

Nashville International Airport



Master Plan Update Technical Advisory Committee Meeting

October 9, 2019

Agenda

- Welcome and Introductions
- Master Plan Highlights
- Airfield Development Plan
- Terminal Development Plans
- Landside Development Plans
- General Aviation Development Plans
- Long Range Development
- Master Plan Documentation



Master Plan Highlights

- A plan to enhance the efficiency and capabilities of the runway / taxiway system.
- A plan to expand the terminal area in response to the dynamic growth in passenger activity and build upon the current BNA Vision program.
- A plan to improve terminal area landside features including roadways, curbside and rental car facilities.
- A guide to reserving airport and adjacent lands for long range terminal, airfield and multi-modal needs.
- *All Master Plan recommendations are subject to approval by the MNAA Board prior to implementation of any option.*



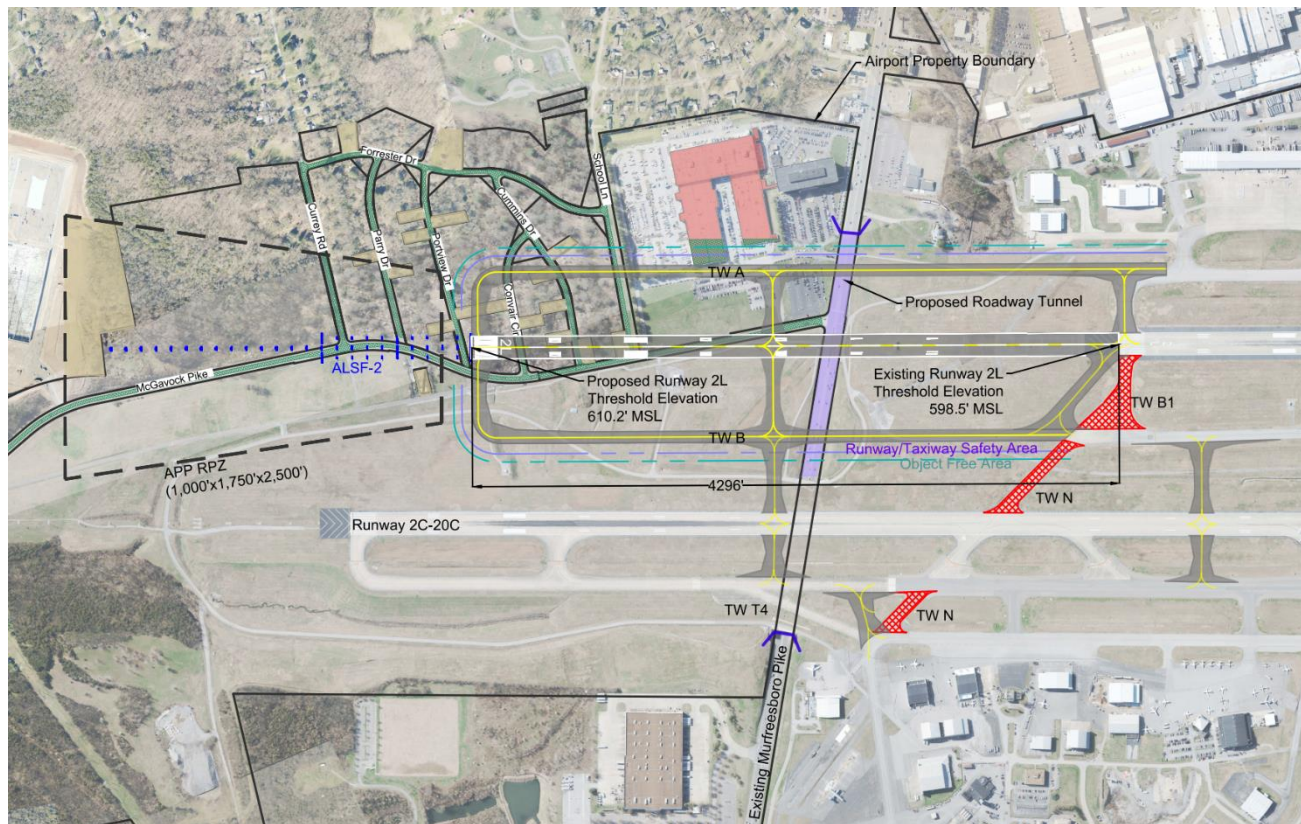
AIRFIELD DEVELOPMENT PLAN





Airfield Development Objectives

- Provide for a longer runway to accommodate larger aircraft and enhance non-stop air service to more international destinations.
- Identify taxiway improvements to optimize air traffic flow and efficiencies given projected growth in aircraft activity levels.
- Establish the runway and taxiway geometry improvements necessary to meet the most current FAA design and safety standards; and to meet the requirements of larger aircraft types.



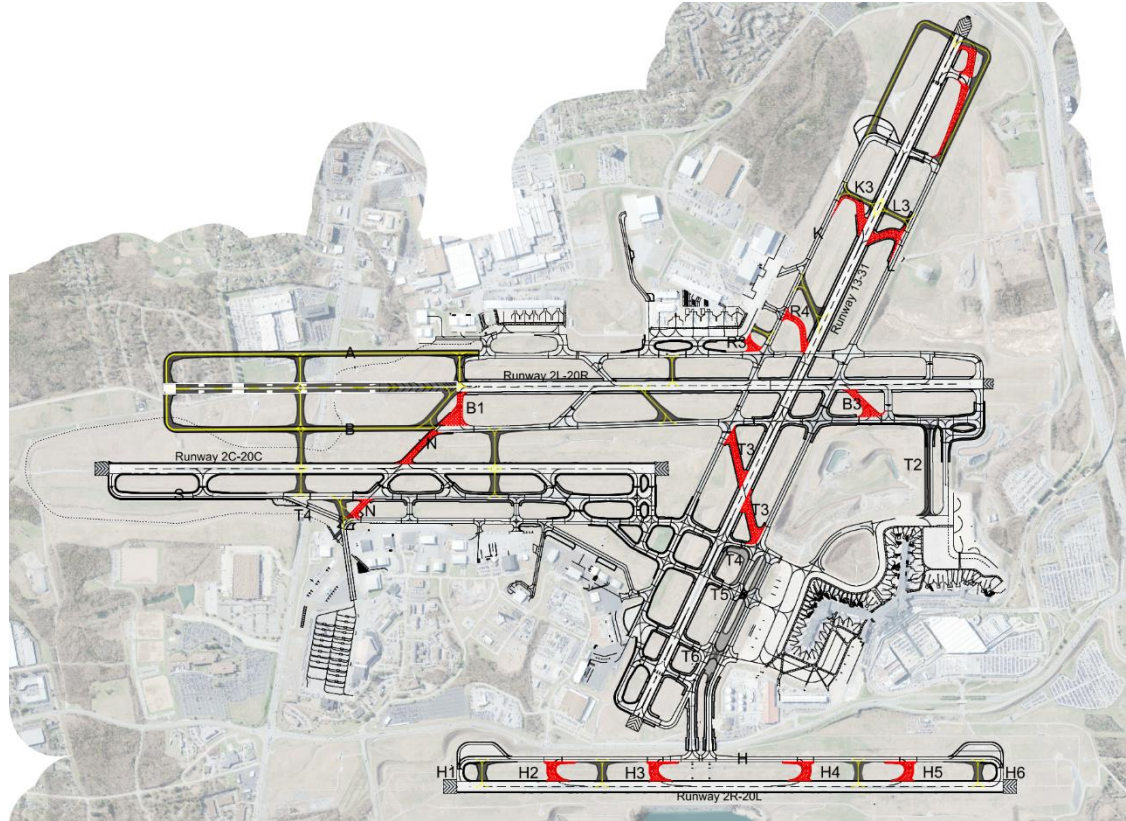
Additional Runway Length - Runway 2L Extension



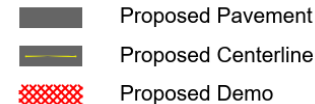
-  Building Demolition / Road Closure
-  Roadway Tunnel
-  Property Acquisition
-  Buildings
-  Proposed Runway / Taxiway
-  Taxiway Demolition

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

Airfield Taxiway Improvements



- Taxiway improvements to optimize traffic flow.
- Geometry improvements to meet FAA standards.



