





# Nashville International Airport (BNA)





# BNA – Existing Facilities

3,048  
Acres of Land

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4  
Runways

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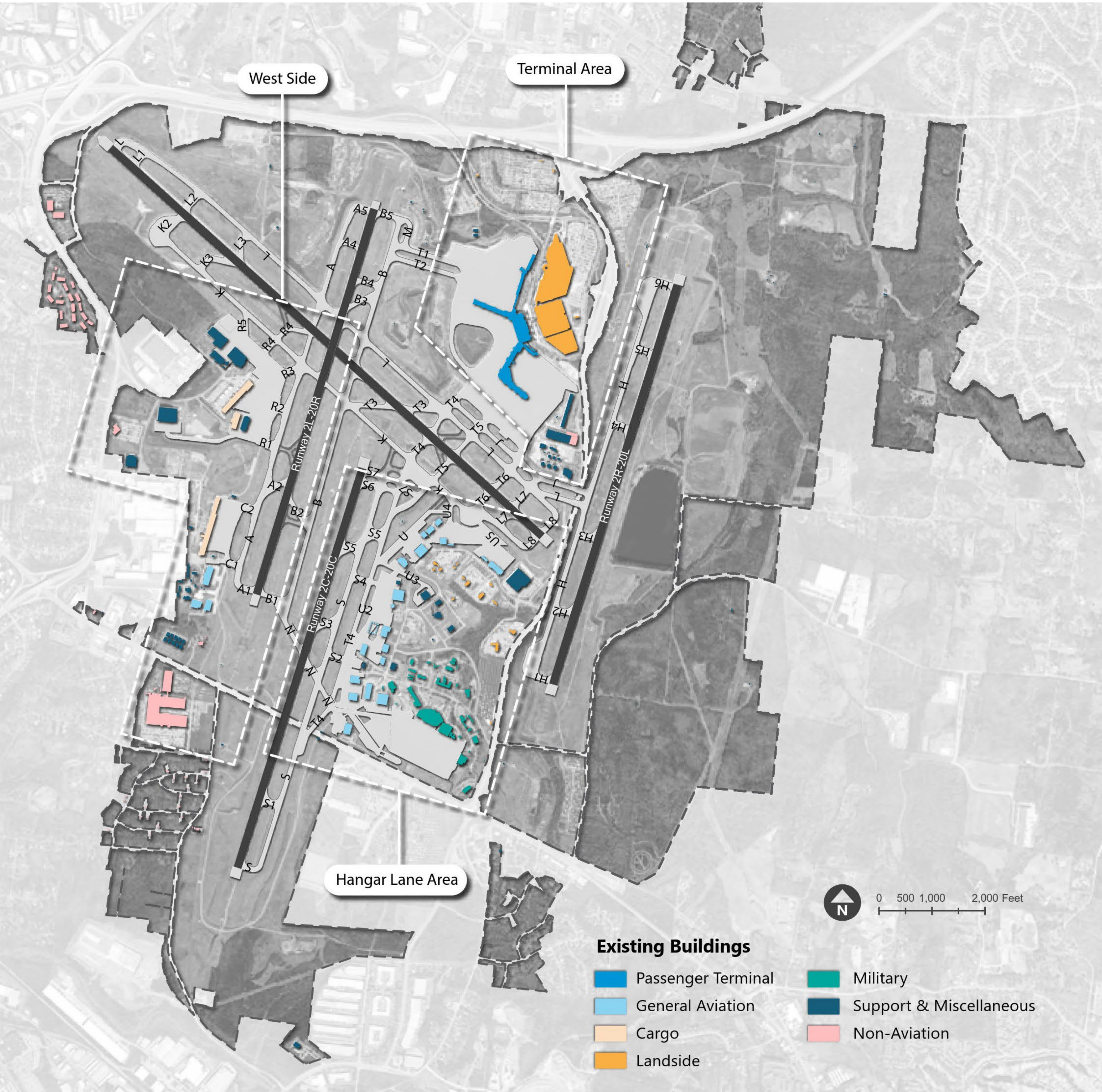
1  
Terminal

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3  
Concourses

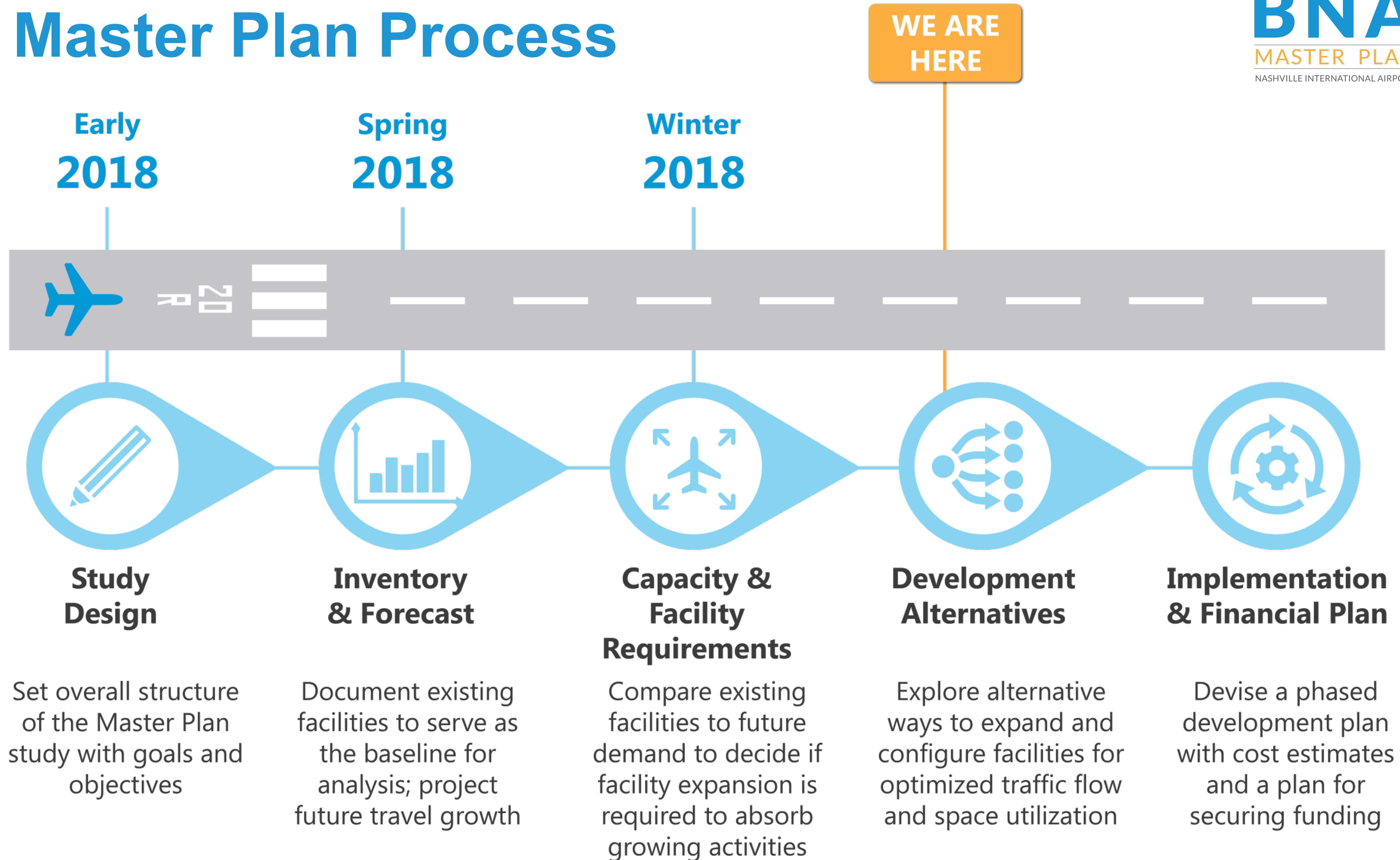
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43  
Aircraft Gates



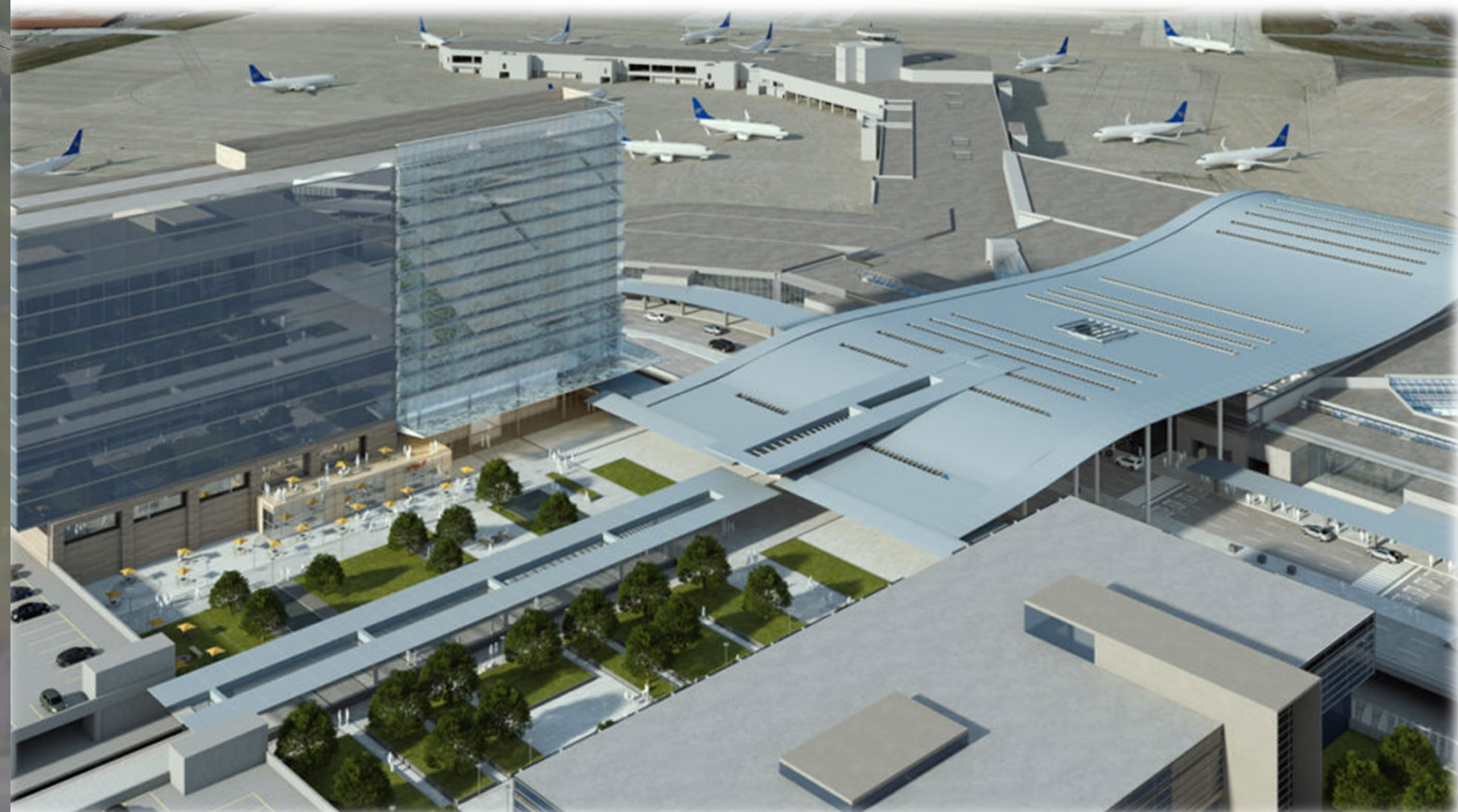
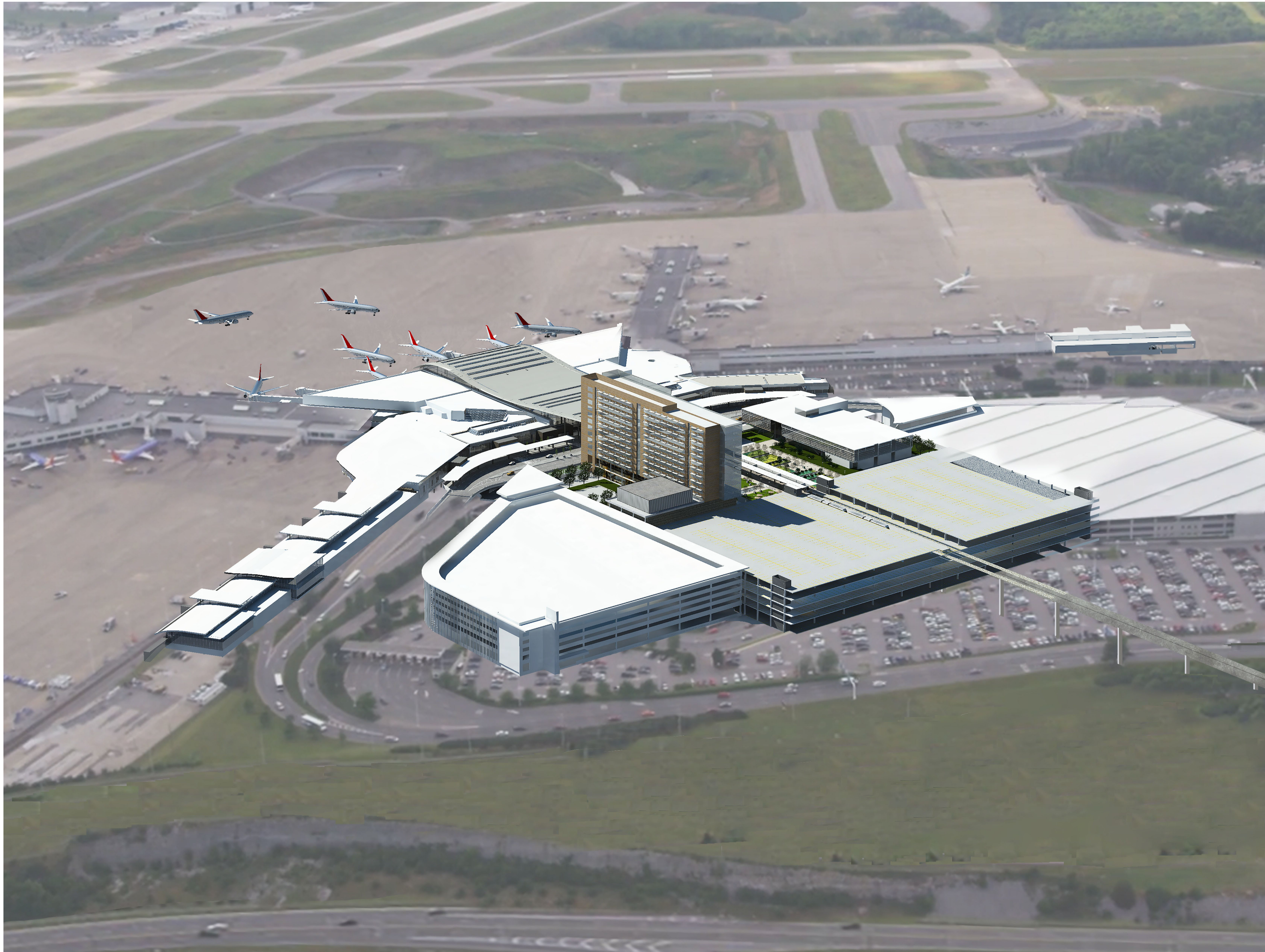


