

The CLE Master Plan Includes:

- An inventory of existing conditions
- Forecasting future demand and analyzing future needs
- Evaluating alternative development scenarios
- Preparing the Airport Layout Plan
- Preparing the Airport Capital Improvement Program (ACIP)
- Determining the economic impact of current airport activity and future master plan development
- Promoting green initiatives & environmental stewardship
- Fostering partnership with stakeholders & the airport community

Master Plan Reflects Stakeholder Consensus of Approach to the Future of Aviation at CLE

MPU Stakeholder Outreach Program

- Aerotropolis Project Team
- Air Traffic Control (ATC)
- Airport System Staff
- Airport Tenants
- Cleveland Airline Managers Association (CAMA)
- Cleveland City Council
- Continental/United Airlines
- Customs and Border Protection (CBP)
- Federal Aviation Administration (FAA)
- Greater Cleveland Partnership
- Public Workshops (3)
- Suburban Mayors
- Transportation Security Administration (TSA)

Going places.
 **CLE**
CLEVELAND HOPKINS
INTERNATIONAL AIRPORT

Preliminary Draft - For Discussion Purposes Only

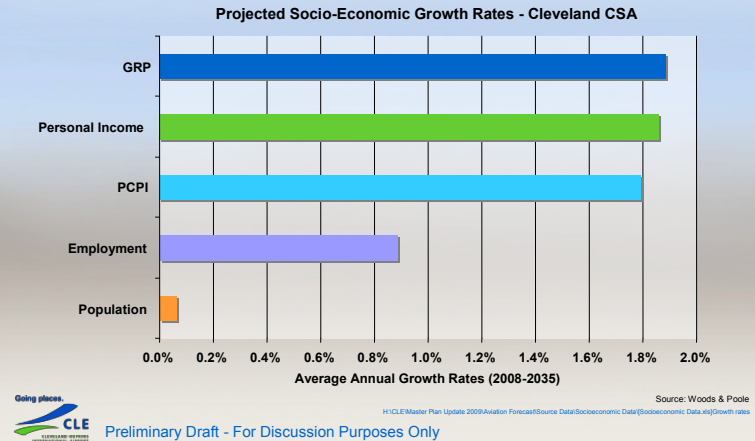
- Reflects interviews with stakeholders at every step of the master planning process
- Stakeholders identified opportunities and constraints
- Consensus: create opportunities to shape the Airport's future

Provide Opportunities to Shape CLE's Future

- Baseline demographic forecasts reflect “business-as-usual” future
- Successful economic development initiatives in the region will change this forecast
- Stronger local market will make CLE a more attractive location for an airline hub
- A 25% change in the demographic forecasts has a dramatic impact on future passenger volumes

Long Term Demand Considerations

- Long-term economic growth will be positive
- Shifting economic focus



Factors Driving High-Scenario

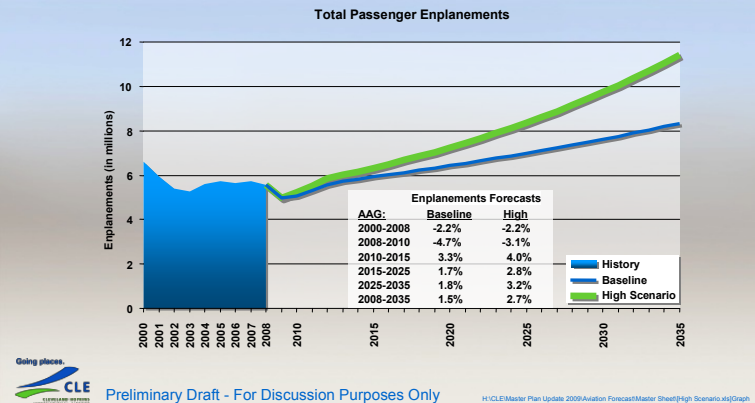
	Passenger Traffic Segment	
	Originating	Connecting
Near Term Forecast	<ul style="list-style-type: none"> → Recovery from recession more favorable than in base case. → Enplanements return to pre-recession levels by 2011/2012 	<ul style="list-style-type: none"> → Re-emphasize CLE hub → UA/CO adds back 2009 capacity cuts → UA/CO makes long-term commitment to CLE
Long Term Forecast	<ul style="list-style-type: none"> → Economic growth rates modeled at 25% above base forecast → CLE captures increasing share of regional market 	<ul style="list-style-type: none"> → Capacity constraints at east coast hubs divert connecting travel to CLE → Connections could account for half of total passengers

The Future of Aviation at CLE

- 2035 Passenger Forecasts:
 - Baseline of 8.3 million boarding passengers (25% connecting)
 - High case of 11.4 million boarding passengers (50% connecting)
 - High case driven primarily by increased connecting traffic
- 2035 Operations Forecasts:
 - Baseline of 257,400 commercial operations (AAG rate of 0.8%)
 - High case of 351,400 commercial operations (AAG rate of 1.9%)
 - High case driven primarily by modeled increase in Continental Airlines connecting traffic

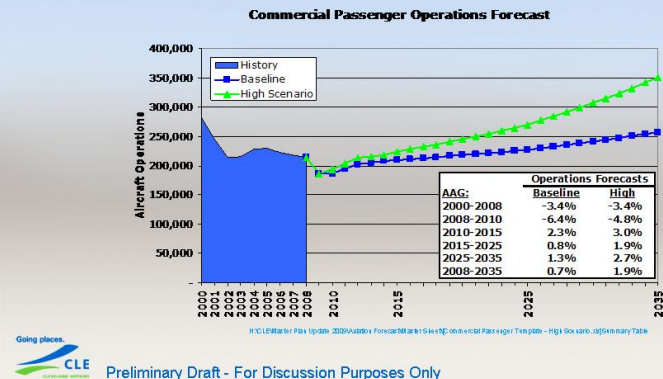
High Scenario Enplanement Forecast

- High scenario forecast projects 11.4 million enplanements in 2035
- 37% higher than the baseline scenario
- Driven primarily by increased connecting traffic

