



# Planning and Building Airports of the Future

June 2021

# The Airports Authority

- Established in 1986 as an independent authority
  - Took control of the airports in 1987
  - Not reliant on annual appropriated government funds
- Long term capital budget stable
  - Last major update in 2014 / 2017
  - Ability to add large and small projects
- Critical transportation and economic driver in the region
- Part of the community and must be sustainable

# Reagan National Airport Capital Construction Program

	Project Costs (in 000s) <sup>2</sup>
Reagan National Airport	
Concourse E	\$395,835
Concourse E enabling projects	193,813
Secure National Hall	270,612
Terminal A rehabilitation	66,704
New parking garage	115,926
Roadway improvements	15,070
Utility system upgrades	80,484
Airfield pavement rehabilitation	58,699
Other airfield projects	80,371
Other projects (Wayfinding and Signage)	87,372
Subtotal	\$1,364,887

# New Concourse – Terminal E



# Security Checkpoints



# DCA Post Project Journey



# Proposed Improvements



# Terminal A Redevelopment





# South Airport Area Improvements



# Roadway Improvements

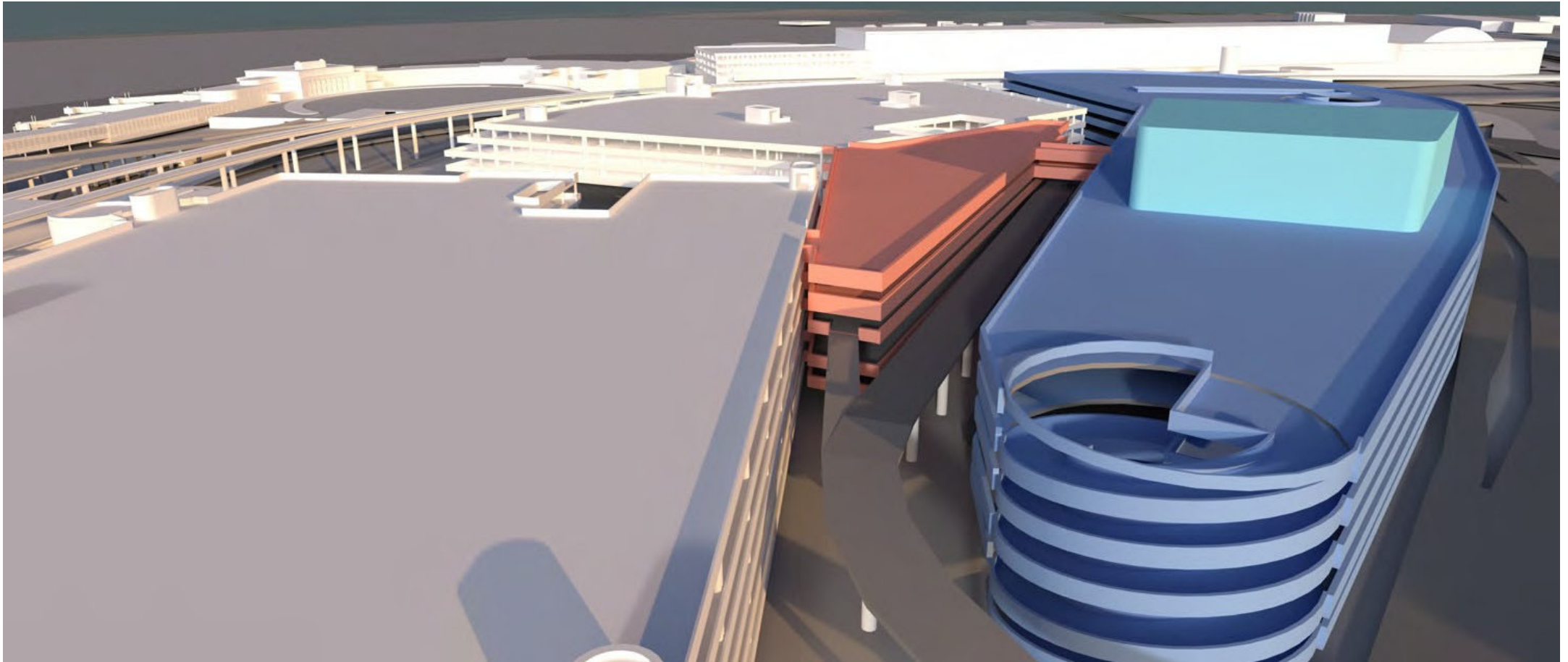


# Hill Development





# Ground Transportation, Parking and Office/Hotel



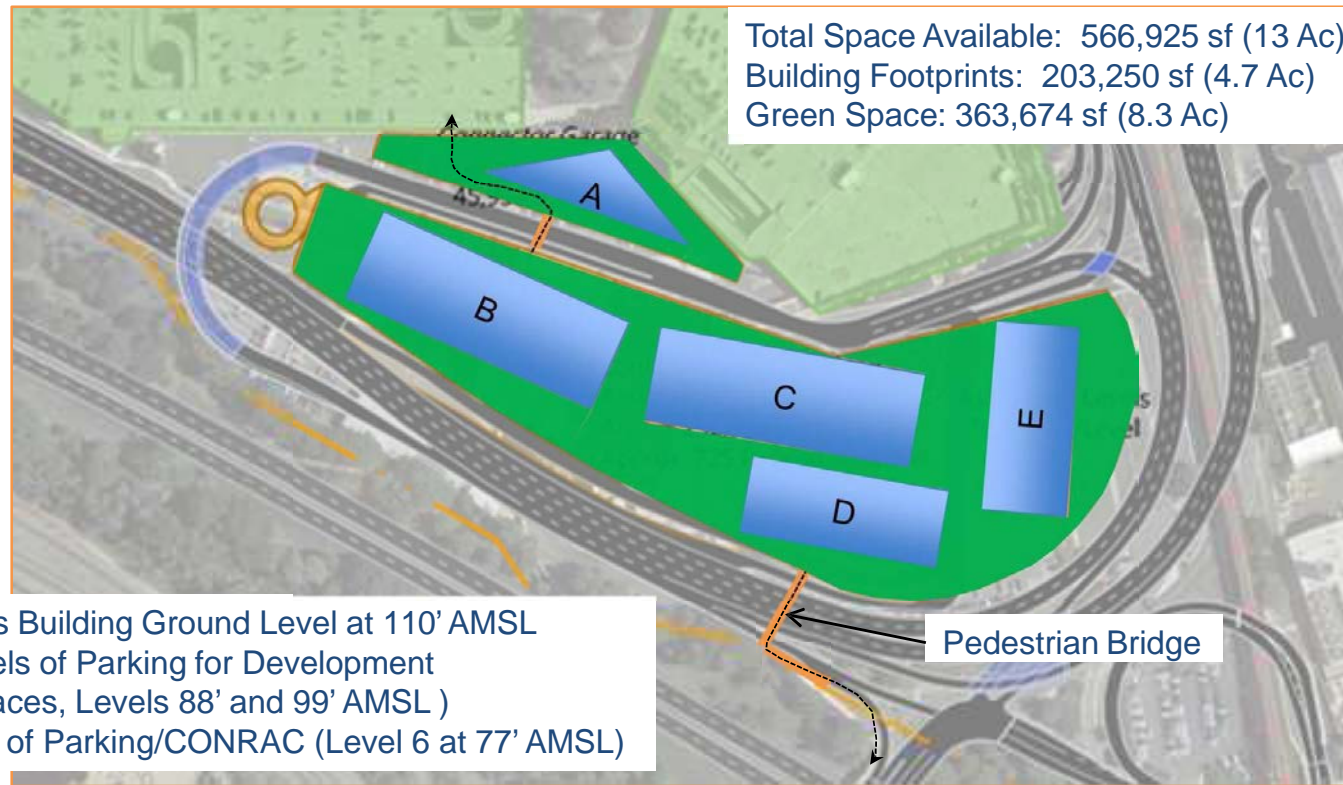
# Consolidated Rental Car and Parking



# Available Area for Additional Development



# Potential Building Layout on Parking/CONRAC



# *Office/Hotel and Pedestrian Bridge*





# Dulles International Airport Capital Construction Program

## Dulles International Airport

Contribution to Dulles Metrorail Project	\$233,041
Airfield improvements	215,664
Additional aircraft gates	66,225
Main terminal improvements	49,875
IAB capacity enhancements	30,064
Upgrades to Concourses A and B	24,190
Upgrades to Concourses C and D	97,671
AeroTrain renewal and replacement	44,738
Mobile lounge rehabilitation	34,153
Utility system upgrades	71,322
Access Highway improvements	42,685
Public safety projects	13,685
Parking and roadway projects	12,762
Other projects	127,268
Subtotal	\$1,063,346
Total CCP	\$2,428,232