# Master Plan Process



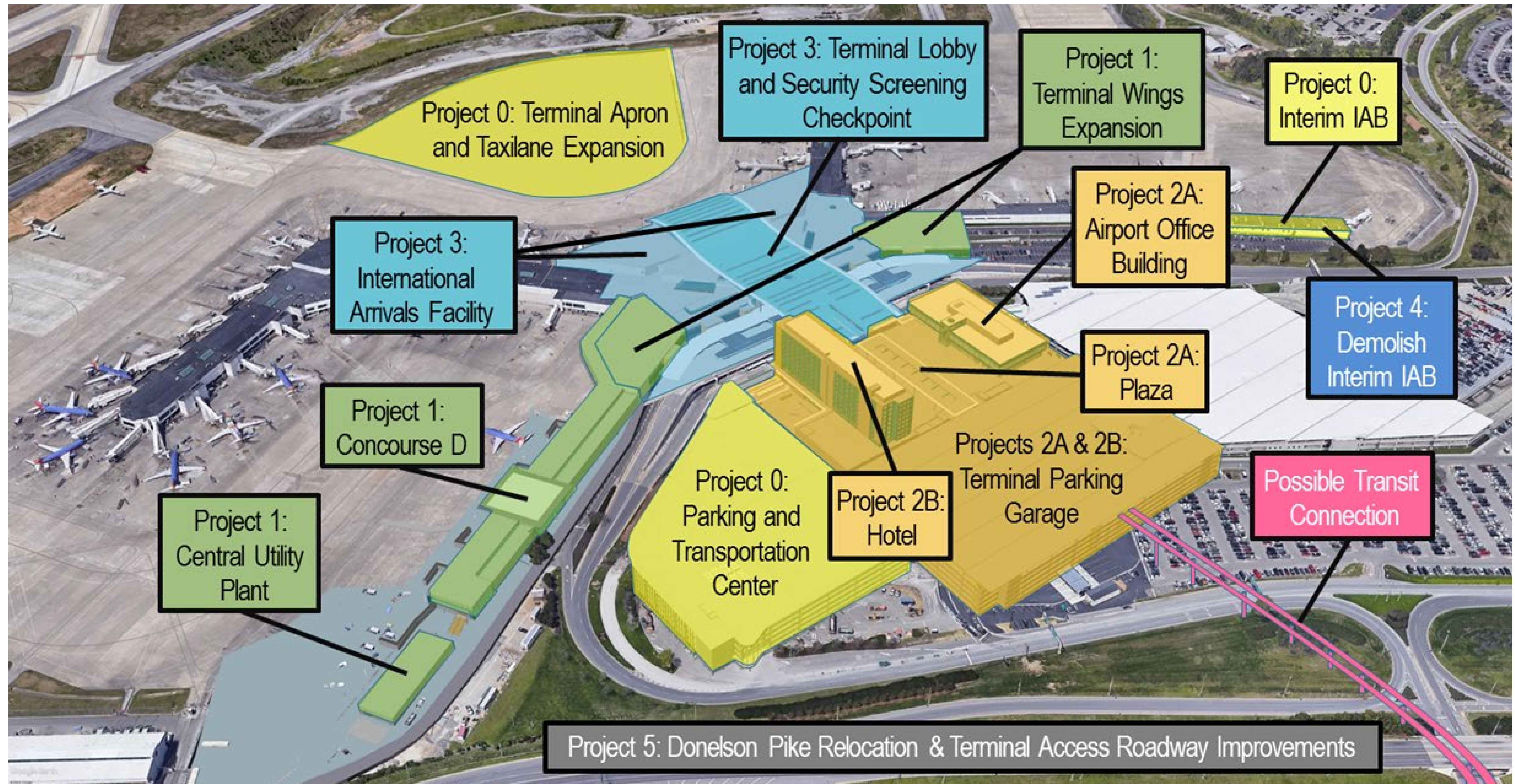


# BNA Vision



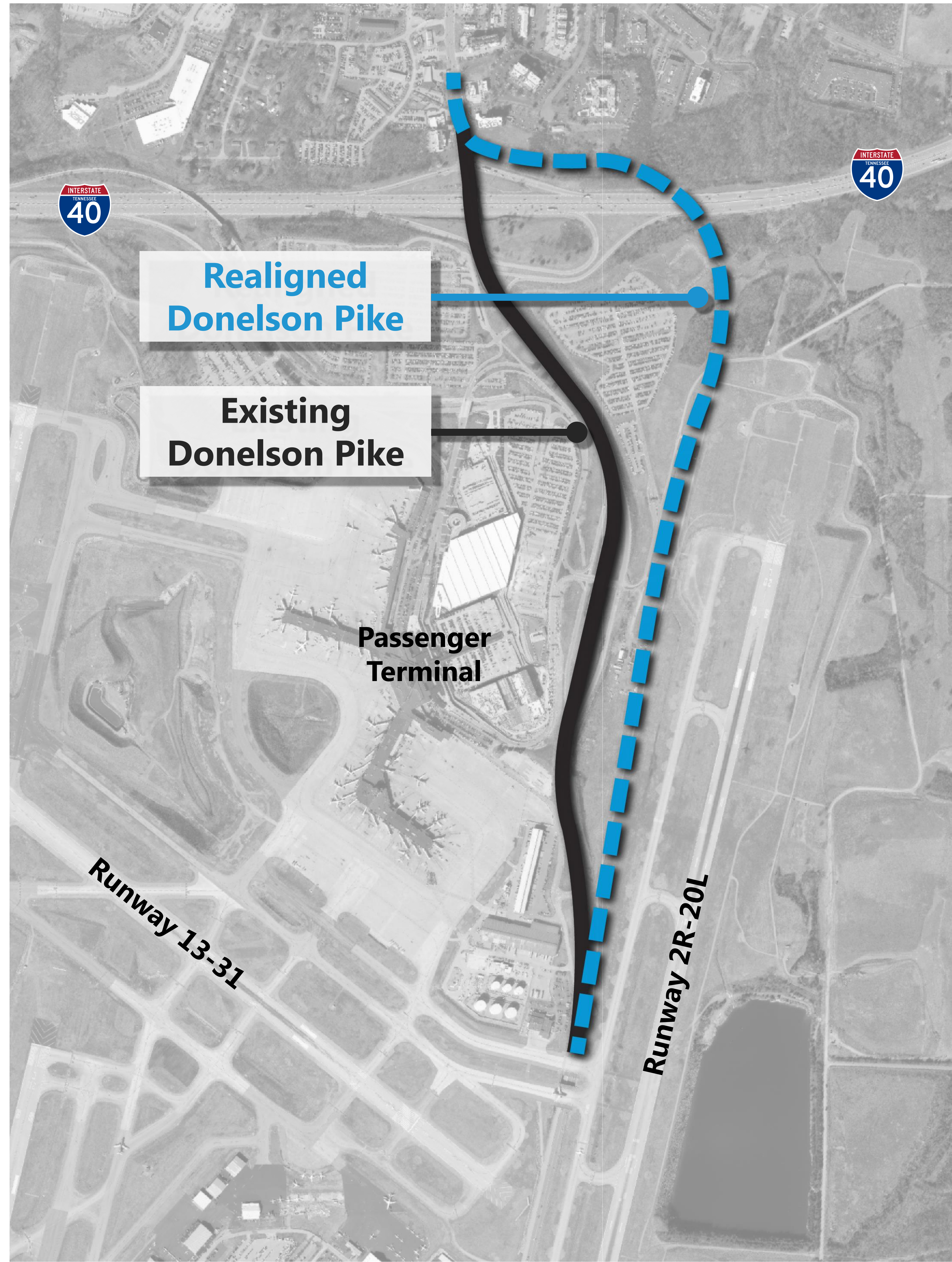


# BNA Vision Projects



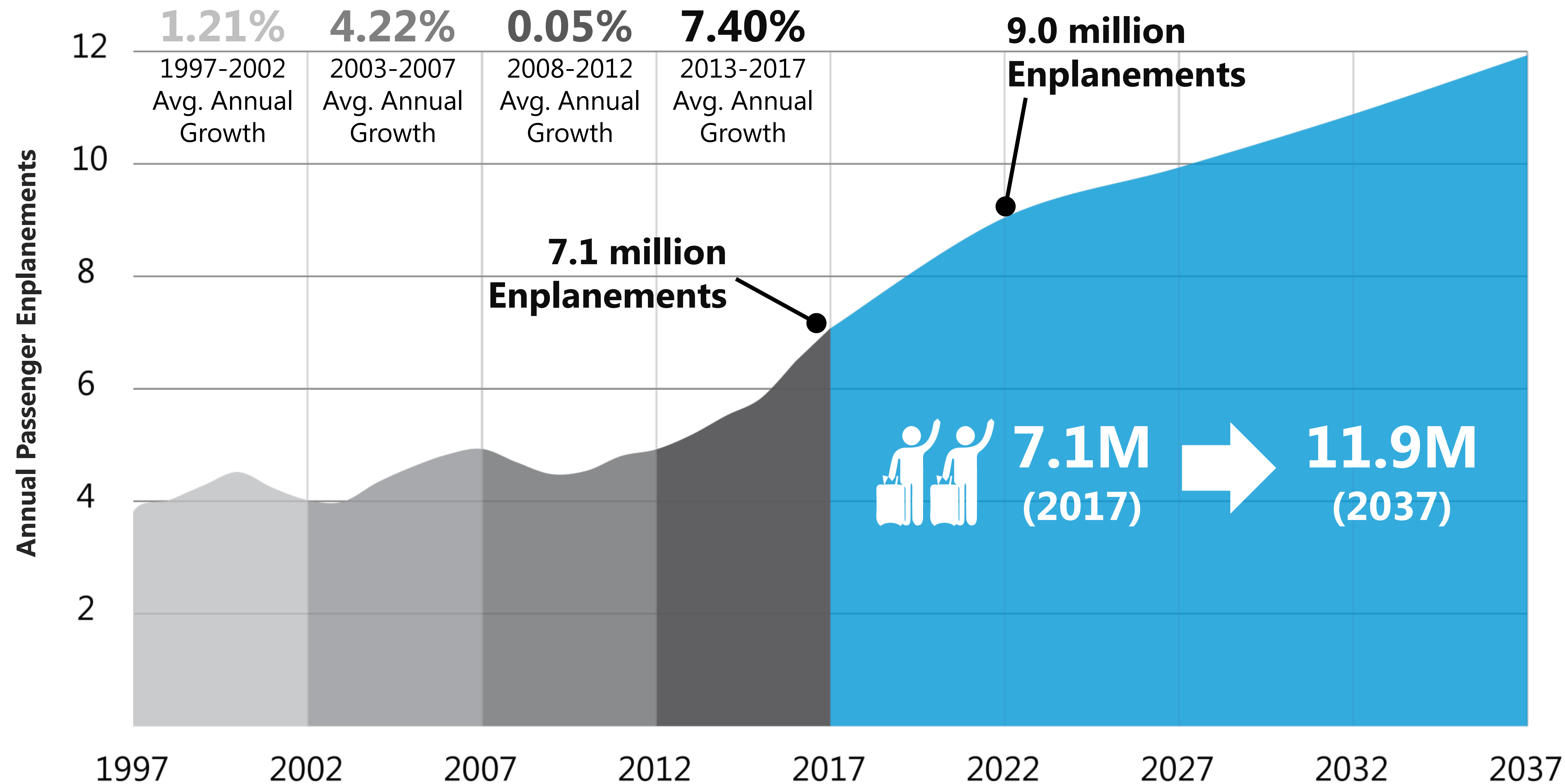


# Donelson Pike Realignment



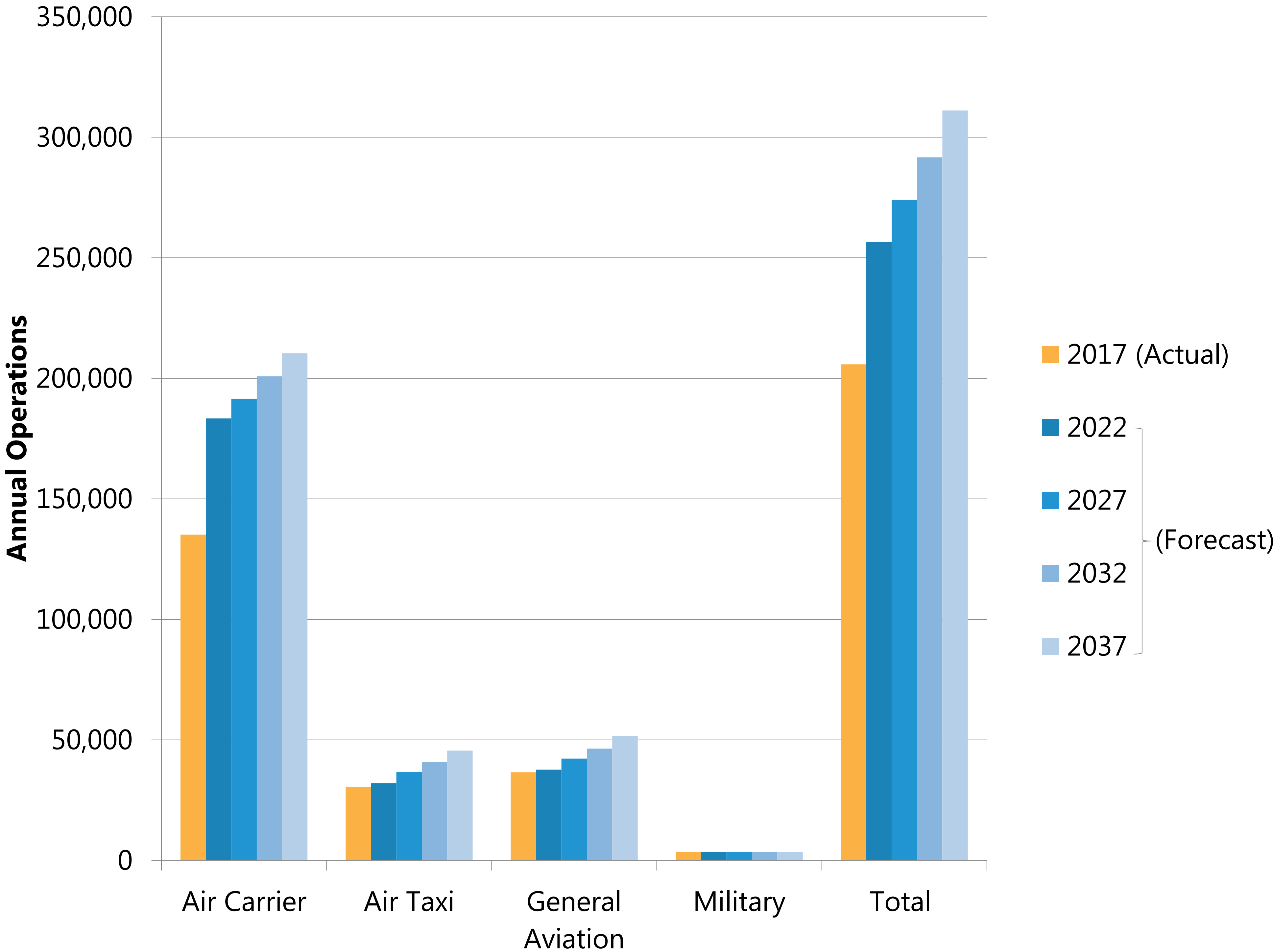
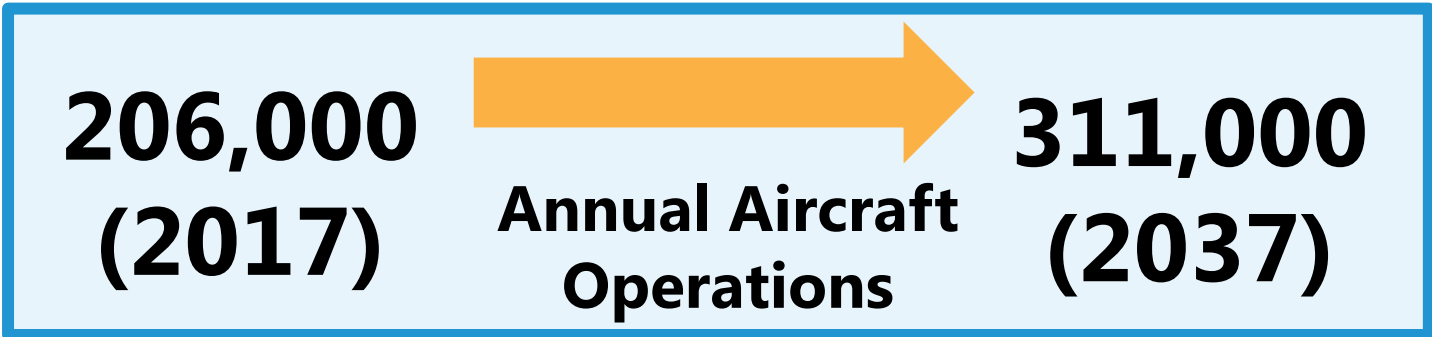


# Enplaned Passenger Forecasts





# Aircraft Operations



	Annual Take-offs and Landings
2017	206,000 (Actual)
2022	257,000
2027	274,000
2032	292,000
2037	311,000