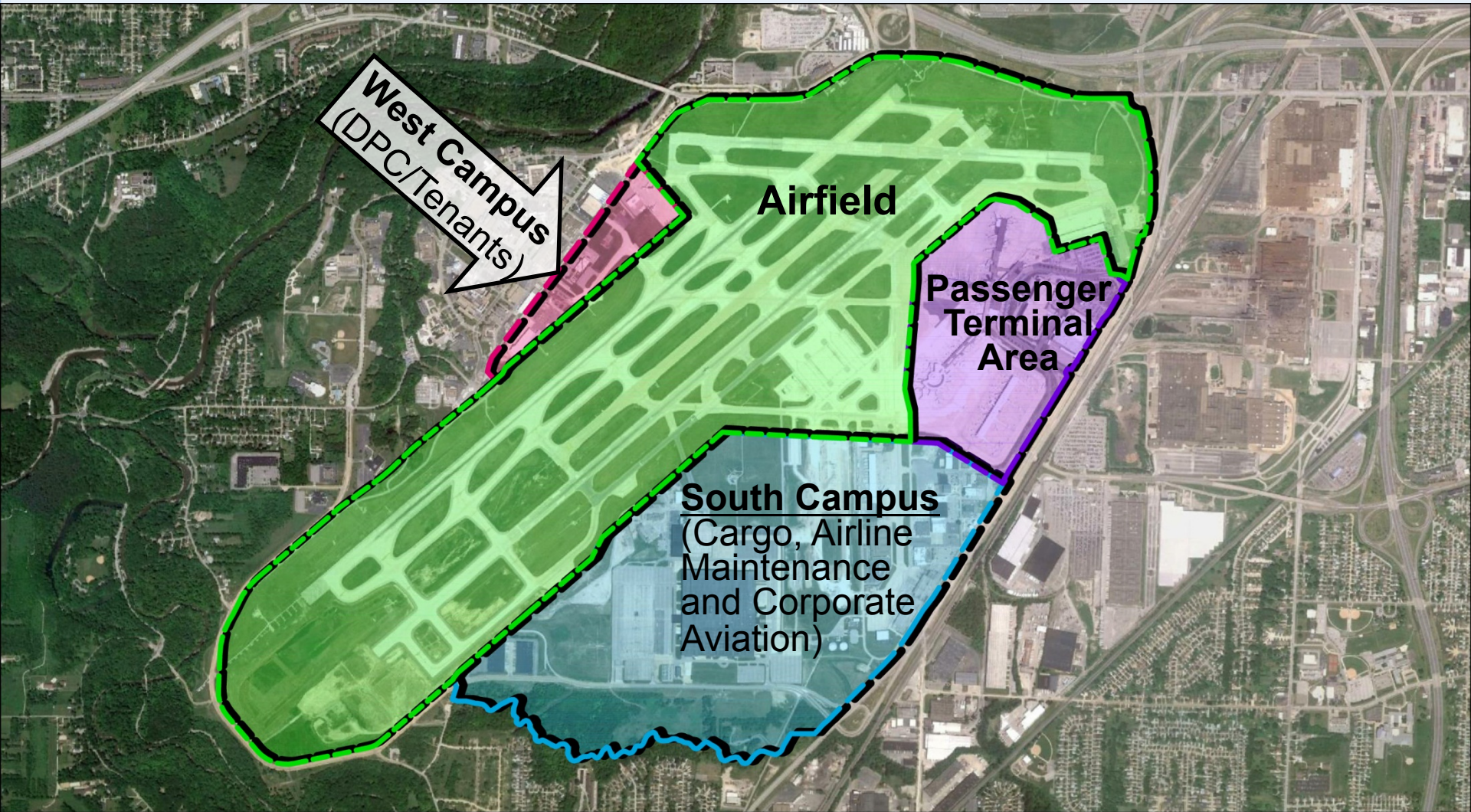


High Scenario Commercial Operations Forecast

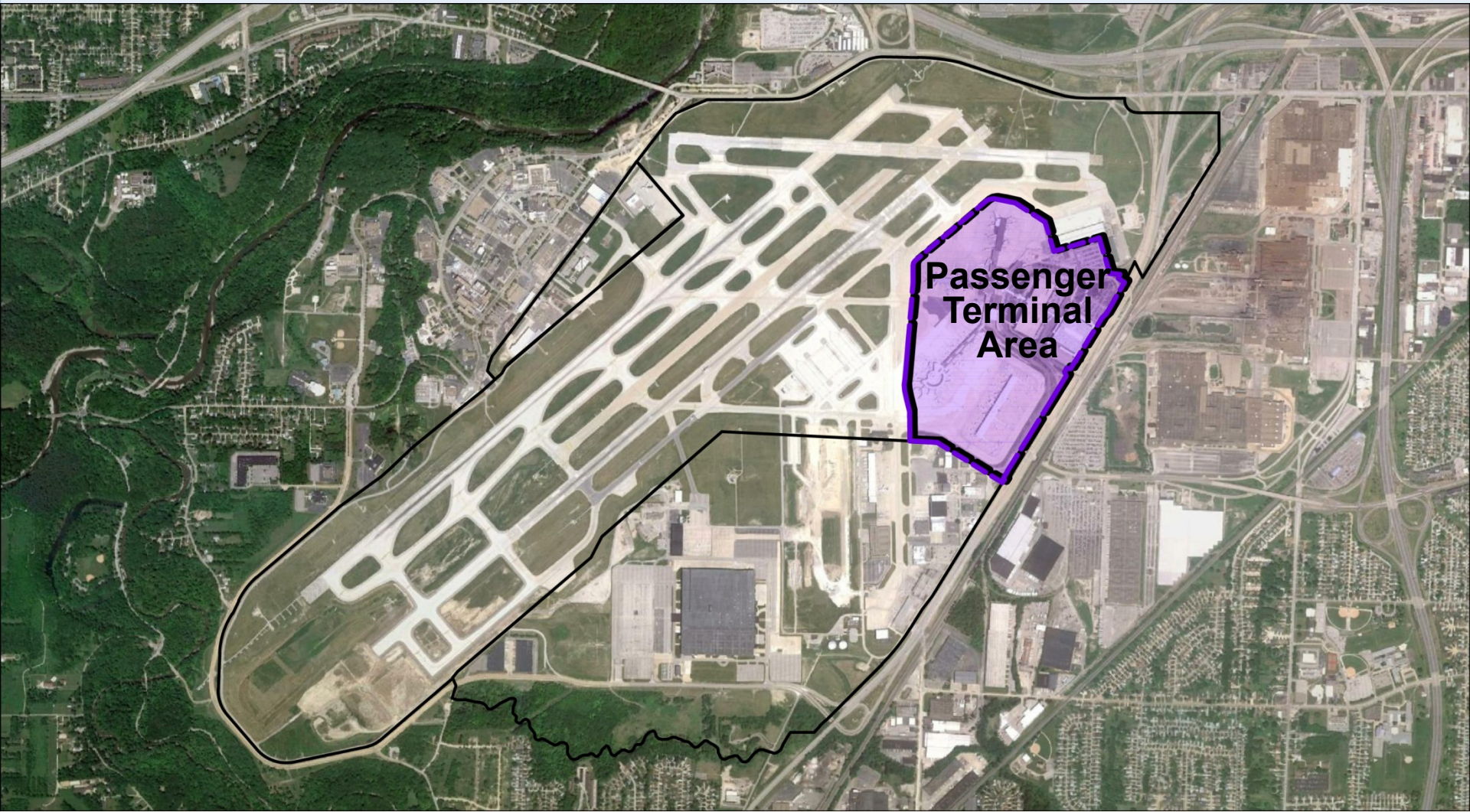
- High scenario forecast projects 351,400 passenger operations in 2035.
- 37% higher than the baseline scenario
- Airport-wide fleet mix not expected to change materially
- Driven primarily by modeled increase in Continental Airlines connecting traffic



The Airport Campus



Passenger Terminal Area



Terminal Improvement Plan Background/Findings

■ Building conditions survey findings:

- Structure is sound
- Roof requires immediate repair
- Improve efficiency through insulation, double pane windows, new systems
- Building will require various recurring renewal efforts to extend useful life
- Renewal will require \$5-10 million per year over next 25 years

■ Functional improvements

- No immediate projects (recession has dampened demand, postponing needs)
- Checkpoints and baggage screening operating at capacity during peak hours
- Customs facility accommodates one flight at a time, is inefficient and poorly located
- Emerging needs for ticketing and airline baggage handling space

Terminal Building Assessment Approach

- Building Condition Assessment Approach
 - Sampling Plan – Building Zones
 - Main Terminal
 - Concourses A, B, C, D
 - GCRTA Tunnel
 - Mechanical & Electrical Spaces
- Building Components Assessment Approach
 - Sampling Plan – System Components
 - Architecture
 - Structural
 - Civil
 - Mechanical
 - Electrical
 - Evaluated Plans / Documents
 - Interviewed Staff
 - Non-Destructive Observations



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Functional Needs

- **Immediate-Term:**
 - Outbound baggage, baggage screening, FIS/CBP, Checkpoints, Ticketing, Parking
- **Emerging Needs:**
 - Curbs
 - Roadway weaves
 - New revenue sources and growth of existing revenue streams
- **Long-Term**
 - Gates for expanded connecting hub (high scenario only)

Exclusive Use Facilities		Units	Existing	Needs				
				2013	2025	2035	High 2025	High 2035
Ticketing	Total Positions	119	119	122	131	161	139	163
Bag Screening	EDS Machines	11	11	13	14	15	15	15
Baggage Make-Up	Square Feet	41,792	41,792	68,117	81,987	93,398	84,680	97,944
Gates	Number	81	81	62	66	75	79	103
Holdrooms	Square Feet	117,760	117,760	90,137	95,953	109,037	114,811	149,366
Common Use Facilities								
Arrival Auto Curb	Linear Feet	770	770	723	848	938	874	982
Arrival Other Curb	Linear Feet	770	770	558	654	723	674	758
Departure Curb	Effective Linear Feet	1,217	1,217	822	948	1,029	967	1,071
Bag Claim	Units	11	11	6	8	8	10	11
Security Screening	Units	11	11	12	12	13	12	14
Total SSCP Area	Square Feet	17,857	17,857	11,250	11,250	13,125	11,250	13,125
FIS/CBP	Square Feet	27,769	27,769	30,000	38,500	47,000	38,500	47,000

