



DETROIT METRO ▪ WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY



Community Advisory Committee

Detroit Metropolitan Airport Master Plan Update

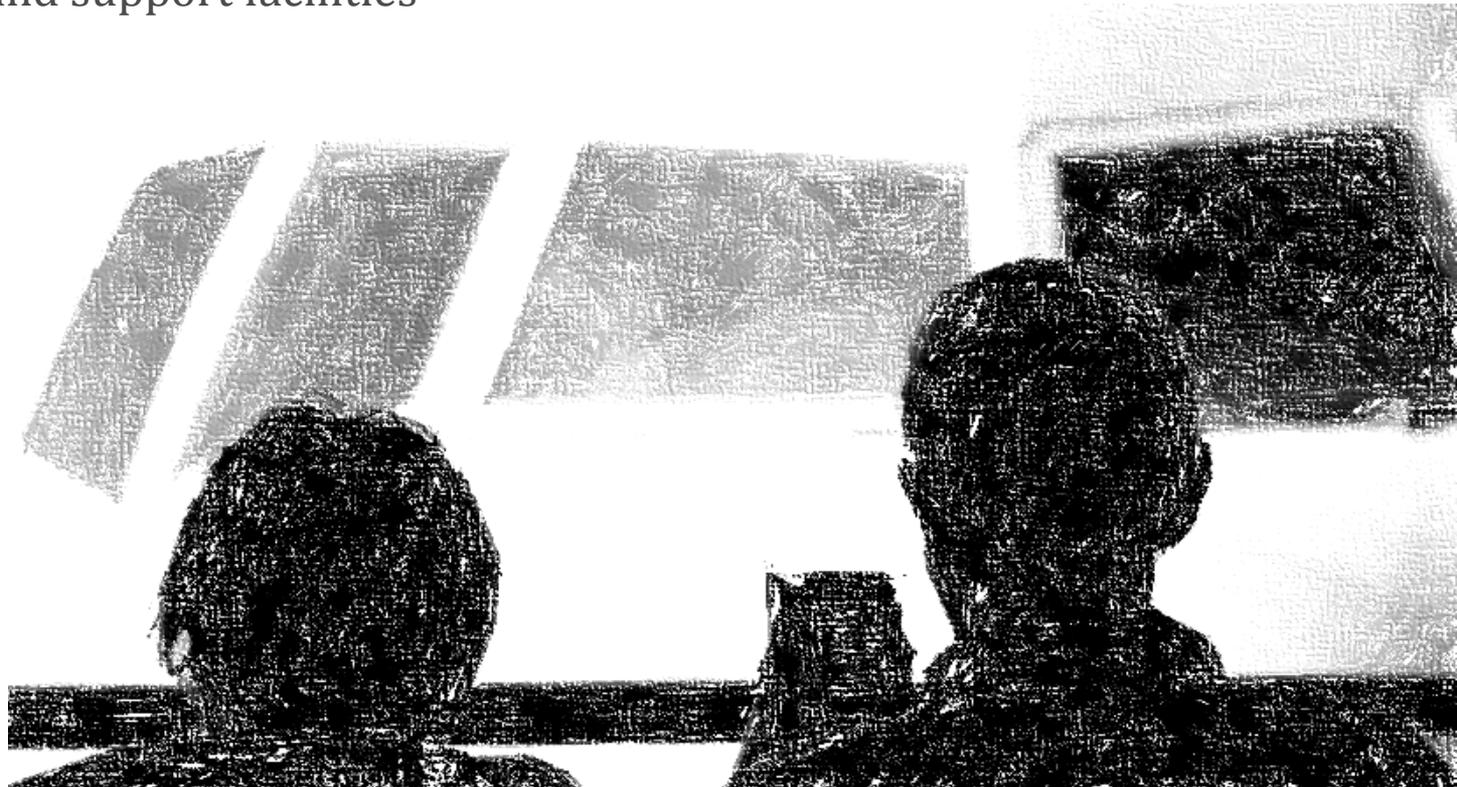
Meeting #2: Preliminary Facility Requirements

