BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Nashville International Airport

Master Plan Update
Noise Exposure Map Update
Public Information Open House

November 21, 2019

BNA Nashville International Airport

AECOM

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #1 – Welcome & Introduction to BNA

BNA Nashville International Airport

AECOM

BNA Environs

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



BNA Nashville International Airport

AECOM

Nashville International Airport (BNA)

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



BNA Nashville International Airport

AECOM

BNA – Existing Facilities

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

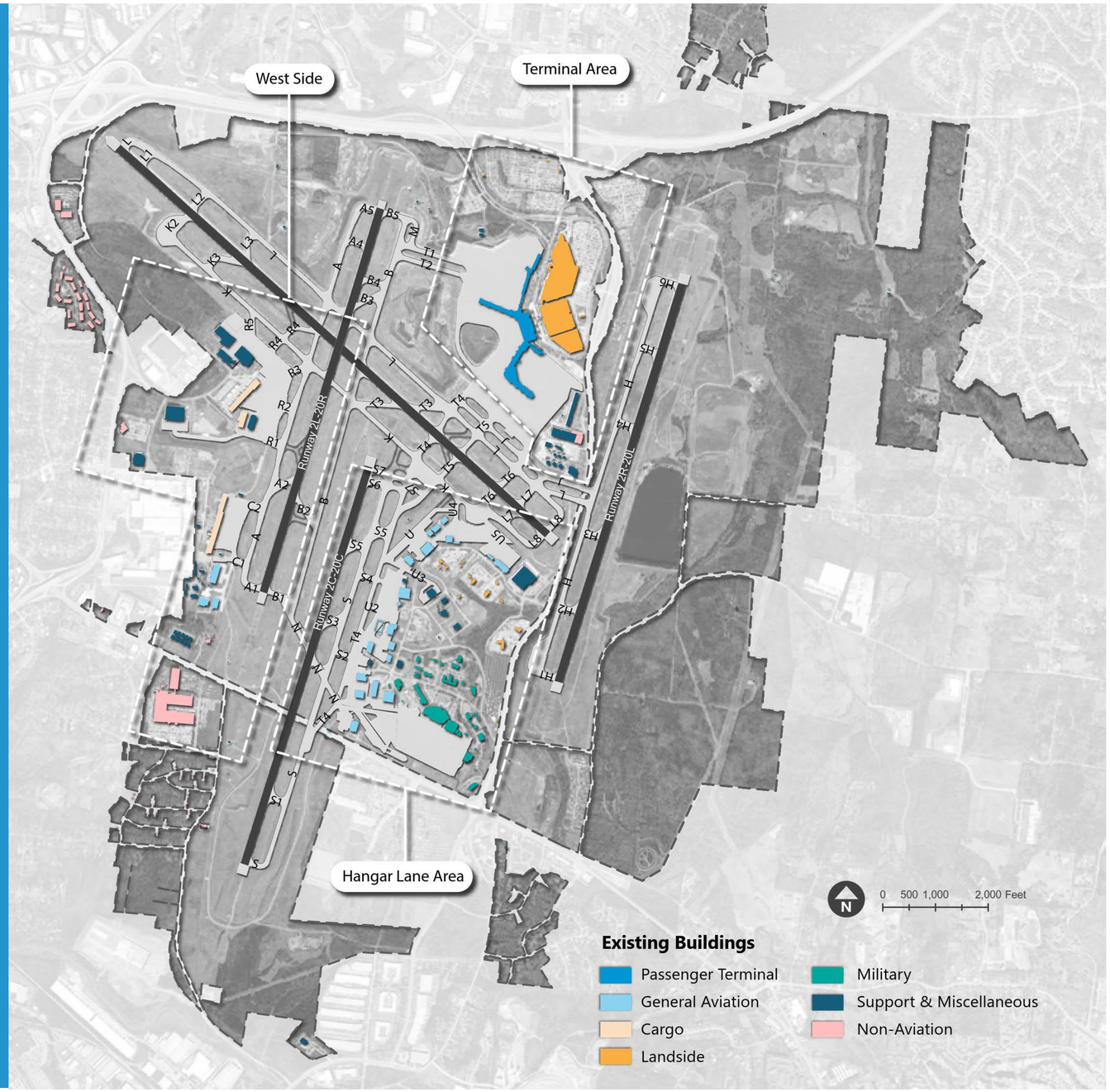
4,469
Acres of Land

4
Runways

1
Terminal

3
Concourses

43
Aircraft Gates

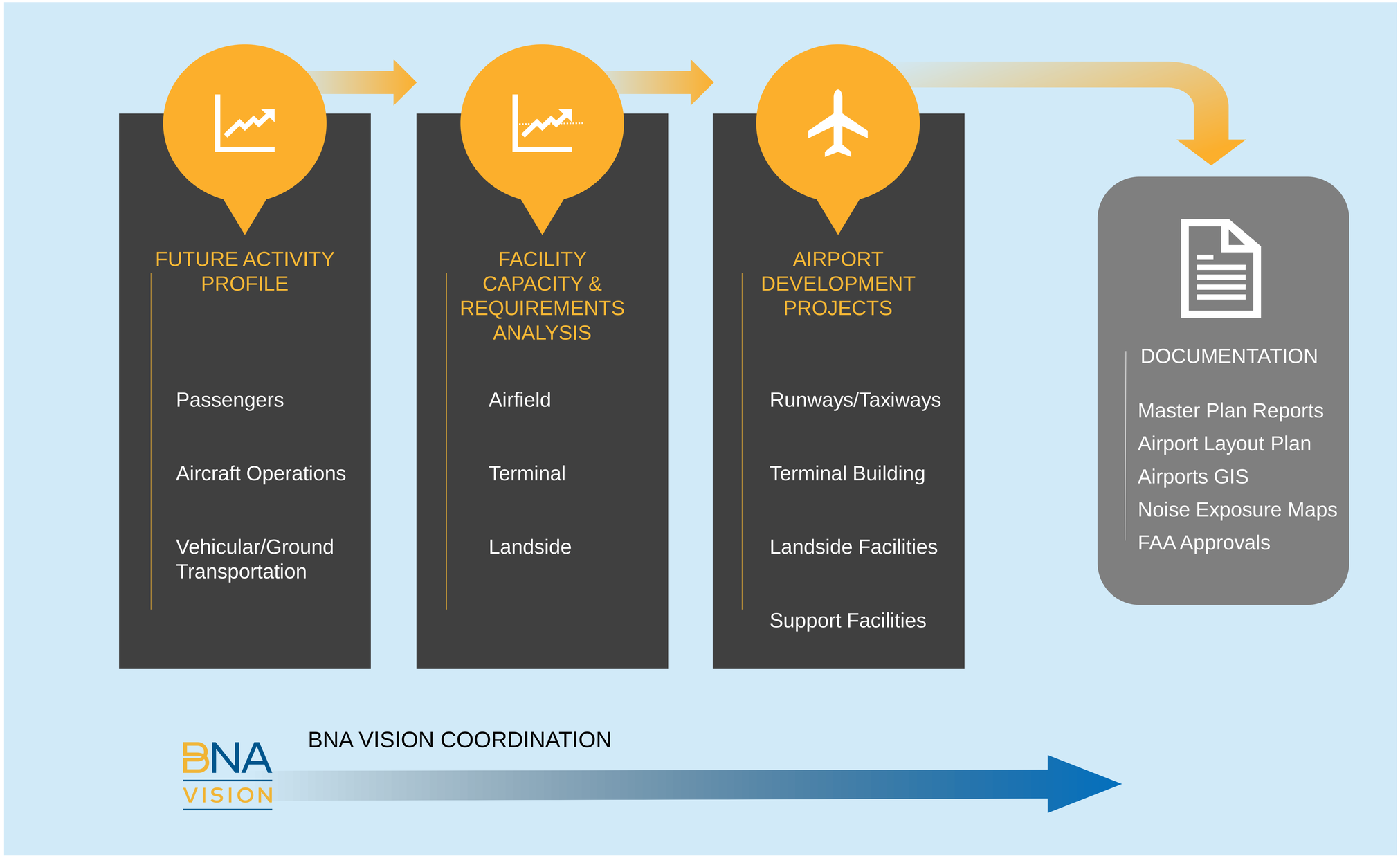


BNA Nashville International Airport

AECOM

Master Plan Process

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



BNA Nashville International Airport