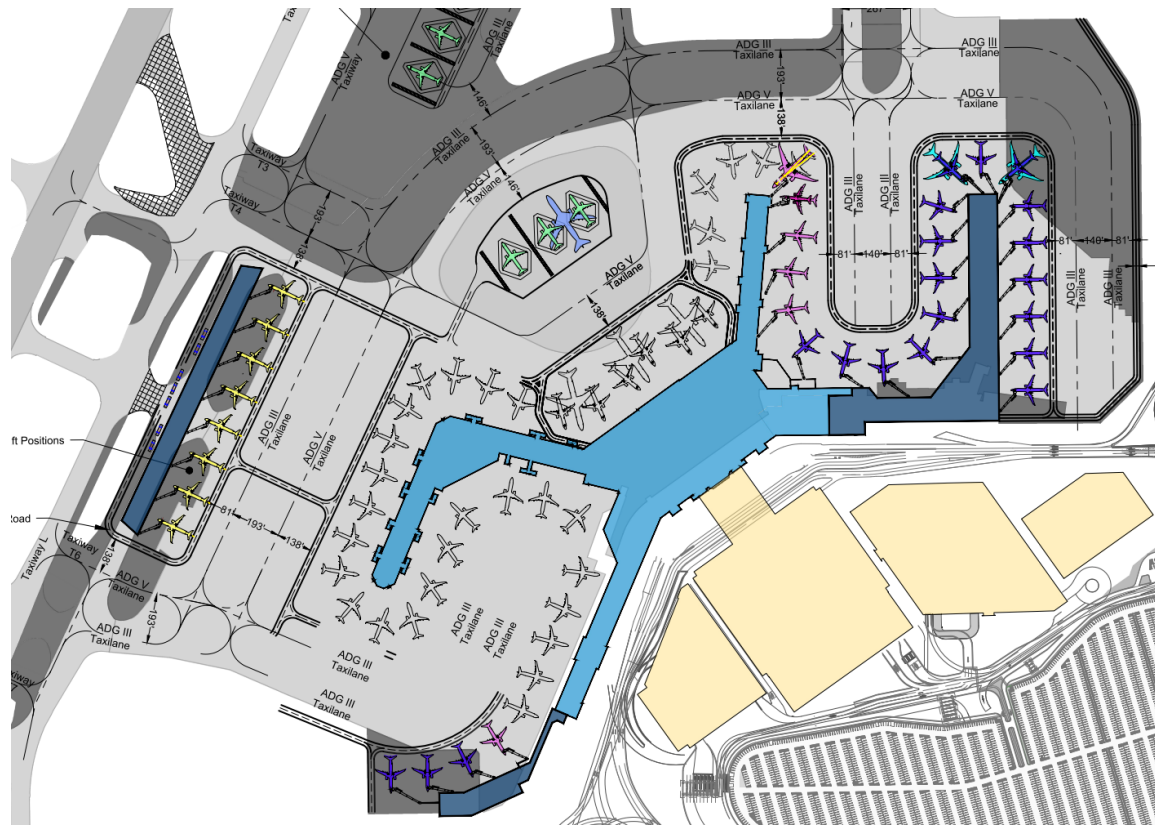
TERMINAL DEVELOPMENT PLANS

Terminal Development Objectives






- Terminal expansion plans to provide for 55-68 aircraft gates and flexibility to minimize disruption during construction.
- Provide additional ticketing and baggage claim area and required facilities.
- Provide for additional baggage handling and screening capacity.
- Identify options for maintaining required Security Screening Checkpoint capacity.
- Expand the terminal ramp area and configuration to optimize aircraft movements and facilitate deicing operations.



Terminal Gate Development

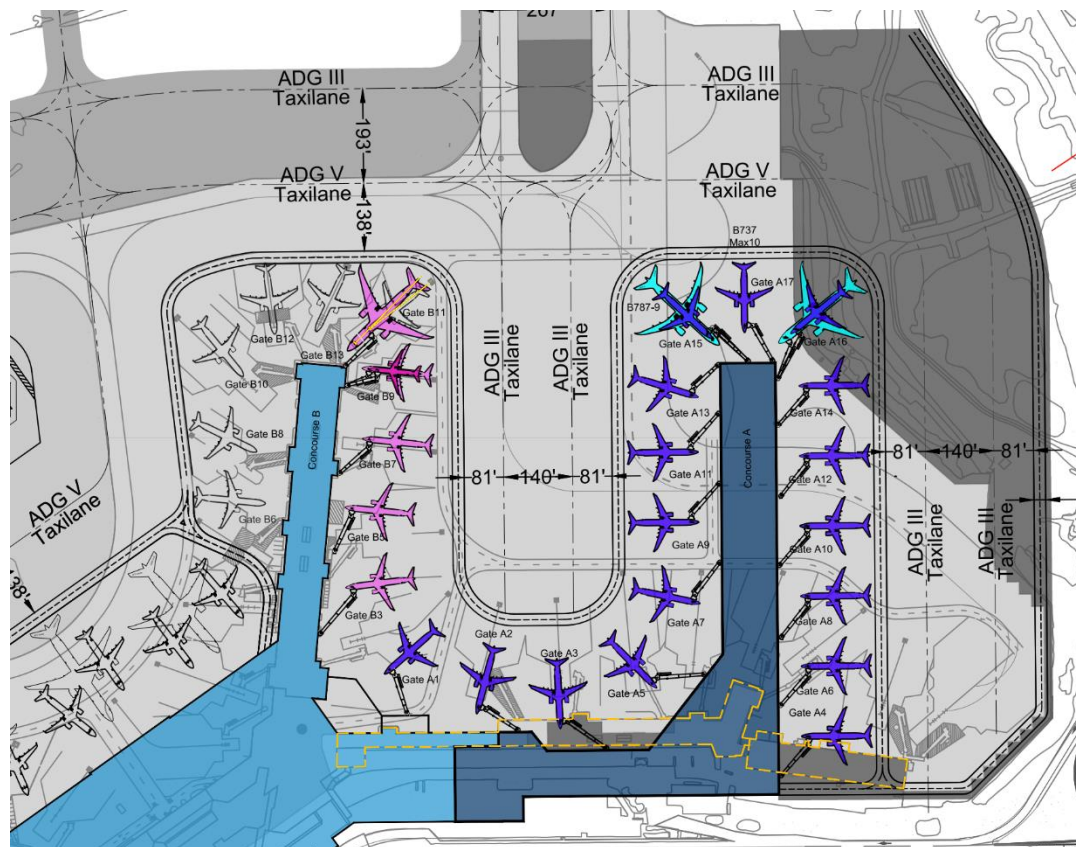


Concourse	# Gates
Concourse A	17
Concourse B	10
Concourse C	19
Concourse D	9
T-Gates	5
Satellite Concourse	8
Total	68









-  Existing Pavement
-  Proposed Pavement
-  Proposed Demo
-  BNA Vision Terminal
-  New Concourse A / Concourse D Extension / Satellite Concourse

-  Proposed Deicing Aircraft Positions (ADG V)
-  Proposed Deicing Aircraft Positions (ADG III)
-  Proposed Satellite Concourse Aircraft Positions
-  Modified Aircraft Positions
-  Proposed ADG III Aircraft Positions
-  Proposed ADG V Aircraft Positions

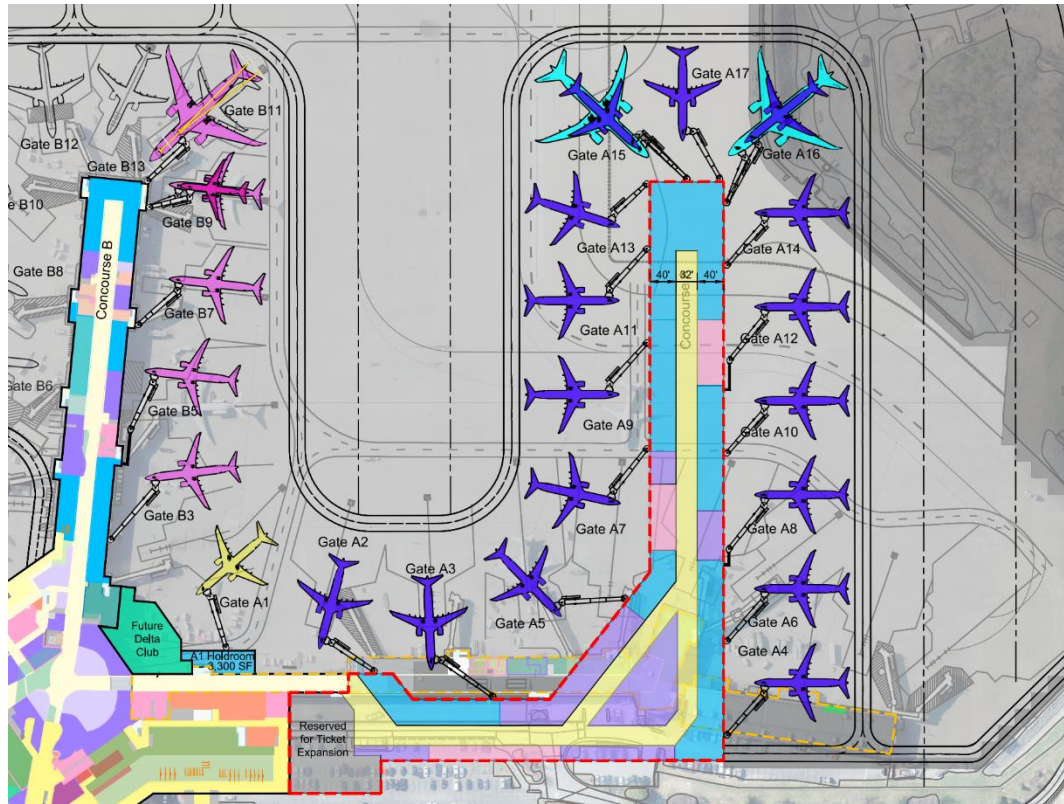
New Concourse A



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 Space Allocation



	HOLDROOM	62,900 SQ. FT.
	CONCESSION	34,200 SQ. FT.
	RESTROOM	12,600 SQ. FT.
	CIRCULATION	48,800 SQ. FT.
	TICKET EXPANSION	17,100 SQ. FT.

NEW CONCOURSE A FACTS	
Required Ramp Expansion	499,800 SF
Existing Concourse A Demolished	110,000 SF
New Concourse A	351,200 SF
Proposed ADG III Positions	14
Proposed ADG V Positions	2

	Proposed ADG III Aircraft Positions
	Proposed ADG V Aircraft Positions
	BNA Vision Terminal
	New Concourse A
	New Ramp/Taxiway Pavement
	Existing Concourse A

For A330-900 operation at B11

- Separate lead-in line for A330-900
- B13 must be closed
- B9 reduced to aircraft size of EMB-175EW or smaller
- Only L2 door may be utilized

Gate B12, Gate B13, Gate B10, Gate B8, Gate B6, Gate B11, Gate B9, Gate B7, Gate B5, Gate B3, Gate A1, Gate A2, Gate A3, Gate A5, Gate A7, Gate A9, Gate A11, Gate A13, Gate A15

Concourse B

Future Delta Club

A1 Holdroom 3,300 SF

ADG III Taxiway

Shift Lead-in Line



81' 140' 81'

24' 200'

