



Tri-Cities Airport Master Plan

Technical and Community Advisory
Committee Meeting

August 27, 2024

 AtkinsRéalis

TRI
TRI-CITIES AIRPORT



Agenda

- ✈ Meeting Objectives
- ✈ Schedule
- ✈ TAC/CAC Roles & Responsibilities Reminder
- ✈ Approved Forecast Review
- ✈ Demand/Capacity
- ✈ Facility Requirements
- ✈ Alternatives
- ✈ Environmental & Sustainability
- ✈ AMP Next Steps & Discussion

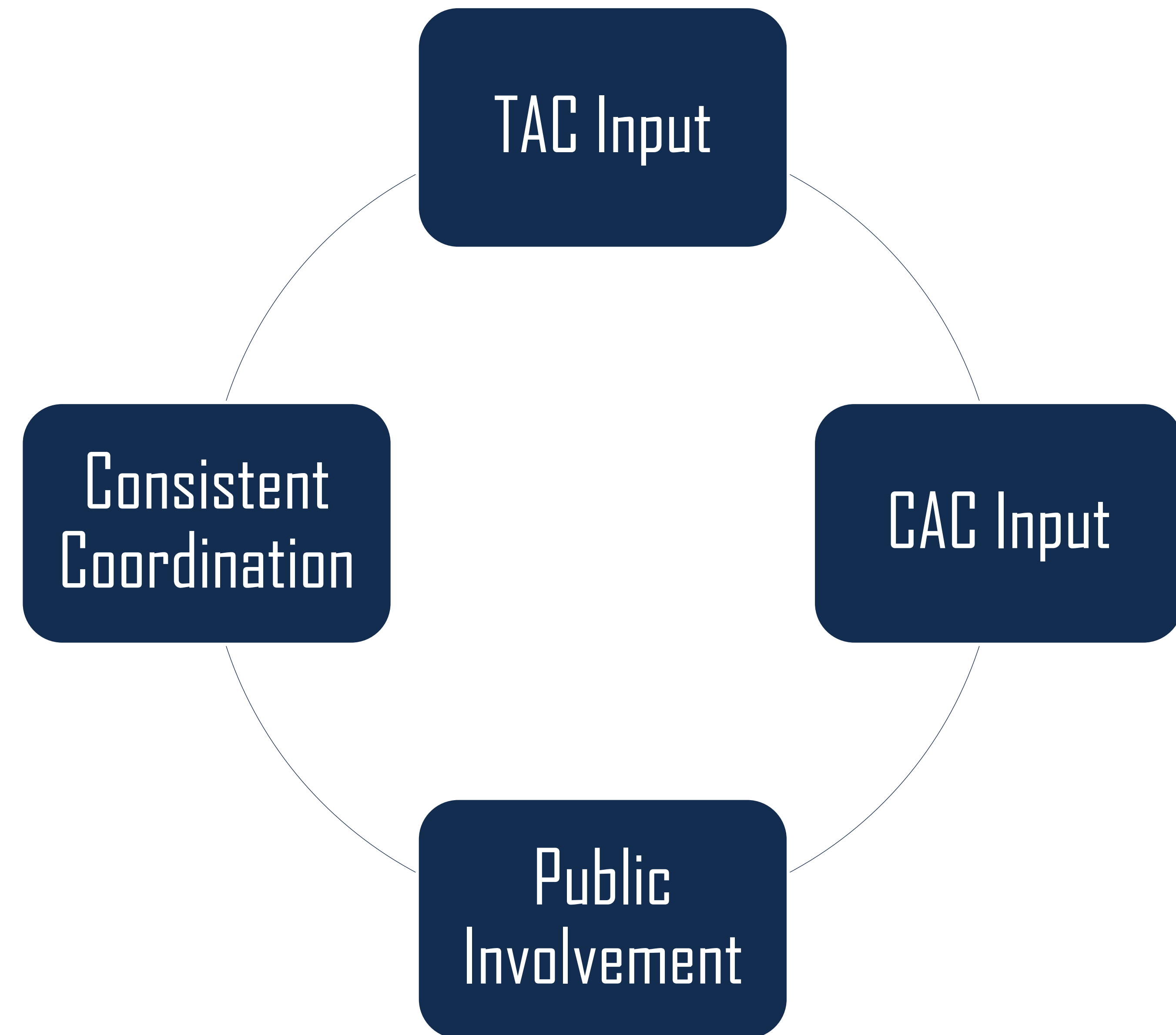


Meeting Objectives

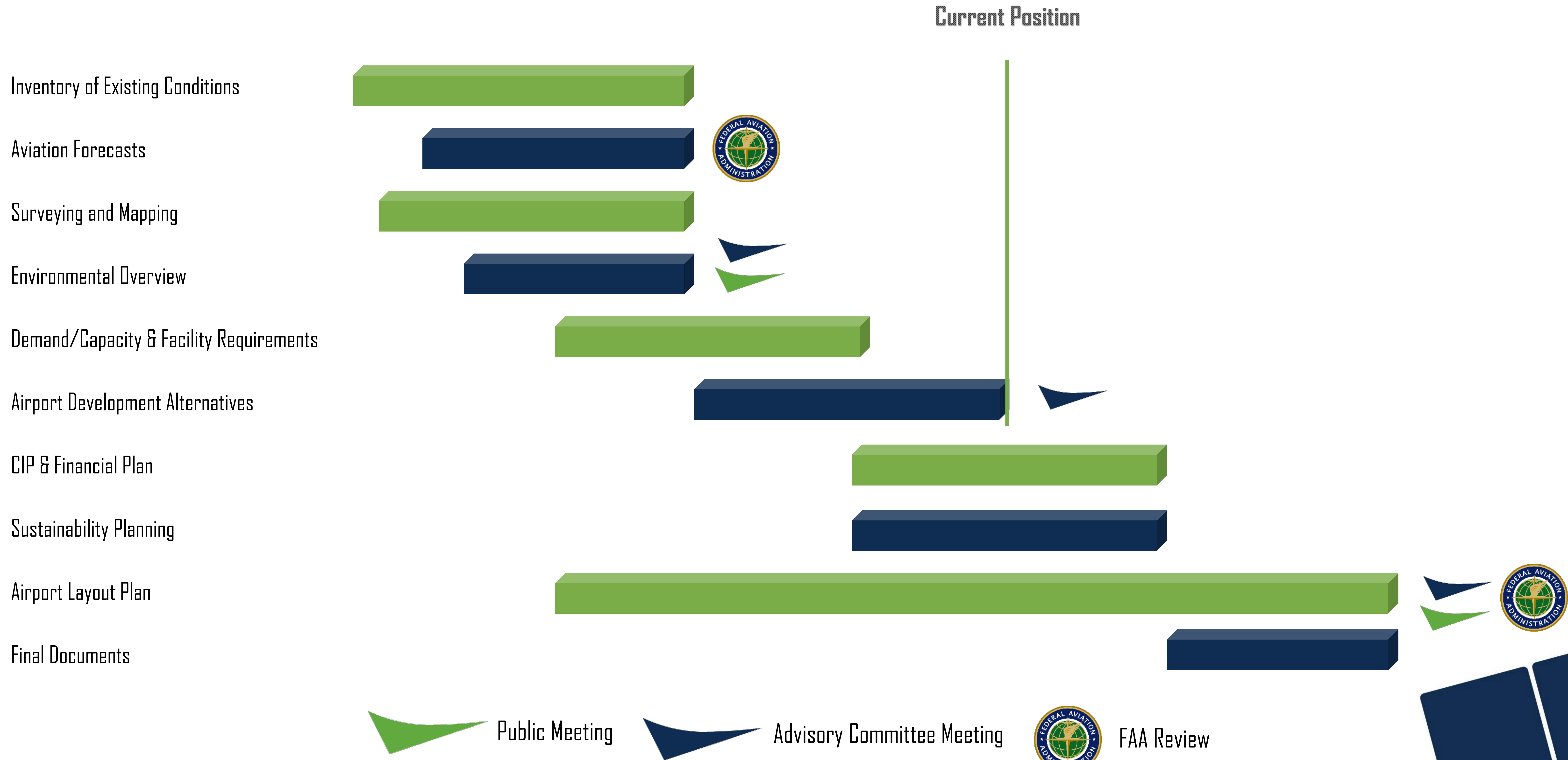
- ✈ Review Completed Deliverables
 - ✈ Approved Forecast Review
 - ✈ Demand/Capacity and Facility Requirements
 - ✈ Alternatives
- ✈ Gather Stakeholder Input
 - ✈ Alternatives
 - ✈ Preferred Development Alternative

TAC/CAC Roles & Responsibilities

- ✈️ Coordinate with the Master Plan Team
- ✈️ Provide input on technical topics
- ✈️ Provide input on existing and future needs
- ✈️ Review draft documents
- ✈️ Advise on potential development impacts
- ✈️ Attend public meetings
- ✈️ Advise & aid on community relations



Schedule





Forecast

Approved Forecast Review



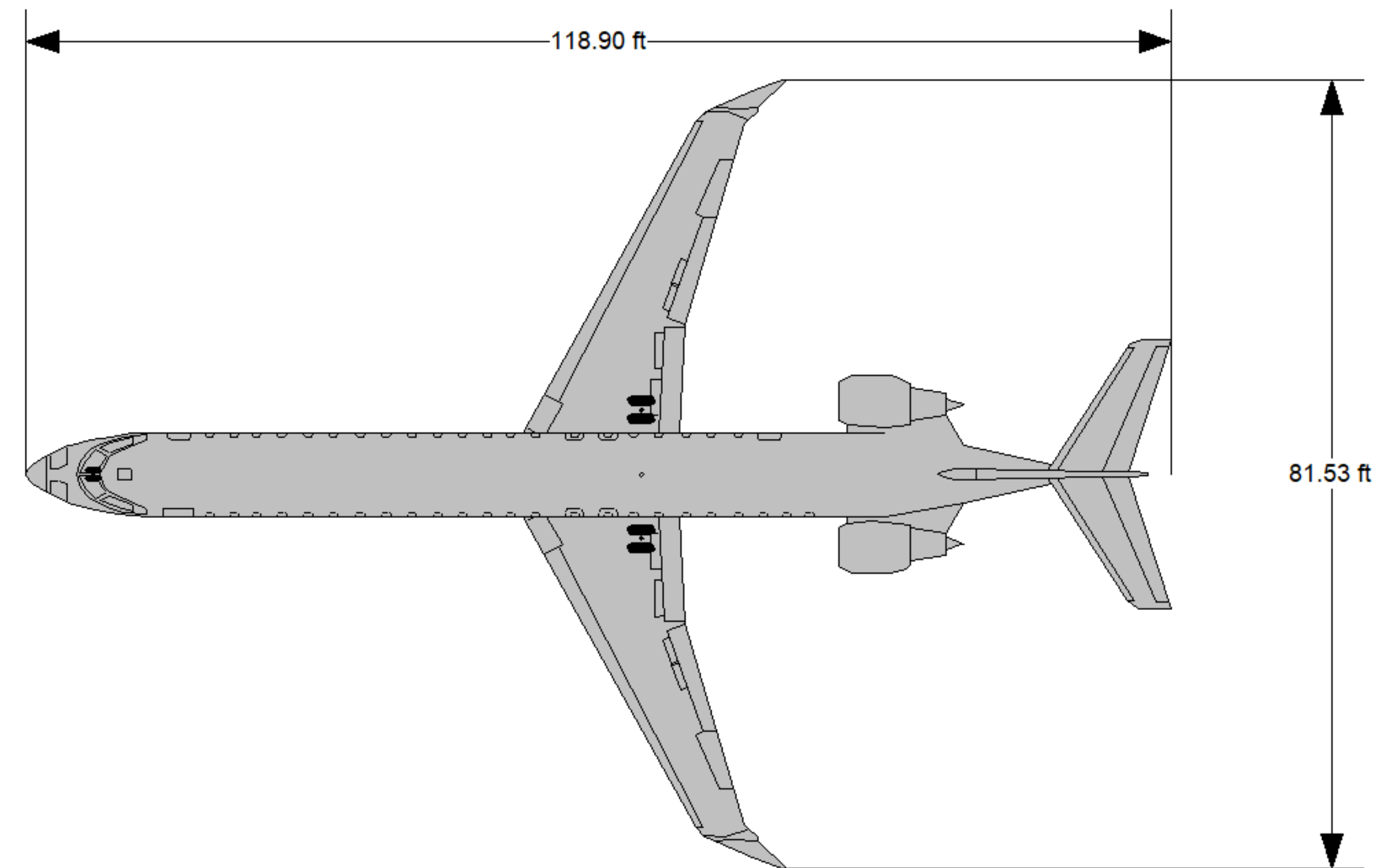
Runway 5/23
Existing: CRJ-900
 MTOW: 84,500 lbs
 # Passenger Seats: 90



Runway 5/23
Future: EMB-175
 MTOW: 85,517 lbs
 # Passenger Seats: 76-88



Runway 9/27
Existing/Future: C-172
 MTOW: 2,550 lbs
 # Passenger Seats: 2



Bombardier Aerospace - CRJ-900 [CF34-8C5]

ADG	III
AAC	C
TDG	2B
MTOW (lbs)	84,500
Wingspan (ft)	81.53
Length (ft)	118.90
Tail Height (ft)	24.11

Note: Aircraft specifications may vary depending on aircraft model and variant.