# Our Vision for Dulles International (Masterplan Update)

- International “Front Door” to our Capital
  - Build upon Dulles’ Iconic Architecture
  - Build Back Better
- Improve Passenger Experience
  - Expand Service Quality and Availability
  - Better Access and Functionality
- Enhance Airport And Airline Operations
  - Reduced Connection Times
  - Efficient Ground Operations



# Dulles Today



Existing AeroTrain C/D  
Aerotrain w/walk back..

Concourse A-Ramp  
Loaded Gate

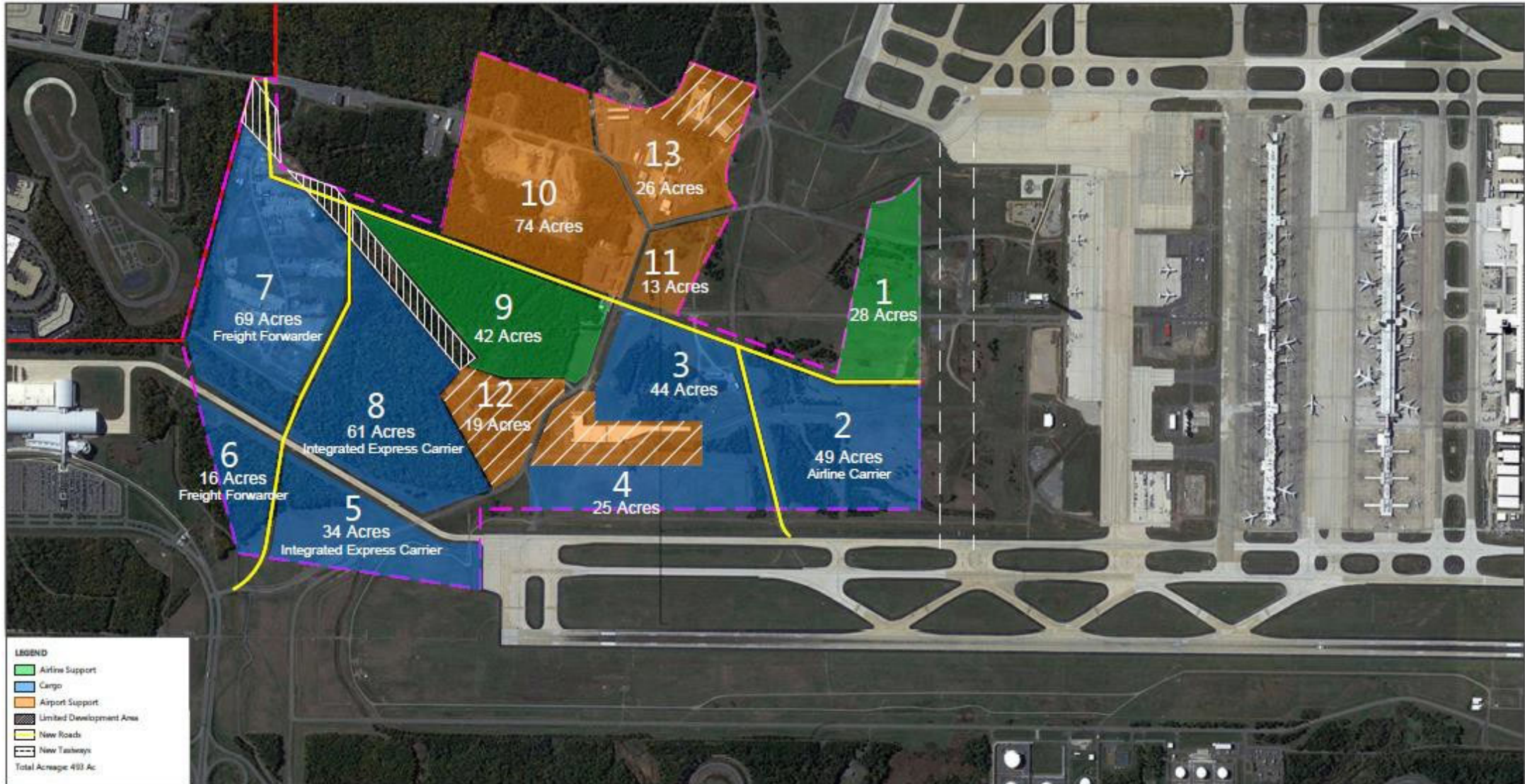
# *The Dulles Aerotropolis*



# North Area Development

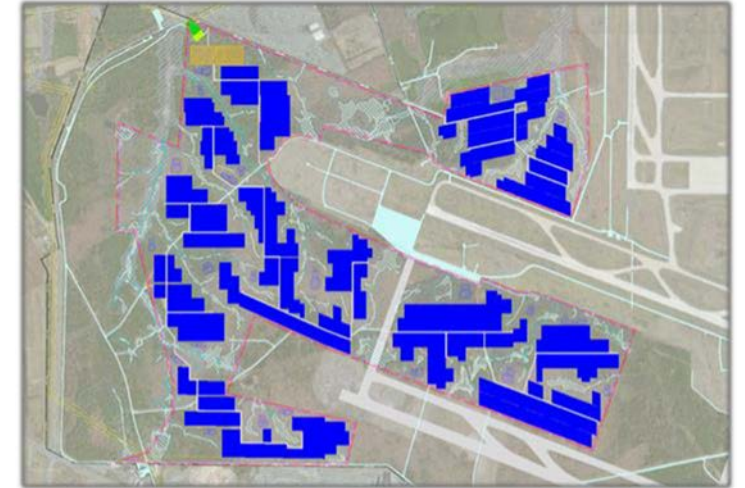


# South Area Land Uses



# Dulles Large Scale Solar Generation and Battery Storage

- **3-year agreement with Dominion Energy through April 2023**
  - Awaiting PJM Interconnection project approval
  - Completed site optimization November 2020
  - Soliciting project partner
- **Began Valuation Q1 2021**
- **Environmental Assessment Q3 2021**