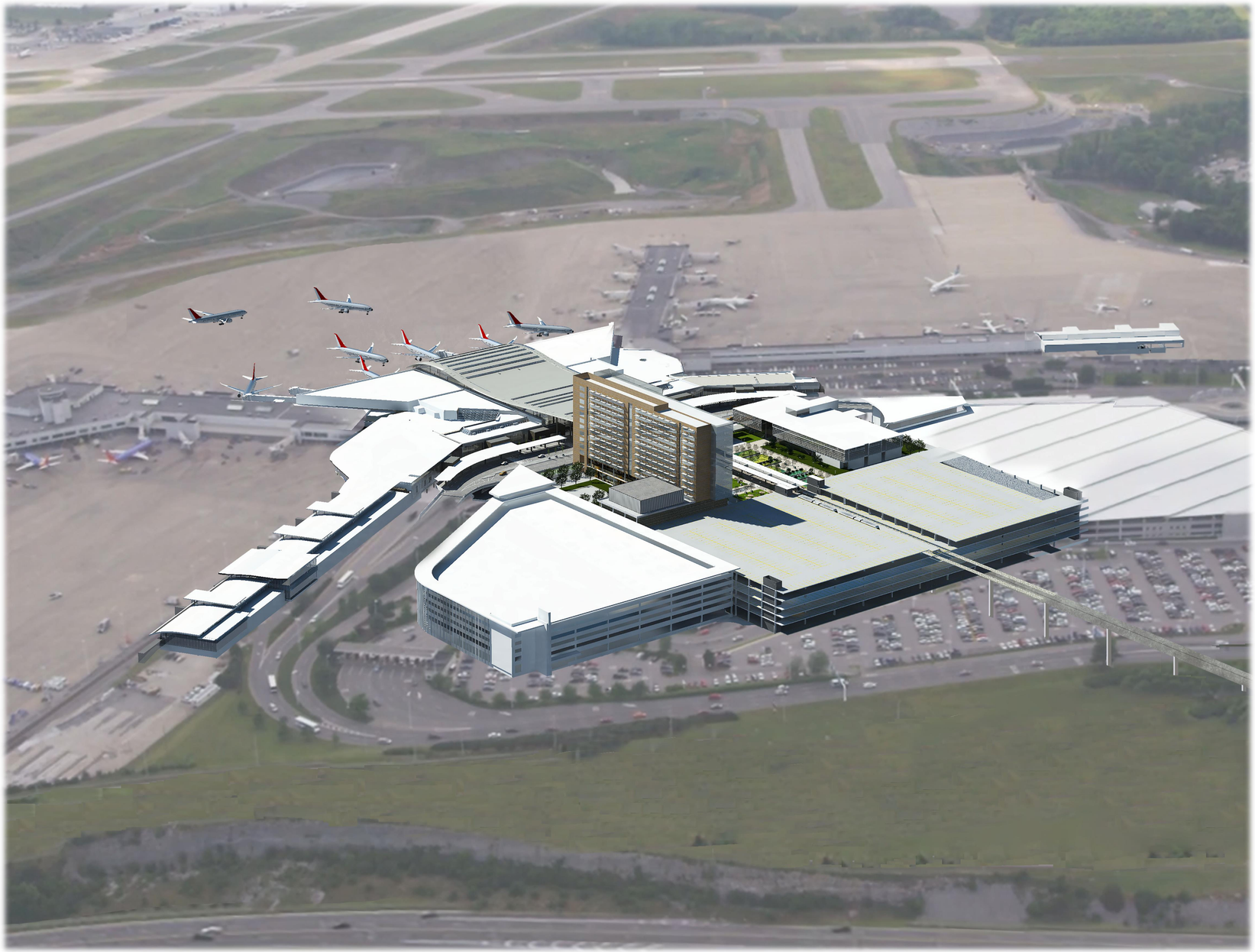
AECOM

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #2 – BNA Vision

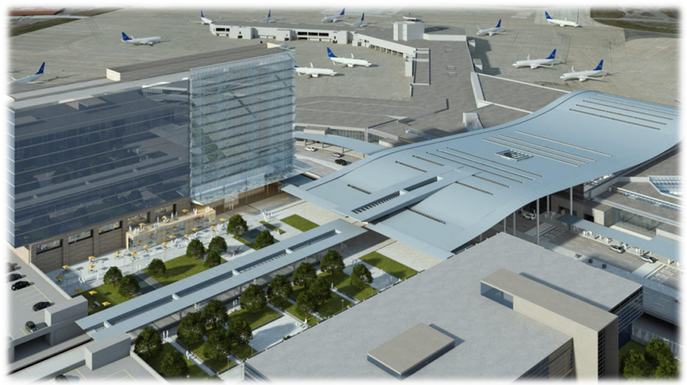
BNA Vision

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



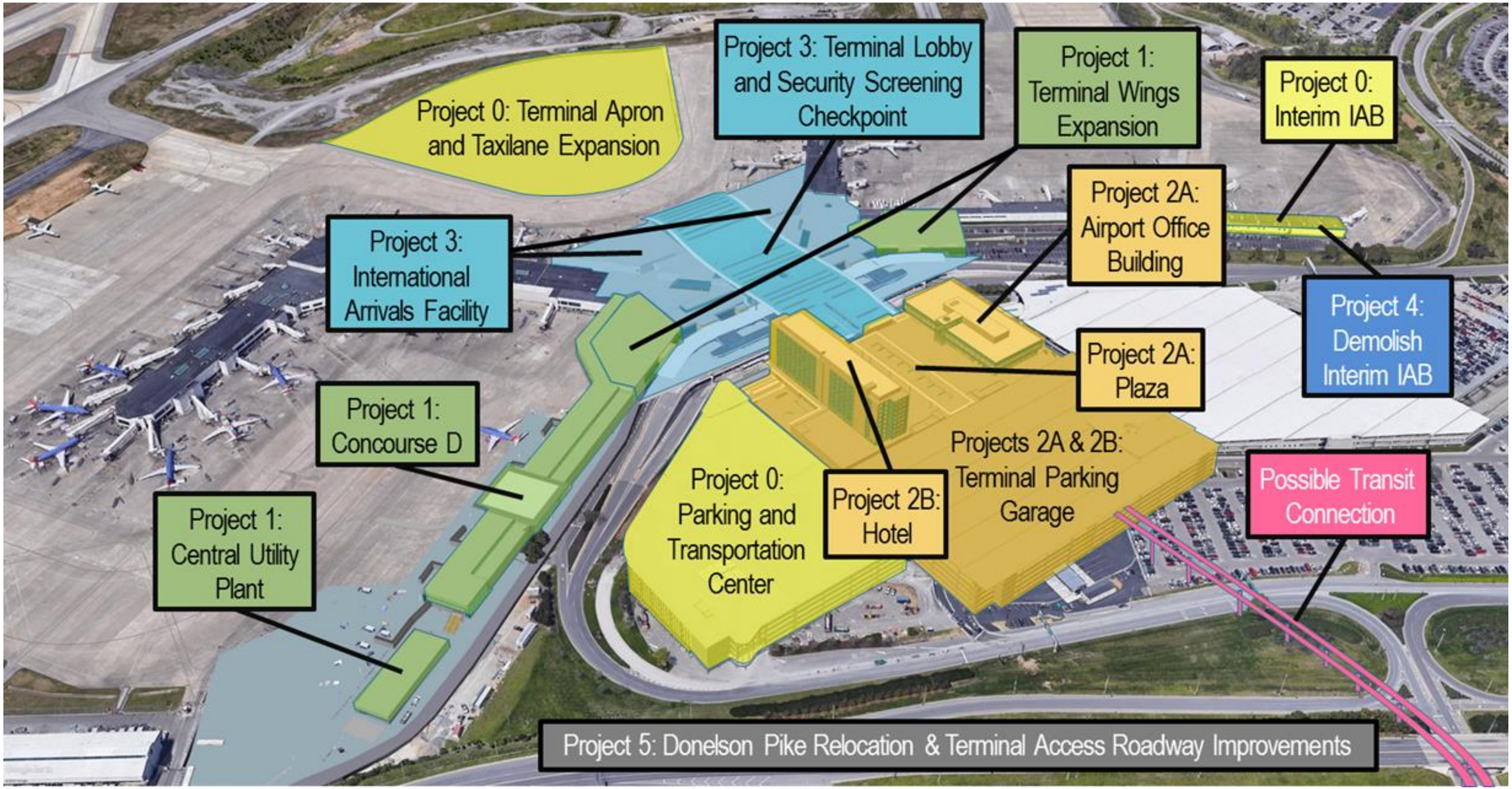






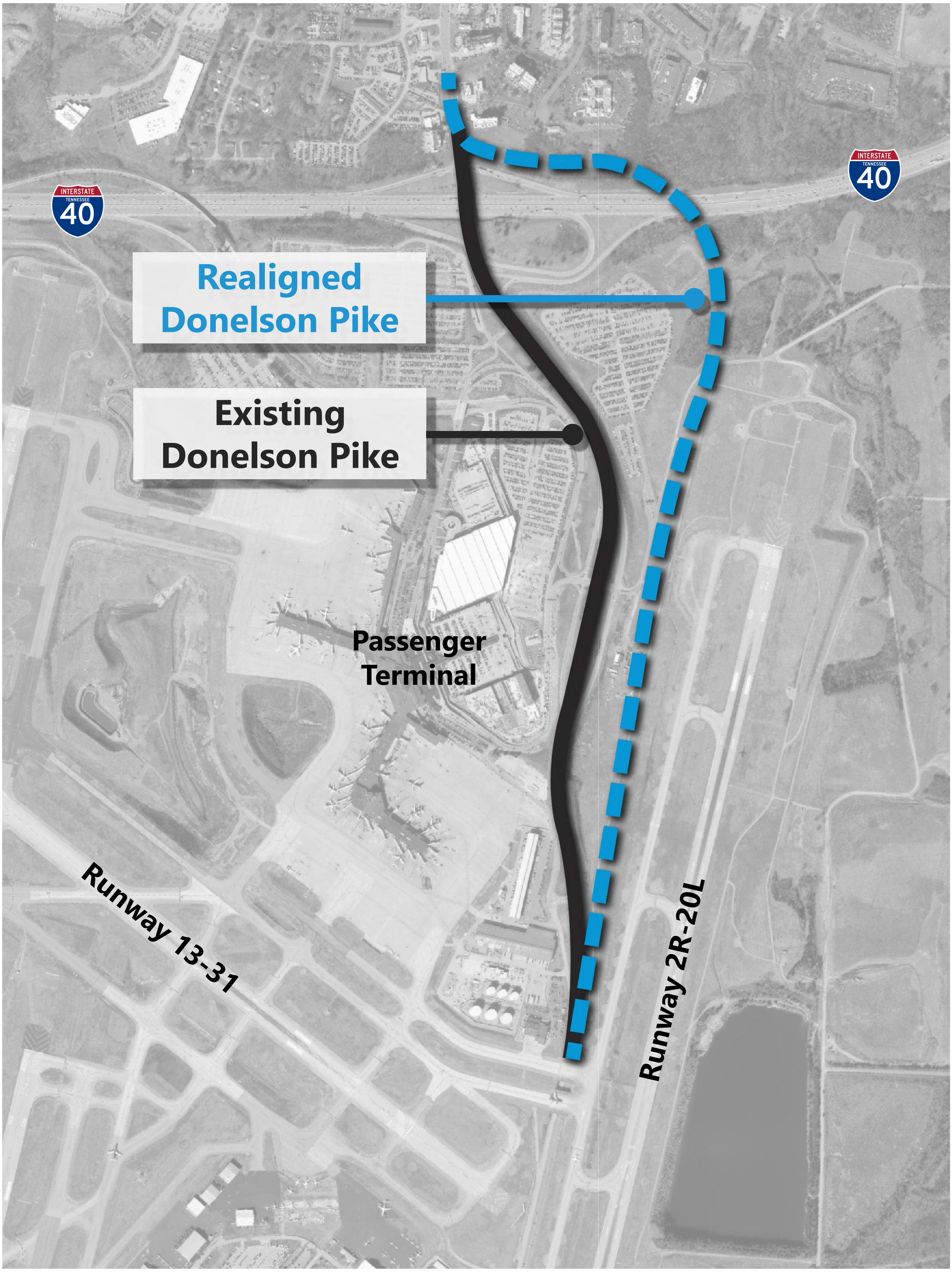
BNA Vision Projects

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



Donelson Pike Realignment

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



BNA Nashville International Airport

AECOM

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #3 – Airfield Development Plan

BNA Nashville International Airport

AECOM

Airfield Capacity Summary

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Annual Capacity – Current Airfield

495,000 Operations

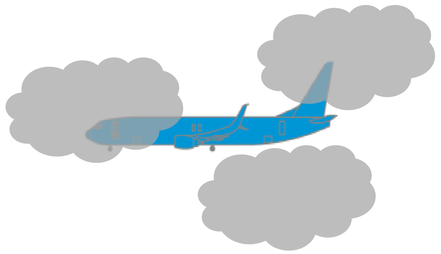
Hourly Capacity – Current Airfield

146 Operations



Under VMC Conditions (>90% of the year)

107 Operations



Under IMC Conditions (<10% of the year)

