

Welcome

Welcome to the Memphis-Shelby County Airport Authority's

Public Information Workshop

for the Master Plan Updates for

Memphis International Airport

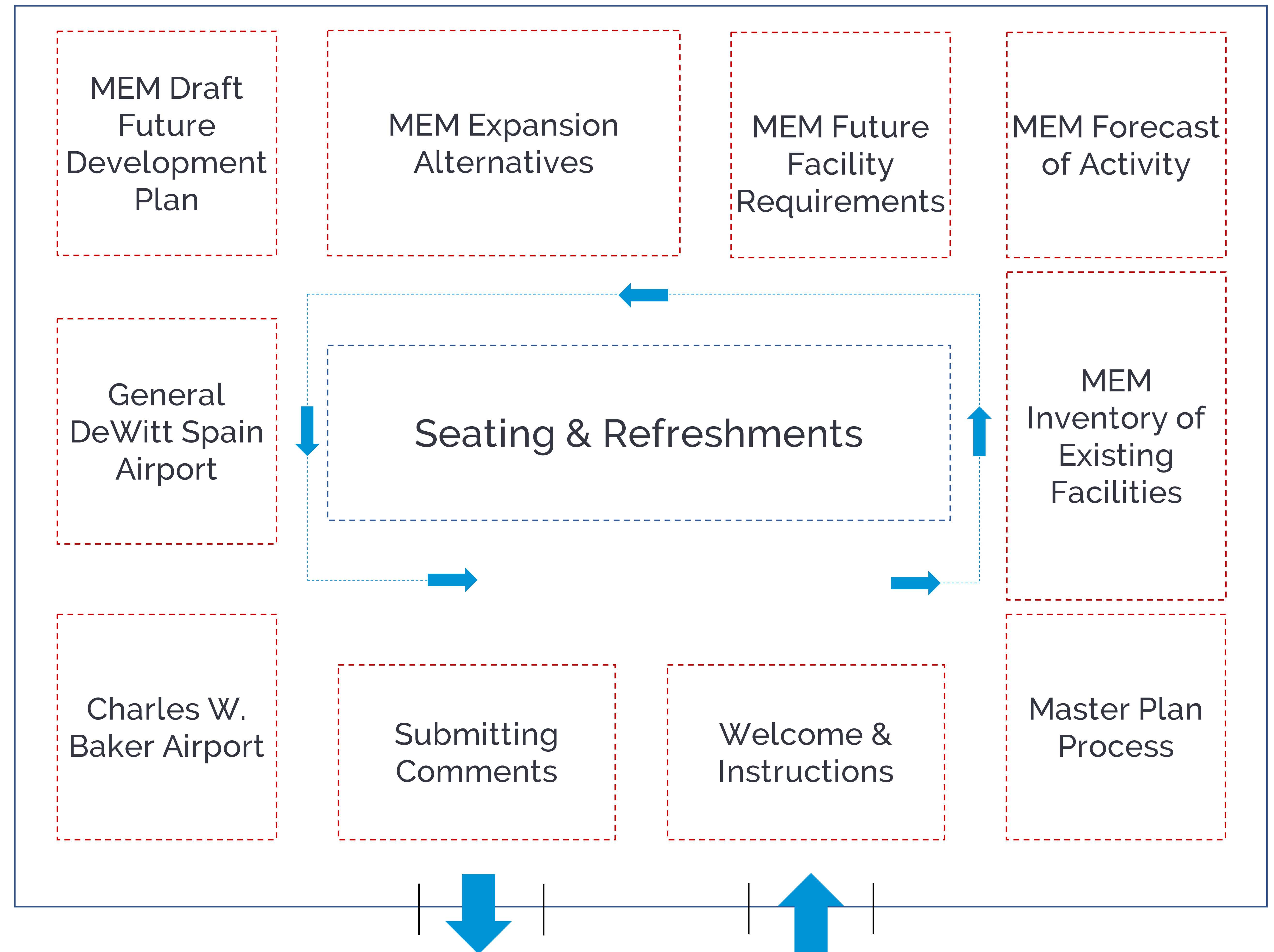
General DeWitt Spain Airport

Charles W. Baker Airport

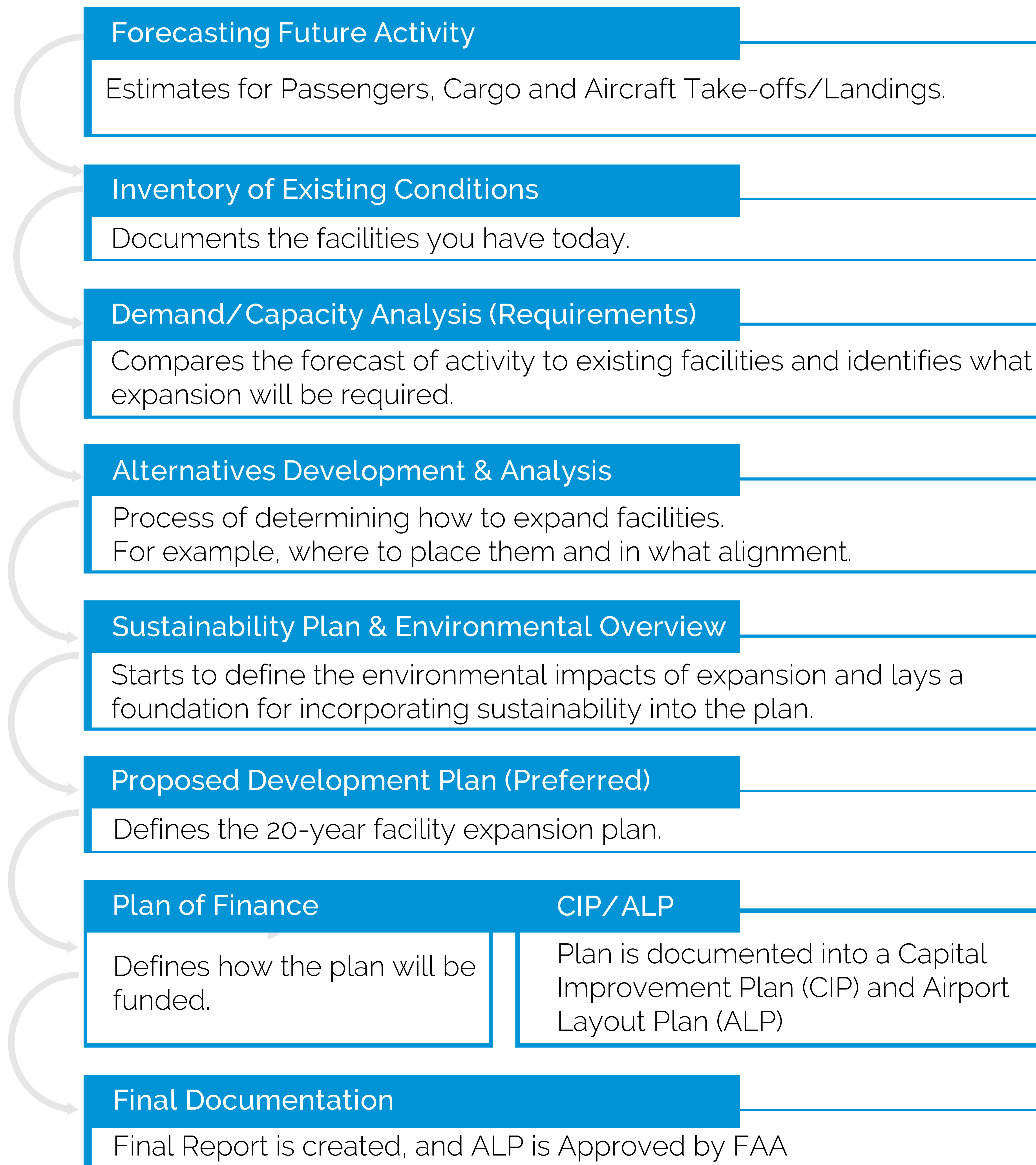
Please sign in and proceed inside to start learning about the long-range vision for improving and expanding our airports!

Instructions & Exhibit Map

- The room is set up to be navigated counterclockwise and at your own pace.
- Staff are available to assist and answer questions.
- Each station talks to an element of the master planning process and the draft results of that element.
- Comments are encouraged and welcomed. You may comment here today in writing. You may also comment today or at a later time via the website.
- If you need assistance with anything, please find a staff member.



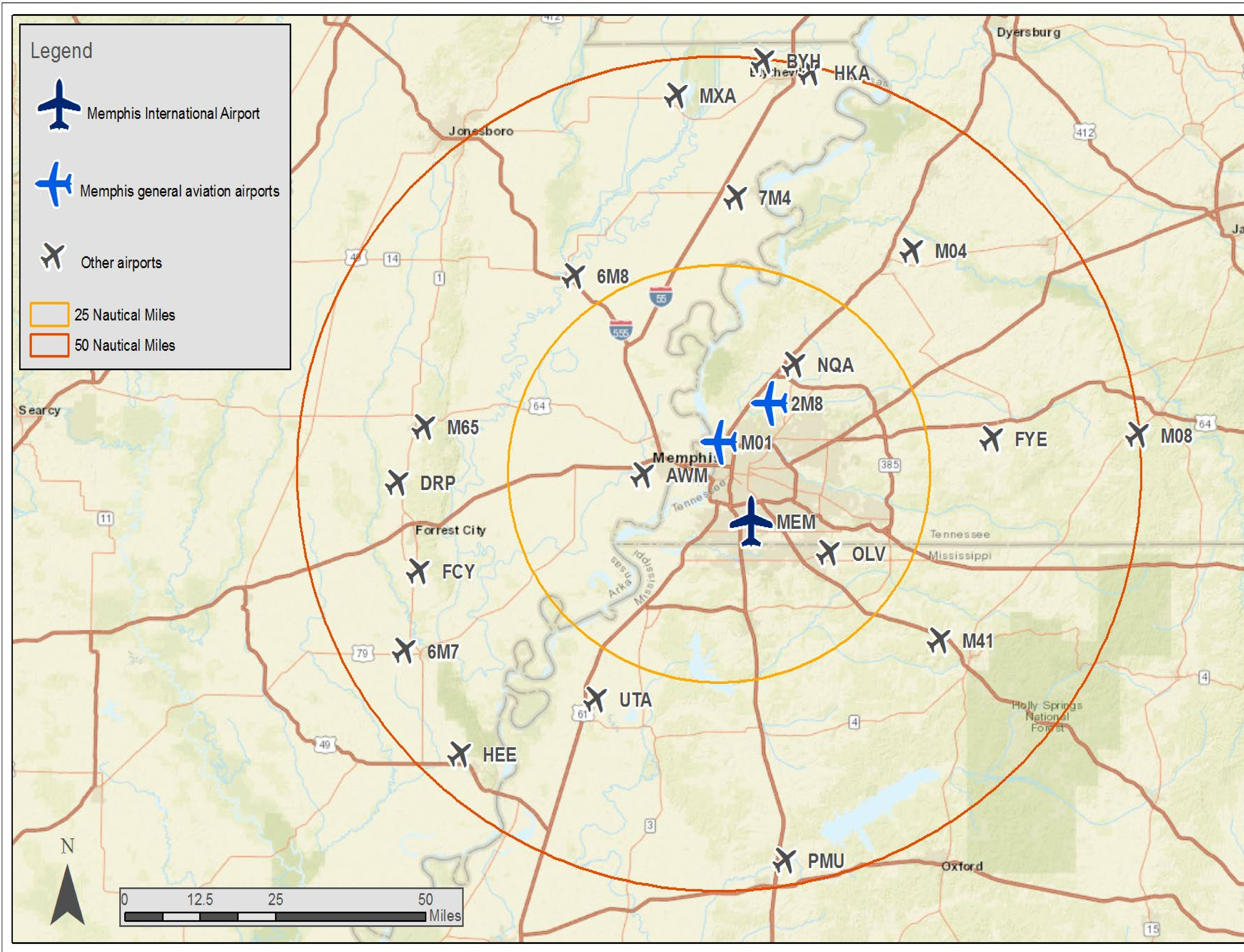
What is a Master Plan?











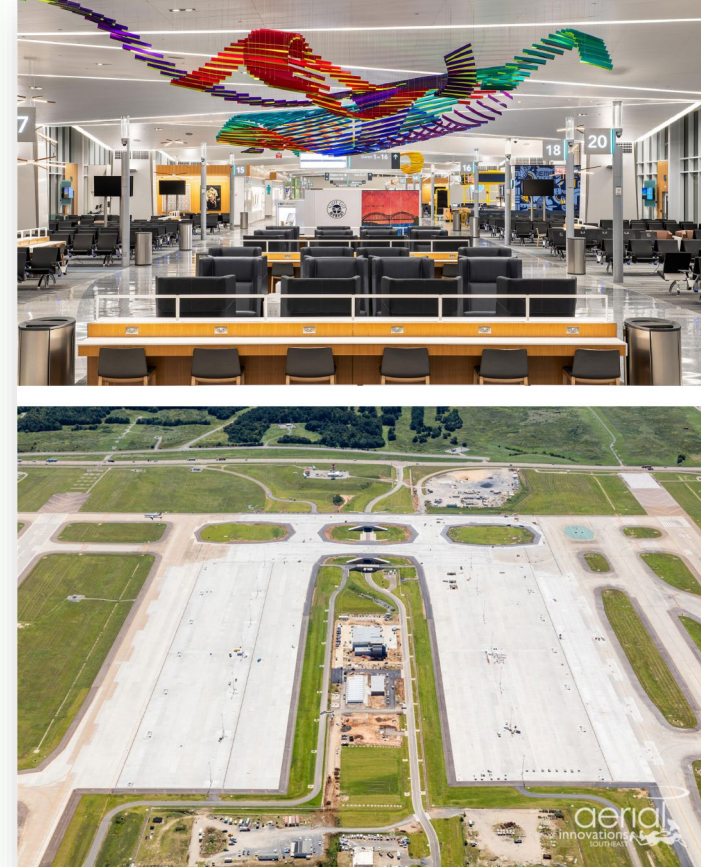
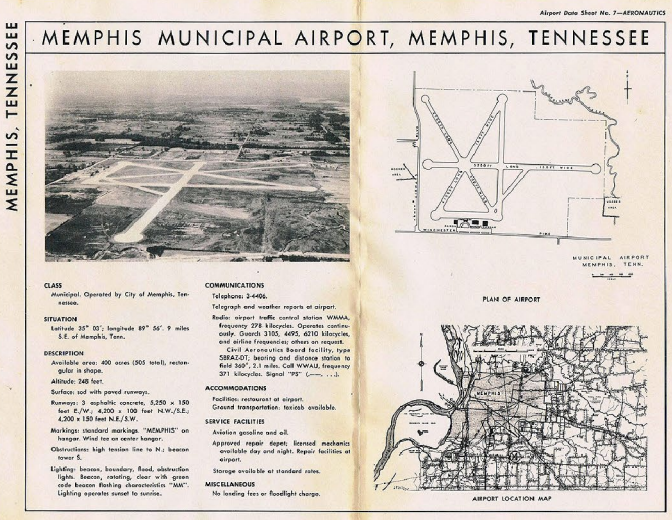




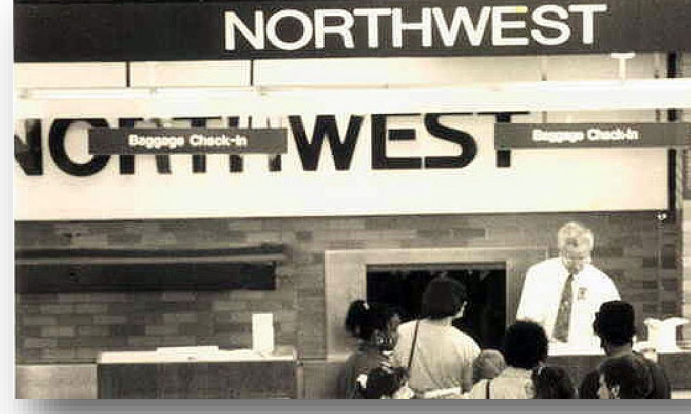
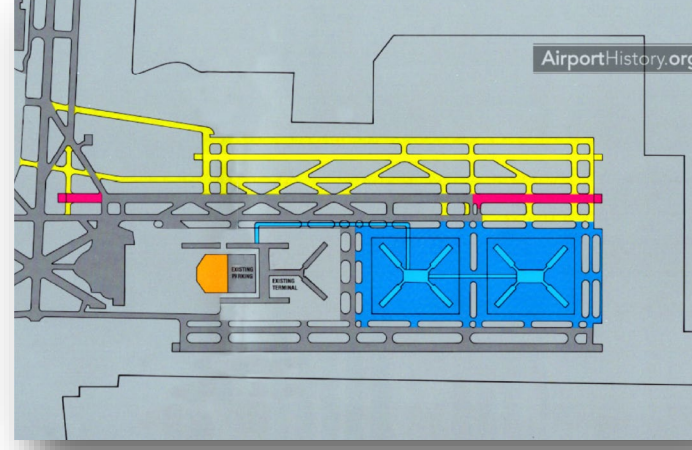


A Master Plan

- Defines how an airport can expand, modernize or contract facilities to meet future demand.
- Provides a comprehensive, organized, and phased approach to guide future development over the next 20 years.
- Establishes a realistic schedule for implementation and financial roadmap.
- Assists the Airport in securing Federal, State and other funding by articulating logical and justifiable projects in an appropriate manner.

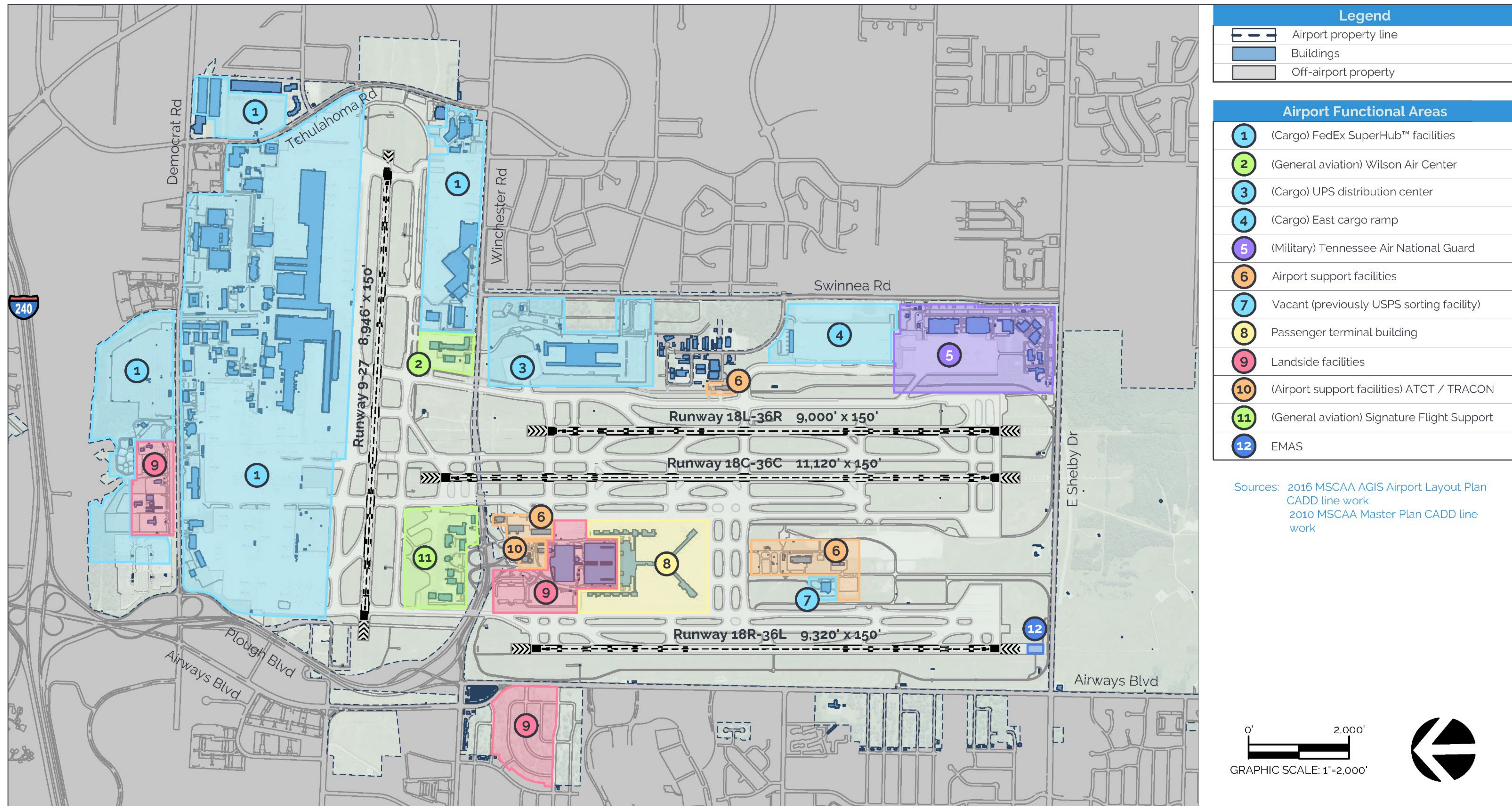
Memphis International Airport (MEM)



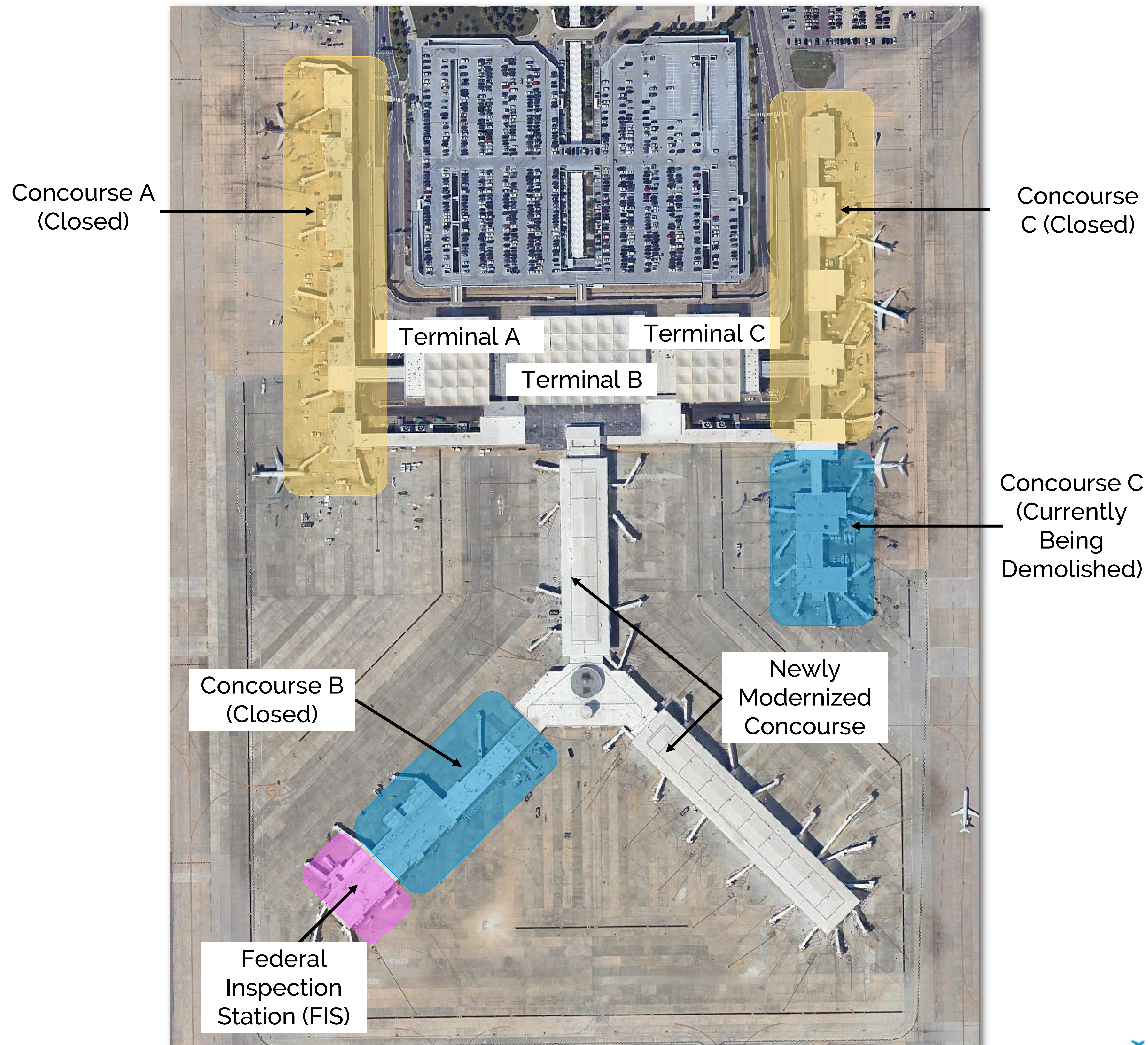
History of MEM

<p>1927</p> <p>Airport planning commission created.</p> 	<p>1938</p> <p>Modern terminal was built.</p> 	<p>1956</p> <p>New airport planning commission named.</p> 	<p>1969</p> <p>Airport renamed Memphis International Airport and Memphis-Shelby County Airport Authority created.</p> 	<p>1985</p> <p>Republic Airlines chose MEM as its hub.</p> 	<p>1995</p> <p>New International Arrivals Facility.</p>	<p>2000</p> <p>New 11,100-foot World Runway.</p>	<p>2010</p> <p>Master plan update completed.</p> 	<p>2013</p> <p>Southwest Airlines began operations.</p> 	<p>2015</p> <p>Allegiant Air began operations.</p> 	<p>2022</p> <p>Concourse B Terminal Modernization (Phase I) completed.</p> <p>Consolidated deicing facility completed.</p> <p>Terminal Modernization and Seismic Program (Phase II) initiated.</p> 
  <p>Memphis Municipal Airport dedicated.</p> <p>1929</p>	 <p>Troops vacated airfield after WWII.</p> <p>1947</p>	 <p>New Terminal and airport renamed Memphis Metropolitan Airport.</p> <p>1963</p>	 <p>FedEx founded in Memphis.</p> <p>1973</p>	 <p>Republic merged with Northwest Airlines and MEM experiences many construction projects.</p> <p>Airport master plan completed.</p> <p>1986</p>	 <p>Third parallel Runway constructed.</p> <p>1996</p>	<p>Land swap between TN Air National Guard and FedEx.</p> <p>2004</p>	 <p>Delta shifts hubbing operations from MEM and the Airport transitions to O&D.</p> <p>2013</p>	 <p>Frontier Airlines began operations.</p> <p>2014</p>	<p>New Master Plan Update initiated.</p> <p>2018</p>	

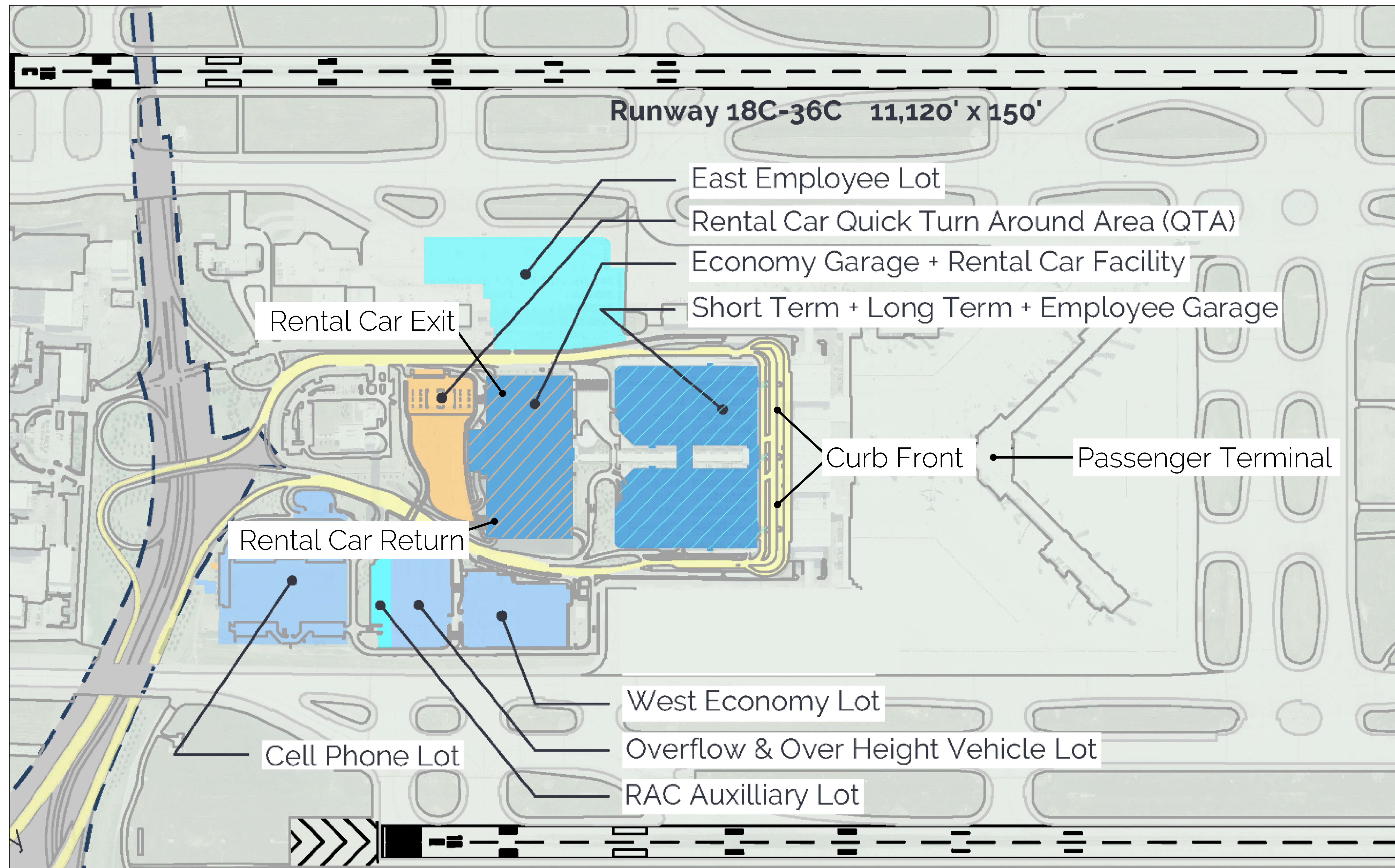
Existing Airfield & Land Use



Existing Terminal Facilities



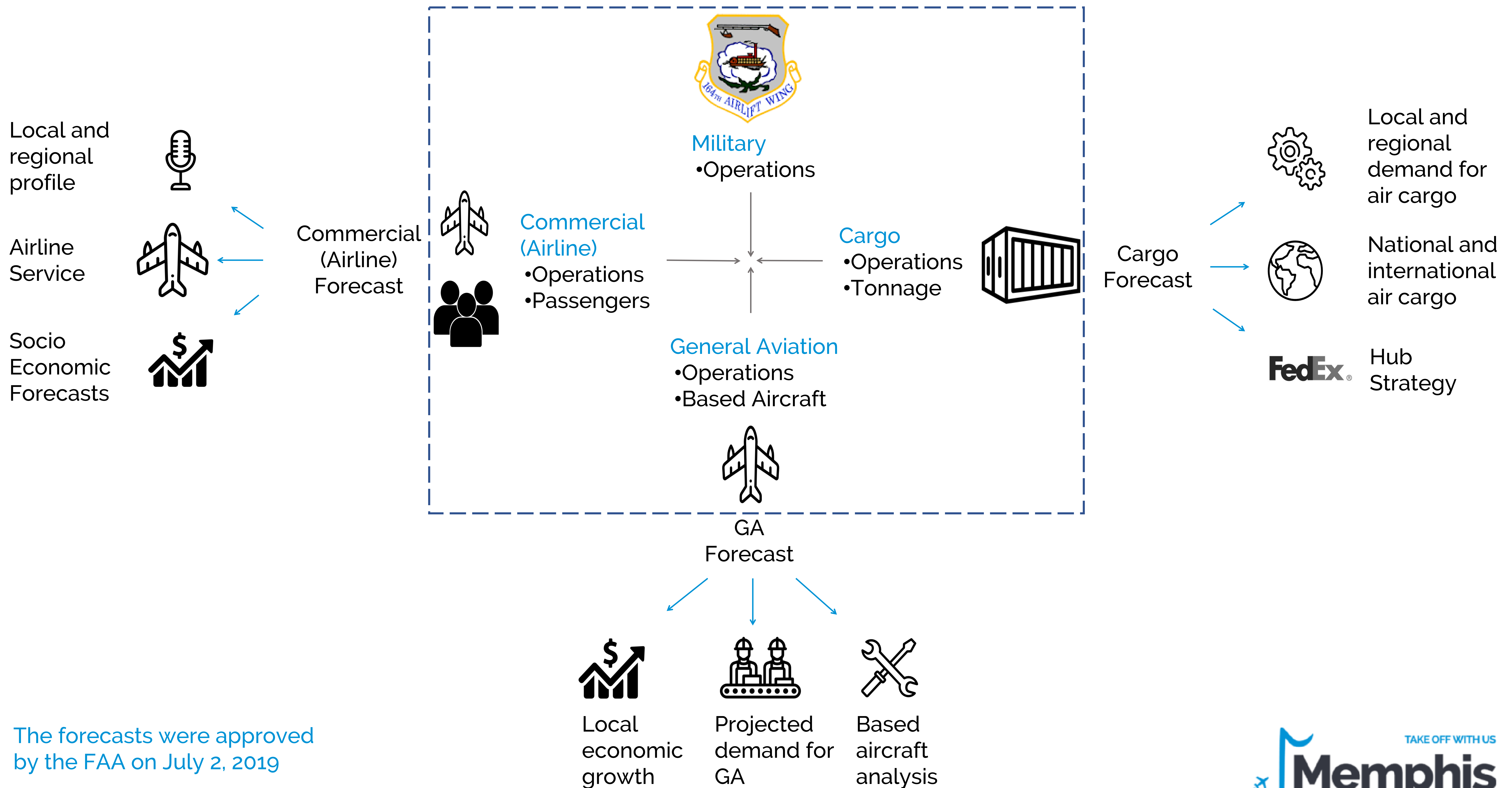
Existing Landside Facilities



Forecasts of Aviation Activity

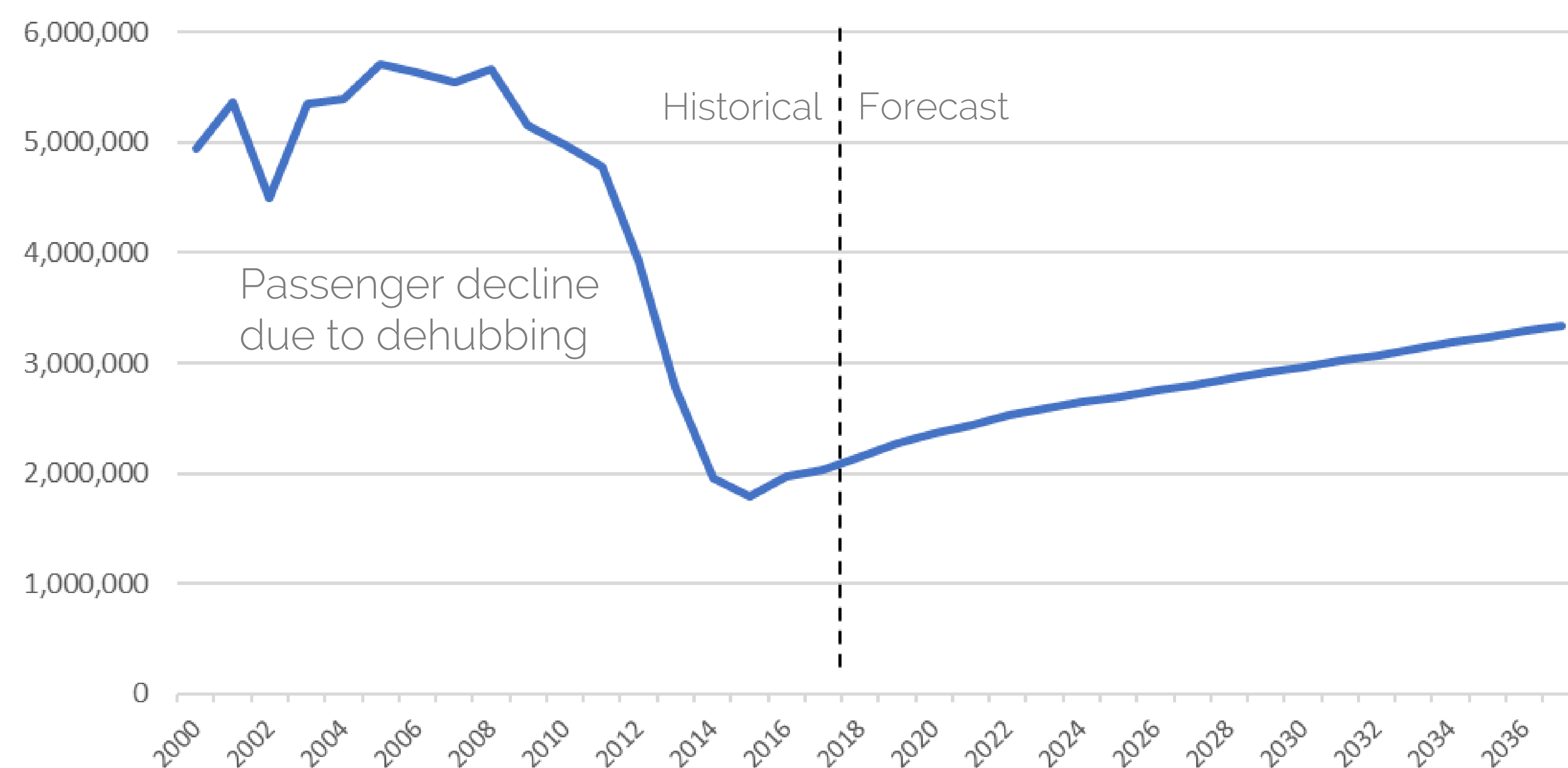
- Aviation forecasts for the MEM Master Plan includes four elements
- Each is influenced by different factors