# Forecast Summary

2017 Baseline vs 2037 Projected



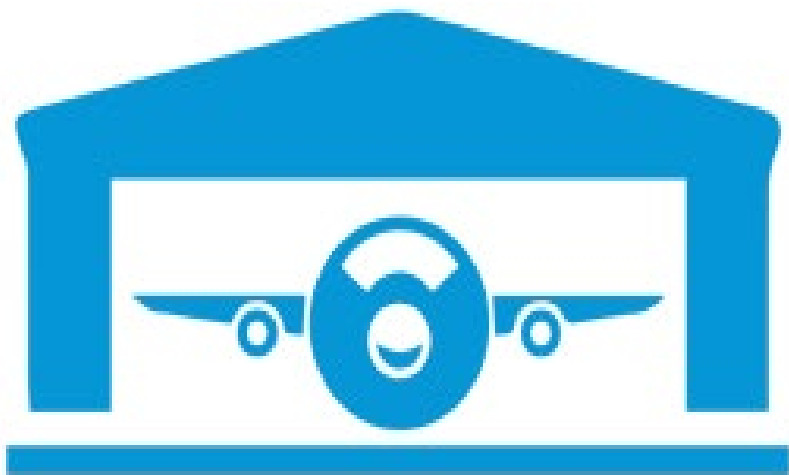
206,000 → 311,000

Annual Aircraft  
Operations



7.1M → 11.9M

Annual Passenger  
Enplanements



87 → 164

Based Aircraft

2037 - Projected

88

Peak hour Operations

4,114

Peak Hour  
Enplanements

4,473

Peak Hour  
Deplanements

53

Single-  
/Multi-  
Engine

109

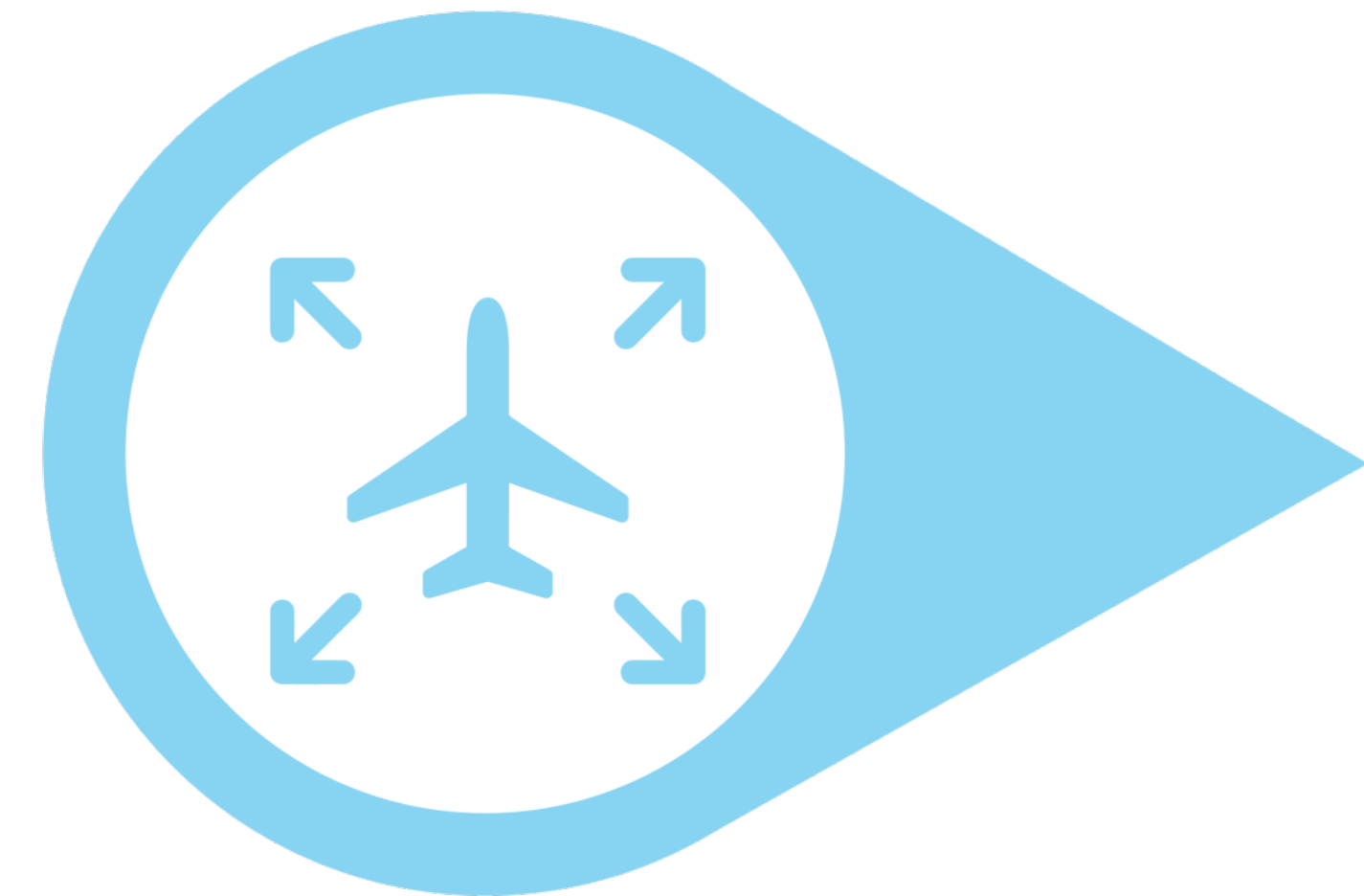
Jet

2

Helicopter



# Facility Requirements



**Capacity &  
Facility  
Requirements**

## EXAMPLE INPUTS

- Baseline Conditions
- Industry Standards
- Processing Rates
- Industry Trends



**Airfield**



**Terminal**



**Landside**

## EXAMPLE OUTPUTS

- Runway Capacity
- Runway Lengths
- Terminal Gates
- Terminal Processors
- Ground Transportation
- Parking



# Airfield Capacity Summary

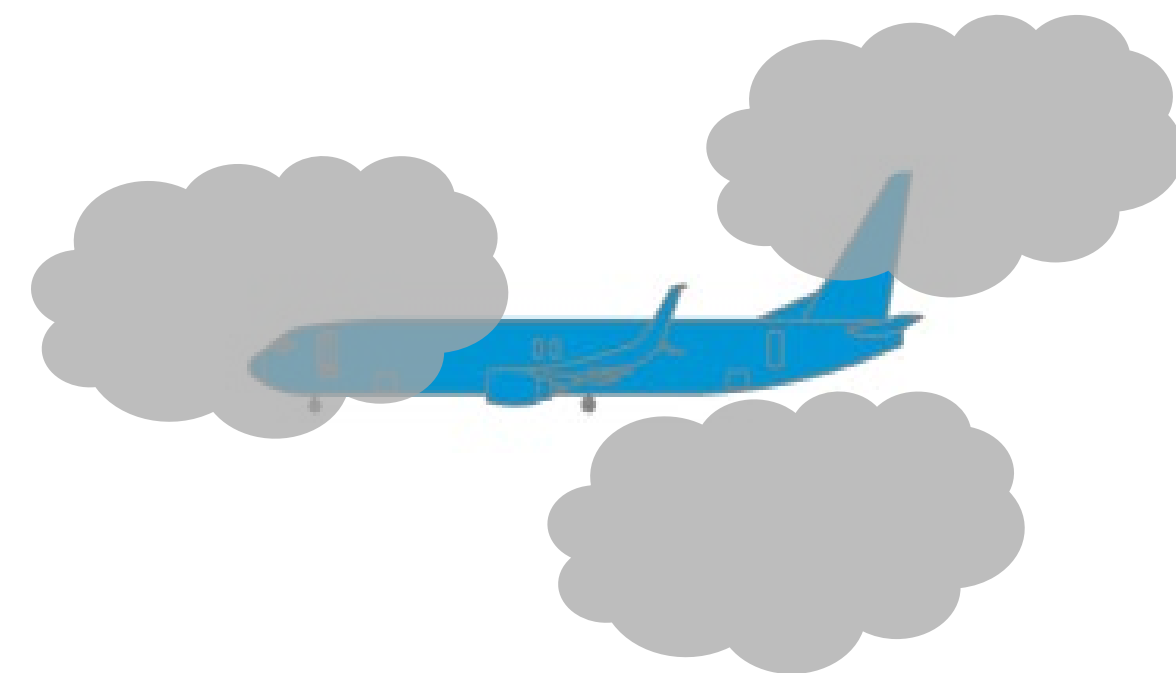
## Hourly Capacity

**146** Operations



Under VMC Conditions (>90% of the year)

**107** Operations



Under IMC Conditions (<10% of the year)

## Peak Hour Demand

**58** Operations

2017

**88** Operations

2037 - Projected

## Annual Capacity – Current Airfield

**495,000** Operations

## Annual Demand – 2037 Projected

**311,000** Operations



# Runway Lengths

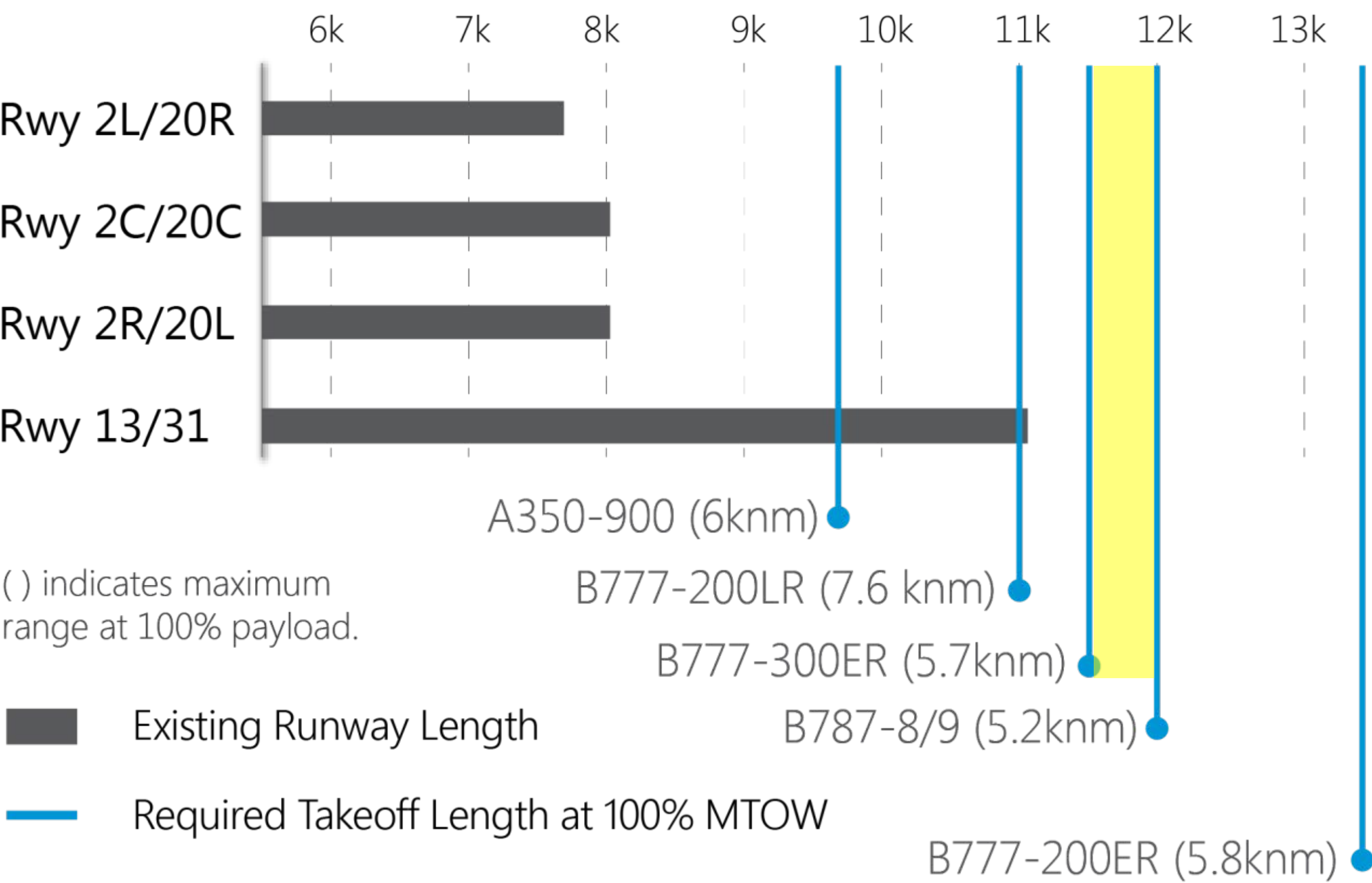


## Representative Airlines



Runway length required  
**12,000ft**

## Runway Lengths



Takeoff Length Analysis Basis  
Typical hot day at BNA (approx. 89.9 °F degrees)  
Airport elevation at 599' MSL  
Runway gradient accounted for



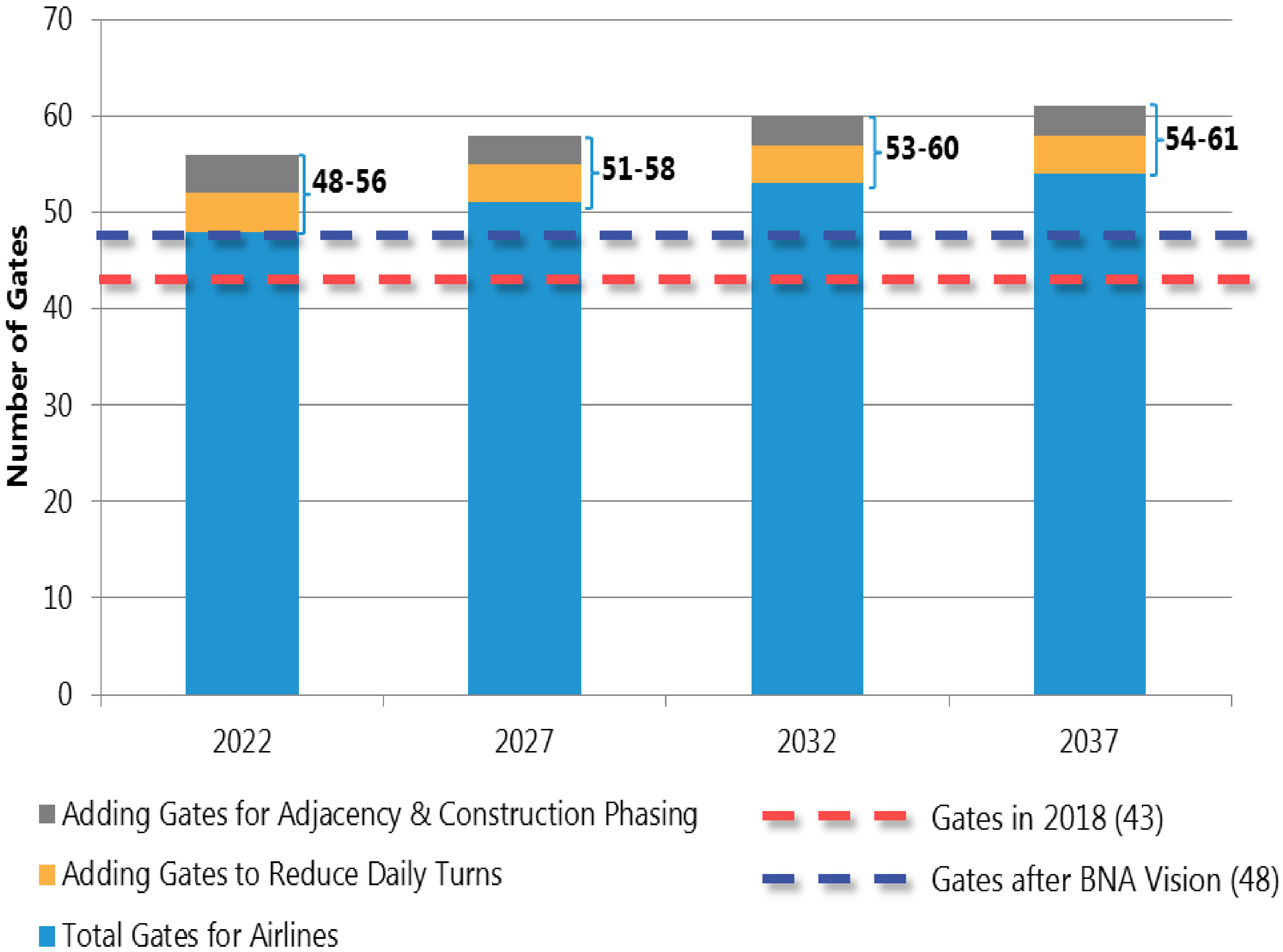
# Gate Requirements

	Master Plan <sup>1</sup>	
Year	Activity Level	Gates Required
2022	18 MAP	48 – 56
2026	-	-
2027	20 MAP	51 – 58
2032	22 MAP	53 – 60
2037	24 MAP	54 – 61

**MAP: Millions of Annual Passengers**

Notes:

1. The Master Plan gate requirements were evaluated with a range:
  - Low range of gate count would require higher gate utilization and limited flexibility during construction to relocate airlines
  - High range of gate count provides gate utilization similar to existing and flexibility during construction to relocate airlines