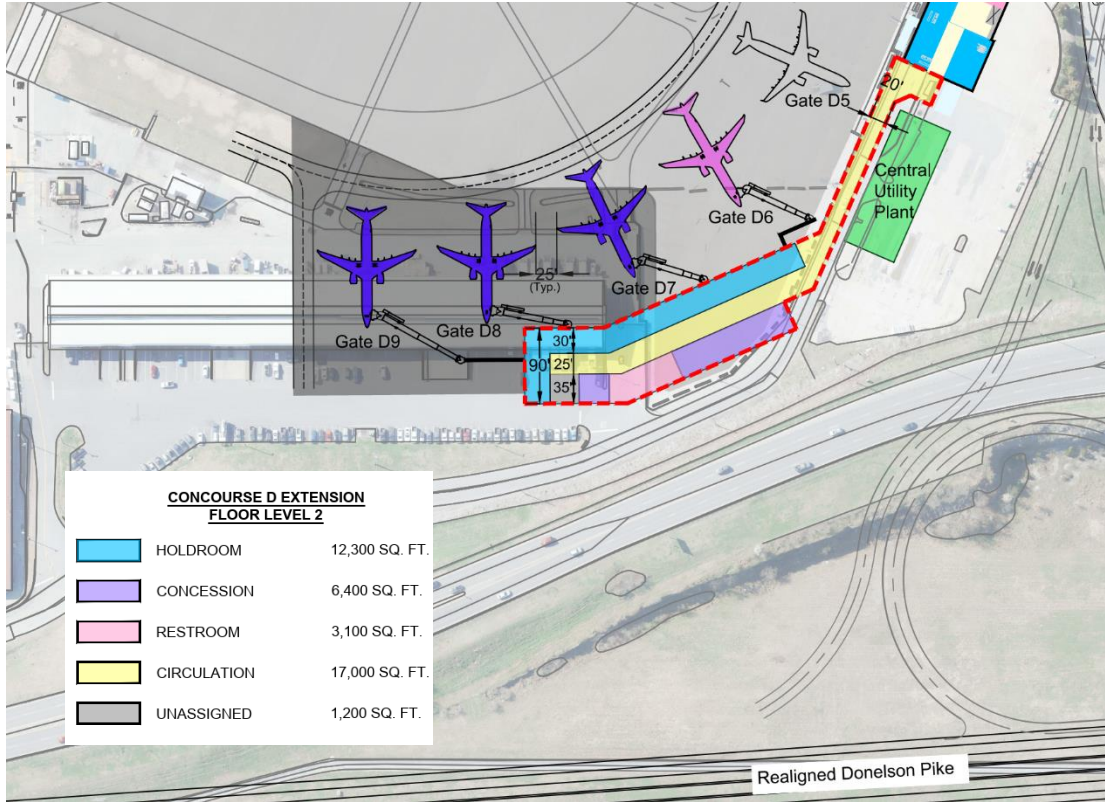
Add Fixed Walkway

Relocate B3 Boarding Bridge

Build new gate A1 holdroom

- | | |
|---|-----------------------------|
|  | New Gate Positions |
|  | Modified Aircraft Positions |

Concourse D Extension



- Extend Concourse D currently being constructed under BNA Vision to provide for an additional 3 aircraft gates.

	Proposed Aircraft Positions
	Modified Aircraft Positions
	BNA Vision Terminal
	Concourse D Extension
	New Ramp Pavement for Concourse D

CONCOURSE D EXTENSION	
Required Ramp Expansion	101,800 SF
Concourse D Extension	80,000 SF
Proposed ADG III Positions	3

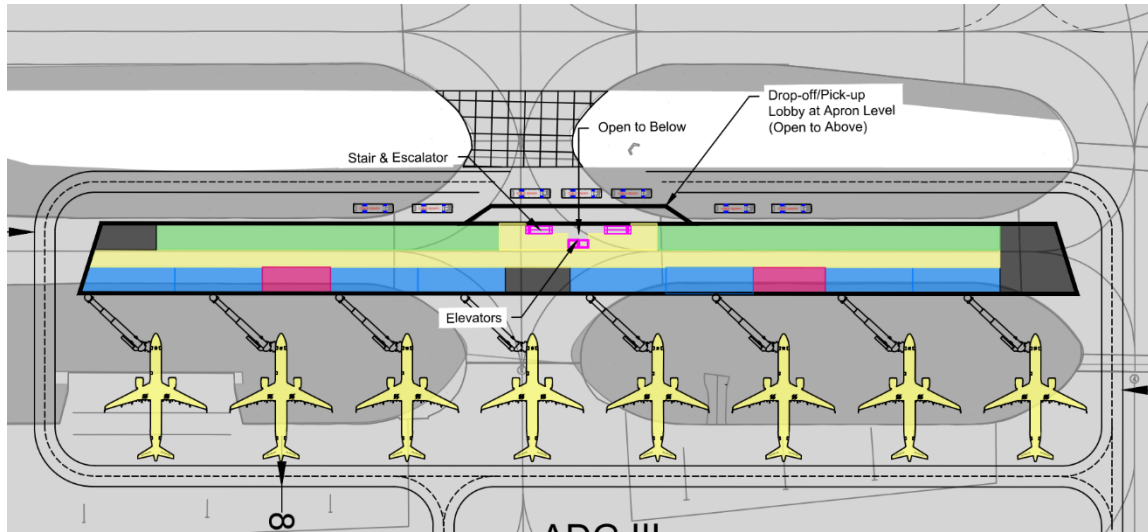
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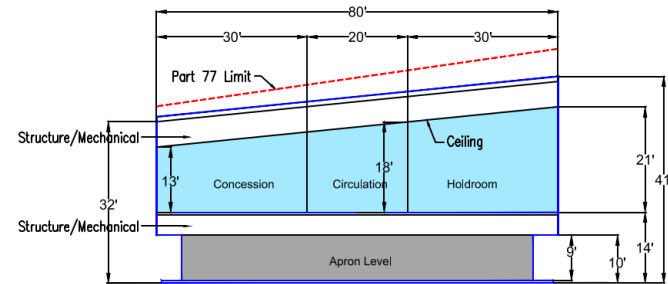
A319S/320S/321S
A220-300
B737 Max 10
B737-700W/800W/900W
CRJ-200/700/900
ERJ-145



South Satellite Concourse Interior



Conceptual Building Section










Proposed Aircraft Positions. A fleet mix of::

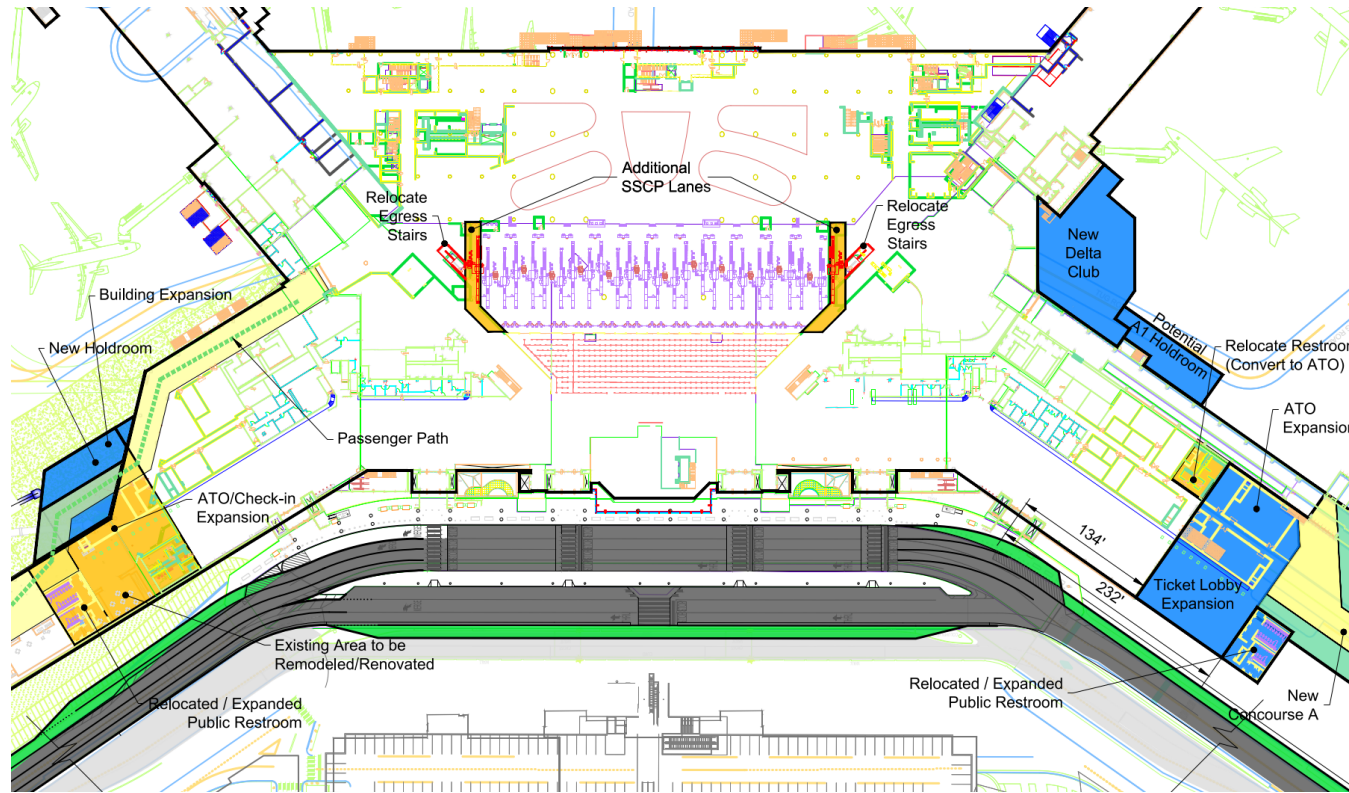
A319S/320S/321S
A220-300
B737 Max 10
B737-700W/800W/900W
CRJ-200/700/900
ERJ-145

Note: CR2, CR7 and ER145 bridge slope exceeds 1:12



	Holdroom		Proposed Pavement
	Concession		Proposed Demo
	Restroom		
	Circulation		
	Mechanical / Support		