Components of a Master Plan Forecast

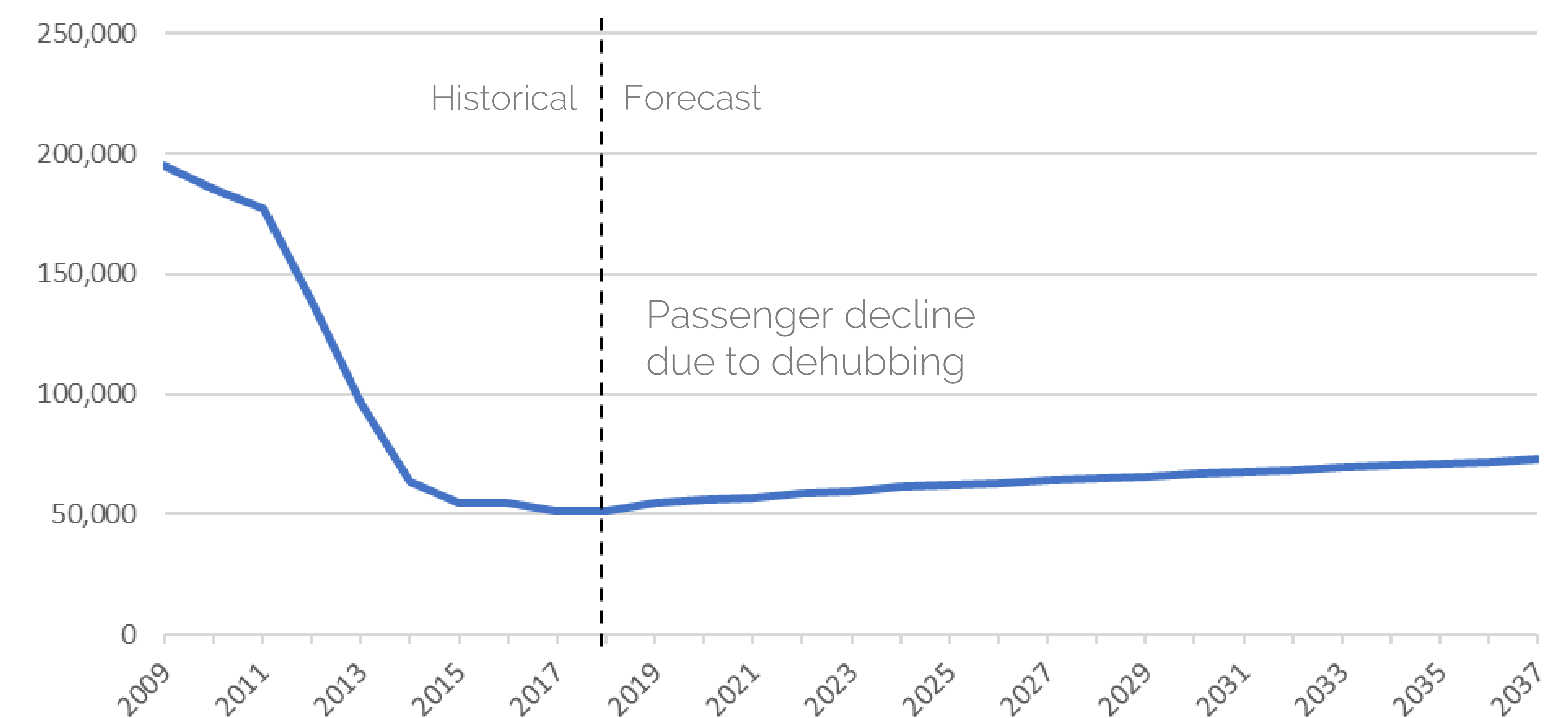


Forecasts of Aviation Activity

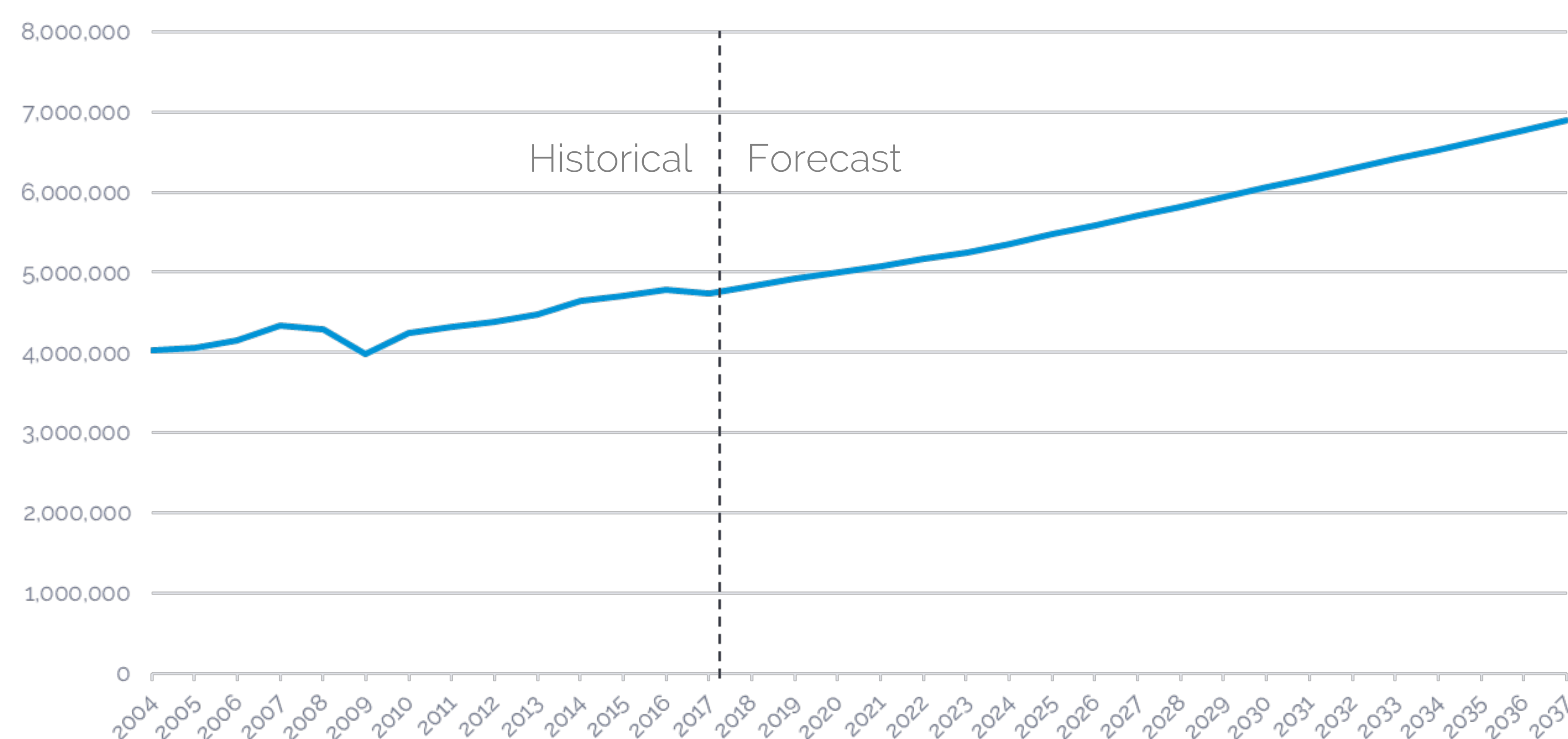
Forecast of Enplanements (Passengers)



Forecast of Total Commercial Passenger Aircraft Operations



Base Forecast of Total Cargo Tonnage (U.S. Tons)



Notes:

1. Master Plan forecast was prepared prior to Covid-19 so reflects the outlook at that time.
2. FAA approved the MEM forecasts on July 2, 2019

Forecasts

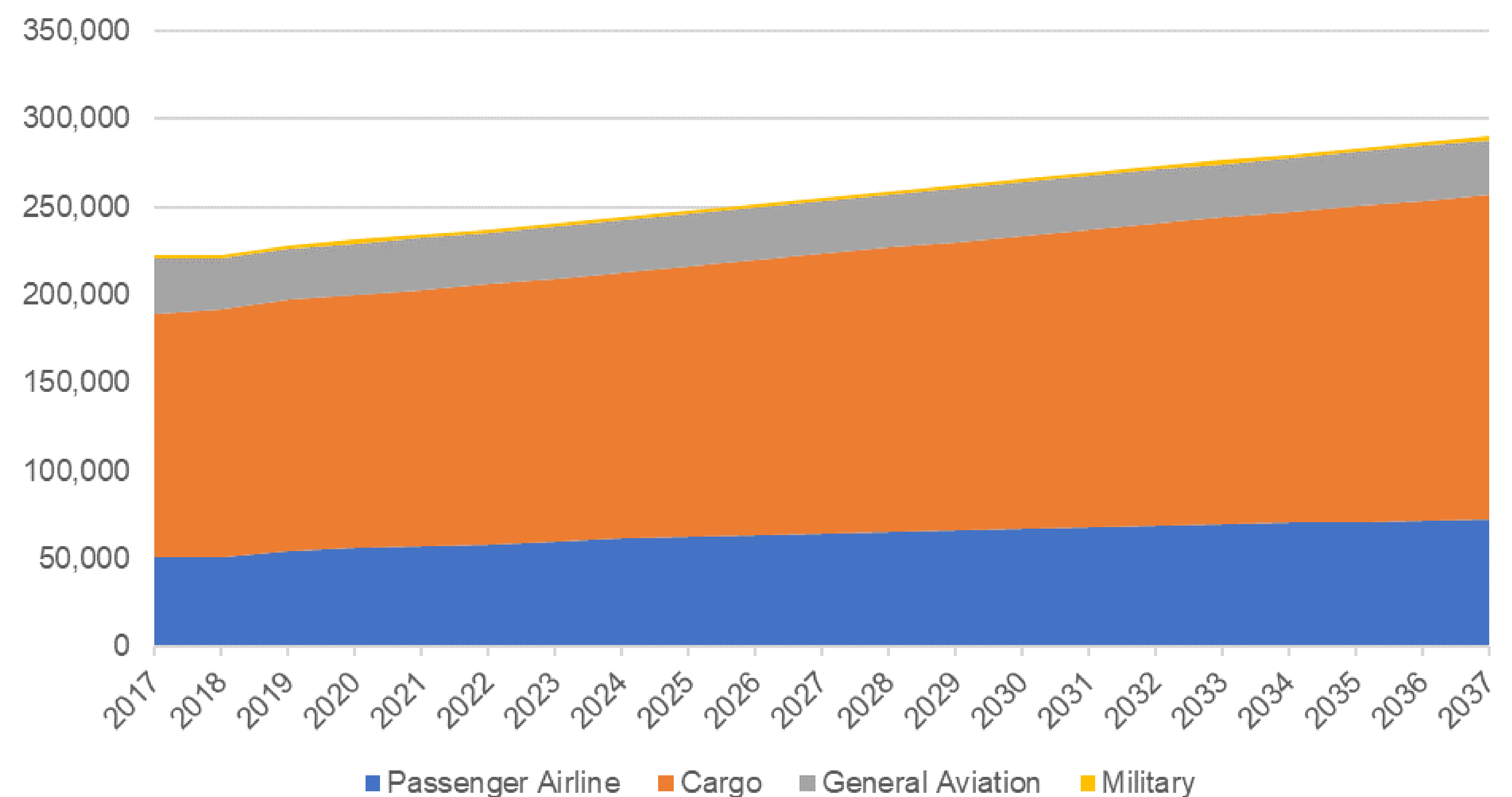


- The critical aircraft is the most demanding aircraft identified in the forecast that will use the airport
- The existing and future critical aircraft at MEM is the Boeing 777F

Historical & Forecast Based Aircraft

Fiscal Year	Aircraft Type by Engine					Total	Change in Aircraft
	Single	Jet	Multi	Helo	Other		
<u>Historical</u>							
2012	16	37	9	1	0	63	
2013	10	40	7	1	9	67	4
2014	16	45	14	9	9	93	26
2015	16	45	14	9	0	84	-9
2016	16	46	13	1	9	85	1
2017	14	46	17	0	0	77	-8
<u>Forecast</u>							
2022	14	48	18	0	0	80	3
2025	14	48	18	0	0	80	0
2027	14	48	18	0	0	80	0
2032	14	49	18	0	0	81	1
2034	14	49	18	0	0	81	0
2037	15	50	18	0	0	83	2

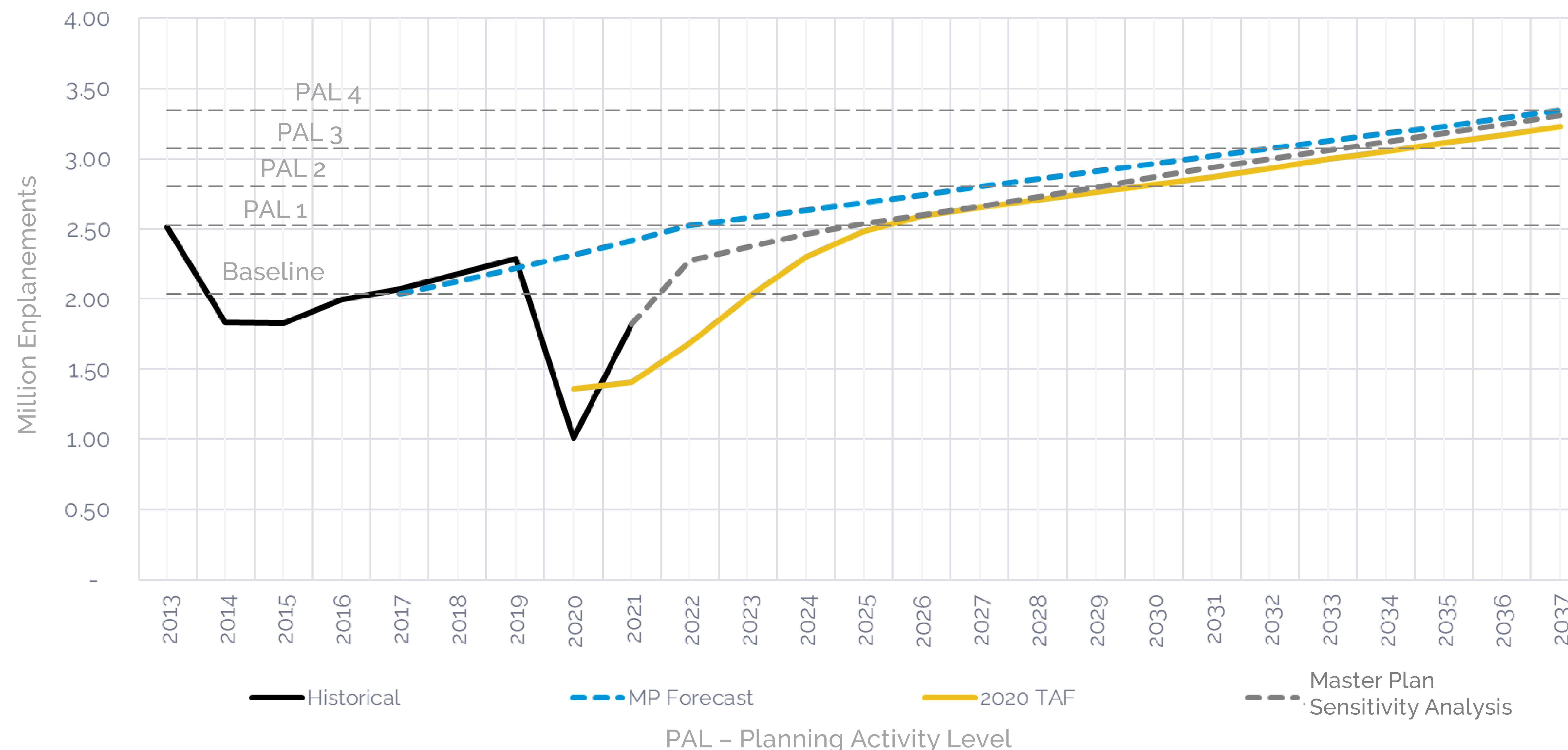
Forecast of Operations (Aircraft Landings & Take-offs)



Impacts of the Pandemic

- The COVID-19 pandemic altered the course of aviation worldwide
- MEM's forecast was completed and approved by FAA prior to the pandemic in 2019
- After pandemic hit, many projects were put on a temporary hold
- As the world started to recover, so did projects including this Master Plan Update
- Before restarting the MEM Master Plan, a sensitivity analysis was completed to confirm passenger forecasts
- While the present-day scenario shows a slower recovery of passenger traffic, the long-range forecasts are still valid

Enplanements Forecast Review



Facility Requirements – Airfield

- Airfield is adequate to meet future capacity needs
- Extending a second runway to 11,120' length is desired to increase efficiency and flexibility
- Various airfield improvements are required to meet newer FAA standards
- Consideration should be given to reducing runway crossings to reduce risk and increase efficiency



Facility Requirements – Terminal

Modernize the building, seismically protecting it in the process

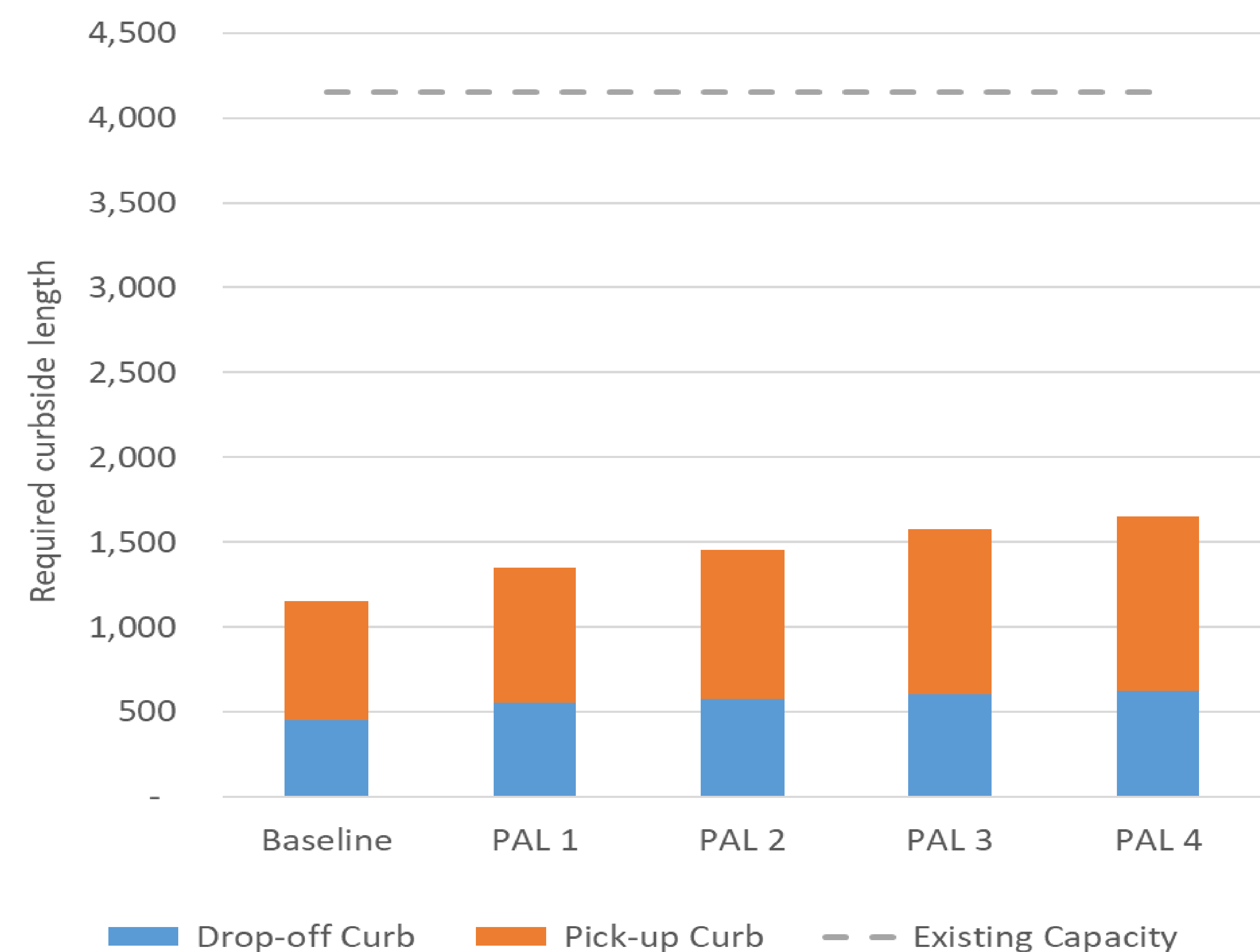
	Existing	Baseline	PAL 1	PAL 2	PAL 3	PAL 4
Check-in	13,497 sf	10,400 sf	12,000 sf	14,000 sf	14,800 sf	15,600 sf
Baggage Claim	27,254 sf	21,000 sf	21,000 sf	21,000 sf	22,200 sf	24,300 sf
Security Screening Checkpoint	13,756 sf	15,900 sf	18,000 sf	20,100 sf	22,200 sf	24,300 sf
Departure Lounges	67,815 sf	70,500 sf	70,500 sf	73,100 sf	80,900 sf	83,500 sf
Concessions	34,602 sf	38,790 sf	42,440 sf	47,260 sf	51,850 sf	56,420 sf
Passenger Support Space	26,790 sf	26,360 sf	26,950 sf	27,760 sf	31,320 sf	31,750 sf
Baggage Processing	88,682 sf	72,260 sf	76,560 sf	79,860 sf	87,180 sf	89,280 sf
Airline Support Space	18,654 sf	20,050 sf	20,850 sf	22,090 sf	23,180 sf	23,810 sf
Airport Support Space	46,214 sf	46,900 sf	48,200 sf	49,700 sf	51,100 sf	52,400 sf
Other Tenant Space	8,892 sf	8,895 sf	9,395 sf	9,895 sf	10,395 sf	10,895 sf
Terminal Support Functions	378,535 sf	125,300 sf	129,200 sf	135,450 sf	146,900 sf	151,400 sf
International Arrivals Functions	<u>32,259 sf</u>	<u>27,440 sf</u>	<u>27,440 sf</u>	<u>27,440 sf</u>	<u>27,440 sf</u>	<u>27,440 sf</u>
Total:	756,951 sf	483,795 sf	502,535 sf	527,655 sf	572,465 sf	591,995 sf

Note: Requirements were determined for all terminal functions

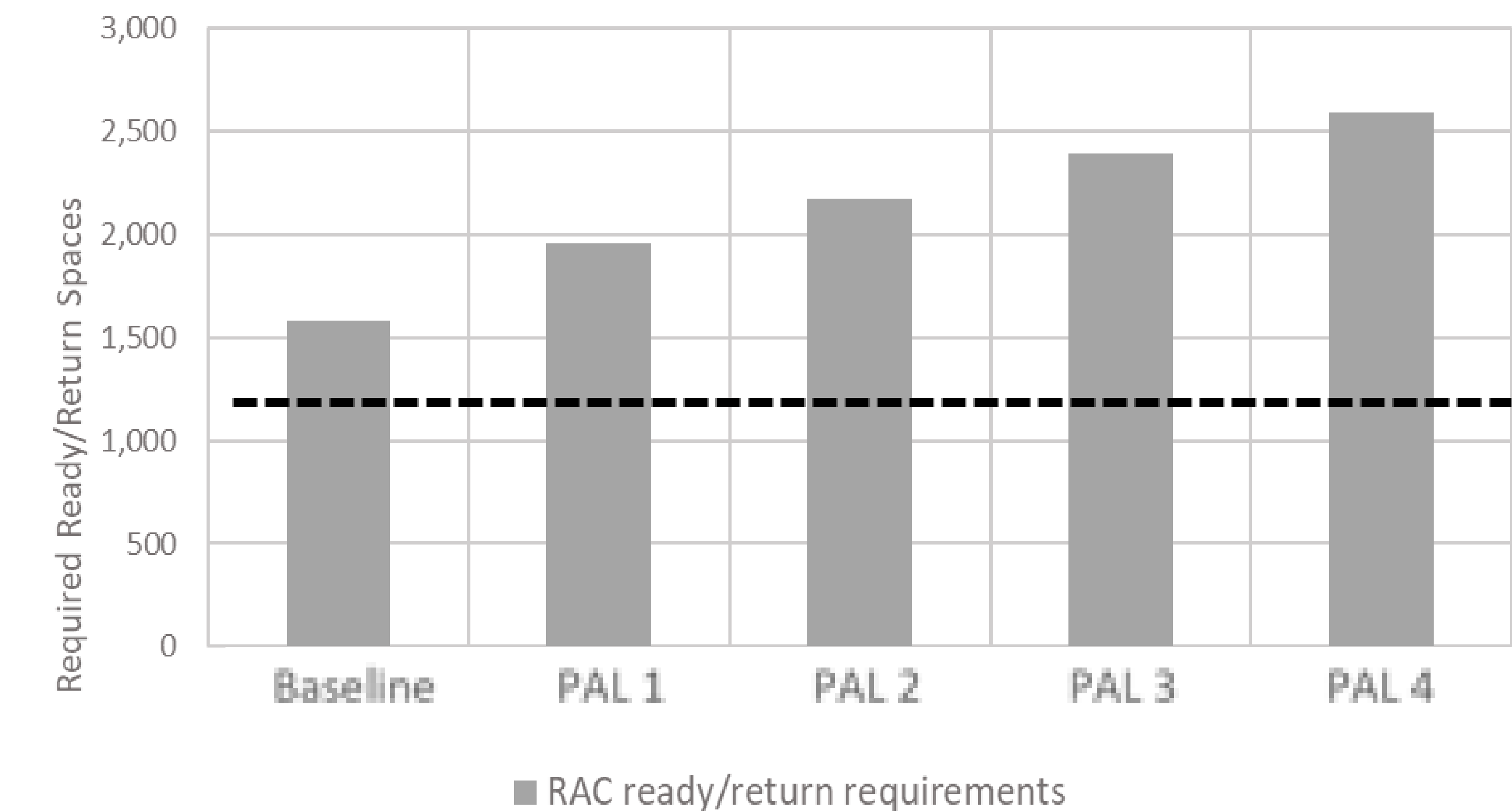
- Vertical circulation is poorly located and needs improved ADA access
- Baggage screening should be modernized
- Expand security screening (Passenger and Employee) – capacity, flexibility and efficiency
- Need flexibility to react to evolving passenger processing flows
- Provide for remote passenger processing

Facility Requirements – Landside

Terminal Curb Front – Adequate

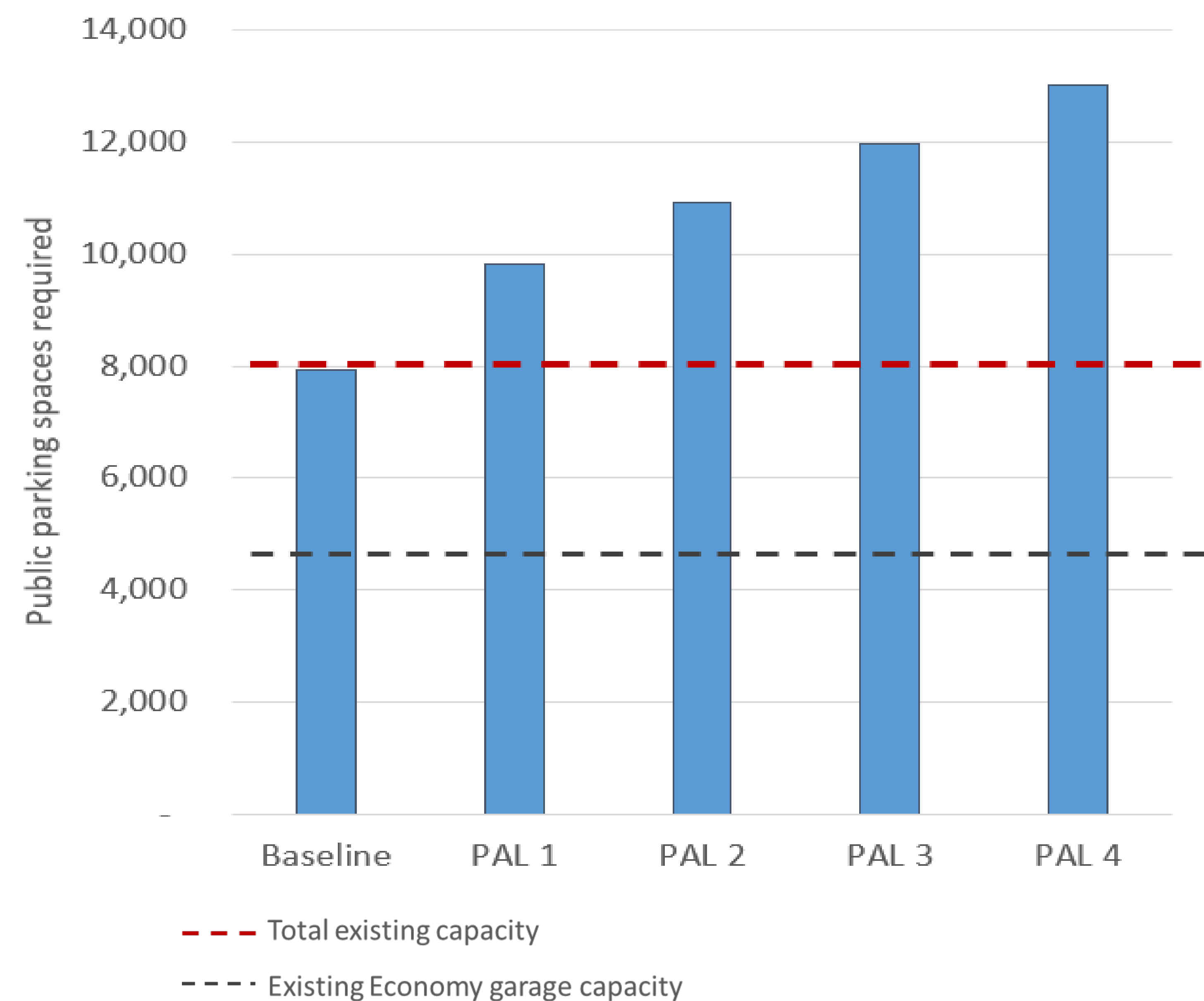


Rental Car – Immediate Need



	Existing Facility	Baseline 2018	PAL 1 2022	PAL 2 2027	PAL 3 2032	PAL 4 2037
Fuel / Vac positions	24	13	15	18	20	21
Wash bays	6	3	4	4	5	5
QTA Size (sq. ft.)	140k ±	67k	80k	92k	106k	110k
Service and storage	Off Site – assumed to provide adequate capacity though PAL 4					

Public Parking – Immediate Need



Other Landside Requirements

- Employee parking (adequate)
 - ~250 close in (provided)
 - ~1,000 remote (provided)
- Cell phone lot: 1.5 to 2.0 ac (provided)
- Commercial vehicle staging: < 1.0 ac (provided)
- Travel plaza: 2.5 ac (provided)
- Hotel: 1.5 to 3.0 ac (provided)

Facility Requirements –Support Facilities

- Fixed Based Operators (FBOs) – Minimal expansion required
- Airport Maintenance Facilities – Adequate
- Fuel Storage and Distribution – Adequate
- Aircraft Rescue and Fire Fighting (ARFF) – Rehabilitation on existing site
- Air Traffic Control Tower (ATCT) - Adequate
- Deicing Operations – Adequate - new Central Deicing Facility (CDF)
- MSCAA Facilities – Adequate with rehabilitation, terminal-based spaces to be addressed in terminal modernization



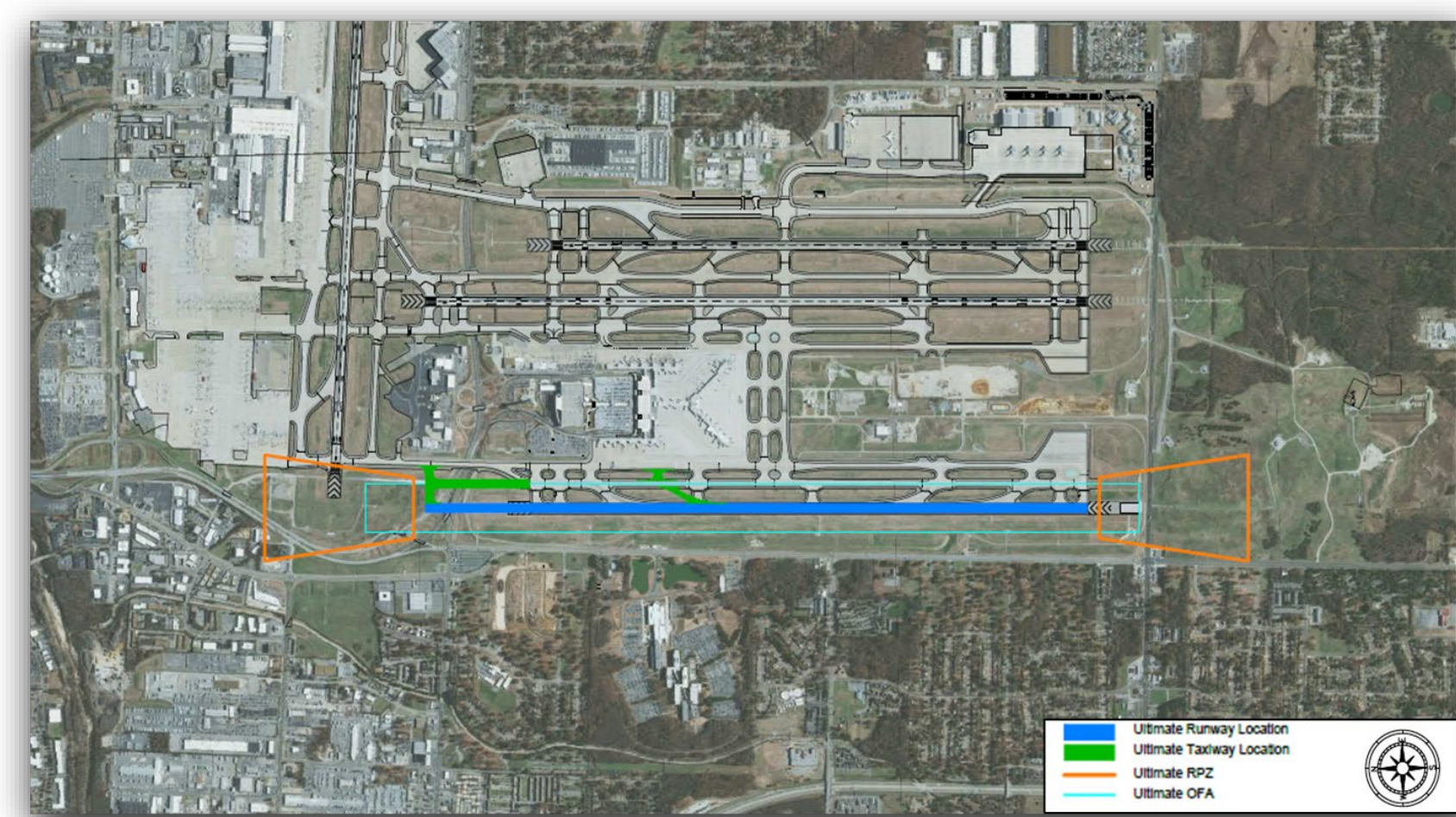
Alternatives - Airfield

Objectives to Alternatives Development

- Extending a second runway to 11,120' length for center runway redundancy
- Mitigate Hot Spots
- Address non-standard taxiway geometry and taxiway improvements
- Reduce Runway 9-27 operational dependencies with 18-36 parallel runways
- Provide more efficient taxiing between FedEx ramp and parallel Runway 9-27

Runway Extension Alternatives

Extend Runway 18R-36L
north (11,120')



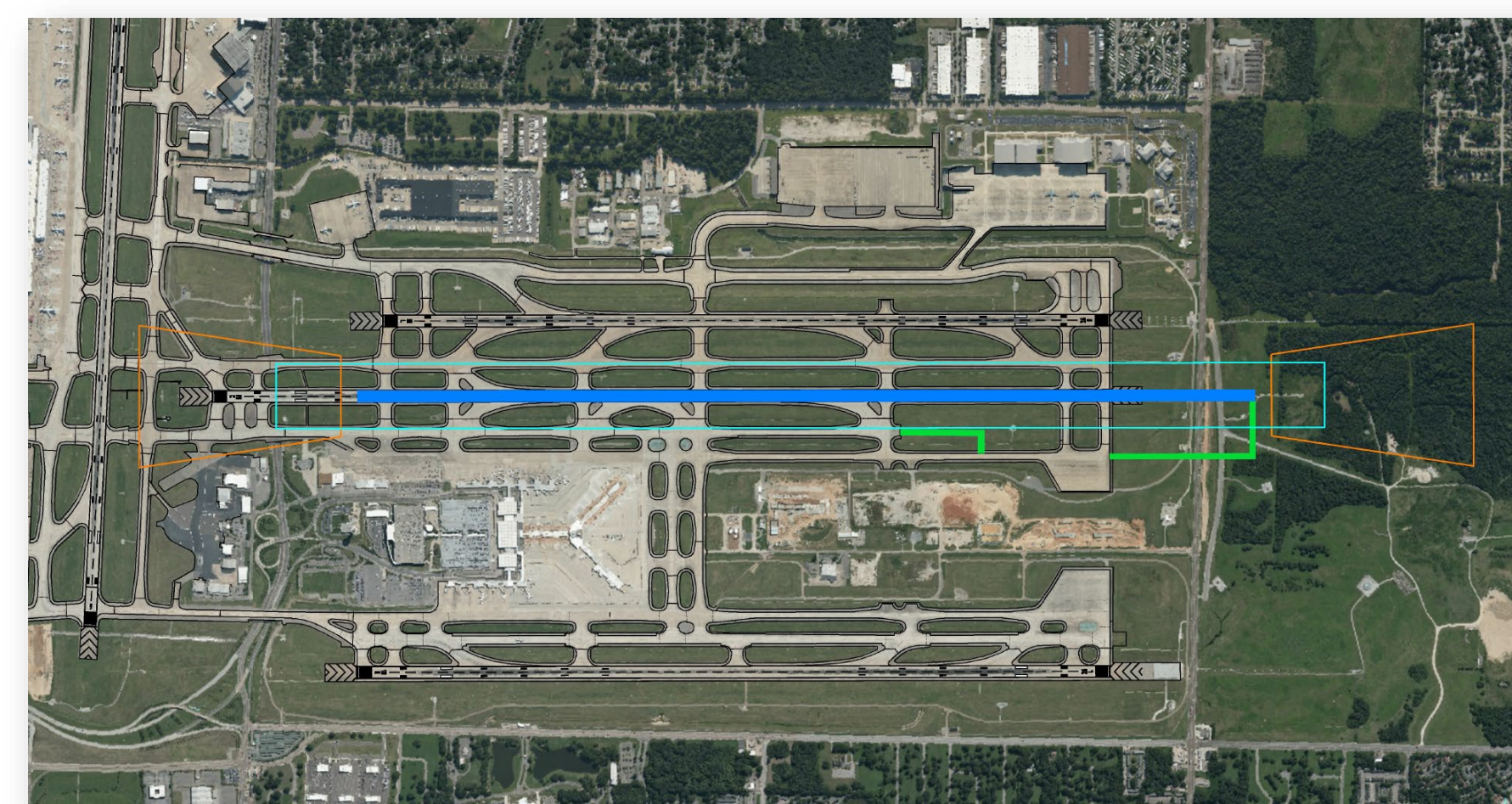
Pros:

- Addresses redundant runway length and cross-over conflicts

Cons:

- Impacts to FedEx facilities
- More significant impacts to Westchester/Plough than just extending TW M

Shift Runway 18C-36C south



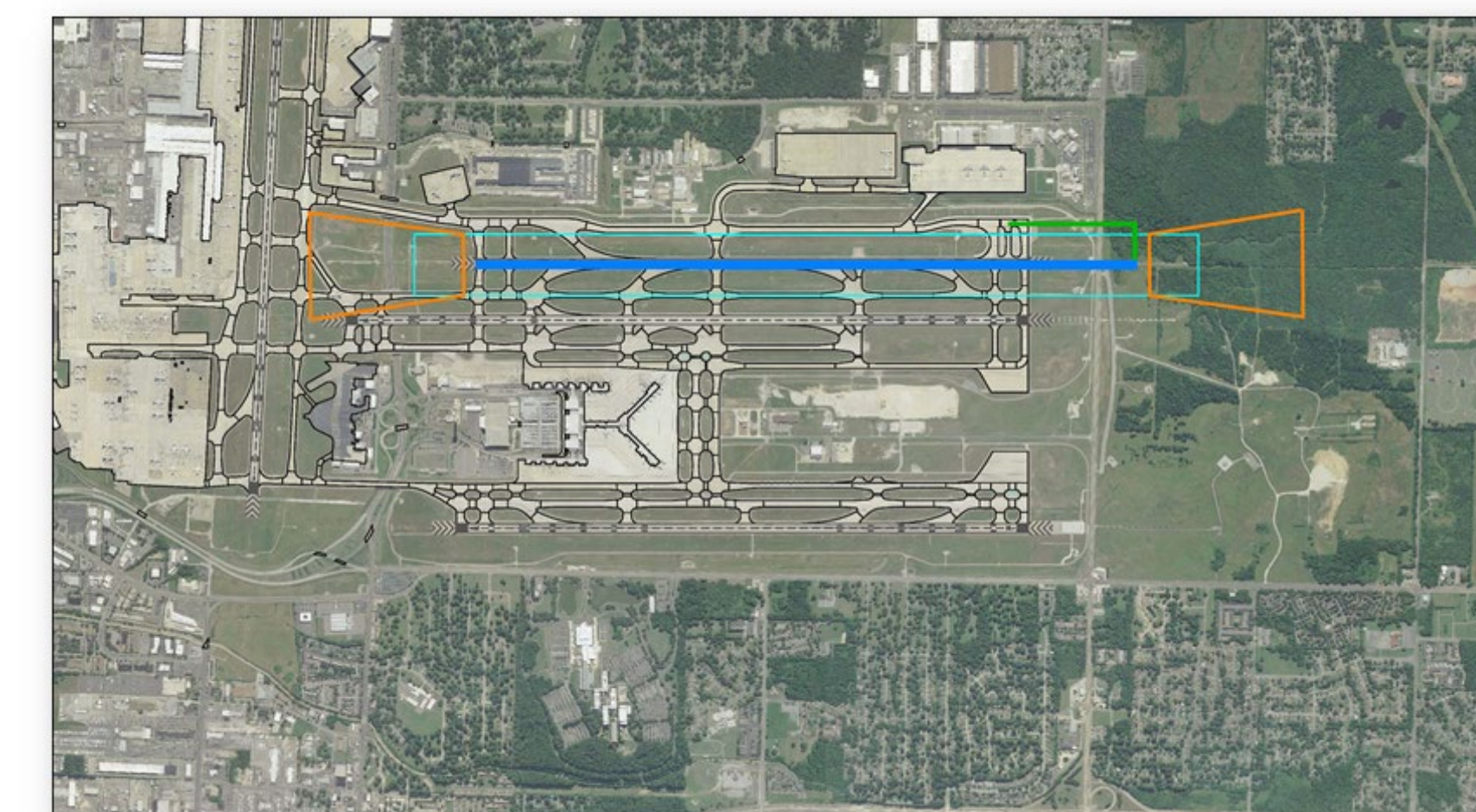
Pros:

