and cost effectively.

PROGRAM PURPOSE:

To meet demand to fly AUS.

Welcoming gateway to the world for all

- Reliable air service for Central Texas and global travelers
- Reflect local food, music, art, technology, and the “Austin vibe”

Economic Opportunity and Community Benefit

- Economic vitality in our local community and communities of color with investment, jobs, and inclusive business opportunities
- Sustainable for years to come

Safe, convenient travel experience

- Efficient design to provide “easy in-easy out” journey
- Increase connectivity for multi-modal options to and from airport
- Minimize inconveniences during construction with enhanced customer care and wayfinding

Historic Activity and Forecast Ensemble

Regional MSA Population

Average Annual Growth Rates

2010-2018: 2.6%

2020-2023: 2.75%

2024-2030: 2.5%

Historic Passenger Activity

Average Annual Growth Rates

1993-2018: 5.2%

1999-2018: 5.1%

1993-2016: 4.4%

2010-2018: 9.3%

Return to Mean Scenario

Annual Growth Rates

2019 9.0%

2020 8.0%

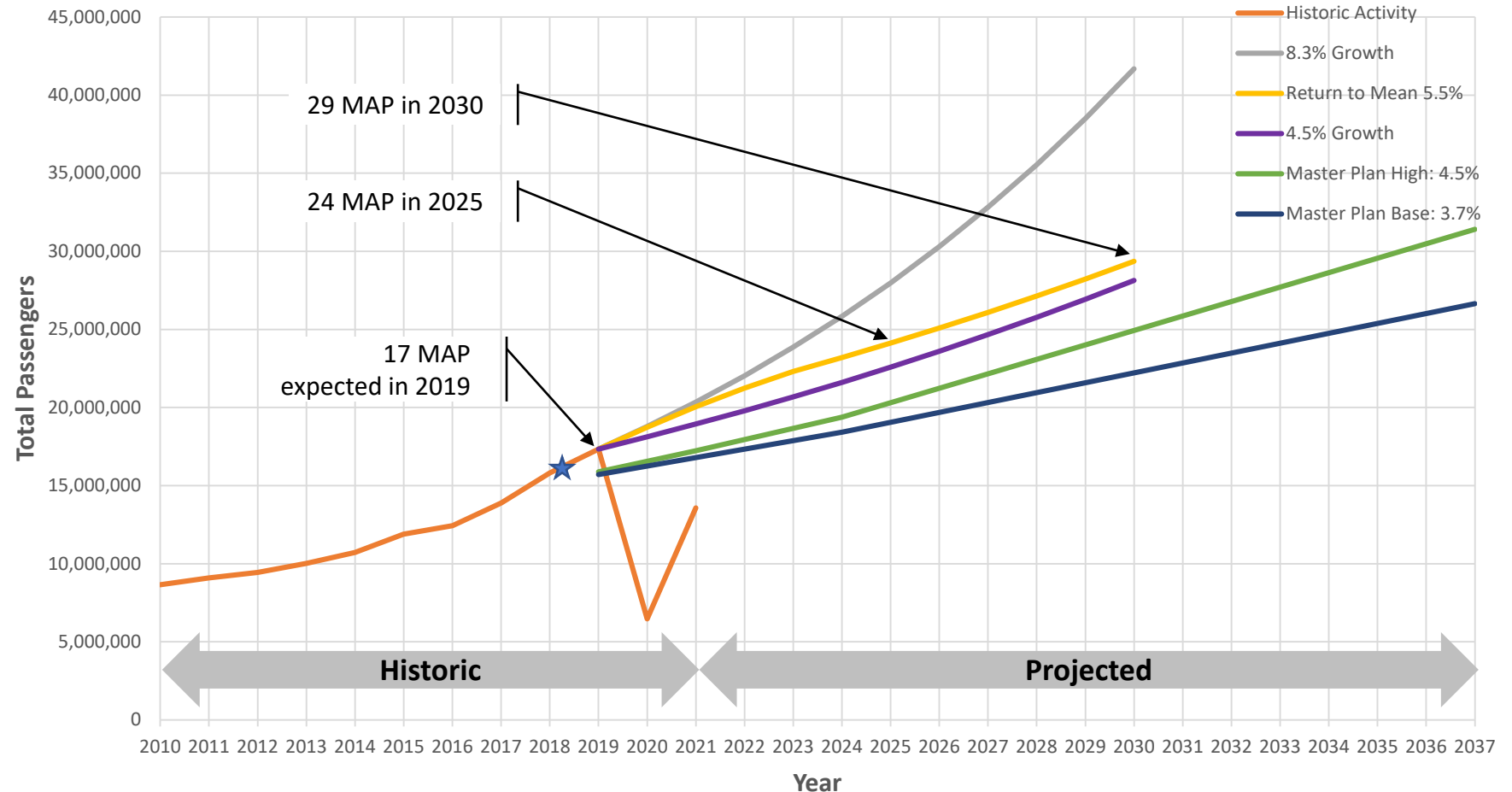
2021 7.0%

2022 6.0%

2023 5.0%

2024-2030 4.0%

★ Master Plan Completed



Sources: City of Austin Department of Aviation, Paslay Group Analysis

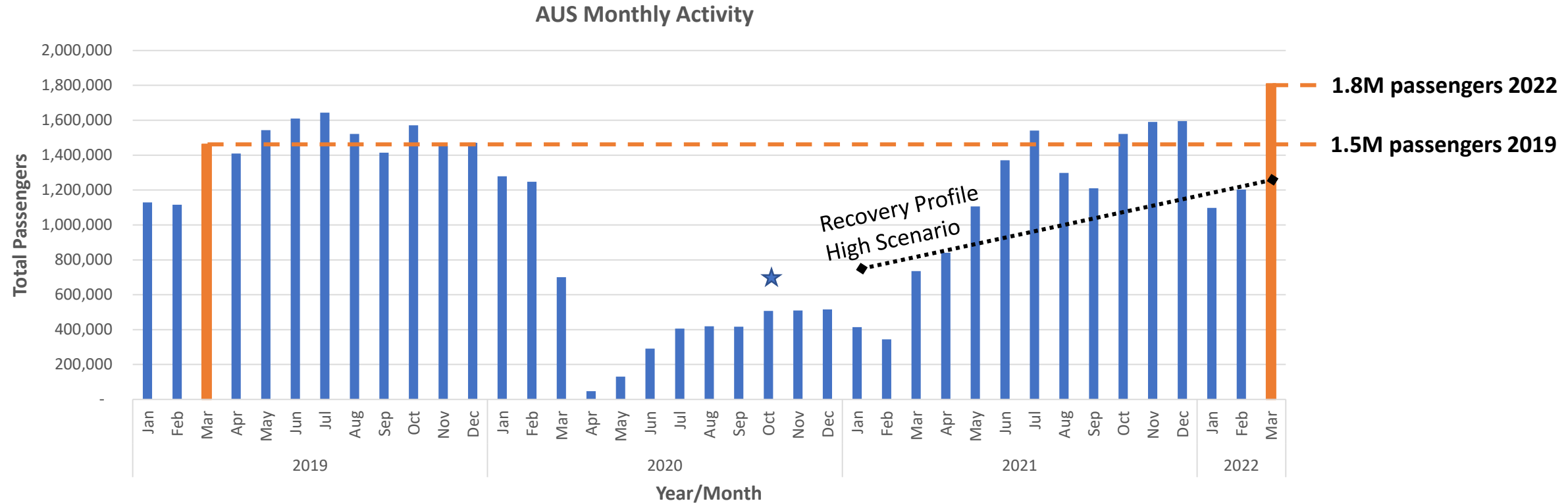


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AUS Activity Has Recovered

All-time passenger activity record set March 2022



Source: City of Austin Department of Aviation



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Airport Master Plan

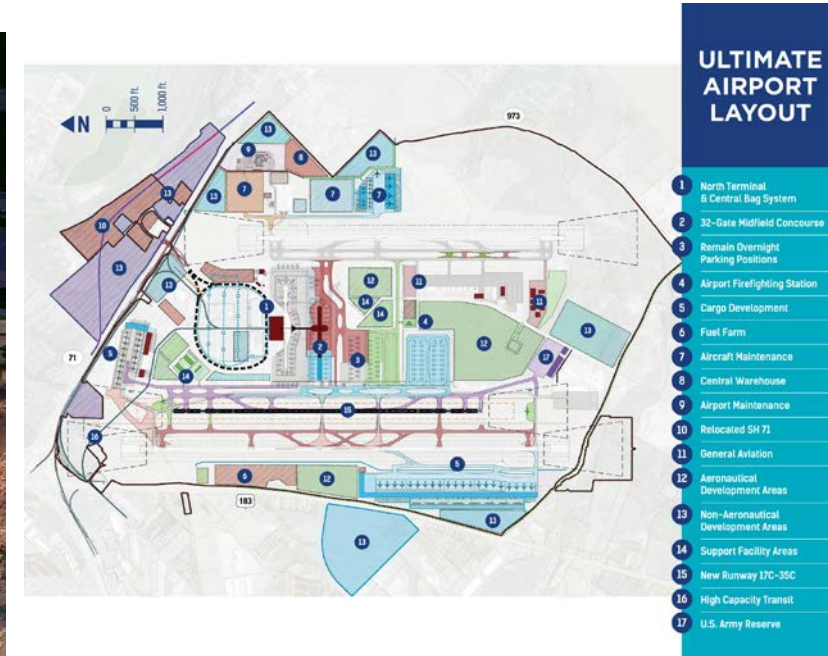


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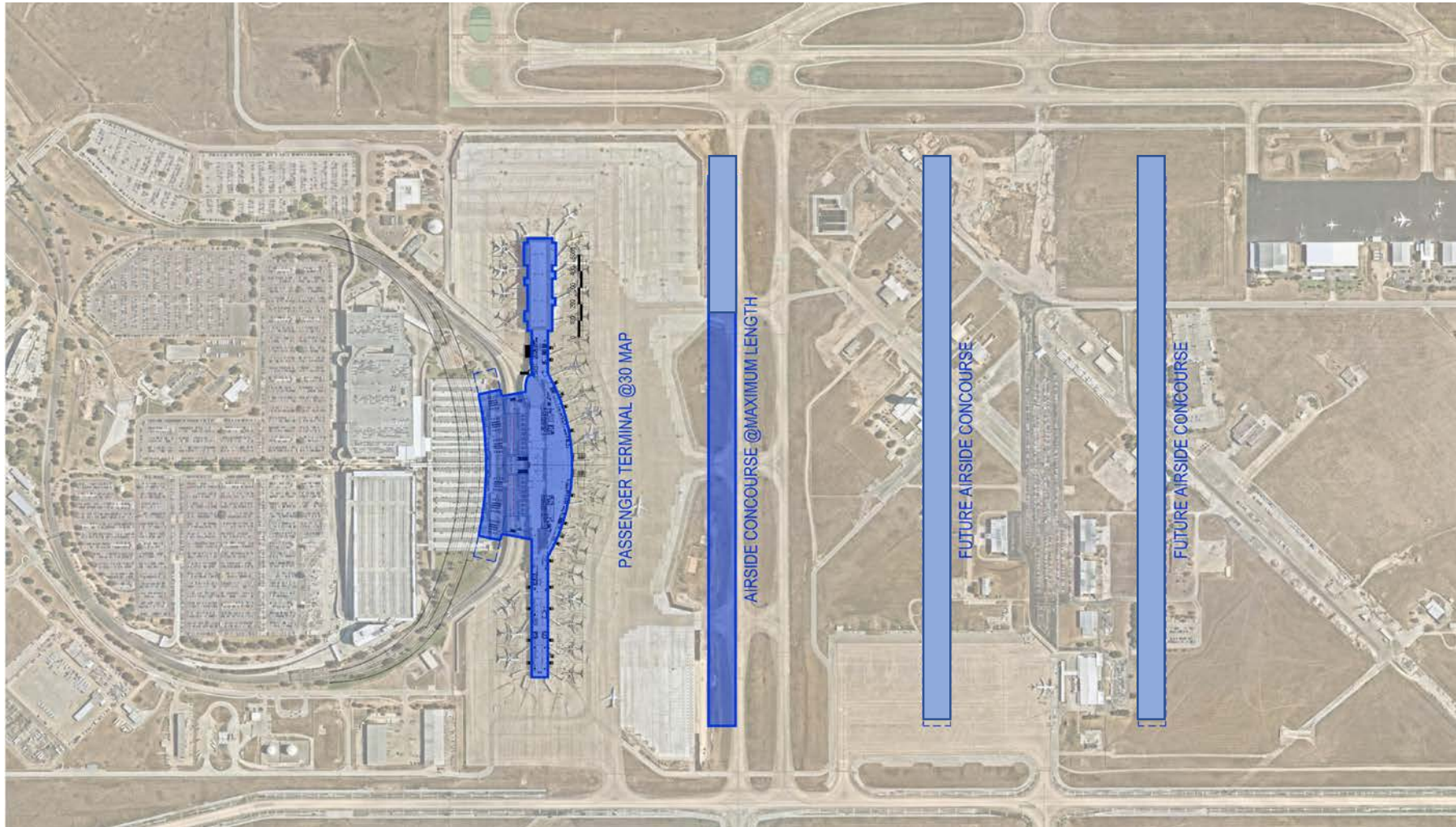
AUS 2040 Master Plan