Ground Transportation Plan Background/Findings

Parking

- Long-term garage has reached the end of its useful life
 - Constructed in 1969
 - Previous restoration already extended its life once
 - Parking study and master plan concur on expansion of short-term garage to provide long-term parking capacity
- Need for immediate action

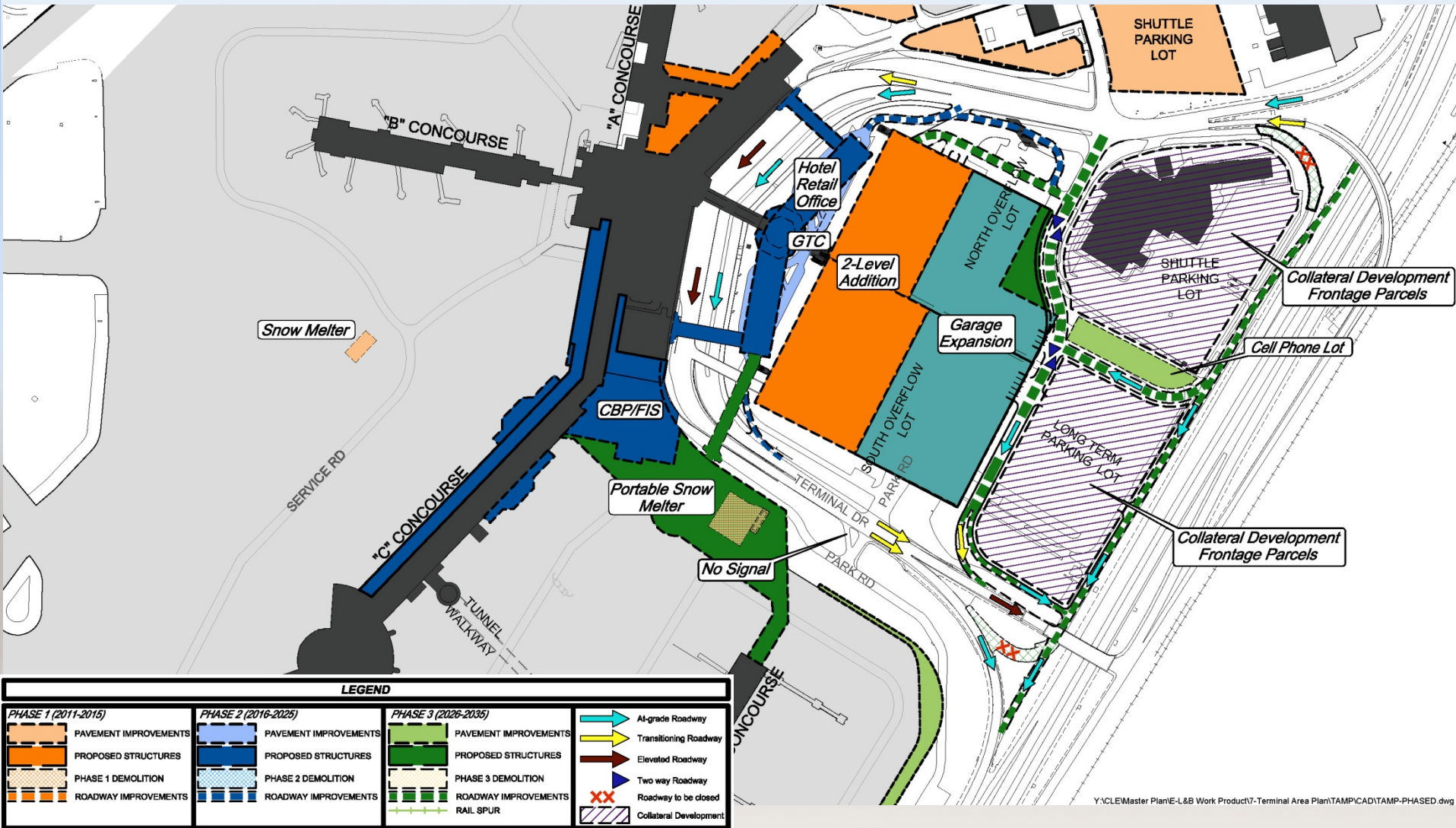
Land Use

- Link Hotel with RTA and Terminal
- Demand for airport related government office space

Roads

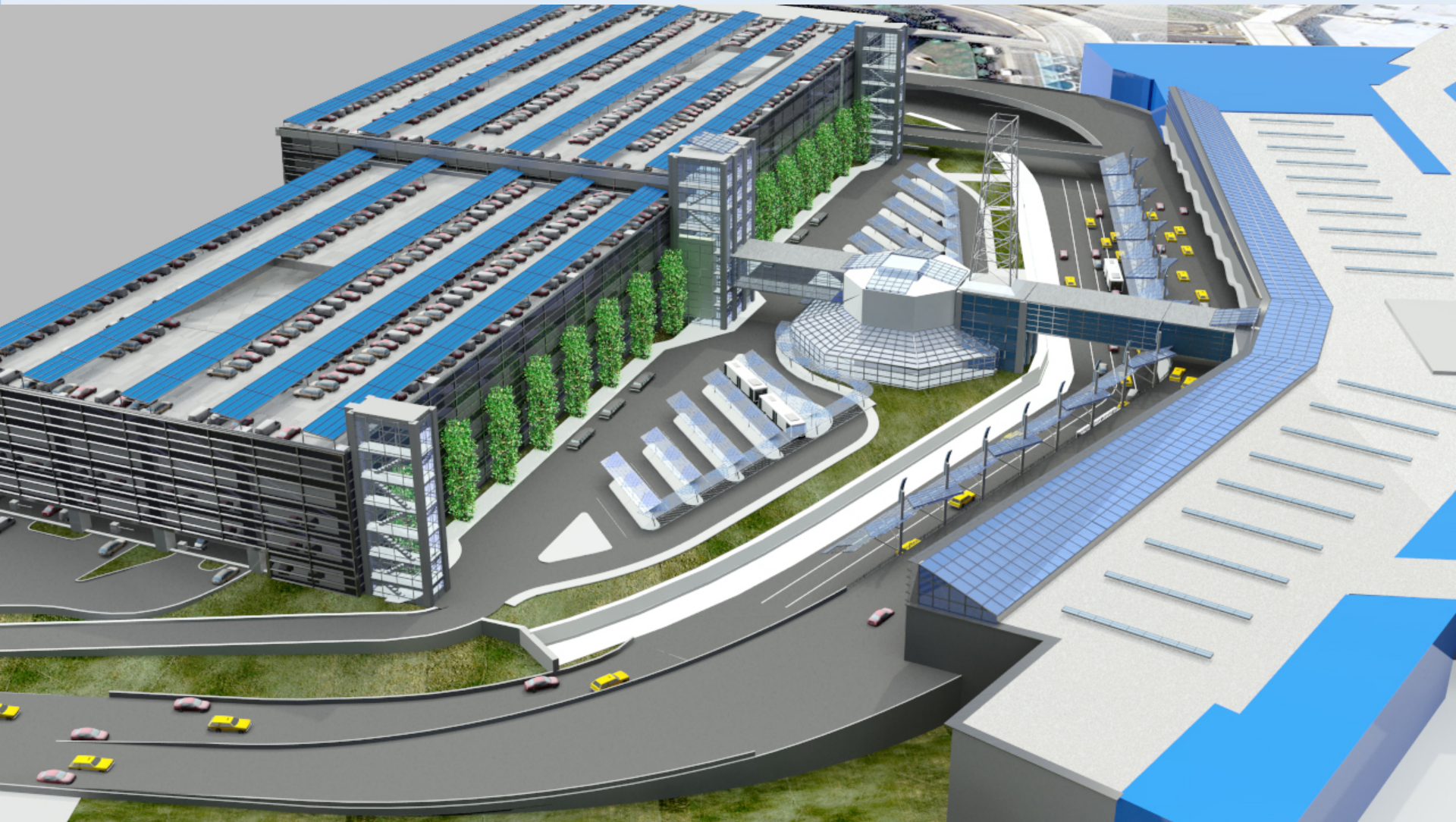
- Peak hour demand at the curbs exceeds capacity
 - Arrivals curb has greater problem than departures curb
 - Queuing backs up onto entrance road
- Entrance roads capacity issues
 - Short decision distances
 - Three way signal limits capacity and causes queuing
- Exit roads design issues
 - Short decision and weaving distances
 - Difficult sight lines
- Recession has dampened demand and has postponed need for immediate action