- Aligned Runway 18 thresholds
- Manmade obstacle environment relatively clear to the south
- Allows better use of FedEx ramp

Cons:

- Terrain on south could result in more cost
- Consideration for wake turbulence separation for departures (36C and 36R)
- Impacts simultaneous arrival and departure procedures

Extend Runway 18L-36R
south



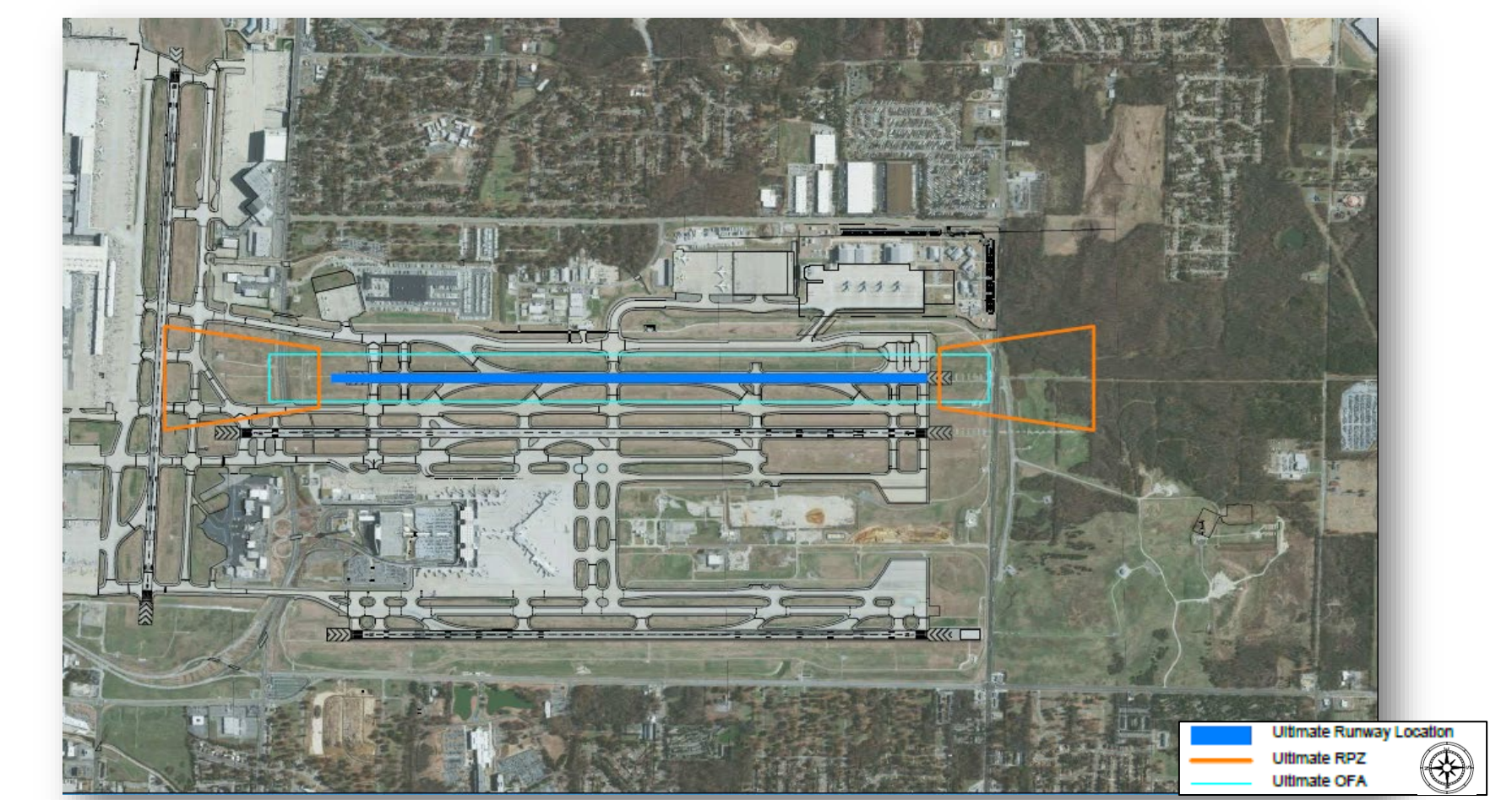
Pros:

- Redundant 11,000'+ runway
- Manmade obstacle environment relatively clear to the south

Cons:

- Consideration for wake turbulence separation for departures (36C and 36R)
- Impacts simultaneous arrival and departure procedures

Partially extend Runway 18L-
36R north (645' extension)



Pros:

- 645' increase in length (from 9,000' to 9,645')

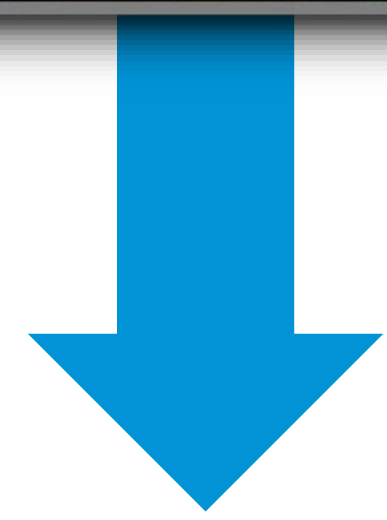
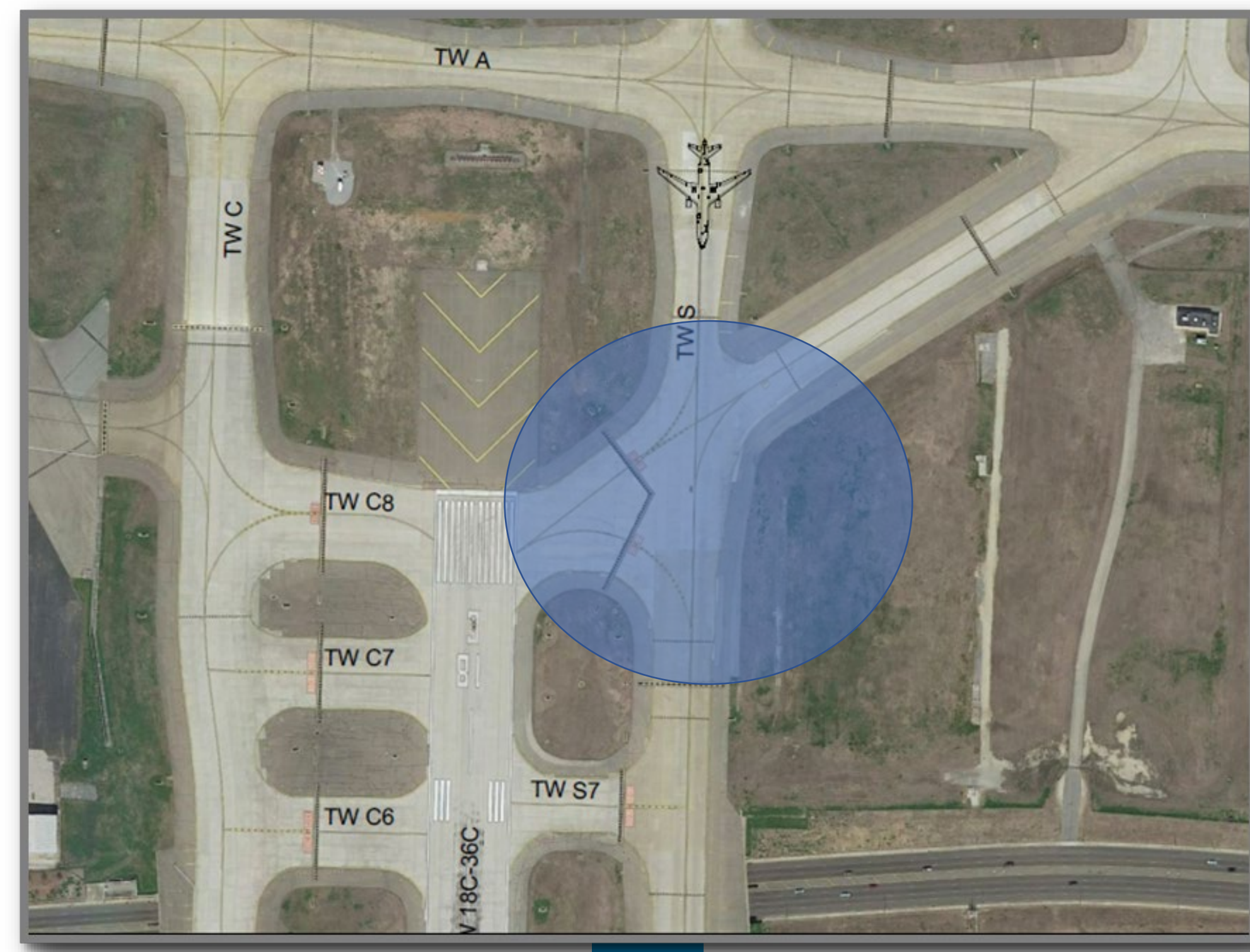
Cons:

- Does not provide the required length

Alternatives - Airfield

Hot Spot Mitigations

Hot Spot 1



Safety concerns

- Wrong surface departures on TW S
- Expansive pavement
- Back-to-back hold lines confusing to pilots

Current mitigation

- Rule-based and signage
- ATCT issues Line Up and Wait as opposed to clearing for takeoff directly

Hot Spot 2



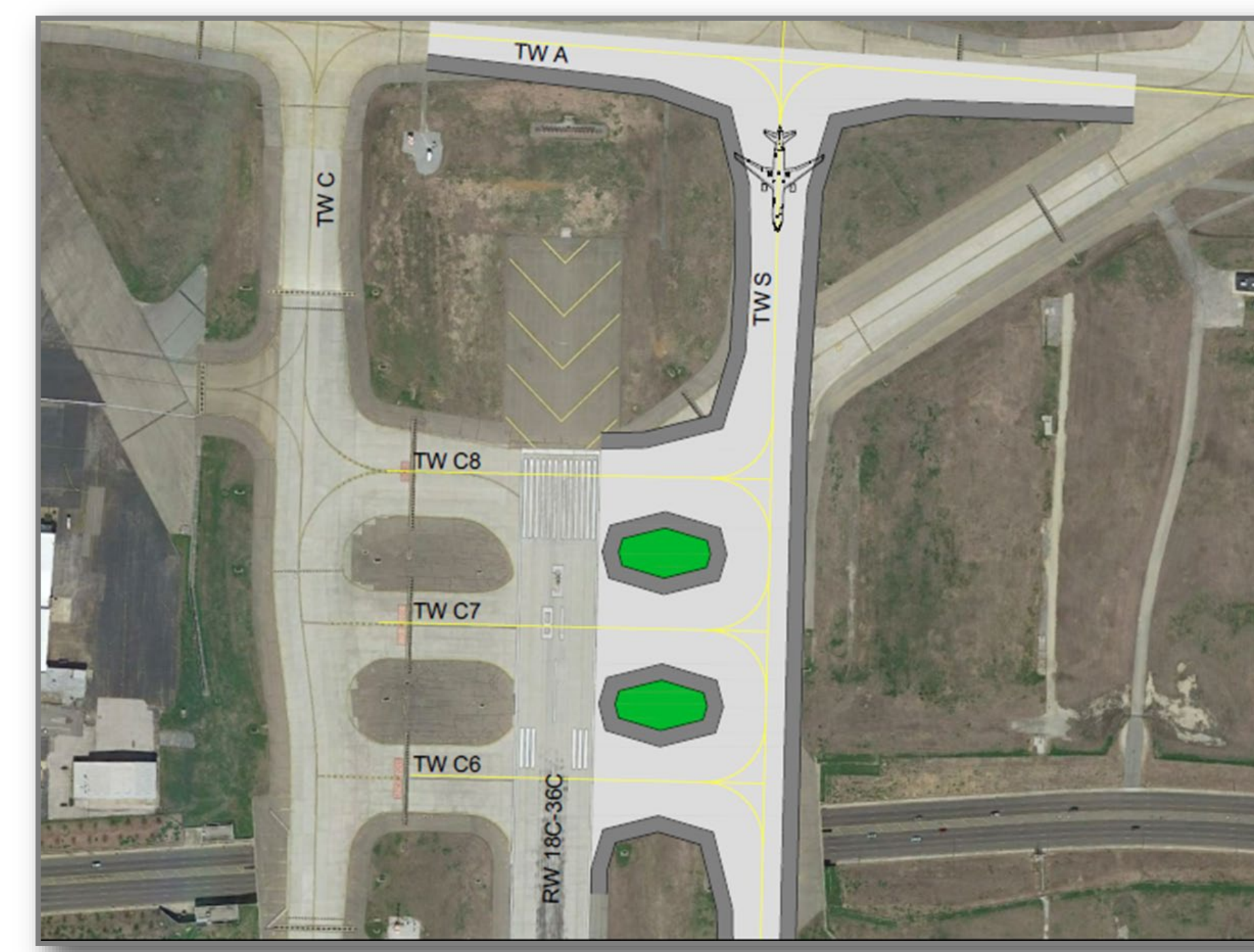
Safety concerns

- Wrong Surface Takeoffs on TW M
- Expansive Pavement

Concept

- One solution was identified
- Reduction in TW M width between M1 and M3 – increase island area

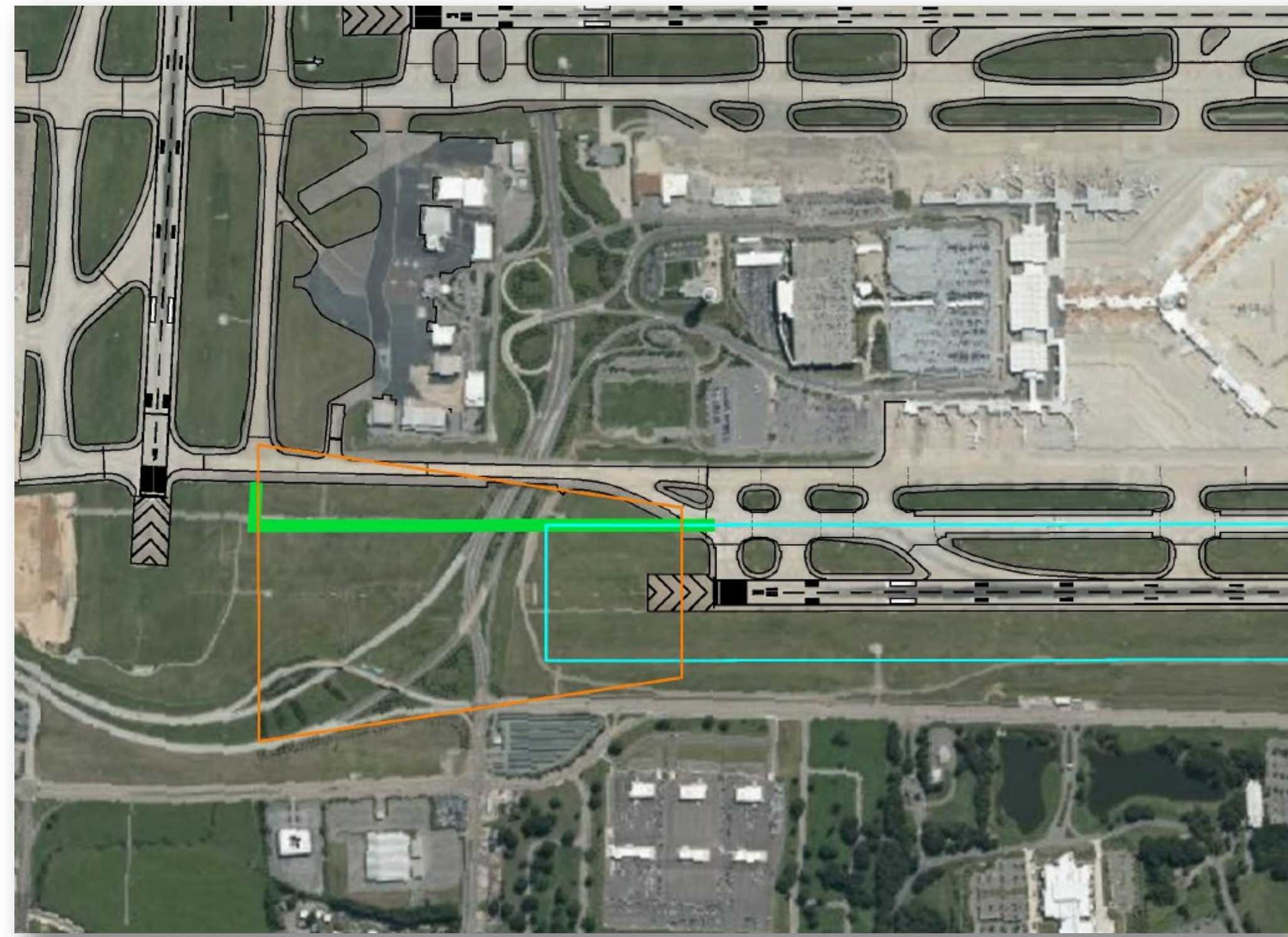
Hot Spot 1 Alternatives Considered



Alternatives - Airfield

Taxiway Improvements

Taxiway M Extension North



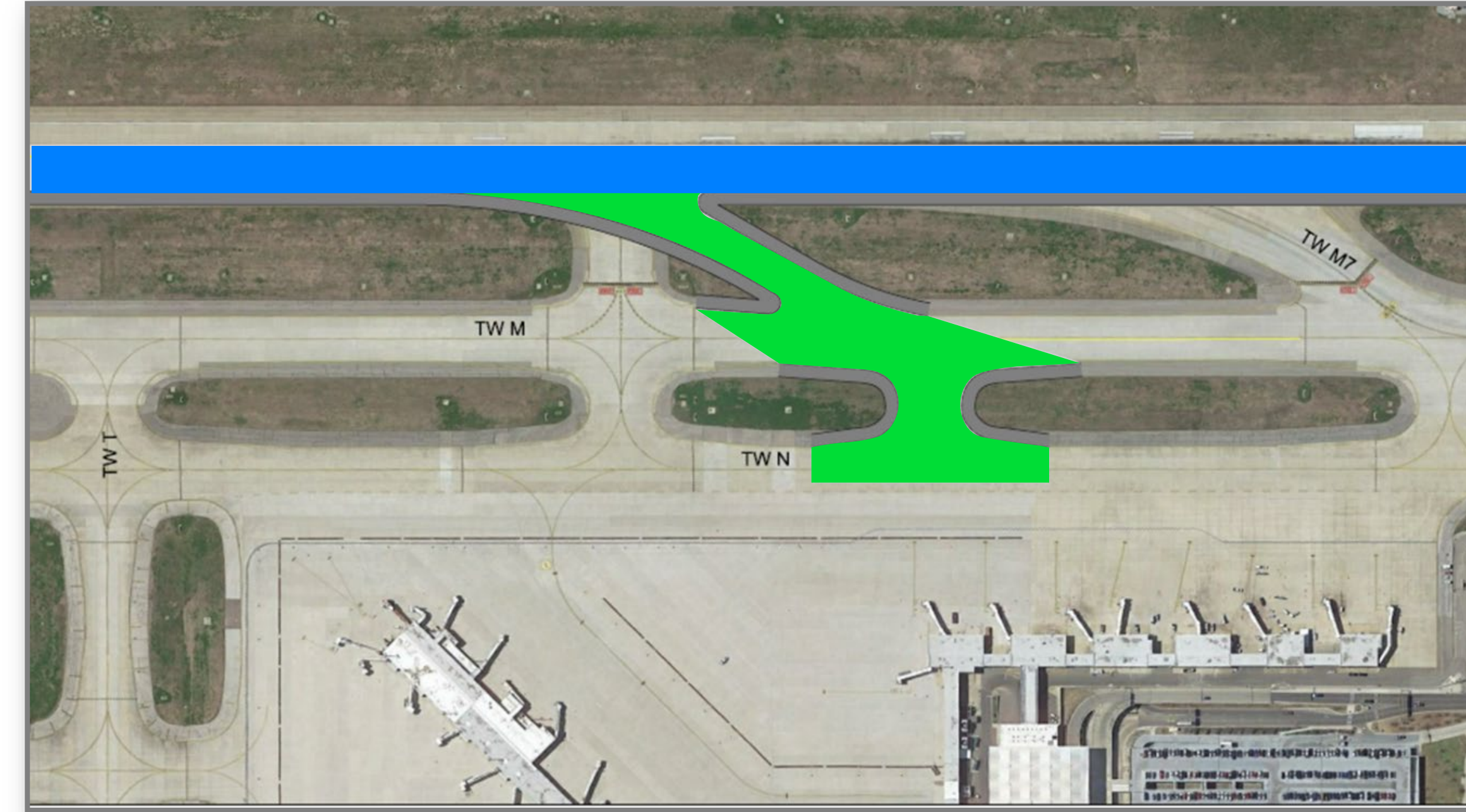
Pros:

- Secondary taxiway bridge over access road
- Dual parallel access from western runway to FedEx ramp

Cons:

- Access road and exit ramp elevations make project more complex

High Speed Taxiway at M6



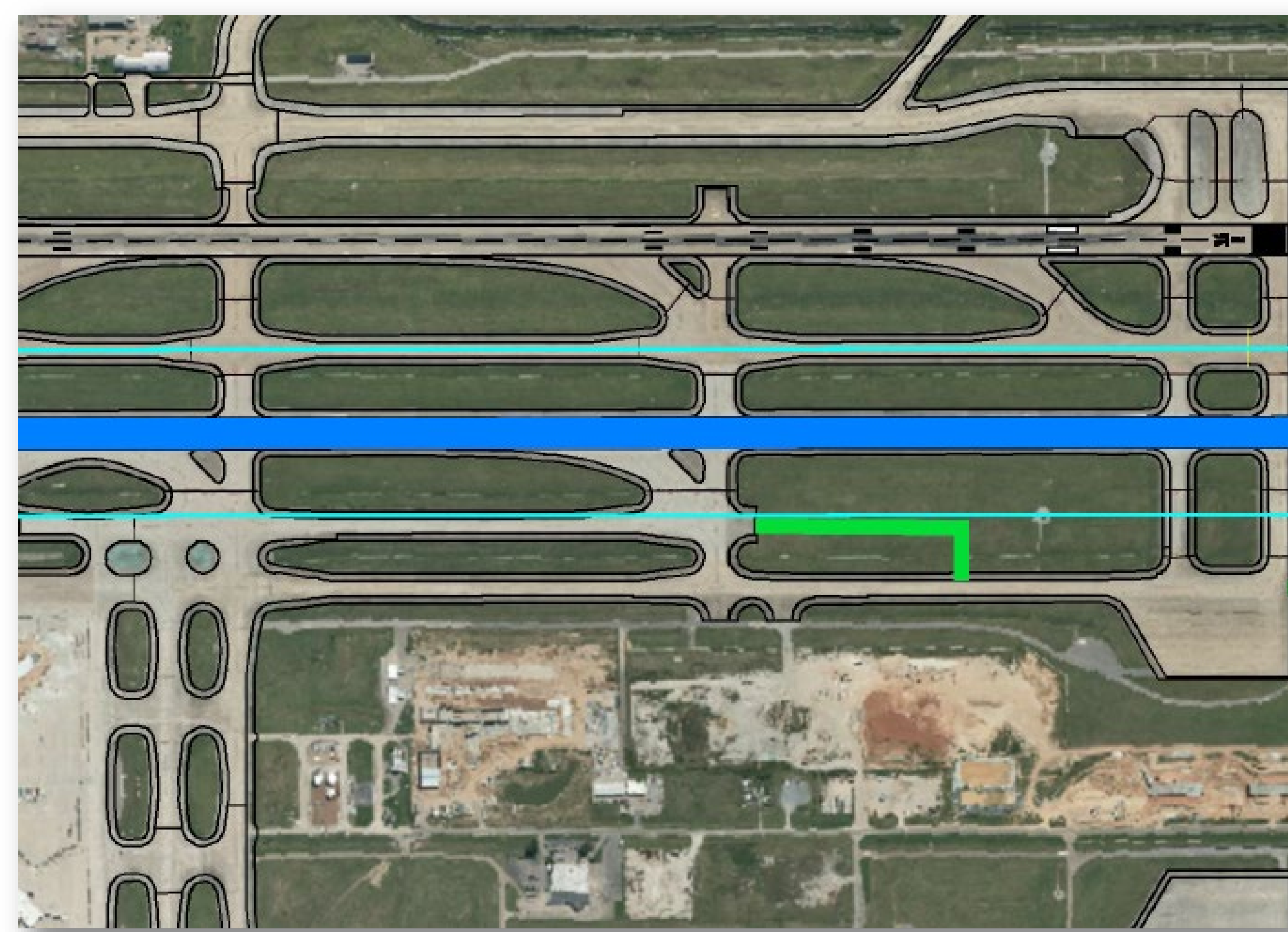
Pros:

- Reduces Arrival Runway Occupancy Times (AROTs) on Runway 18R-36L
- Operational benefits (less braking compared to using TW M6 as a 90-degree exit)

Cons:

- Loss of 90-degree may impact air carriers turning into the terminal area

Extension of Taxiway C to the South



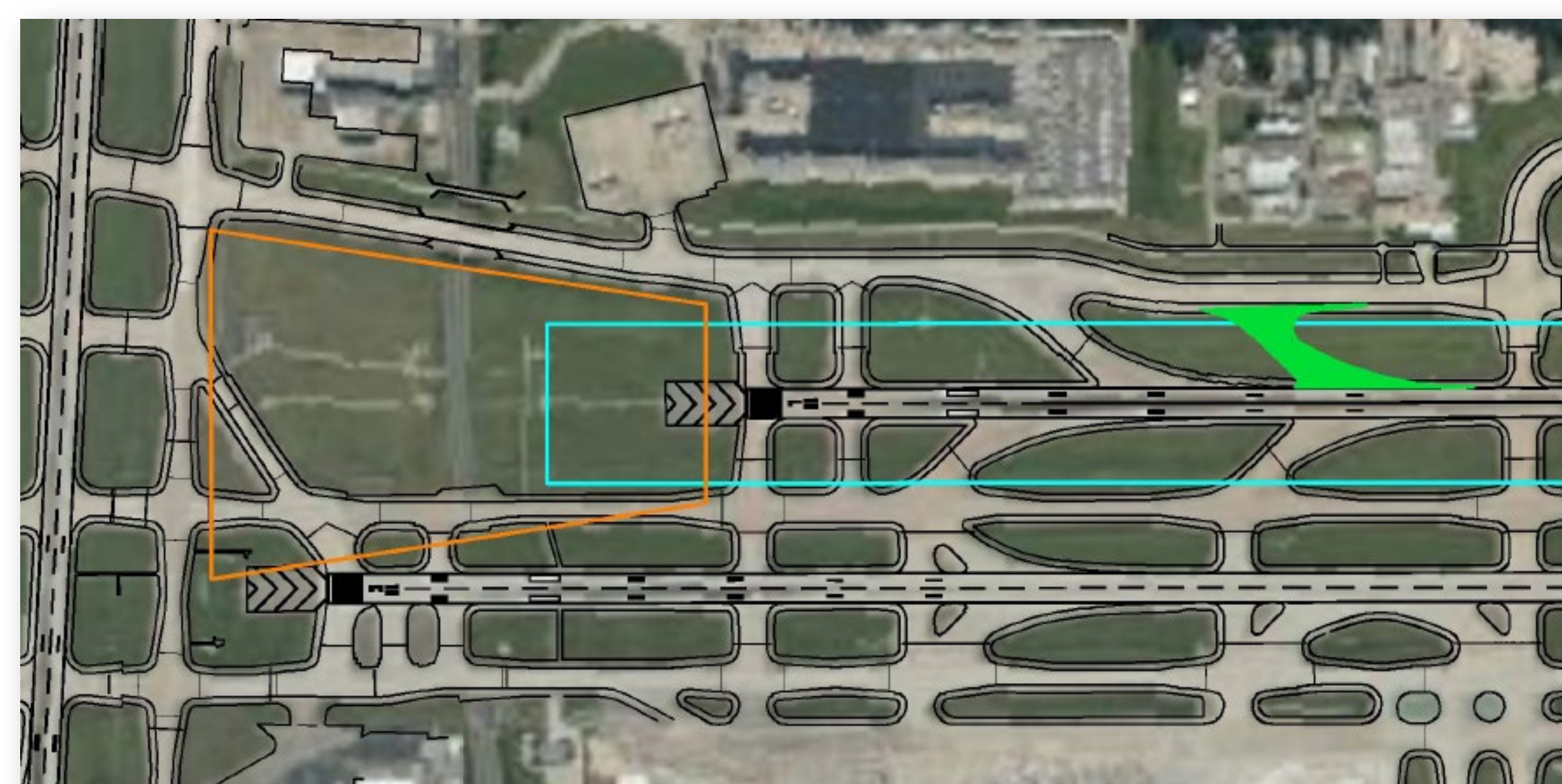
Pros:

- Can extend ~ 1,000' south and add stub between TWs C and J
- Provides additional access or bypass taxiing, particularly to/from deicing facility

Cons:

- None

High Speed Taxiway at Y2



Pros:

- Additional high speed to TW Y will reduce AROT.
- Reduces traffic on TW S when needed

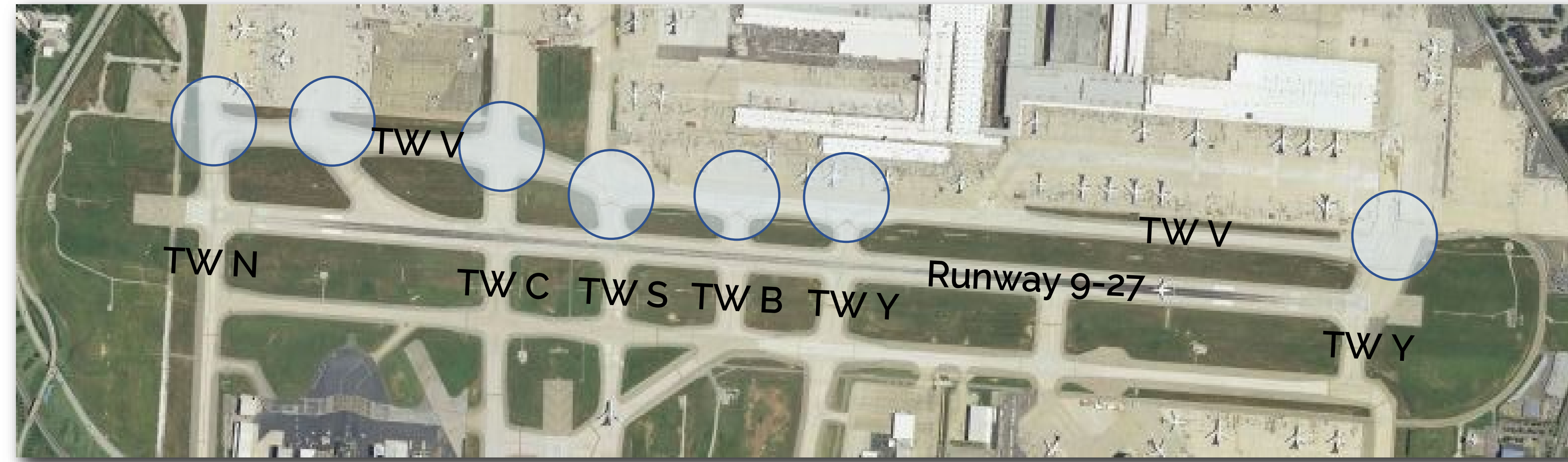
Cons:

- Complicates traffic flow

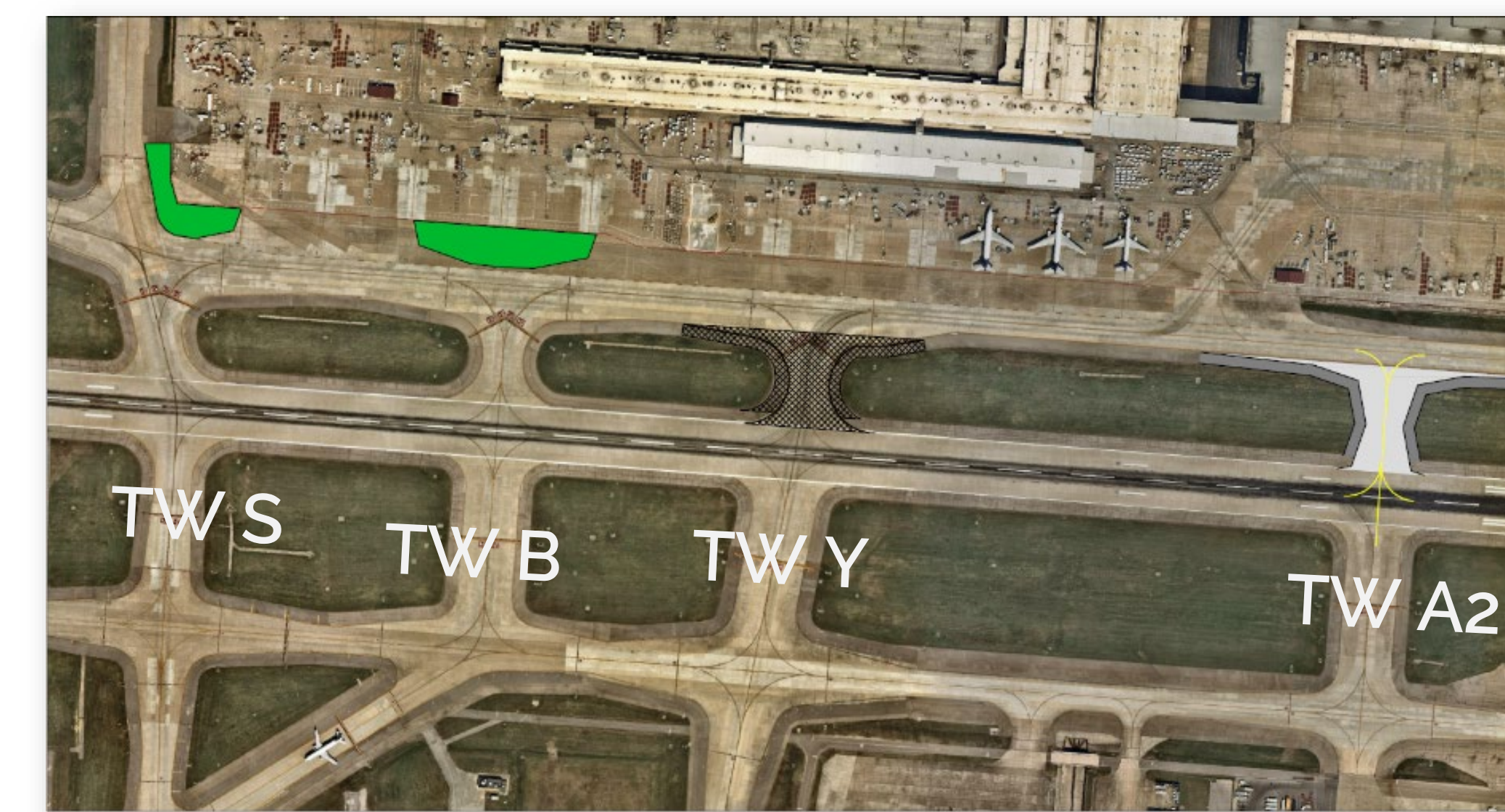
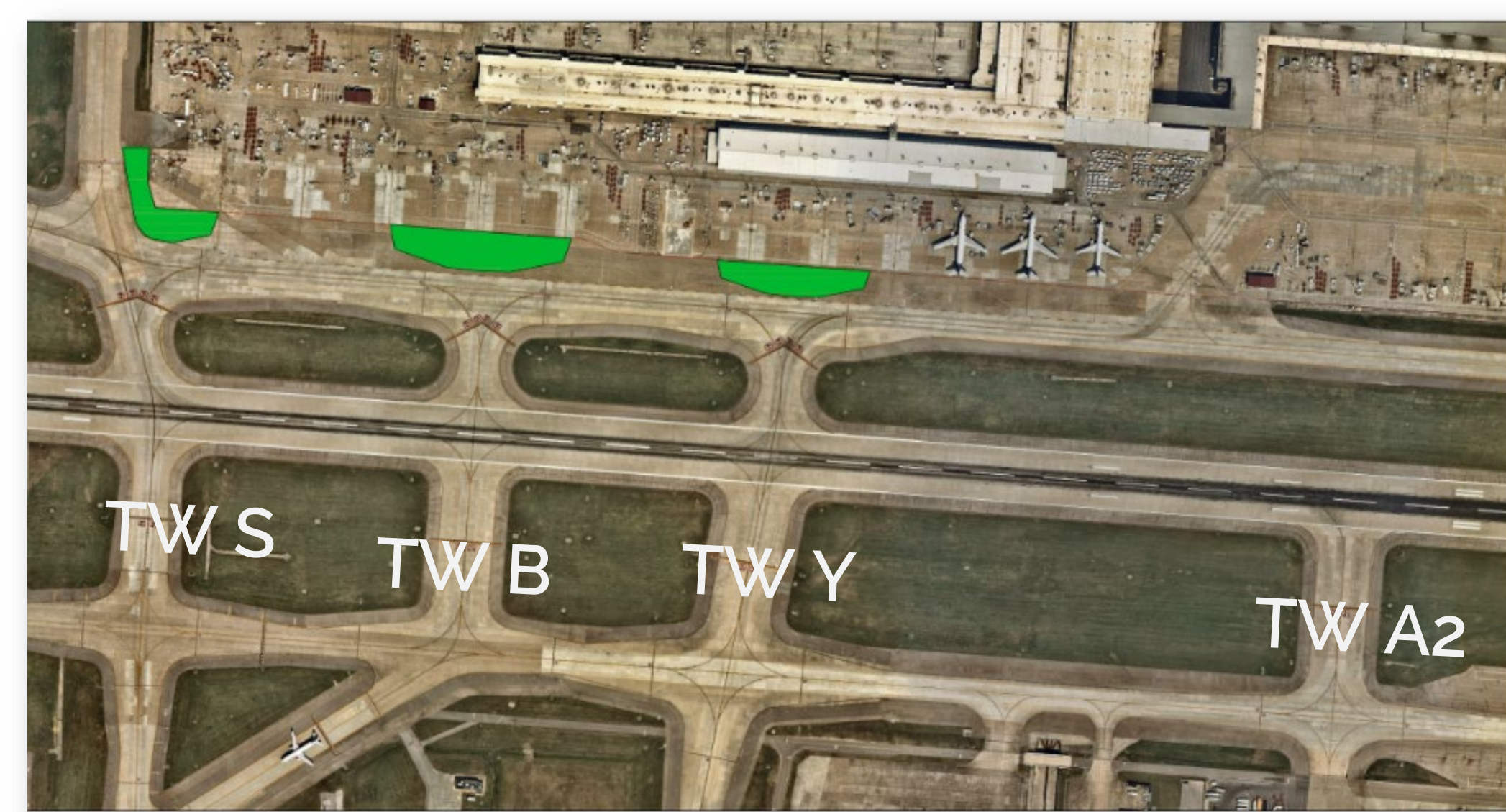
Alternatives - Airfield