- **Complete Negotiations Q4 2021**
- **Sign Lease Q1 2022**



# What is an Airport of the Future?



*Photo courtesy of Metropolitan Washington Airports Authority*



# What Creates the Airport Experience?

*Highly rated airports undergo constant reinvention*



**PREMISES**



**PROCESSES**



**PEOPLE**

# Related Industries – *Information*

*Artificial Intelligence making information personally relevant*



**Airport passenger experience increasingly defined by interactions between physical premises and digital services**

# Related Industries – *Logistics*

*AI and Robotics are driving supply chain competition*



**AI and robotics will reduce dependence on fixed capital intensive baggage handling systems**

# Related Industries – Retail

*Brick and mortar stores redesigned to provide an immersive experience that forges an emotional connection with customers*

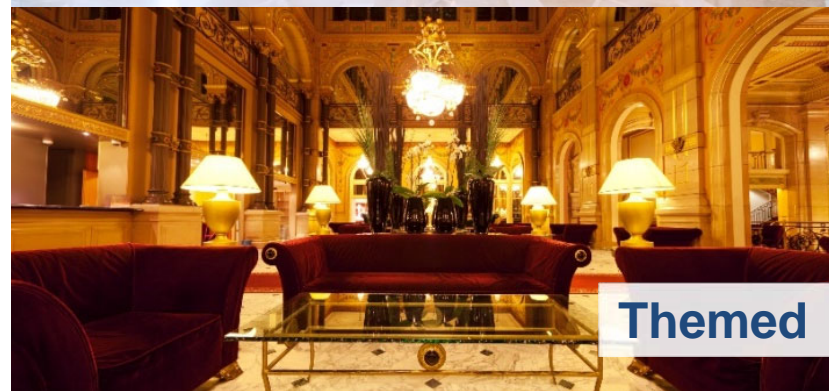
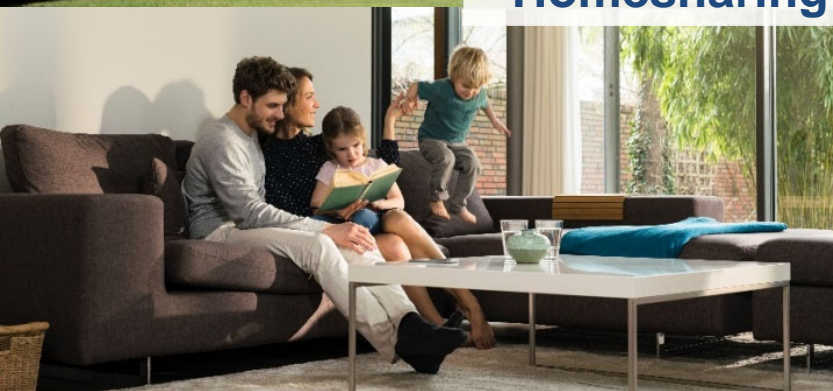