June 8, 2016

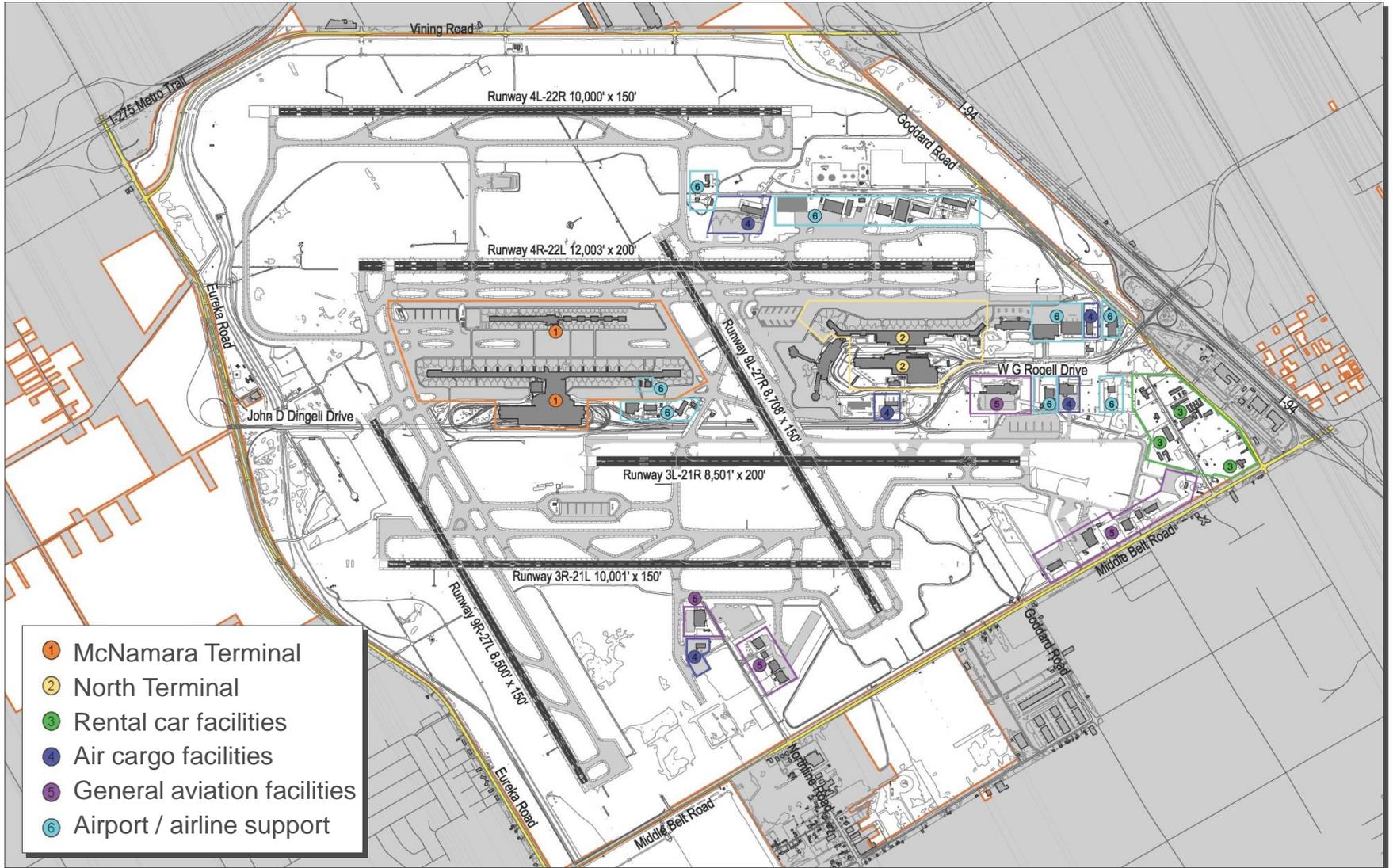
Leigh | Fisher

Today's agenda and discussion topics

- 1. Project Overview and Applicable Background**
- 2. Master Plan Update Technical Progress**
 - Airfield
 - Passenger terminals
 - Ground transportation and parking
 - Cargo, GA, and support facilities
- 3. Next Steps**