Taxiway Improvements

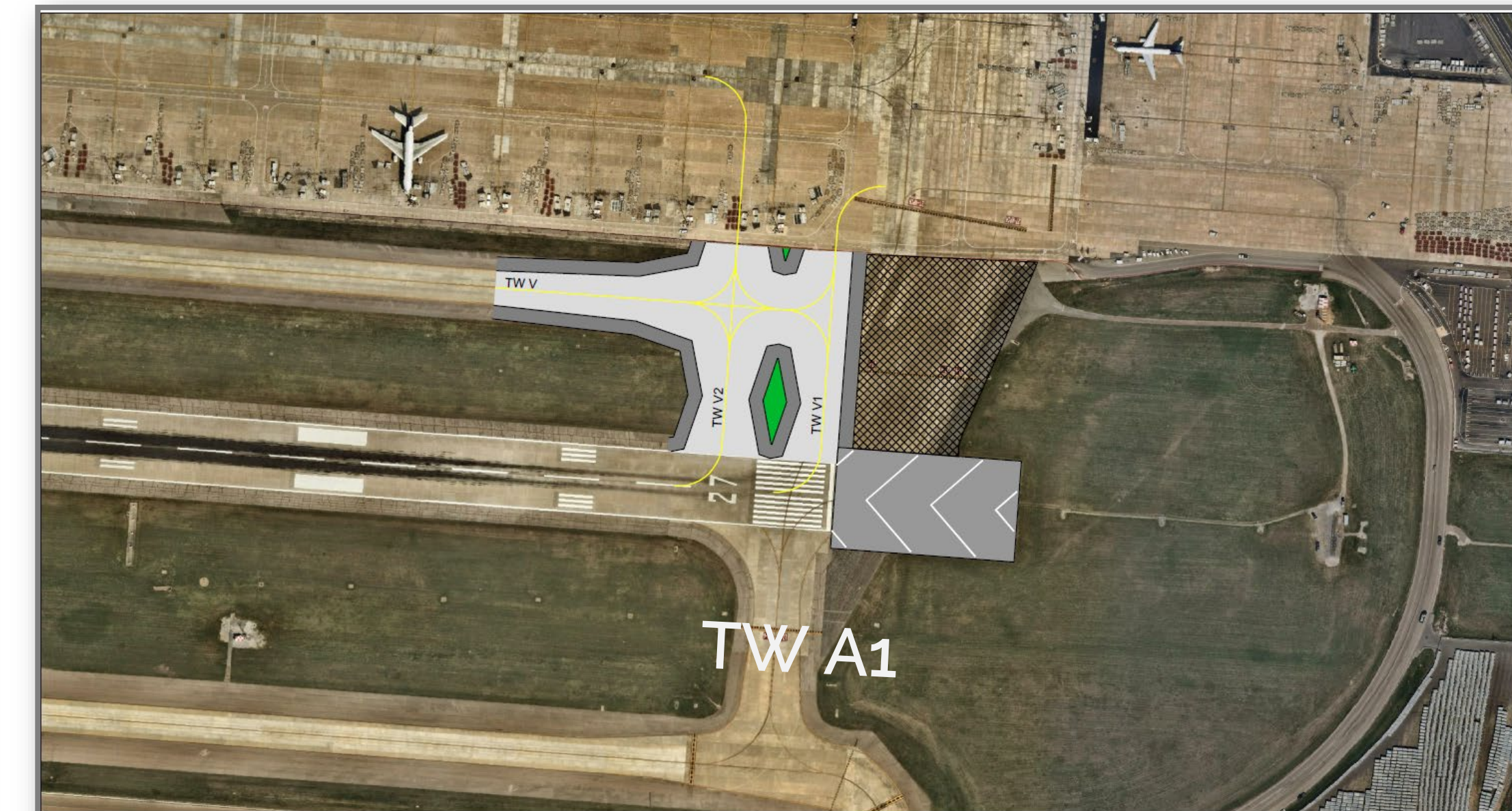
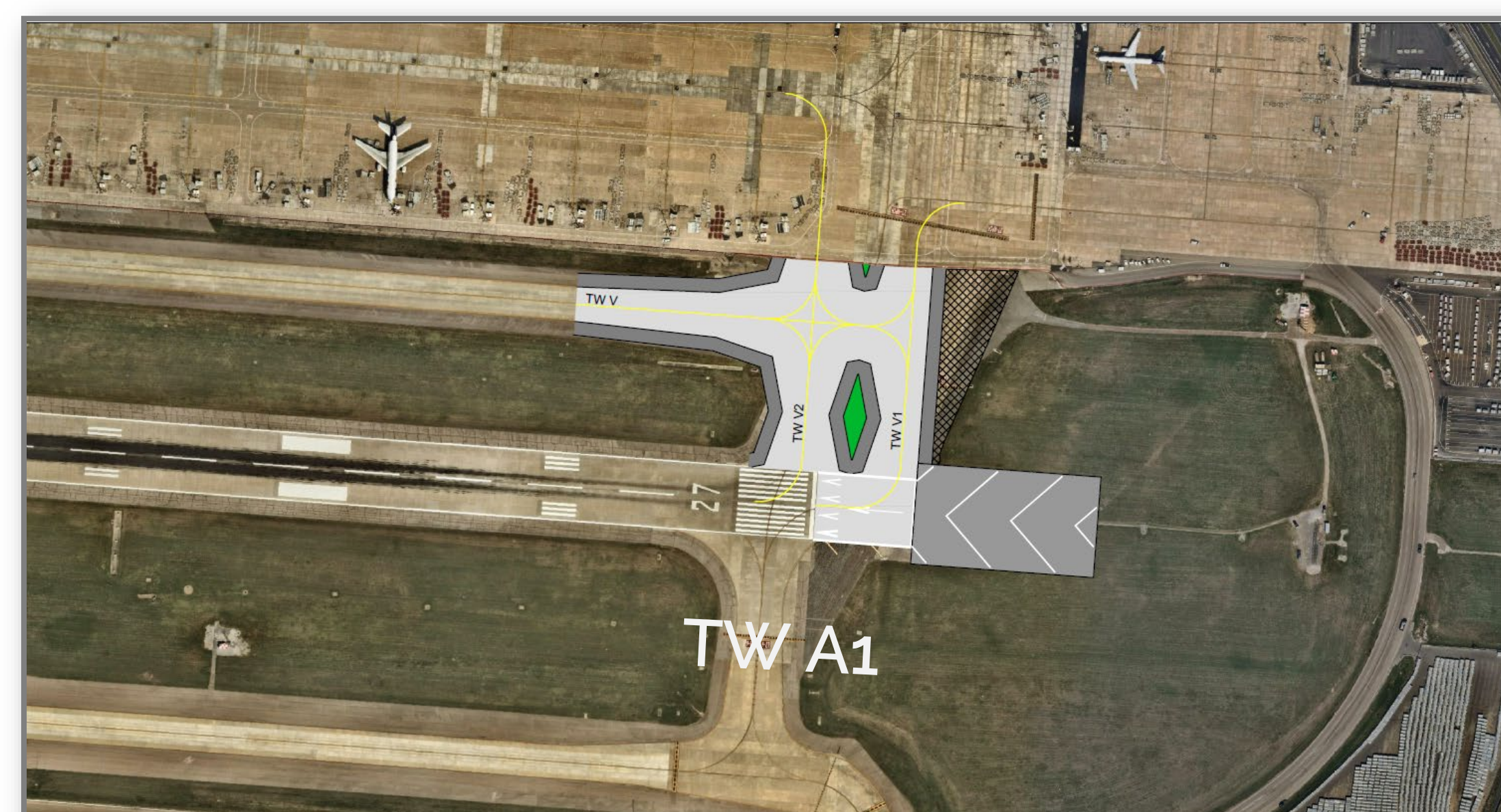
Runway 9-27 Potential Direct Access Locations



Alternatives to Eliminate Direct Access



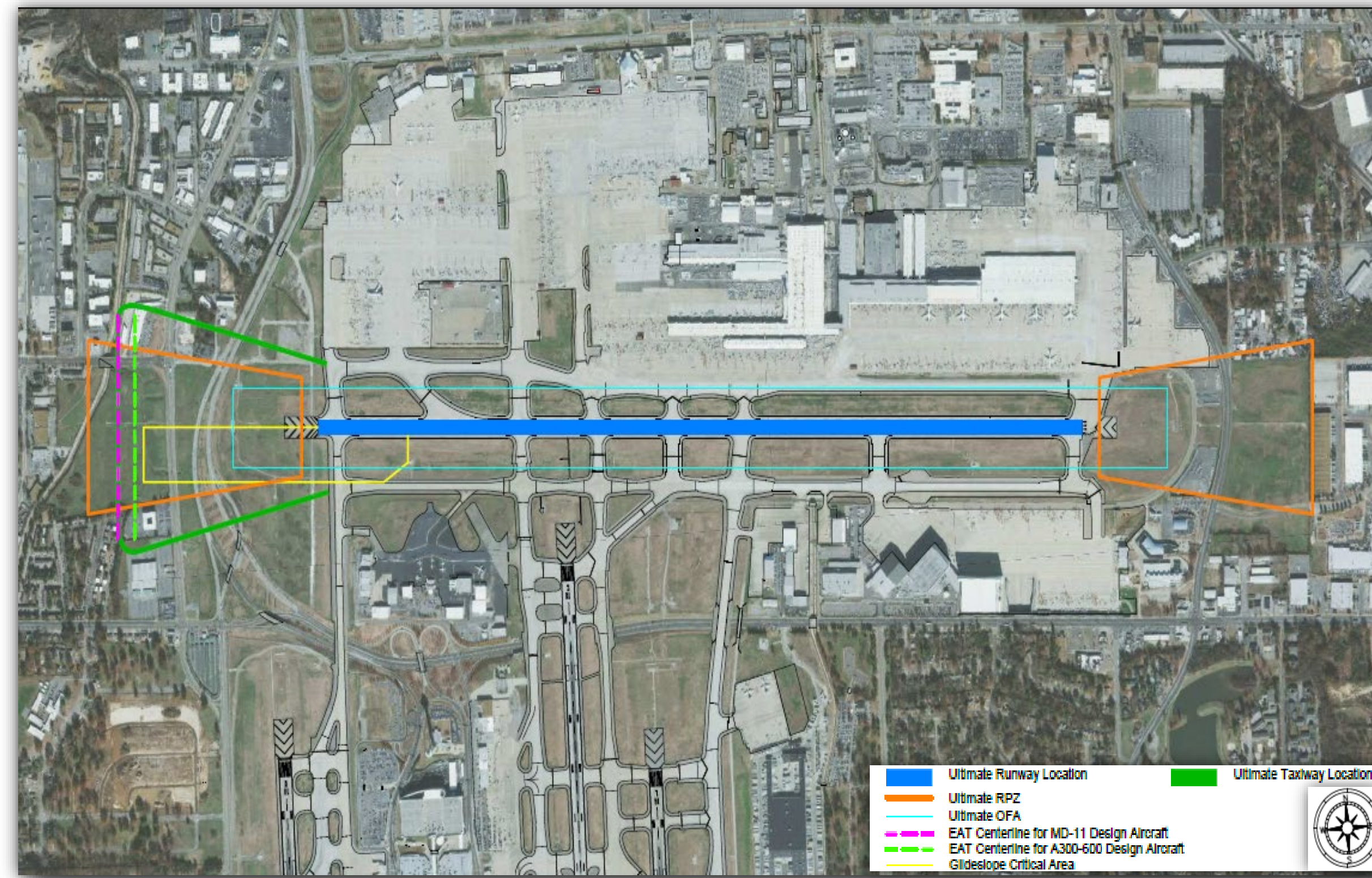
Taxiway V1/V2



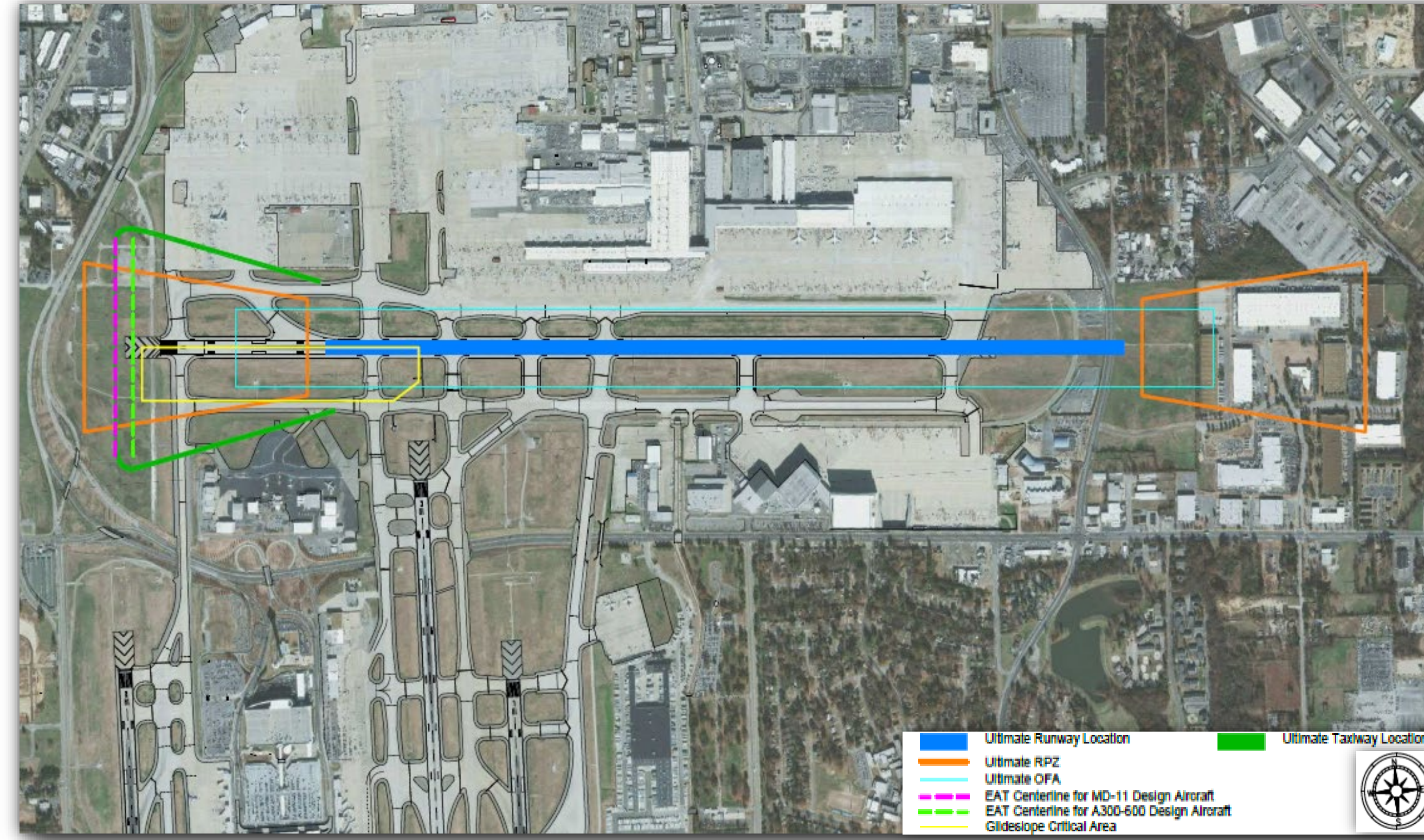
Alternatives - Airfield

Reconfigure Runway 9-27

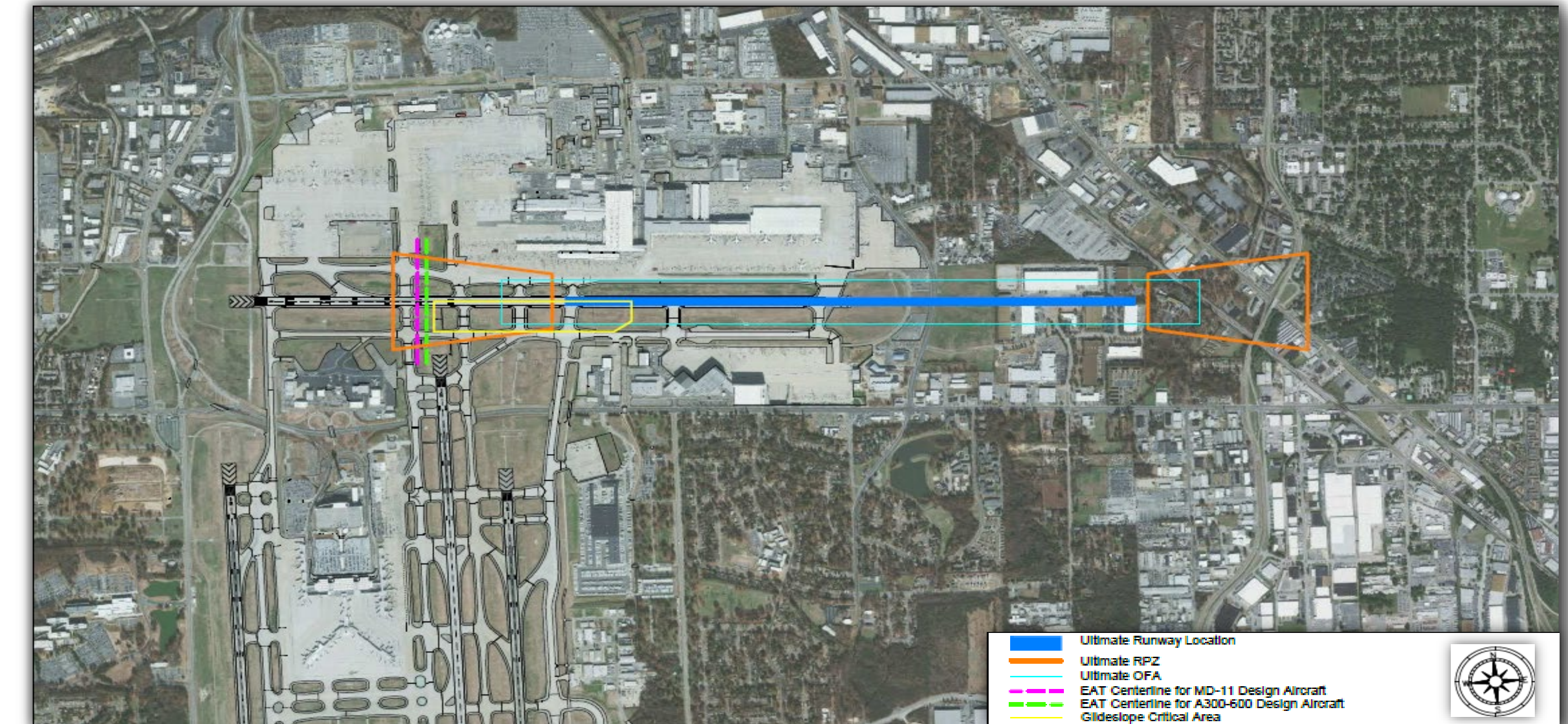
3 Preliminary Concepts were discussed



Alt 1



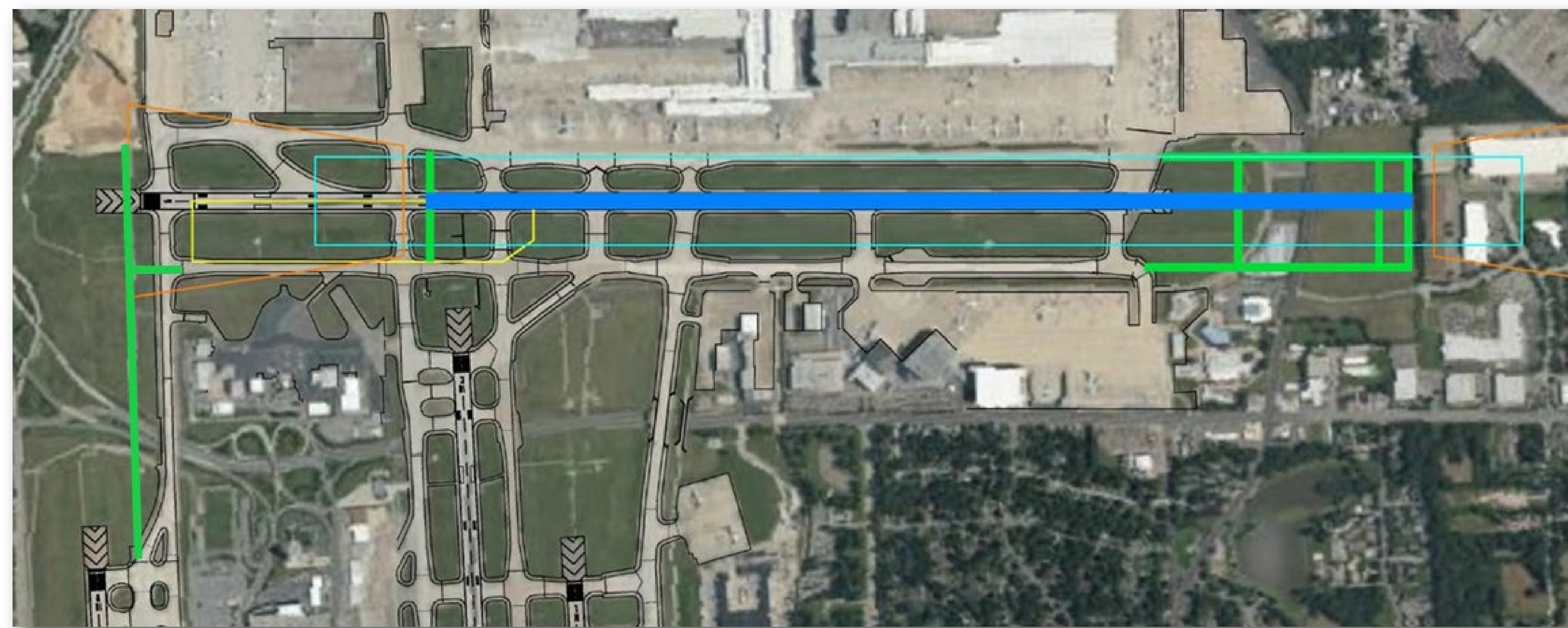
Alt 2



Alt 3

- **Alt 1:** New west end-around taxiway (EAT) – impact to FedEx/Golden Triangle, Plough/Airways
- **Alt 2:** New west EAT with shifted runway location to avoid access road impacts – impact to FedEx/Golden Triangle
- **Alt 3:** Shift Runway 9 departure end east to TW Y – Provides multiple crossings, need to define ramp impacts and reconfiguration of taxiways, costly due to land acquisition and roads/railroad

Alt 3 Selected for Further Refinement, Resulting in Shift Runway East to TW C



Pros:

- Refinement reduced cost - RPZ just nicks edge of the railroad and doesn't impact Route 78
- Provides 2 EATs – TWs M (extended) and N
- Addresses all direct access points except TWs V1/V2
- Allows for expansion of FedEx ramps

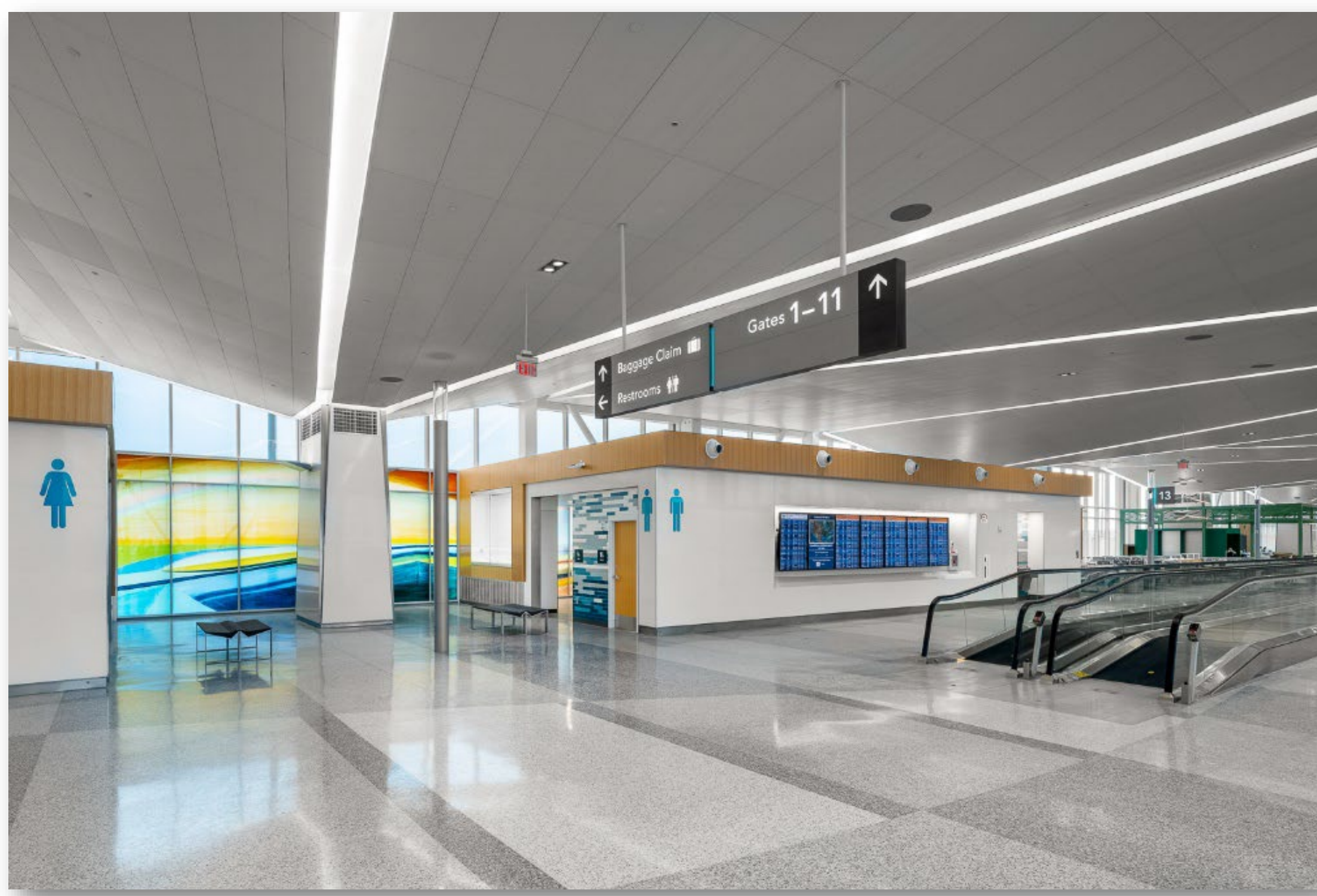
Cons:

- MALSR and inner approach OFZ could result in a reduction to runway length
- Restrictions on TW A during Runway 9 arrival (ILS critical area)

Alternatives - Terminal Gates

Concourse Modernization

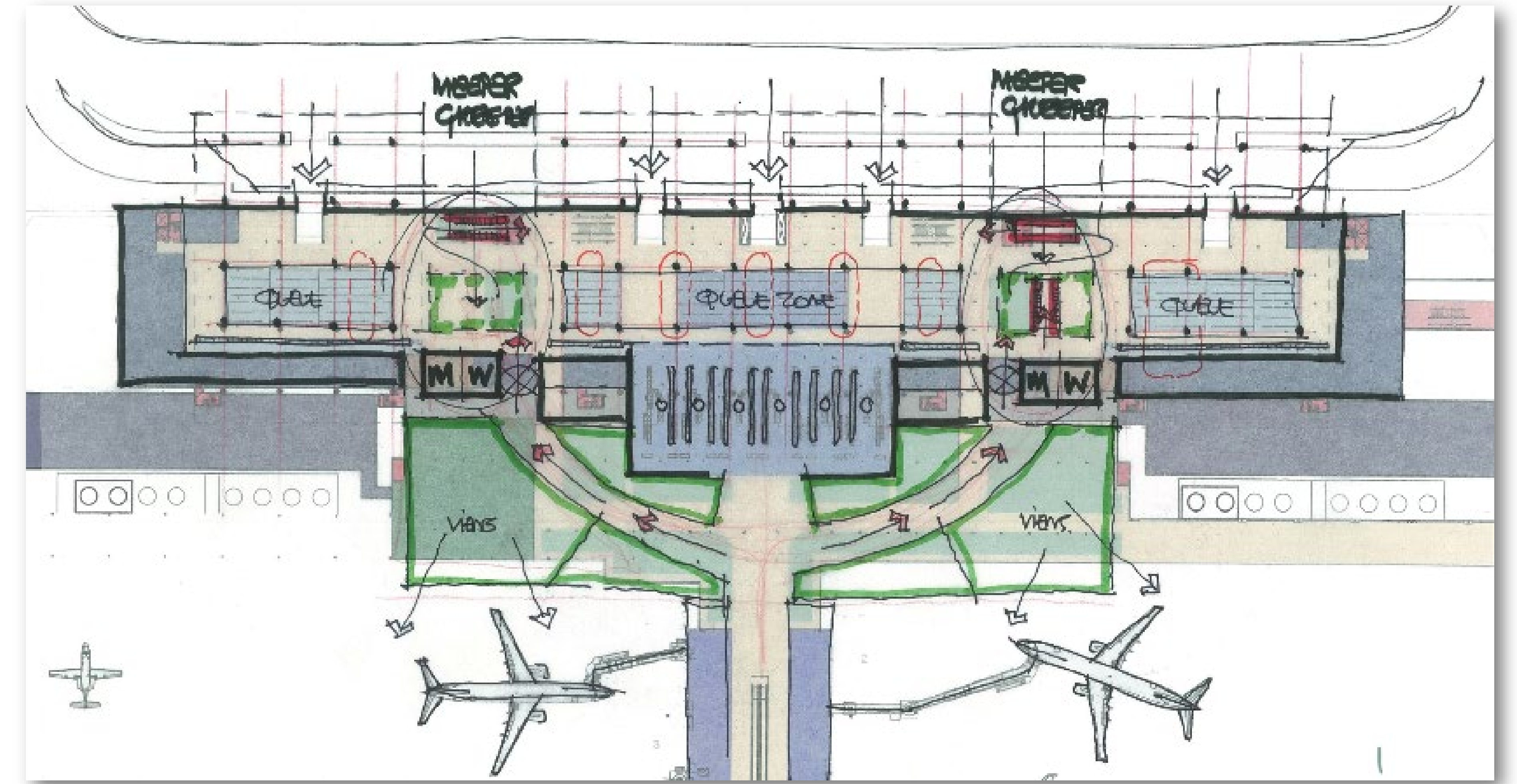
- Finishing the buildout of the southwest portion of the concourse, coupled with common use technology, will provide ample gate capacity for the 20-year planning horizon
- Concourses A and C can be demolished, and area repurposed
- FIS closer to the terminal may be beneficial



Alternatives - Terminal

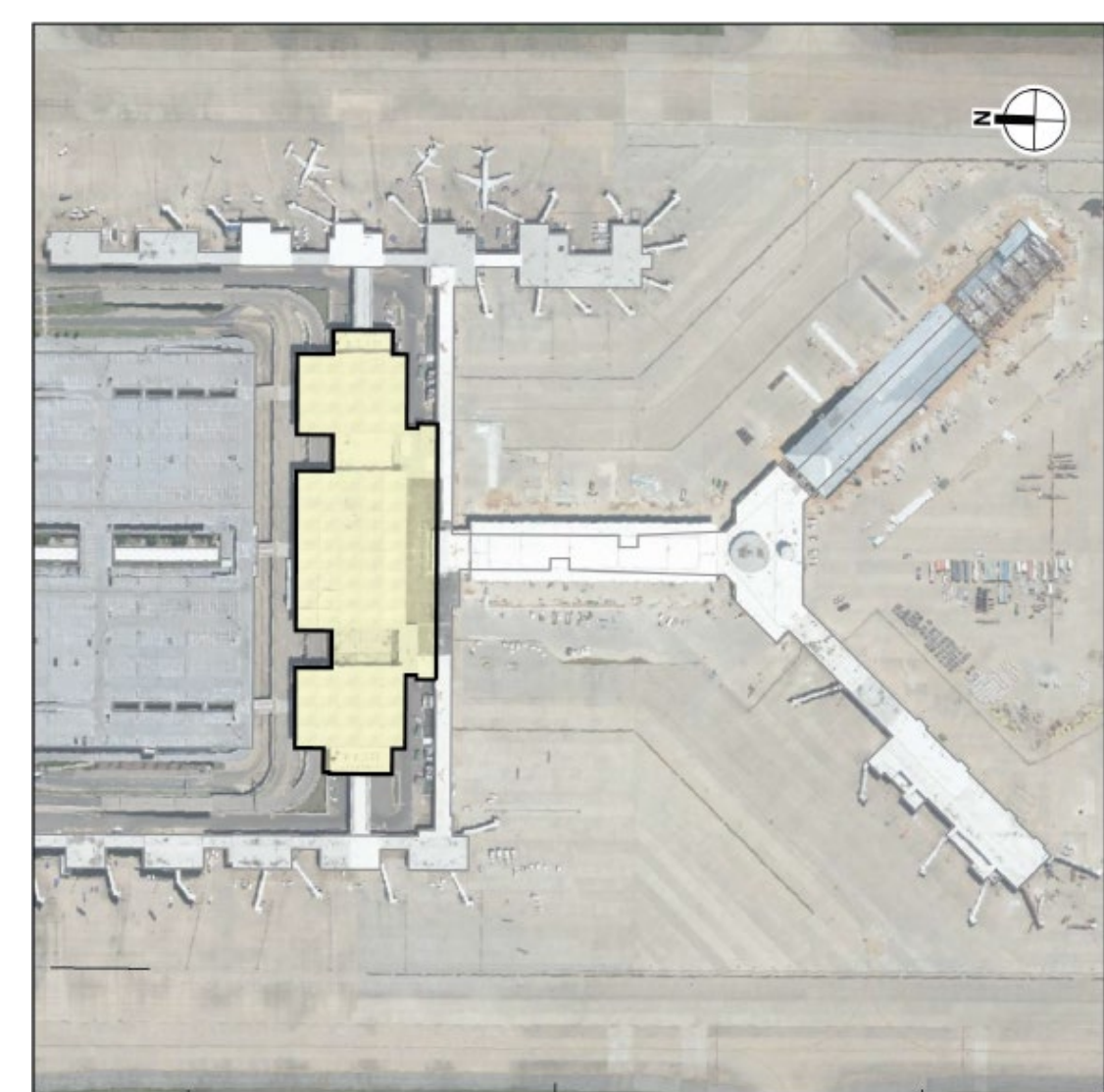
Rebuild or Renovate

- Moving terminal to new location does not make financial or operational sense
- New construction will be more costly and sacrifices the "martini glass" architecture
- Renovation in existing area is most logical
- Renovation and modernization of the existing building is recommended