Photo courtesy of Bass Pro Shops

**Airports are opportunities to connect with passengers on many different levels, stimulate and share interests, and improve personal well-being**

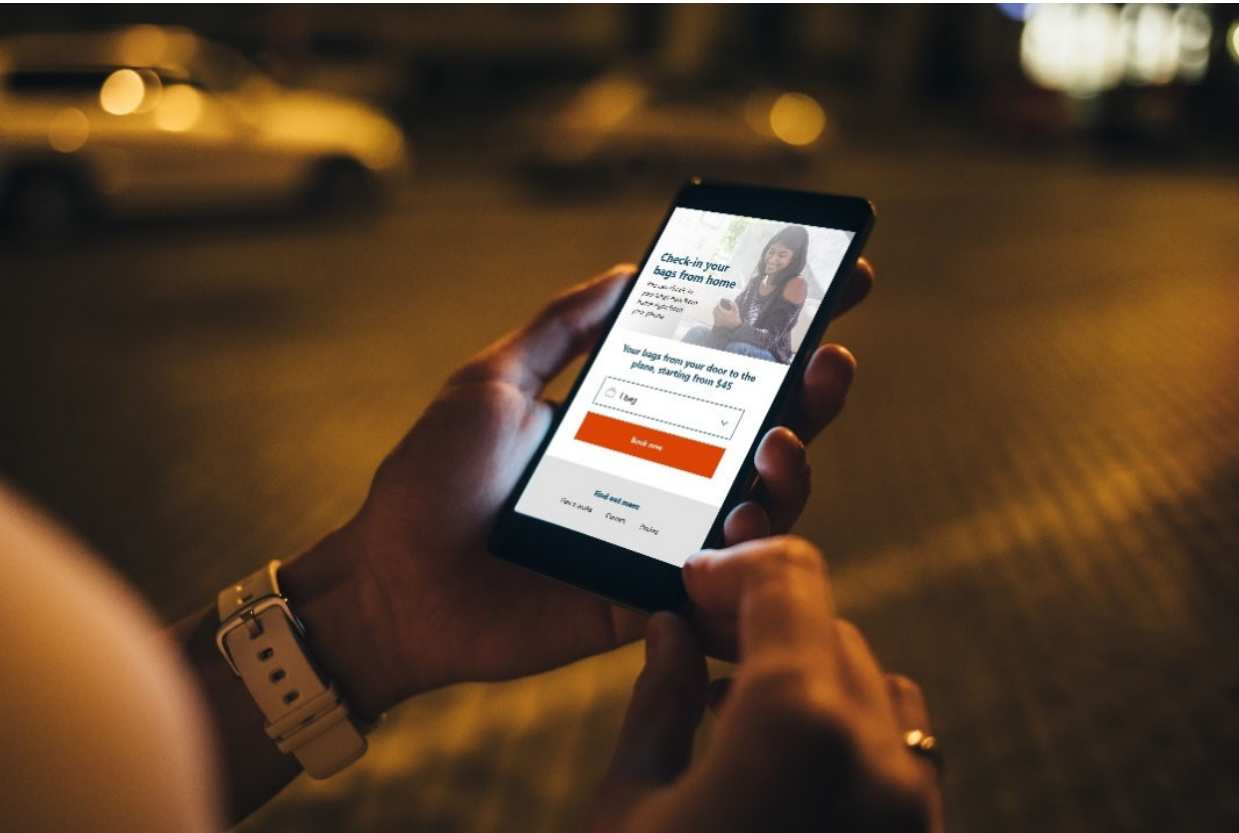
# Related Industries – *Hospitality*

*Travelers seeking personalization, authenticity and value*



**Airports can stimulate interest in the unique culture of the region and sense of place**

# The Journey Starts at Home



**Who will control the digital door into the airport?**

# Airport Landside

Available land in front of the terminal to reimagine the landside experience



# Airport Landside

Facilities that will be resilient to transformative changes in personal transport preferences