Annual Demand – 2037 Projected

311,000 Operations

Hourly Demand

58 2017 **88** 2037 - Projected

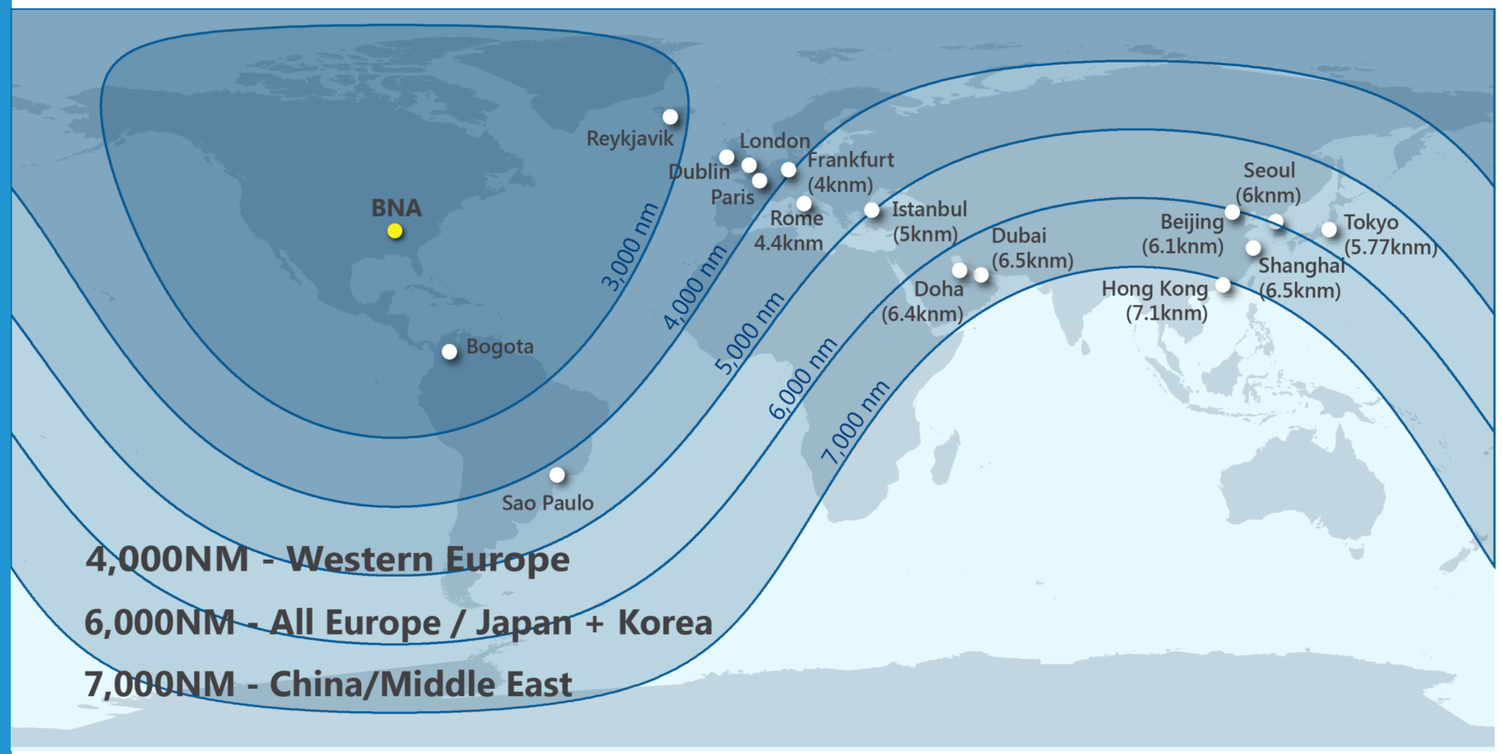


BNA Nashville International Airport

AECOM

Runway Lengths

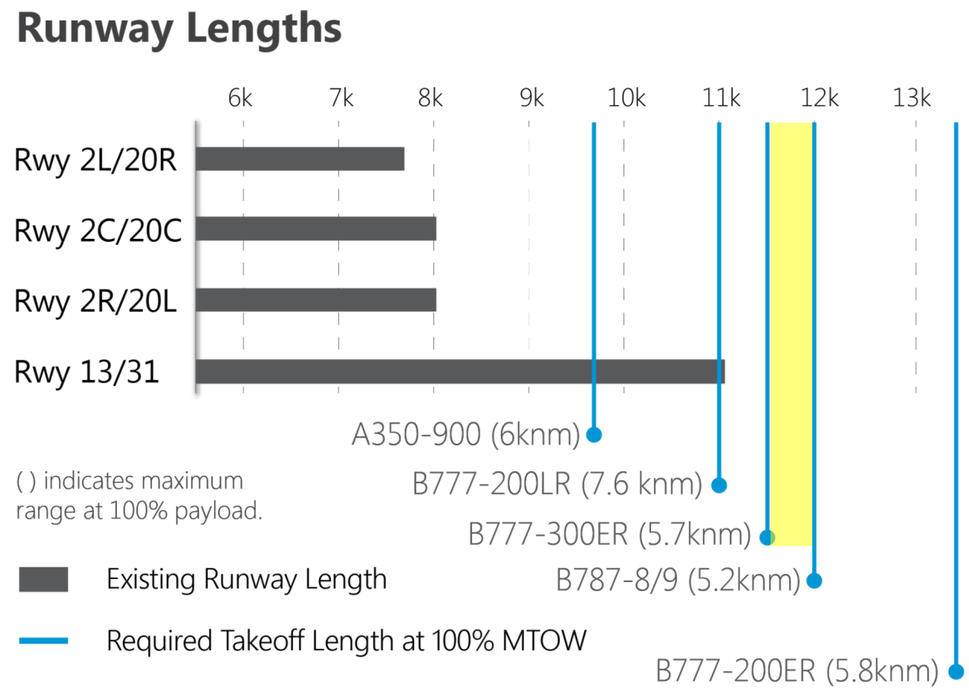
BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