Completed in 2018



AUS Long Term Concourses – Big Picture

Campus can fit 60 to 80 Million Annual Passengers



-  AEDP Focus
-  Future Focus

Sustainability & Resiliency Overview



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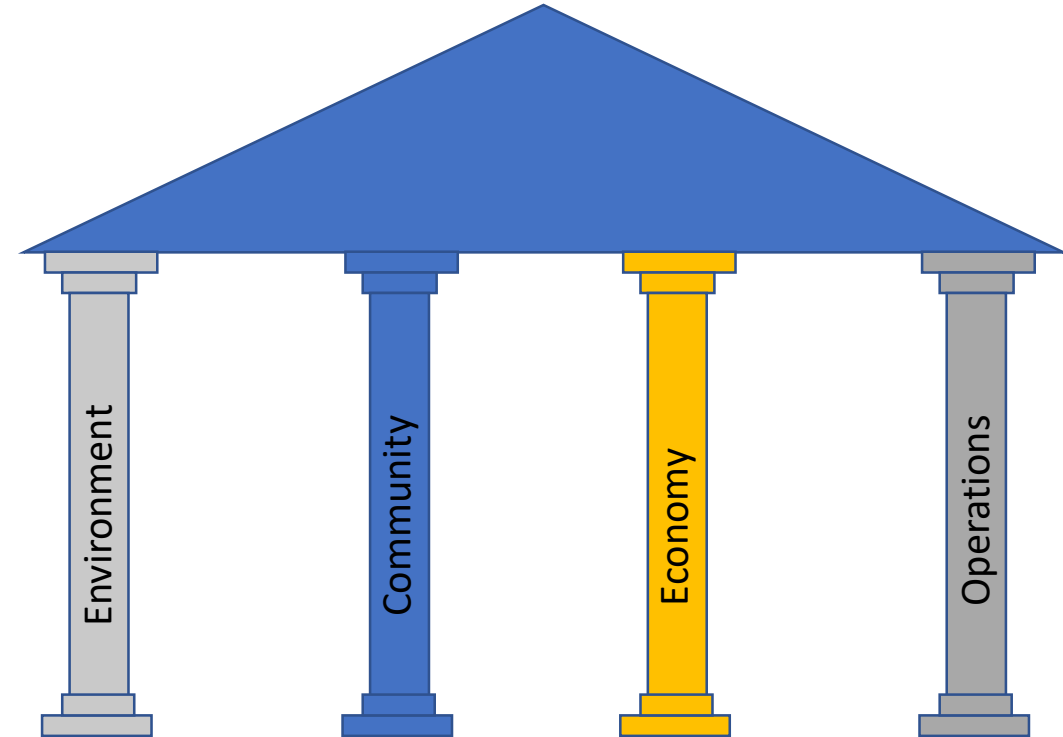
AUSustainable Philosophy

Environment - protect the land, water, and air

Community – improve the communities in which we work and live

Economy – Work to maintain high, stable levels of economic growth, ABIA is a business,

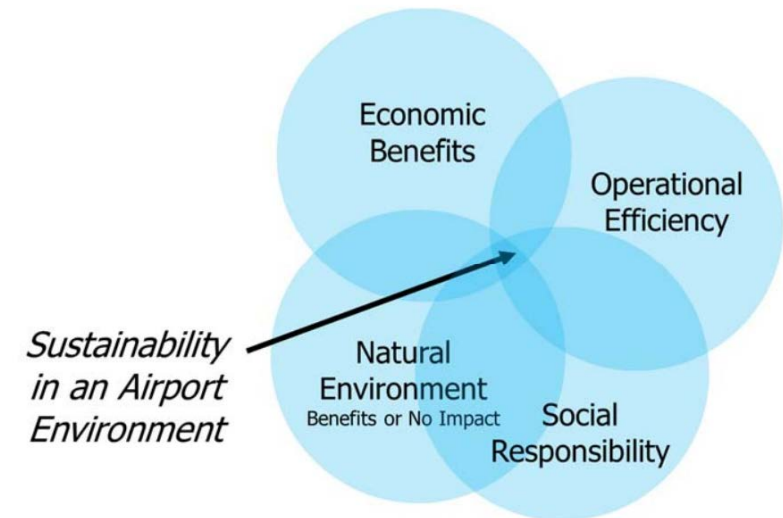
Operations – implement sustainable planning in our daily operations



Environmental Policy Statement

The City of Austin Aviation Department, which operates Austin-Bergstrom International Airport (AUS) will incorporate sustainable principles, climate resiliency best practices, and environmental stewardship into all aspects of its culture, planning, development and operations at AUS. This will be achieved by focusing resources in the following areas at AUS:

- Continually strive to reduce resource consumption through innovative design and technology in the planning, development, and construction of airport facilities;
- Engage with tenants, business partners and stakeholders on projects to promote energy efficiency and resource conservation and to facilitate alignment with AUS's sustainability and climate resiliency goals;
- Incorporate sustainable principles into operations and maintenance practices through training, staff engagement, technology improvements and management support;
- Minimize airport environmental impacts by reducing energy, transportation fuel & water consumption along with waste generation while enhancing water reuse, recycling, on-site renewable energy and waste diversion programs;
- Continue to integrate clean vehicles into the AUS fleet and ensure the best available engine/fuel technology is utilized to reduce ozone precursor chemicals and carbon emissions;
- Purchase renewable energy and carbon off-sets from sustainable sources;
- Identify and take advantage of opportunities to derive business value from improved environmental performance and drive continual improvement in AUS operations;
- and Maintain a systematic program approach to support continued compliance with all applicable environmental regulations.