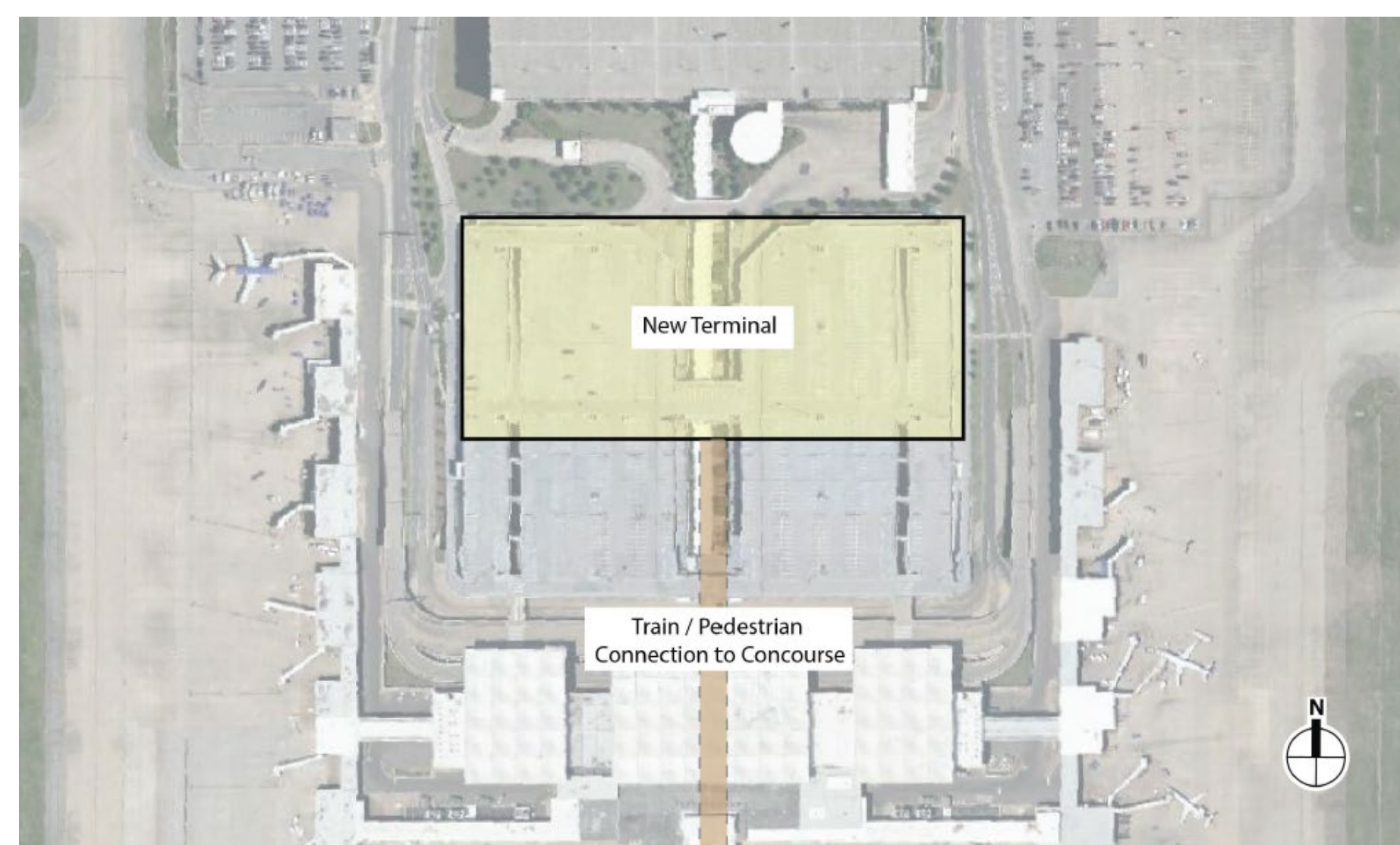


Sample Terminal Alternative Sketch

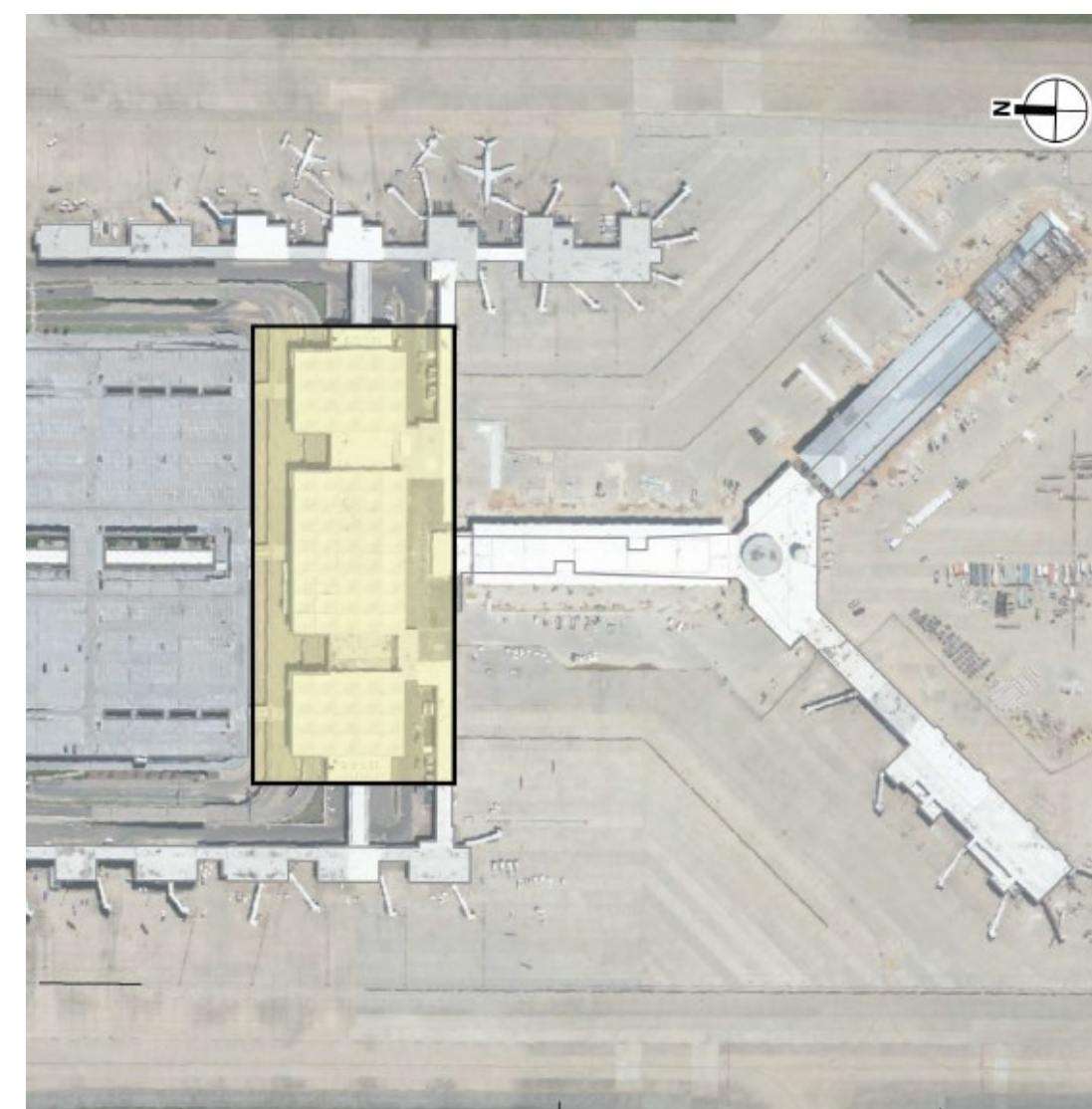
Alternatives Considered



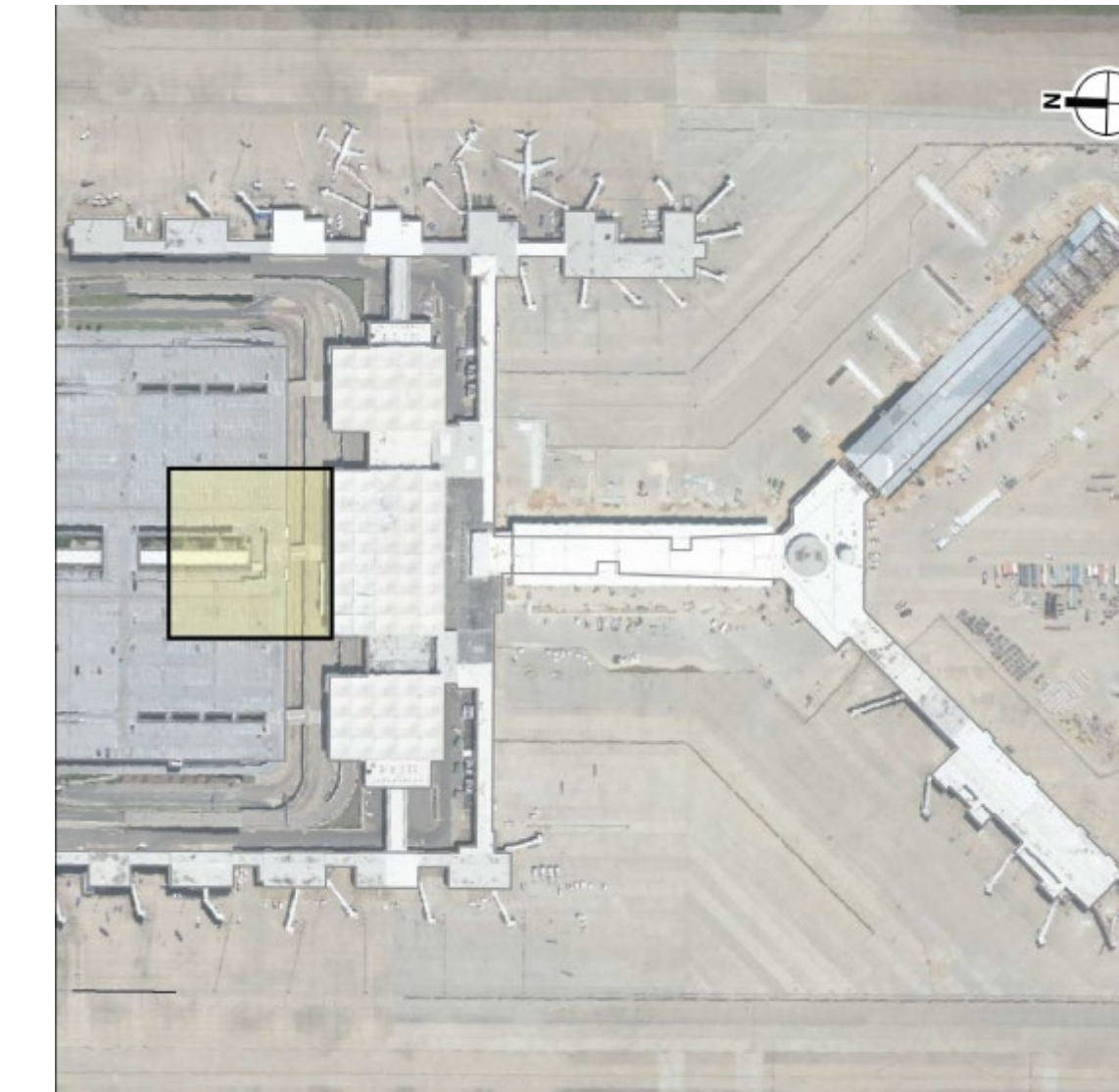
Alt A -
Renovation in
Current Footprint



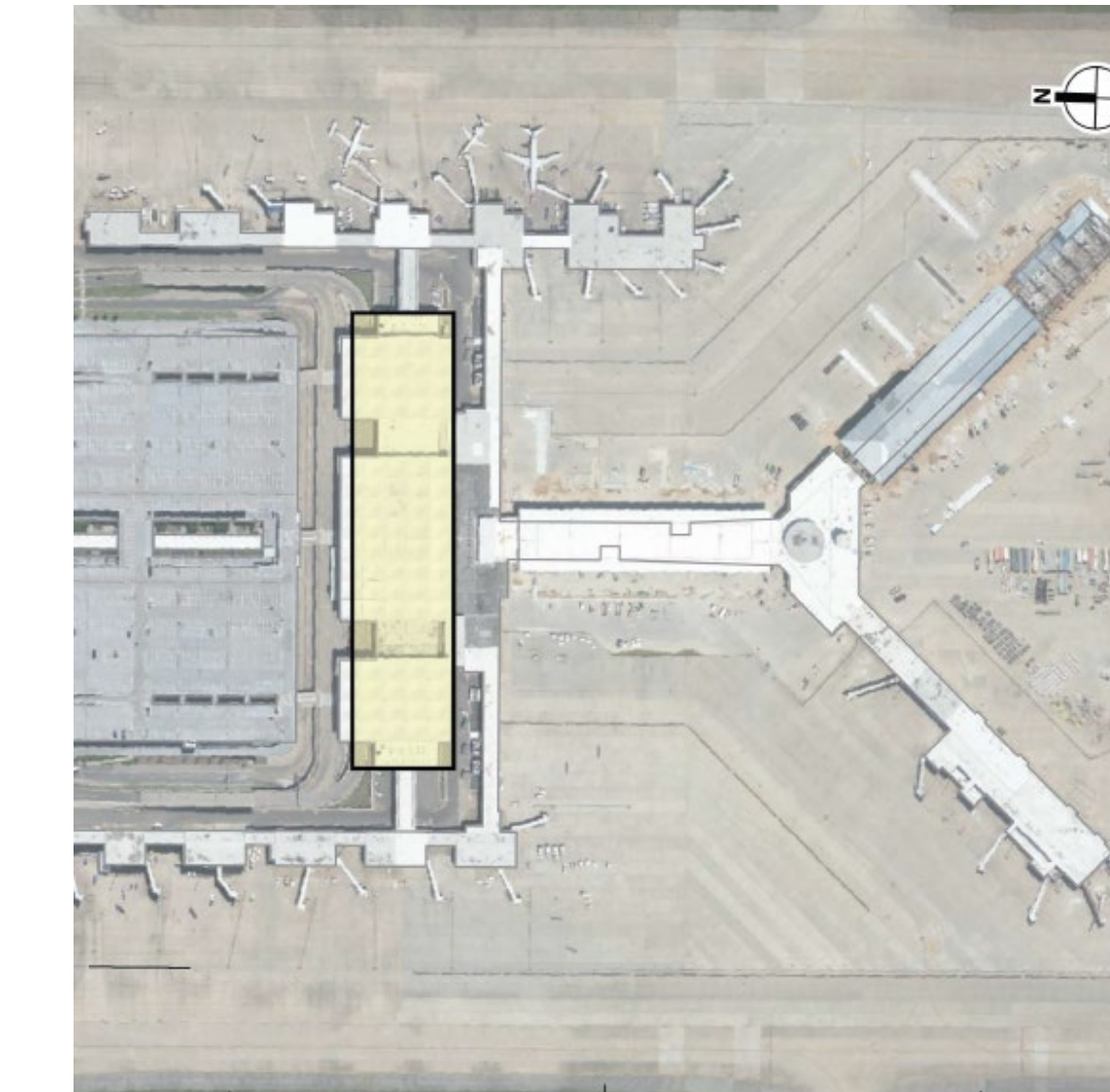
Alt B - New Terminal in New
Location



Alt C - Demolition
and Build on
Current Site



Alt D - New
Terminal Addition
to North



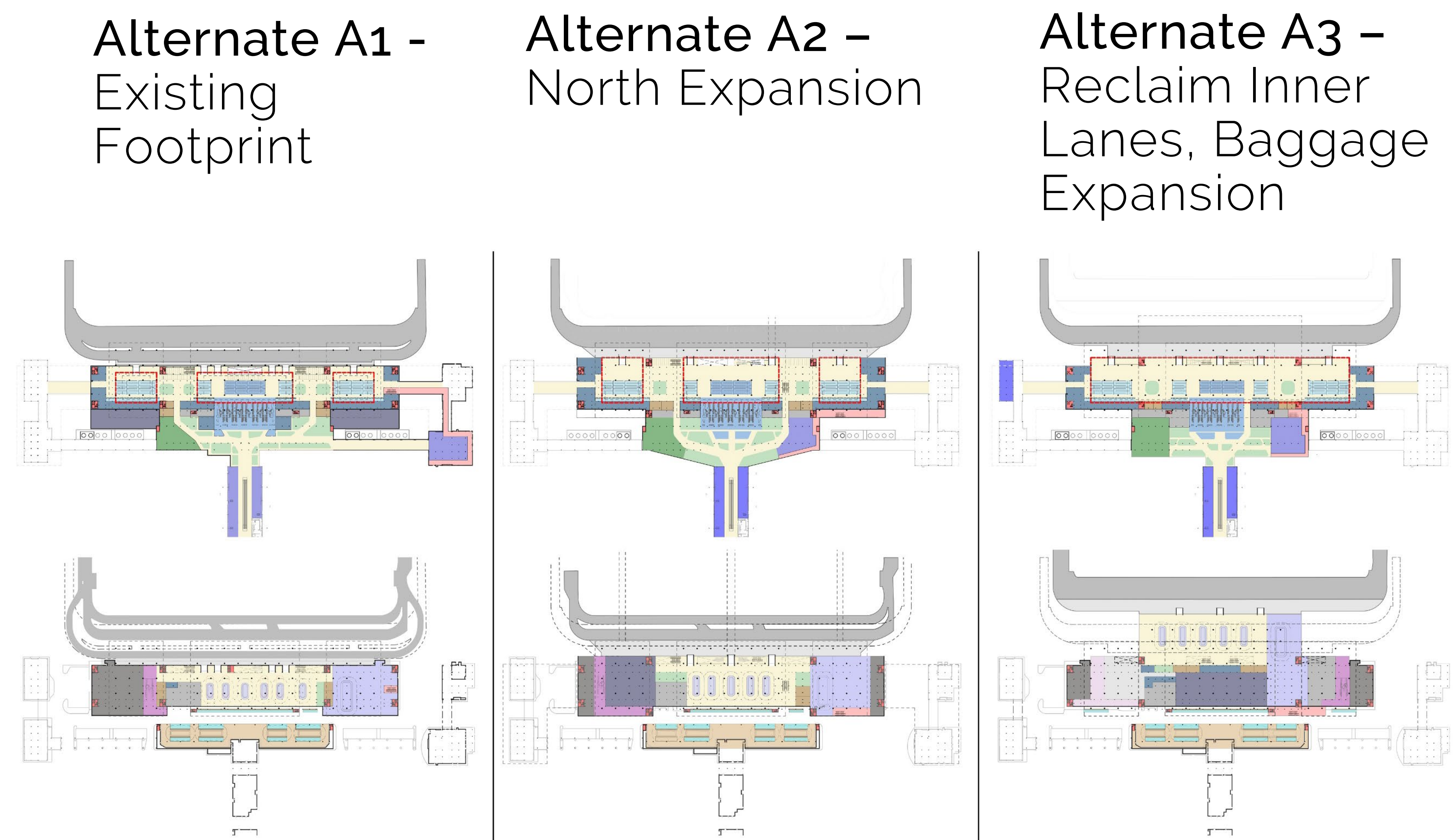
Alt E - Renovation,
with Facade
Expansion, in
Current Footprint

Alternatives - Terminal

Terminal Modernization Objectives

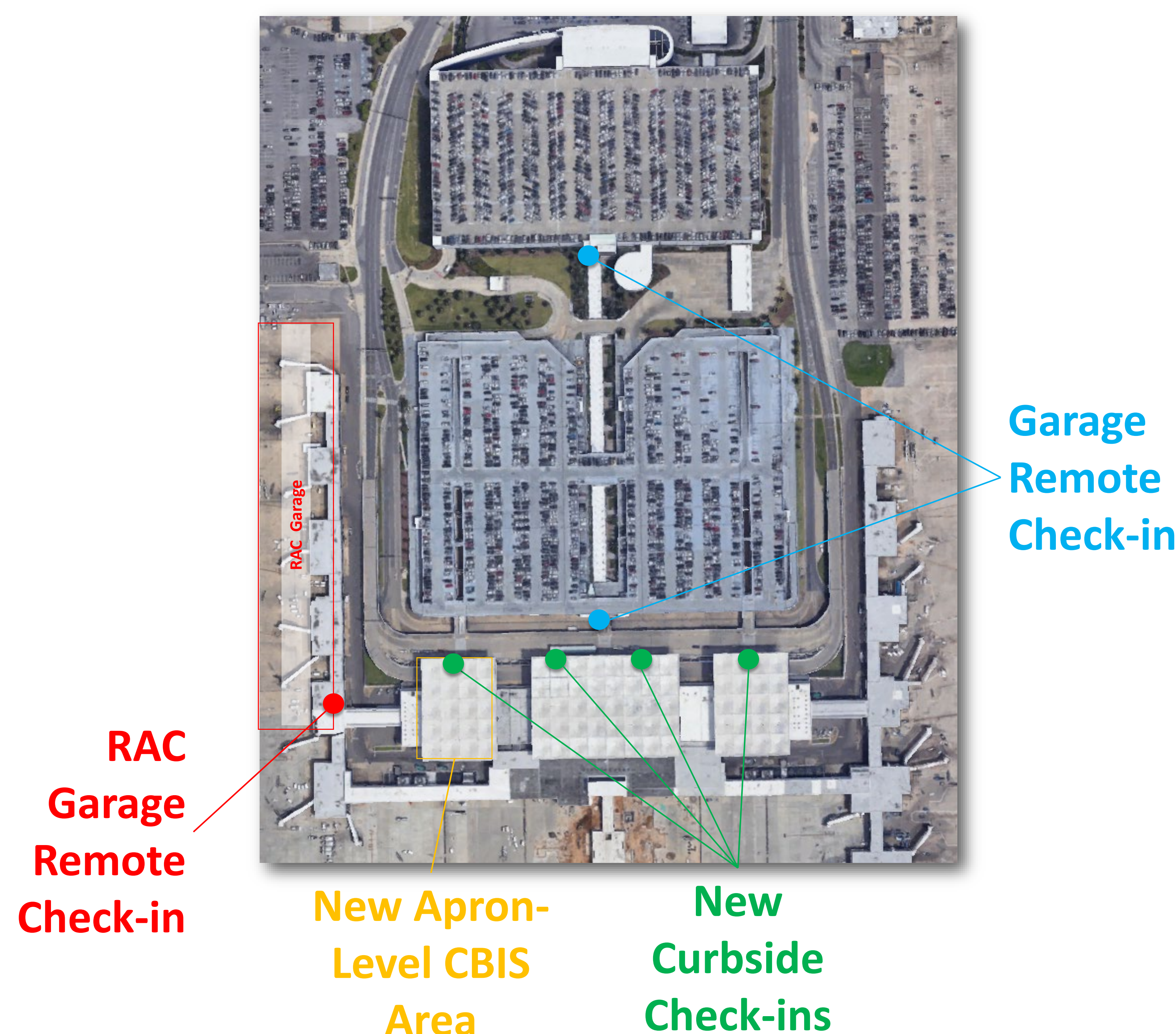
- Modernize the building, seismically protecting it in the process
 - Vertical circulation between levels is inefficient
 - Modernization of baggage inspection
 - Expanded security screening (Passenger and Employee) – capacity, flexibility and efficiency
 - Flexibility to react to evolving passenger processing flows
 - Remote passenger processing
- Demolish Concourse A & C and repurpose areas for landside/airside facilities

Sample Alternatives Considered



Alternatives Development Conclusions

- Relocate glass façade (to the north) to create more terminal space while retaining the architectural components
- Move vertical circulation to face of building
- Create a single security screening checkpoint in B
- Shift ticket counters to A and C sides of lobby
- Open area under mezzanines for clear sightlines
- Single exit from concourse to bag claim/ticket lobby
- Create a separate employee screening checkpoint
- Locate CBIS on Terminal A side and FIS on Terminal C side
- Incorporate multiple baggage processing/check-in locations
- Incorporate seismic retrofit into terminal renovation



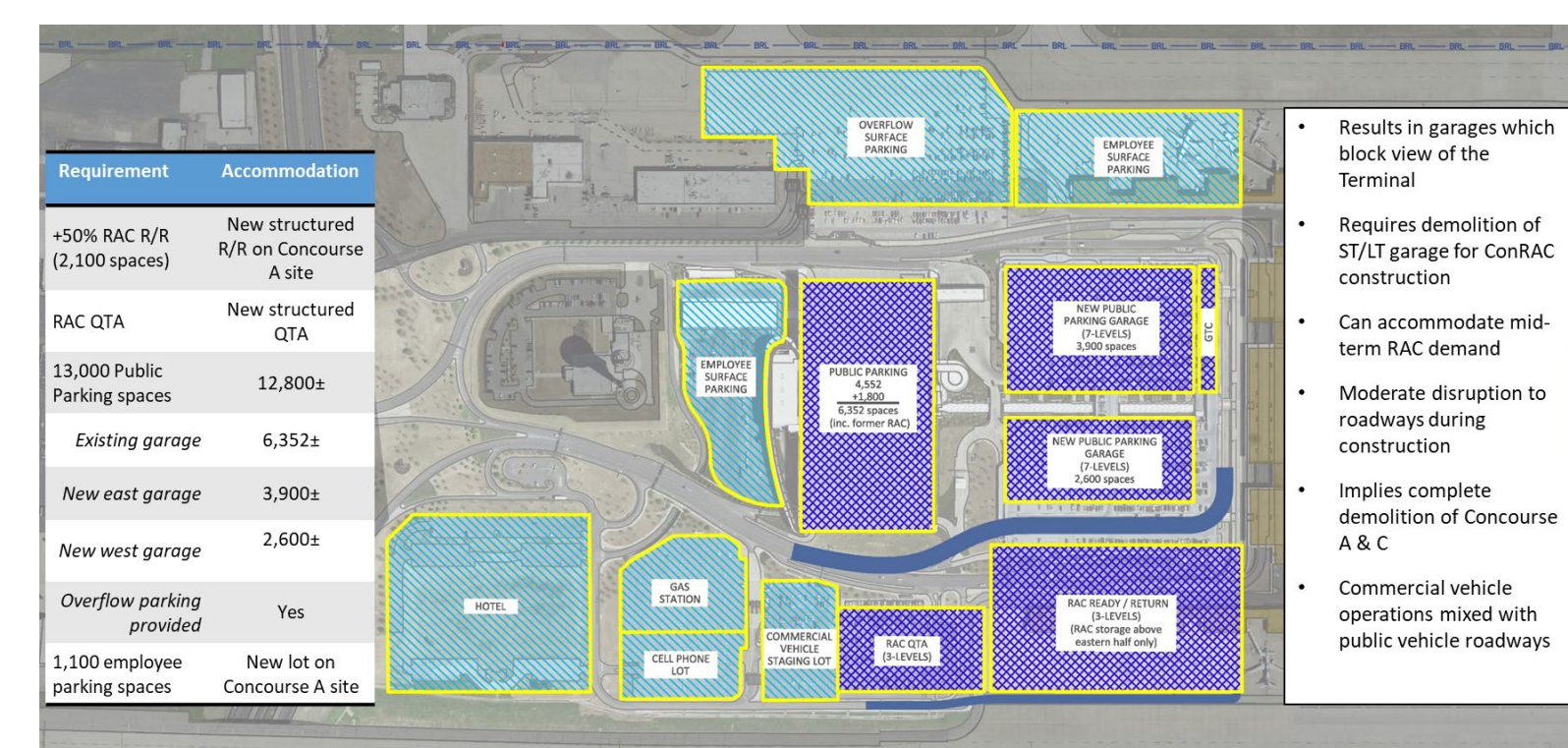
Alternatives - Landside

Landside Alternatives Objectives

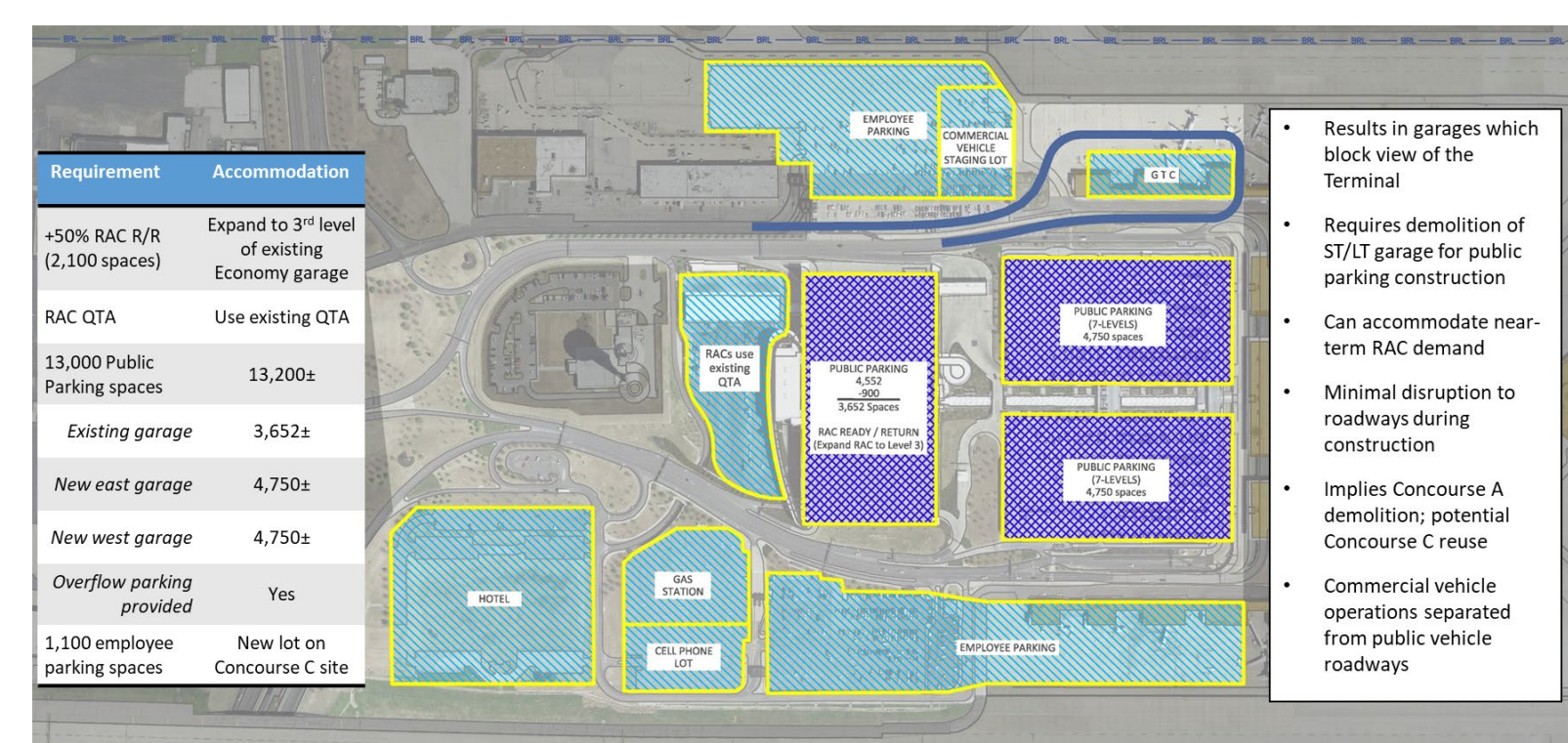
- Rental Car – Determine options for a replacement Rental Car Facility to provide a higher level of customer service (closer to terminal) and to free up space for public parking in economy garage.
- Public Parking - Relife or replace the Short-term garage and use surface lots for phasing and ultimately as demand warrants. Develop additional structured capacity closer to the terminal.
- Curbfront - Maintain adequate capacity on the curbs – reconfigure/reallocate as needed.
- Maintain area for Hotel development adjacent to Terminal.
- Maintain area for expanded cell phone lot and Travel Plaza near Winchester.

Initial Landside Alternatives

Alternative A

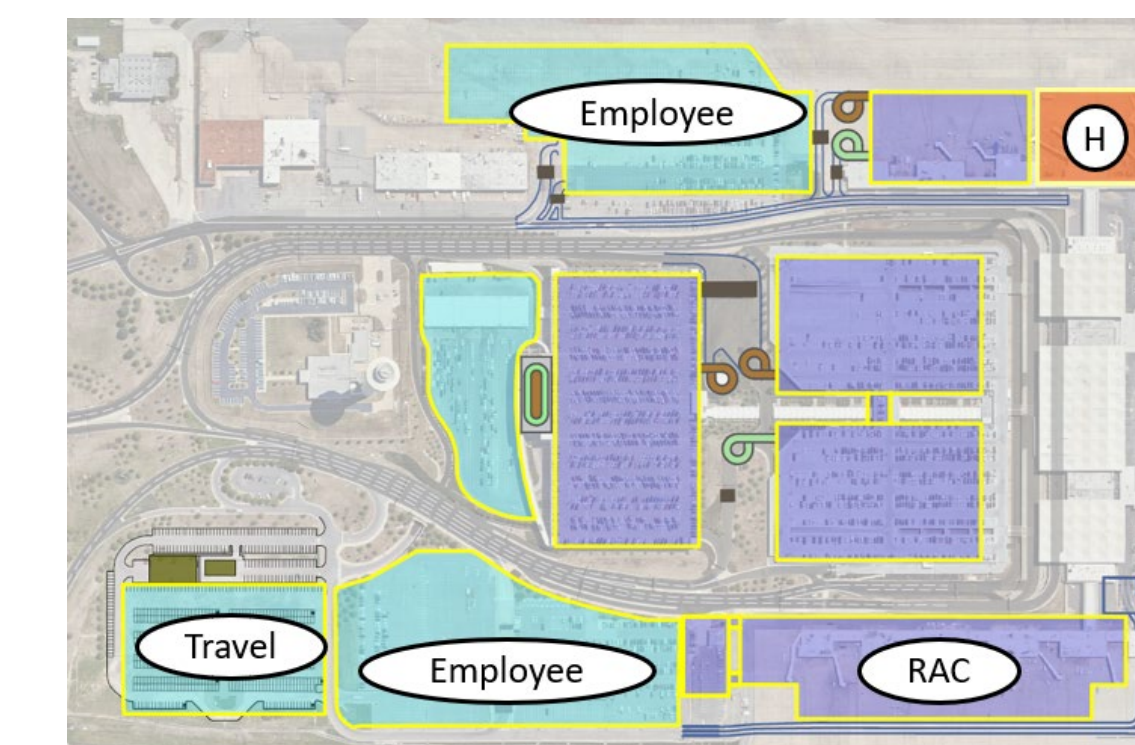


Alternative C

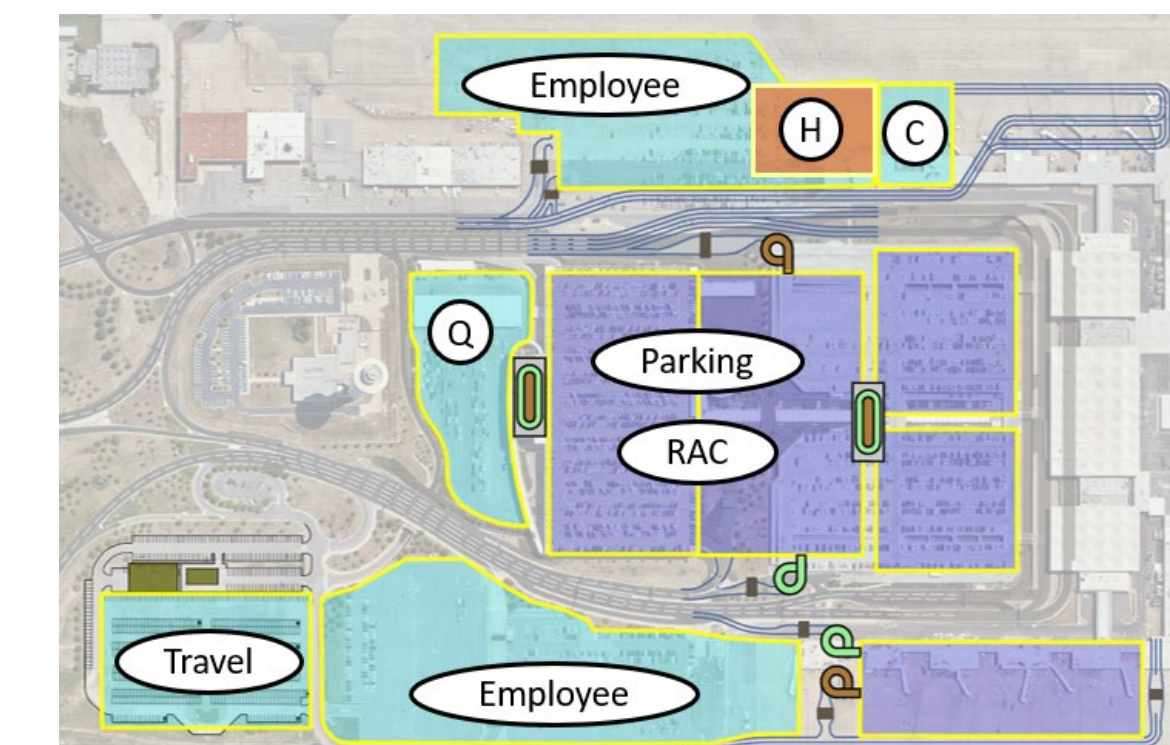


Refined Landside Alternatives

Alternative 1A



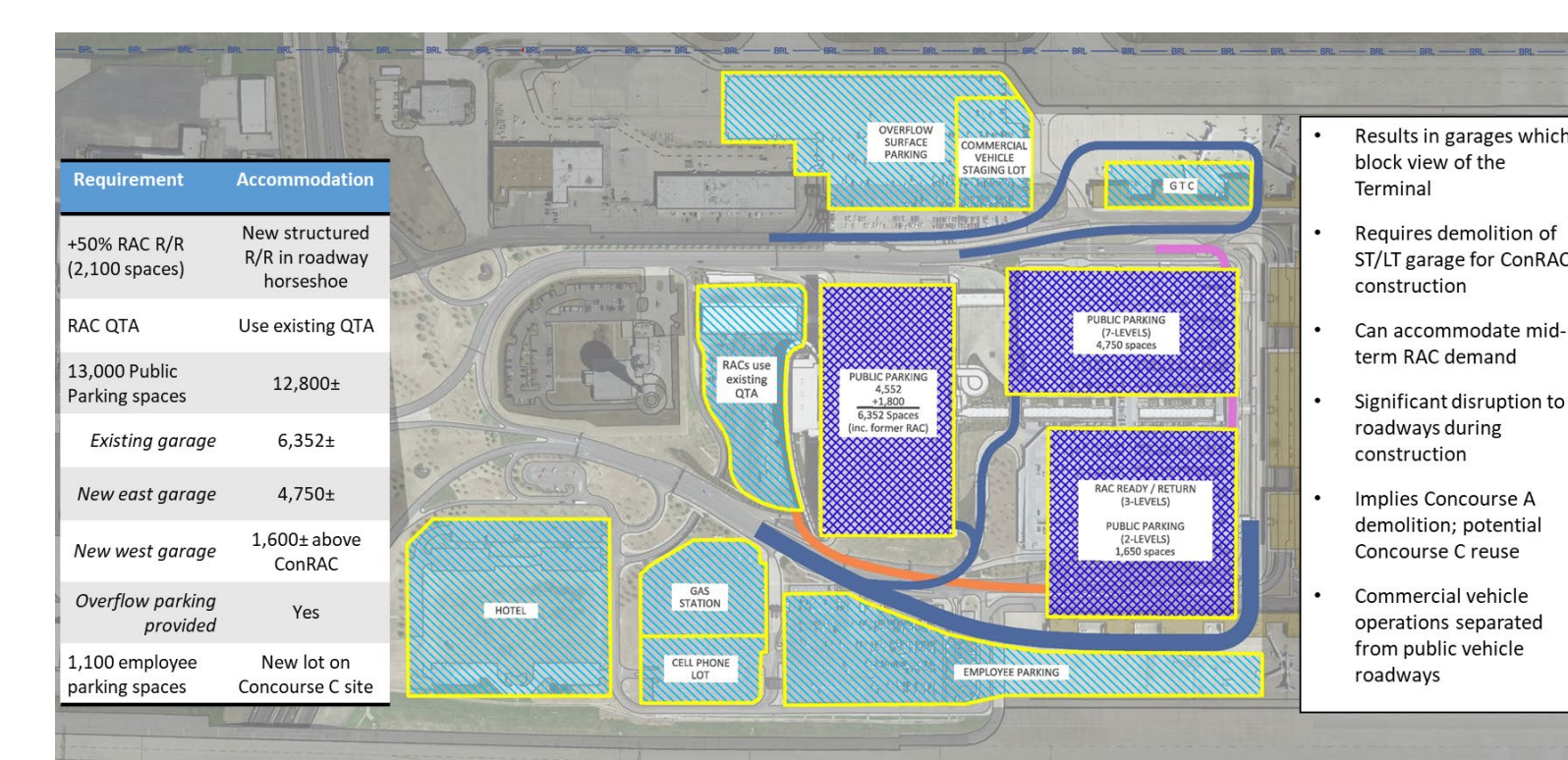
Alternative 2



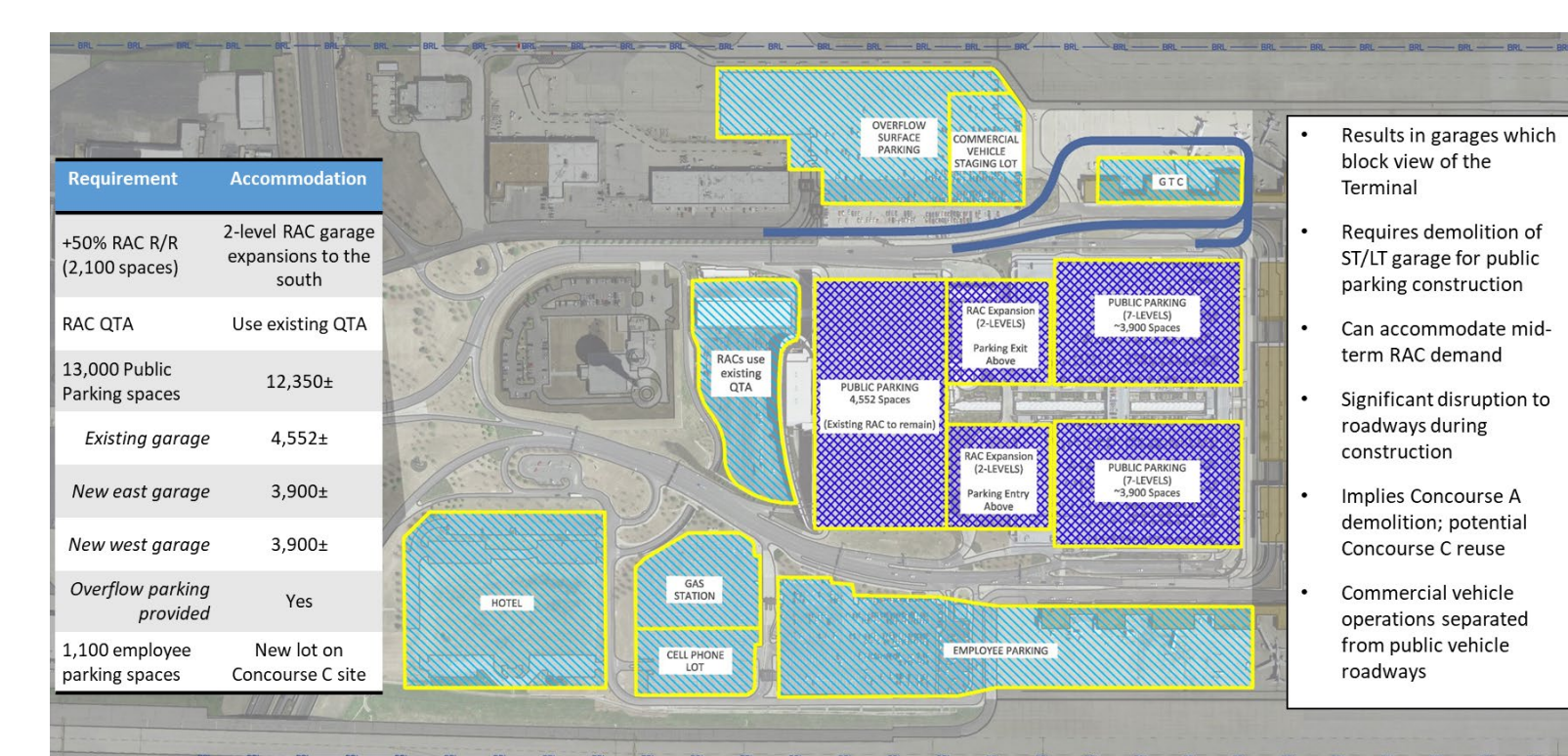
Legend

- Surface Parking
- Garage Parking
- Development opportunity
- Garage entry / exit ramp
- Existing / proposed roadways