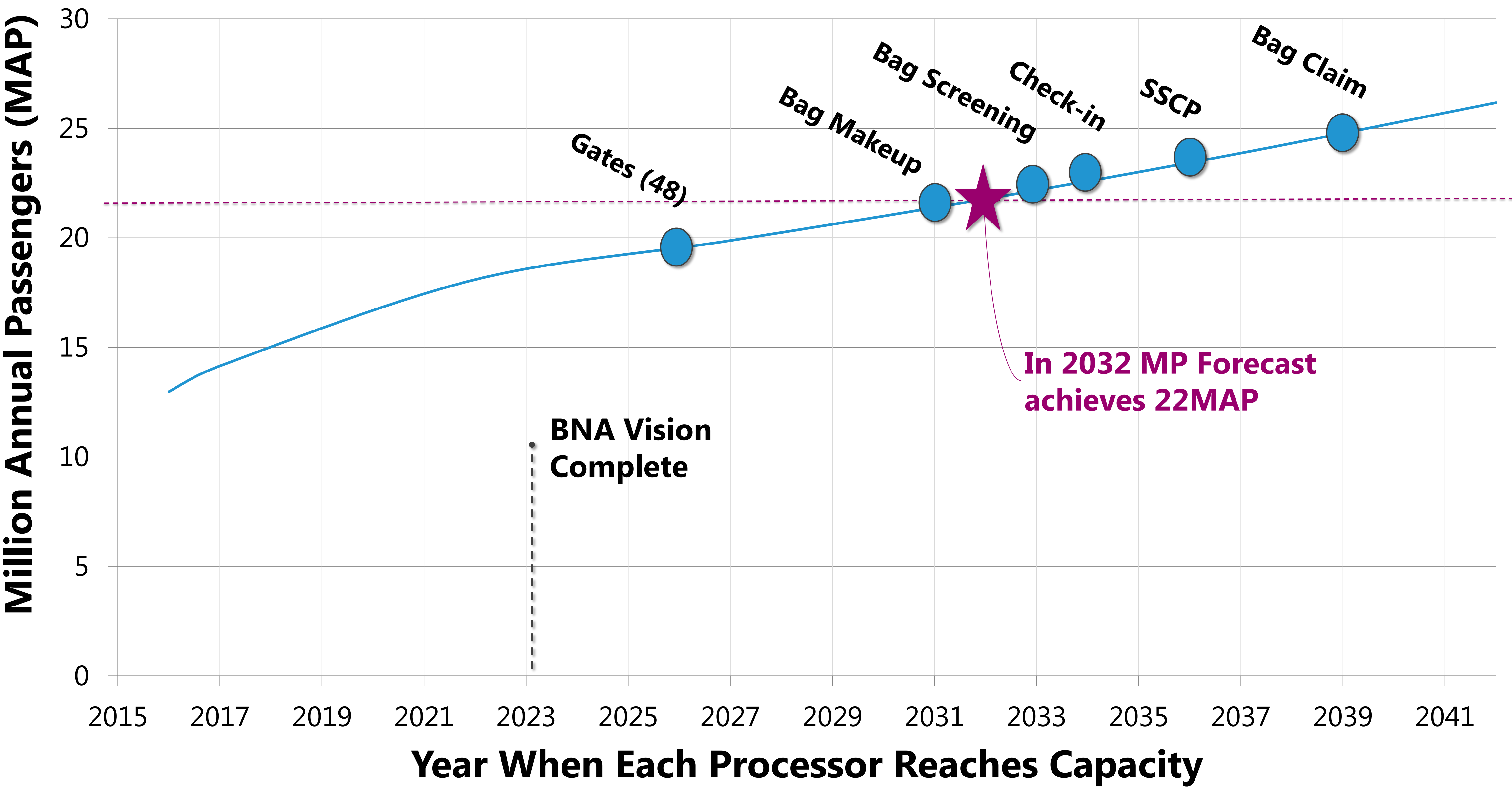


# Terminal Processor Capacity

## Forecast & Capacity Comparison

### Key Takeaway

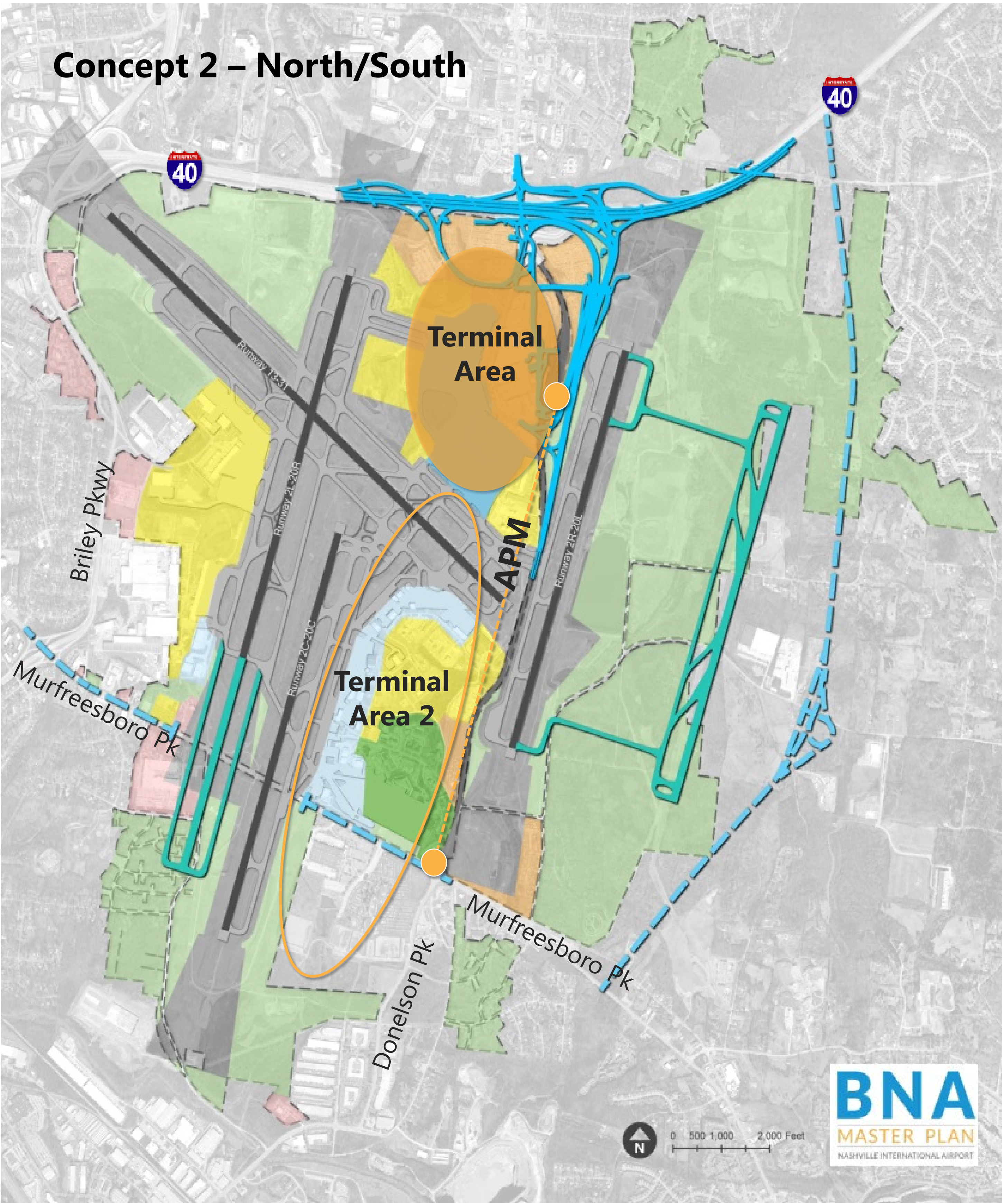
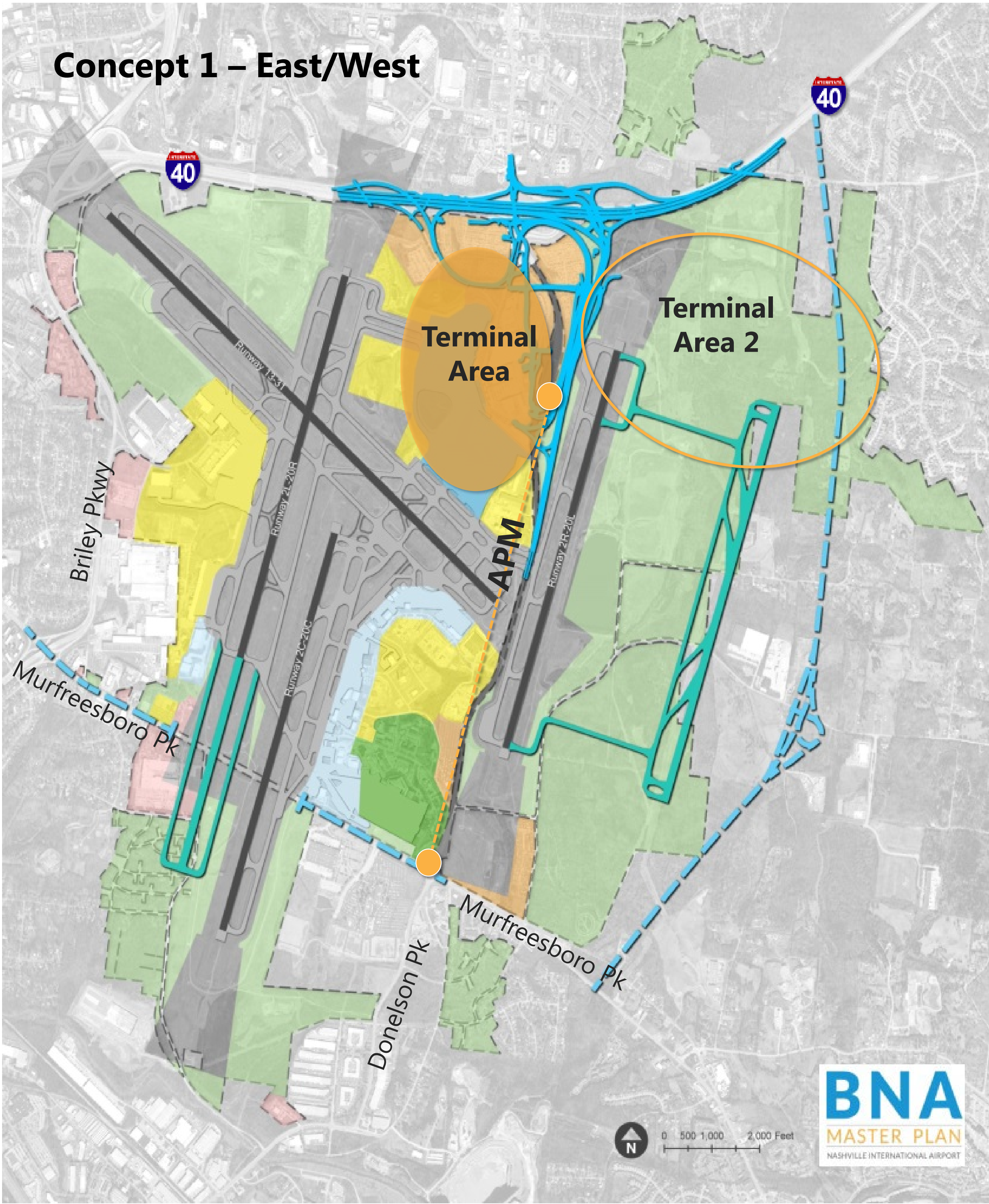
After activity levels reach 22 MAP, the key processors will gradually reach capacity and need to be addressed.