Sustainable Buildings at AUS



Photo courtesy of AEGB



LEED SILVER

- *IT Building*
- Consolidated Maintenance Facility
- CONRAC
- Terminal East infill



LEED GOLD

- Administration Building
- 9 Gate Expansion
- Ground Transportation Staging Area



- AEGB 3 Star
- ACDC
- *East Cargo Facility*
- *West Gate Expansion*

*rating in progress

Other

- 1.8MW Solar Array (6,642 panels)
- Thermal Energy Storage for CUP
- AUS Utility Dashboard (monthly reviews)
- Automated Building Systems
- Lifecycle Assessments (embodied carbon)
- Low Carbon Concrete



Transportation



Other

- Electric Vehicles (Fleet)
- Flexible Schedules
- Metro rideshare – NEO
- Internal sidewalks - connection to downtown bike trails
- AUS electric bike program
- New bus stop at BJT
- Working with CAPMETRO on blue line

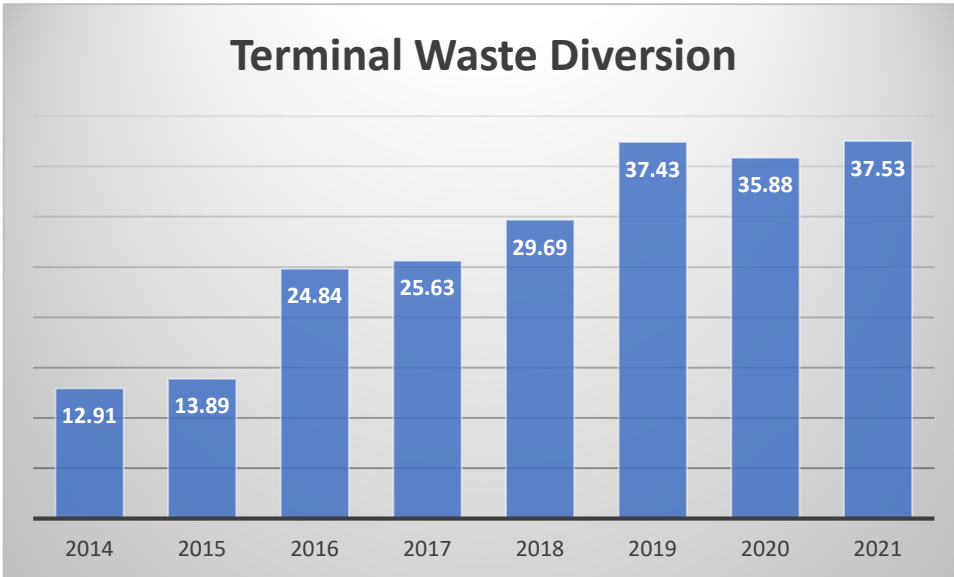
Electrification

- 2 DC Fast Chargers
- 44 Level 2 chargers
- 6 Level 1 chargers
- 20 GSE Charge Points
- Charging Master Plan (in process)
- Ongoing Discussions
 - Tesla
 - Uber
 - Airlines



Food & Product Consumption

Terminal Waste Diversion

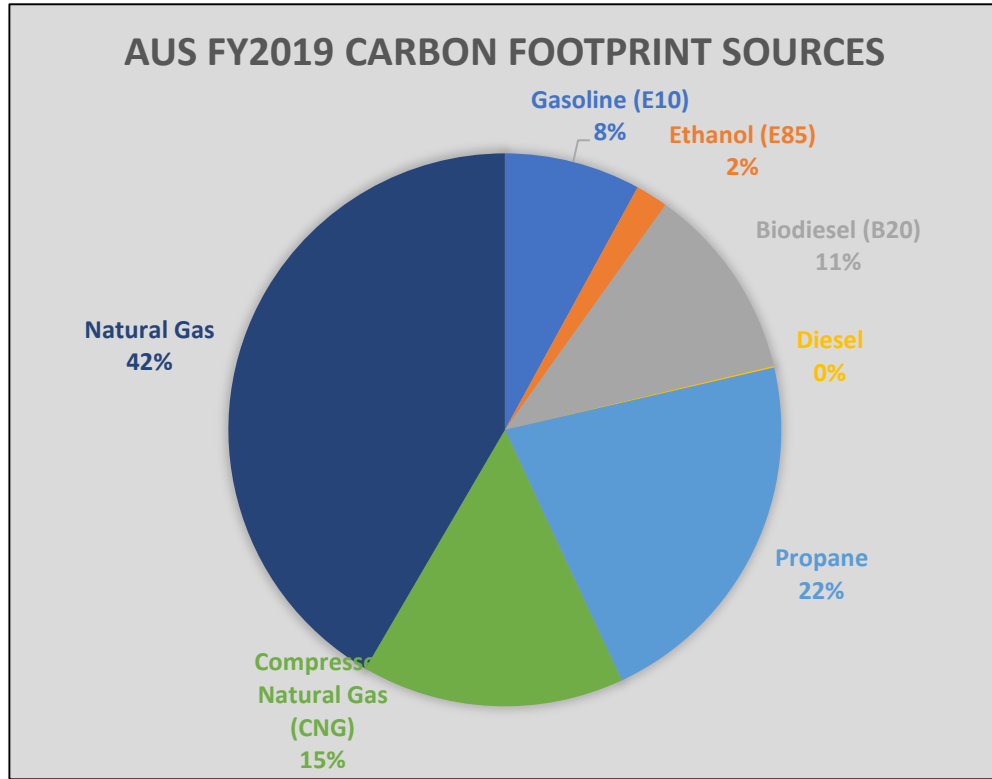


Waste Diversion

- 37% Terminal Waste Diversion Rate
- 10 tons per day
- Deplaned Waste Program
- Waste Sorts
- Pour it Out Stations
- Composting
- Food Rescue
- Recycling