Approved Forecast Review



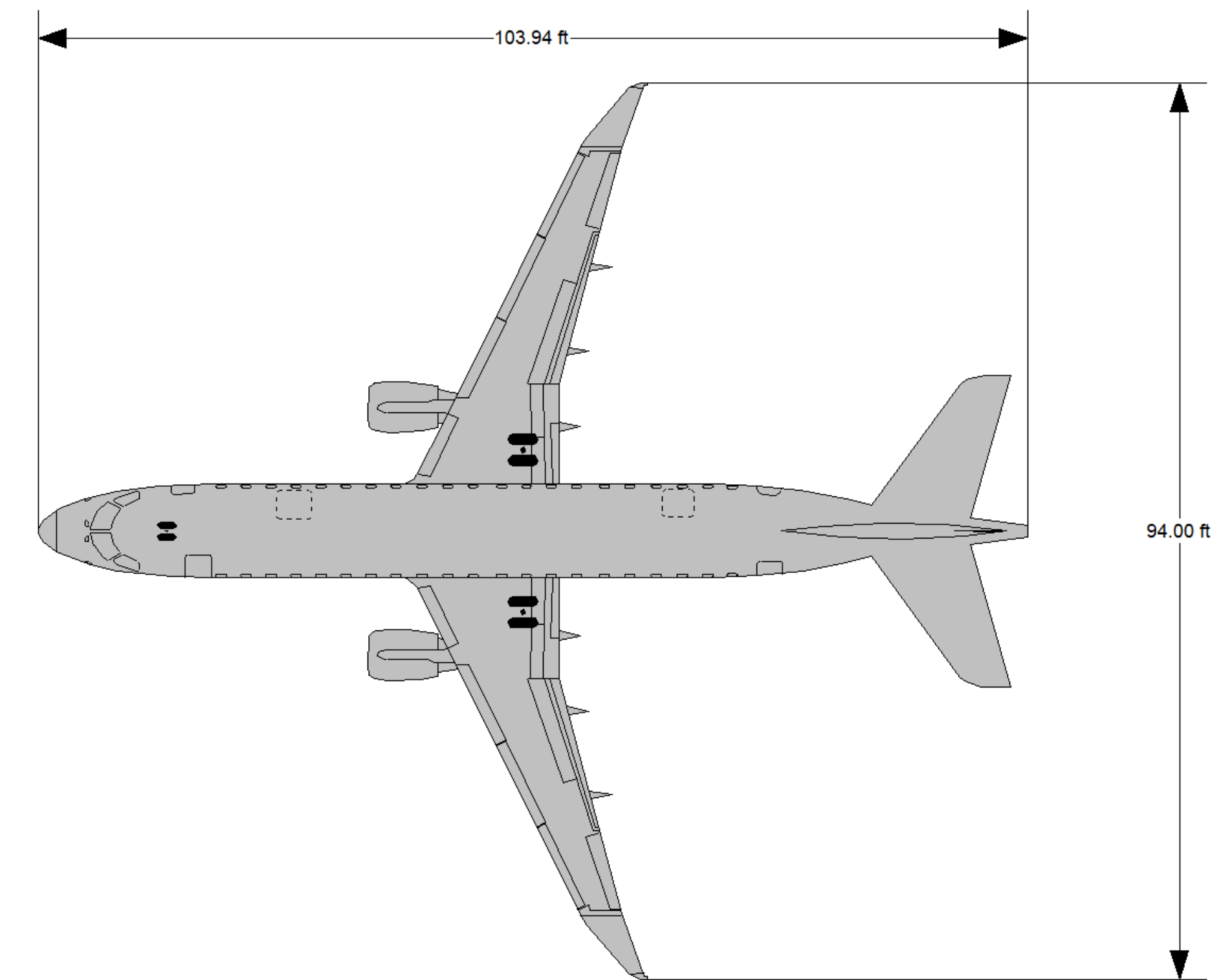
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 # Passenger Seats: 76-88



Runway 9/27
Existing/Future: C-172
 MTOW: 2,550 lbs
 # Passenger Seats: 2



Embraer - E175 EWT [CF34-8E]

ADG	III
AAC	C
TDG	3
MTOW (lbs)	89,000
Wingspan (ft)	94.00
Length (ft)	103.94
Tail Height (ft)	32.12

Note: Aircraft specifications may vary depending on aircraft model and variant.

Approved Forecast Review



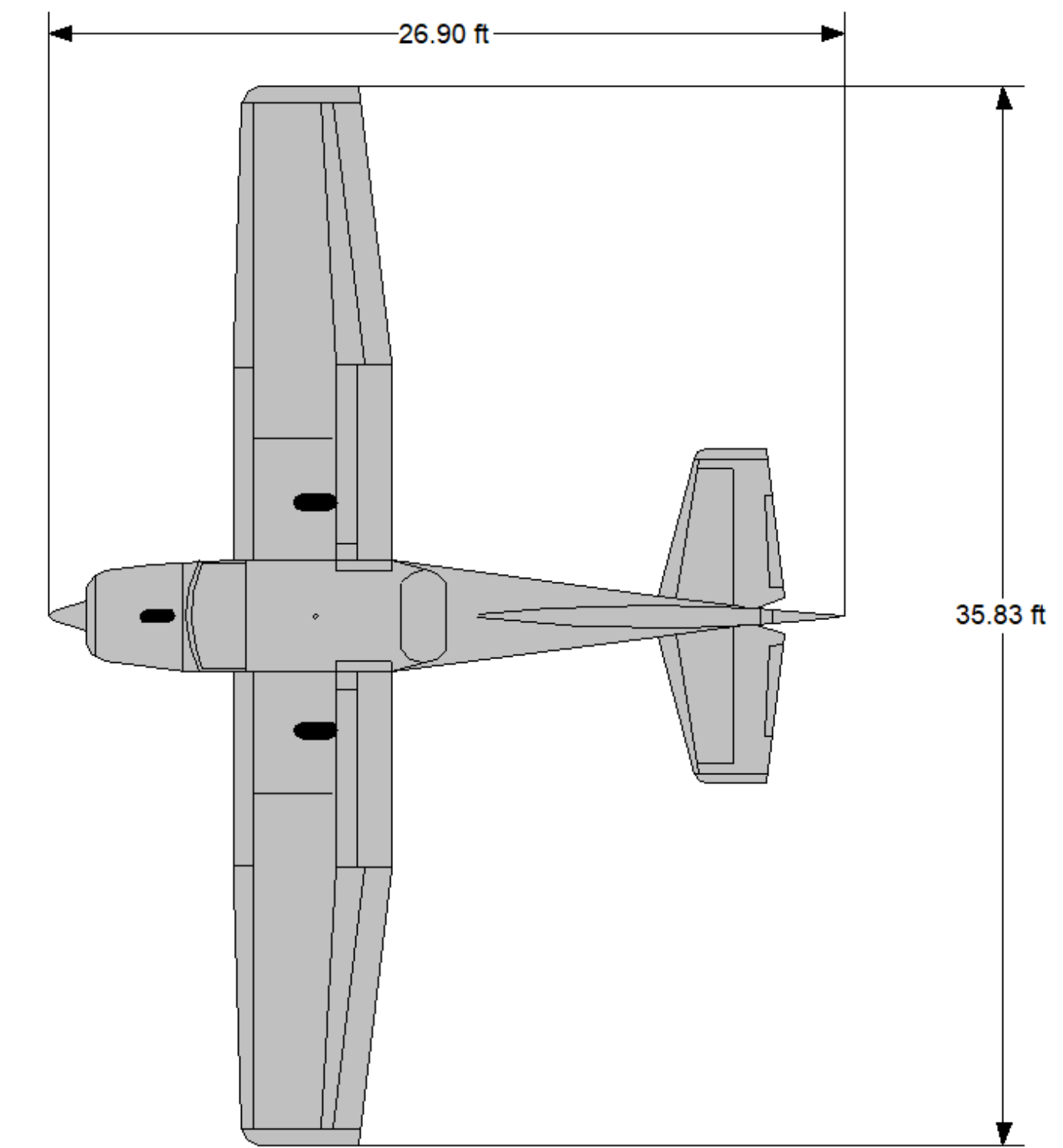
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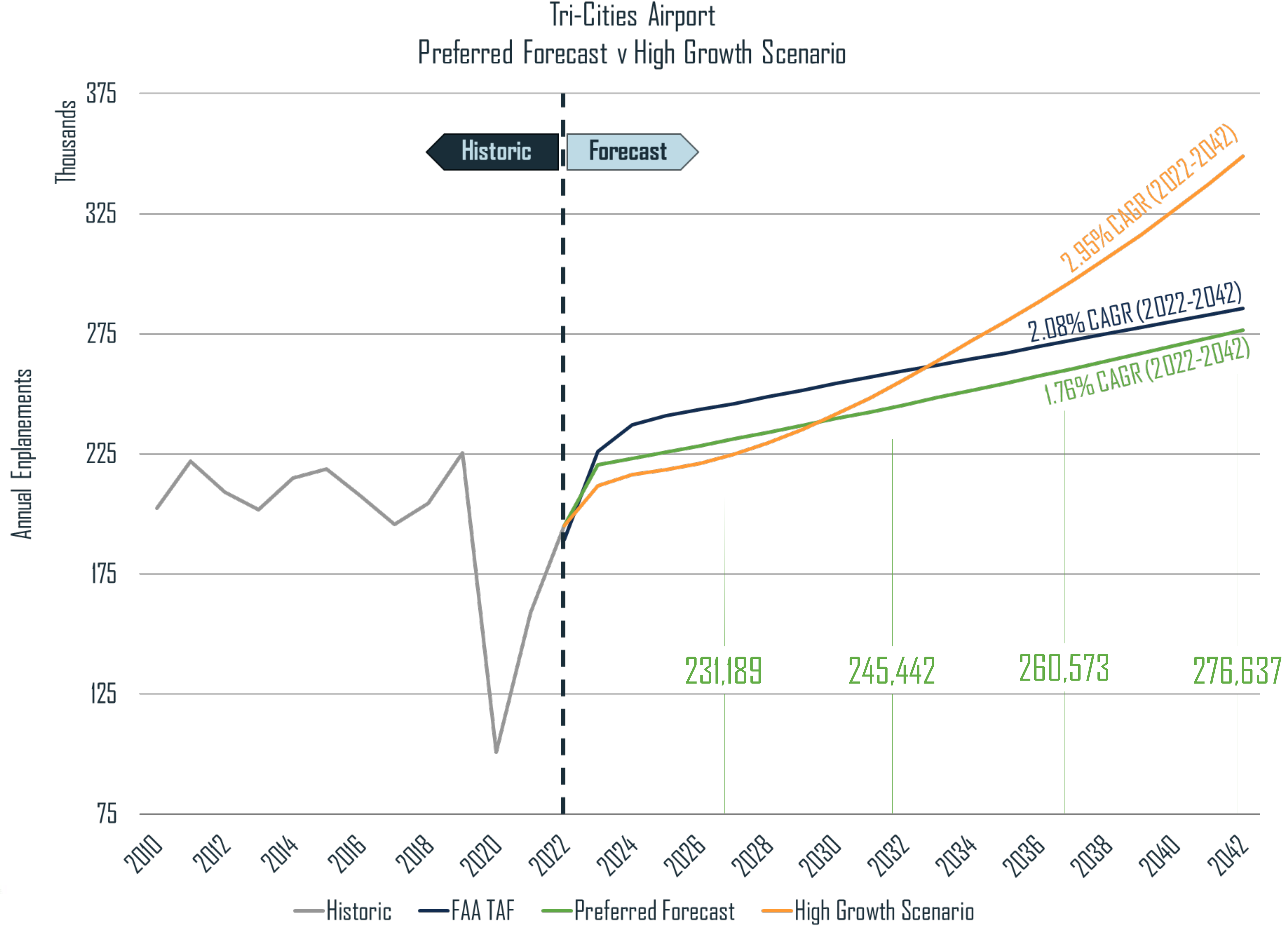


Cessna - 172R Skyhawk

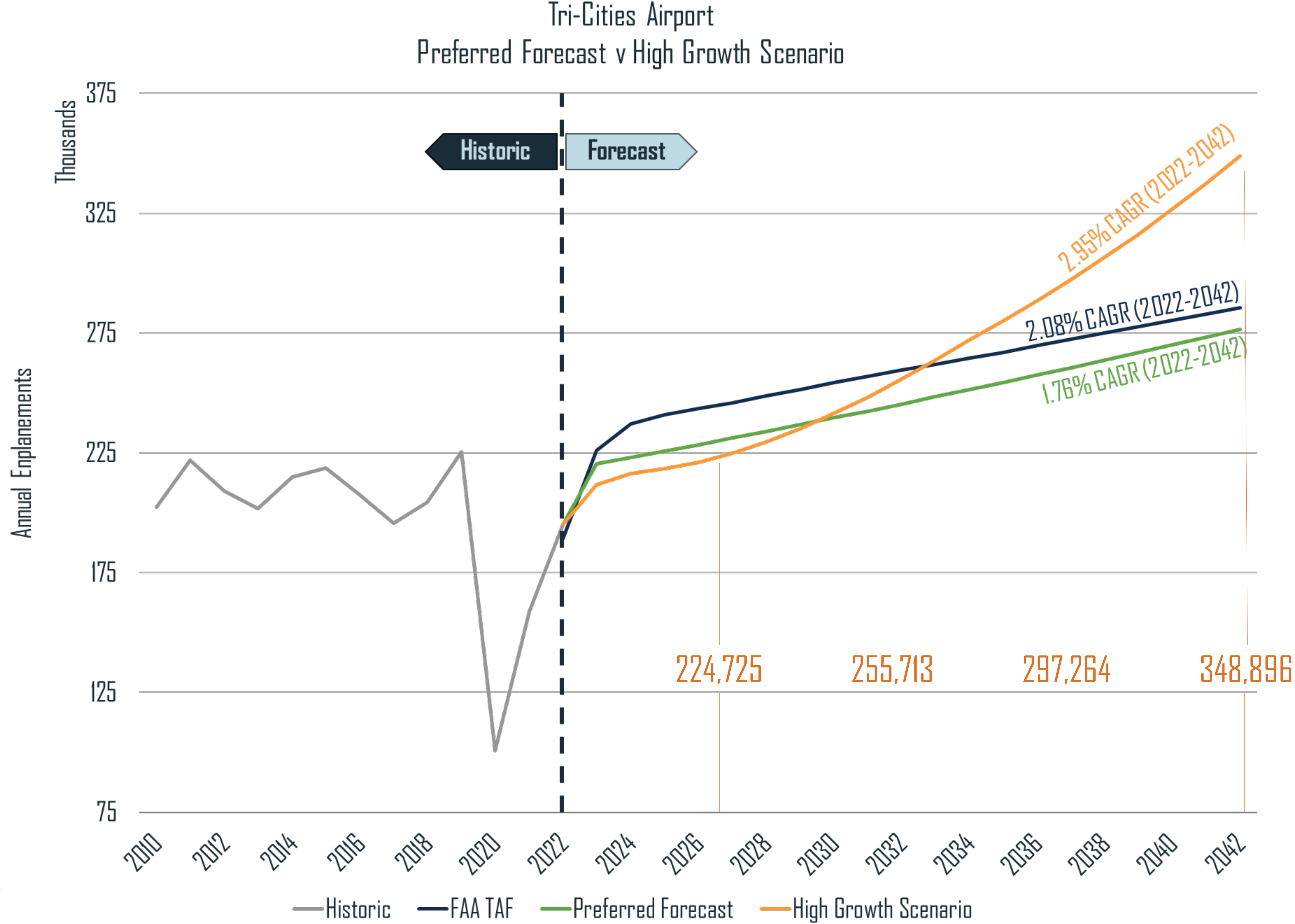
ADG	I
AAC	A
TDG	1A
MTOW (lbs)	2,550
Wingspan (ft)	35.83
Length (ft)	26.90
Tail Height (ft)	8.92

Note: Aircraft specifications may vary depending on aircraft model and variant.