# Long-Range Development Concepts

## E/W vs N/S

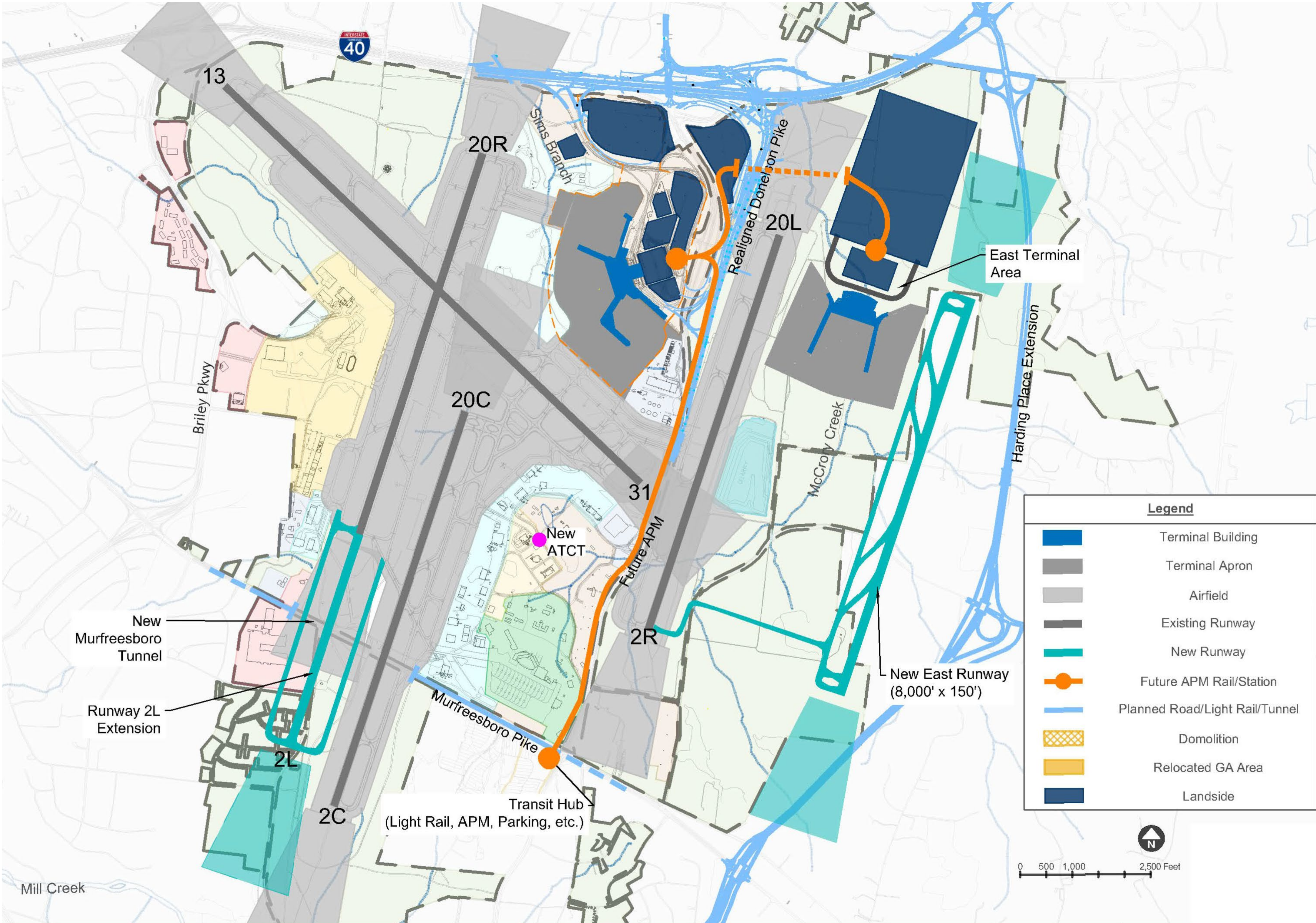




# Long-Range Development Concept 1A

East- West  
Layout

Split  
Operations

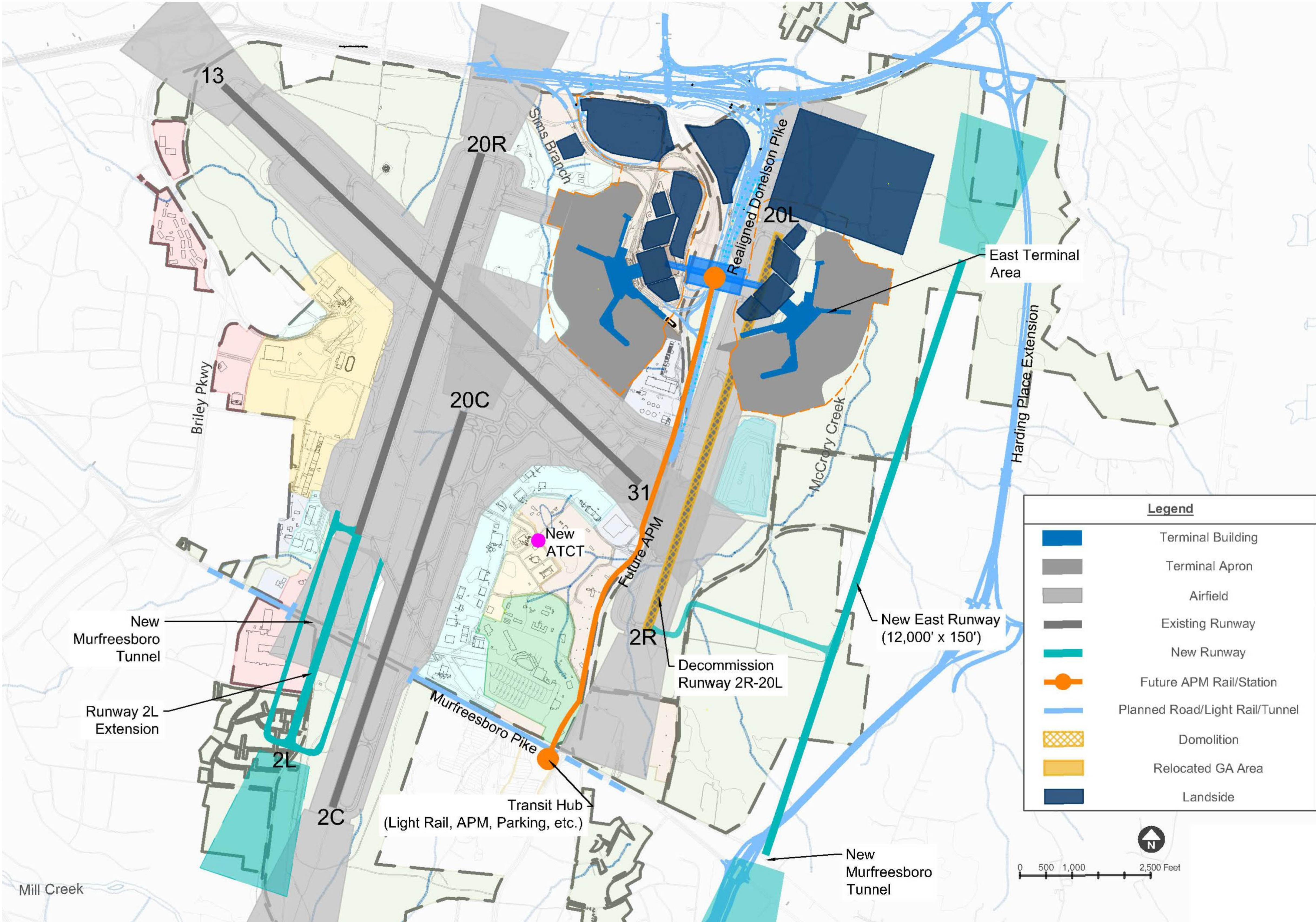




# Long-Range Development Concept 1B

East- West  
Layout

Joint  
Landside/Airside  
Operations

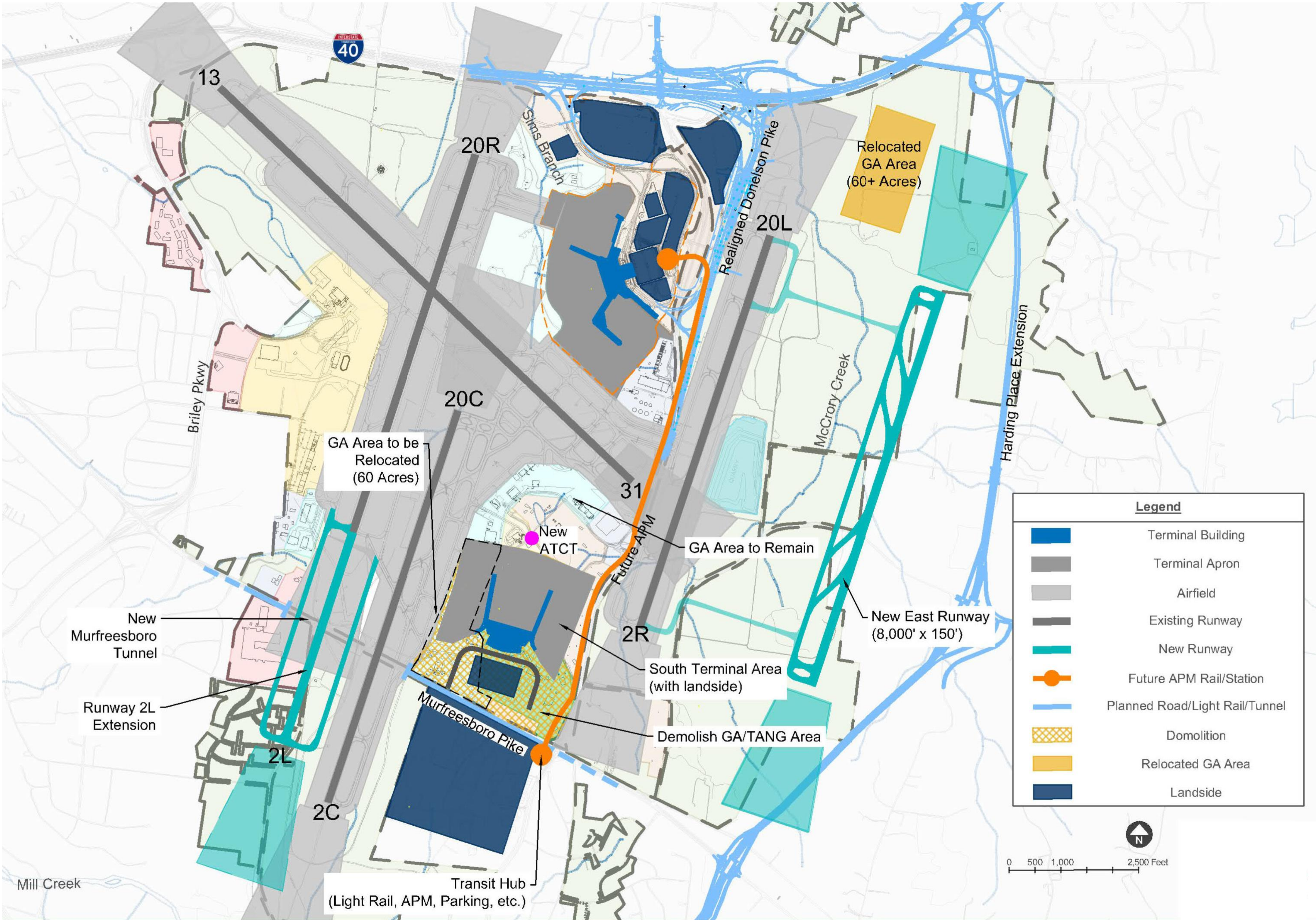




# Long-Range Development Concept 2A

North-South  
Layout

Split  
Operations



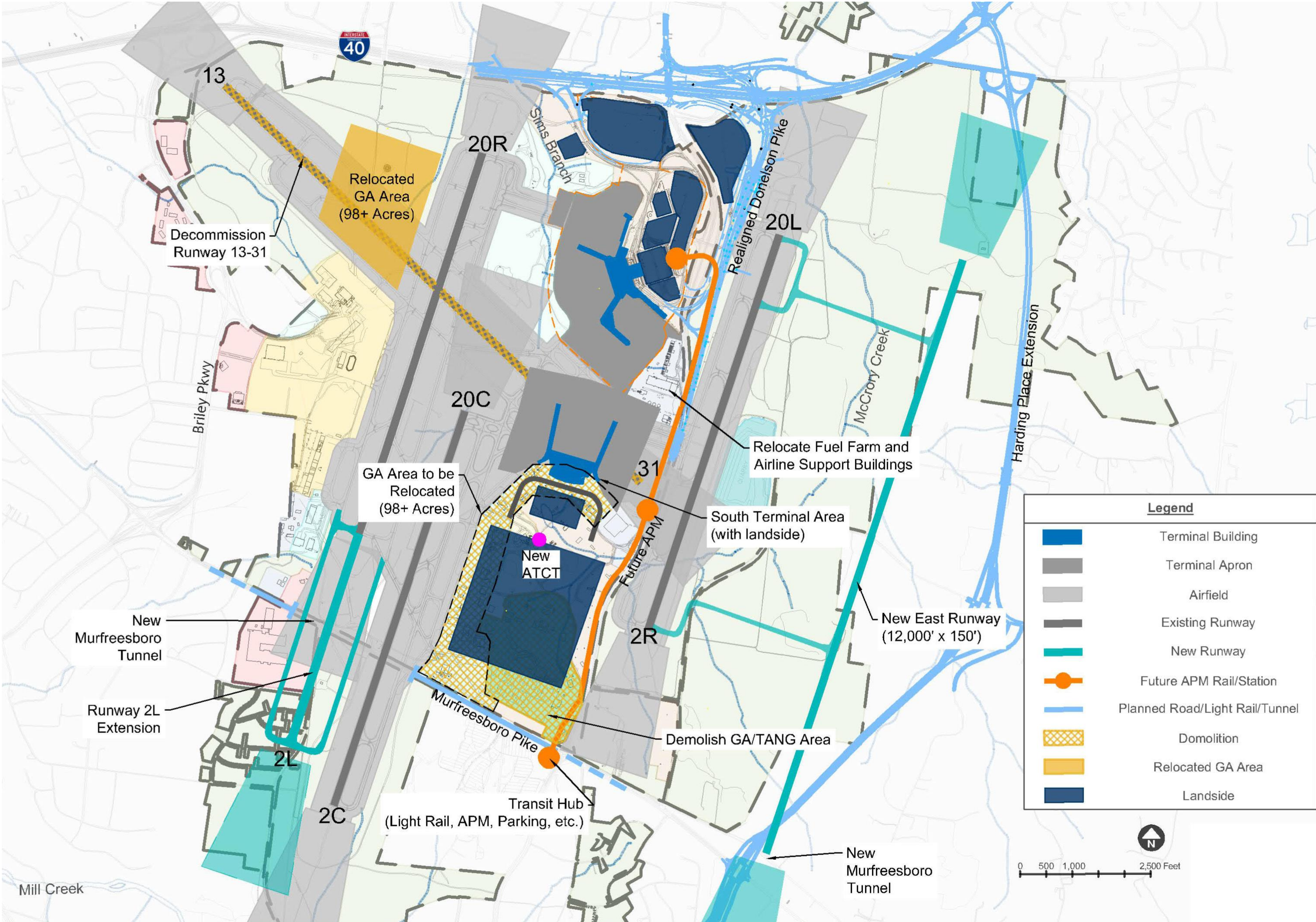


# Long-Range Development Concept 2B

North-South  
Layout

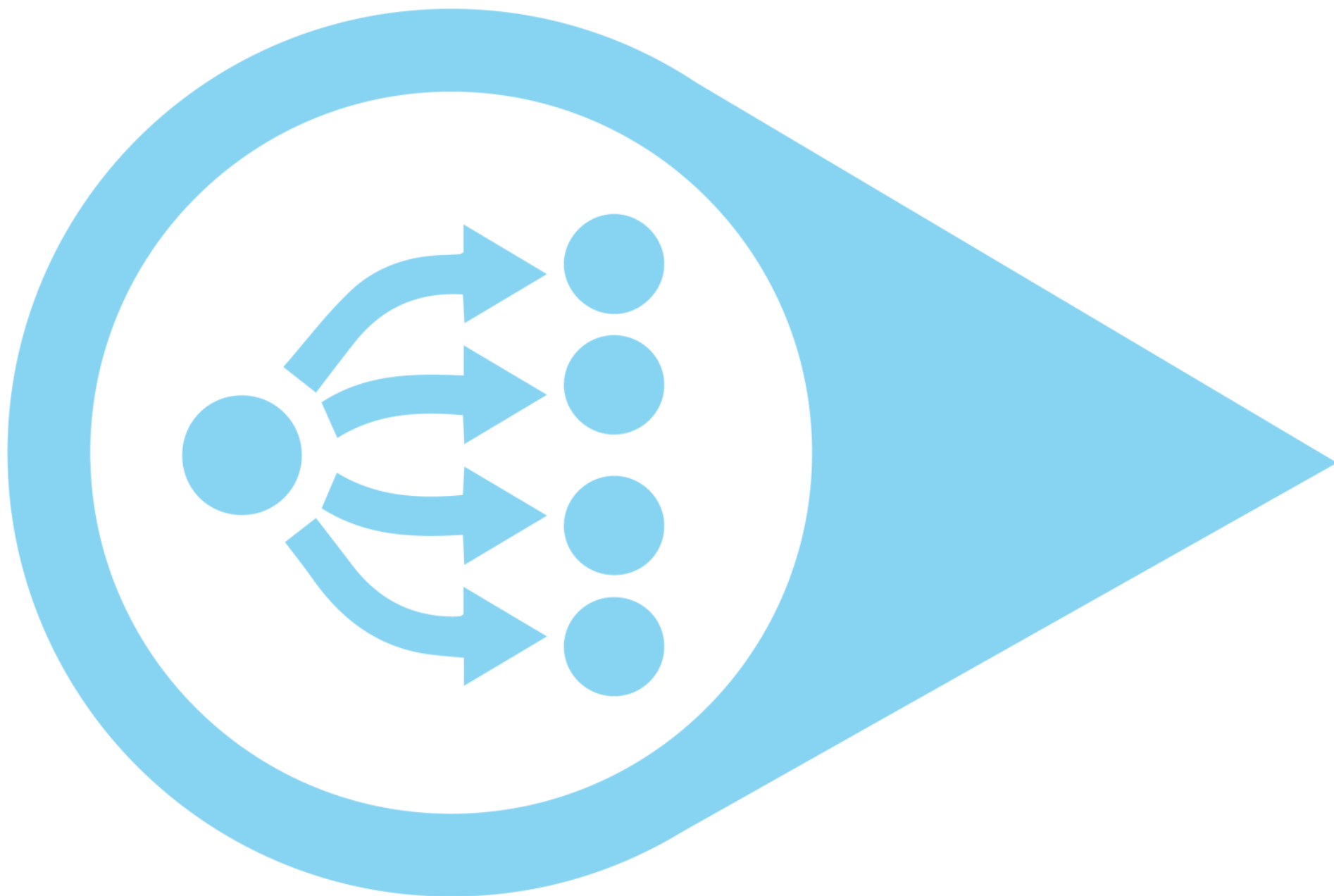
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Joint  
Airside Operations