Terminal Space Modifications – Departures

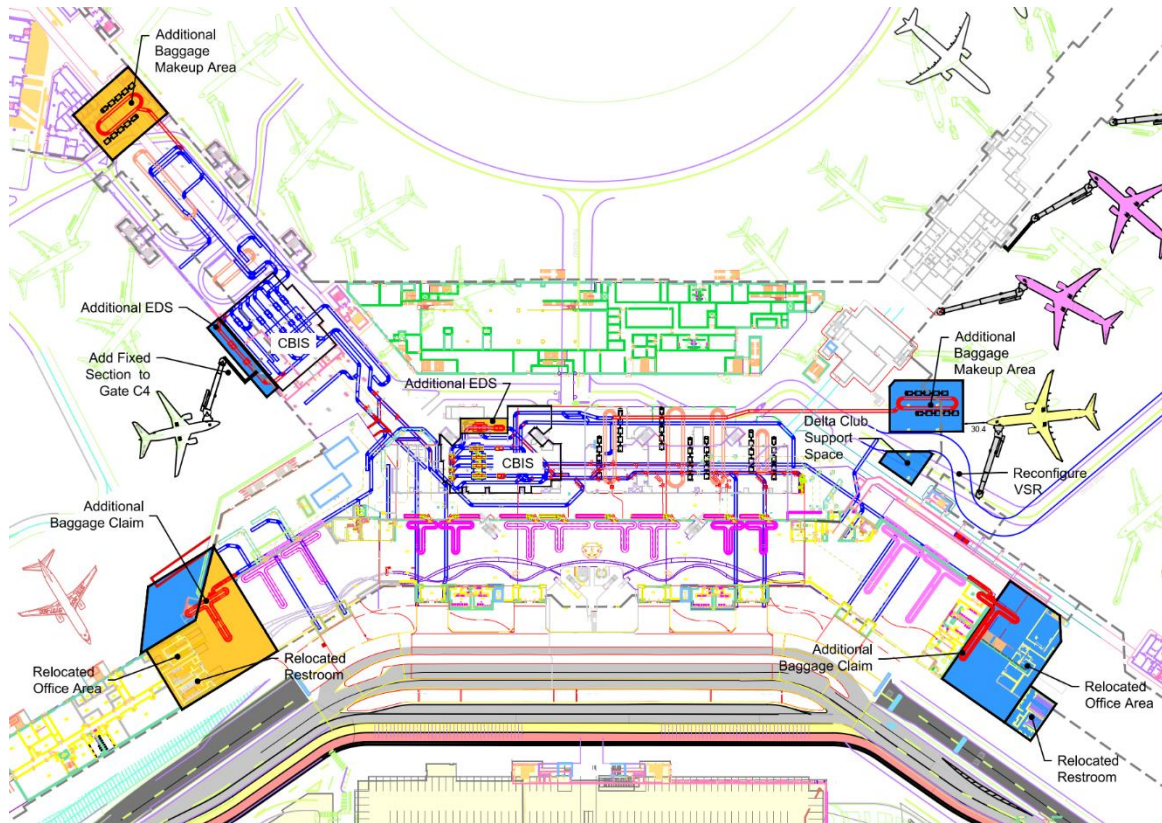


- Building Modification
- Building Expansion
- New Concourse A
- Existing Curbside Roadway
- Proposed Curbside Roadway Widening

Departures level improvements include:

- Expanded Security Screening Check Point (SSCP).
- Ticket lobby area and facilities expansion.

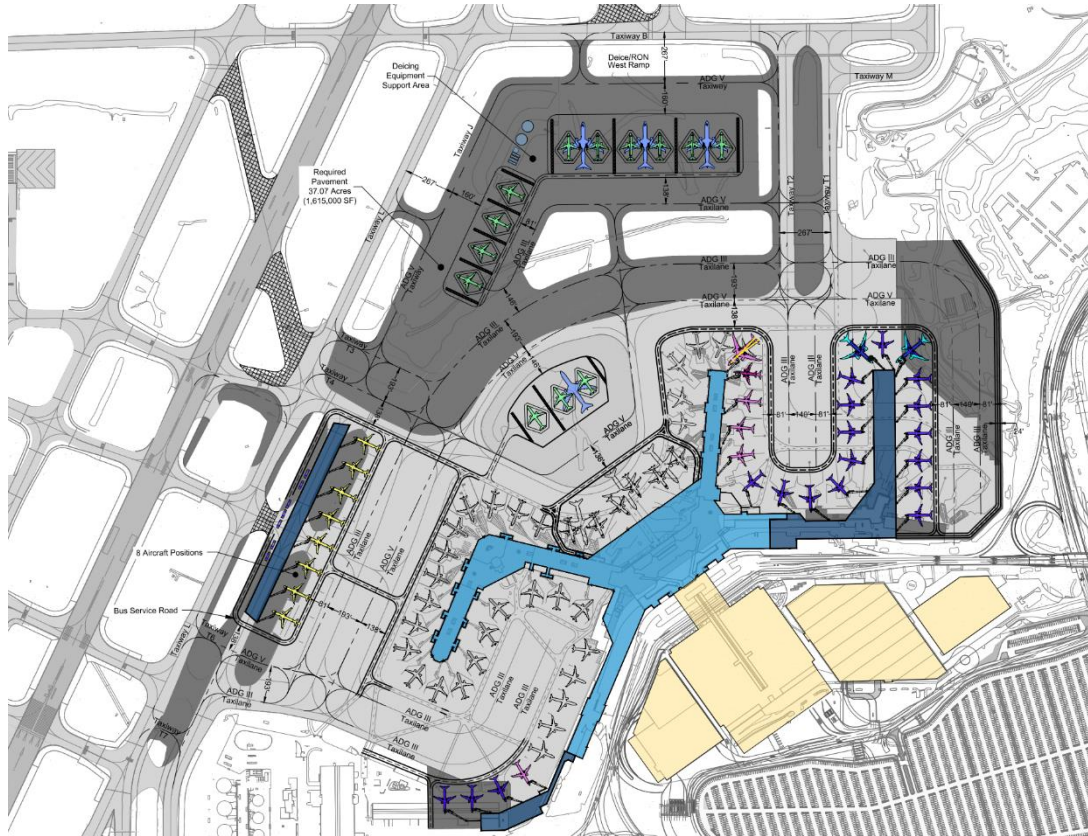
Terminal Space Modifications – Arrivals



Arrivals level improvements require expansion of:

- Baggage claim;
- Baggage make-up;
- Baggage screening/ Explosives Detection System (EDS).

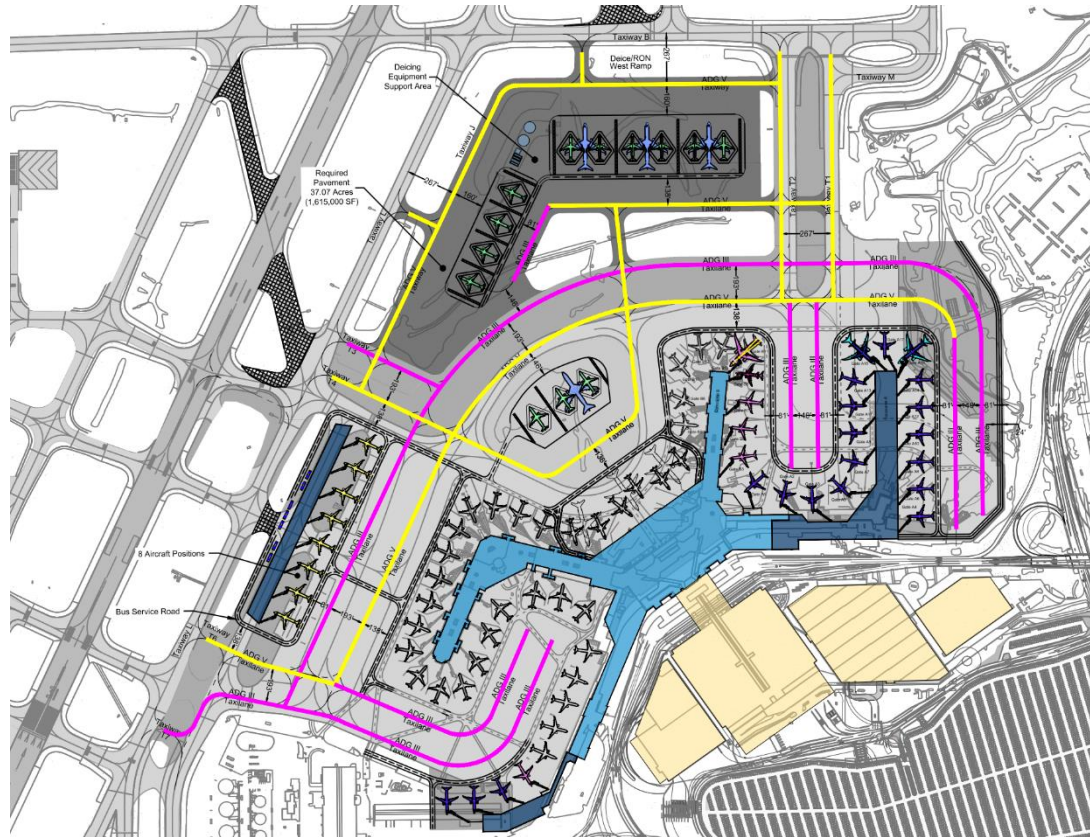
Terminal Ramp Layout



- Dual perimeter taxiway system to facilitate aircraft flow.
- Deicing ramps to accommodate up to 10 narrow-body and 3 wide-body aircraft.