Photos courtesy of Italdesign





# Airport Landside

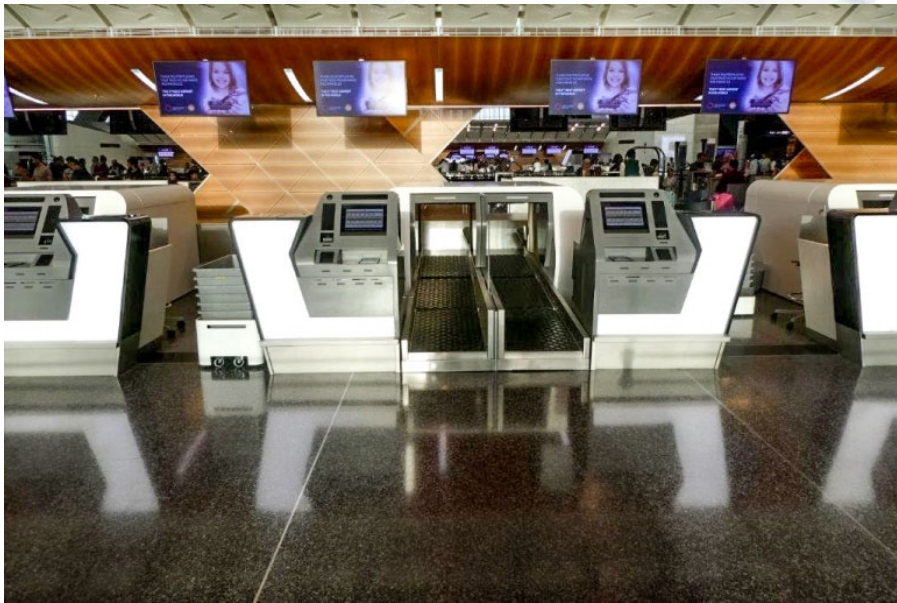
The terminal will have many different front doors