# Airfield Alternatives



**Development  
Alternatives**

## Airfield Alternatives Focus Areas

**Runway Extensions**

**East Runway**

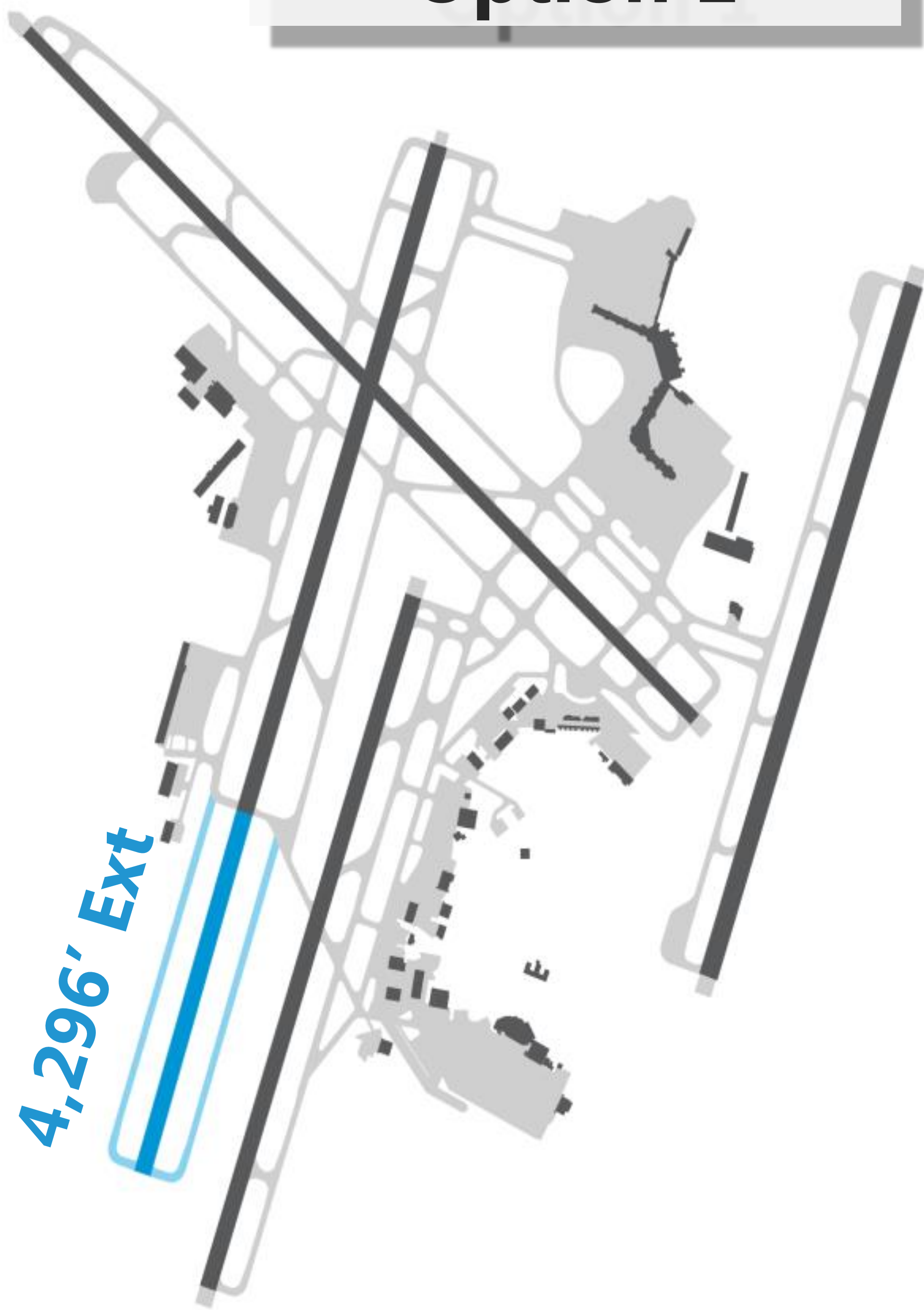


**Airfield**



# Runway Extension Options - Overview

Option 1



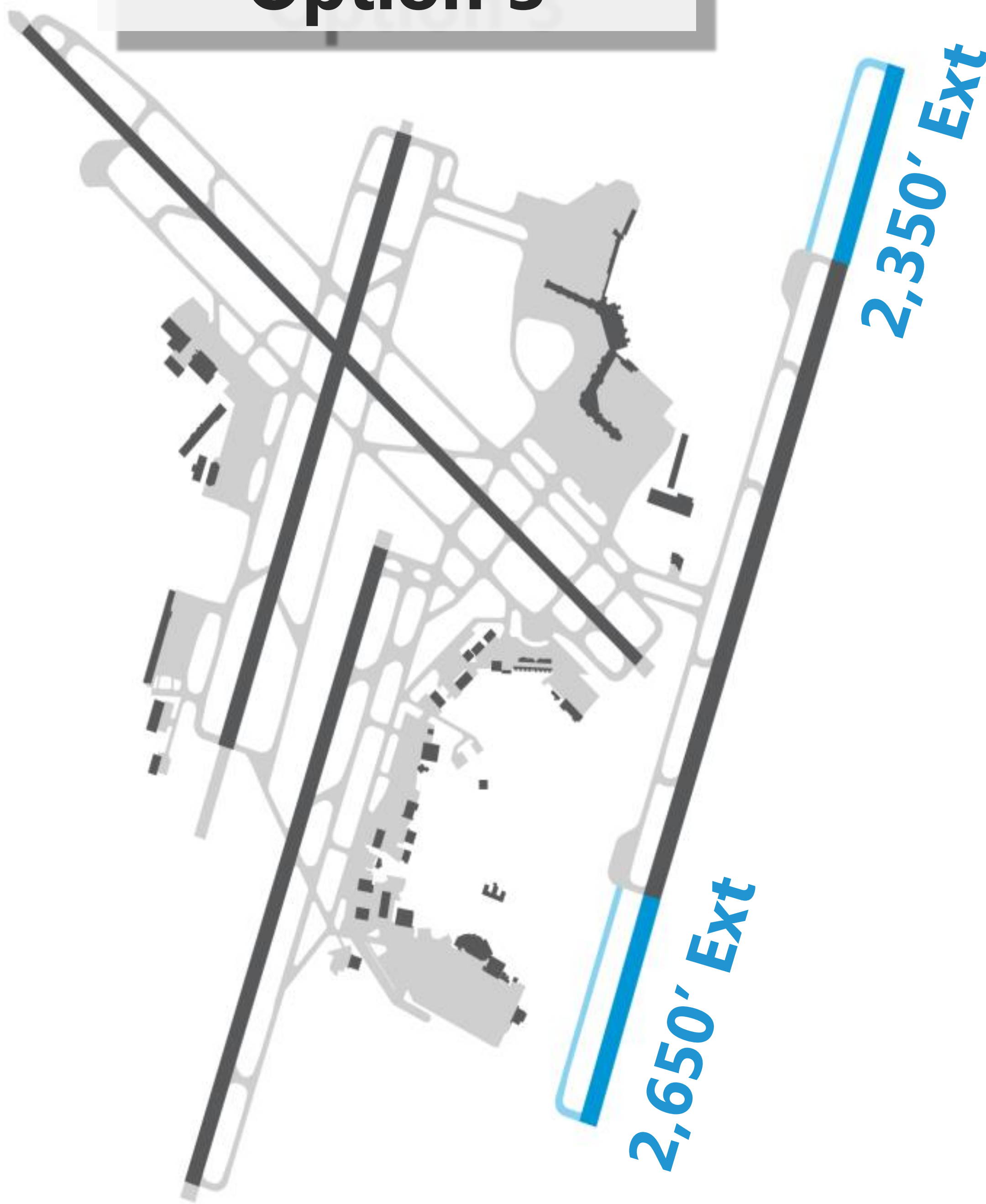
Rwy 2L South Extension  
Total 12,000ft

Option 2



Rwy 2R South Extension  
Total 12,000ft

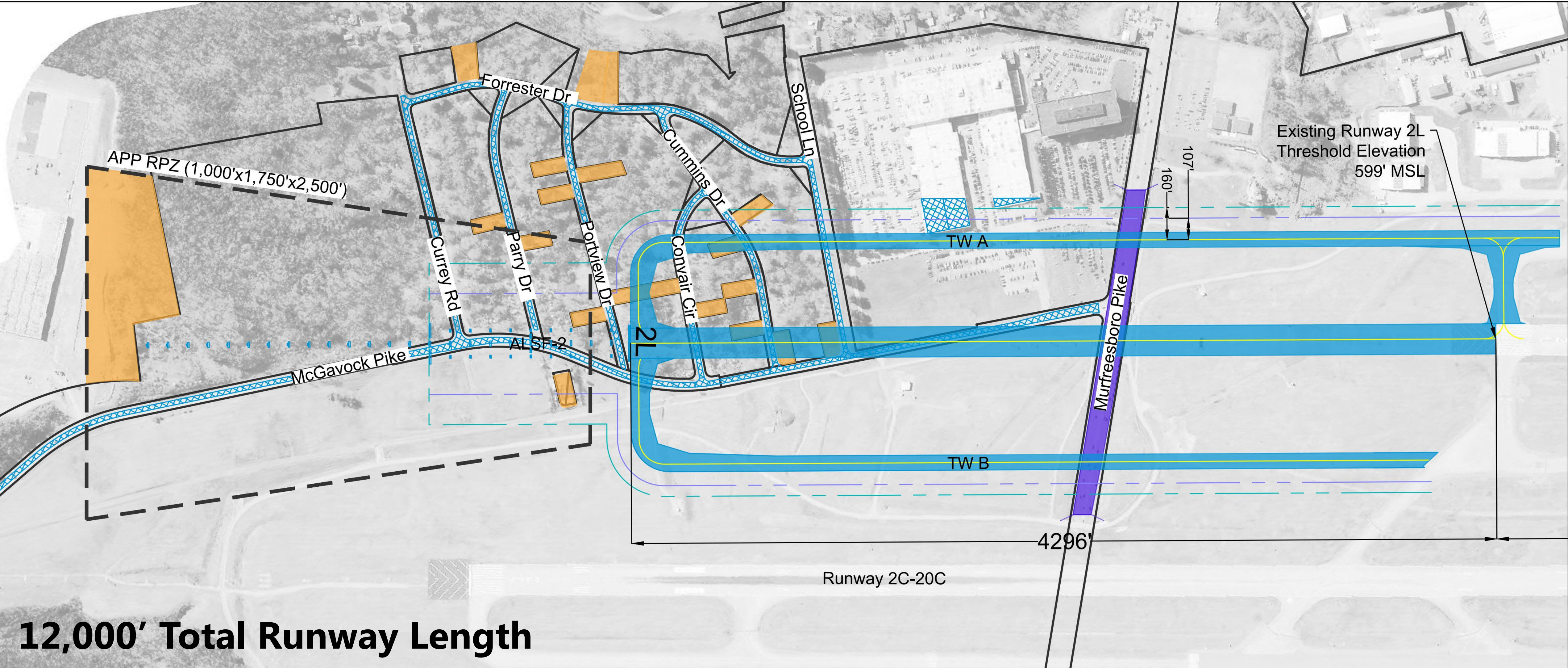
Option 3











Rwy 2R-20L  
Extensions  
Total 13,000ft



# Runway Extension Option 1: Runway 02L (South Extension)

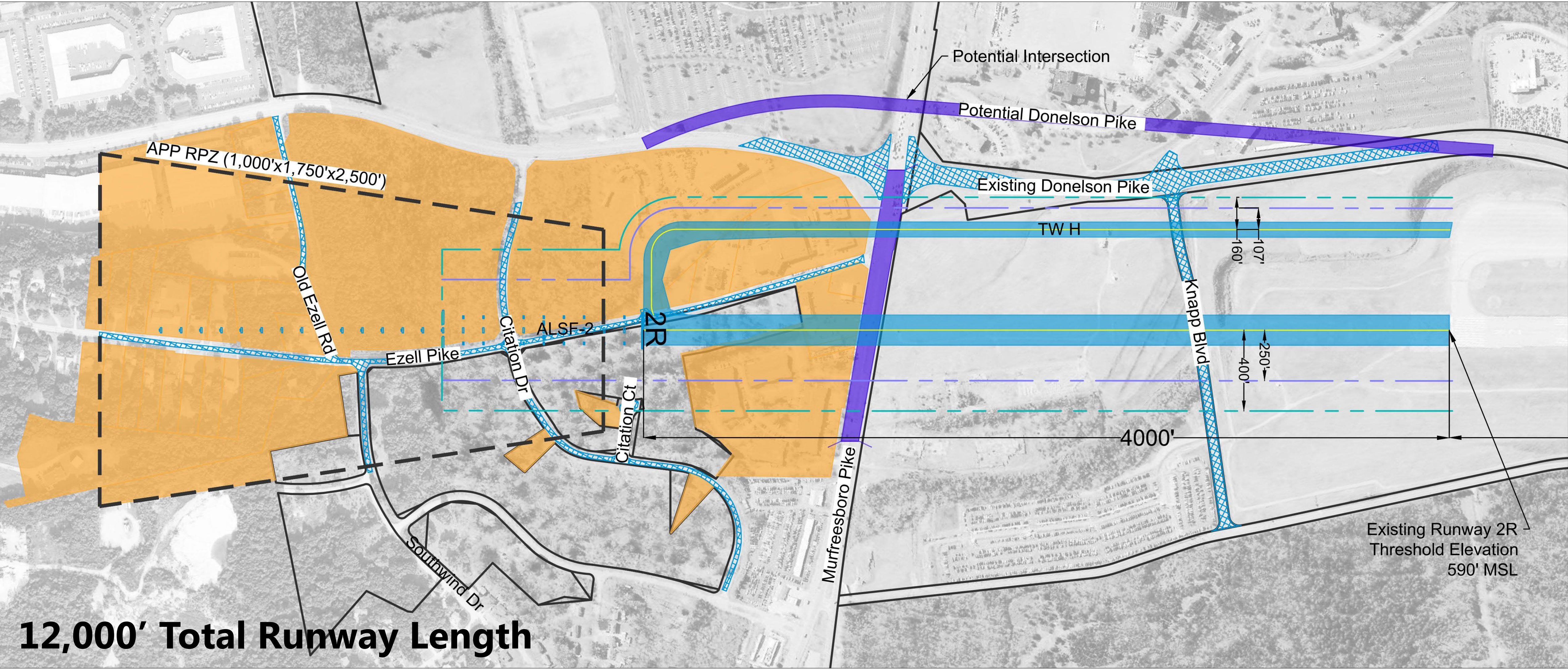










- |  |  |
|--|--|
|  New Pavement                     |  Runway Safety Area/Taxiway Safety Area           |
|  Building Demolition/Road Closure |  Runway Object Free Area/Taxiway Object Free Area |
|  Roadway Tunnel/Proposed Roadway  |  Runway Protection Zone                           |
|  Property Acquisition             |  Airport Property Boundary                        |

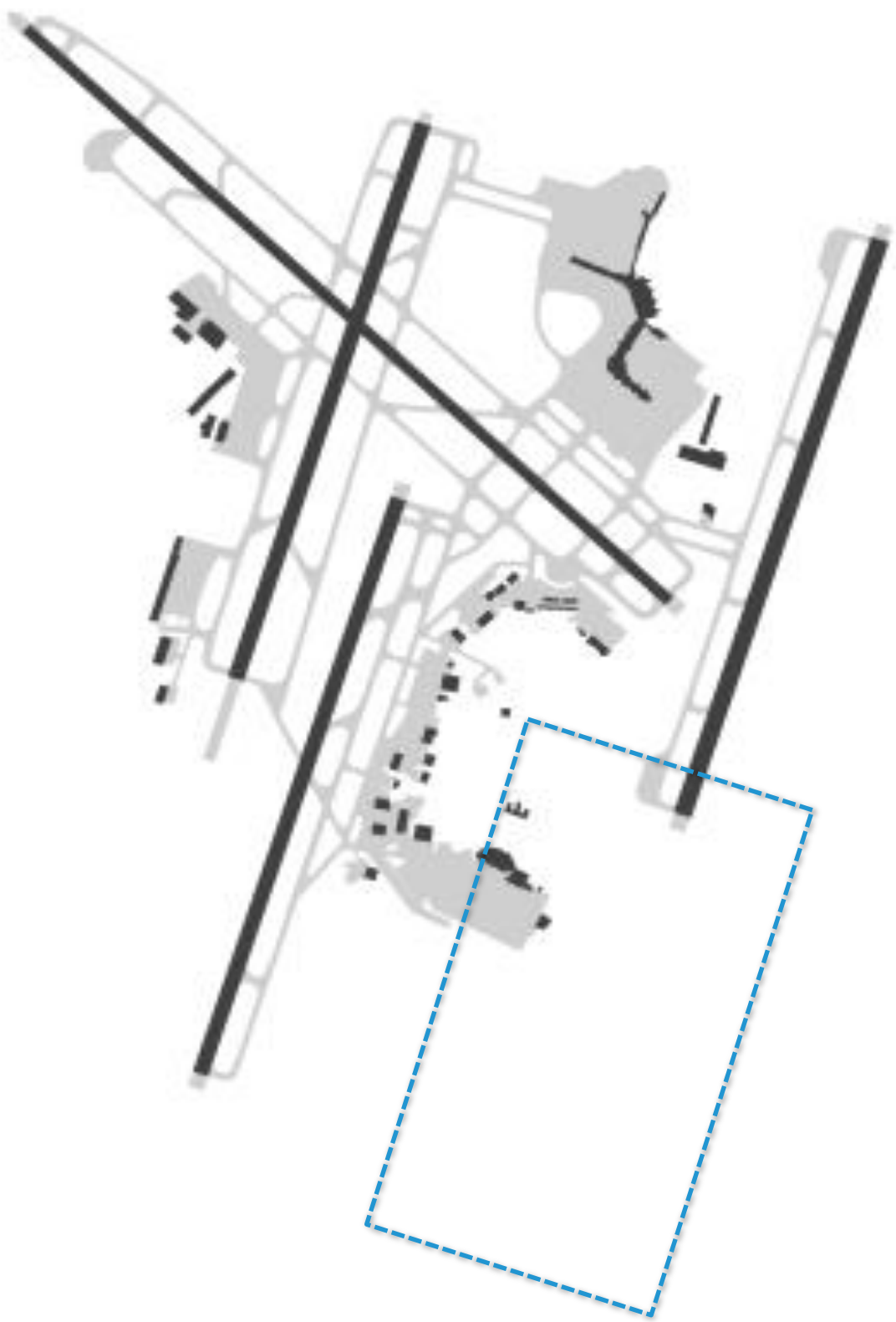




# Runway Extension Option 2: Runway 02R (South Extension)

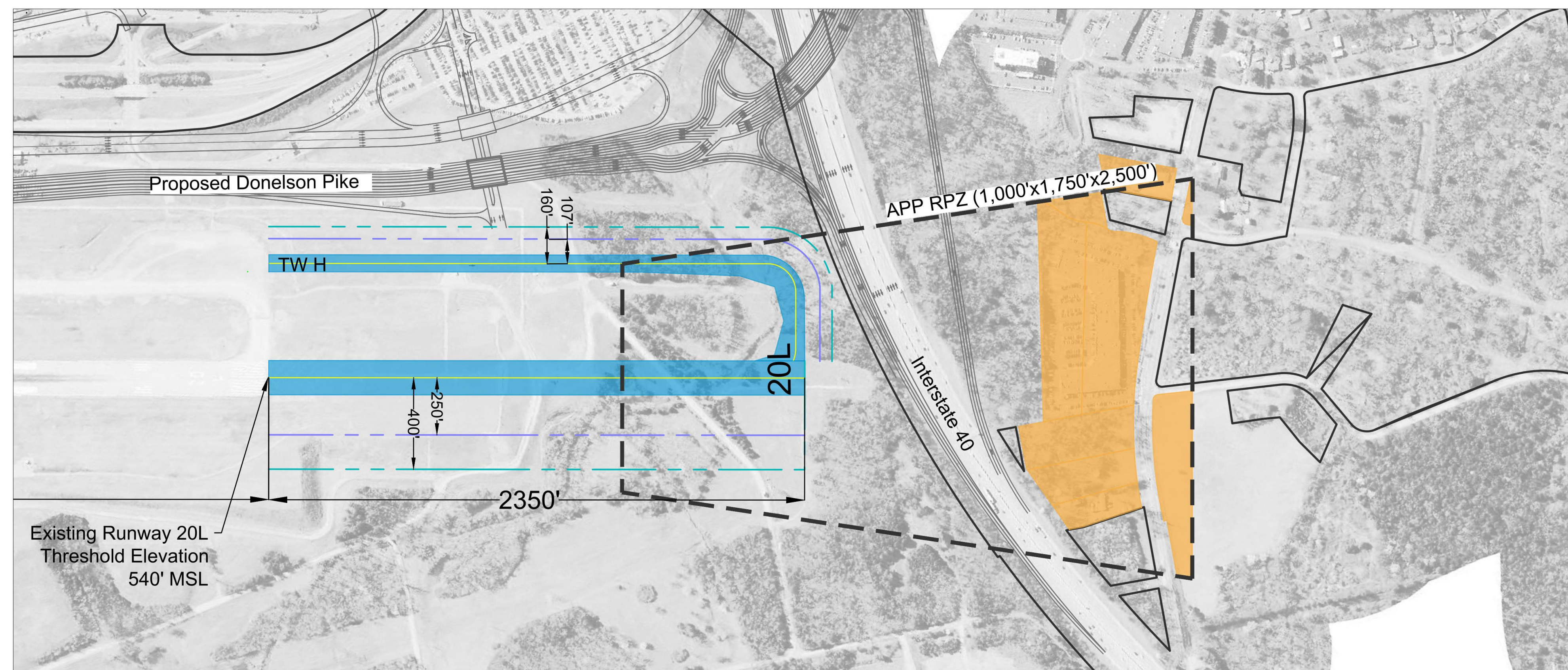
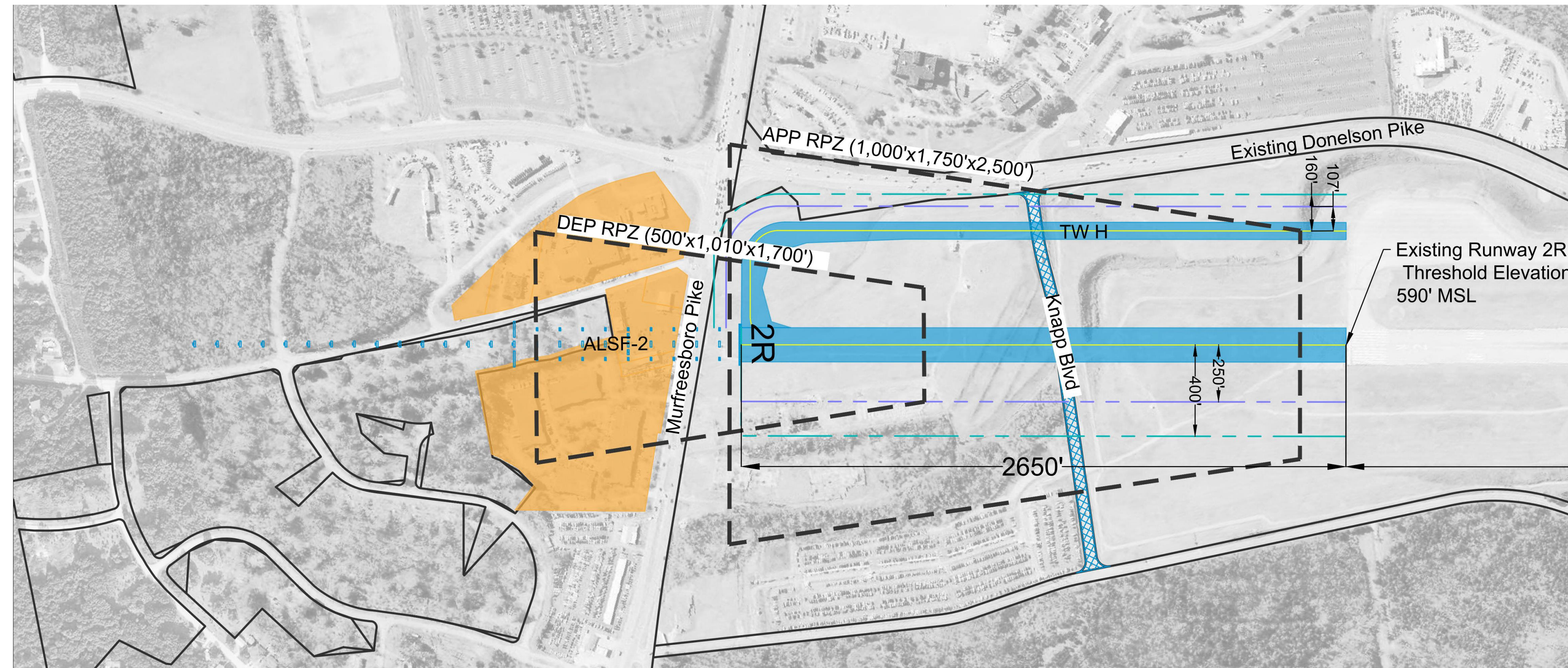


- |  |  |
|--|--|
|  New Pavement                     |  Runway Safety Area/Taxiway Safety Area           |
|  Building Demolition/Road Closure |  Runway Object Free Area/Taxiway Object Free Area |
|  Roadway Tunnel/Proposed Roadway  |  Runway Protection Zone                           |
|  Property Acquisition             |  Airport Property Boundary                        |