- Existing Pavement
- Proposed Pavement
- Proposed Demo
- BNA Vision Terminal
- New Concourse A / Concourse D Extension / Satellite Concourse

Terminal Ramp Taxi Routes



Proposed Deicing Aircraft Positions (ADG V)



Proposed Deicing Aircraft Positions (ADG III)



Existing Pavement



Proposed Pavement



Proposed Pavement for West Ramp Deicing



Proposed Demo

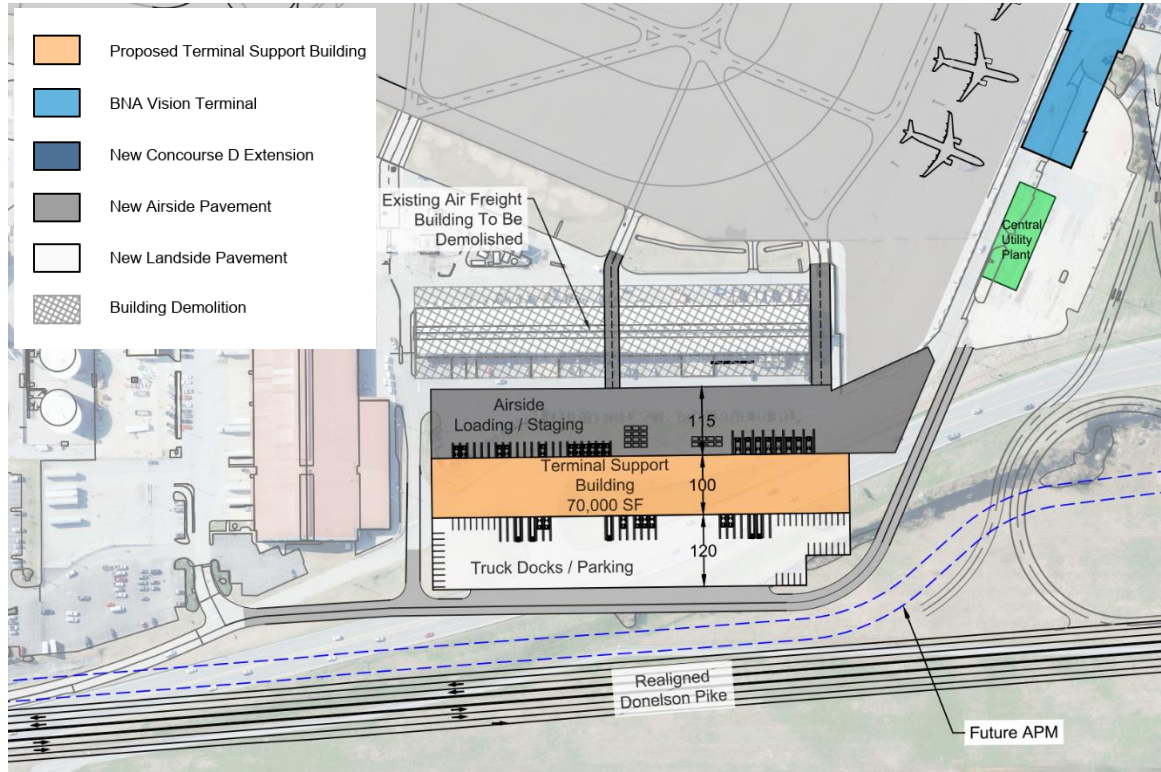


ADG V Taxiing Route



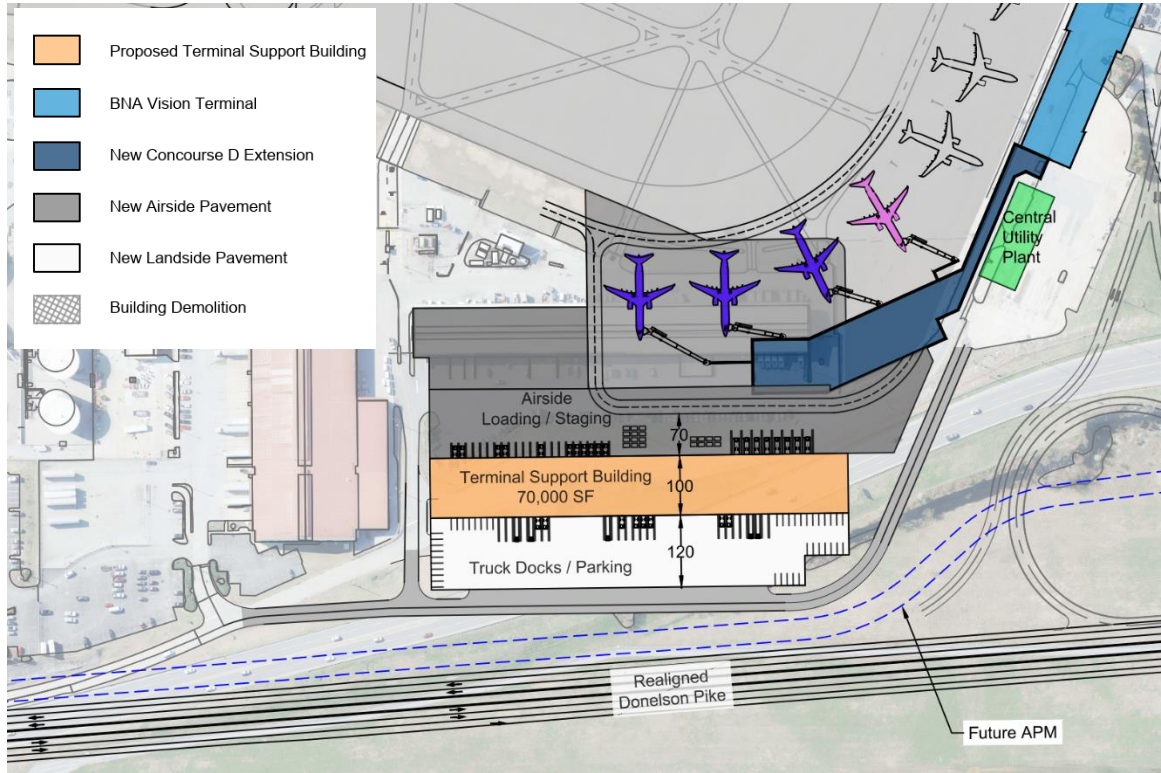
ADG III Taxiing Route

Terminal Support Building



- A single shared-purpose building provides flexibility to assign building space as needed for Air Freight, GSE storage / maintenance and catering.
- Provides airside ramp area for flexible use including GSE storage / staging, and service vehicle parking.
- Requires completion of Donelson Pike project.

Terminal Support Building – with D Extension



- Facilities have been located to accommodate extension of Concourse D.

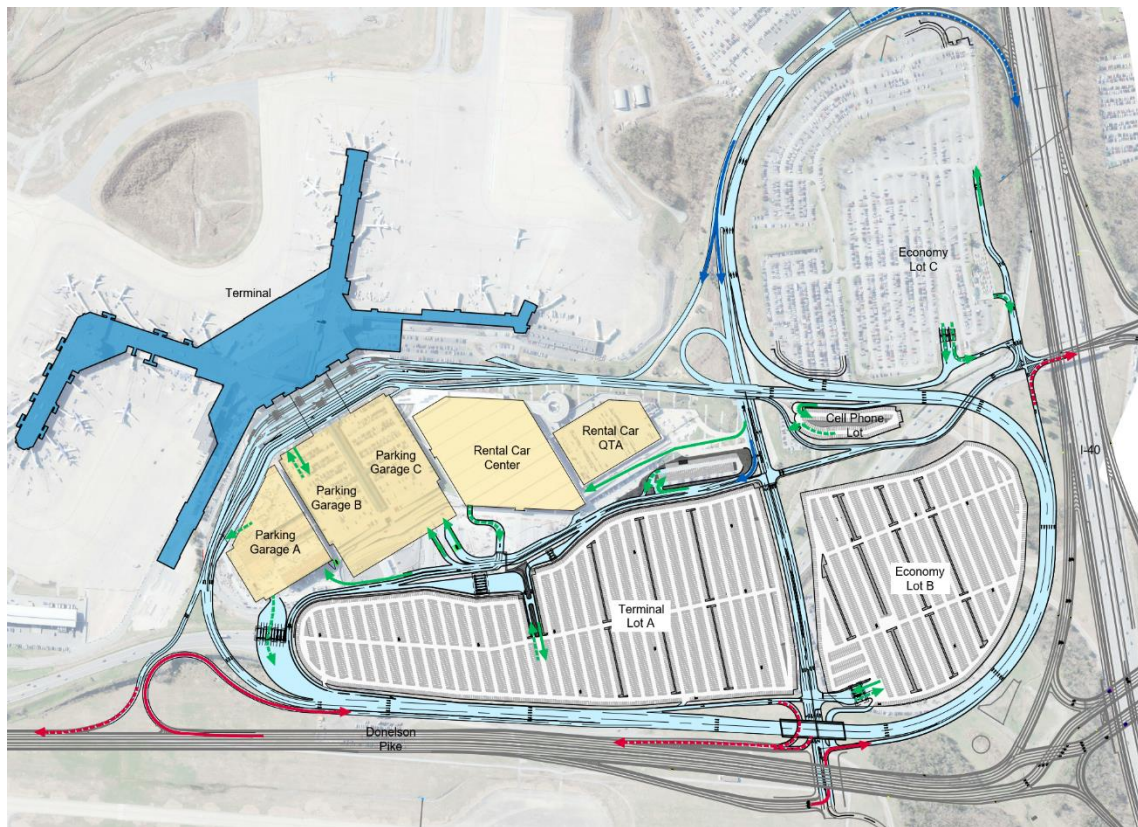
LANDSIDE DEVELOPMENT PLANS

Landside Development Objectives

- Expand arrivals / departures level approach and exit roadways.
- Improve arrivals and departures level curbside capacity and traffic flow.
- Provide additional rental car servicing and ready/return storage capacity.