AUS Carbon Footprint



Achieving ACI Carbon Neutrality

- Austin Energy Greenchoice
 - 80% reduction in carbon emissions
- Carbon Off-sets for CY18 and CY19
 - 1,000 metric tons per year
- Renewable Compressed Natural Gas from Clean Energy
 - Reduces carbon footprint by 900 metric tons or 15%
- Airlines voluntarily electrified 40 plus vehicles
- Community Solar

Stakeholder Engagement

ACA Level 3+

- On-going dialogue, sharing of best practices, and promoting cooperation with stakeholders with the aim of reducing emissions from major stakeholder operations.
- Identify, Categorize & Prioritize
 - Awareness Campaigns
 - Meetings, Communication
 - Incentives
 - Joint Initiatives
 - Tracking

• Focus (2021-2022)

- Airlines
 - Ground Power Units
 - PC Aire Units
 - Chargers
 - Electrification of GSE
 - Infrastructure
 - Grants / Funding
- Parking Companies
 - RNG Sharing



Carbon Neutrality

AUS is the 1st medium hub airport in North America to reach carbon neutrality!



Airport Expansion Development Program (AEDP)

A Journey to 30 Million Annual
Passengers



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Airport Expansion Development Program (AEDP)

32 Major Elements – Many Projects

Airfield

- A-1 Relocation of Taxiways H and J
- A-2 New RON Apron
- A-3 Concourse B Apron and Airfield Connections
- A-4 Runway 17R-35L Rapid Exit Taxiways
- A-5 New Taxiway D
- A-6 Demolition of Airfield Pavement
- A-7 Other Airfield Pavement
- A-8 Taxiway Lighting and Signage (Not Pictured)

Facility Demolition

- D-1 Existing Parking Garage
- D-2 South Buildings
- D-3 Existing Terminal Upper Roadway

Roadways

- R-1 Upgrade Existing Access Roadway Network
- R-2 New Terminal Curbside Roadway
- R-3 Emma Browning Road

Utilities and Infrastructure

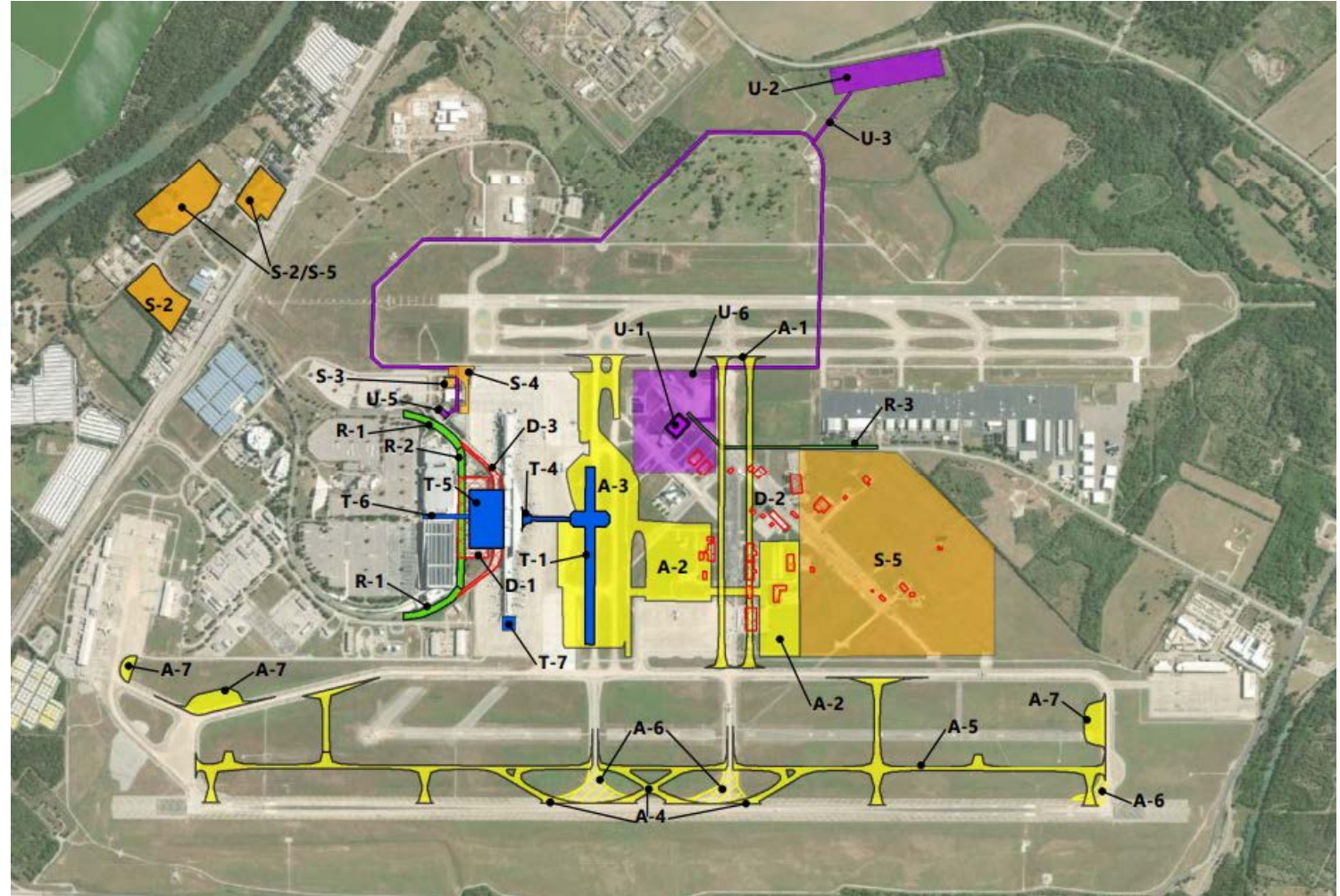
- U-1 New Central Utility Plant
- U-2 New Austin Energy Substation
- U-3 New Electrical Ductbanks
- U-4 South Campus Stormwater Infrastructure (Not Pictured)
- U-5 Existing Central Utility Plant Rehabilitation or Replacement
- U-6 Utility Zone