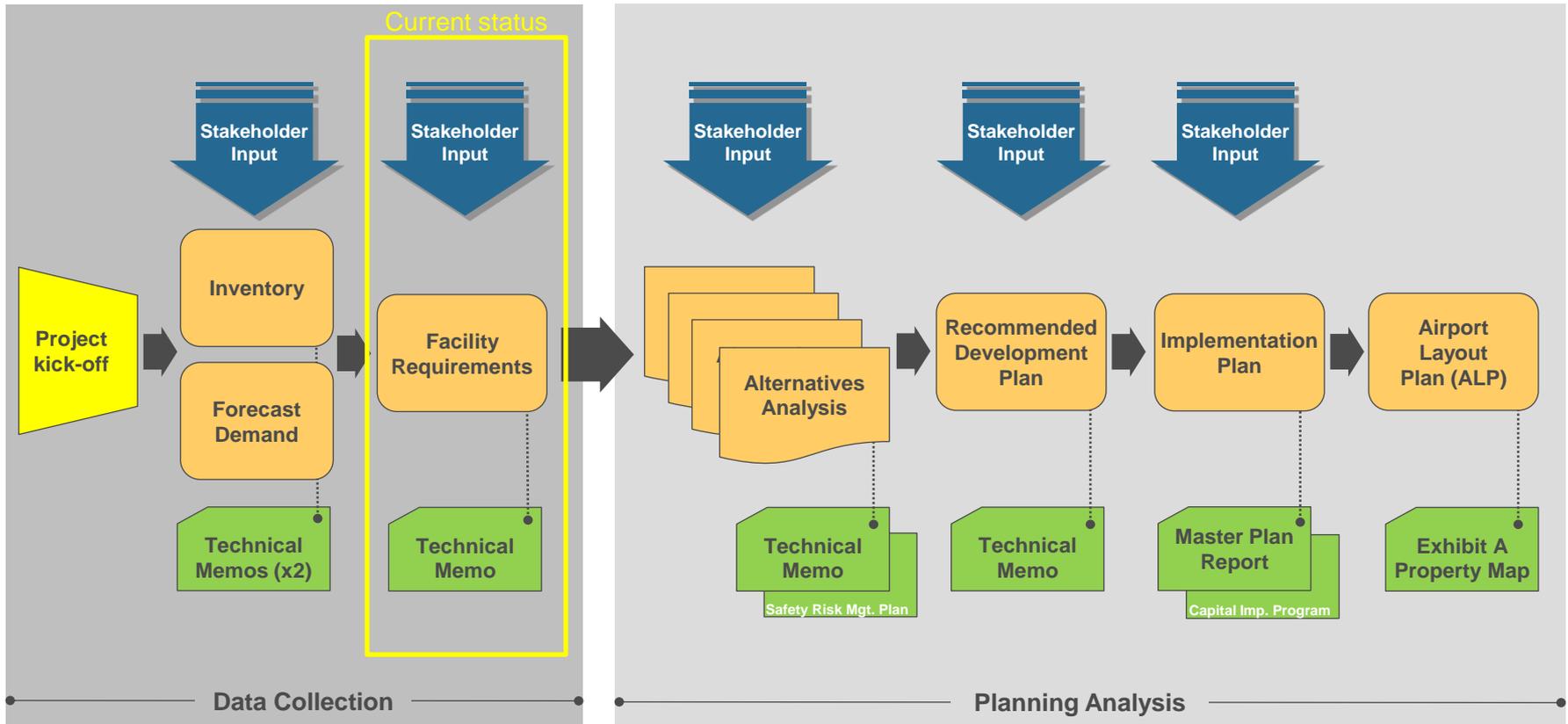


Detroit Metropolitan Wayne County Airport



The Master Planning Process

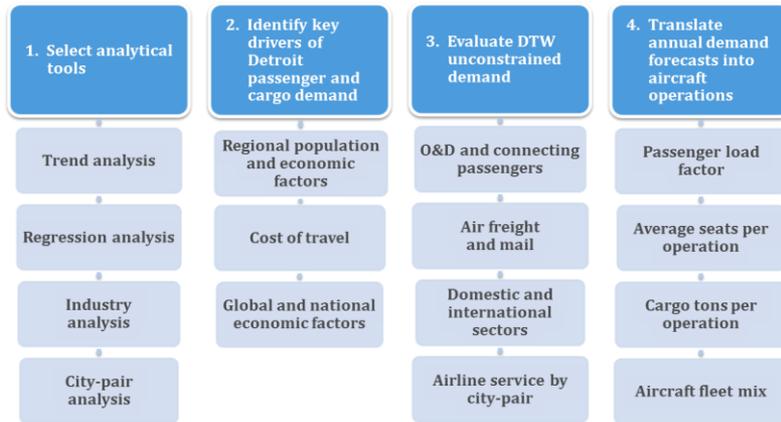
The master planning process includes a series of technical analyses and summary documents, as well as opportunities for stakeholder and community input



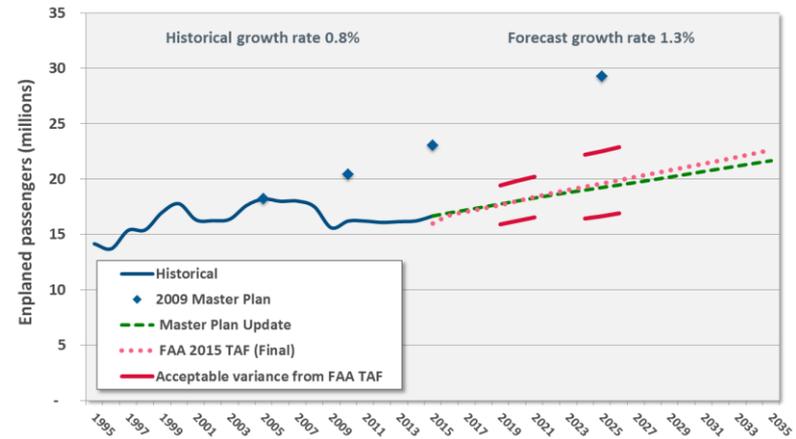
Forecast Aviation Activity

Total annual passengers and operations are forecast to increase an average of 1.3% and 0.7% respectively per year between 2015 and 2035