Representative Airlines

BRITISH AIRWAYS · Lufthansa · AIRFRANCE · ICELANDAIR · Emirates · CHINA SOUTHERN AIRLINES · JAPAN AIRLINES · KOREAN AIR

Runway length required
12,000ft



Takeoff Length Analysis Basis

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

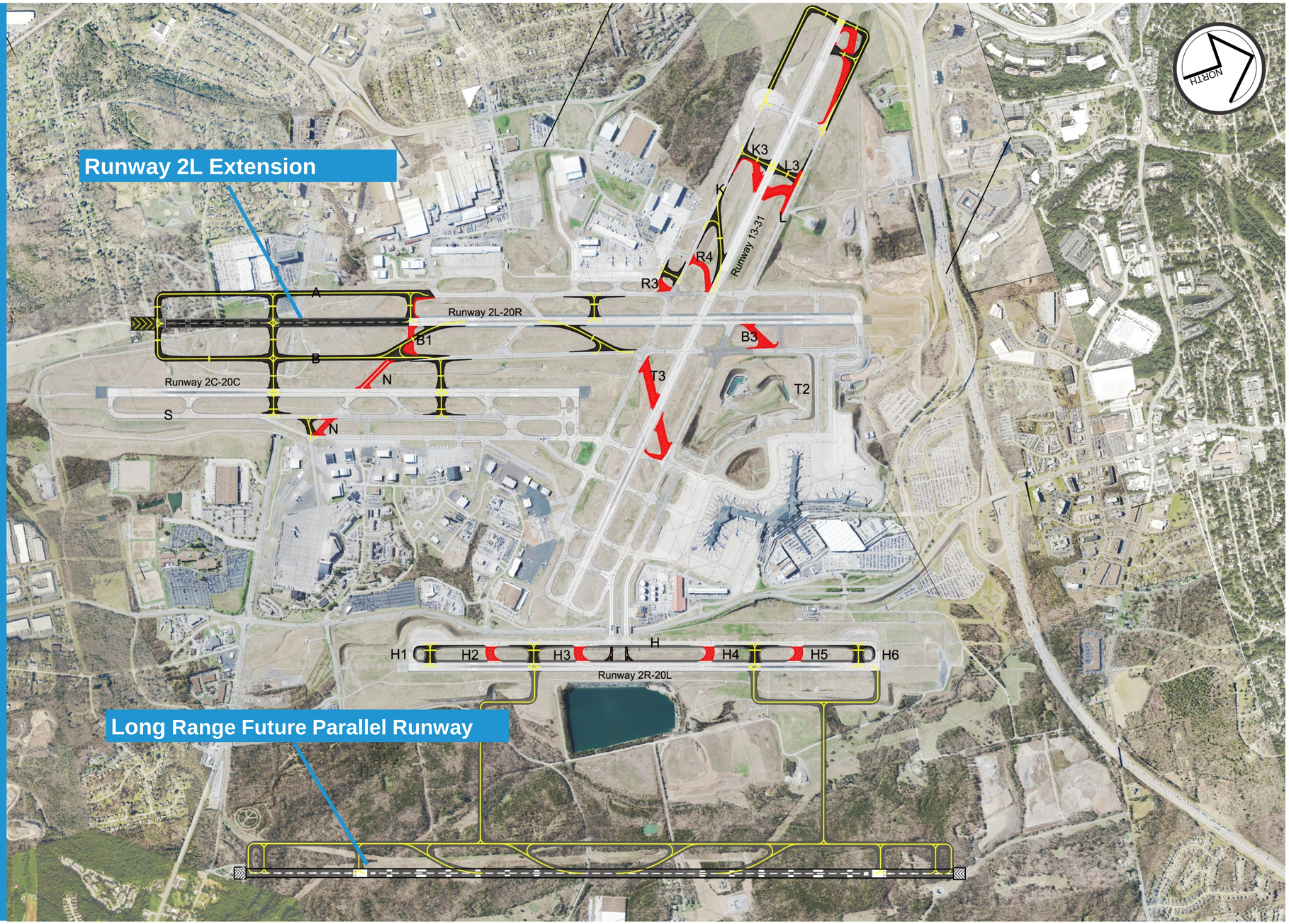
BNA Nashville International Airport

AECOM

Airfield Improvements

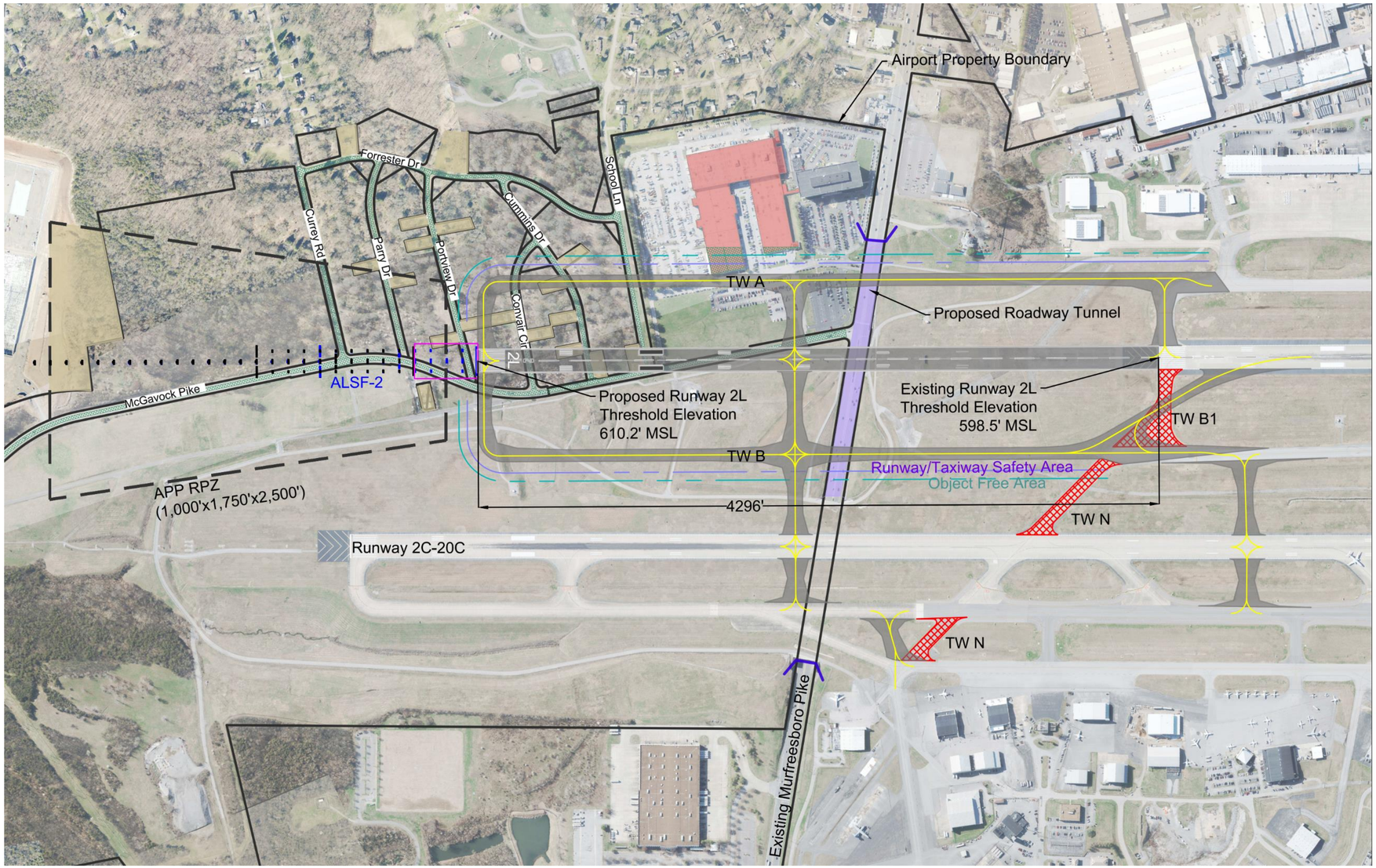
BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

- Longer runway to enhance international air service opportunities.
- Taxiway improvements to optimize aircraft traffic flow.
- Required to meet FAA standards.
- Plan for long range future parallel runway.



Runway 2L Extension - Plan View

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

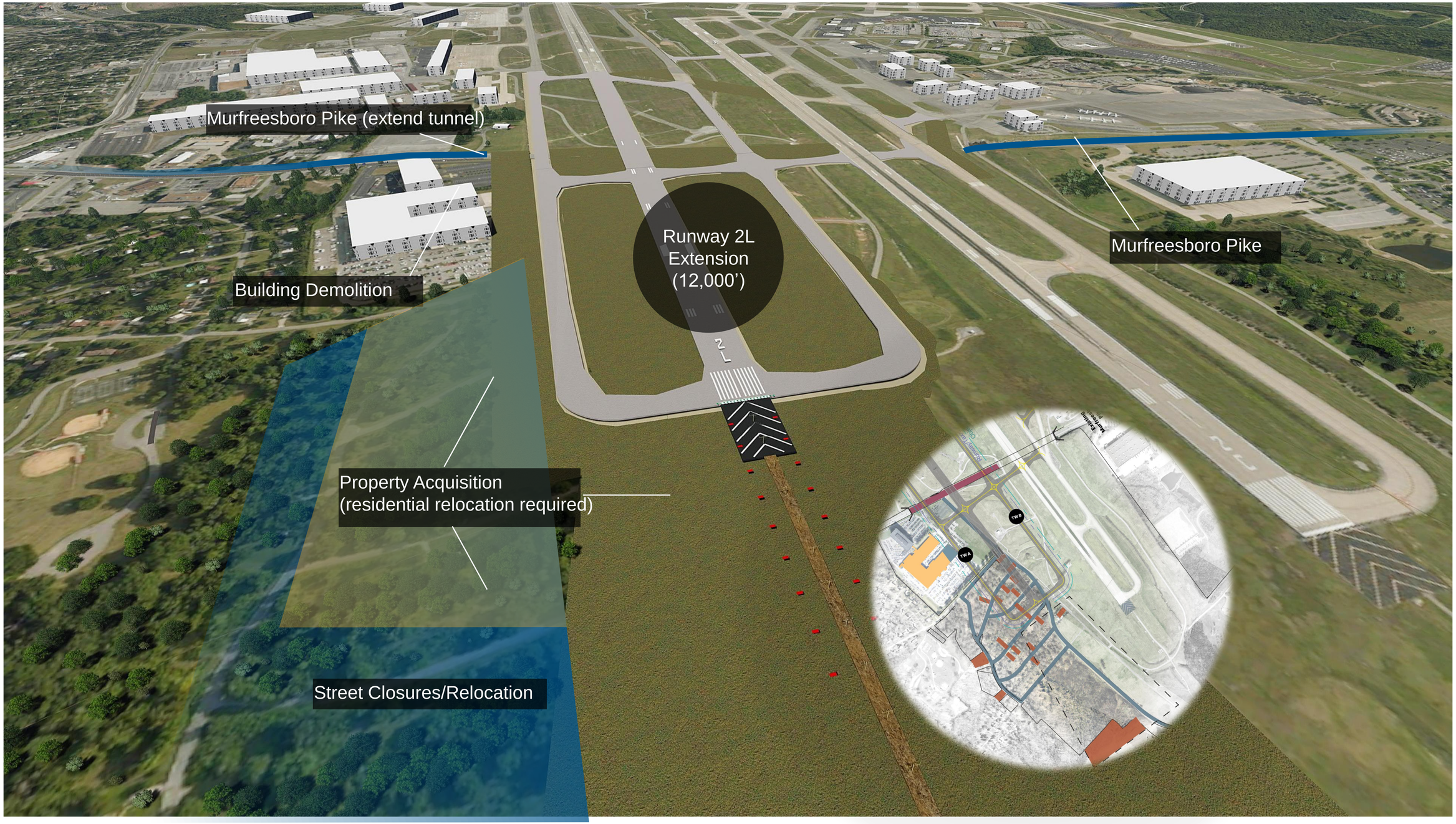


- Building Demolition / Road Closure
- Roadway Tunnel
- Property Acquisition
- Buildings
- Proposed Runway / Taxiway
- Taxiway Demolition

Runway 2L Extension Facts	
Extension Length	4,296 Ft
Total Runway Length after Extension	12,000 Ft
Property Acquisition	Residential Land: 14.4 Acres / 20 Homes

Runway 2L Extension

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

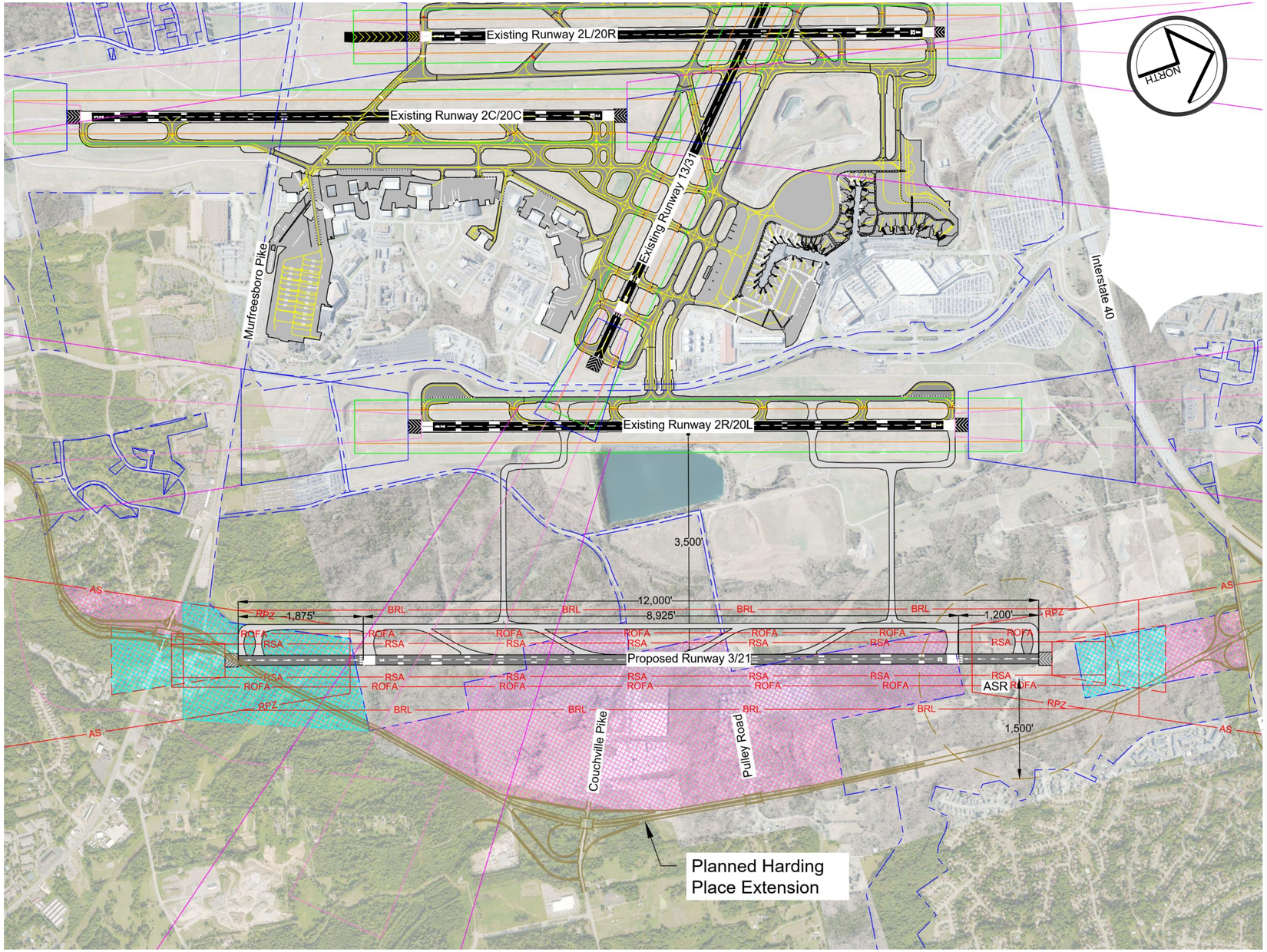


BNA Nashville International Airport

AECOM

Long Range Future Parallel Runway

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



- A 12,000’ parallel runway has been sited east of Runway 2R-20L.
- Planned Harding Place Extension alignment may require modification.