Terminal

- T-1 New Concourse B
- T-2 New Concourse B Loading Bridges (Not Pictured)
- T-3 New Ramp Tower (Not Pictured)
- T-4 Connector to Concourse B
- T-5 New/Expanded Arrival/Departure Hall
- T-6 Pedestrian Bridge to CONRAC/Parking Garage
- T-7 BJT West Concourse Gate Expansion

Service

- S-1 Hydrant Fueling System for Concourse B (Not Pictured)
- S-2 New Employee Parking Lot
- S-3 Catering Facility
- S-4 New Checkpoint Alpha Guard Shack
- S-5 Construction Laydown Zone

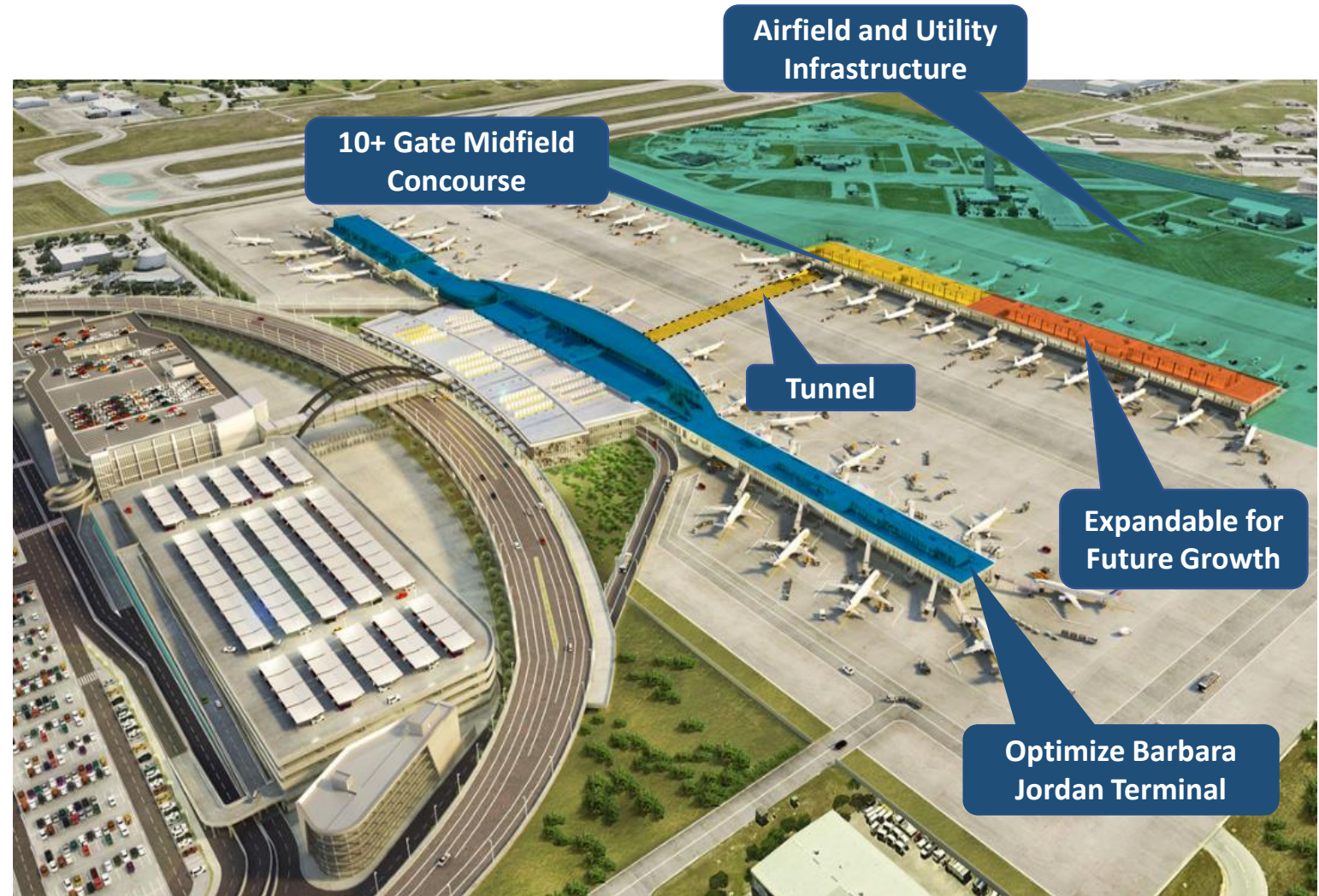


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AUS - AEDP Major Program Elements

- Meet the air service needs of Central Texas
- Meet the needs of airlines serving the airport and region
- Maintain excellent passenger experience
- Provide flexible expansion for dynamic airline growth



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Airport Expansion & Development Program

Optimize Barbara Jordan Terminal

Enable Processing, Airfield and Utilities Infrastructure

Develop New Midfield Concourse

Optimize Barbara Jordan Terminal

Gates, Ticket Counters and Processing

- New Baggage Handling System
- Expanded Passenger Screening
- Expanded Airline Ticketing Area
- New Technologies
- Terminal Lobby Expansion
- Interim Gate Capacity
- Gate Expansion
- Environmental Assessments

Demand Capacity Initiatives Enabling Infrastructure

- New Taxiways
- Apron Improvements at BJT
- Expansion/Upgrade of Utilities
- New Central Utility Plant
- Upgrade utility infrastructure
- Sitewide Remediation
- New Austin Energy Substation
- Stormwater Infrastructure