Forecast Methodology and Approach



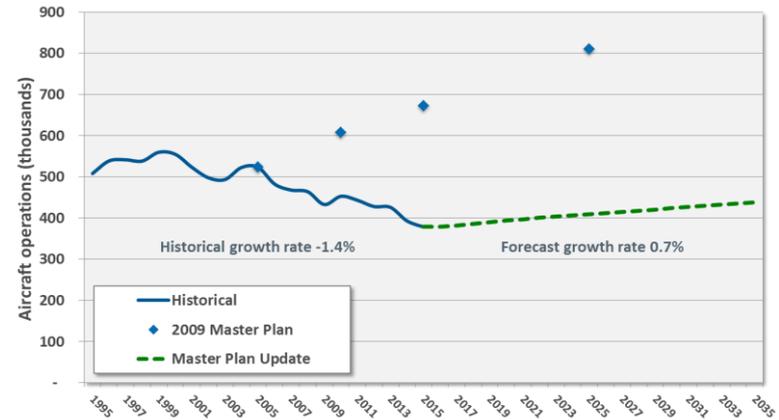
Forecast Passengers



Forecast Air Cargo

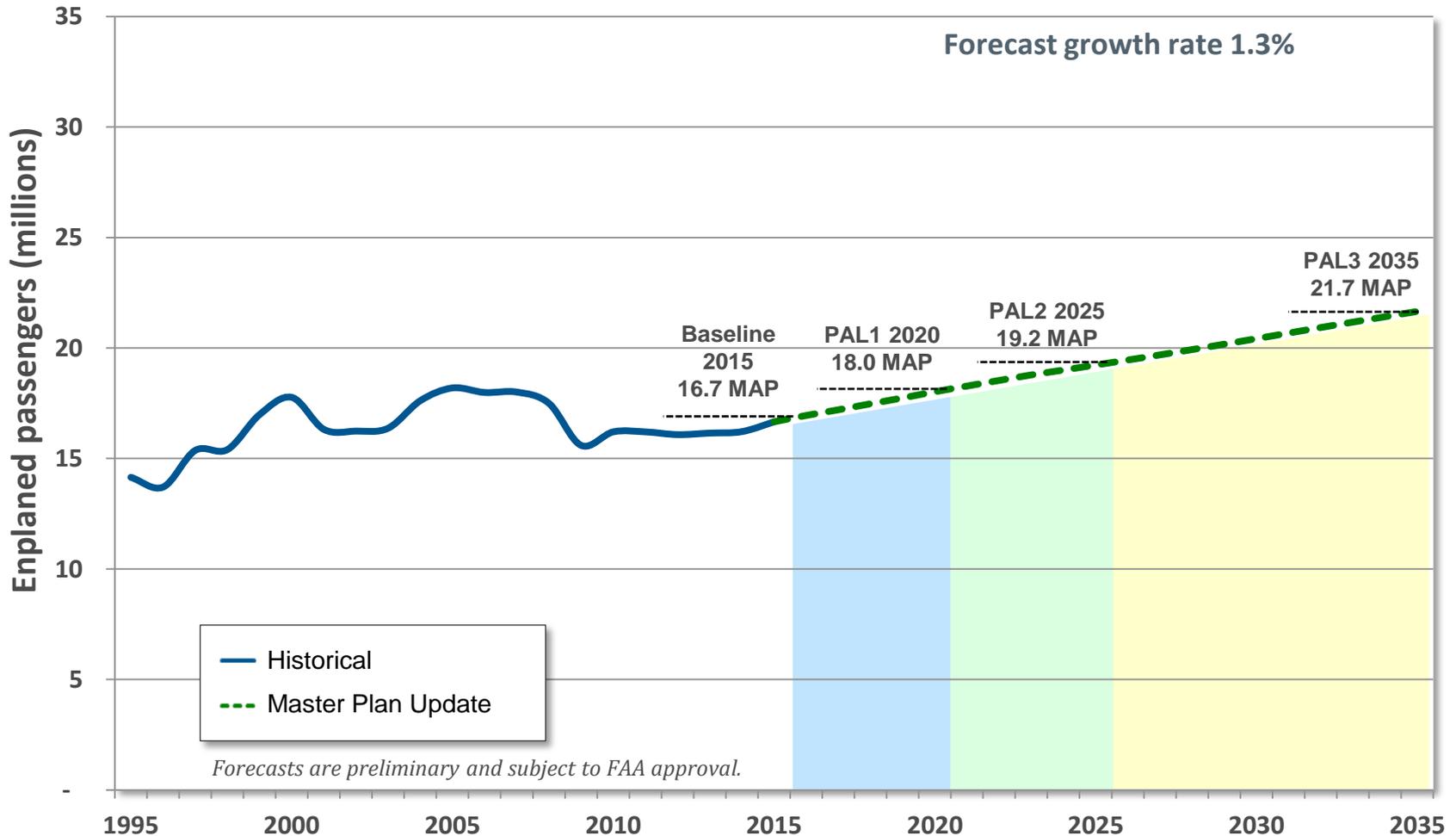


Forecast Aircraft Operations



Future Planning Activity Levels

In addition to Baseline conditions, three future Planning Activity Levels (PALs) are under consideration



Technical Progress: Airfield

What the Technical Team is Reviewing

- **Need for additional capacity / runways**
- **Changes to the airfield layout based on:**
 - Projected changes in aircraft type
 - Changes based on new FAA standards
 - Changes to enhance operational efficiency
- **Addressing conflicts with airfield safety zones**
- **Future airspace needs**