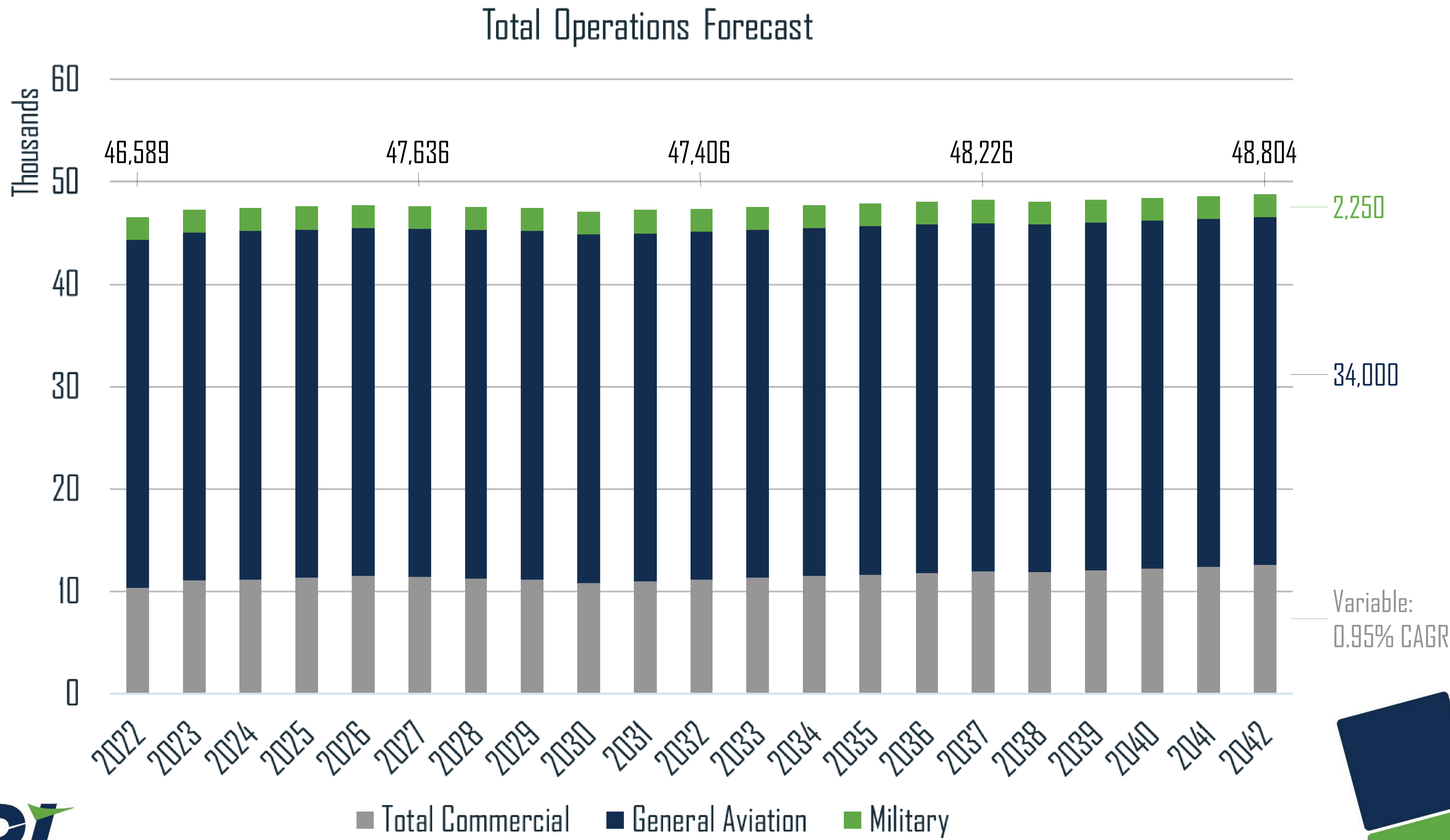
Forecast Results - Enplanements



Forecast Results - Enplanements



Forecast Results - Operations

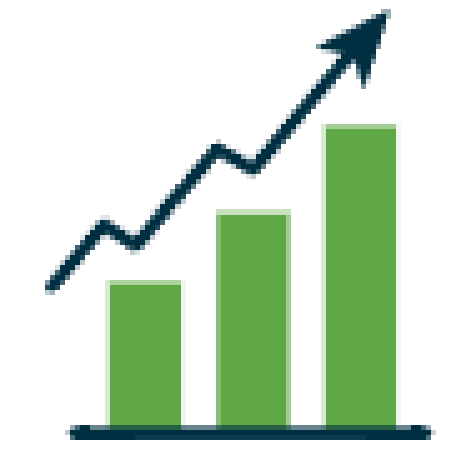


Design Day Flight Schedule (DDFS)

Assumptions



Peak Month: October



Aircraft Load Factor: 80%



Appropriate loading bridges used for each aircraft

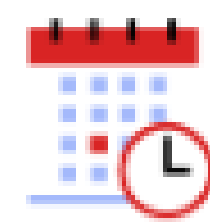


- Tri-Cities Airport
- Existing Destinations
- Potential Future Destinations



Design Day Flight Schedule (DDFS)

SCENARIO 1



2 ADDITIONAL ROUNDTRIP FLIGHTS, 7 DAYS/WEEK



EMB-175 (76 SEATS)

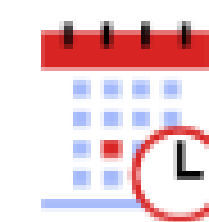


EST. ADDITIONAL 851 WEEKLY ENPLANEMENTS

SCENARIO 2



3 ADDITIONAL WEEKLY ROUNDTRIP FLIGHTS, ANNUALLY



2 ADDITIONAL WEEKLY FLIGHTS, SEASONAL



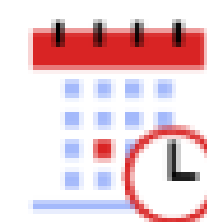
A220-300 (137 SEATS)

B737-800 (186 SEATS)

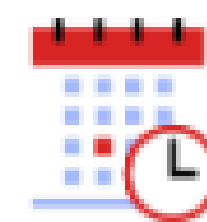


EST. ADDITIONAL 1,254 WEEKLY ENPLANEMENTS

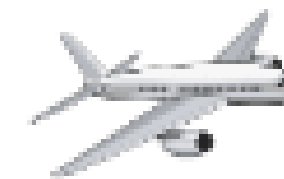
SCENARIO 3



2 ADDITIONAL WEEKLY ROUNDTRIP FLIGHTS, ANNUALLY



3 ADDITIONAL DAILY ROUNDTRIP FLIGHTS, 7 DAYS/WEEK



A220-300 (137 SEATS)

B737-MAX 8 (186 SEATS)



EST. ADDITIONAL 7,206 WEEKLY ENPLANEMENTS



Capacity & Demand

Fleet Mix – Mix Index

AIRCRAFT CLASSIFICATION	TAKEOFF WEIGHT	AIRCRAFT TYPE	AVERAGE APPROACH SPEED (KTS)
A	12,500 or less	Small Single Engine	95
B	12,500 or less	Small Twin Engine	120
C	12,500 to 300,000	Large Aircraft	130
D	300,000 or greater	Heavy Aircraft	150

TRI BREAKDOWN
A: 23,658 47.64%
B: 2,990 6.02%
C: 23,008 46.34%
D: 0 0.00%

Mix Index: 46.34

$$\text{MIX INDEX} = \% (C + 3D)$$

46.34%



Annual Service Volume

	CURRENT	FORECASTED			
Capacity & Demand	2022	2027	2032	2037	2042
Forecast Demand	49,589	47,636	47,406	48,226	48,804
Existing Capacity (ASV)	200,000	200,000	200,000	200,000	200,000
Capacity Level	23.29%	23.82%	23.70%	24.11%	24.40%
Operational Deficiency	NO	NO	NO	NO	NO





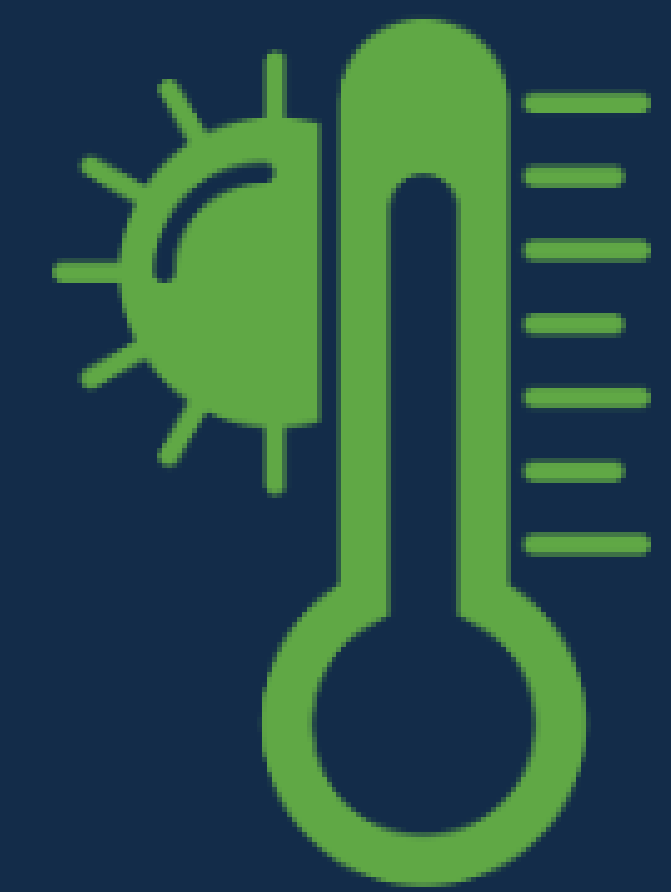
Facility Requirements

Runway Length Requirements

**AIRPORT ELEVATION:
1,518.7 FEET**



**AIRPORT MEAN MAX
TEMPERATURE:
87.8 °F**



RUNWAY 9/27

**REQUIRED LENGTH: 4,341 FT.
EXISTING LENGTH: 4,442 FT.
REQUIRED WIDTH: 60 FT.
EXISTING WIDTH: 150 FT.
SUFFICIENT: YES ✓**



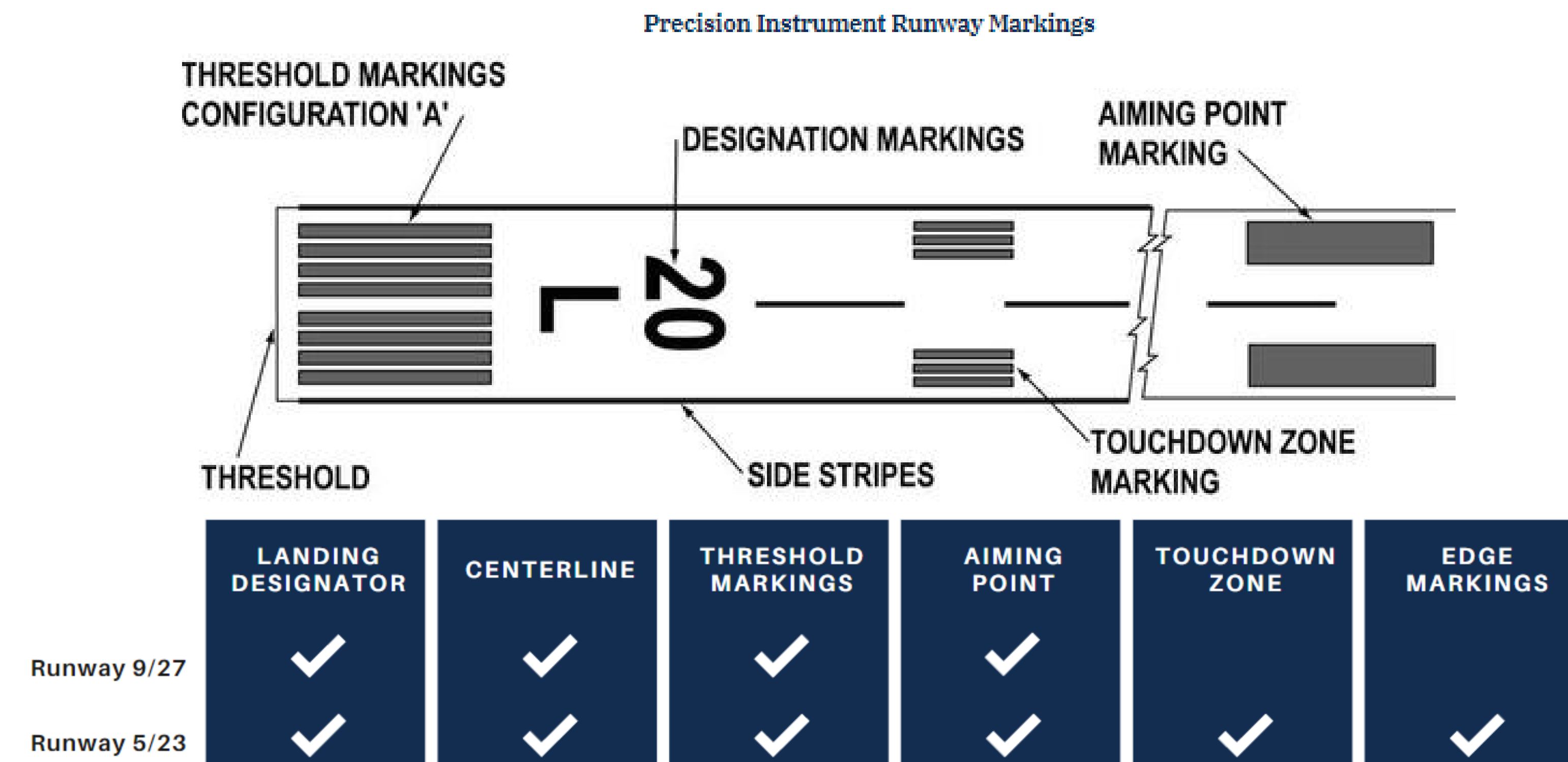
RUNWAY 5/23

**REQUIRED LENGTH: 8,201 FT.
EXISTING LENGTH: 8,000 FT.
REQUIRED WIDTH: 150 FT.
EXISTING WIDTH: 150 FT.
SUFFICIENT: NO ✗**