New Midfield Concourse

Additional Gates and Concessions *

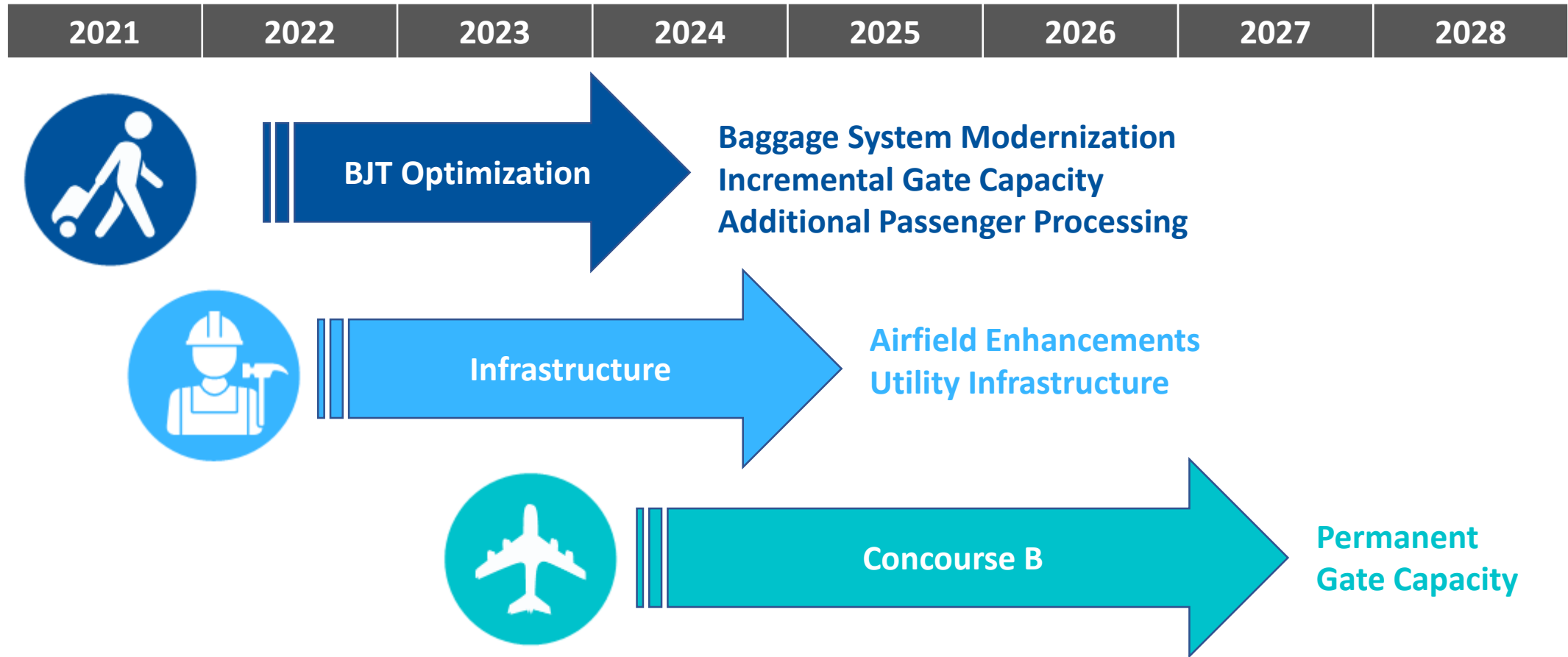
- Concourse development
- Aircraft Parking Apron for Concourse B
- Hydrant fueling for Concourse B
- Passenger tunnel to Concourse B
- Utility tunnel to Concourse B
- Art in Public Places

* Sized on Passenger Activity Triggers



AEDP Indicative Schedule

A Journey to 30 Million Annual Passengers



Airport Air Emissions Briefing



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Airport Air Emissions Modeling

2027 Air Emission Model w/Default Aircraft Settings

Source: HMMH, March 2022

2027	Relevant Criteria Pollutant Emissions (tons per year)					
	CO	VOC ^{Note 1}	NO _x ^{Note 1}	SO _x	PM ₁₀	PM _{2.5}
Action						
Aircraft	513.70	49.62	762.00	49.90	5.92	5.89
APU	27.30	1.83	37.00	4.85	3.76	3.76
GSE	170.00	6.63	15.80	0.14	1.04	0.97
Taxi	349.00	101.50	100.30	29.31	2.38	2.38
Boiler ^{Note2}	2.0521	0.1344	1.2215	0.0147	.1857	.1857
SUBTOTAL	1062.0521	159.7164	916.3215	84.2147	13.2857	13.1857

2027 Air Emission Model w/AUS Conditions

Source: HMMH, March 2022

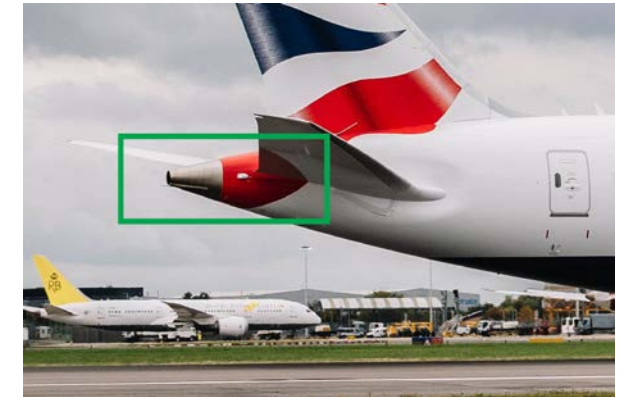
2027	Relevant Criteria Pollutant Emissions (tons per year)					
	CO	VOC ^{Note 1}	NO _x ^{Note 1}	SO _x	PM ₁₀	PM _{2.5}
Action						
Aircraft	513.70	49.62	761.90	49.90	5.92	5.89
APU	11.89	0.45	9.46	1.30	0.97	0.97
GSE	142.72	5.92	14.14	0.12	0.93	0.87
Taxi	349.00	101.50	100.30	29.31	2.38	2.38
Boiler ^{Note2}	2.0521	0.1344	1.2215	0.0147	.1857	.1857
SUBTOTAL	1,018.55	157.58	886.53	80.65	10.31	10.22