Key Finding – the airfield is efficient and generally well optimized

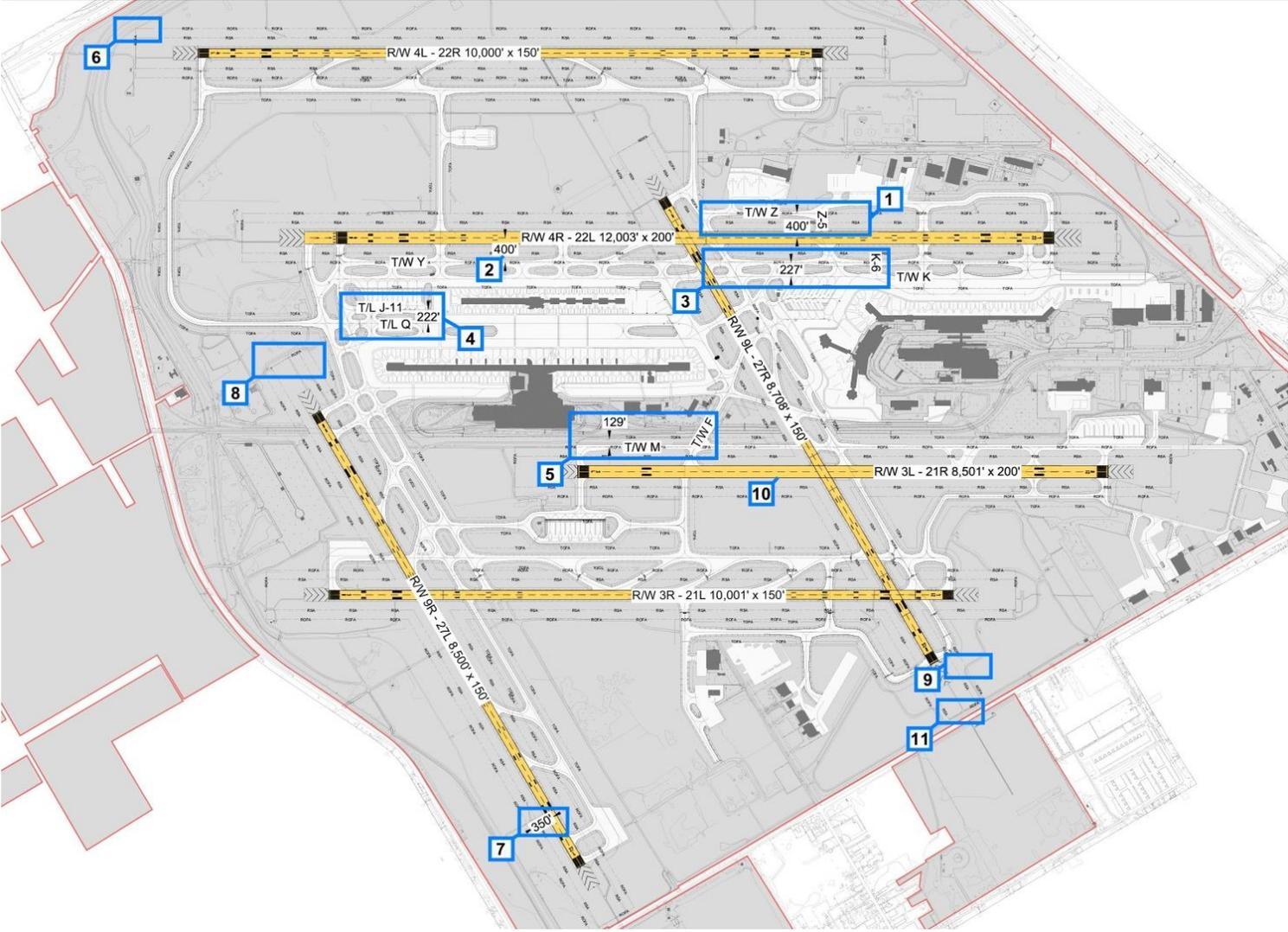
Airfield Capacity

Existing and future total annual aircraft operations are well below the capacity of the existing runway system



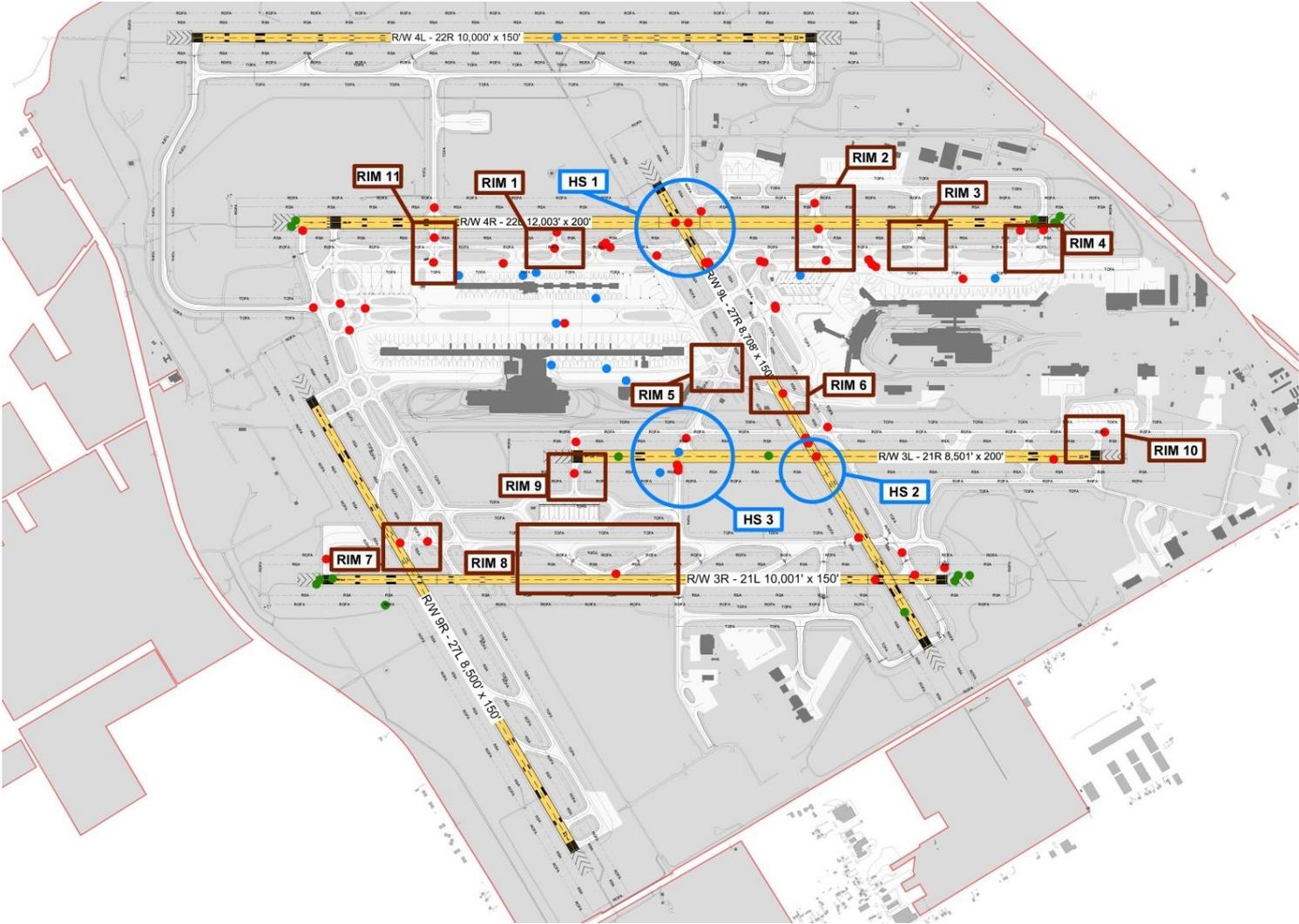
Potential Changes to the Airfield Layout