# Runway Extension Option 3: Runway 02R-20L (North & South Ext.)

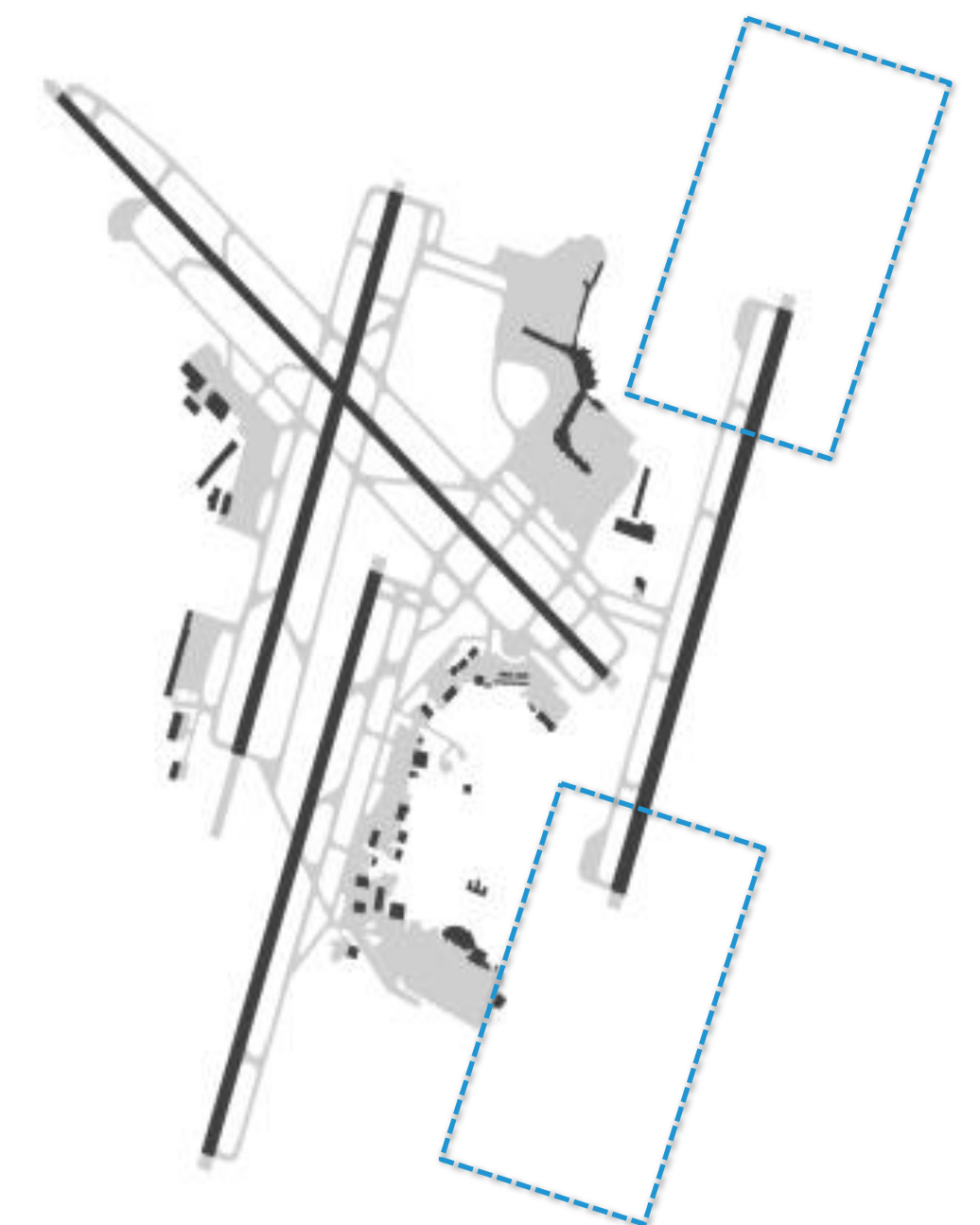


## 13,000' Total Runway Length

- 12,000' declared and available for takeoff on both 20L and 2R

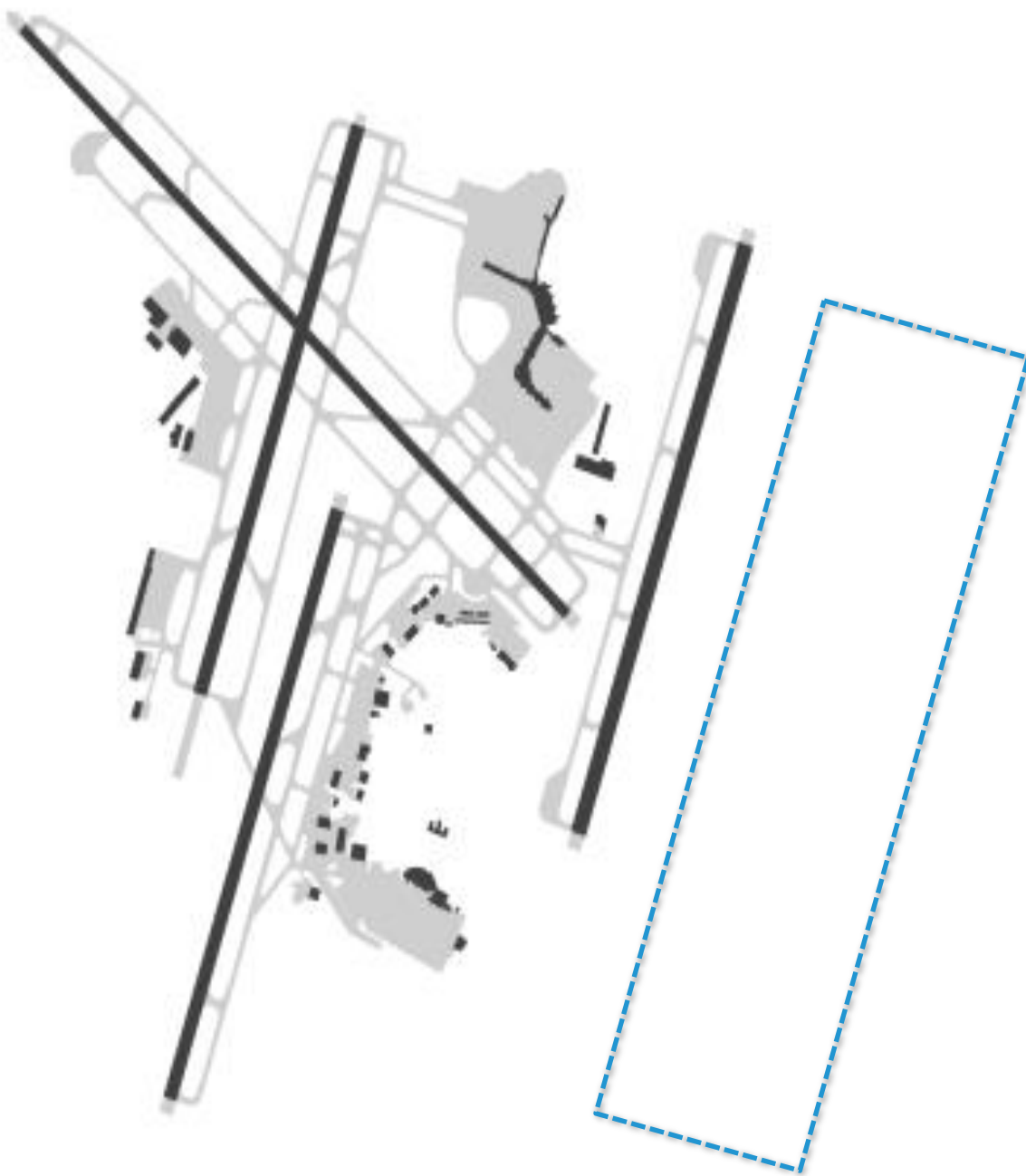
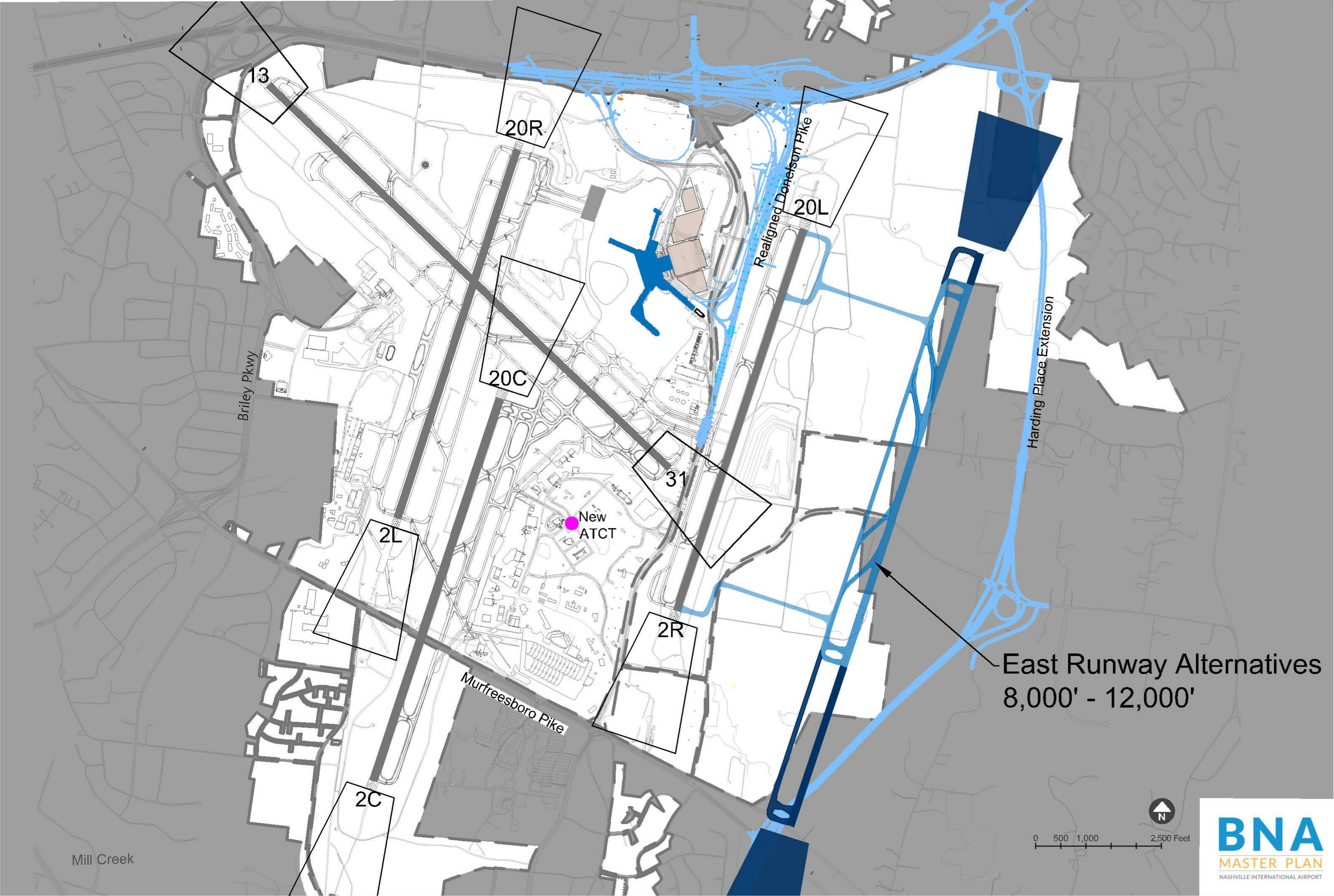
- New Pavement
- Building Demolition/Road Closure
- Roadway Tunnel/Proposed Roadway
- Property Acquisition
- Runway Safety Area/Taxiway Safety Area
- Runway Object Free Area/Taxiway Object Free Area
- Runway Protection Zone
- Airport Property Boundary

Note:  
Roads in the RPZs will require FAA policy exception review.