Runway Requirements

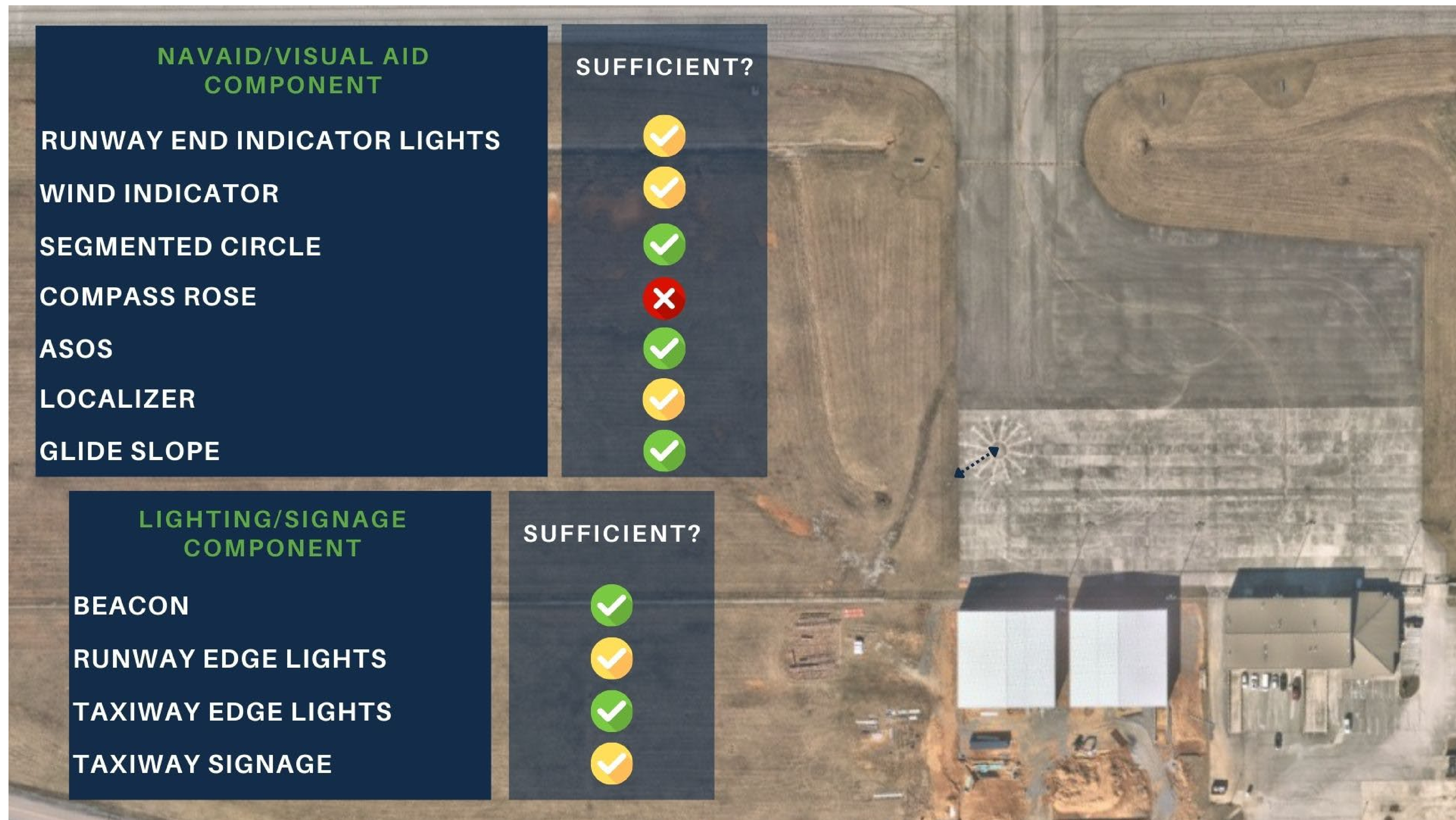
RUNWAY COMPONENT	RWY 5-23 SUFFICIENT?	RWY 9-27 SUFFICIENT?
RUNWAY PAVEMENT (PCI)	✓	✓
RUNWAY SAFETY AREA	✓	✓
RUNWAY OBJECT FREE AREA	✓	✓
RUNWAY PROTECTION ZONE	✓	✓
RUNWAY DESIGNATOR	✓	✓
RUNWAY LENGTH	✗	✓
RUNWAY WIDTH	✓	✓
RUNWAY SHOULDERS	✓	✓



Taxiway Requirements



Airfield Lighting/Signage & NAVAID Requirements



NAVAID/VISUAL AID COMPONENT	SUFFICIENT?
RUNWAY END INDICATOR LIGHTS	✓
WIND INDICATOR	✓
SEGMENTED CIRCLE	✓
COMPASS ROSE	✗
ASOS	✓
LOCALIZER	✓
GLIDE SLOPE	✓

LIGHTING/SIGNAGE COMPONENT	SUFFICIENT?
BEACON	✓
RUNWAY EDGE LIGHTS	✓
TAXIWAY EDGE LIGHTS	✓
TAXIWAY SIGNAGE	✓



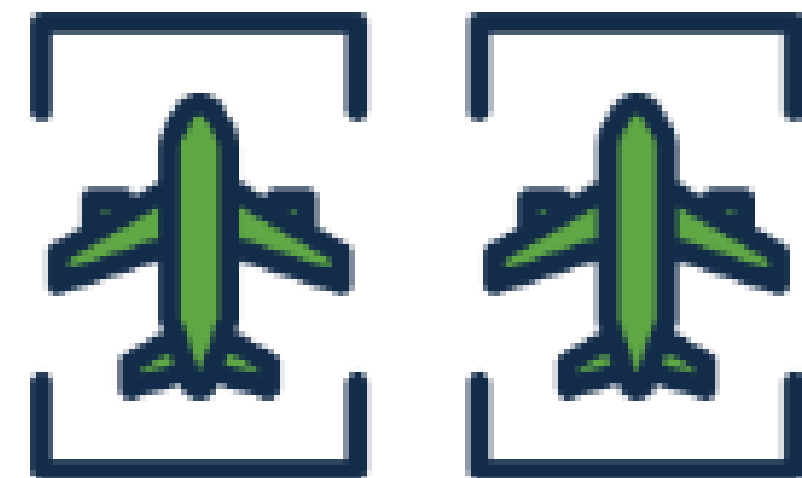
Landside Requirements



Aircraft Hangar Storage
Currently: Sufficient ✓
Future: Deficient ✗



General Aviation Terminal
Currently: Sufficient ✓
Future: Sufficient ✓



Aircraft Apron Parking
Currently: Sufficient ✓
Future: Sufficient ✓



Automobile Parking
Currently: Sufficient ✓
Future: Deficient ✗



Rental Car Parking
Currently: Sufficient ✓
Future: Deficient ✗

Alternatives



Alternatives



Alternatives



Terminal Requirements



Ticket Counters
Currently: Sufficient ✓
Future: Sufficient ✓



Ticket Lobby
Currently: Deficient ✗
Future: Deficient ✗



Checked Bag Screening
Currently: Sufficient ✓
Future: Deficient* ✗



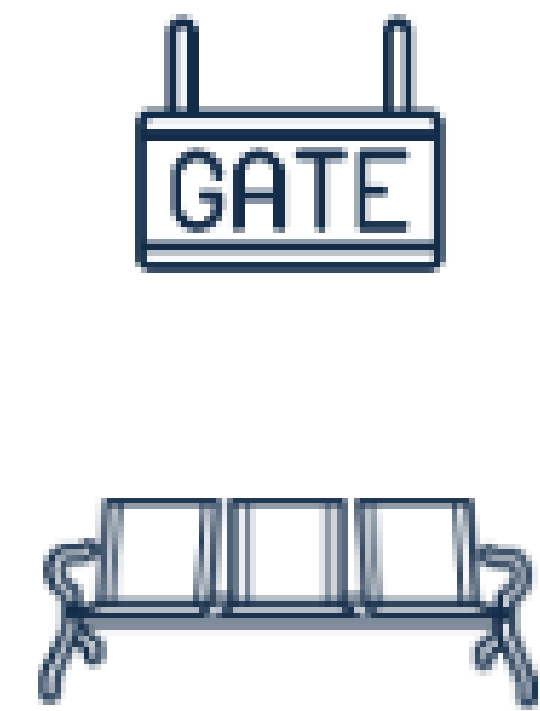
TSA
Expansion in Progress ✓



Bag Claim
Currently: Sufficient ✓
Future: Deficient* ✗

*Additional bag screening machine and bag claim needed in PAL 2

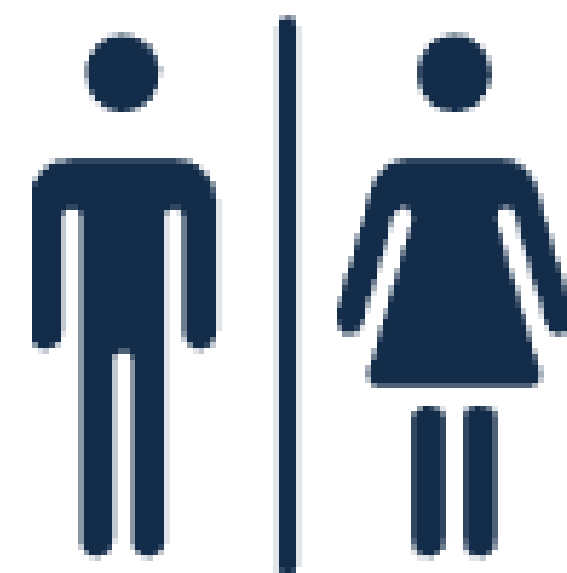
Concourse Requirements



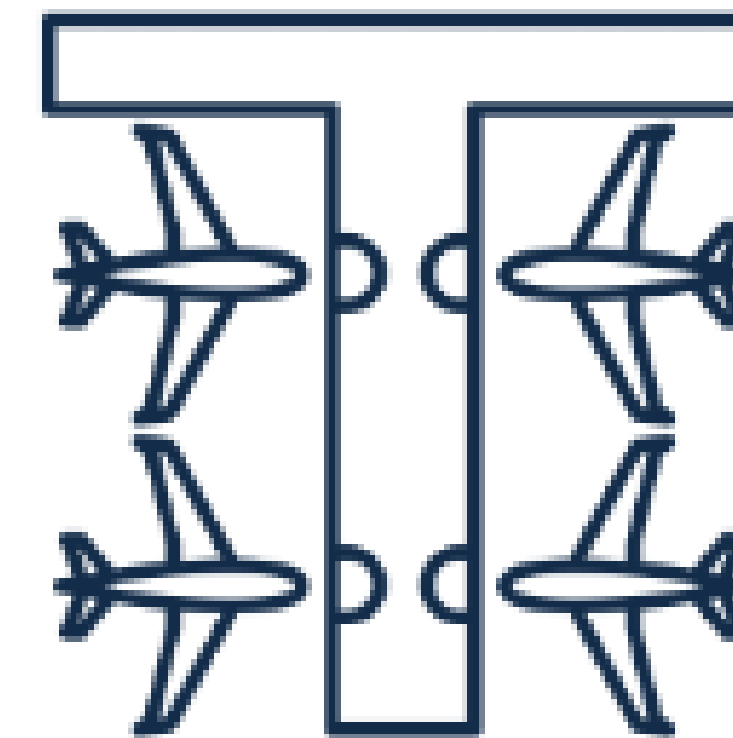
Holdrooms
Currently: Deficient ❌
Future: Deficient ❌



Concessions
Currently: Sufficient ✅
Future: Sufficient ✅



Restrooms
Currently: Sufficient ✅
Future: Deficient* ❌



Aircraft Parking Gates
Currently: Sufficient ✅
Future: Sufficient ✅

*Only one set of restrooms in concourse.