Airfield geometry will be reviewed to meet FAA standards



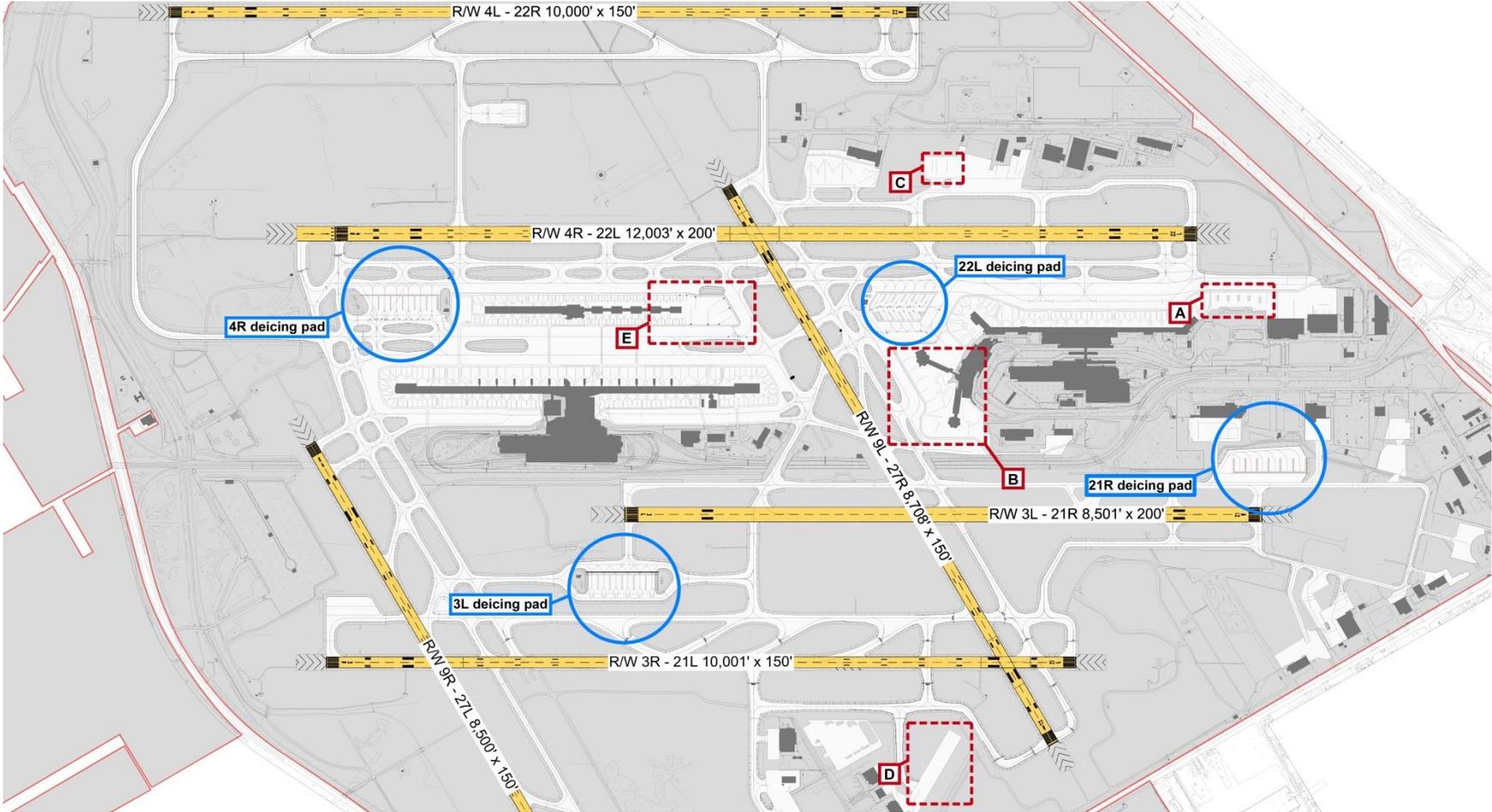
Potential Changes to the Airfield Layout