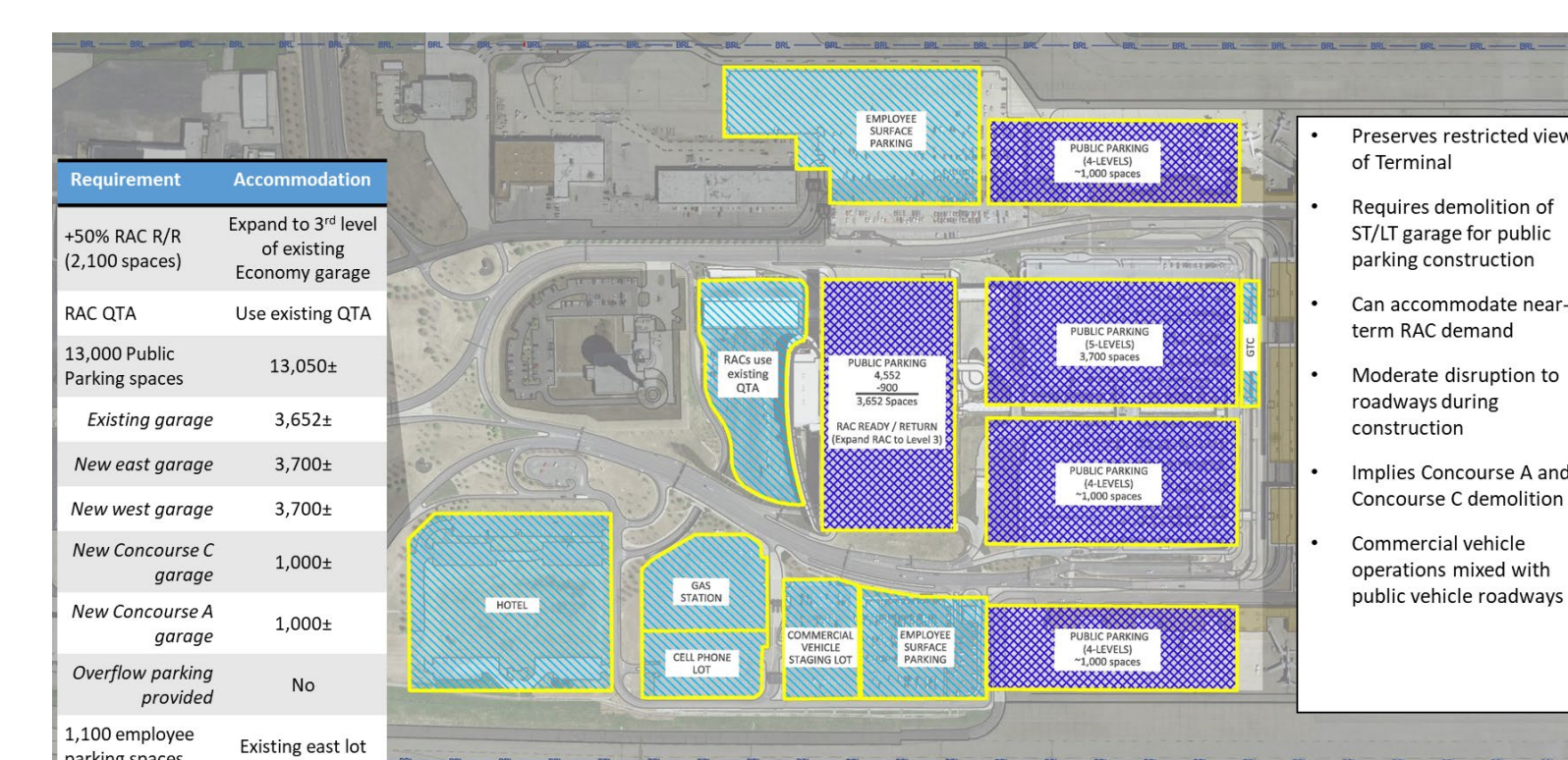
Alternative B1



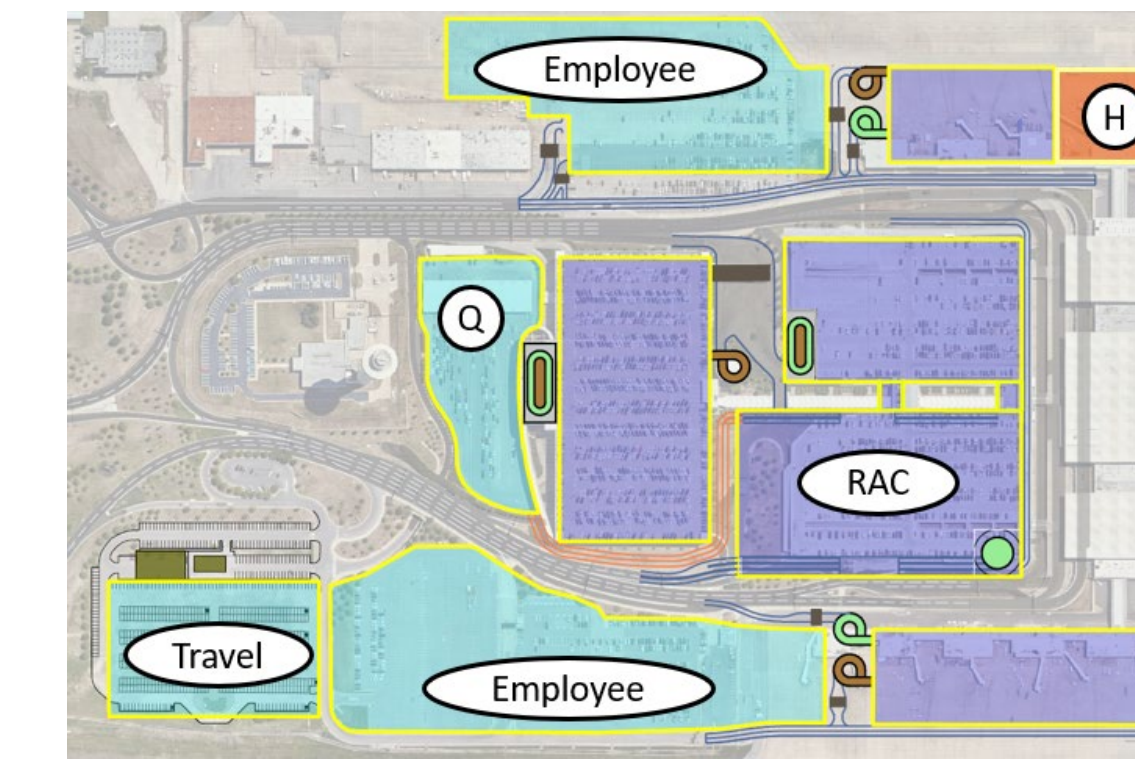
Alternative D



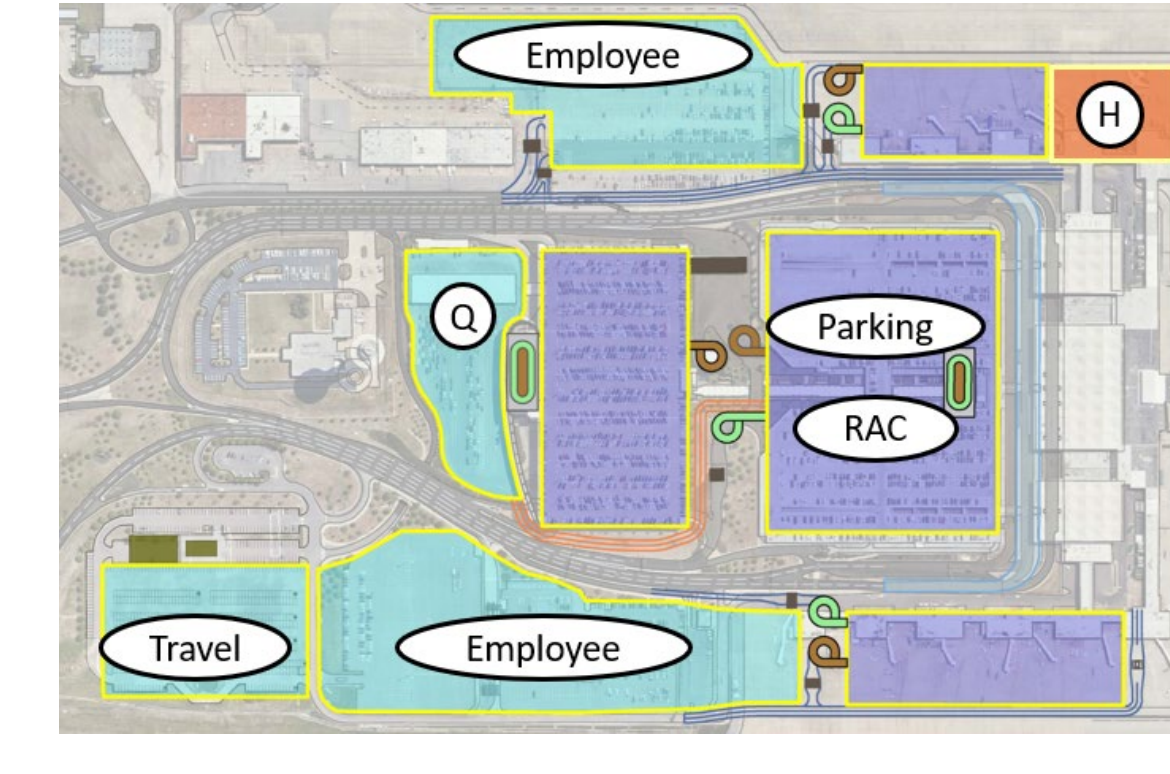
Alternative F



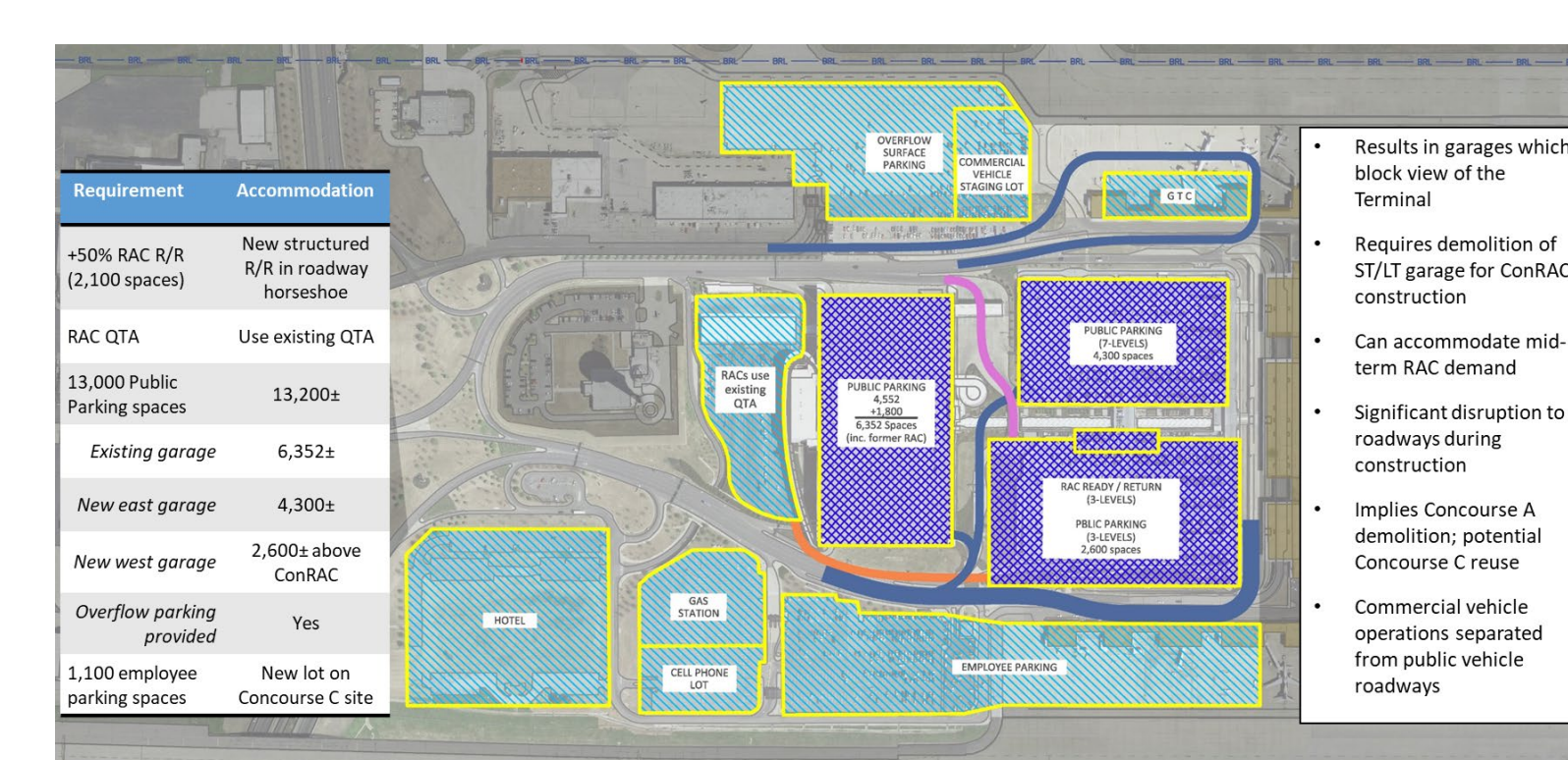
Alternative 3A



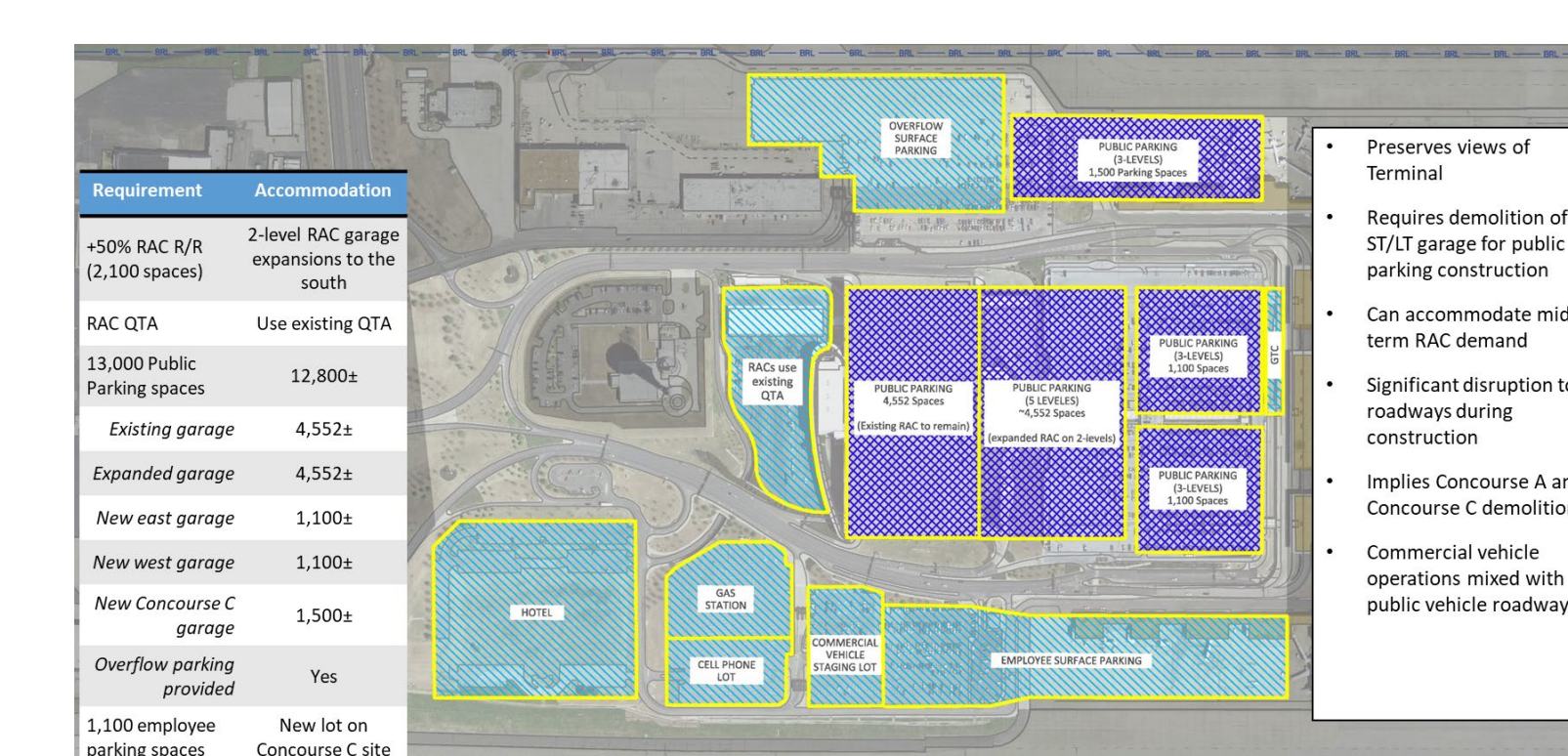
Alternative 3B



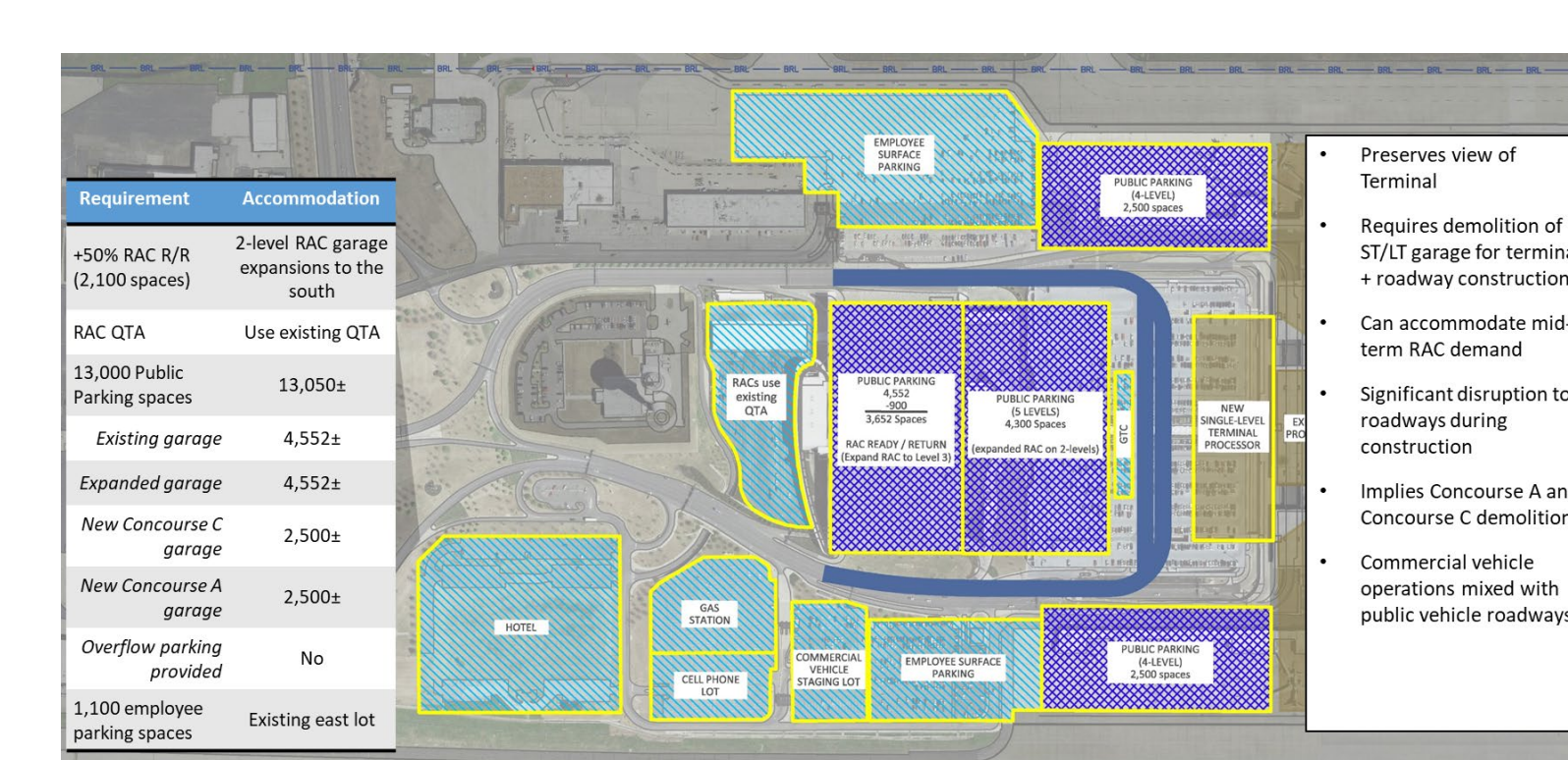
Alternative B2



Alternative E



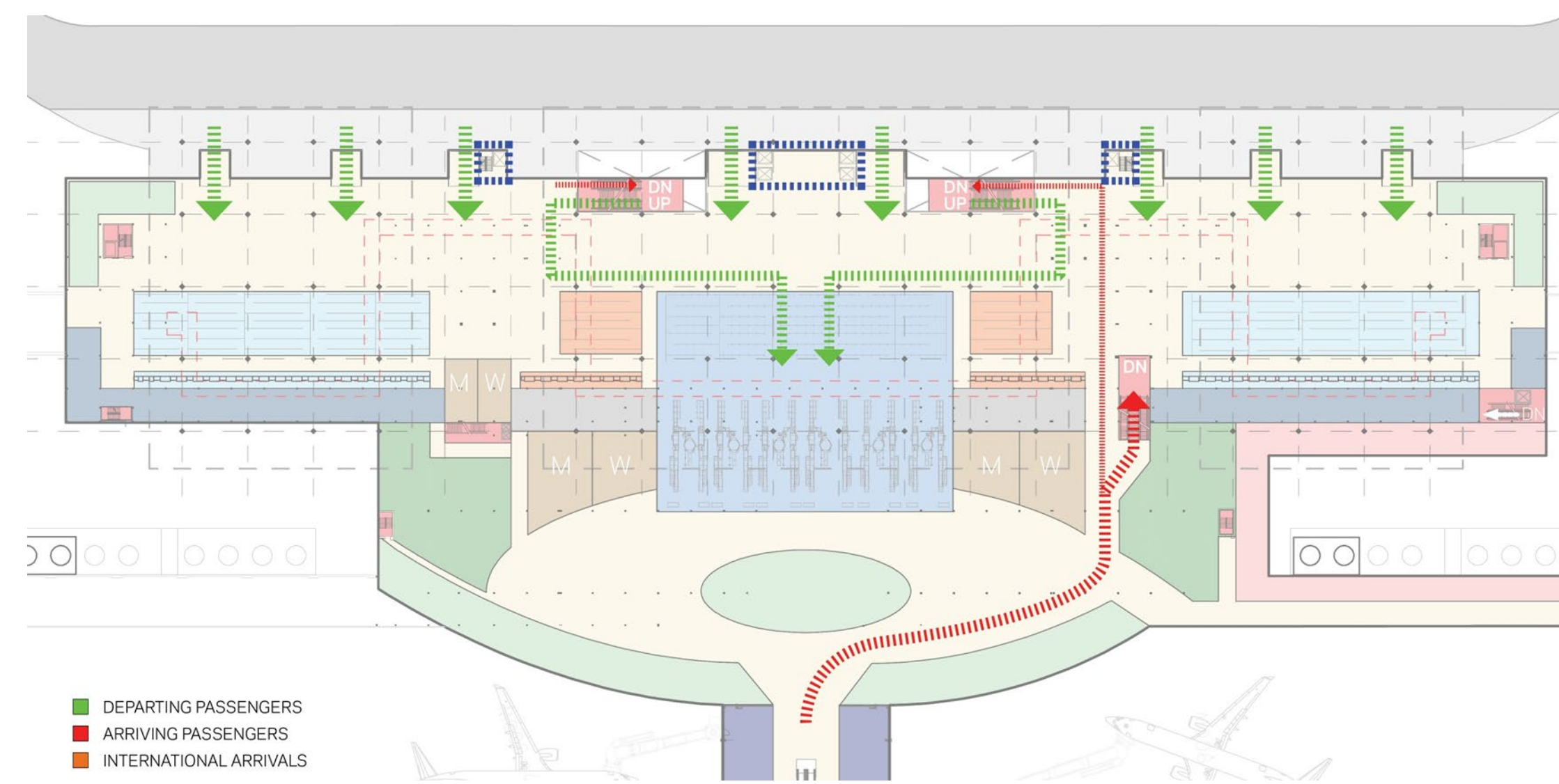
Alternative G



Preferred Plan - Terminal

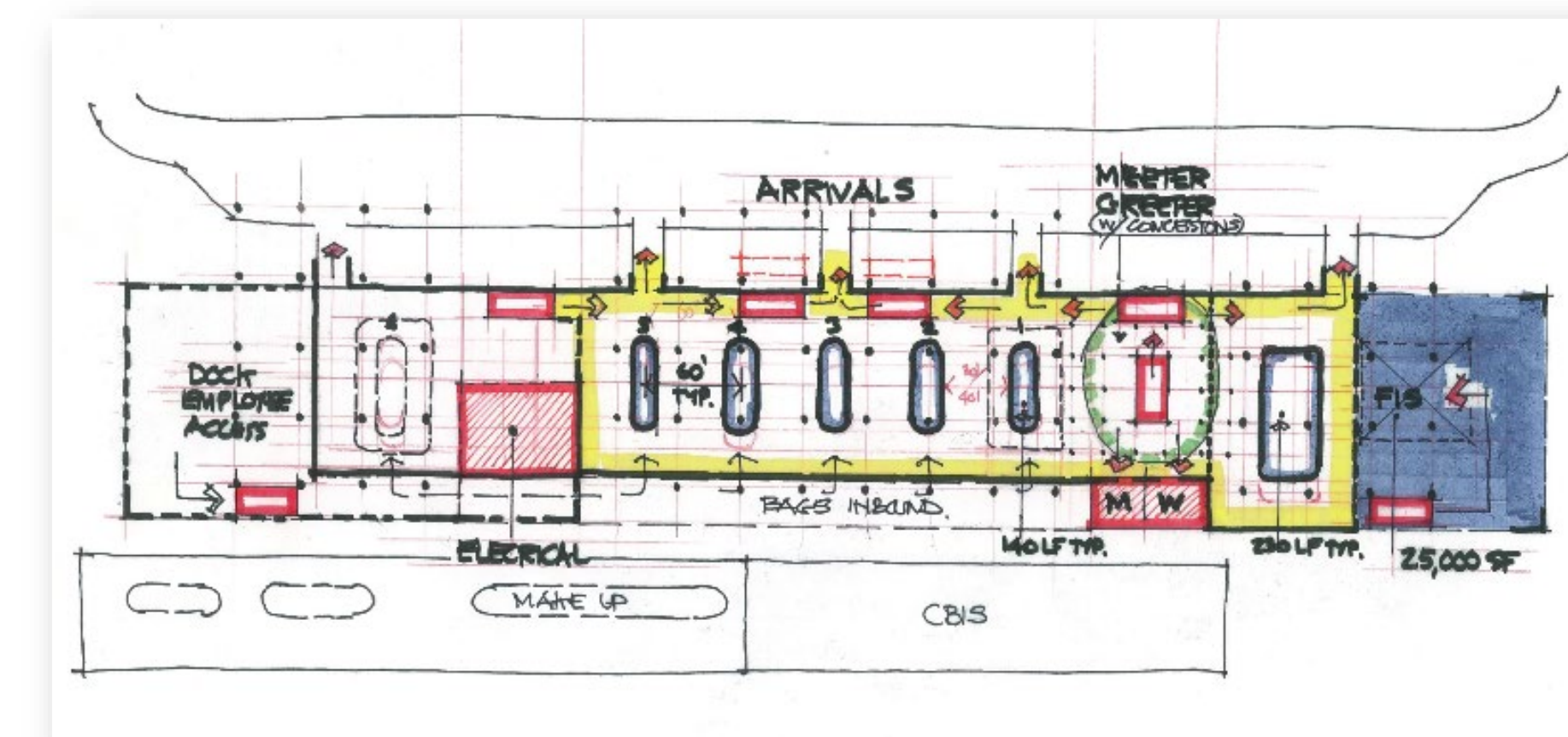
Overall Renovation Strategy

- Expand face of building to the north into the current roadway to create more space in terminal
- Move vertical circulation to face of building



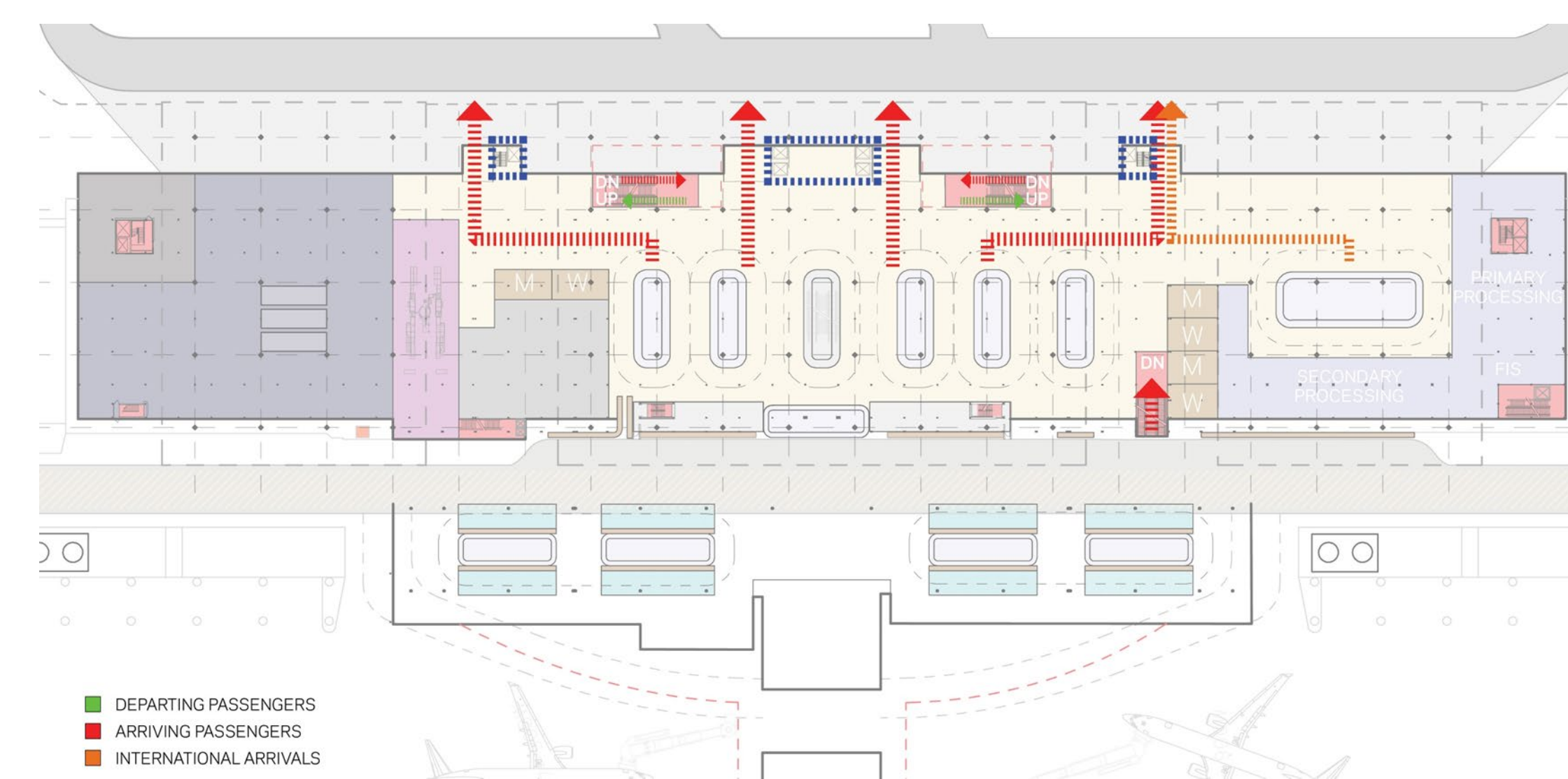
Renovation Strategy - Upper Level

- Single security checkpoint versus two - Expanded queue zone
- Shift ticket counters to A and C sides of lobby
- Open up area under mezzanines
- Create opportunity for remote bag drop and self-ticketing areas on either side of security
- Single exit from concourse to bag claim/ticket lobby



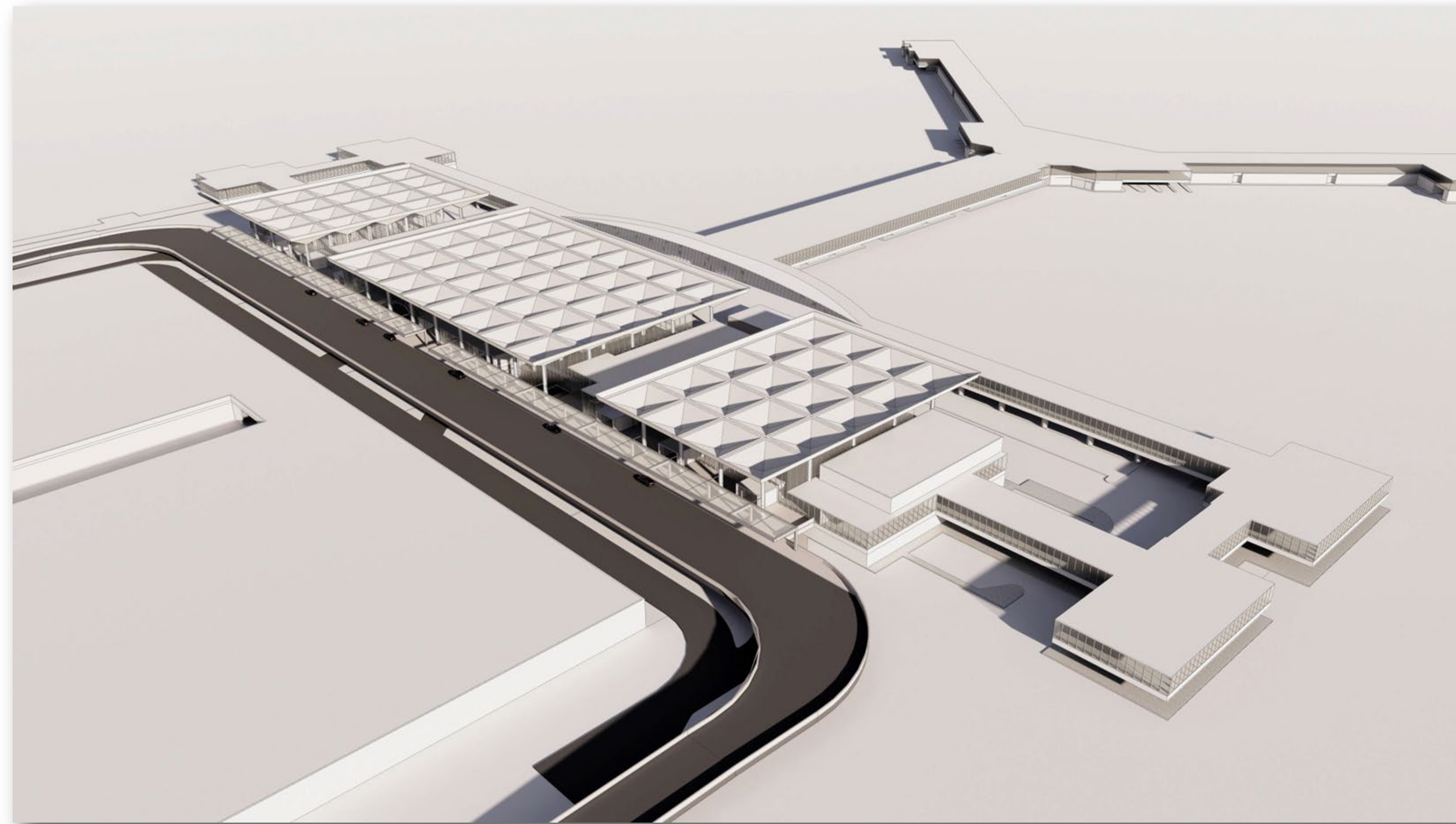
Renovation Strategy - Lower Level

- Expand baggage claim - 2 new carousels
- Construct Central Baggage Inspection System (CBIS) on "A" side
- Preserve "C" side for future FIS - Allow FIS bag belt to be used for domestic operations - "swing belt"



Preferred Plan - Terminal

MEM Terminal Reinvented



Aerial View of Terminal



Terminal B Ticket Lobby Looking at Vertical Core and Out to Curb



Profile View Showing Vertical Circulation



Terminal B Bag Claim Looking at Escalator to Tunnel Level



Terminal B Looking at Security Screening Checkpoint

Preferred Plan - Landside

Overall Landside Development Strategy

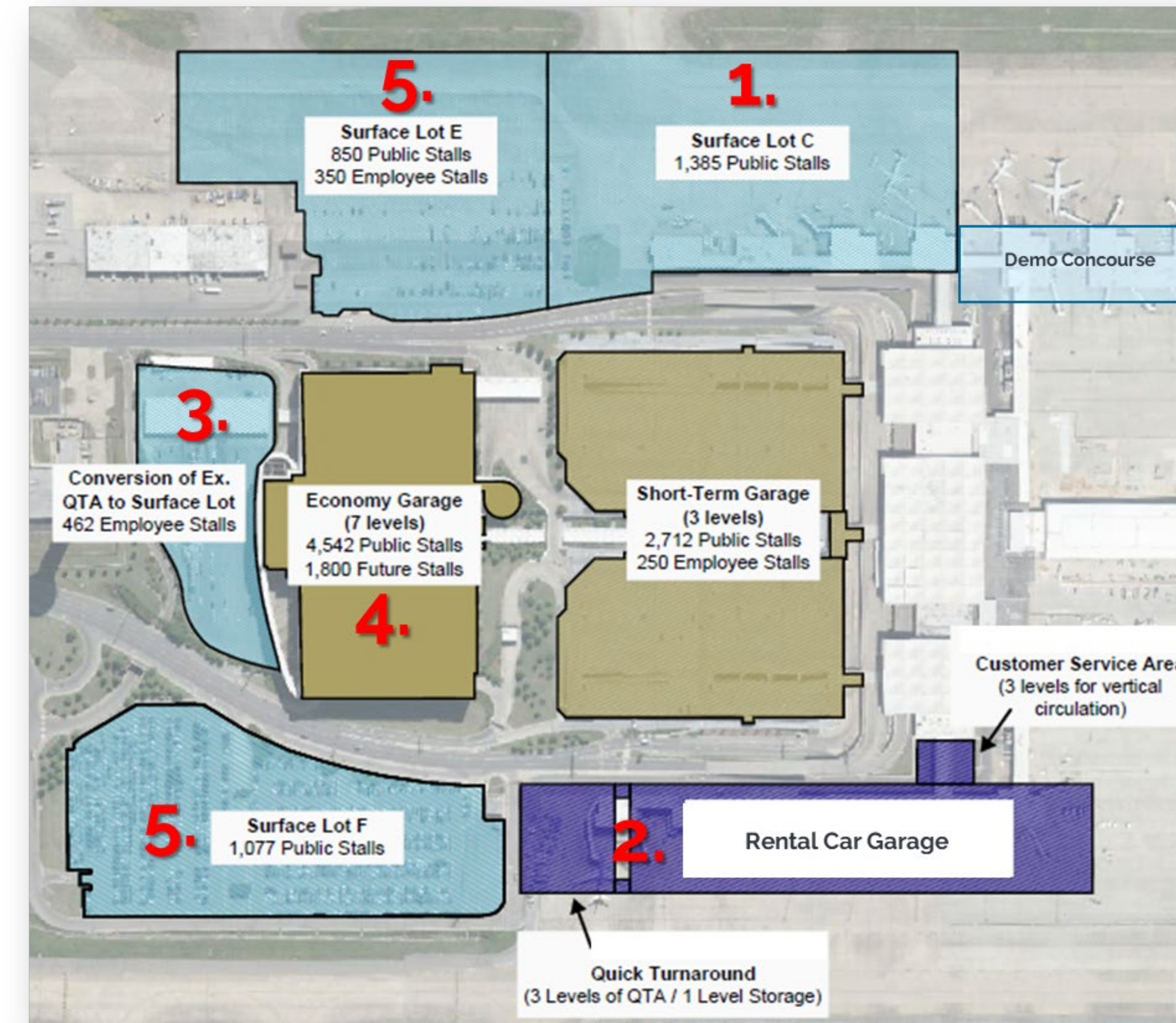
- Demolition of the existing A and/or C Concourses will provide close in opportunity for additional landside capacity.
- Early construction of a new Rental Car facility will provide a higher level of customer service (closer to the terminal) and expands public parking within the economy garage.
- Public Parking:
 - Reliving or replacing the Short-term Garage will be enabled with surface lots serving as replacement parking.
 - Development of a new Parking Garage close-in will be required as demand warrants.
- Elimination of the inner curbs associated with the preferred terminal concept results in adequate (but reconfigured) curb capacity.
- Hotel development area reserved adjacent to existing Concourse C
- Expanded cell phone lot and Travel Plaza.