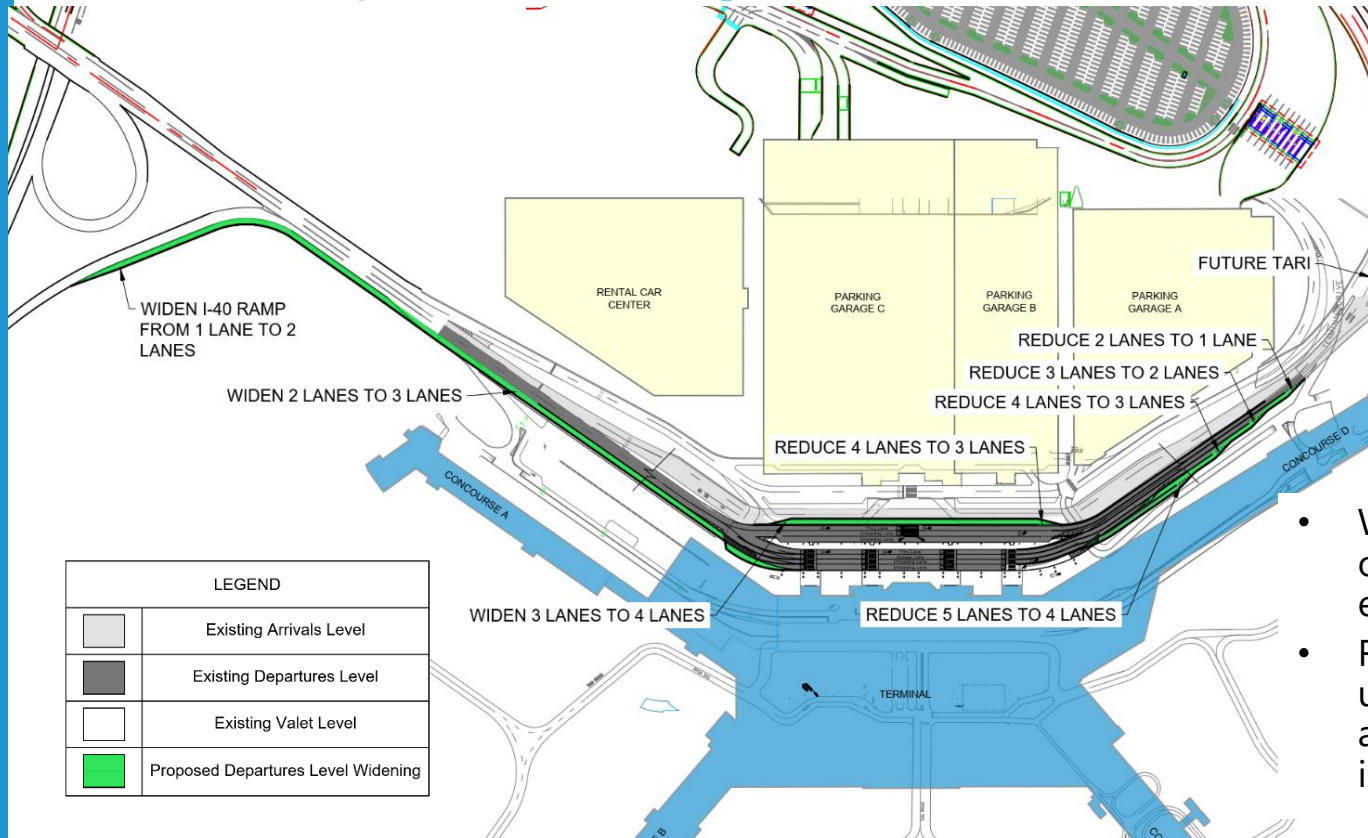
Terminal Access Roadway Improvements (TARI)



- Master Plan concurs with Terminal Access Roadway Improvement (TARI) Program.
- I-40 access will require upgrade.
- Terminal approach and curb front lanes needed.

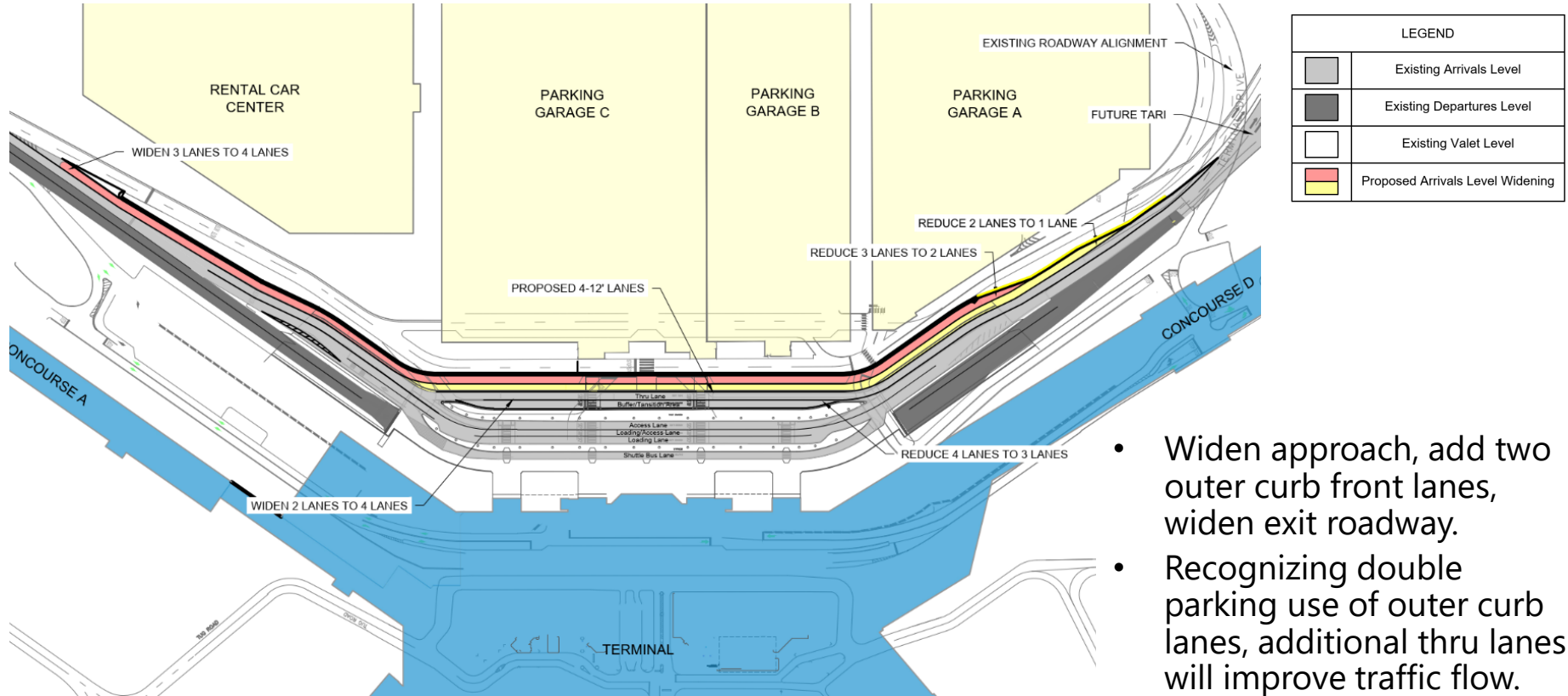
LEGEND	
	Entrance From I-40
	Exit To I-40
	From Donelson Pike
	To Donelson Pike
	From Parking/ Rental Car/GTC
	To Parking/ Rental Car/GTC

Roadway Widening – Departures Level

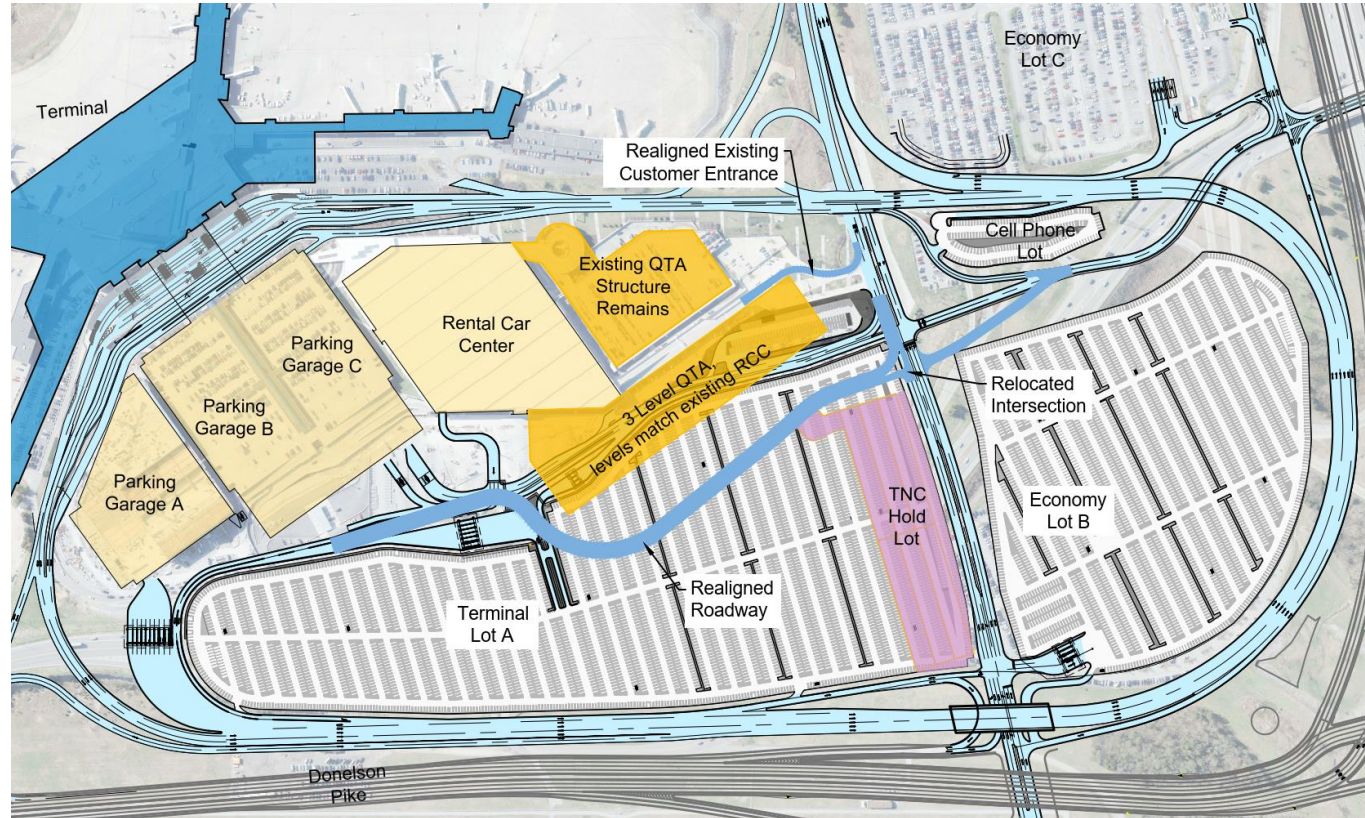


- Widen approach, add one outer curb front lane, widen exit roadway.
- Recognizing double parking use of outer curb lanes, additional thru lane will improve traffic flow.