Hypothetical DDFS Scenario Gate Layout

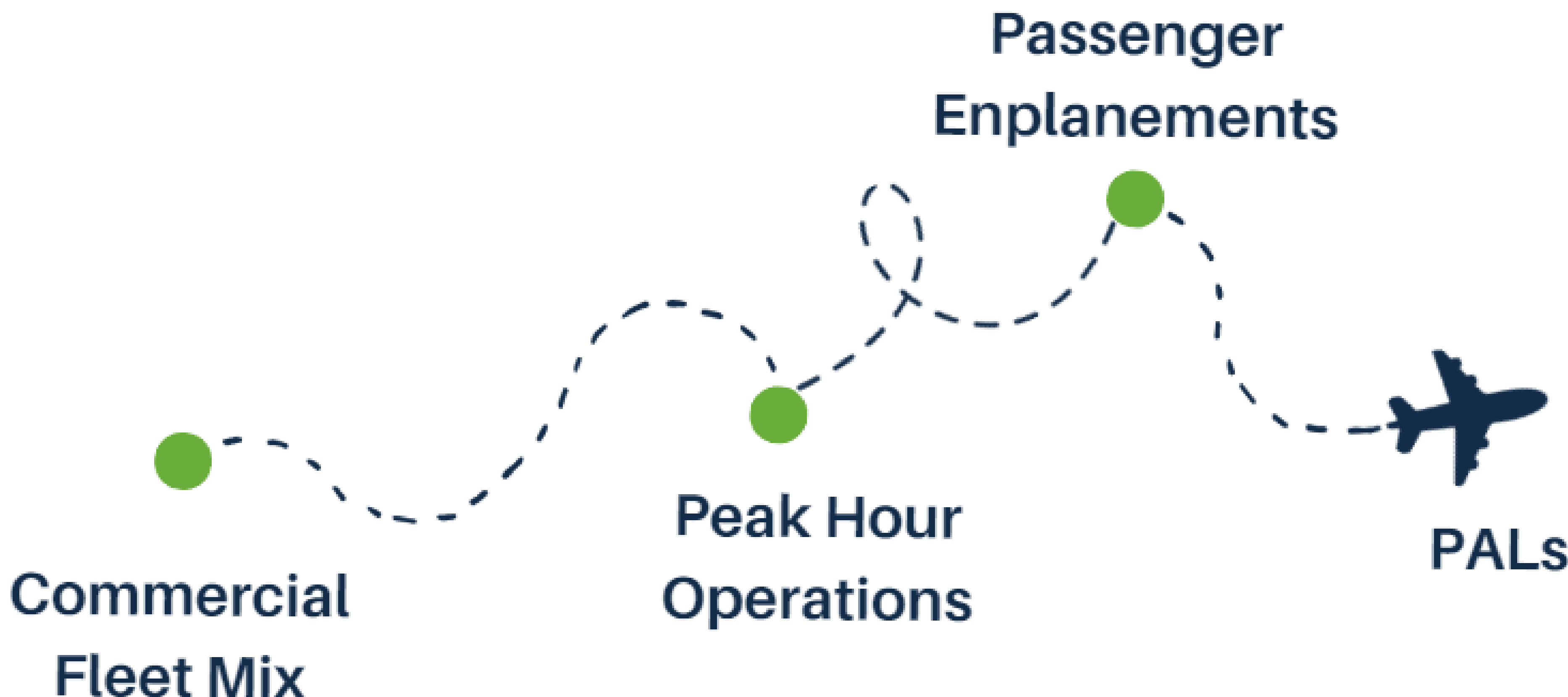
Scenario 1 & 2



Scenario 3



Planning Activity Levels (PALs)



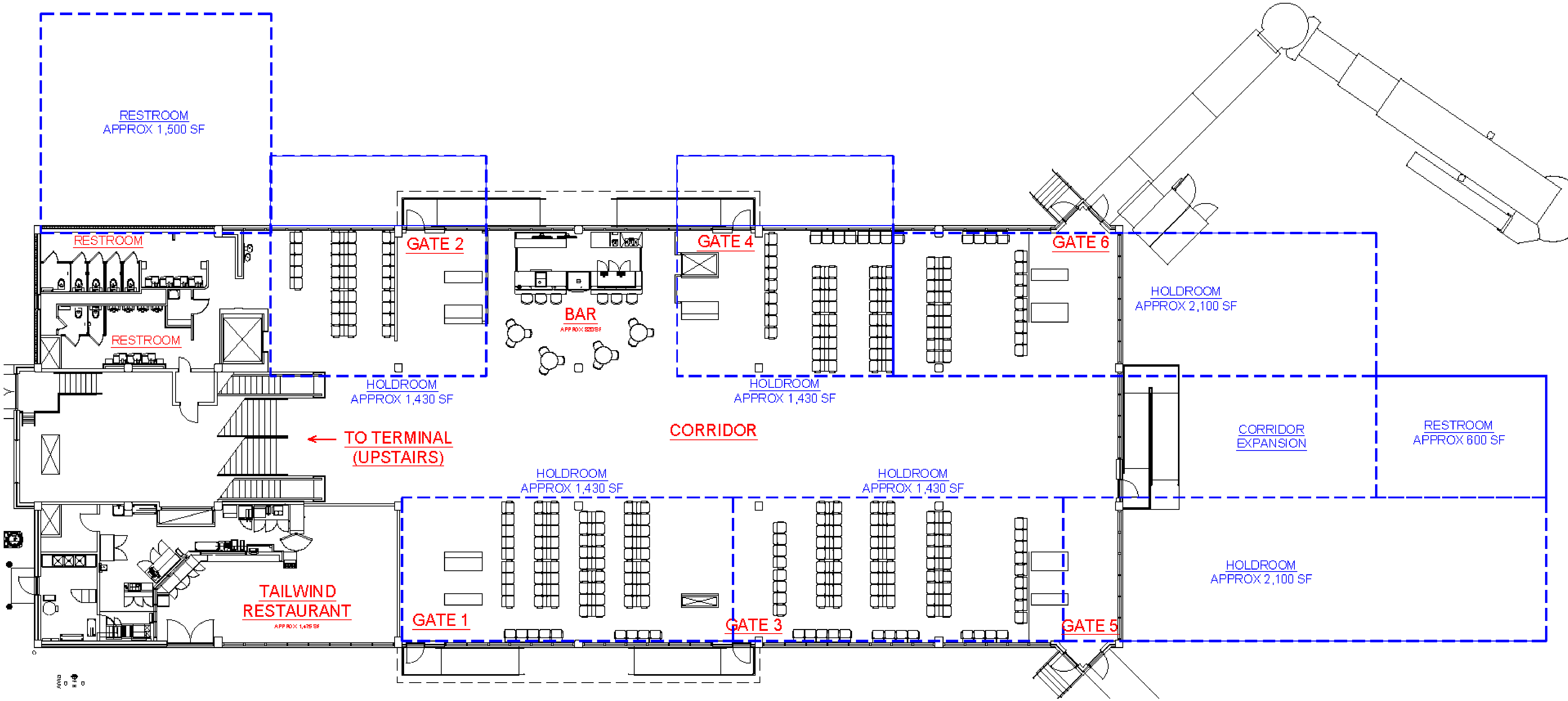
PAL 1 (Scenario 1 & 2)
Peak Hour Enplanements: 162



PAL 2 (Scenario 3)
Peak Hour Enplanements: 386



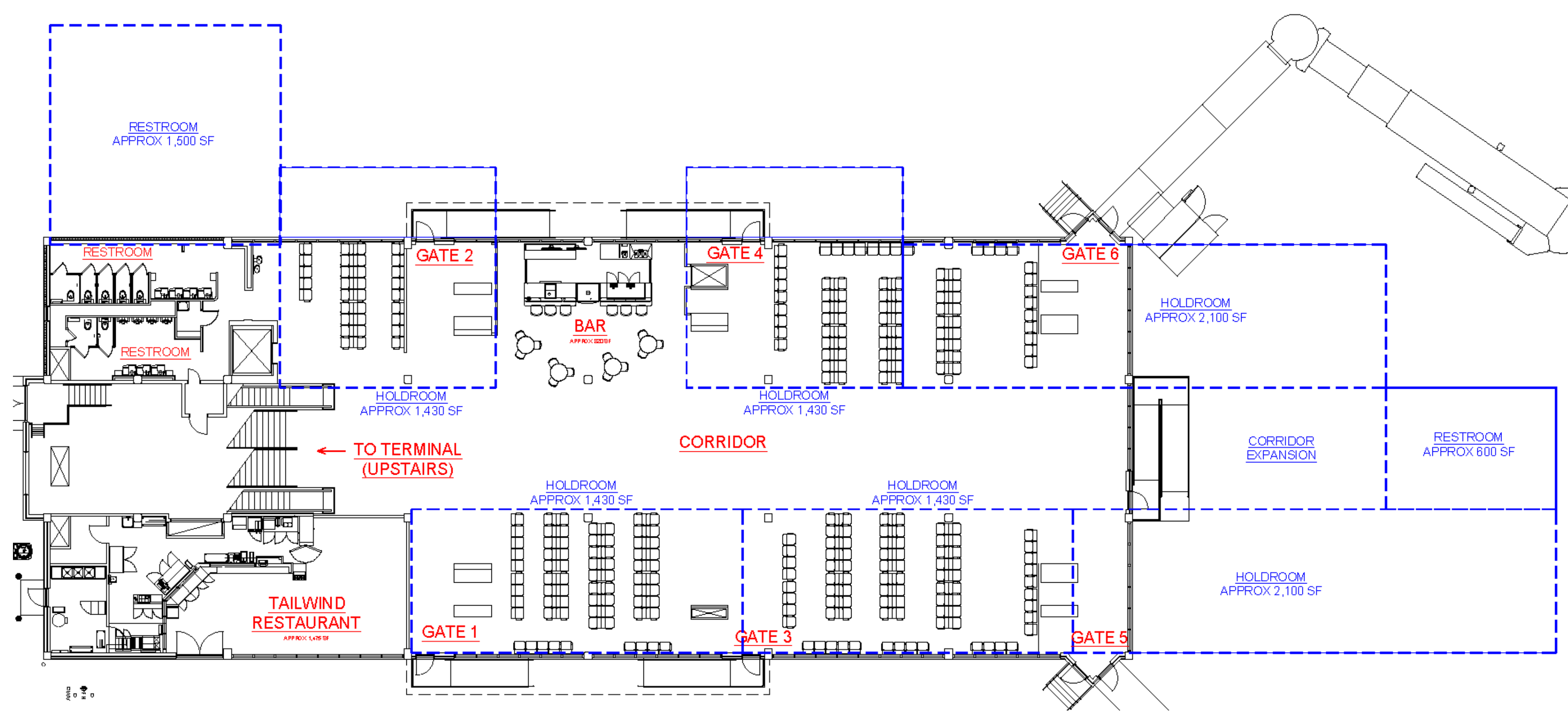
Proposed Concourse Expansion



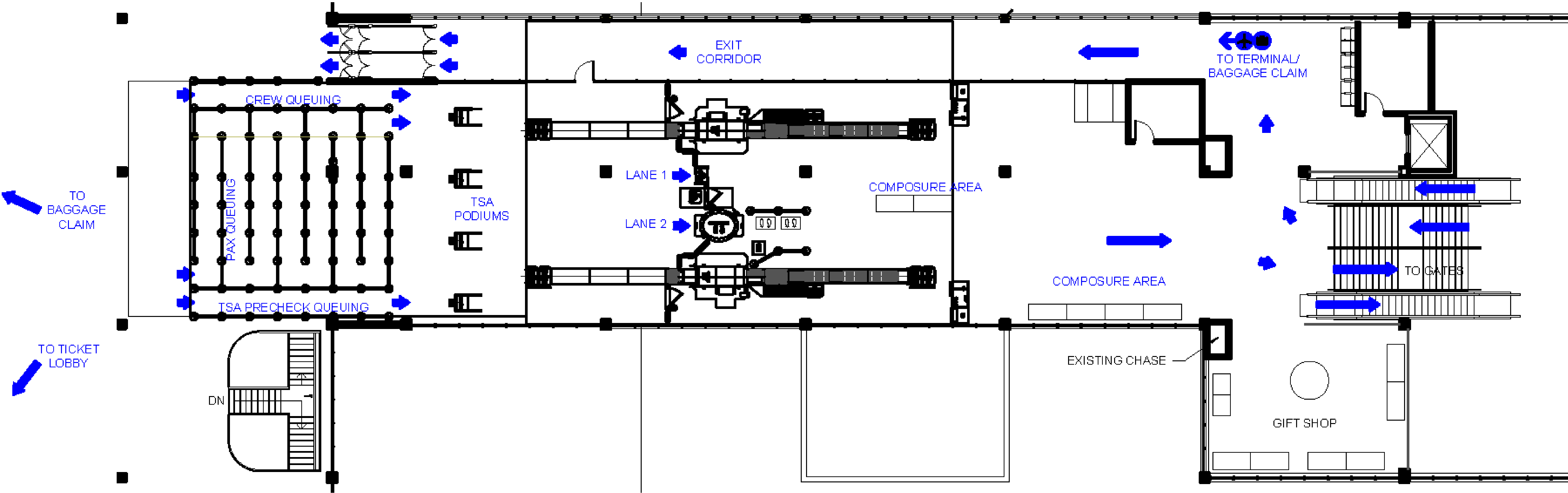
Holdroom Requirements

Requirements	PAL 1	PAL 2
Aircraft Gates	3 Regionals	3 Regionals 2 Narrowbody
Holdroom Size	1,430 SF.	1,430 SF. (each)
Total Holdroom Area	4,290 SF.	8,490 SF.
Circulation	1,800 SF.	3,000 SF.
Total Area	6,090 SF.	11,490 SF.