Travel Plaza & Cell Phone Lot



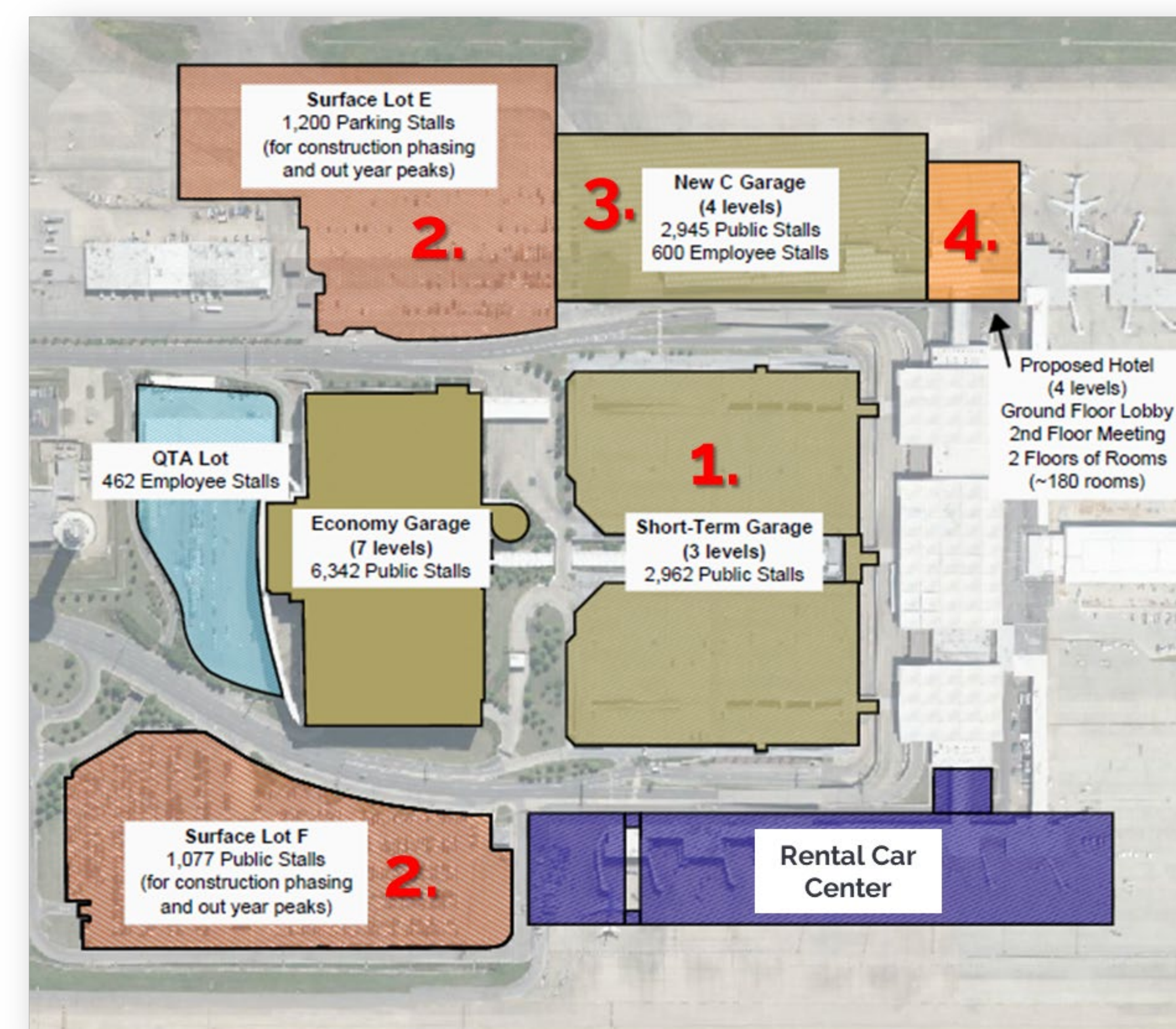
- Fuel & Food/Beverage (operated by MSCAA or third-party developer)
- Integrated with cell phone lot
- Staging for ground transportation

Phase 1 Development (5-10 yrs)



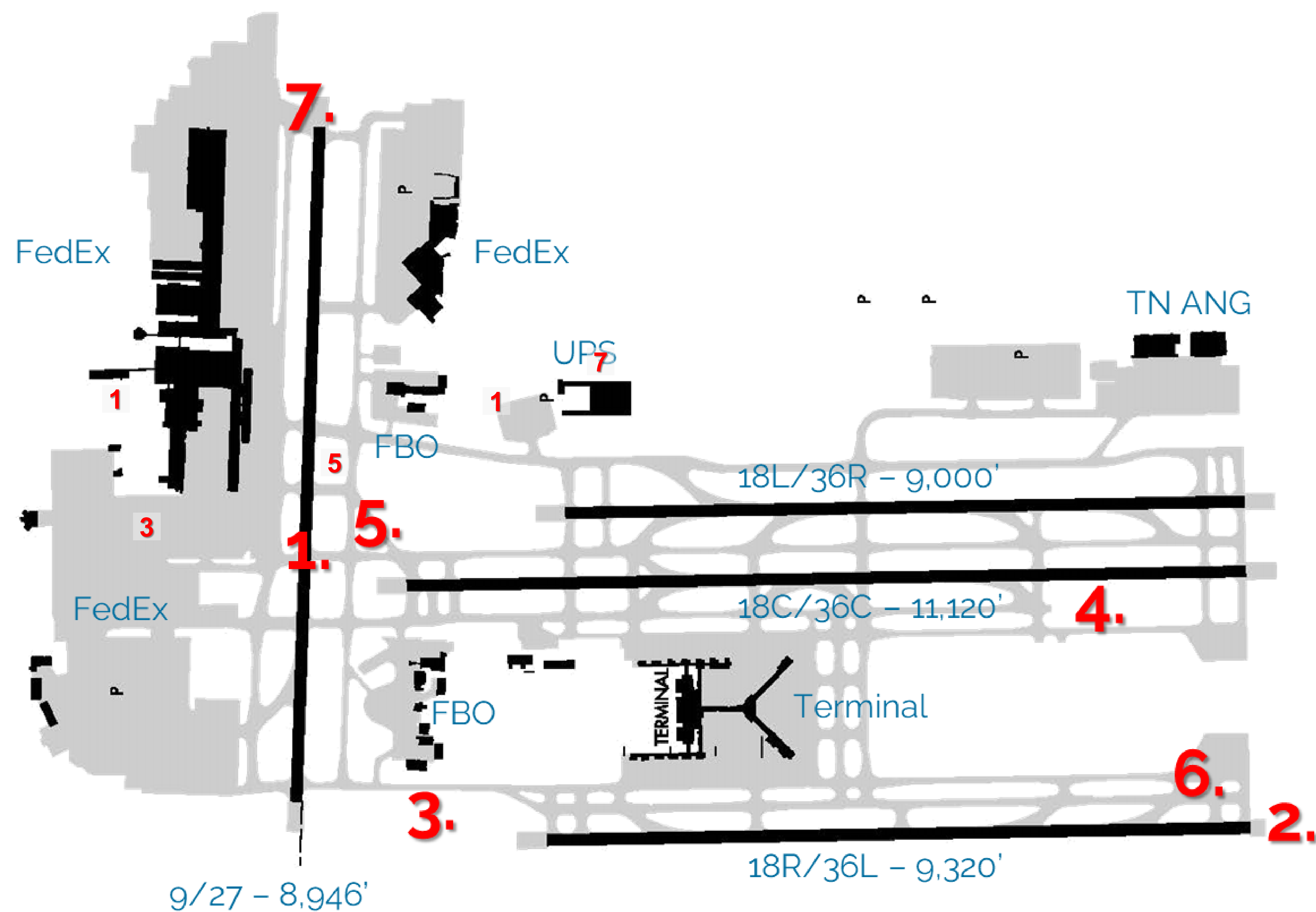
1. Construct Surface public parking lot at Concourse C.
2. Construct New RAC Facility at Concourse A.
3. Convert former QTA space to employee parking.
4. Convert former RAC Space in Economy Garage to public parking.
5. Reconfigure surface lots E and F to meet demand as needed

Phase 2 Development (10-20 yrs)



1. Re-life or replace existing Short-Term Garage.
2. Surface Lots at E and F used for construction phasing and as overflow in out years.
3. Construct Garage C and activate in out years.
4. Hotel development at any time

Preferred Plan - Airfield



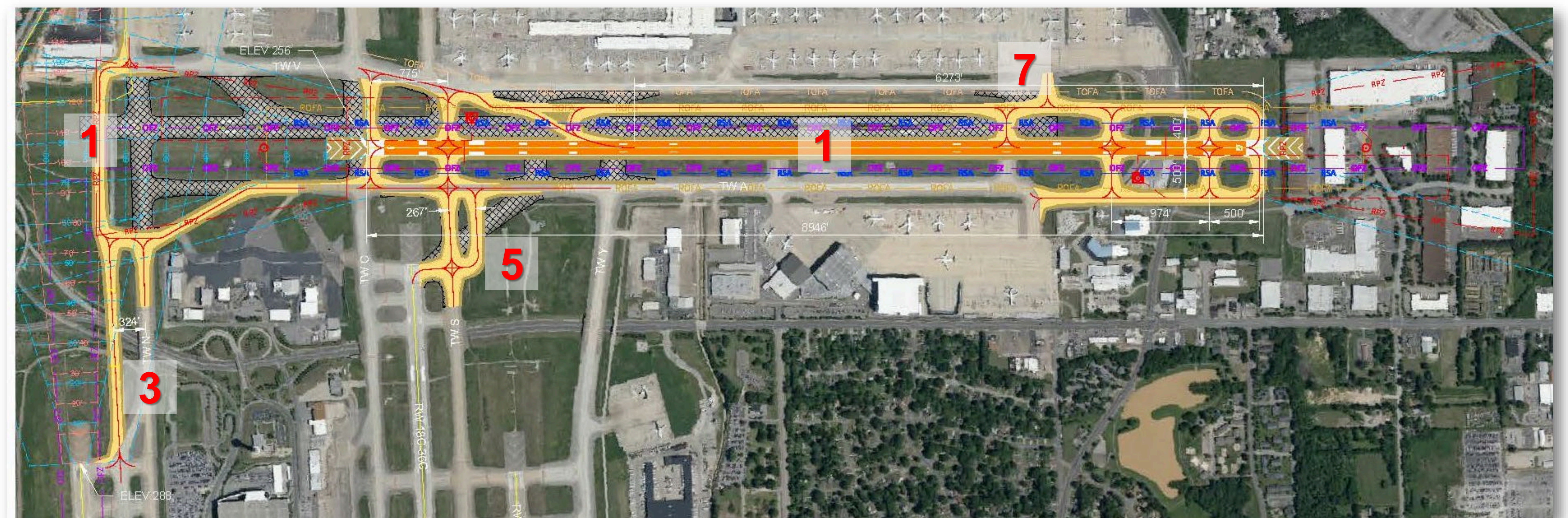
Efficiency Projects

1. Runway 9-27 Shift & End Around Taxiway
2. Runway 18R-36L Extension
3. Taxiway M Extension
4. Taxiway C Extension

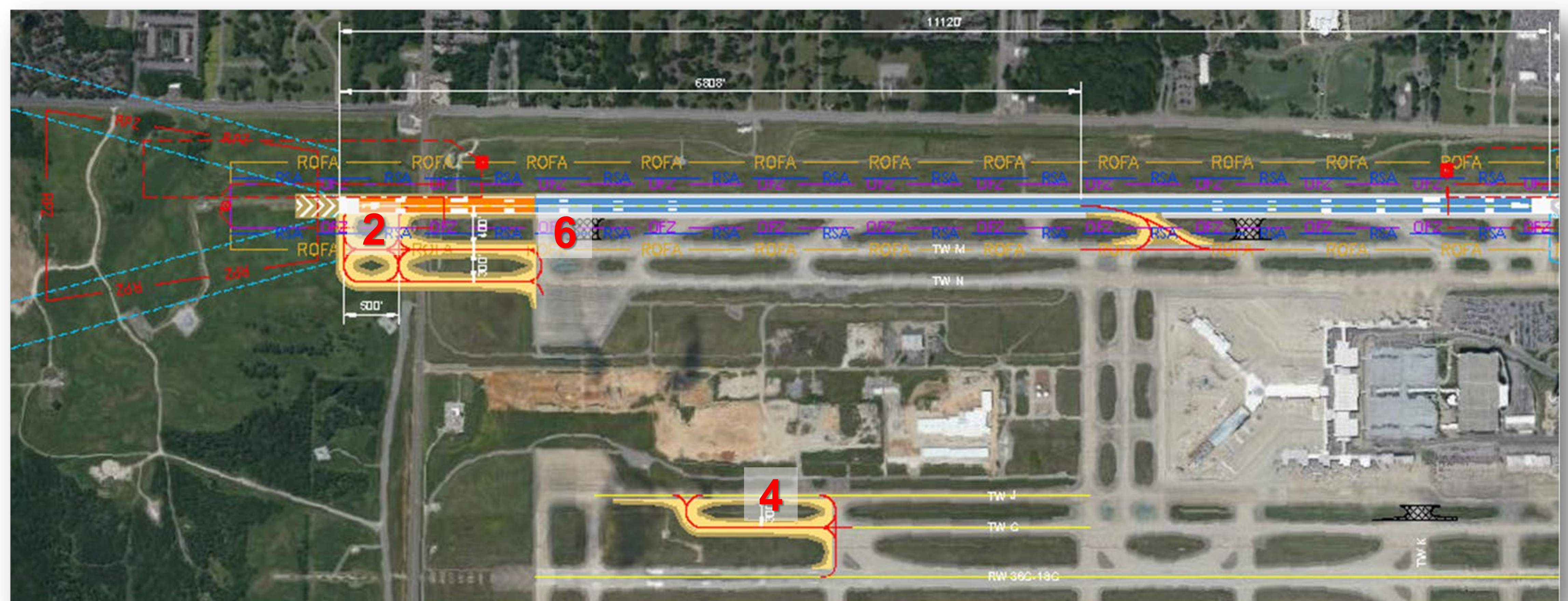
FAA Standards Projects

5. Hot Spot 1 Mitigation
6. Hot Spot 2 Mitigation
7. Taxiway V1/V2 Realignment

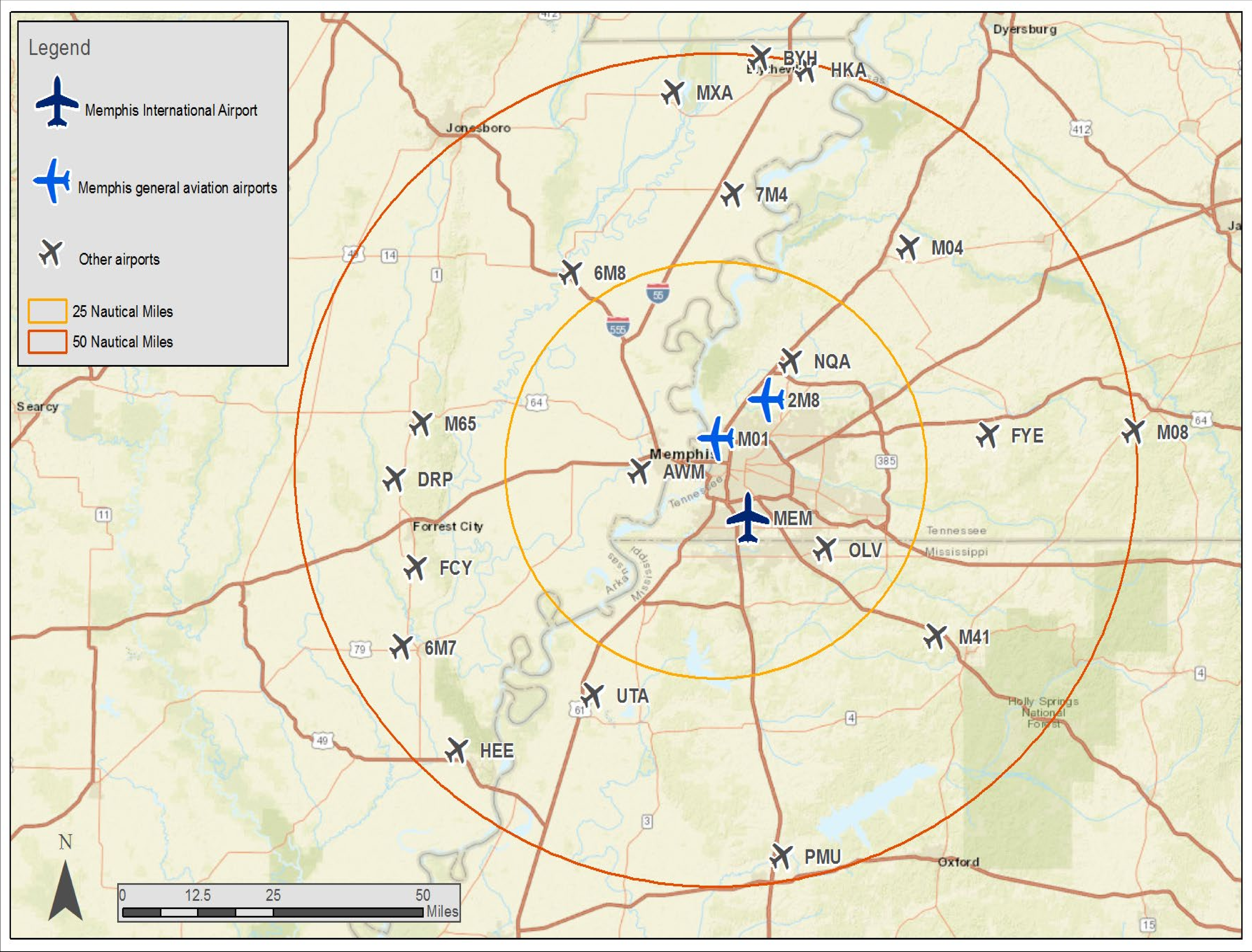
North Airfield Improvements



South Airfield Improvements



General DeWitt Spain Airport (M01)



Inventory



- Runway 17-35: 3,799' x 75'
- Runway Design Code: B-II-5000
- NAVAIDS: MIRL, REIL, PAPI, Non-Precision Markings
- Instrument Approach: GPS (1 Mile Visibility)
- 3 T-hangers: 40,000 SF
- 18 Conventional Hangars: 93,047 SF
- 1 Apron: 369,000 SF
- Services: Terminal Building, Fuel
- 93 Based Aircraft (2017)

Forecasts & Facility Requirements

Forecasts

Forecast	Base Year (2017)	Based Year +5	Base Year +10	Base Year +15	Base Year +20	Base Year +5 CAGR	Base Year +10 CAGR	Base Year +15 CAGR	Base Year +20 CAGR
Total Annual Operations	55,444	57,381	62,856	63,278	63,717	0.7%	1.3%	-0.2%	0.7%
Peak Hour Operations	18	19	21	21	21	0.7%	1.3%	0.9%	0.7%
Annual Itinerant Operations	8,317	8,607	9,428	9,492	9,558	0.7%	1.3%	0.9%	0.7%
Based Aircraft ¹	93	115	132	138	143	4.3%	3.6%	2.6%	2.2%
Annual Instrument Approaches	2,611	2,869	3,143	3,164	3,186	1.9%	1.9%	1.3%	1.0%

Recommended Airfield Improvements

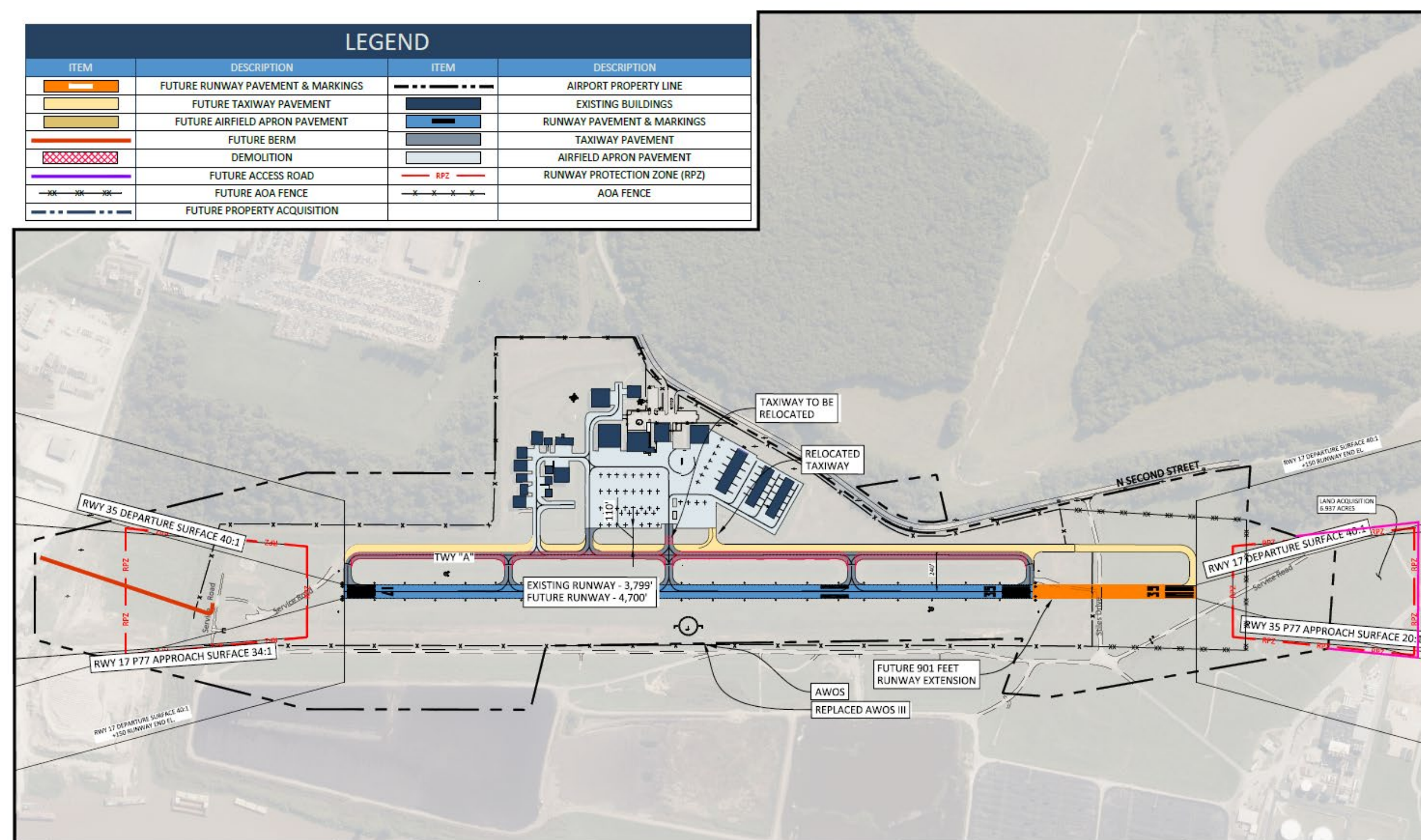
Facility	Improvements
Runway	4,700 Feet
Approach Capability	GPS to Runway 35
Taxiways	240 feet separation distance from taxiway centerline to parallel runway centerline (B-II standards)
Non-Standard Geometry	Remove direct access from apron to runway
NAVAIDs	Upgrade AWOS from A to III
Pavement Strength	No Improvements
Obstruction Removal	Tree clearing (departure surface)
Land Acquisition	To control RPZ with runway extension
Drainage/Flood Protection	Berm Relocations (North and South)

Recommended Landside Improvements

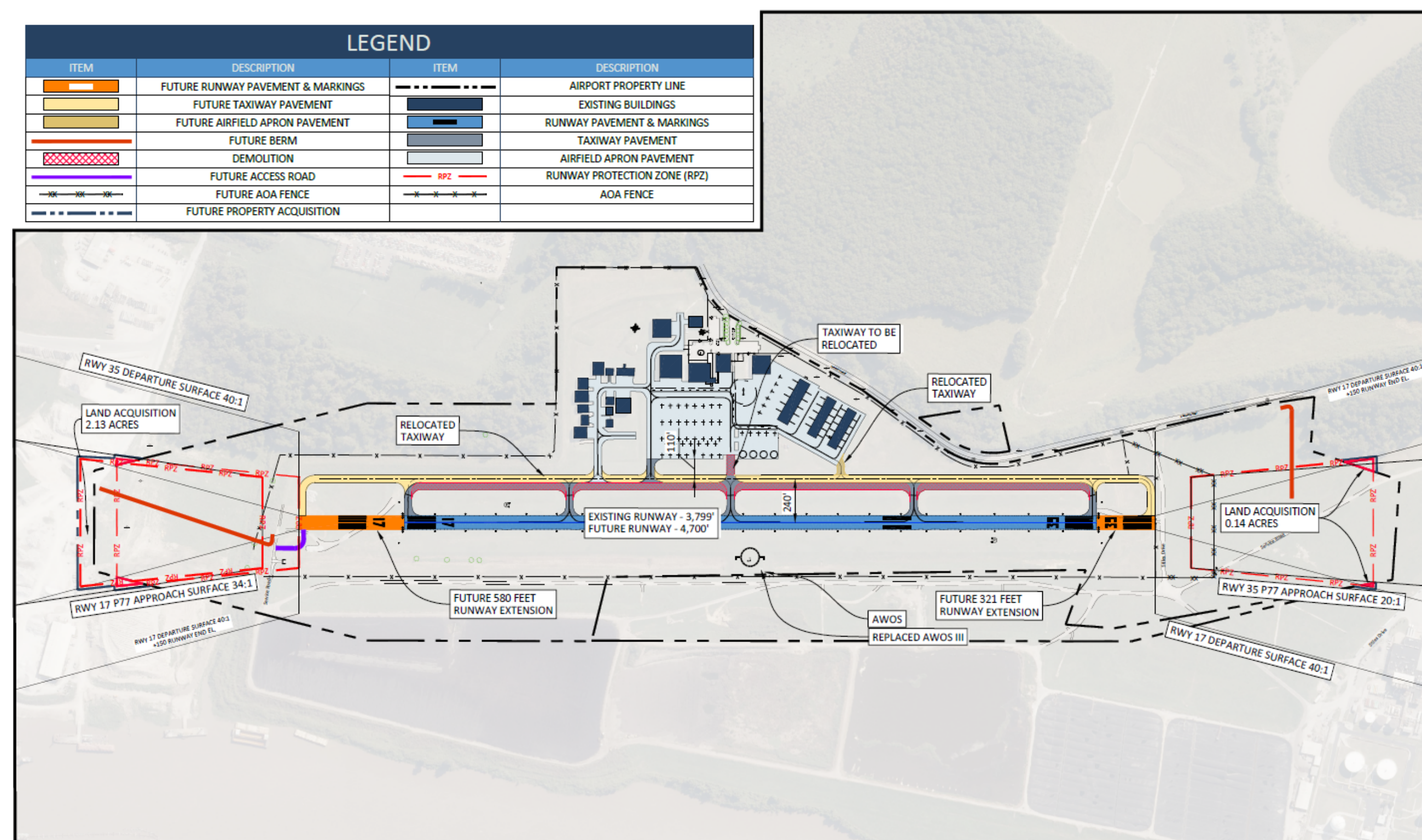
Facility	Improvements
Hangars	T-Hangars (SE aircraft) Additional 44
	Conventional (ME aircraft) Additional 10,800 SF (3 buildings)
Apron (Tiedowns)	Based Aircraft Additional 19 positions
	Itinerant Aircraft Additional 13 positions
MSCAA	Terminal Building 5,000 SF
	Equipment Storage 4,000 SF
	Fuel Farm (above ground) 2 - 20,000-gallon tanks
	Parking Additional 30 spaces
	Flood Mitigation Berms

Alternatives

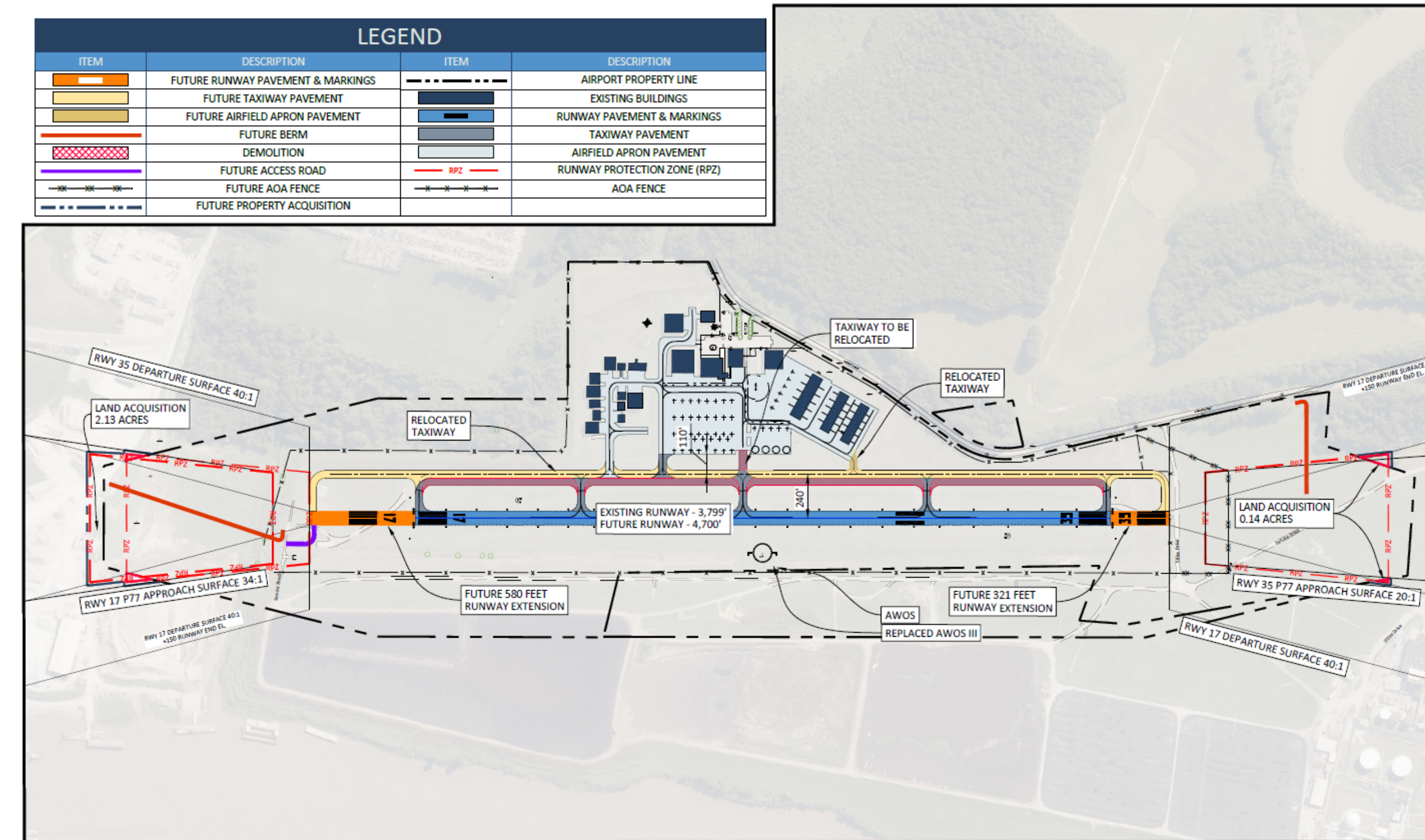
Airside Alt A – 901' Extension South



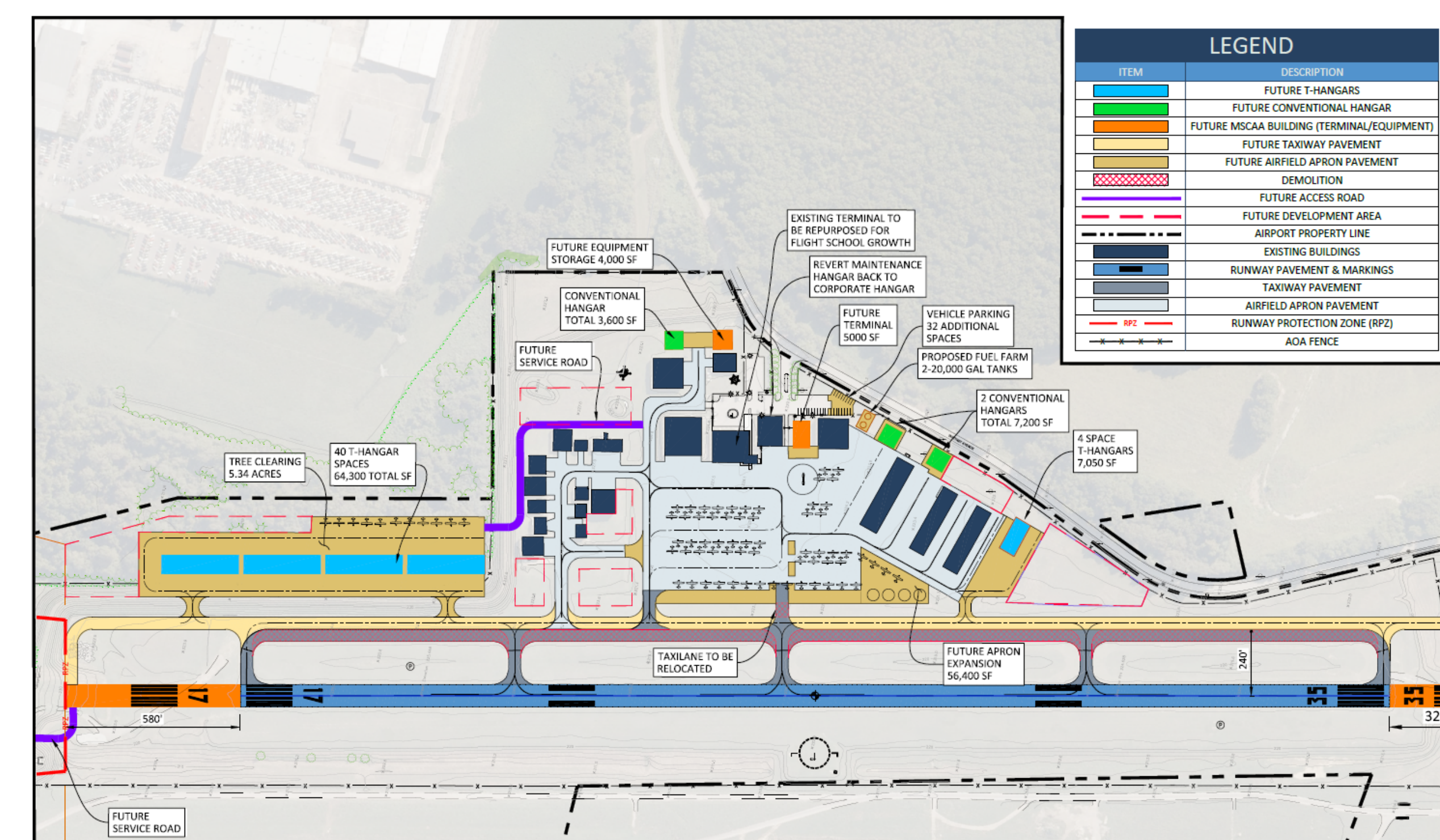
Airside Alt B – 580' Extension North and 321' Extension South



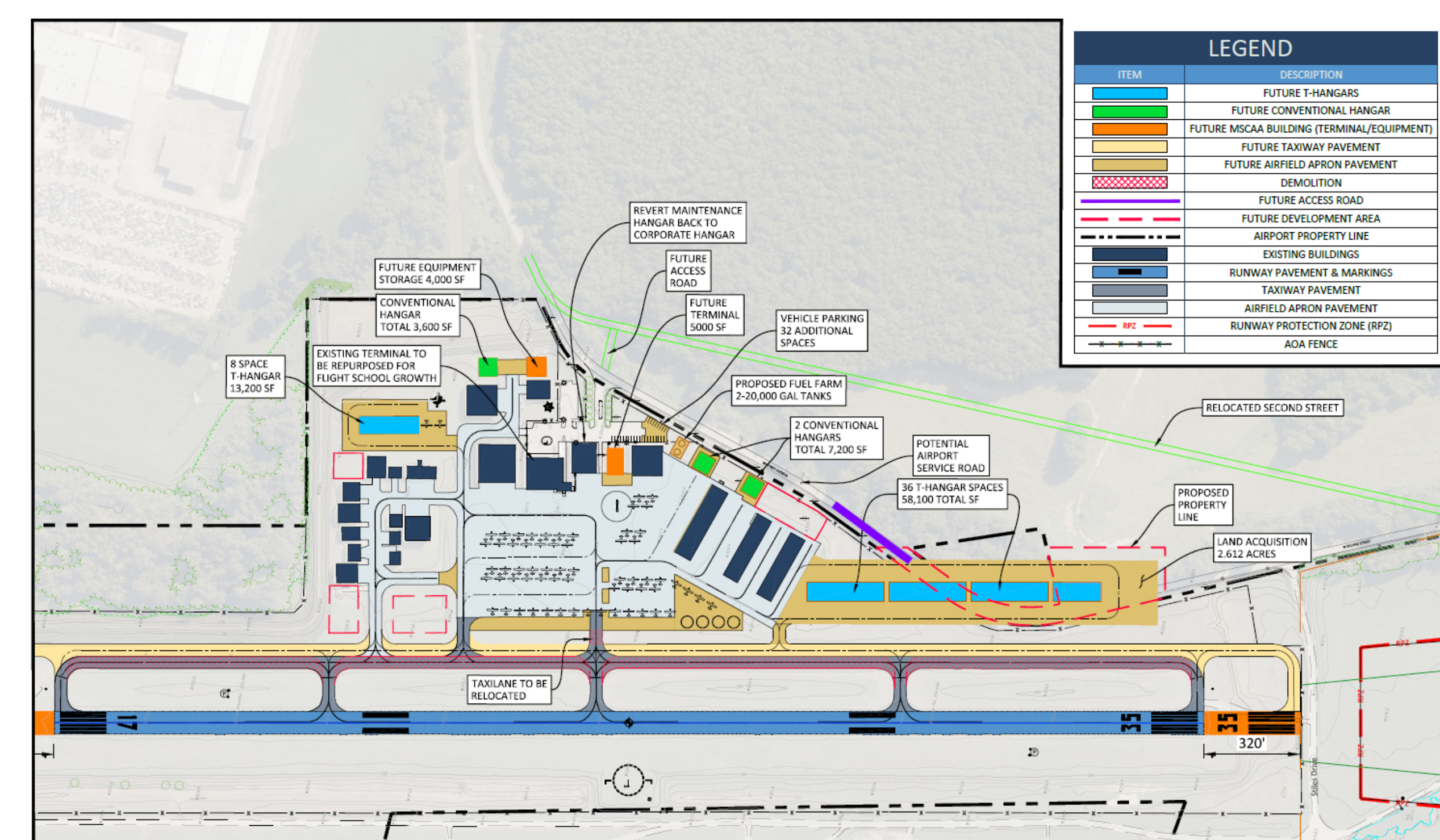
Landside Alt A – Optimize Existing Property