Roadway Widening – Arrivals Level

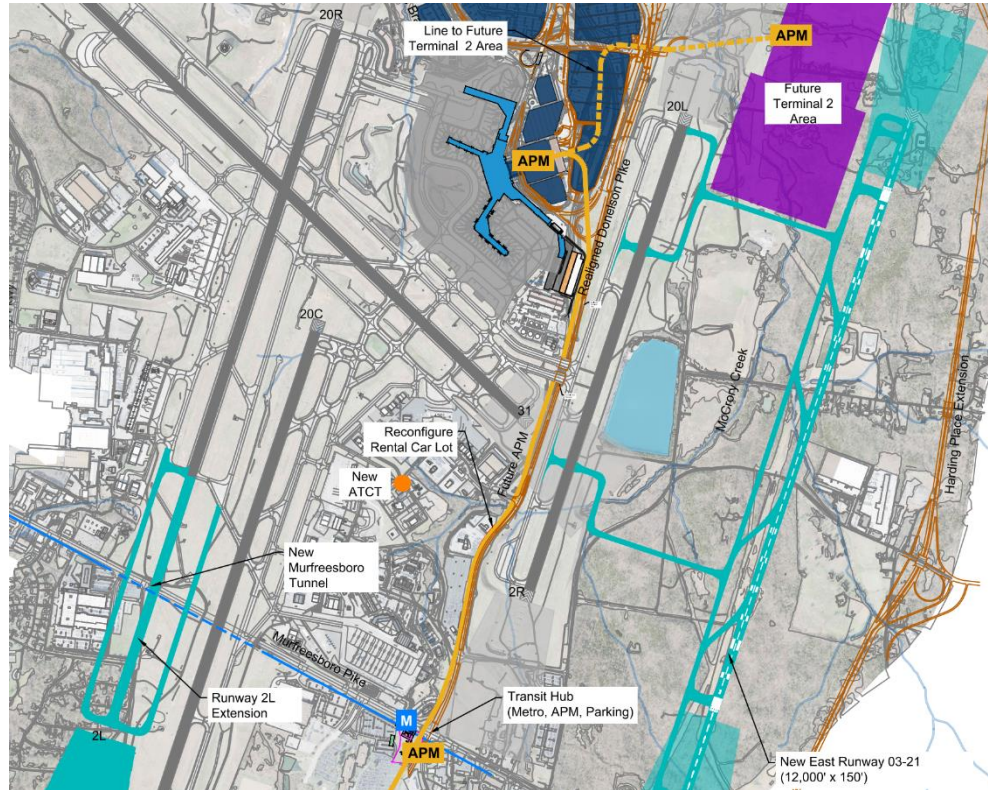











Rental Car Servicing / Storage Expansion



- A 3-level expansion of the existing Rental Car Center to provide additional space for rental car servicing facilities and ready/return vehicle parking.

Future Airport People Mover (APM) Line



Legend	
	Terminal Building
	Terminal Apron
	Landside
	Existing Runway
	New Runway/Taxiway
	Metro Line
	Metro Station
	APM Line
	APM Station

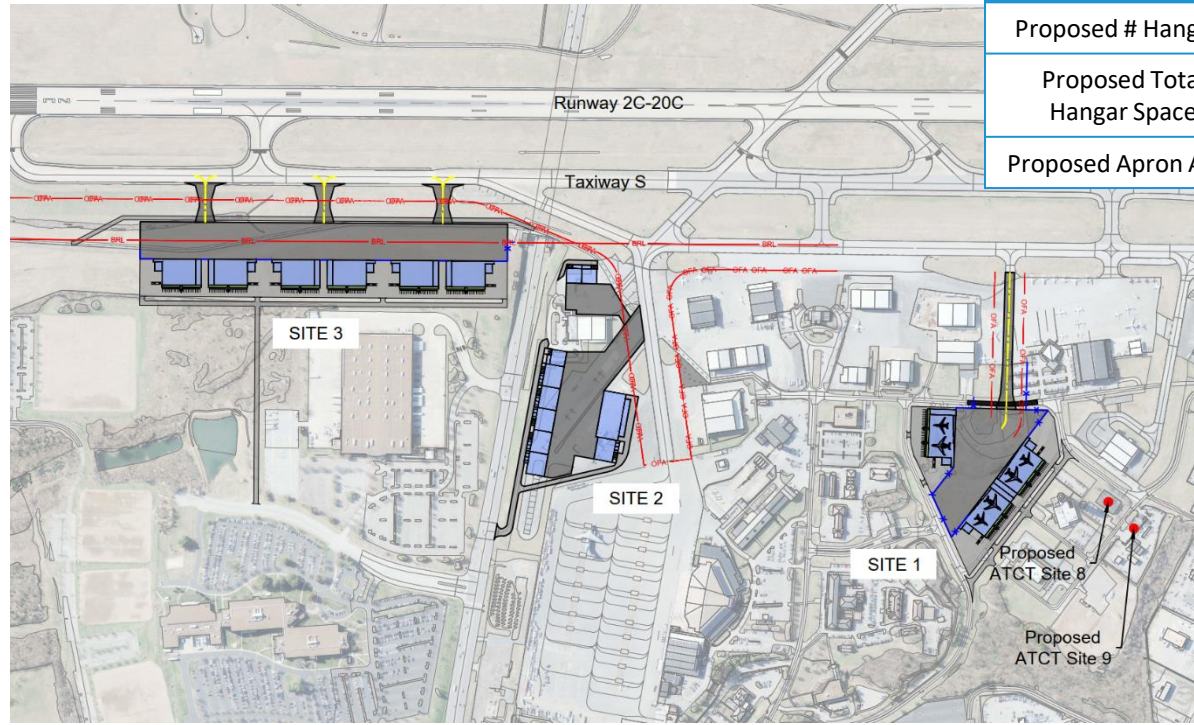
GENERAL AVIATION DEVELOPMENT PLANS

General Aviation (GA) Development Objectives

- Identify land areas to accommodate growth in demand for aircraft hangars, parking apron and support facilities.



GA Development Sites



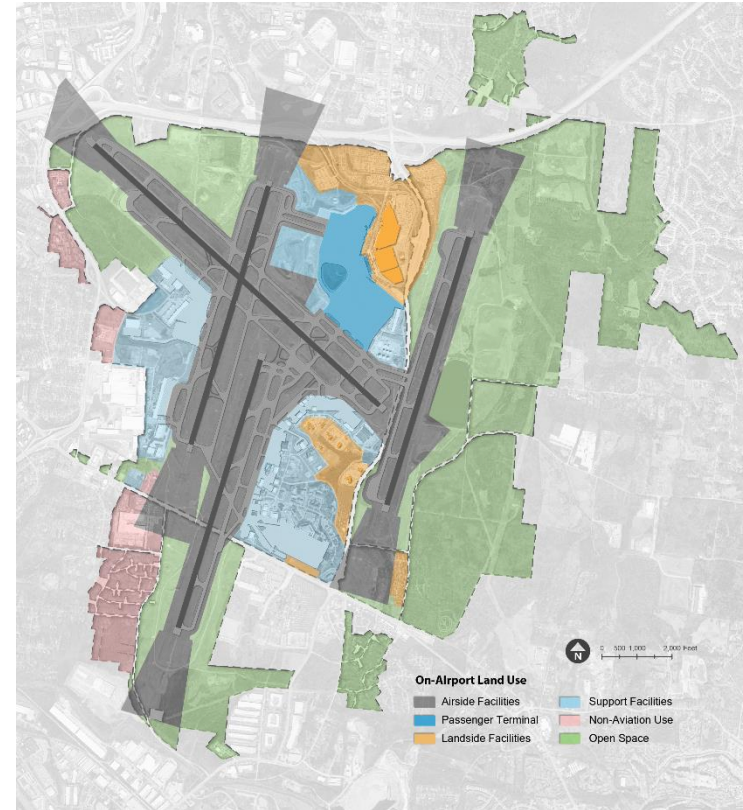
	SITE 1	SITE 2	SITE 3
Proposed # Hangars	3	10	6
Proposed Total Hangar Space	± 115,200 SF	± 121,200 SF	± 188,400 SF
Proposed Apron Area	± 195,000 SF	± 241,000 SF	± 396,000 SF

- Three hangar development sites can accommodate 425,000 s.f. of hangar space and exceed the facility requirement of an additional 126,000 s.f.