Runway Incursion Mitigation (RIM) will be reviewed to meet new FAA requirements



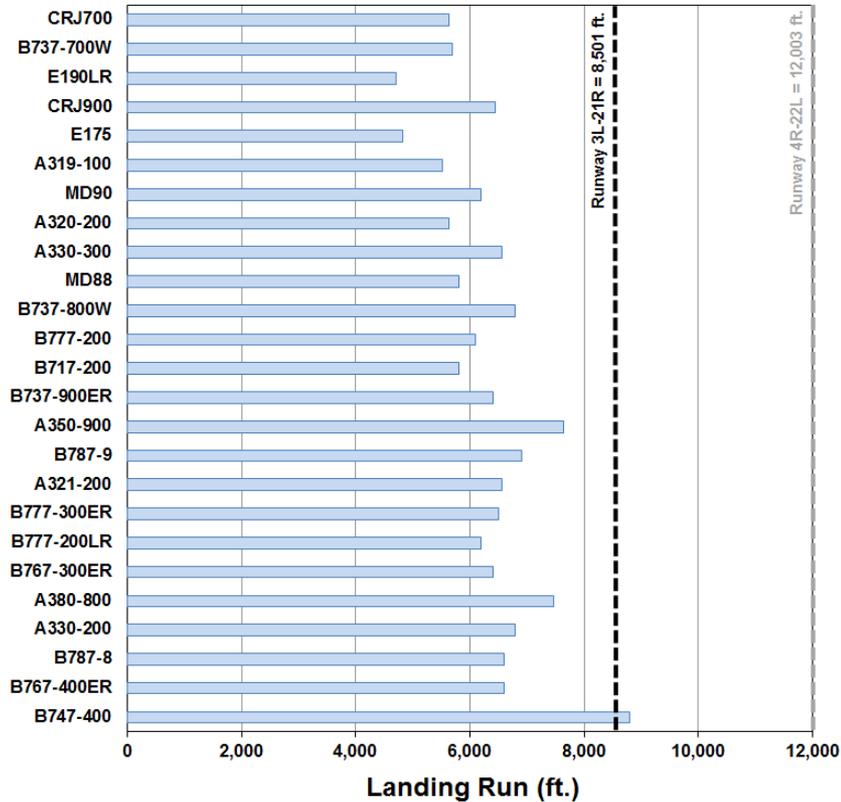
Potential Changes to the Airfield Layout

Modifications to deicing and overnight aircraft parking will be reviewed to meet FAA requirements and optimize operations

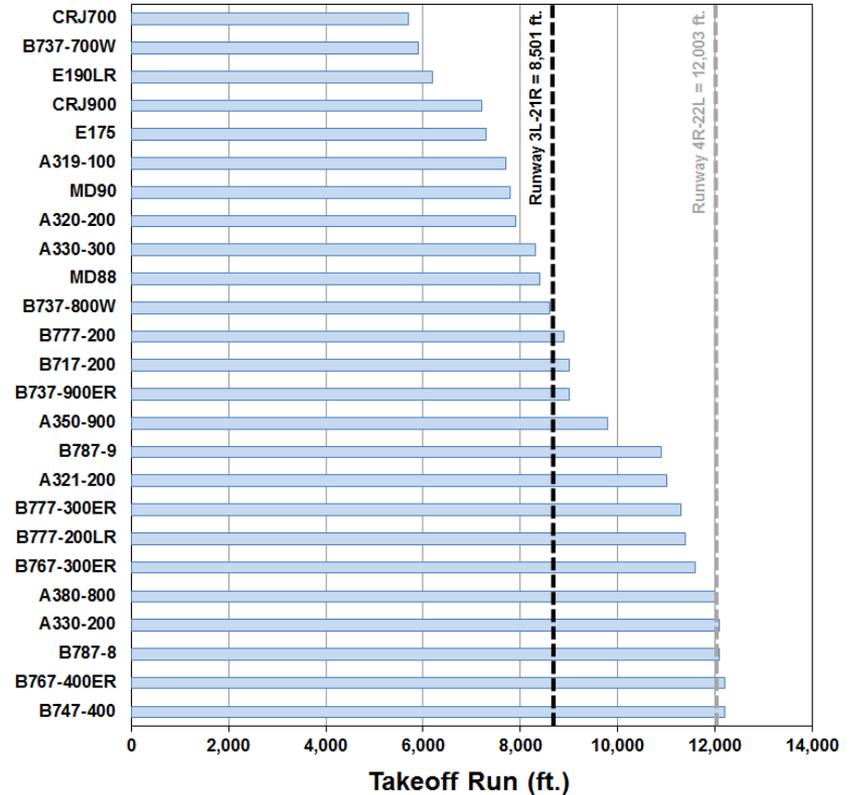


Runway Length Requirements

DTW Runway Arrival Length Analysis



DTW Runway Departure Length Analysis



Existing Runway Lengths

- 4L-22R 10,000' x 150'
- 4R-22L 12,003' x 200'
- 3L-21R 8,501' x 200'
- 3R-21L 10,001' x 150'
- 9L-27R 8,708' x 150'
- 9R-27L 8,500' x 150'

Airfield capacity will be affected by FAA-driven airspace redesign

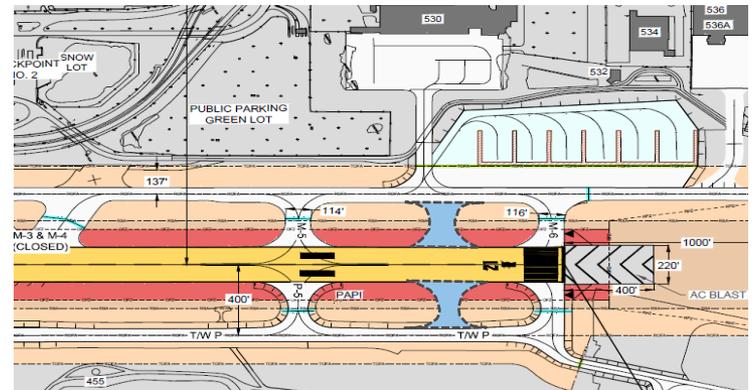


- | | | | | |
|---------|-----------------------|---------------------|---------------------|--------|
| Atlanta | Charlotte | Cleveland-Detroit | D.C. | Denver |
| Houston | Las Vegas | North Texas | Northern California | |
| Phoenix | South Central Florida | Southern California | | |