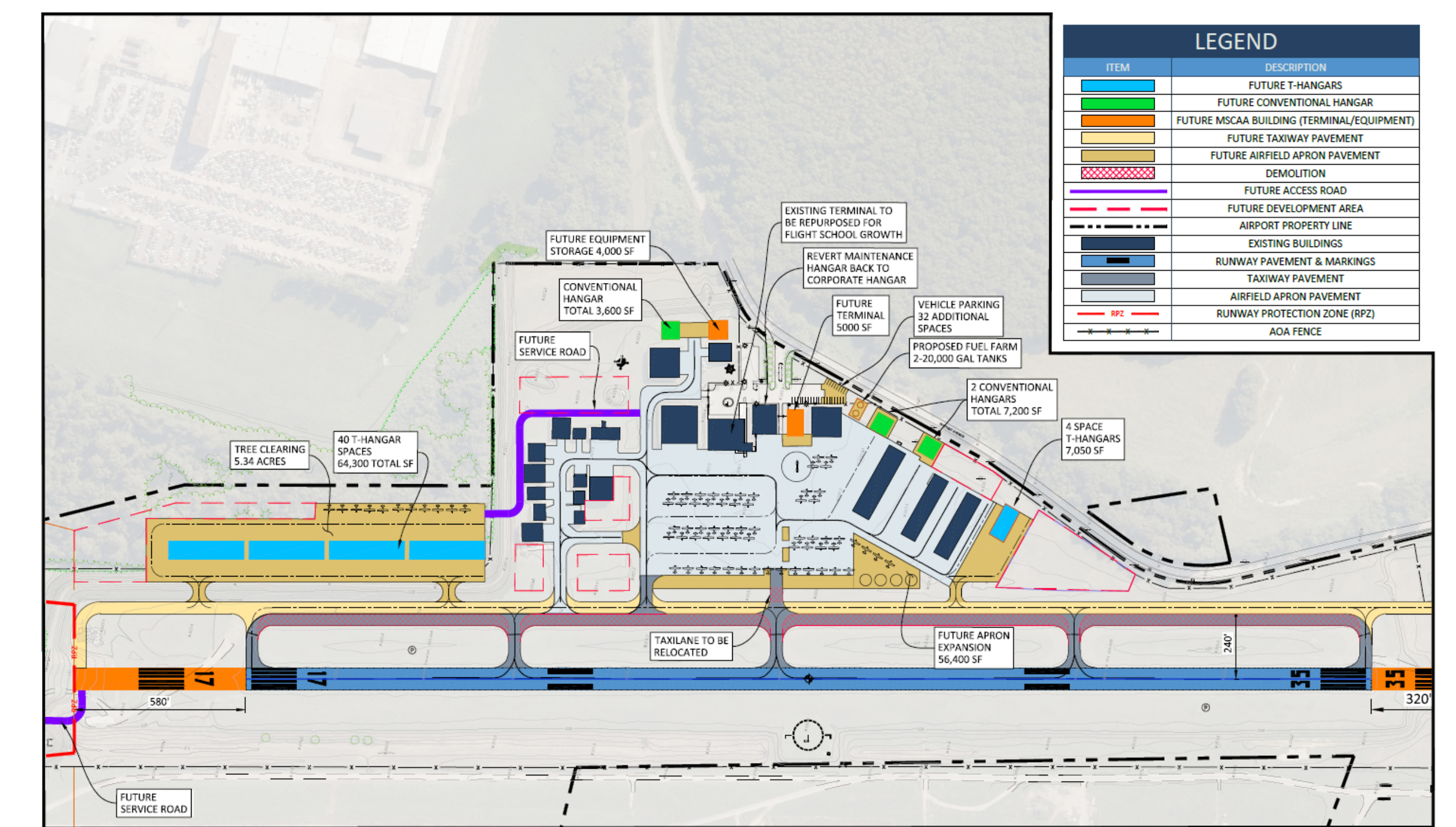
Landside Alt C – Relocate Berm (II)



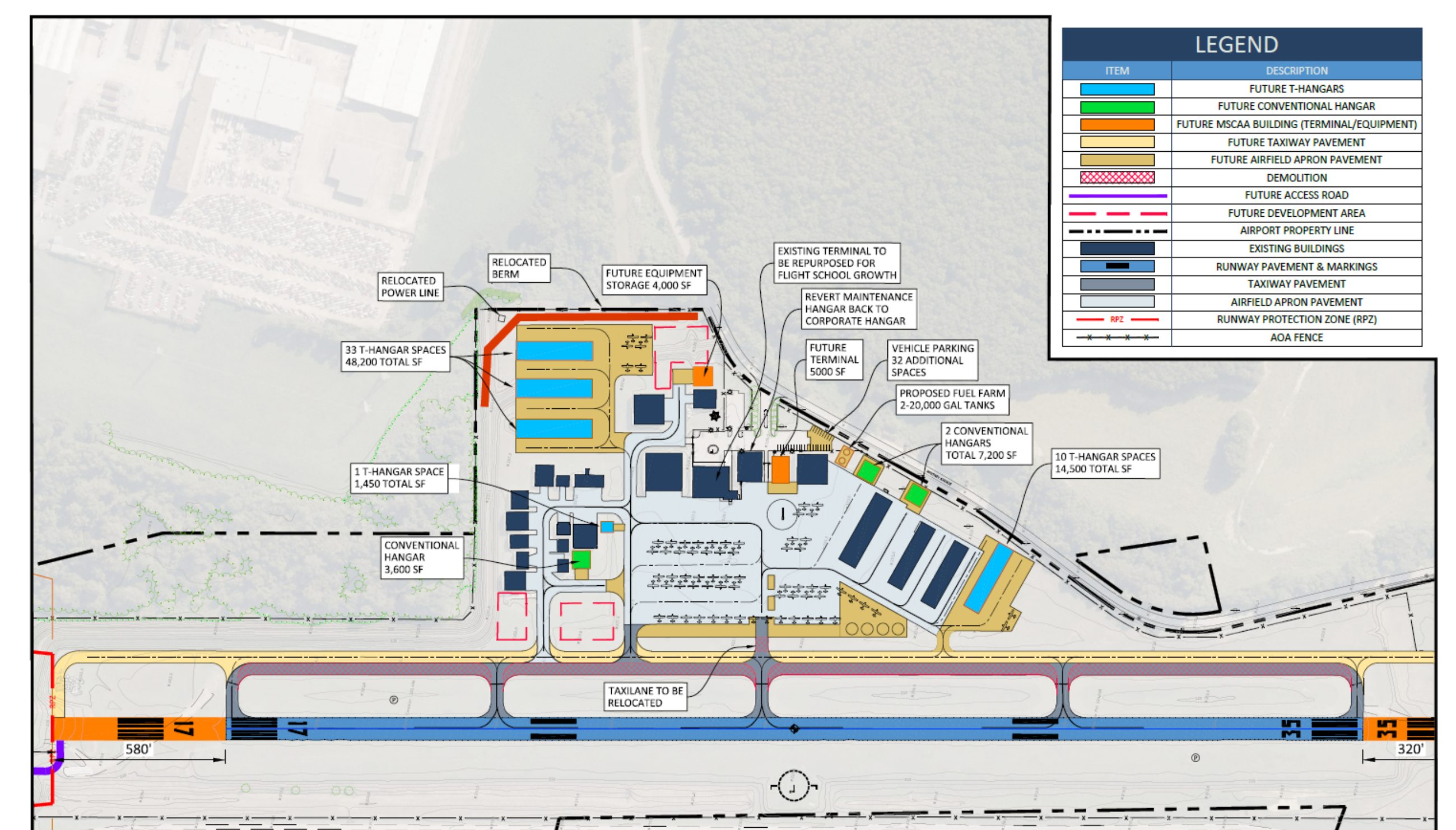
Landside Alt E – 2nd Street Relocation



Landside Alt B – Relocate Berm (I)

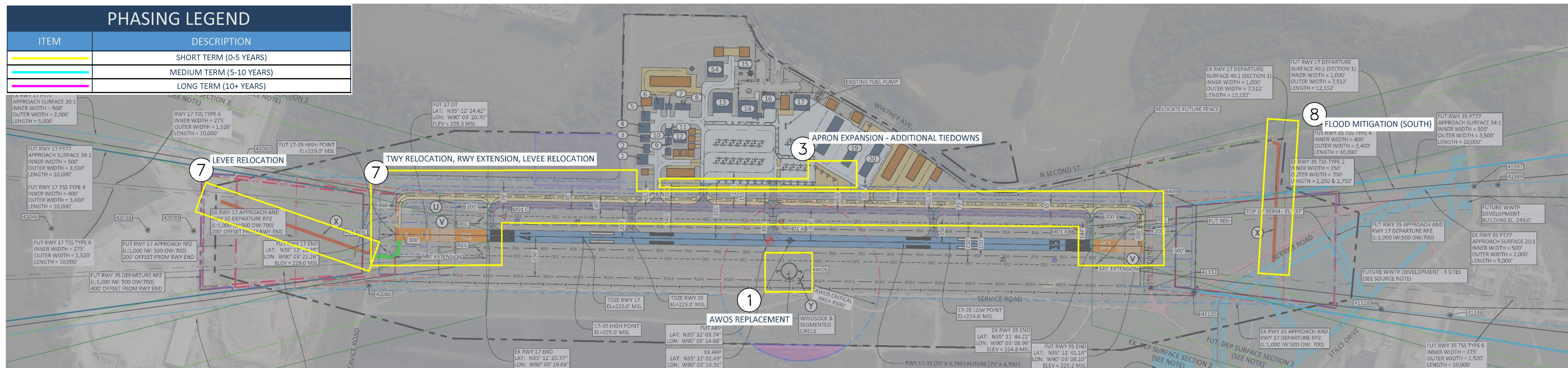


Landside Alt D – Relocate Berm & Powerline

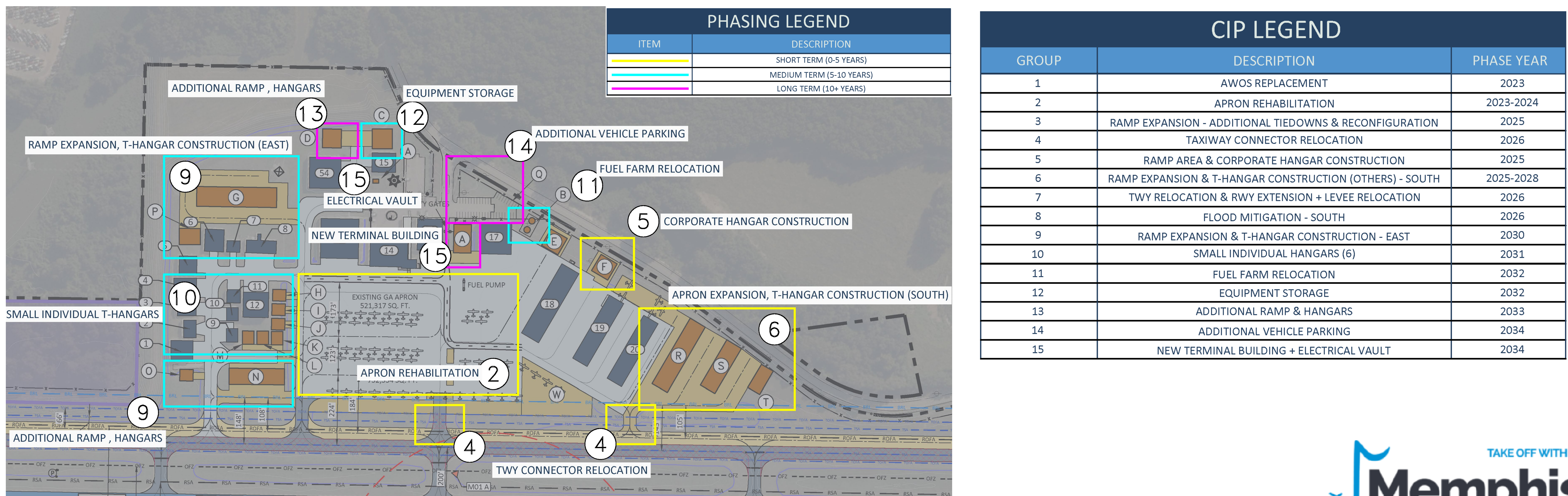


Preferred Plan and Phasing

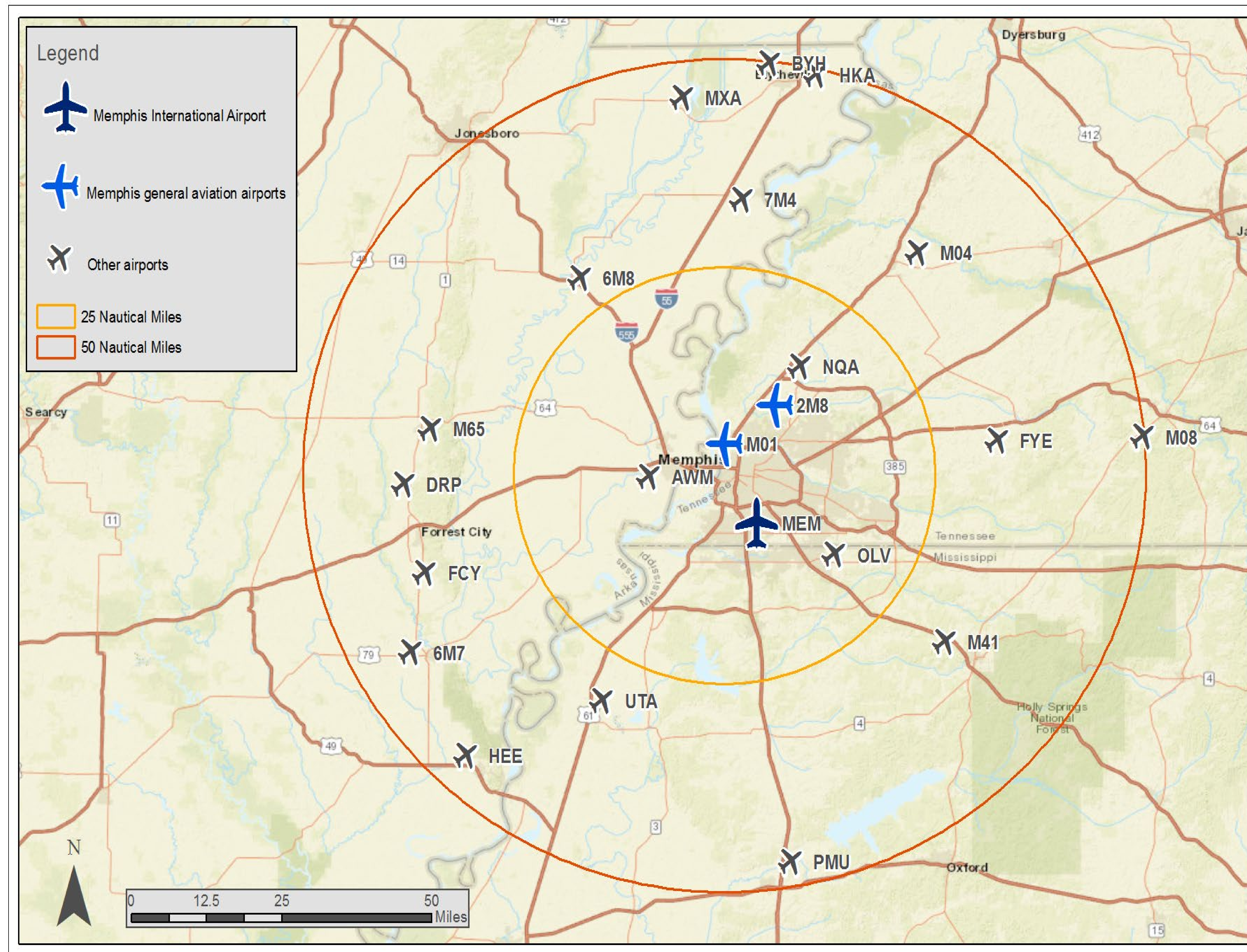
Airfield



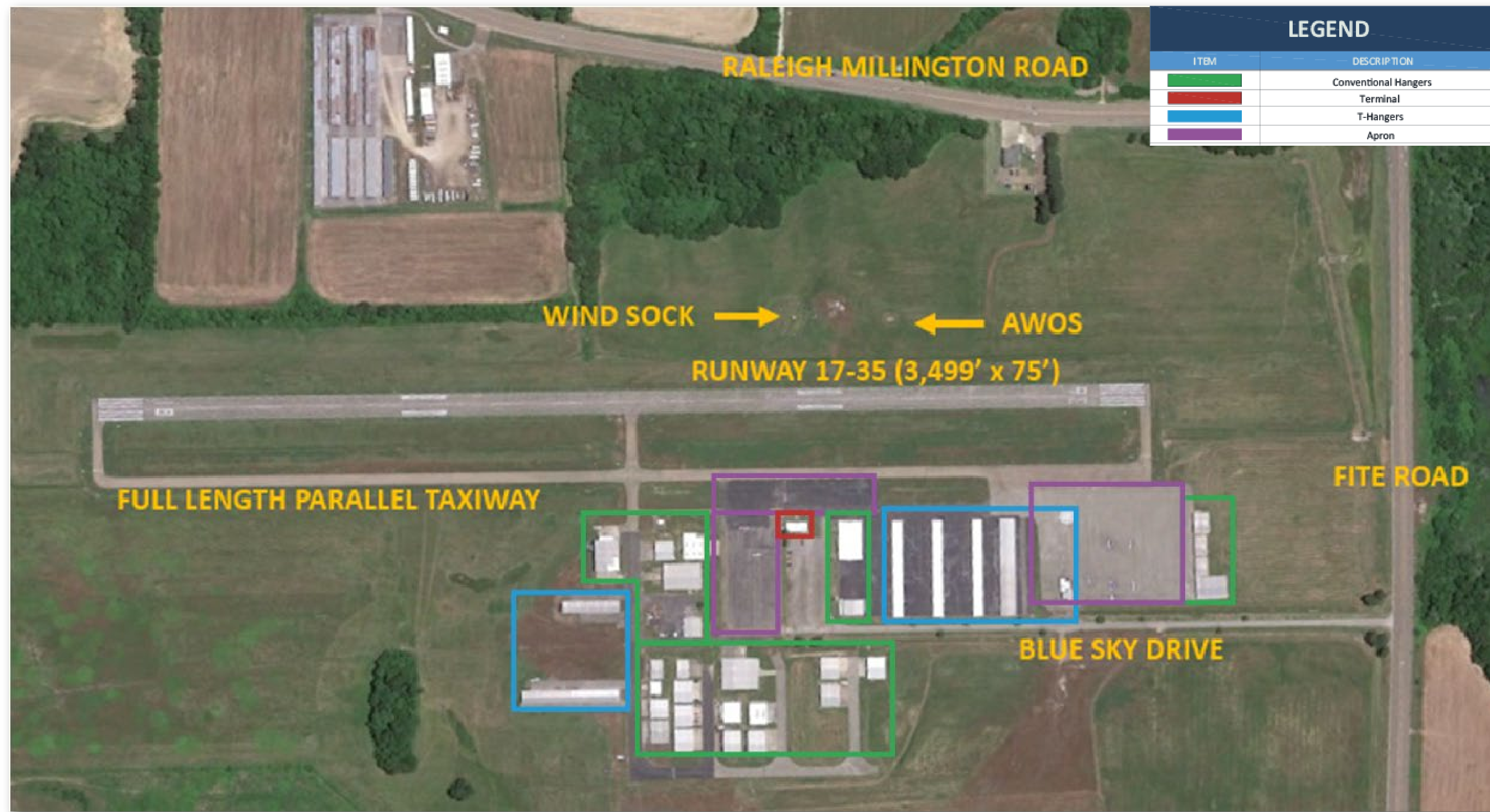
Terminal Area



Charles W. Baker Airport (2M8)



Inventory



- Runway 18-36: 3,499' x 75'
- Runway Design Code: B-I-5000
- NAVAIDS: MIRL, REIL, PAPI, Non-Precision Markings
- Instrument Approaches: GPS & VOR (1 Mile Visibility)
- 8 T-hangers: 67,550 SF
- 28 Conventional Hangars: 130,342 SF
- 3 Aprons: 359,650 SF
- Services: Terminal Building, Fuel
- 101 Based Aircraft (2017)

Forecasts & Facility Requirements

Forecasts

Forecast	Base Year (2017)	Based Year +5	Base Year +10	Base Year +15	Base Year +20	Base Year +5 CAGR	Base Year +10 CAGR	Base Year +15 CAGR	Base Year +20 CAGR
Total Annual Operations	28,250	29,237	31,428	31,639	31,858	0.7%	1.1%	0.8%	0.6%
Peak Hour Operations	9	10	10	11	11	0.7%	1.1%	0.8%	0.6%
Annual Itinerant Operations	3,023	3,128	3,363	3,385	3,409	0.7%	1.1%	0.8%	0.6%
Based Aircraft ¹	101	93	108	113	119	-1.6%	0.7%	0.8%	0.8%
Annual Instrument Approaches	504	585	629	633	637	3.0%	2.2%	1.5%	1.2%

Recommended Airfield Improvements

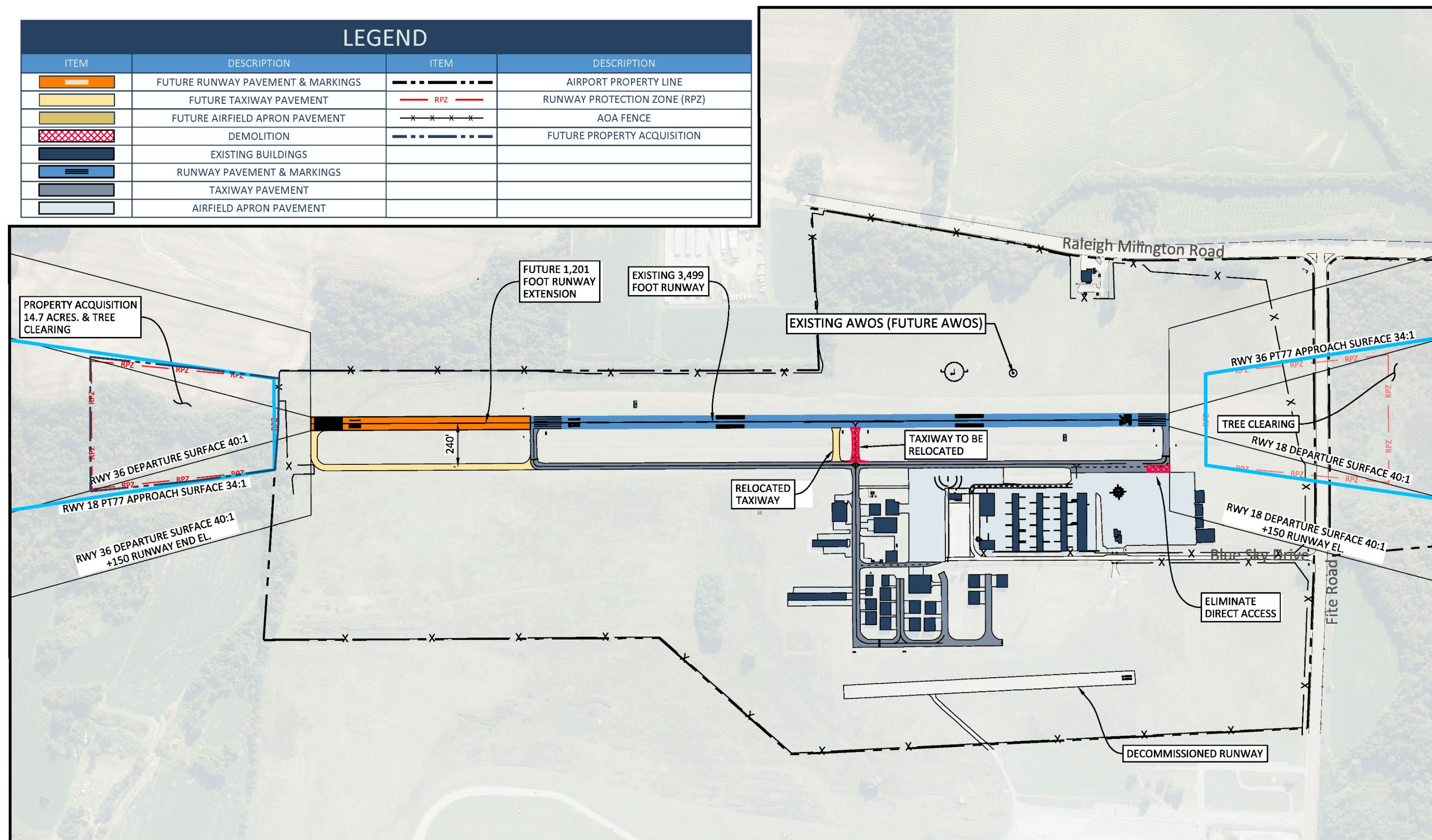
Facility	Improvements
Runway	4,700 Feet (1,201-foot extension)
Taxiways	Extend parallel with runway extension
Non-Standard Geometry	Remove direct access from apron to runway
NAVAIDs	Upgrade AWOS from A to AWOS-III
Pavement Strength	No Improvements
Land Acquisition (i.e., RPZ)	14.7 Acres
Approach and Departure Surfaces	Tree Clearing

Recommended Landside Improvements

Facility	Improvements
T- Hangars	38 - 1,200 SF each
Conventional Hangars	2 - 3,600 SF each
Aircraft Tiedowns	No Improvements
Terminal Building	4,800 SF
Equipment Storage	1,600 SF
Fuel Farm	2 - 18,000 gallon above ground tanks fuel farm

Alternatives

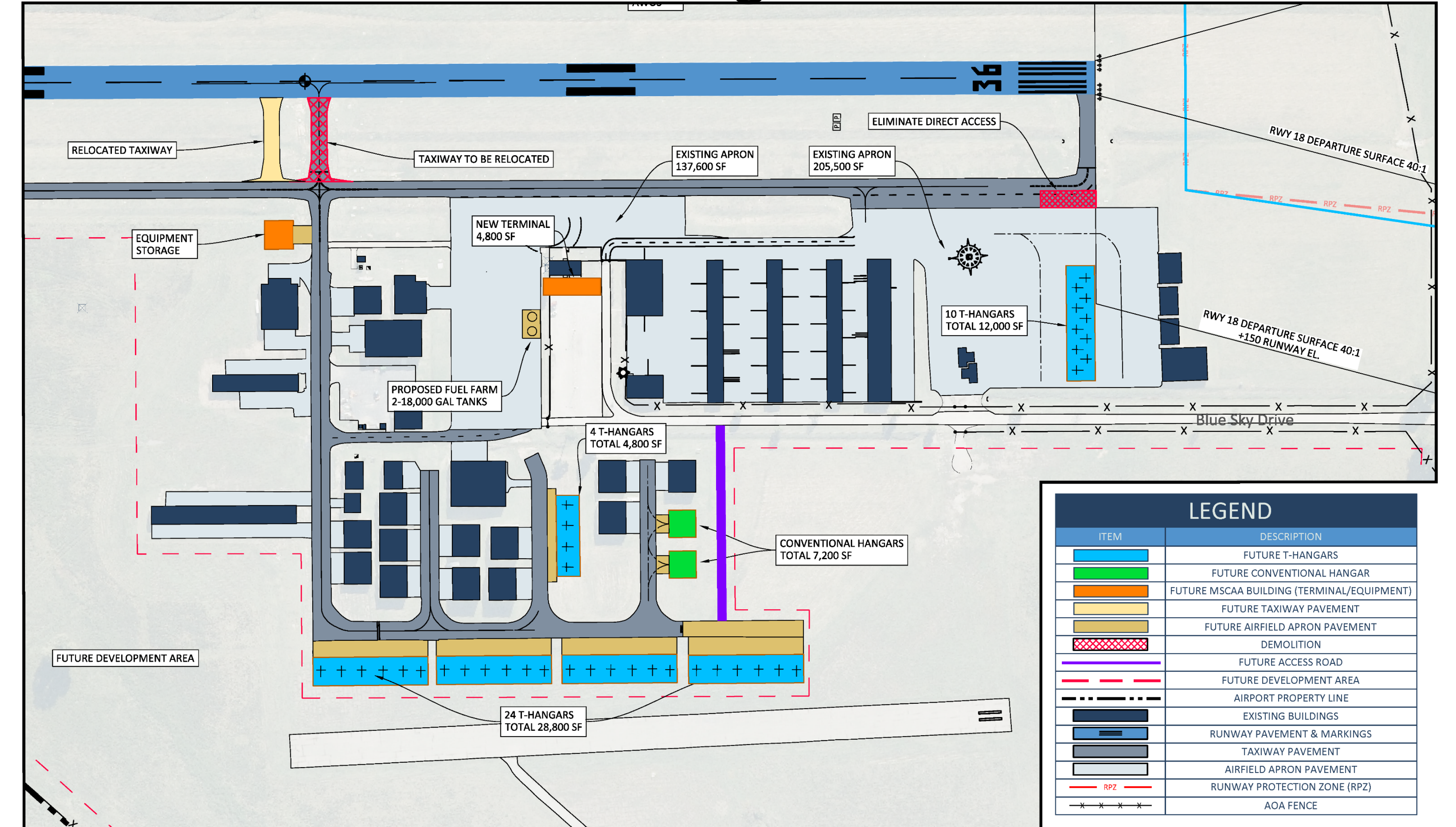
Airside Alternative 1,201' Extension North



Note: Due to the location of Fite Road, an extension to the south could not be explored.

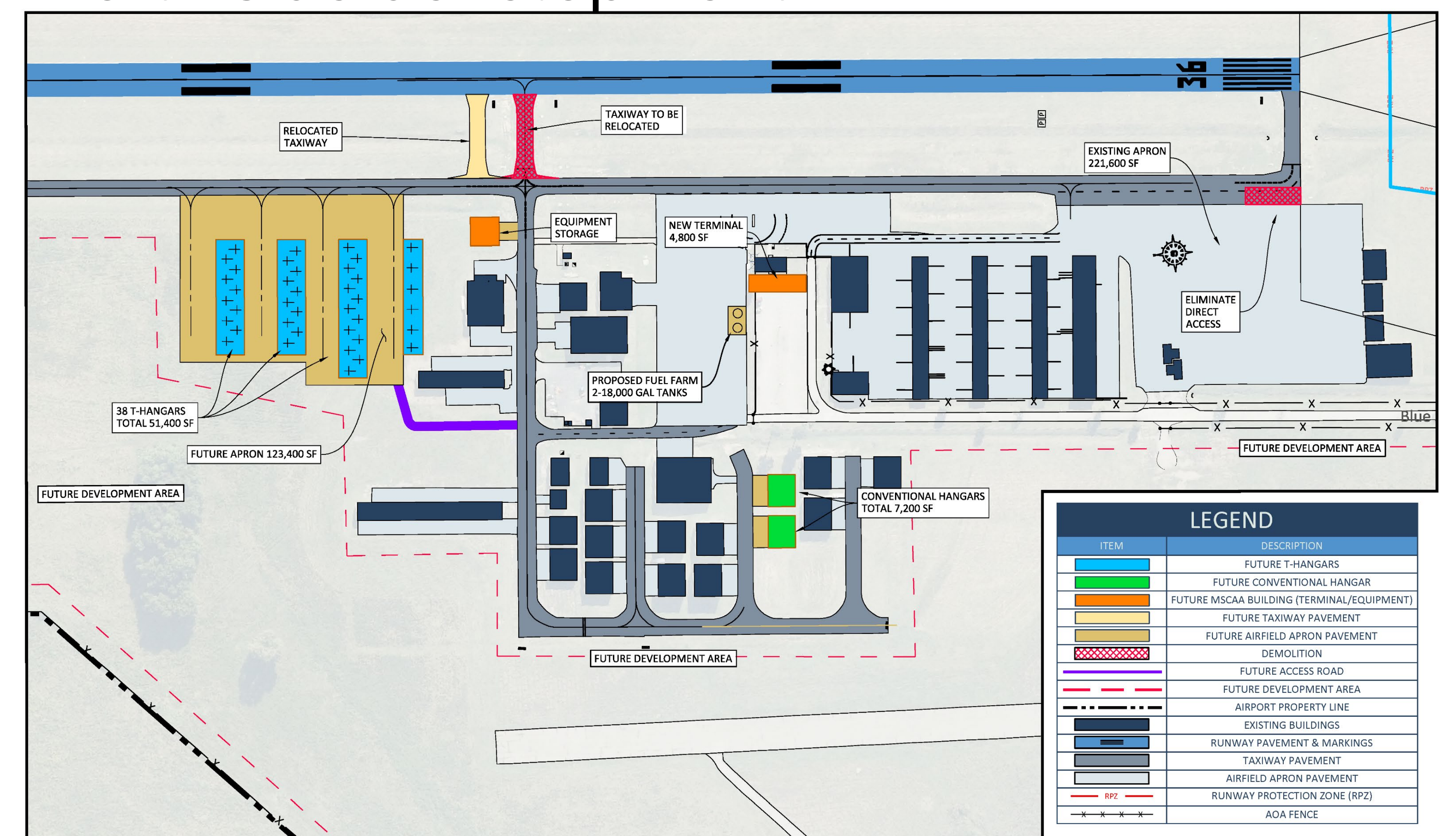
Landside Alternative 'A'

Maximize Use of Existing Taxilane Pavement



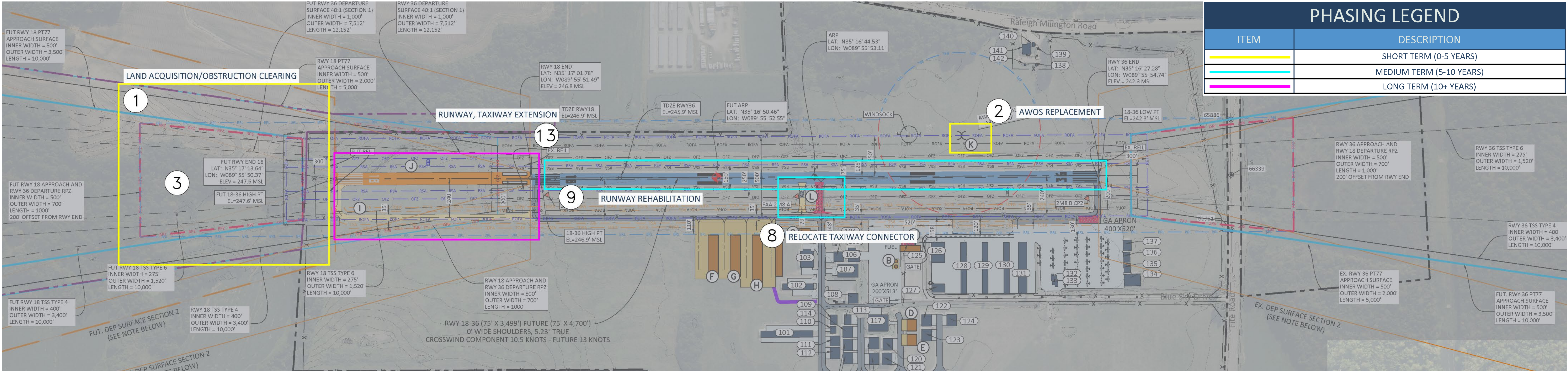
Landside Alternative 'B'

North side development

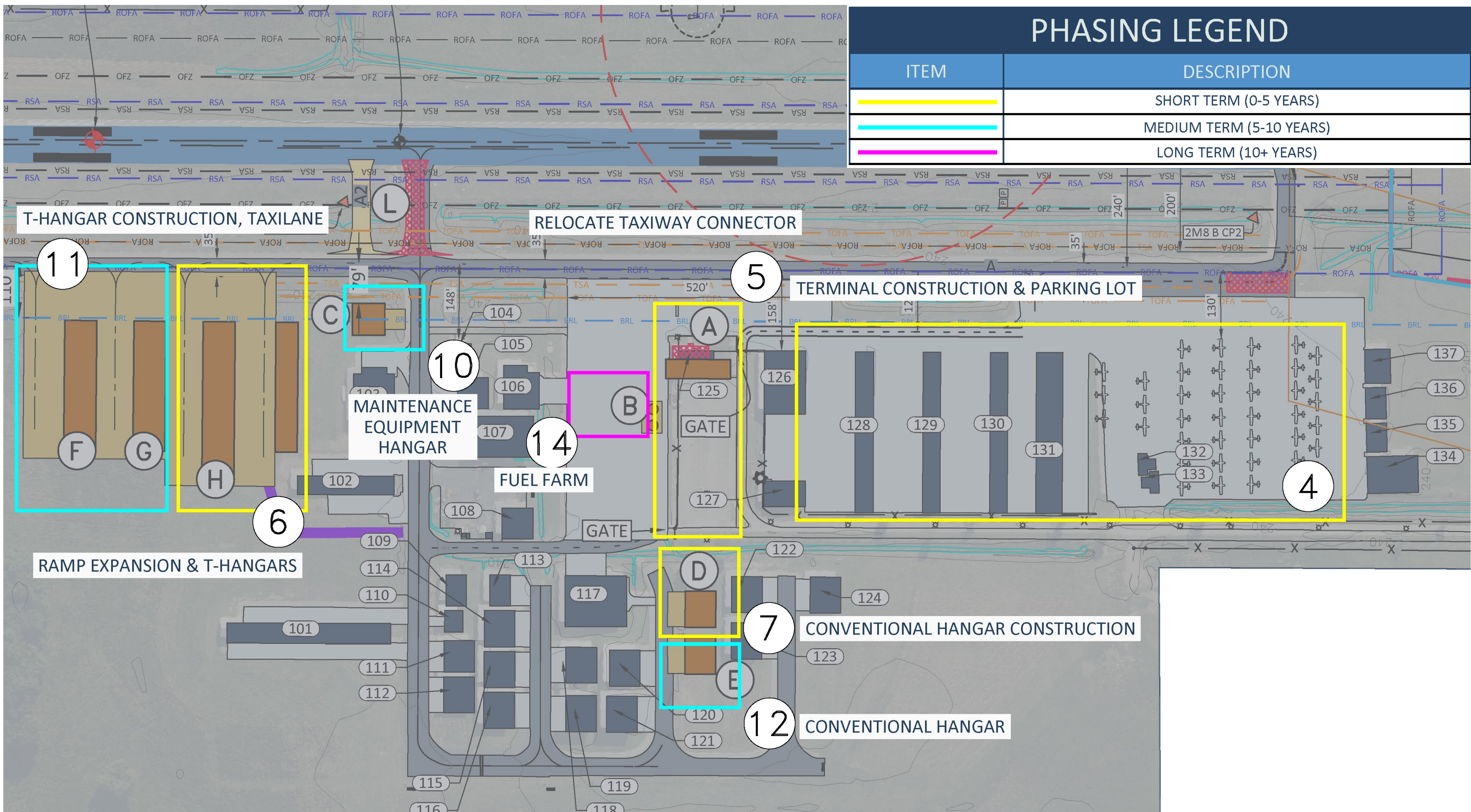


Preferred Plan and Phasing

Airfield



Terminal Area



CIP LEGEND		
GROUP	DESCRIPTION	PHASE YEAR
1	LAND ACQUISITION	2022
2	AWOS REPLACEMENT	2023
3	OBSTRUCTION CLEARING	2021-2023
4	APRON REHABILITATION	2023-2024
5	TERMINAL CONSTRUCTION & PARKING LOT	2023-2025
-	GROUND MAINTENANCE EQUIPMENT (NOT SHOWN)	2023
-	SECURITY IMPROVEMENTS (NOT SHOWN)	2023
6	RAMP EXPANSION & T-HANGARS	2025-2028
7	CONVENTIONAL HANGAR	2026
8	RELOCATE TAXIWAY CONNECTOR	2027
9	RUNWAY REHABILITATION	2027-2028
10	MAINTENANCE EQUIPMENT HANGAR	2028
11	T-HANGAR CONSTRUCTION & TAXILANE	2030
12	CONVENTIONAL HANGAR	2032
13	RUNWAY & TAXIWAY EXTENSION	2033
14	FUEL FARM	2034

Next Steps

- Receive Public Input
- Environmental Review
- Finalized Preferred Development Plan
- Phasing Planning
- Financial Planning
- Documentation:
 - Prepare Airport Layout Plan and submit to FAA for approval
 - Prepare Master Plan Report and post on *flymemphis.com*
- All projects will undergo additional environmental review and FAA approval prior to implementation



Submit Your Comments

Thank you for attending Memphis-Shelby County Airport Authority's

Public Information Workshop

for the Master Plan Updates for

Memphis-Shelby County International Airport

General DeWitt Spain Airport

Charles W. Baker Airport

Provide comments one of the following ways:

- Submit online using one of the laptops in the room
- Submit a paper comment sheet and place in the comment box
- Go to <https://flymemphis.com/master-plan-update-comments/> after the meeting and submit comments