Terminal Area Improvement Plan



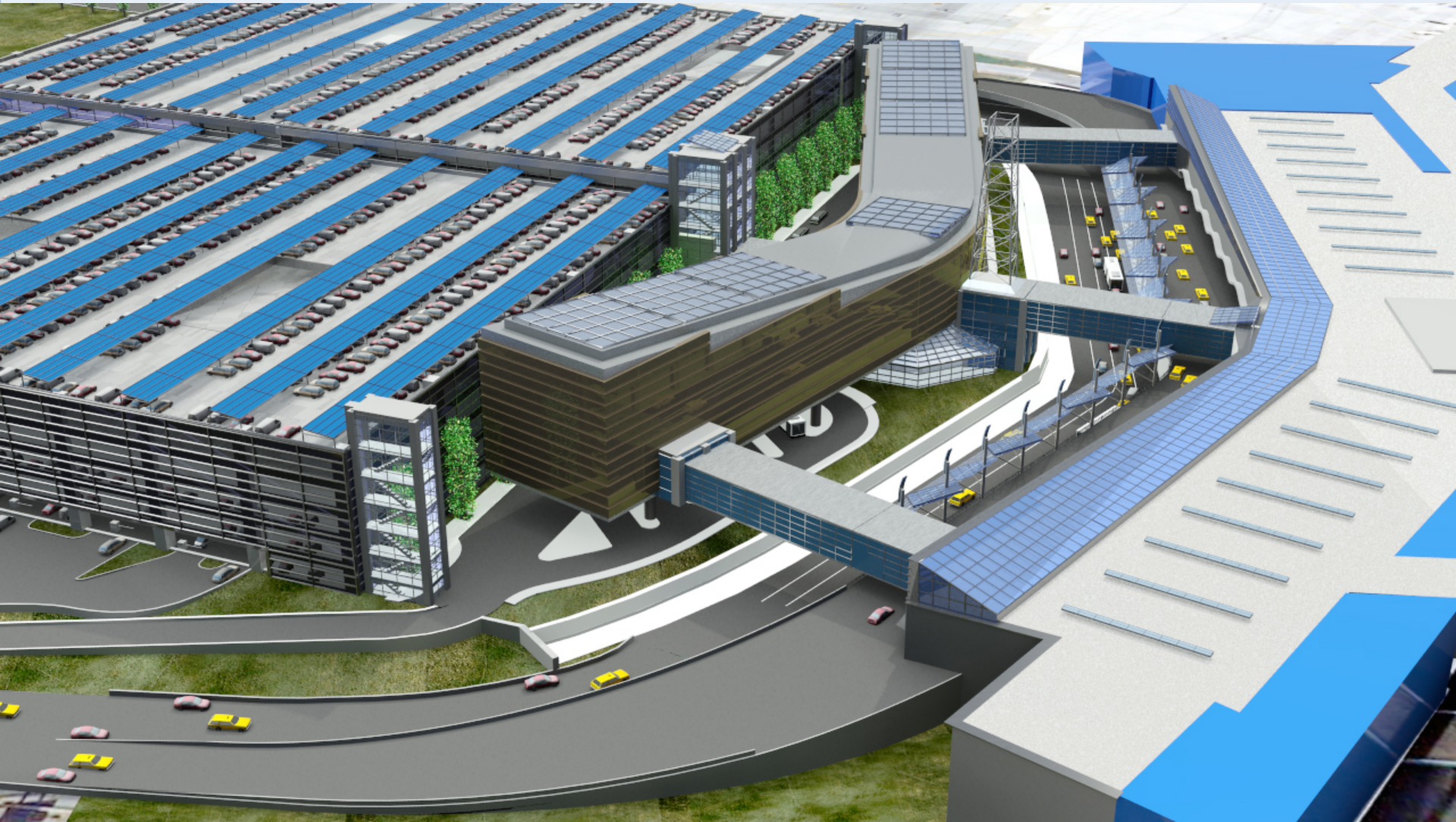
Going places.

Terminal Area Immediate Needs (GTC) Alternative Energy



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Terminal Area (w/ Hotel/Office/Retail & Garage Exp)