LONG RANGE DEVELOPMENT

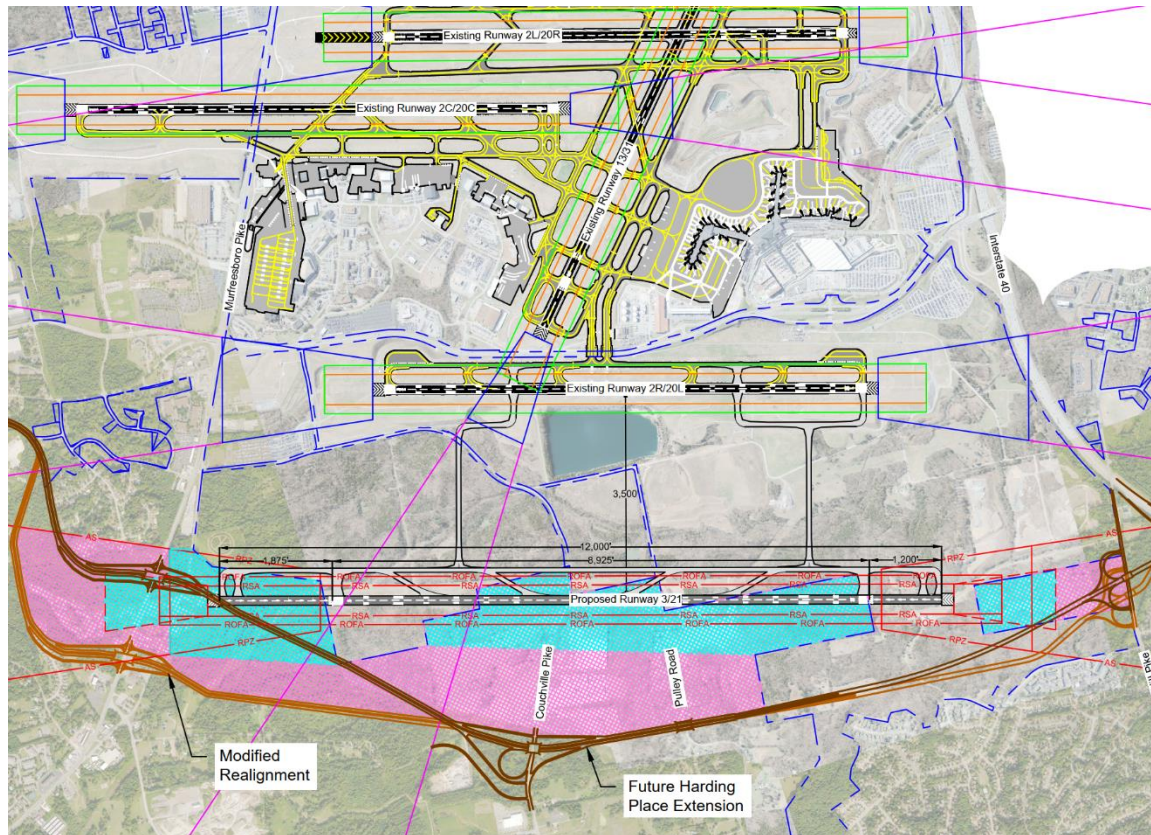
Long Range Development Objectives

- Locate 4th parallel runway and identify land area required and impacts to regional access.
- Locate 2nd terminal area and identify land area required for terminal facilities and airside and landside access.



Long Range Parallel Runway

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

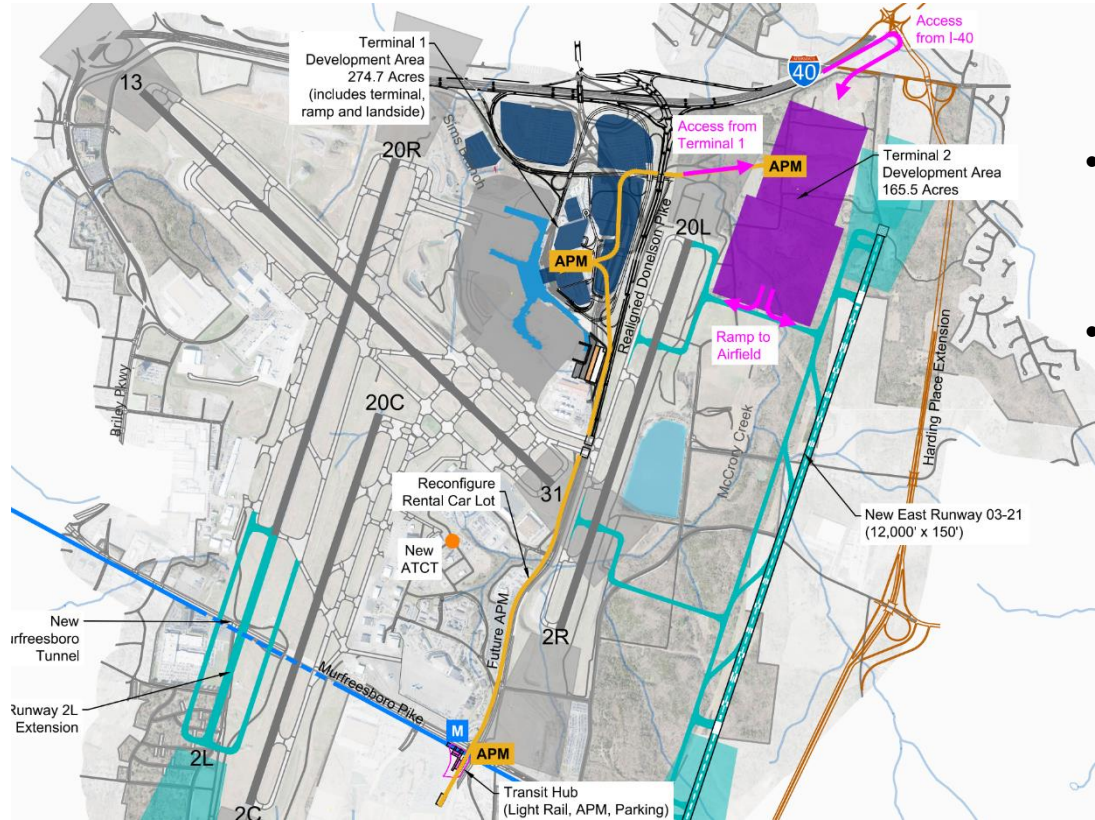


Approximate Property Acquisition

Minimum	Harding Place Ext. Road
300 Acres	630 Acres

- Existing Airport Property Line
- Future Harding Place Extension Road
- Future Harding Place Extension Road Modification
- Future Property Line (Minimum Acq.)
- Future Property Line (Harding Place Acq.)

Long Range Terminal Area



- East side location is preferred to be reserved for future terminal growth.
- Adjacent to existing terminal for common I-40 access and connectivity.
- Greenfield site and limited enabling projects provide for shorter implementation timeframe.

Legend	
	Terminal Building
	Terminal Apron
	Landside
	Existing Runway
	New Runway/Taxiway
	Terminal 2 Area
	Metro Line
M	Metro Station
	APM Line
APM	APM Station

Master Plan Documentation

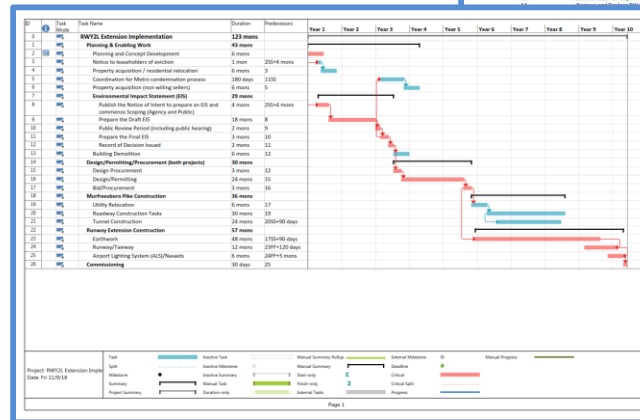
Documentation will include:

- Master Plan Report
- Airport Layout Plan (ALP)
- Program Implementation Plan
 - Project Schedule / Phasing
 - Development Costs
- Financial Plan

All Master Plan recommendations are subject to approval by the MNAAB Board prior to implementation of any option.

Project Title		Runway 2L Extension	
Location		Nashville International Airport	
Client/Project No.		MNAAB	
Revision		01/2018	
Original Date		01/2018	
Approved/End Drawing Date		01/2018	
Project Manager		J. Smith	

ITEM NO.	CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
1	US	Mobilization (20%)	1	US	\$ 22,000,000.00	\$ 22,000,000.00
2	US	Drainage (10%)	1	US	\$ 20,000,000.00	\$ 20,000,000.00
3	ALP	Utility Relocation	1	ALP	\$ 1,000,000.00	\$ 1,000,000.00
4	ALP	Miscellaneous Demolition	1	ALP	\$ 200,000.00	\$ 200,000.00
5	ALP	Property Acquisition	1	ALP	\$ 2,000,000.00	\$ 2,000,000.00
6	US	Warehouse Demolition - Single Story	240,000	SF	\$ 25.00	\$ 6,000,000.00
7	US	Warehouse Demolition - Two Story	100,000	SF	\$ 20.00	\$ 2,000,000.00
8	US	Warehouse Foundation Demolition	300,000	SF	\$ 10.00	\$ 3,000,000.00
9	ALP	House Demolition	1	ALP	\$ 200,000.00	\$ 200,000.00
10	US	Best Ball Full Depth Removal	20,000	SF	\$ 20.00	\$ 400,000.00
11	US	Marking Installation	20,000	SF	\$ 1.00	\$ 20,000.00
12	US	Marking and Parking Lot Payment Full	100,000	SF	\$ 2.00	\$ 2,000,000.00
13	US	Depth Removal (including Miscellaneous)	100,000	SF	\$ 14.00	\$ 1,400,000.00
14	US	Depth Removal (including Miscellaneous)	1	US	\$ 1,000,000.00	\$ 1,000,000.00
15	US	Additional Lamps	2	EA	\$ 10,000.00	\$ 20,000.00
16	US	Additional Lamps	180	EA	\$ 5,000.00	\$ 900,000.00
17	US	Additional Lamps	1	EA	\$ 5,000,000.00	\$ 5,000,000.00
18	US	Slope	1	EA	\$ 500,000.00	\$ 500,000.00
19	US	Slope	7,500	SF	\$ 20.00	\$ 150,000.00
20	US	Slope	1	EA	\$ 4,000,000.00	\$ 4,000,000.00
21	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
22	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
23	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
24	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
25	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
26	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
27	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
28	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
29	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
30	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
31	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
32	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
33	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
34	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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36	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
37	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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51	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
52	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
53	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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64	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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73	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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75	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
76	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
77	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
78	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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86	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
87	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
88	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
89	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
90	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
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92	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
93	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
94	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
95	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
96	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
97	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
98	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
99	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00
100	US	Slope	1	EA	\$ 10,000.00	\$ 10,000.00



Thank You for Your Participation!

Public Information Meeting

November 21, 2019

(Location TBD)

Follow the Master Plan Update on

<https://www.flynashville.com/about/Pages/MasterPlan.aspx>

Comments or Questions

<https://www.flynashville.com/contact/Pages/commentsandquestions.aspx>