Approximate Property Acquisition	
Minimum	Harding Place Ext. Road
300 Acres	630 Acres

Planned Harding Place Extension Road

Existing Airport Property Line

Future Property Line (Minimum Acq.)

Future Property Line (Harding Place Acq.)

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #4 – Terminal Development Plan

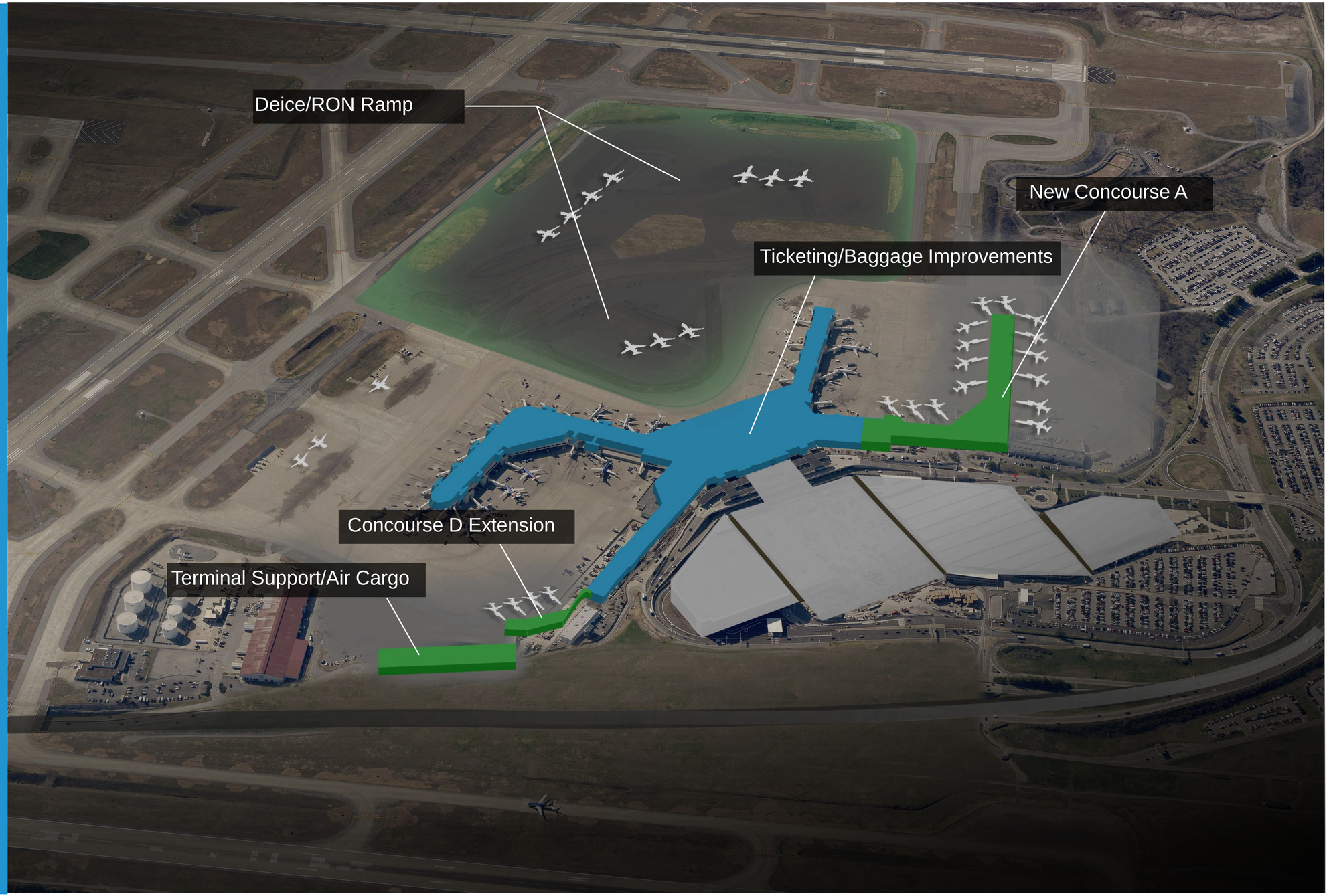
BNA Nashville International Airport

AECOM

Terminal Improvements

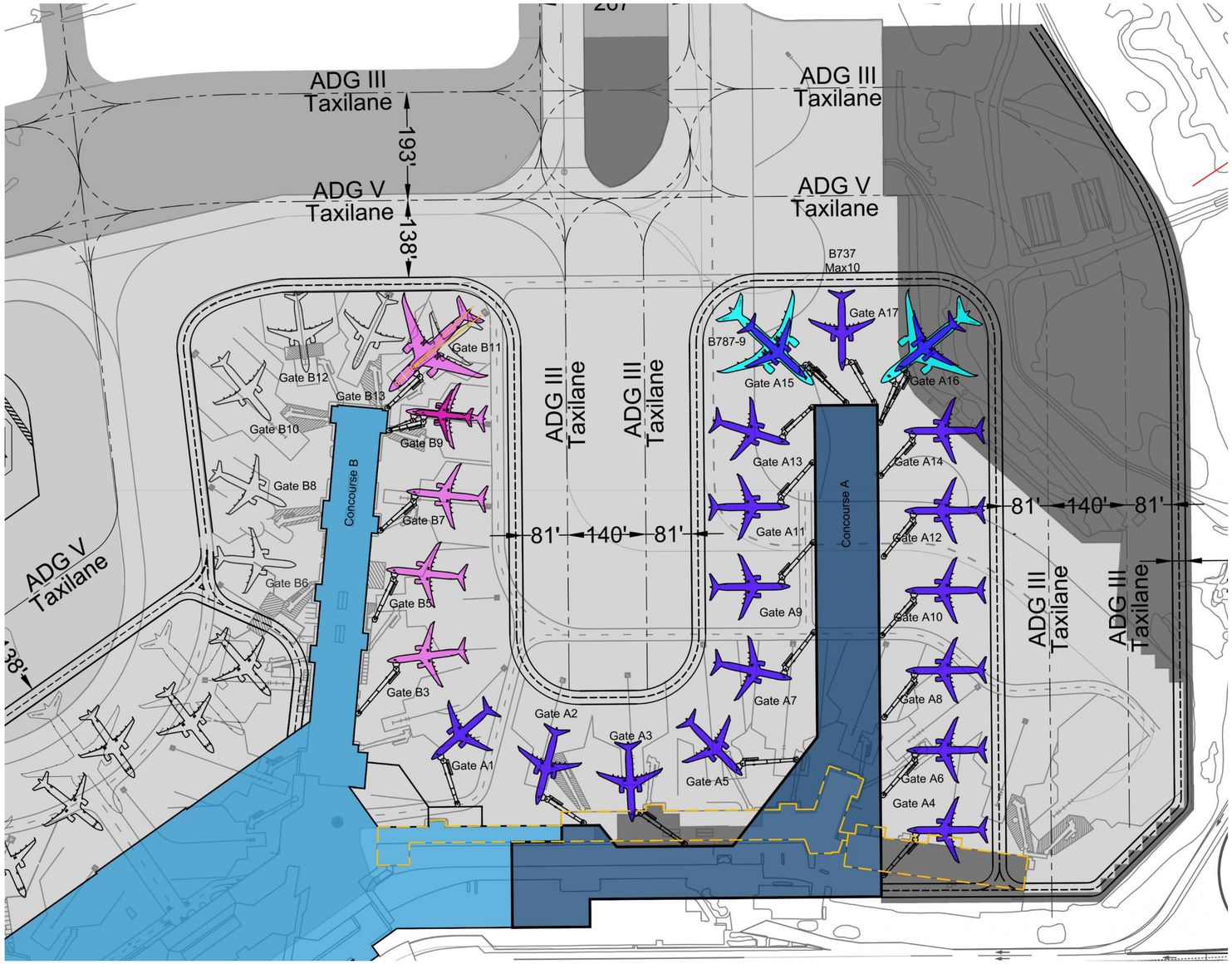
BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

- Concourse development to provide up to 61 gates.
- Ticketing, baggage handling and security screening.
- Terminal ramp and deicing.



New Concourse A - Plan View

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



NEW CONCOURSE A	
Required Ramp Expansion	499,800 SF
Existing Concourse A Demolished	110,000 SF
New Concourse A	351,100 SF
Proposed ADG III Positions	15
Proposed ADG V Positions	2

- Proposed ADG III Aircraft Positions
- Proposed ADG V Aircraft Positions
- Existing Pavement
- Proposed Pavement
- Proposed Pavement for New Concourse A
- BNA Vision Terminal
- New Concourse A
- Existing Concourse A