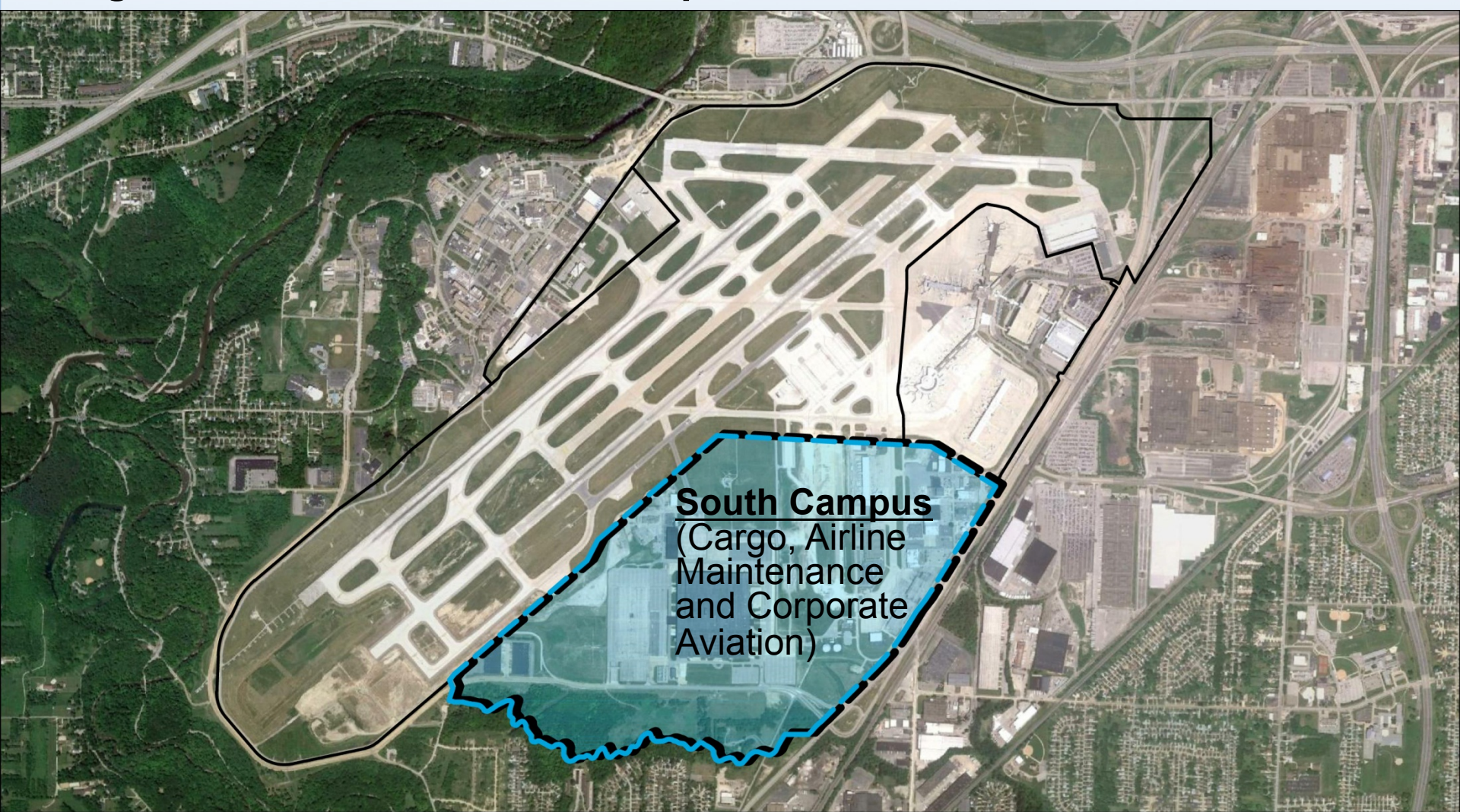


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South Campus

Cargo, Airline Maintenance & Corporate Aviation



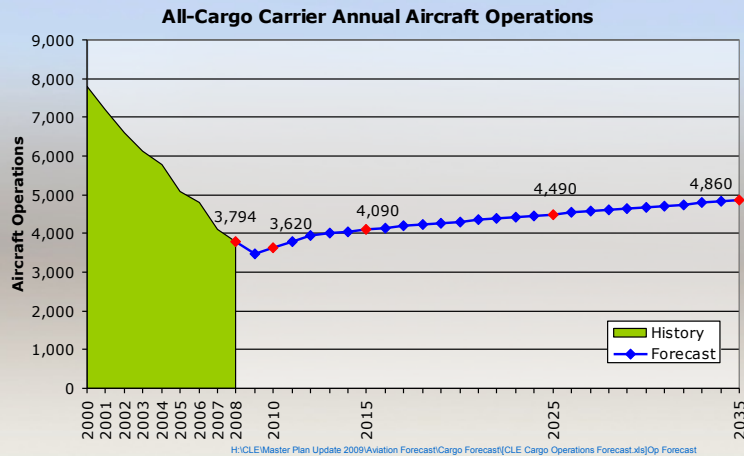
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Cargo – Operations & Fleet Mix

Cargo Aircraft Operations Forecast






- Cargo operations at CLE declined by 7.3% in 2008 and projected to decline further to 8.8% in 2009
- 2035 baseline: between 12 and 17 daily cargo flights
- FedEx expected to continue to account for nearly three quarters of total cargo aircraft operations at CLE throughout the forecast period



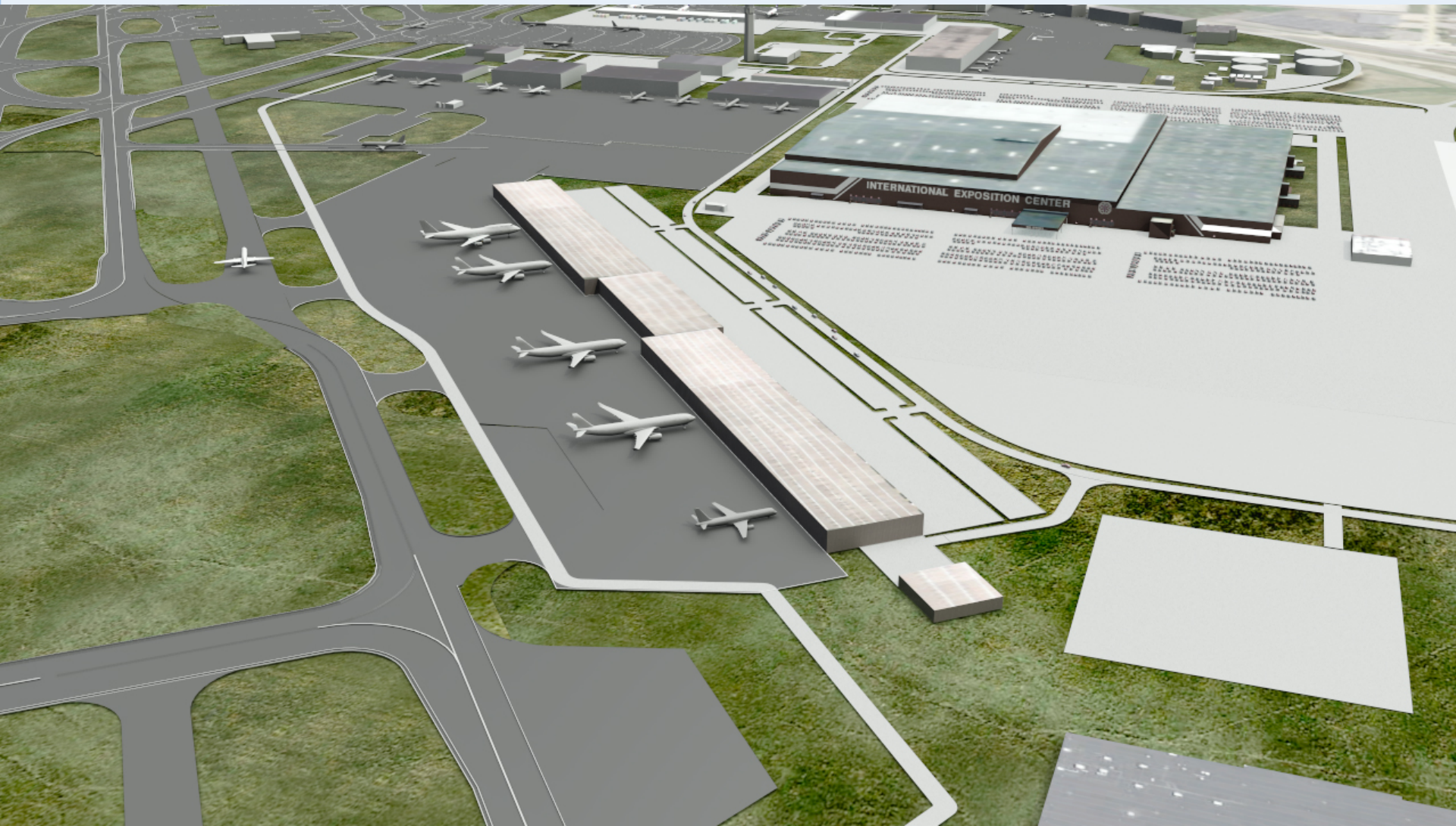
- While air cargo demand is flat, facility enhancements could help capture new/available market

Cargo Operations: Aircraft Fleet Mix

- Cargo aircraft operations at CLE is predominately operated with wide-body and B757 aircraft
- FedEx continues to operate the majority of A300-600 through 2035
- UPS continues to replace DC 8 aircraft with A300-600 and is expected to retire DC 8 aircraft from the CLE cargo fleet by 2015
- FedEx expected to continue to operate turboprop aircraft at CLE throughout the forecast period

	2008	2015
Wide Body 	73.7%	78.4%
Narrow Body 	4.6%	0%
70 Seat RJ 	0%	0%
50 Seat RJ 	0.1%	0%
Turbo Prop 	21.7%	21.6%

Cargo Campus Development Plan



Going places.