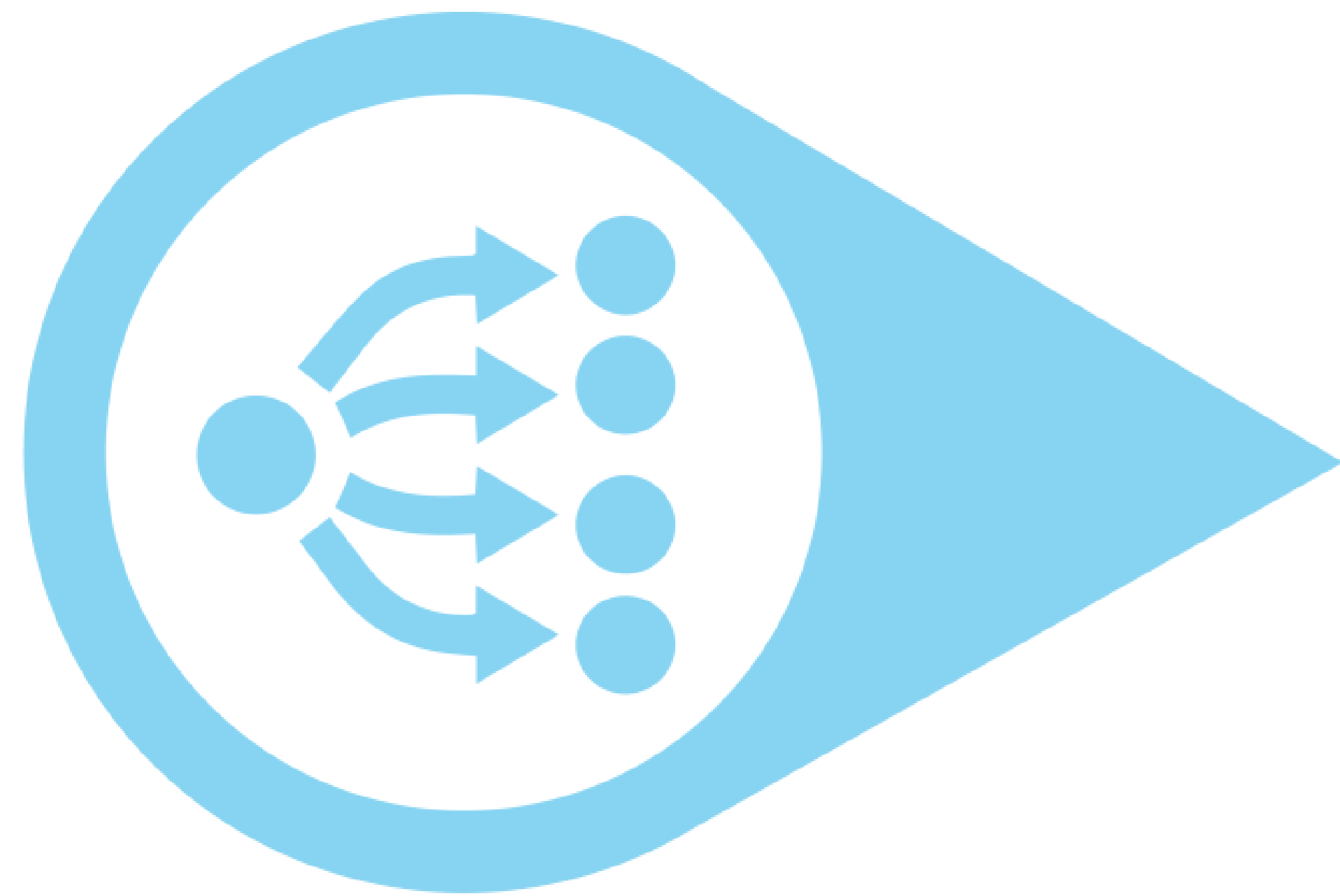


# East Runway Alternative





# Terminal Alternatives



**Development  
Alternatives**

## Terminal Alternatives Focus Areas

**Additional Gates**

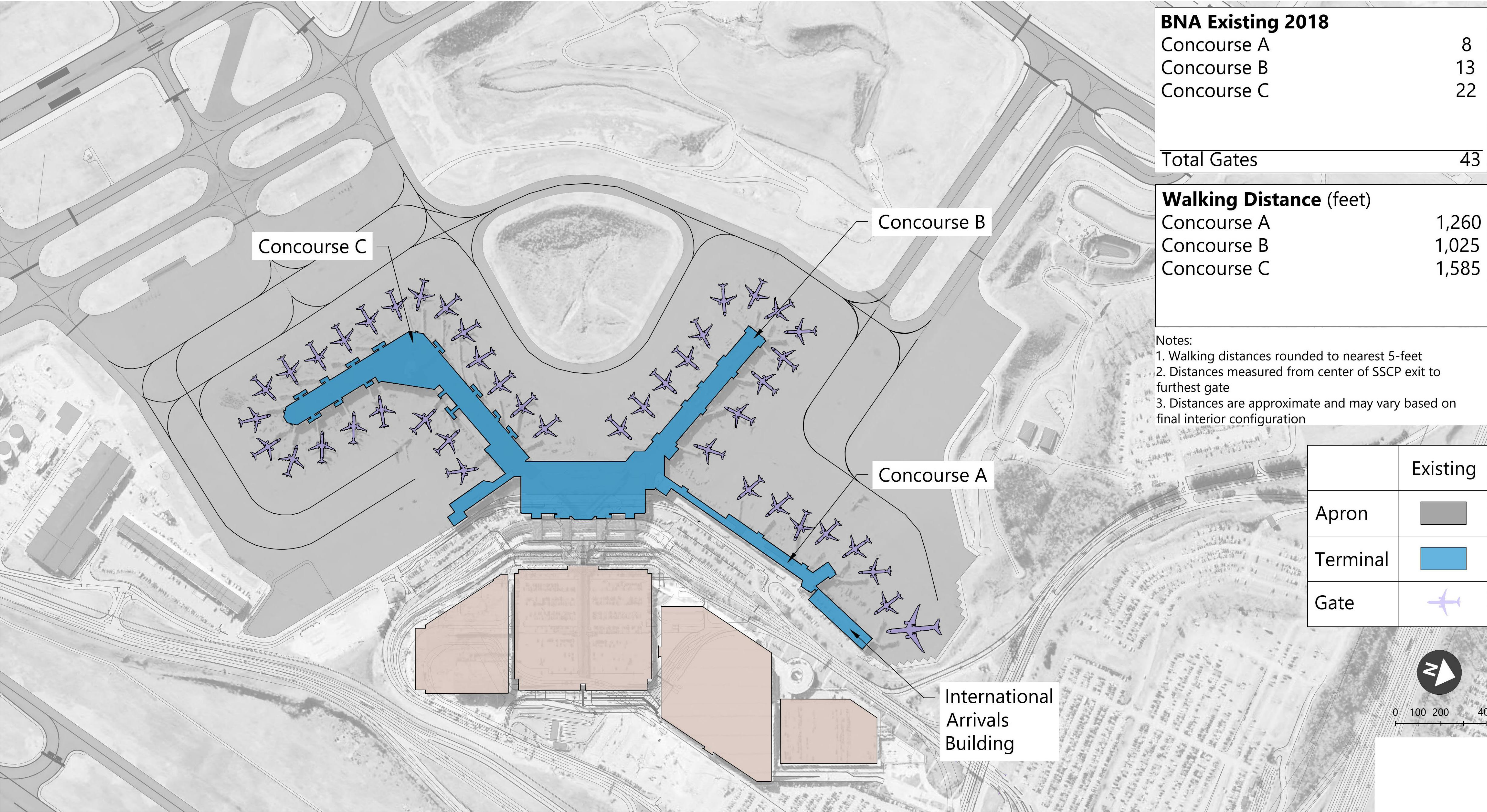
**Interior Space/Facilities**



**Terminal**

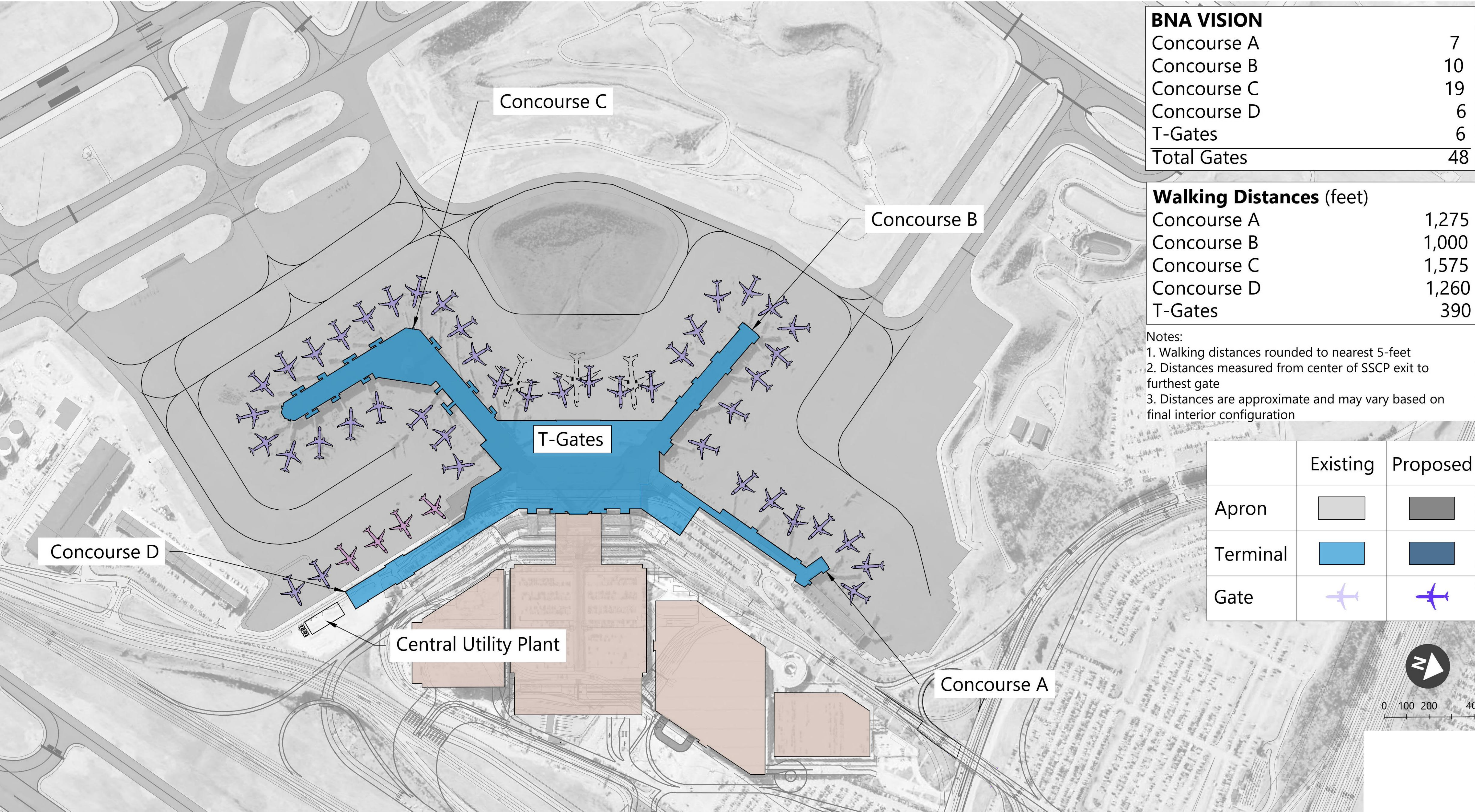


# Existing Terminal 2019



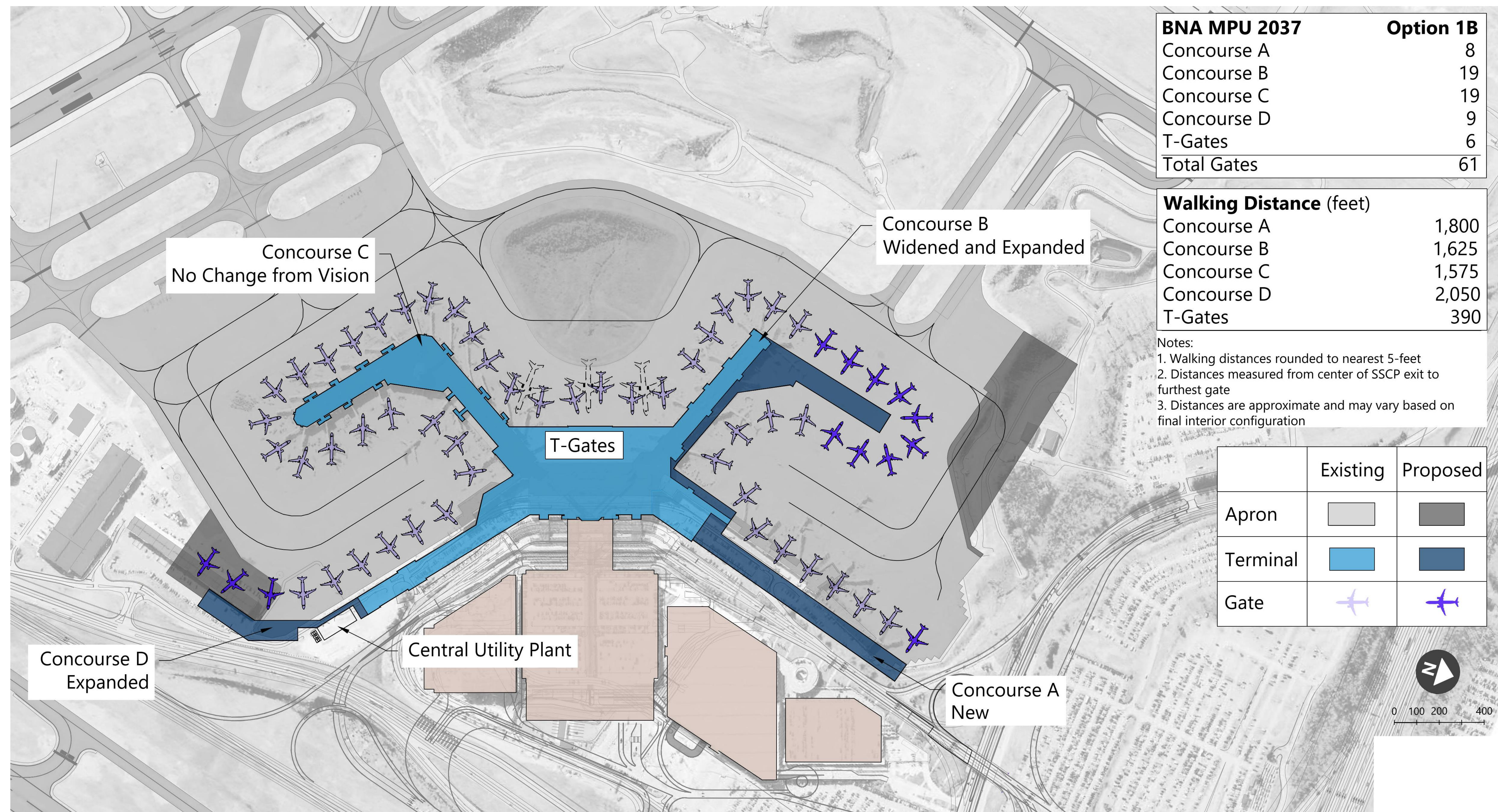


# BNA Vision



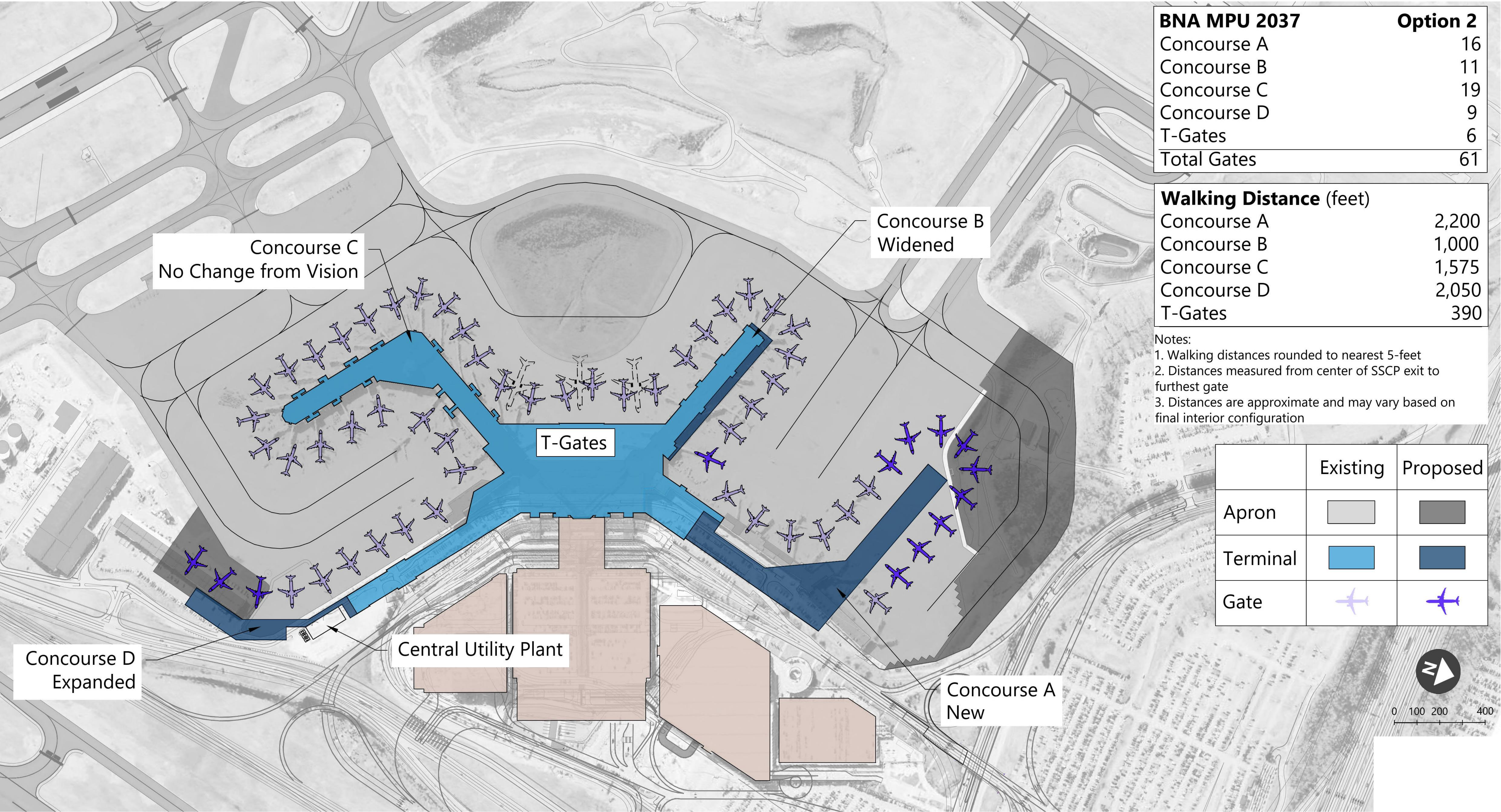


# Alternative 1B



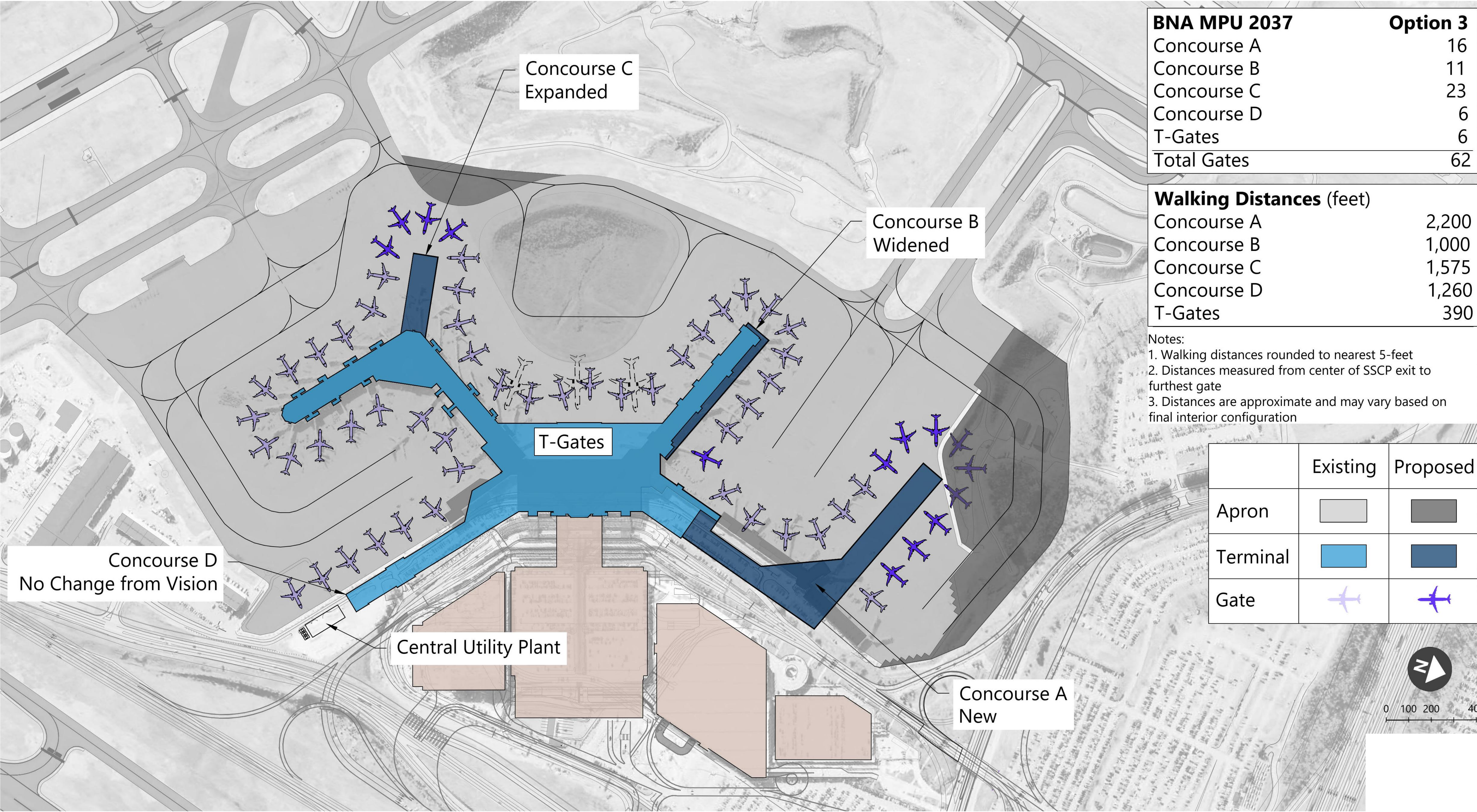


# Alternative 2





# Alternative 3





# Recycling, Reuse & Waste Reduction Plan



**The plan was completed in accordance with FAA Guidance**

**The plan formalizes BNA's commitment to continual improvement of waste reduction performance**





# Planning for Sustainability

## BNA's Sustainability Milestones



## Airport Focus Areas



### Overall Sustainability Objectives

Evaluate whether additional facilities are needed to advance sustainability initiatives

Infuse sustainability into proposed development alternatives