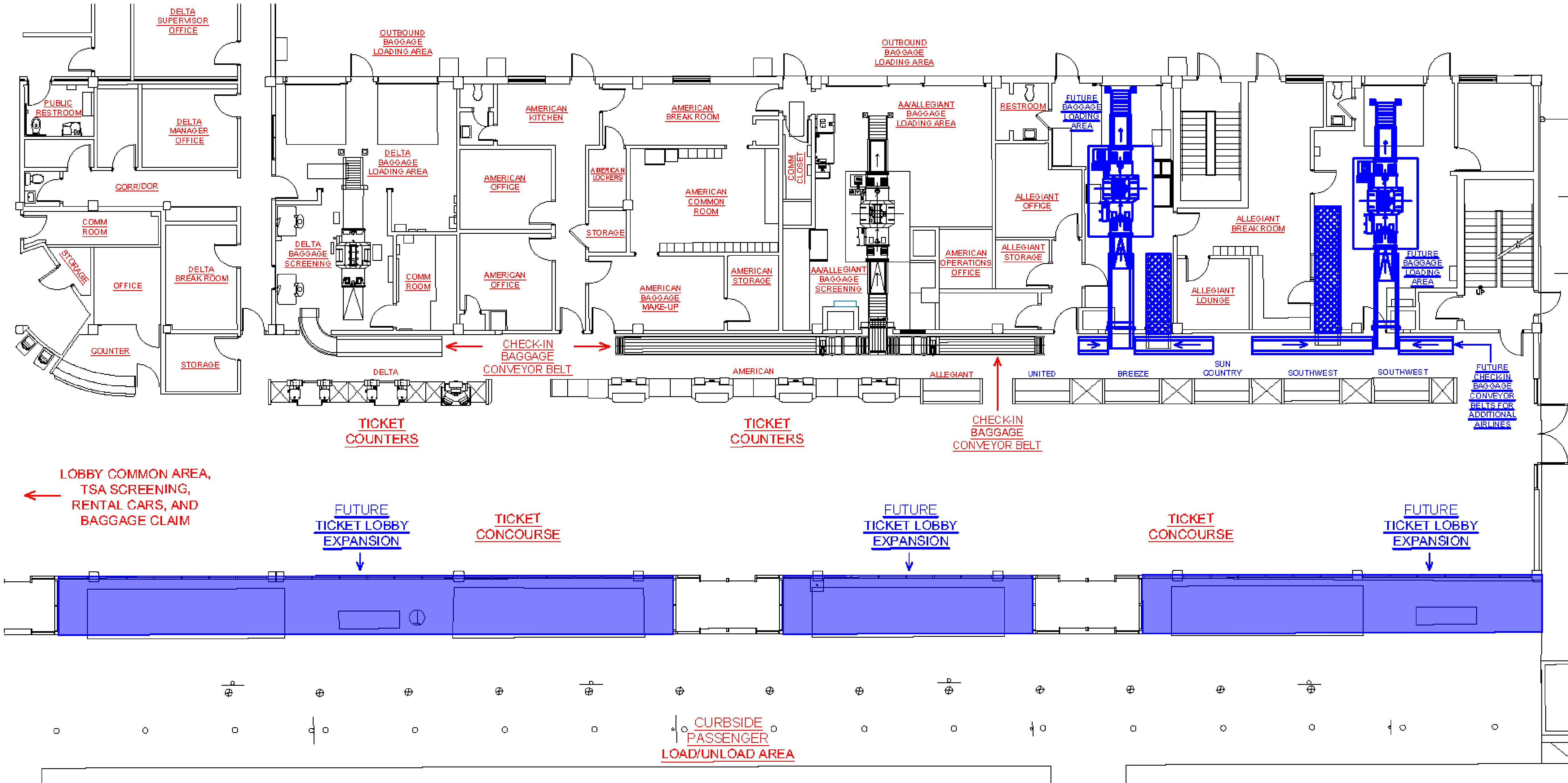
Assumptions:
 ~1,430 SF. per Regional Jet Gate
 ~2,100 SF. per Narrowbody Gate