Corporate Aviation Campus Development Plan



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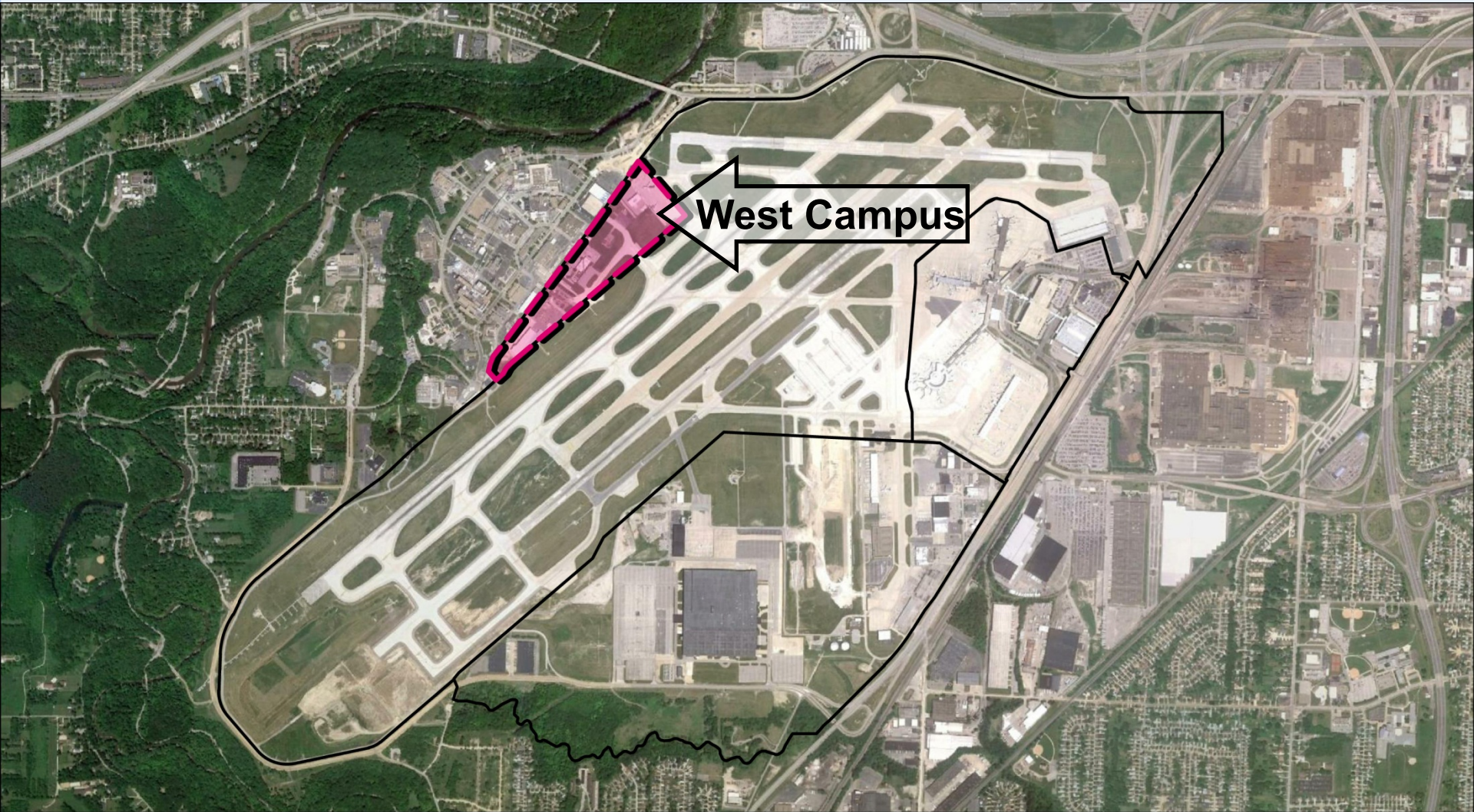
South Campus Development Plan



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West Campus

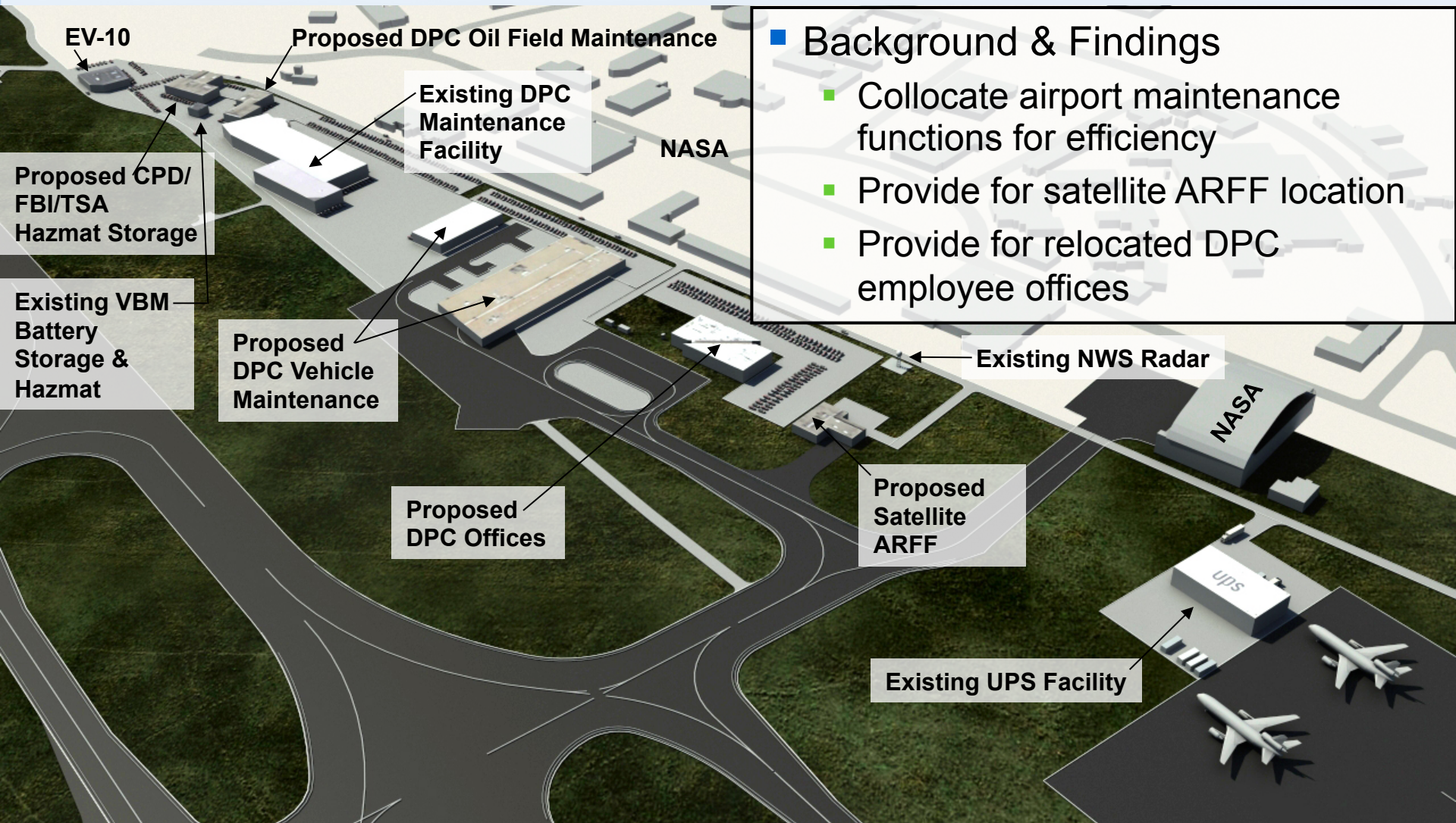
Department of Port Control and Tenant Facilities