# Airport Landside

Technology will decentralize terminal processes

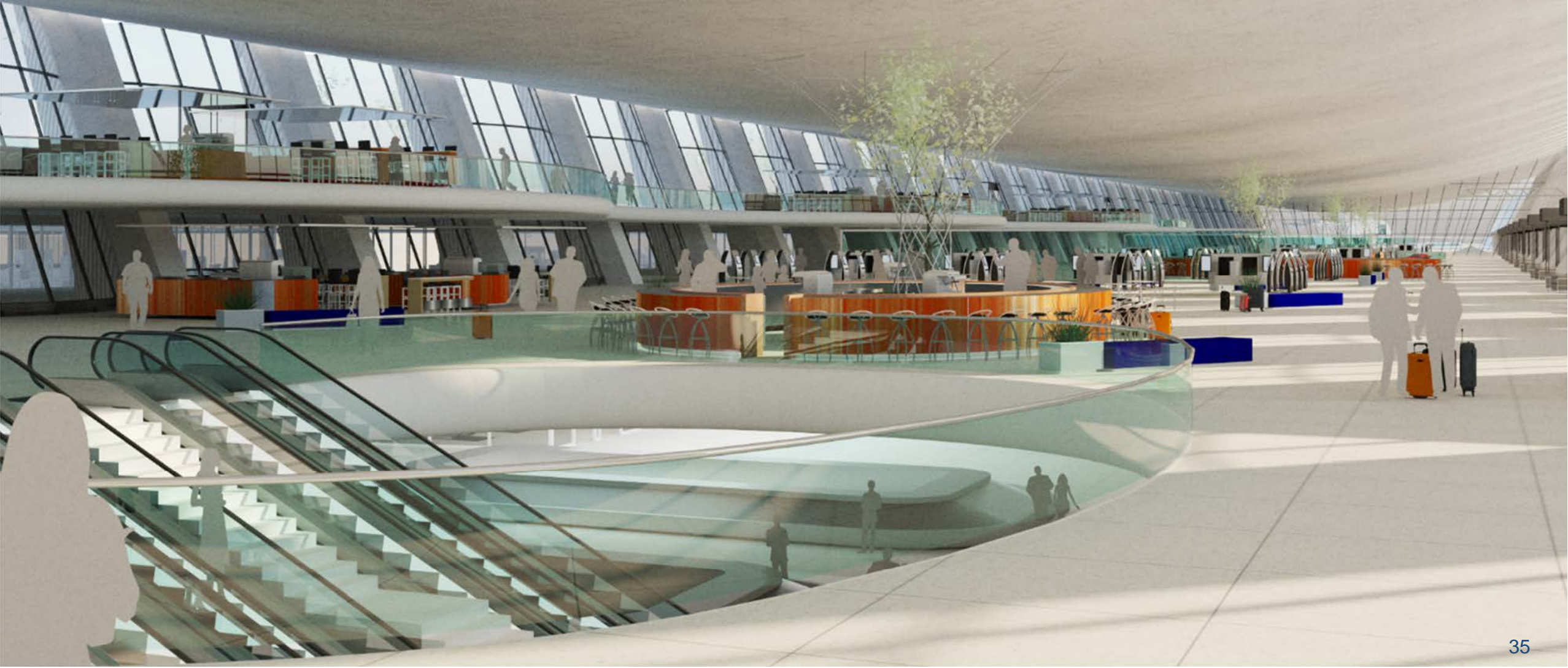


# Terminal

Reimagining older assets will be a key part of creating the future airport experience



## International gateway terminals have special needs and opportunities



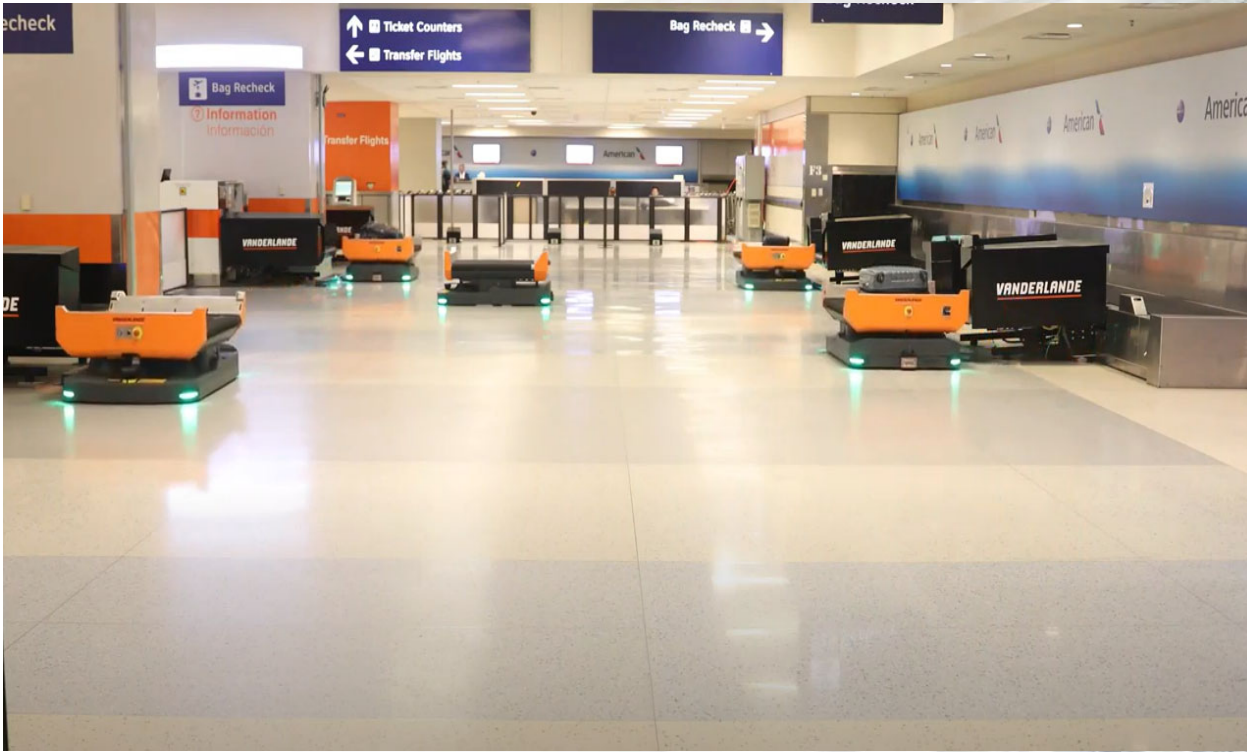
# Baggage Handling

AI and robotics will reduce dependence on fixed capital intensive baggage handling systems