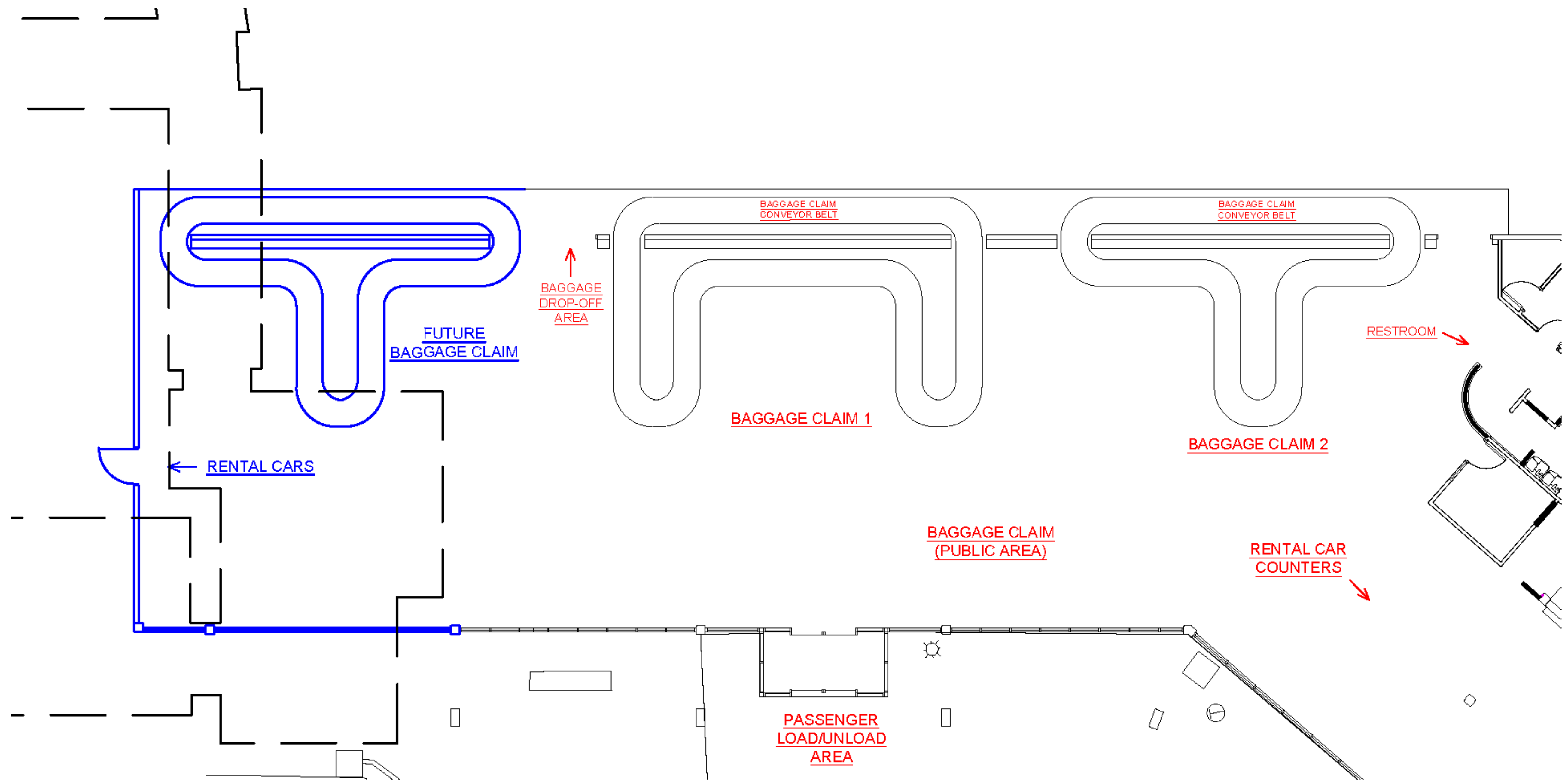
Screened Security Checkpoint Expansion



Passenger Check-in/Baggage Screening Expansion

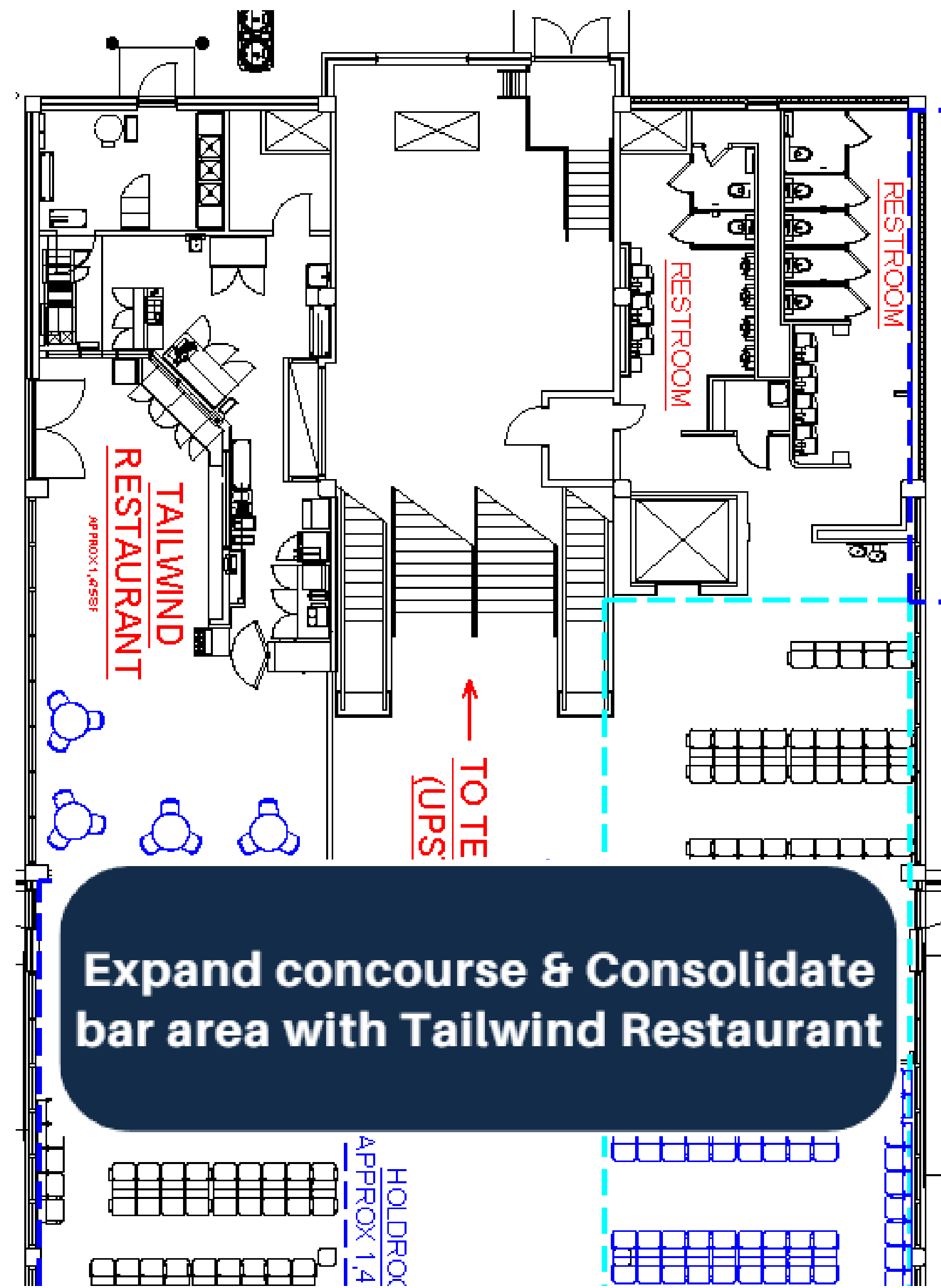


Baggage Claim Expansion



Concession Consolidation Options

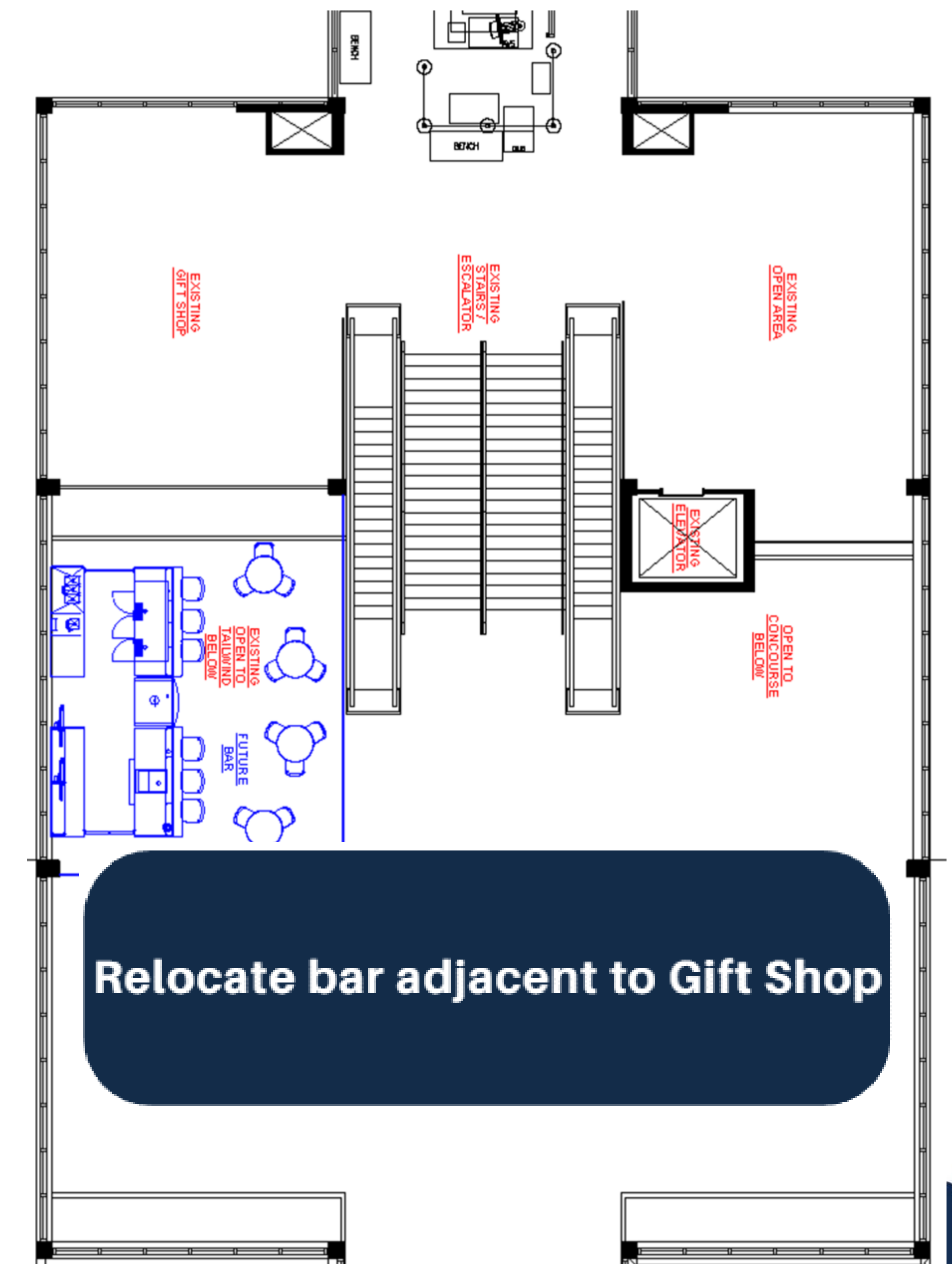
Option 1



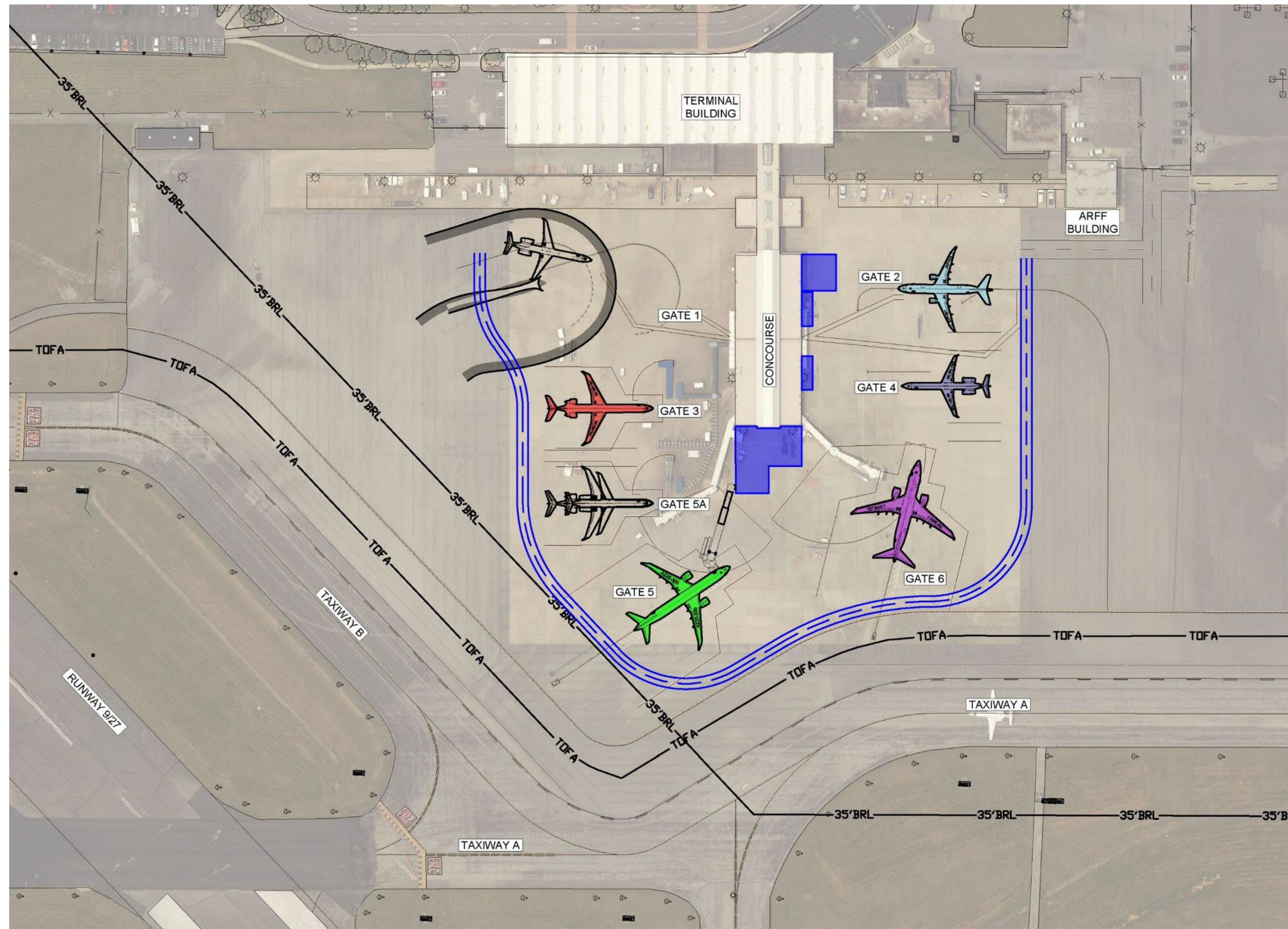
Option 2



Option 3



Future Concourse Expansion (Existing Parking)



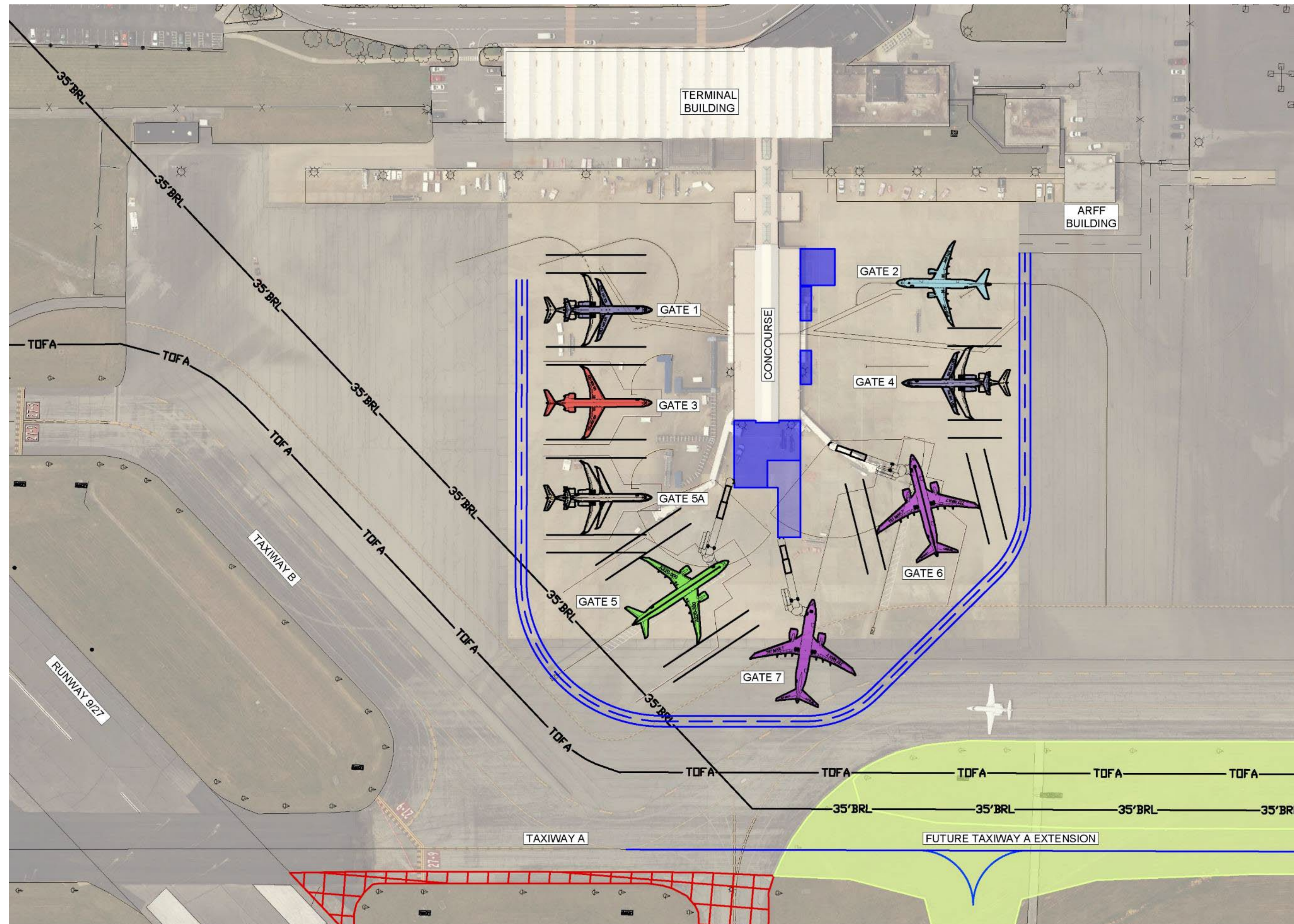
Advantages

- Remains within existing area
- Meets space requirements
- Vehicle Service Road maintained
- Uses Gate 6 PBB

Disadvantages

- No additional aircraft parking
- Requires Gate 5 PBB relocation
- Existing Twy A limits expansion

Future Concourse Expansion (Partial Twy A Closure)



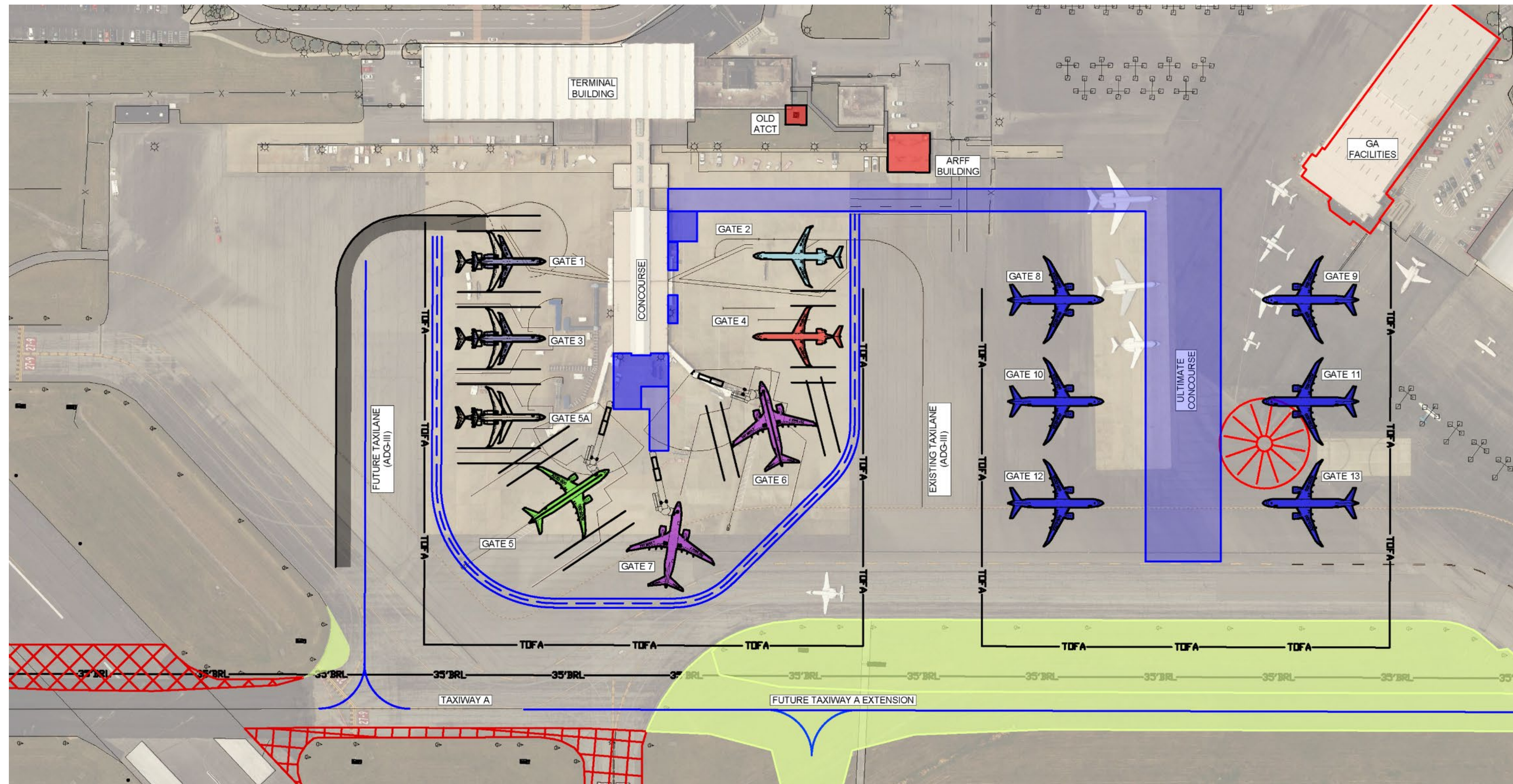
Advantages

- 1 Additional aircraft position
- Meets space requirements
- Vehicle Service Road maintained
- Utilizes PBBs at Gates 5 & 6
- Remains within existing area

Disadvantages

- Requires closure of Twy A apron edge
- Max. concourse expansion

Future Concourse Expansion (North)