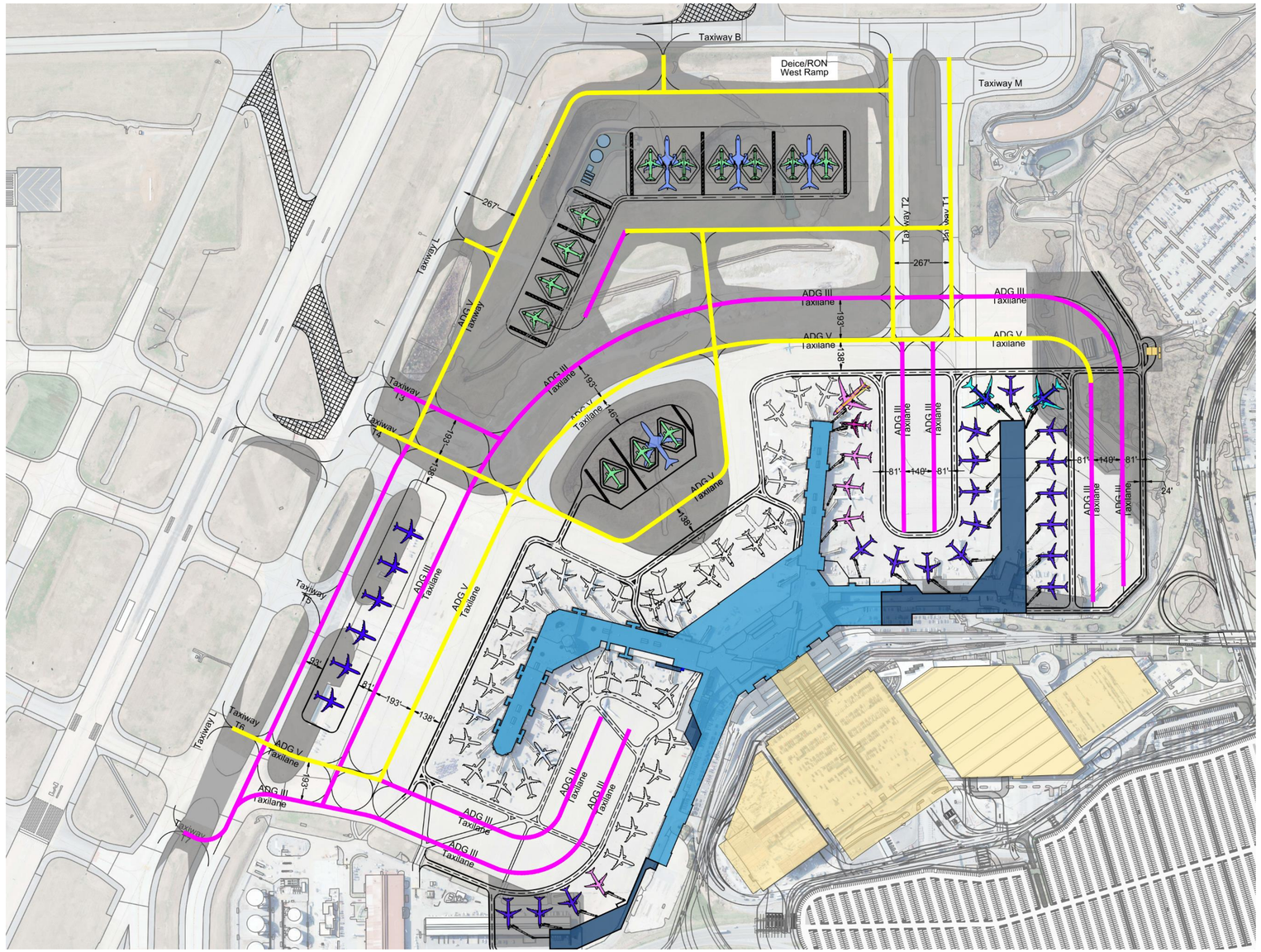
New Concourse A

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



Terminal Ramp Development

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



- Deicing ramps to accommodate up to 10 narrow-body and 3 wide-body aircraft.

Proposed Deicing Aircraft Positions (Wide-body)

Proposed Deicing Aircraft Positions (Narrow-body)

Existing Pavement

Proposed Pavement

Proposed Pavement for West Ramp Deicing

Proposed Demo

Wide-body Aircraft Taxiing Route

Narrow-body Aircraft Taxiing Route

BNA Nashville International Airport

AECOM

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #5 – Landside Development Plan

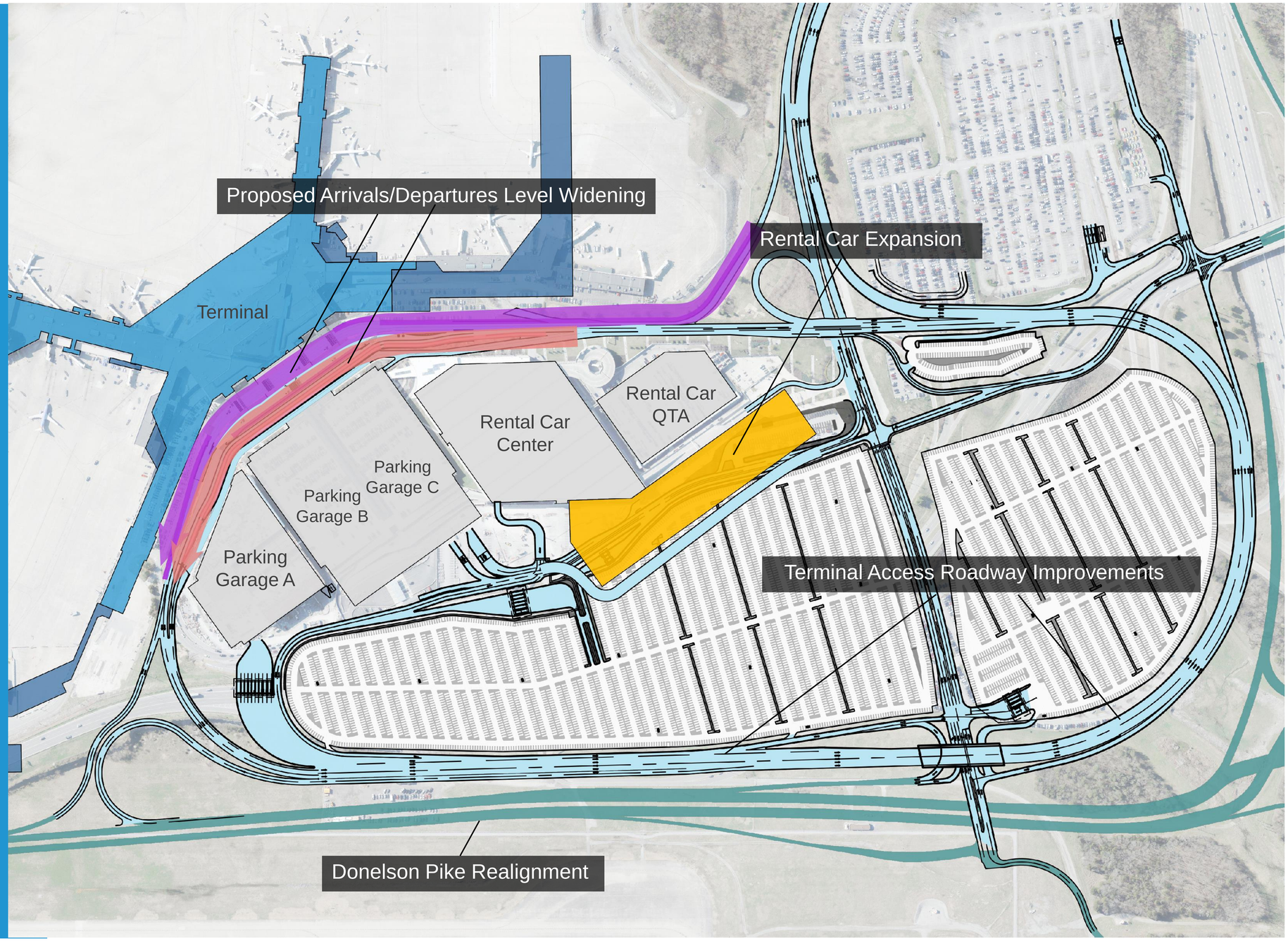
BNA Nashville International Airport

AECOM

Landside Improvement Plan

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

- Expand arrivals/departures level approach and exit roadways.
- Improve curb-front capacity and traffic flow.
- Additional rental car servicing and ready/return storage.

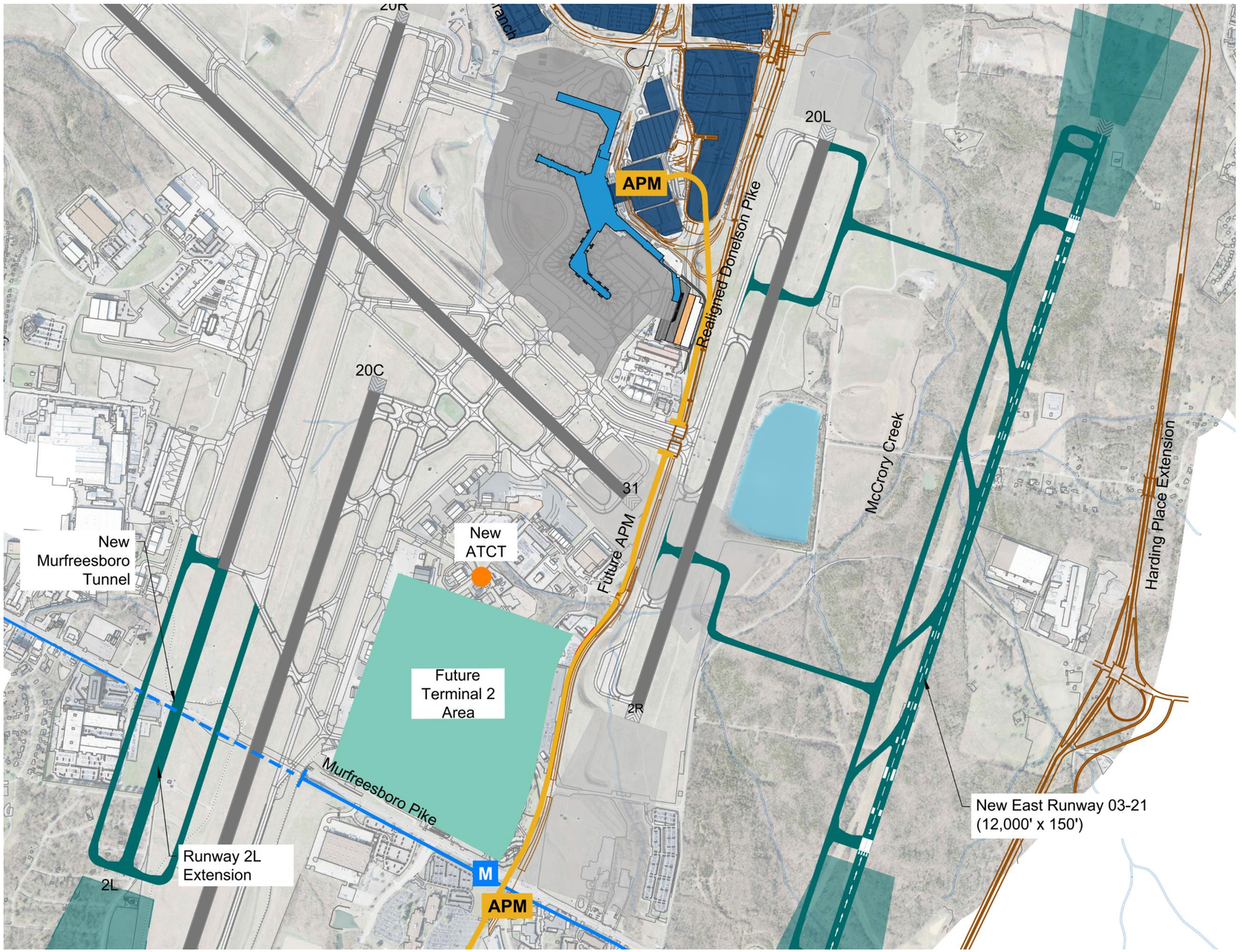


BNA Nashville International Airport

AECOM

Future Airport People Mover (APM) and South Development

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



- APM to travel to BNA Terminal from Future Light Rail transfer at Murfreesboro/Donelson.