# Baggage Handling

Robotic bag carriers operating without fixed infrastructure will provide on-demand capacity and expanded service





**New technological infrastructure will be needed to leverage future systems that will provide new capabilities, reduce costs, and improve efficiency and safety**

**The challenge is to harness the energy created by thousands of people anticipating the excitement of flying**





# Reagan Upcoming Projects

16-inch Sanitary Force Main Replacement	2021
Arc Flash Corrections	2022
Three Force Mains Rehabilitation	2022
DCA Signage and Wayfinding Phase 1	2022
Replace Emergency Generators - Future	2022
Runway 15-33 Pavement Rehab and Taxiways	2022
Terminal A New MERs	2022
Runway 19 RIM and Hold Block 19 - Utility	2022
Gate V Relocation and North Staging Area	2022
Terminal A Window Replacement	2022
Intermediate Roadway Improvements	2023
Terminal A Oversize Baggage Lift System	2023
Runway 1-19 Pavement Rehab and Taxiways	2023
New North Triturator	2023
Runway 19 RIM and Hold Block 19 - Phase 1	2023
Hill Facility Relocation	2023
South Hangar Line Renovations	2023

Txwy N Rehab Phases 1 and 2	2024
Runway 15 Hold Block Expansion	2024
Runway 19 RIM and Hold Block 19 - Phase 2	2024
Terminal A (Remaining)	2025
Terminal A Restroom Addition	2025
Midfield Taxiway Geometric Improvements	2025
Taxiways J and K Rehabilitation	2025
Terminal B-C Apron Pavement Rehabilitation	2025
Structured Parking Garages	2026
Hold Bay 1 Expansion	2028

# Dulles Upcoming Projects

Remote Gate Power Upgrade	2021	Concourse C-D Substations A4	2022
Western Lands Perimeter Road Fencing	2021	Live Fire Training Facility (Long-Term)	2022
HTHW Generators	2021	Audio-Visual Paging System Replacement	2022
Fire Alarm System Replacement EFSO	2021	Reconstruct Taxilane E (West)	2022
Concourse C-D Elec Feeder and Ductbank	2021	Main Terminal Column Rehabilitation	2022
Concourse C-D Substations A3	2021	Power Distribution Upgrades	2022
RW 30 End and Txyw Y11 and Z	2021	Concourse C-D Concessions Access and Misc	2023
Concourse C-D Substations A5	2021	Stormwater Management N and S	2023
Concourse C-D Substations A2	2021	IAD Signage and Wayfinding Phase 1	2023
Concourse C-D Substations A1A-A1B	2021	Concourse A-B Hyd Fuel Cathd Protection	2023
Fire Alarm Linear Heat Detection	2021	Baggage Handling System IB-OB	2023
Concourse C-D Substations FIS	2021	IAB Capacity Enhancements	2024
Access Hwy Rd Impr	2021	Aircraft Gate Expansion	2024
TxIn E (Middle and Txyw E2 and E3)	2022	Concourse C-D Elev and Escl	2024
Electrical Feeder Replacement	2022	Utility Building Main Feeder Replacement	2024
Concourse C-D MCCs and Panelboards	2022	Terminal Roadway Improvements 4th Lane	2024
Resurfacing of Arrival and Departure Ramps	2022	Telecom Duct Bank at Autopilot	2024
Triturator Relocation	2022	Runway 30 Hold Apron Drainage Improvements	2025
Shops and Warehouse Building Renovation	2022	Main Terminal Ticket Counters	2025
Sanitary Sewer Improvements	2022	Widen Escalators to Ground Transpo	2025
		Concourse A-B Enhance and Sterile Corr	2026

# Department of Supplier Diversity

## Upcoming Opportunities

<https://www.mwaa.com/business/current-contracting-opportunities>

Local Disadvantage Business Enterprise (LDBE) &  
Disadvantage Business Enterprise (DBE)

<https://www.mwaa.com/business/department-supplier-diversity-dsd>



**METROPOLITAN  
WASHINGTON  
AIRPORTS AUTHORITY**  
**MWAA.COM**



@Reagan\_Airport

@Dulles\_Airport

@Dulles\_Toll\_Road



reaganairport

FlyDulles

dullestollroad