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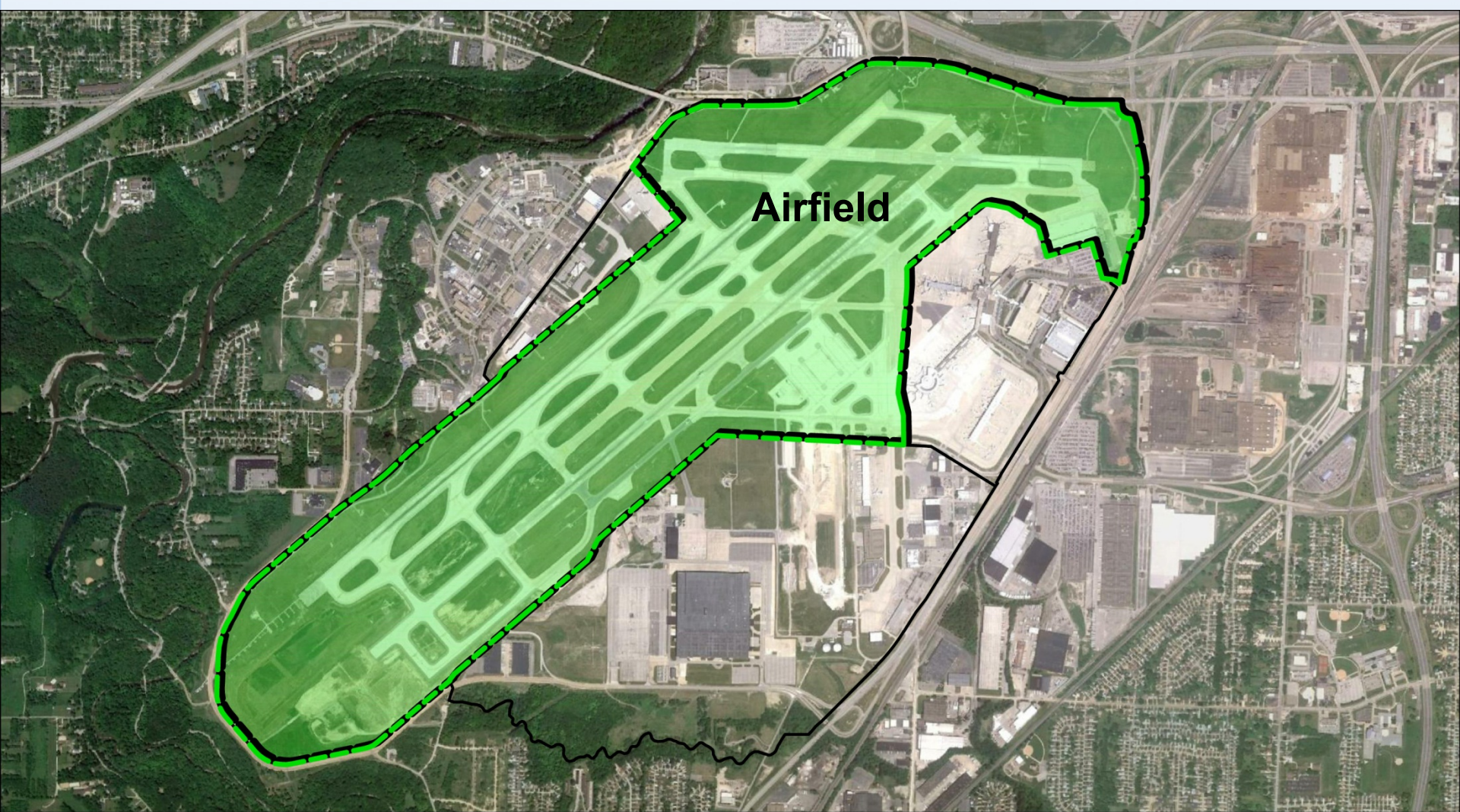
West Campus Improvement Plan



■ Background & Findings

- Collocate airport maintenance functions for efficiency
- Provide for satellite ARFF location
- Provide for relocated DPC employee offices

Airfield Plan



Going places.

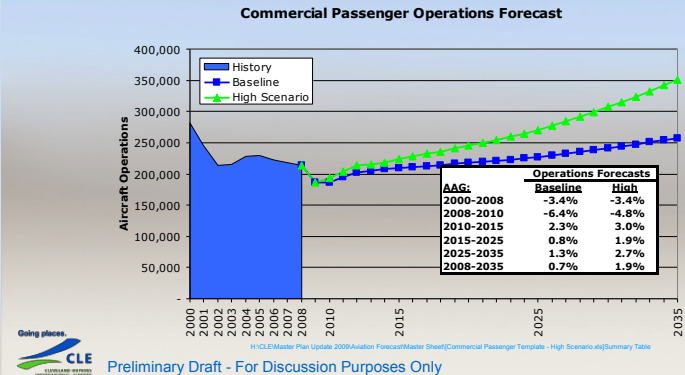


Airfield Improvements – Background

- Previous master plan provides runway capacity for the foreseeable future
- The aircraft sizes and capabilities we have today are representative of the future
- Stakeholders identified need to improve pilot orientation, congestion hotspots and taxiway flow improvements

Commercial Aircraft Operations Forecast

- Scenarios:
 - 2035 baseline forecast of 252,000 annual aircraft
 - High scenario projects 351,400 annual aircraft
- High scenario driven primarily by increases in connecting traffic



Passenger Operations: Aircraft Fleet Mix

- Narrow-body fleet expected to comprise of a greater number of 737-700, 800, 900 model aircraft
- Increased use of large regional jets or props
- Small RJ and prop aircraft will continue to comprise a large component of fleet

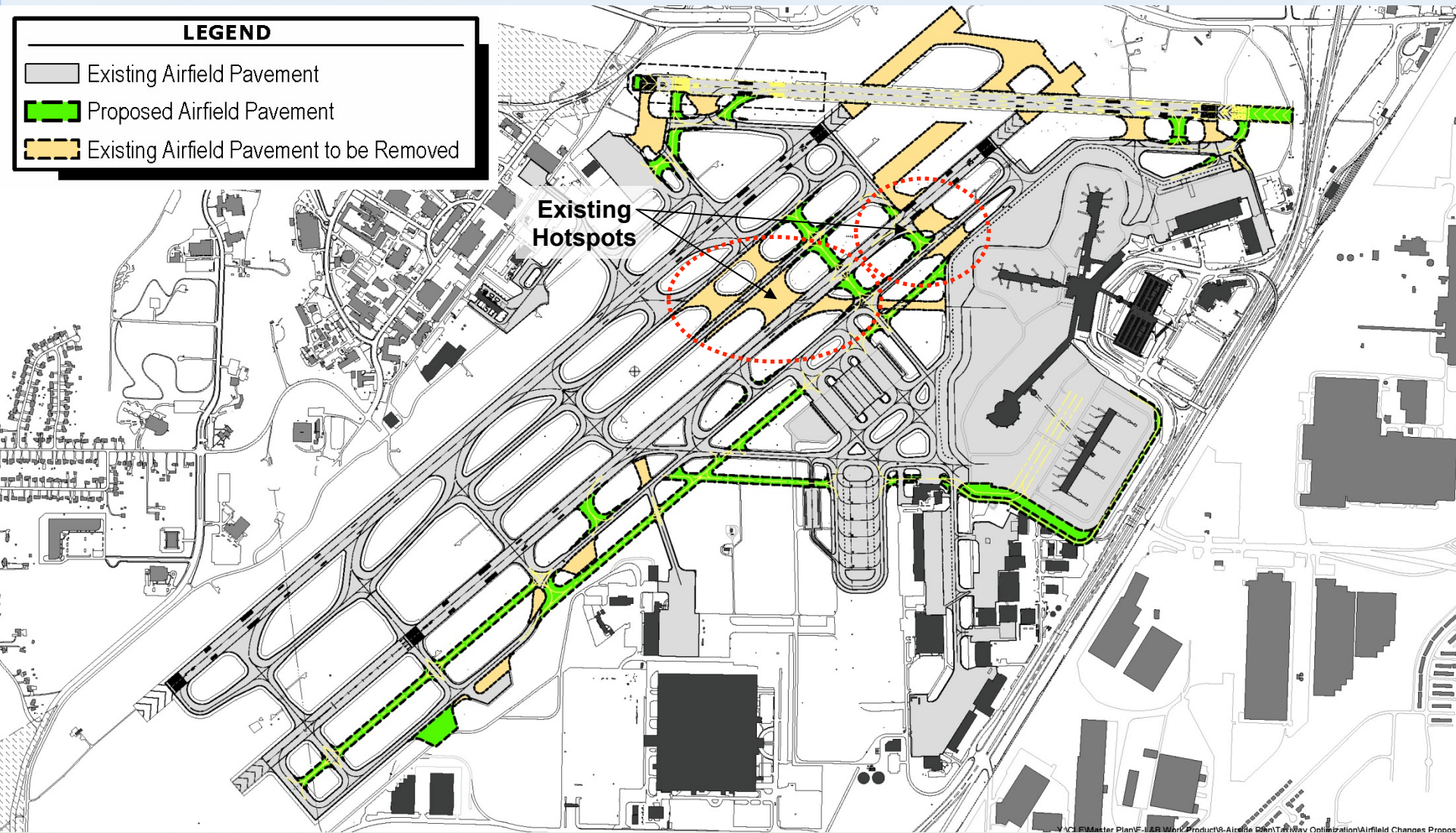
	2008	2015
Wide Body	0%	0.1%
Narrow Body	25%	25.8%
70 Seat RJ	6%	15.9%
50 Seat RJ	68%	57.1%
Turbo Prop	1%	1.1%

Airfield Improvement Plan

LEGEND

- Existing Airfield Pavement
- Proposed Airfield Pavement
- Existing Airfield Pavement to be Removed