Legend

- Terminal Building
- Terminal Apron
- Landside
- Existing Runway
- New Runway/Taxiway
- Future Light Rail
- APM Line
- APM Station
- Terminal 2 Area

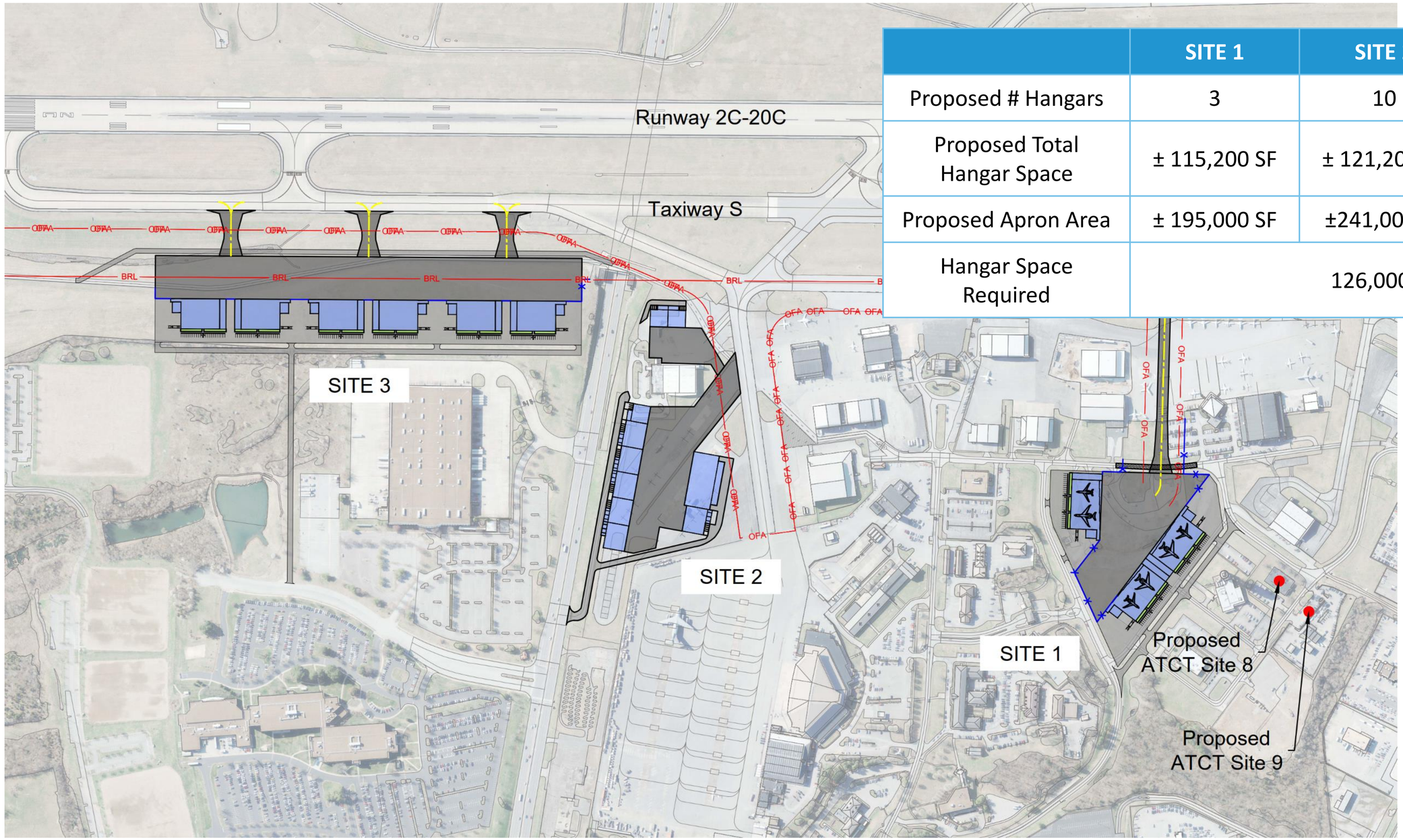
BNA Nashville International Airport

AECOM

General Aviation Development Sites

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

	SITE 1	SITE 2	SITE 3
Proposed # Hangars	3	10	6
Proposed Total Hangar Space	± 115,200 SF	± 121,200 SF	± 188,400 SF
Proposed Apron Area	± 195,000 SF	±241,000 SF	± 396,000 SF
Hangar Space Required	126,000 SF		



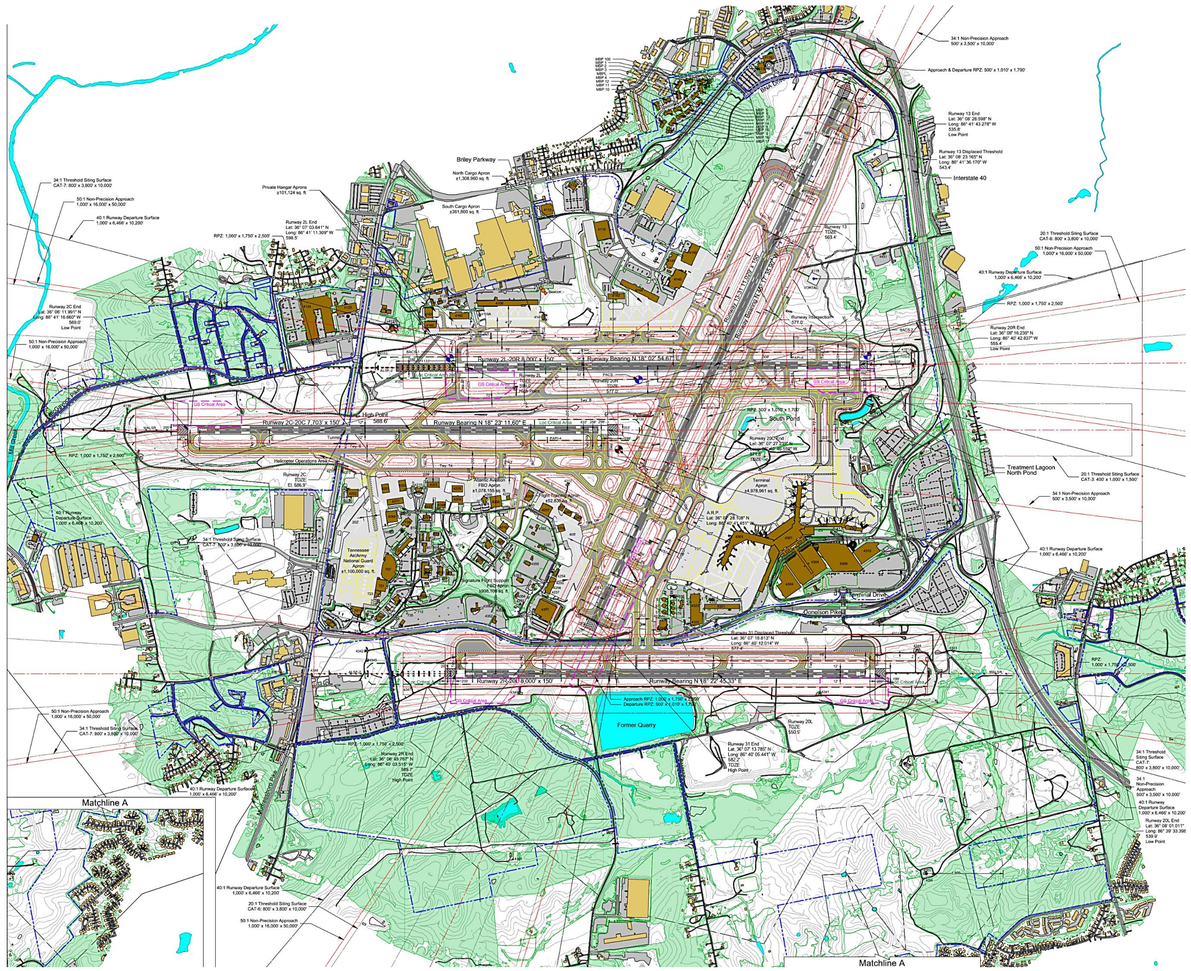
BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #6 – Environment / Sustainability

Sustainable Facilities Analysis

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Determined additional support or ancillary facilities that can advance BNA sustainability initiatives or integrate them into future planned facilities.



Stormwater

- Evaluate proactive measures on all new facilities.

Waste

- Increased waste volume; process changes.
- Explore increased space and flexibility.

Wellness

- Understanding passenger behaviors + preferences.
- Earmark space for exercise and mental health.

Transportation Infrastructure

- Continue to promote Parksmart℠ to advance sustainable mobility.
- Continue to develop LEED certified facilities.
- Demand for more efficient/diverse transport.
- Consider support facilities and fueling infrastructure.

BNA Nashville International Airport

wilmot AECOM

Multi-Tiered Sustainability Analysis

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Sustainability screening and environmental accounting analysis that evaluated Airfield, Terminal and Landside alternatives.



- Sustainability screening reviewed all regional plans, and used Envision credits as criteria.
- Environmental accounting analysis used indicators such as land use change, energy intensity, concrete use, demolition, and new construction.

BNA Nashville International Airport

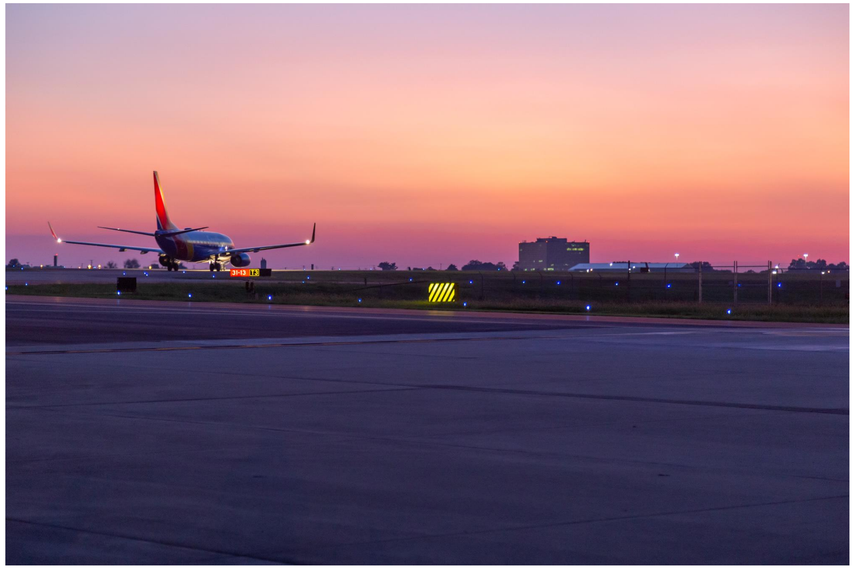
wilmot AECOM

Broader Sustainability Opportunities

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

To evaluate increased positive impact via:





SOCIAL

safe, fair and **beneficial** practices for employees and passengers; strengthen **relationships** and **communication** in the community.