Advantages

Additional concourse

6 Additional aircraft positions

Meets holdroom requirements

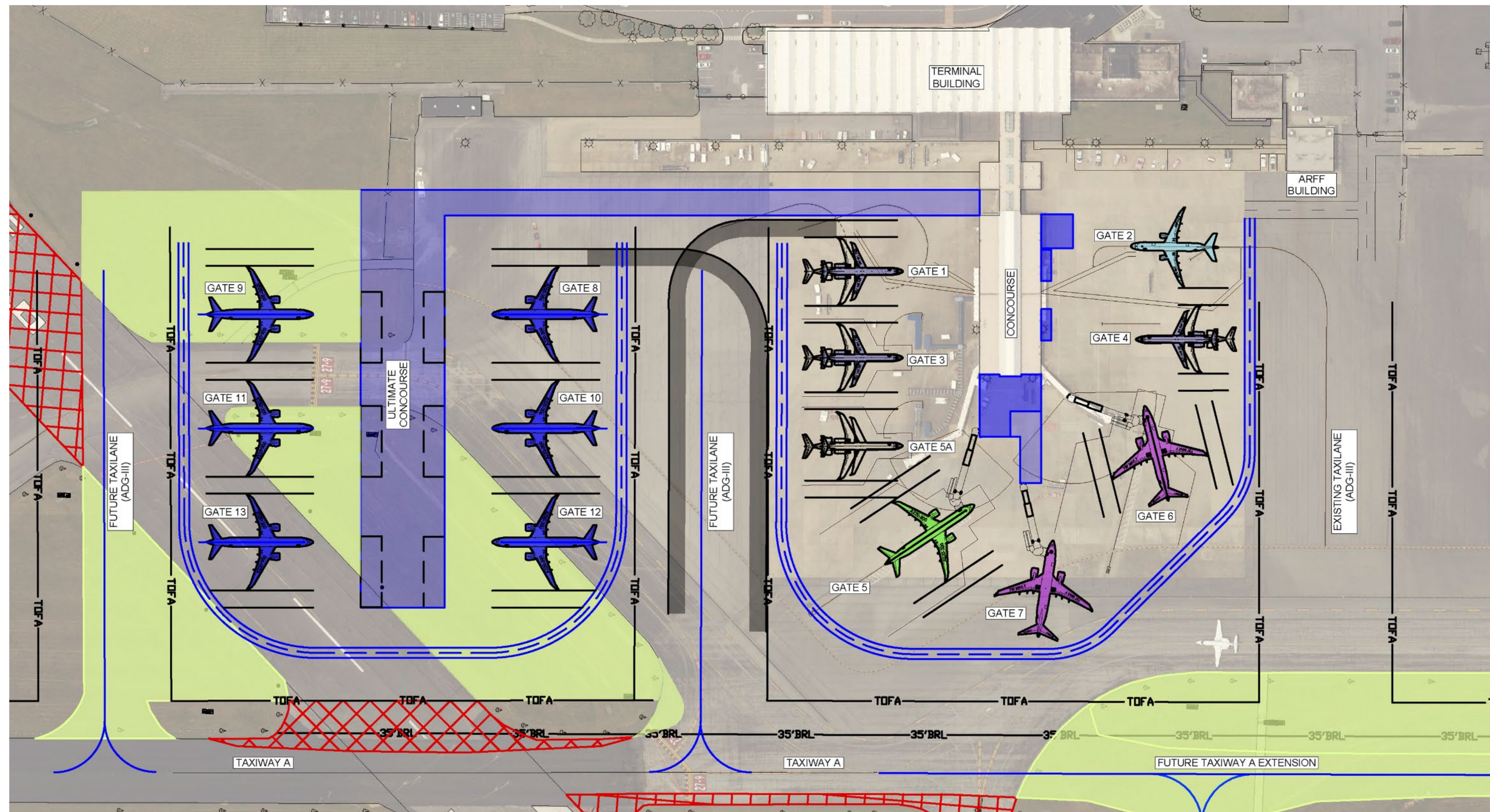
Disadvantages

Impacts GA facilities

Potential impacts to ARFF Station

Potential impacts to baggage access

Future Concourse Expansion (South)



Advantages

Additional concourse

6 Additional aircraft positions

Meets holdroom requirements

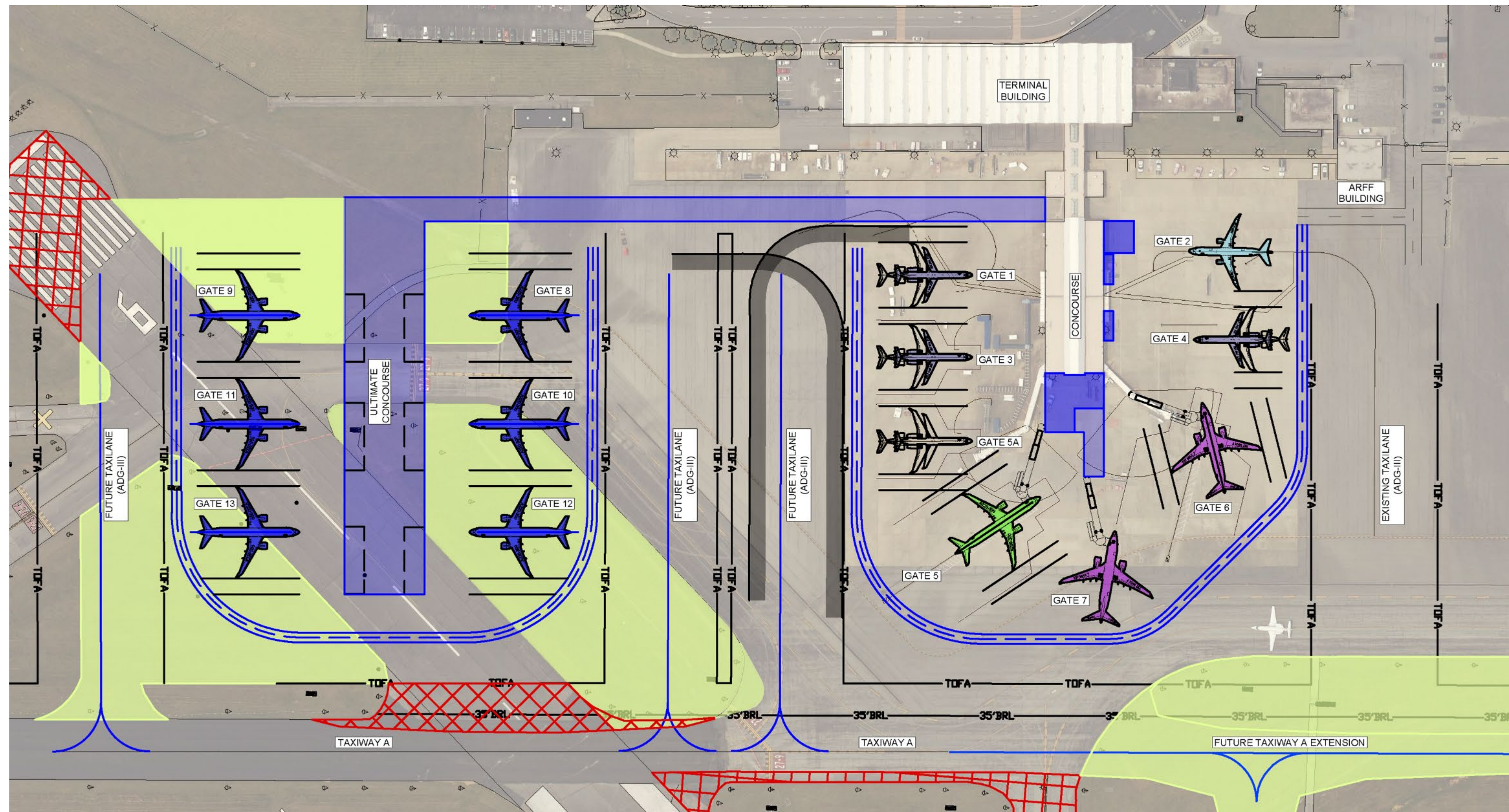
Disadvantages

Requires closure of Rwy 9-27

Requires closure of Twy A apron edge

Requires apron expansion

Future Concourse Expansion (South Dual Taxilanes)



Advantages

- Additional concourse
- 6 Additional aircraft positions
- Meets holdroom requirements
- Dual taxilane access

Disadvantages

- Requires closure of Rwy 9-27
- Closure of Twy A apron edge
- Requires apron expansion
- Adds 150ft of walking distance



Environmental & Sustainability



Environmental

Air Quality

Biological Resources

Climate

Coastal Resources

DOT, Section 4(f)

Farmlands

Land Use

Visual Effects

Water Resources

Noise and Noise Compatible Land Use

Natural Resources and Energy Supply

Hazardous Materials, Solid Waste, and Pollution Prevention

Historical, Architectural, Archeological, and Cultural Resources

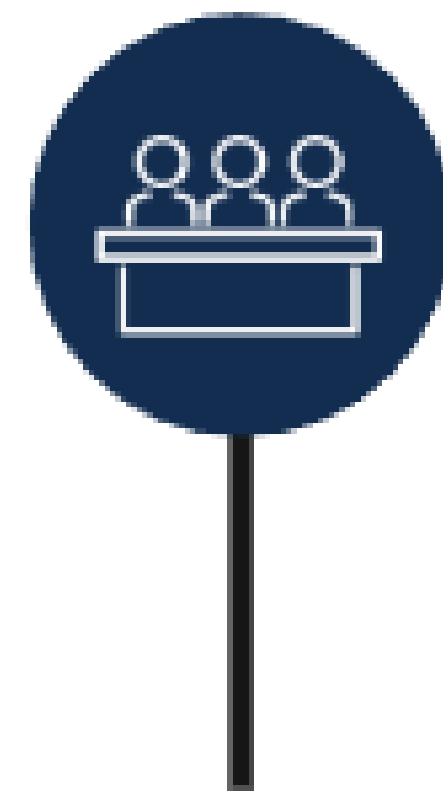
Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks



Sustainability



The Tri-Cities Airport uses a comprehensive philosophy which incorporates formal and informal processes to ensure the economic, social, environmental, and fiscal viability of the airport through early planning of all development and operational activities which minimizes our use of the scarce resources we share with our community.



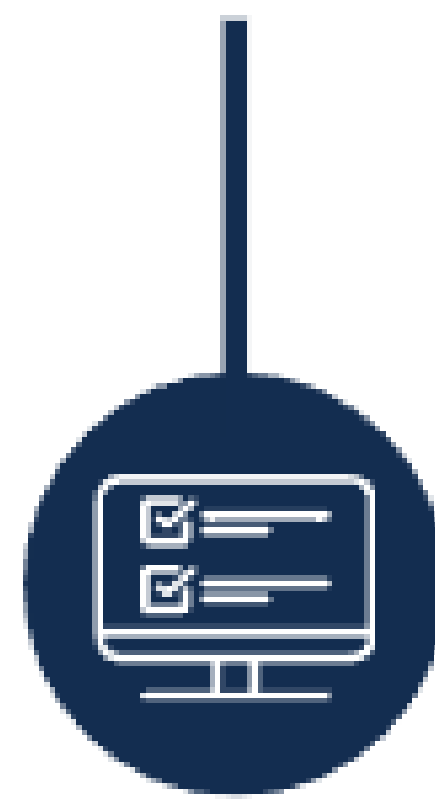
Sustainability committee members were given a survey to establish a baseline of the committee's awareness and familiarity with airport sustainability.



Committee members were given a follow-up survey to re-evaluate perspectives and understandings of airport sustainability.



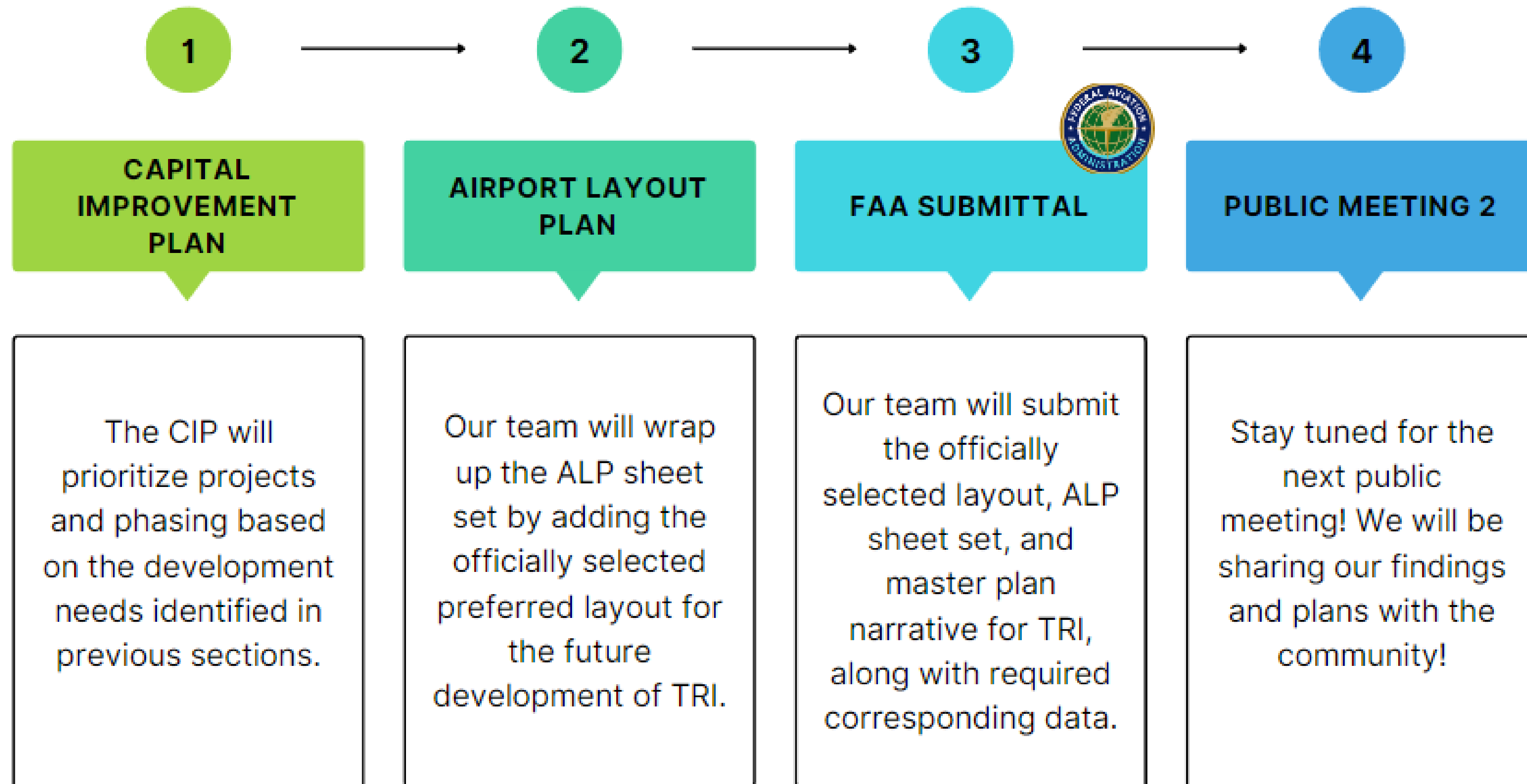
TRI created a Sustainability Committee to provide sustainability insight.



An online sustainability charrette was held to present the findings of the first survey, and educate the committee on current and past sustainability measures at the Airport.



Next Steps



DENOTES FAA APPROVAL REQUIREMENT

Questions/Comments?



Please share this QR code with any stakeholders that would like to provide comments/input on the Airport Master Plan and any future development.