Existing Hotspots



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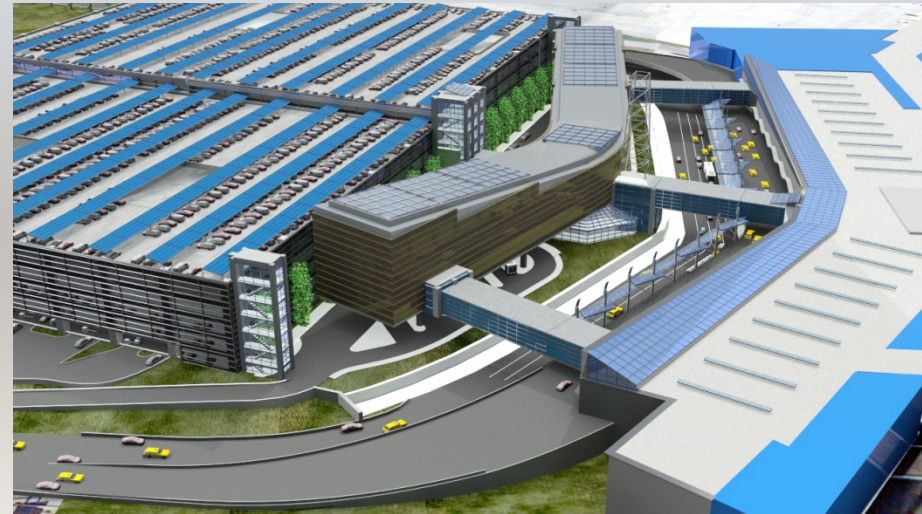
Master Plan Summary

■ CLE Today:

- Runways have ample capacity
- Terminal needs security and customs upgrades and room to grow the airline hub
- Cargo facilities constrain the market
- Airline maintenance & corporate aviation needs room for growth

■ CLE Tomorrow:

- Runways have ample capacity
- Terminal has high customer convenience, amenities, and airlines have room to grow
- Cargo has its fair share of the market
- Airlines have space to maintain their fleets
- Hub for regional economic development initiatives



Master Plan Highlights

- **Terminal Modernization**
 - Concourse C Widening, New Customs Facility, Ticketing & Bag Screening Expansion
 - Collateral Development Area in the Terminal Core
- **Airfield & Landside Rehabilitation for Safety, Security & Capacity**
 - Runway 10-28 RSA
 - Pavement Removal
 - Taxiway Safety & Capacity Projects
- **Clean & Green Cargo**
 - New Hangars, Apron, Access & Customs
- **Customer Convenience**
 - New Hotel/Retail/Office Space Complex
 - Ground Transportation Center (remote check-in/bus terminal)
 - Parking Garage Expansion
 - Terminal Area Roadway Reconfiguration
 - New Airline Maintenance, Corporate, DPC Facilities
 - New Airport Access & SR 237 Interchange
 - New Deicing Support Facilities
- **Green Initiatives – “Blue Sky & Green Flights”**
 - Reduce Emissions
 - Reduce, Reuse & Recycle
 - On-Airport Solar Farm
 - New Glycol Recovery Systems
- **Hub for regional economic development initiatives**

Next Steps

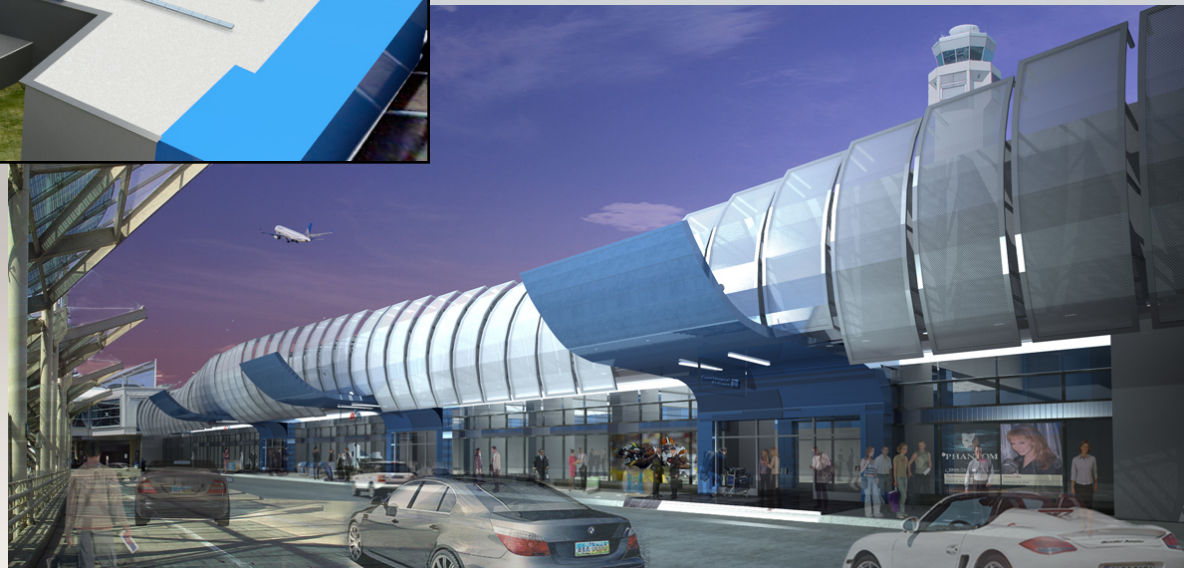
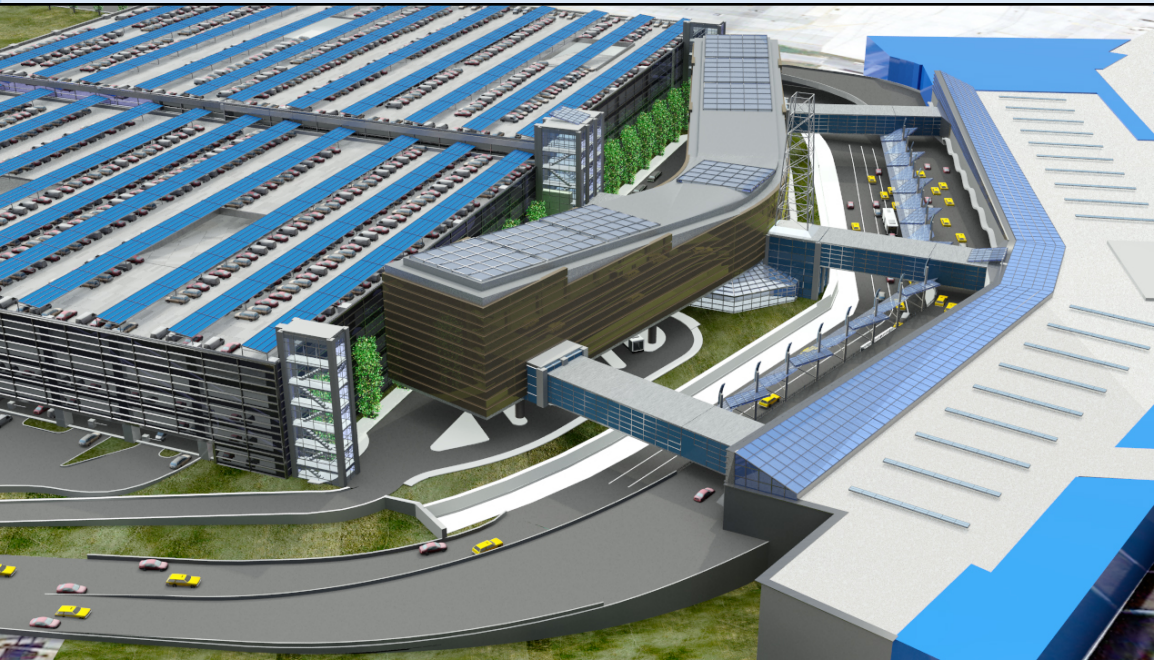
■ Master Plan

- Final Round of Stakeholder & Public Information Meetings
- FAA Review & Approval of Updated Master Plan
- Economic Impact of Updated Master Plan Projects

■ Environmental Evaluation for Project Implementation

Cleveland Hopkins International Airport Master Plan Update

**A Blueprint
for
CLE's Future**



Going places.