ENVIRONMENT

use **resources** wisely and reduce **impacts** on the natural environment from operations; **enhance** and effectively manage energy, water, and waste.

ECONOMIC

vitality for BNA the region and its stakeholders; **optimize** assets, **enhance** revenue and operate with **lifecycle** perspective.

BNA Nashville International Airport

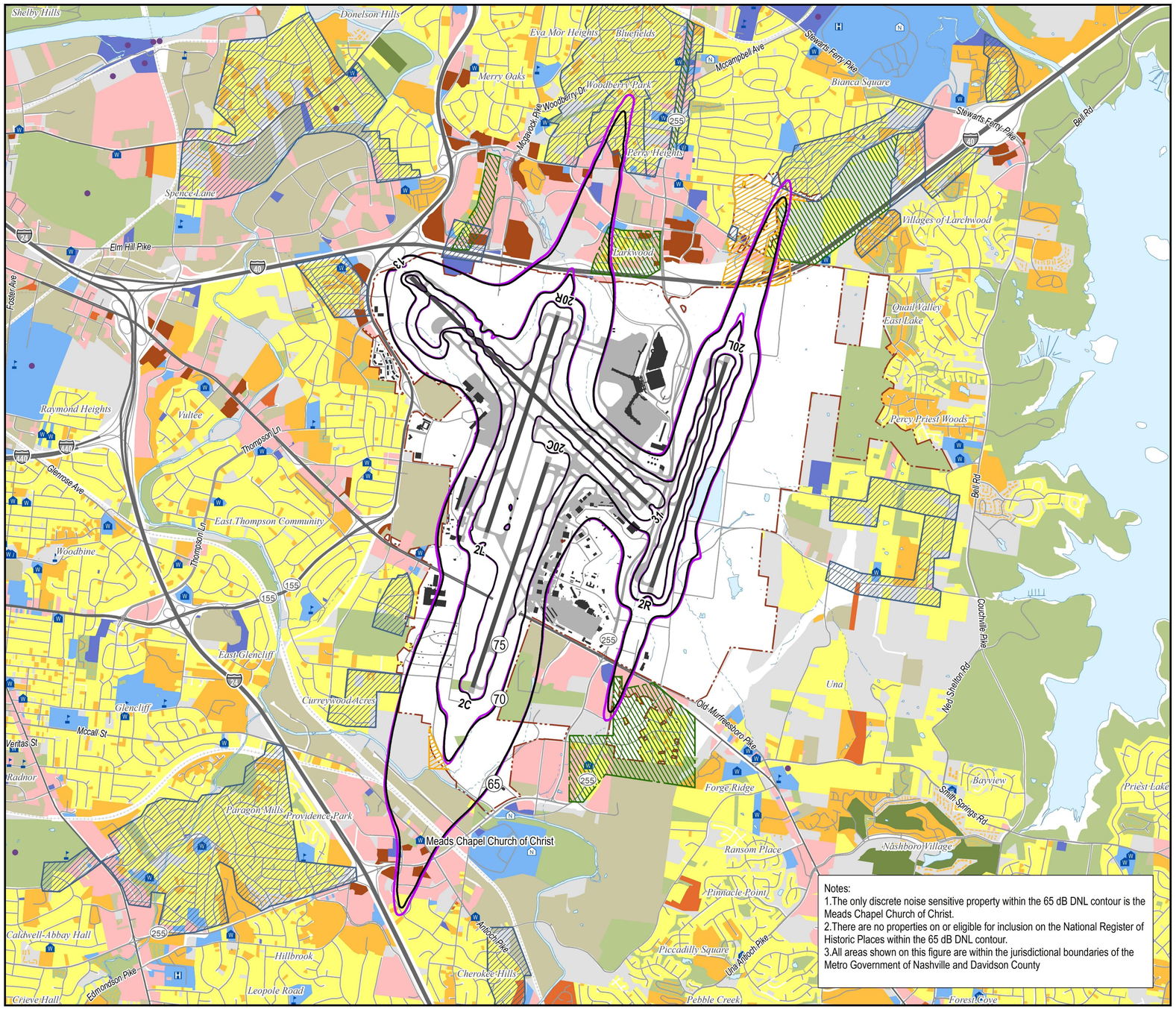
wilmot AECOM

BNA
MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT

Station #7 – Noise Exposure Map Update

2020 & 2025 Draft Noise Exposure Map

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



Notes:
1.The only discrete noise sensitive property within the 65 dB DNL contour is the Meads Chapel Church of Christ.
2.There are no properties on or eligible for inclusion on the National Register of Historic Places within the 65 dB DNL contour.
3.All areas shown on this figure are within the jurisdictional boundaries of the Metro Government of Nashville and Davidson County

BNA Nashville International Airport

Airport Noise Compatibility - Part 150 Study
2020 and 2025 Noise Exposure Maps

Housing Units			
Contour Year	DNL 65 dB or Greater	Previously Mitigated by MNAA	Noncompatible Units
2020	59	53	6
2025	103	90	13

- 2020 Existing NEM Contour (65-75 dB DNL)
- 2025 Future NEM Contour (65-75 dB DNL)
- BNA Airport Boundary (Approximate)
- Runway
- State Boundary
- Highway
- Major Roads
- Municipal Boundary
- Minor Roads
- Railroad

Land Use

- Residential
- Multi-Family Residential
- Mobile Home Park
- Transient Lodging
- Public Use (Non-Compatible)
- Public Use (Compatible)
- Recreational / Open Space / Golf
- Commercial Use
- Manufacturing and Production
- Vacant / Undefined
- Water / Stream
- School
- Library
- Nursing Home
- Place of Worship
- Hospital
- National Register of Historic Places
- Transitional Area
- Sound Insulation/Residential Property Sales Assistance Program
- Acquisition of Residential Uses in Approach Areas

0 3,000 6,000 Feet

N

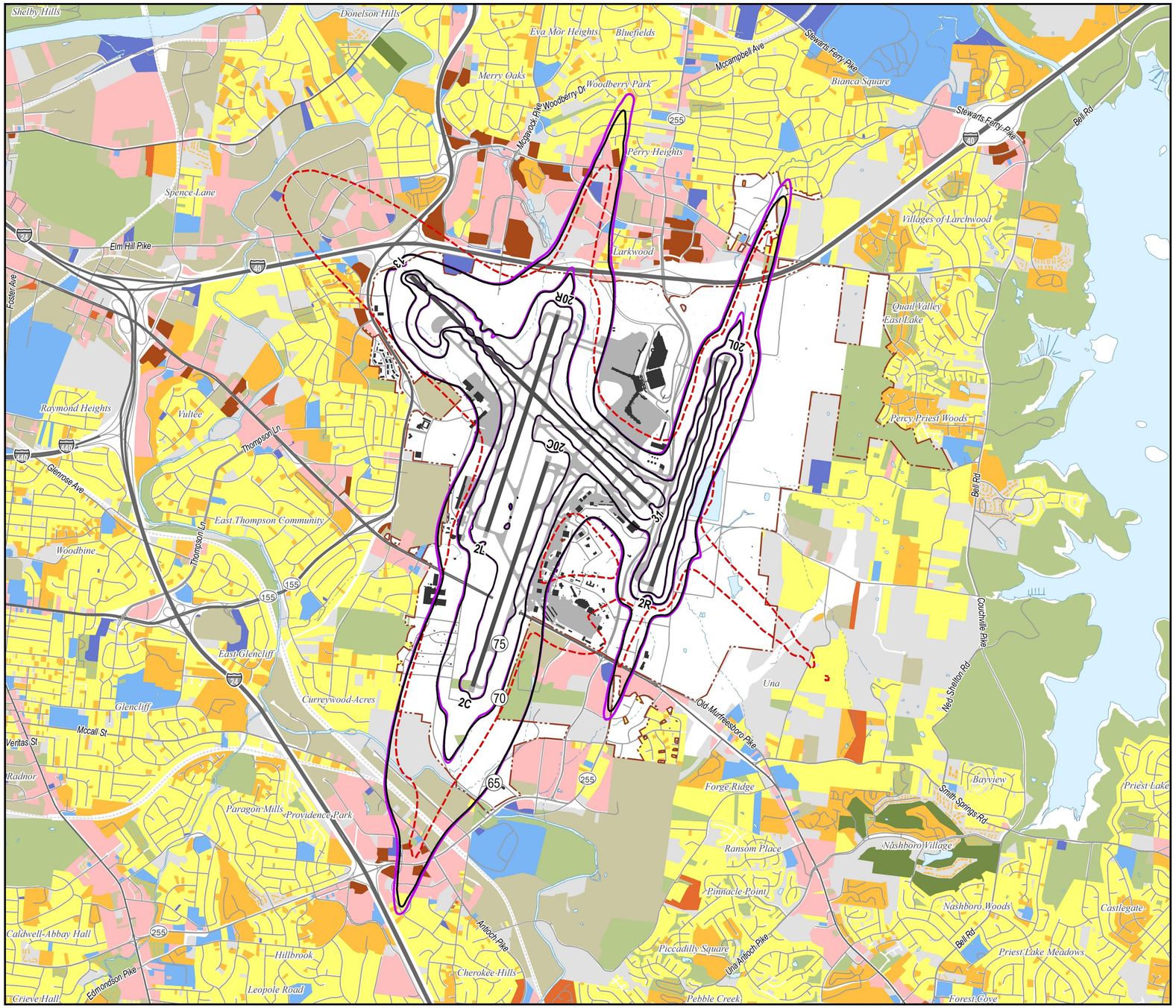
DRAFT – Subject to Change

hmmh

AECOM

2012 DNL Contours Compared to the 2020 & 2025 DNL Contours

BNA MASTER PLAN
NASHVILLE INTERNATIONAL AIRPORT



BNA Nashville International Airport

Airport Noise Compatibility - Part 150 Study
2020 and 2025 Noise Exposure Maps

Housing Units			
Contour Year	DNL 65 dB or Greater	Previously Mitigated by MNAA	Noncompatible Units
2012	118	116	2
2020	59	53	6
2025	103	90	13

- 2012 NEM Contour (65 dB)
- 2020 Existing NEM Contour (65-75 dB DNL)
- 2025 Future NEM Contour (65-75 dB DNL)
- BNA Airport Boundary (Approximate)
- Runway
- State Boundary
- Municipal Boundary
- Highway
- Minor Roads
- Major Roads
- Railroad

Land Use

- Residential
- Multi-Family Residential
- Mobile Home Park
- Transient Lodging
- Public Use (Non-Compatible)
- Public Use (Compatible)
- Recreational / Open Space / Golf
- Commercial Use
- Manufacturing and Production
- Vacant / Undefined
- Water / Stream

0 3,000 6,000 Feet

N

DRAFT – Subject to Change

hmmh

AECOM