AUS Conditions:

- 15% of aircraft service equipment are electric
- Aircraft gates have preconditioned air and ground power which reduces aircraft APU (generator) operation times by 19 minutes for loading and unloading of passengers

AUS Condition Reductions:

- NO_x = 30 tons annually
- VOC = 2.1 tons annually



MSA Emissions Inventory

Review of 2017 Emissions Inventory Data for the Austin-Round Rock- Georgetown Metropolitan Statistical Area by CAPCOG, September 30, 2019

Table 1-2. Criteria Pollutant Summary by County

County	CO	NH ₃	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
Bastrop	7,511.05	1,058.25	2,236.02	0.08	23,345.41	2,744.59	307.49	1,941.47
Caldwell	5,119.78	1,267.83	1,838.31	0.22	8,724.79	1,081.12	354.75	5,322.23
Hays	17,441.82	894.92	4,683.54	0.01	26,345.13	3,270.98	1,194.26	3,525.07
Travis	70,418.34	2,325.41	13,048.97	0.18	44,627.98	5,927.28	387.86	19,762.52
Williamson	25,185.41	2,983.91	5,046.22	0.33	37,753.17	4,831.59	68.20	7,647.47
TOTAL	125,676.40	8,530.31	26,853.06	0.81	140,796.48	17,855.56	2,312.56	38,198.77

Table 5-1. 2017 Annual Non-Road Source Emissions by Source Type (tpy)

Source Type	CO	NH ₃	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
MOVES2014b	31,504.04	9.27	3,556.46	0.00	368.20	351.39	5.60	2,528.76
Airport	2,431.93	0.00	747.94	0.77	28.13	24.17	86.74	234.34
Rail	196.60	0.62	872.18	0.00	23.23	22.54	0.70	41.06
TOTAL	34,132.57	9.89	5,176.58	0.77	419.56	398.10	93.04	2,804.16

Airline Jet Fuel Facility Update



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Jet Fuel Storage Facility Permits

- **Current Permitting Summary**

- National Environmental Policy Act (NEPA)
 - FONSI
- City of Austin Site & Building Permits
- Texas Pollutant Discharge Elimination Systems (TPDES) Construction Storm Water Permit
- TXDOT 183 driveway permit
- Texas Commission on Environmental Quality (TCEQ) Air Authorizations
- AFD Hazardous Materials Permit

- **Additional Permits Required to Operate**

- Spill Prevention Control and Countermeasures (SPCC) Plan
- Facility Response Plan that is registered with the EPA Region VI
- TPDES Industrial Storm Water Permit
- Emergency Planning Community Right-to-Know submittals to TCEQ (Texas Tier II)
- City of Austin Watershed Department Storm Water Discharge Permit



Existing Tank Farm

Jet Fuel Storage Facility Controls & Fire Safety

- **Environmental Controls**

- Corrosion detection warning system for leaks
- Fuel level sensors
- Auto shut-off valves
- Spill tanks / oil water separators
- Lined leak containment structures
- Leak detection testing (every six months)

- **Fire Safety**

- Bonded tanks to ensure static electricity doesn't spark a fire
- Foam fire suppression system
- Tanks designed to deflect heat
- Lightning protection - FAA airport protocols
- AFD inspections every 3 months



Photo 4 – Containment Dike Liner and Wall Interface



Jet Fuel Storage Facility Regulatory Oversight

Compliance Program / Task	Program Administrator	Inspection Frequency	Inspector Affiliation	Program Summary
Storm Water Program / Annual Compliance Inspection	State of Texas	Annually	AUS Staff	Identify storm water pollution sources and implement practices to reduce and eliminate the source; inspections; State permit issued; spill prevention; spill response; training; and ABIA SWP3 member.
Storm Water Program / Facility Inspection	City of Austin Watershed Dept.	Annually	Watershed Staff	Implementing measures to protection storm water; confirm waste disposal practices; spill repsonse; and training.
Storm Water Program / Storm Water Outfall Monitoring	State of Texas	Quarterly	AUS Staff	Monitoring outfalls during storm events to confirm that airport activities are not impacting water quality (sheens, odors, debris, sediment, etc.)
Part 139 / Inspections	Austin Fire Department / Aircraft Rescue	Quarterly	City of Austin Fire Department	Inspect fuel farm, tanker trucks, piping leaks, emergency fuel stoggage systems, bonding cables, etc.
Tank Farm Liner Inspection / Secondary Containment System Integrity Inspection	City of Austin Department of Aviation	10 years	Third Party Liner Company (TRI Environmental)	Inspected liner to confirm integrity
Tank Farm Air Emissions Authorization / Third Party Validation	City of Austin Department of Aviation	Future Frequency To be determined	Third Party Engineering Firm (AECOM)	Validated air emissions from existing facility and methodology used by the fuel farm operator to calculate emissions. Validated permit compliance.
General Environmental Compliance Audit / Audit	City of Austin Department of Aviation	Future Frequency To be determined	Third Party Environmental Engineer (ECM)	Audit confirmed facility compliance with environmental laws and industry standard practices.



Department of Aviation Commitments

- City of Austin hired a third party consultant to validate the EA and air authorizations
- City of Austin hiring a third party consultant to monitor and audit facility operations for environmental and safety compliance
- Project design and monitoring improvements:
 - Improve the facility design with a new decorative screening fence, landscaping/hardscaping
 - Art coordination with AIPP
- Create an airport “Green Team”
 - Airport staff, business partners, and community volunteer members
 - Shared vision for community collaboration towards achieving sustainable goals
 - Formalize a comprehensive approach to AUS’s environmental stewardship
- AUS will hire a full-time community engagement professional for FY23
- Continued project updates posted to the project website – SpeakUpAustin.org/AUSFuel



Thank You!

Follow progress of
the program at
AustinTexas.gov/AEDP

AEDP Contracting &
Business Opportunities
AustinTexas.gov/AEDP-Business



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