NextGEN
Metroplexes



NextGEN provides more departure routes, which can increase capacity

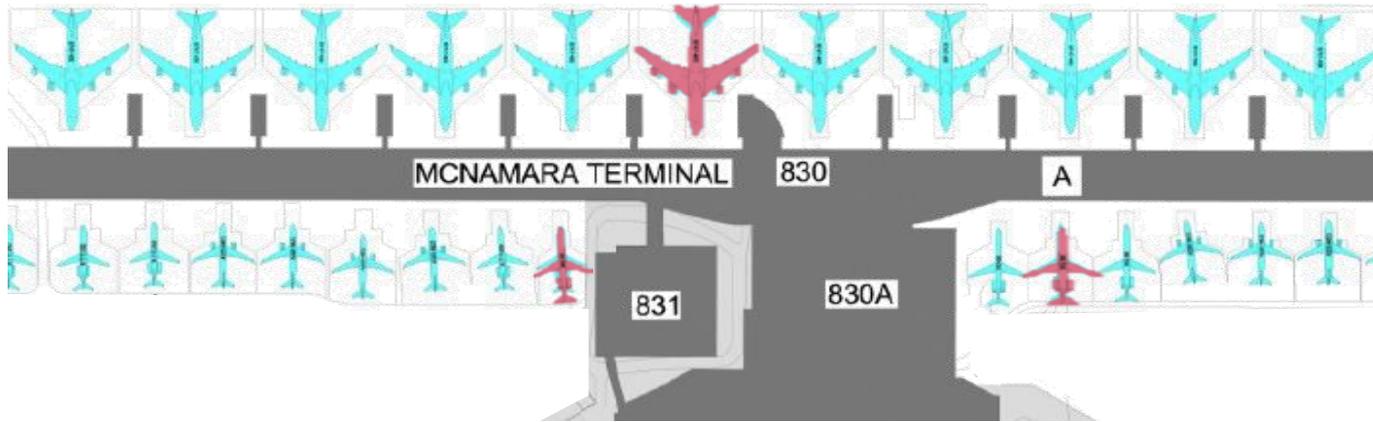


Bypass taxiways at runway ends can help ATC take advantage of operational benefits

Technical Progress: Passenger Terminals

More Large and Medium Aircraft Expected in the Future

Some up-gauging of the aircraft fleet will likely occur during the planning horizon



Passenger Check-in Requirements

Existing Passenger Check-in Facilities are adequately sized to meet future demand

		Existing Facilities	Baseline 2015	PAL1 2020	PAL2 2025	PAL3 2035
McNamara Terminal	Counters	84	28	34	40	43
	Kiosks	49	12	10	9	9
	Space (sq. ft.)	11,870	9,250	10,220	10,710	11,220
North Terminal	Counters	86	49	55	61	65
	Kiosks	24	20	15	15	16
	Space (sq. ft.)	17,630	15,290	15,170	16,220	16,770



Additional Terminal Requirements

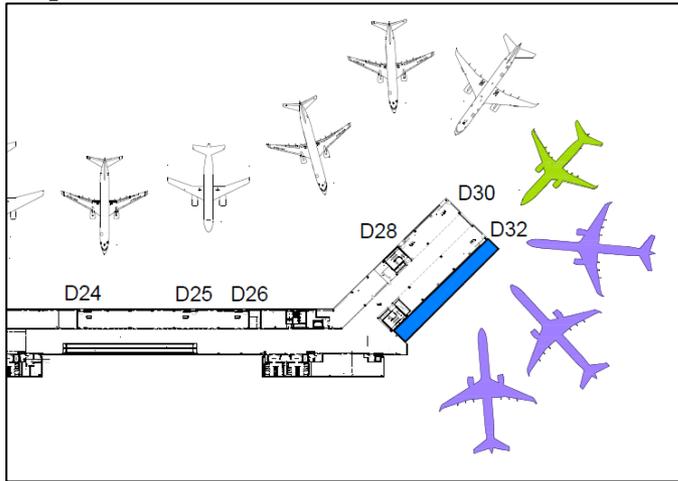
Some expansions to security screening are needed in both terminals

		Existing Facilities	Baseline 2015	PAL1 2020	PAL2 2025	PAL3 2035
McNamara Terminal	Lanes	11	9	10	11	12
	Space (sq. ft.)	18,500	15,750	17,500	19,250	21,000
North Terminal	Lanes	12	15	15	17	18
	Space (sq. ft.)	18,200	26,250	26,250	29,750	31,500

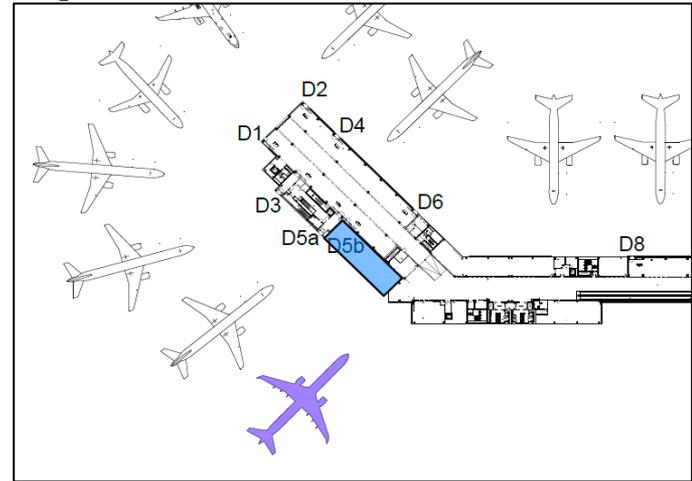


North Terminal Gate Expansion

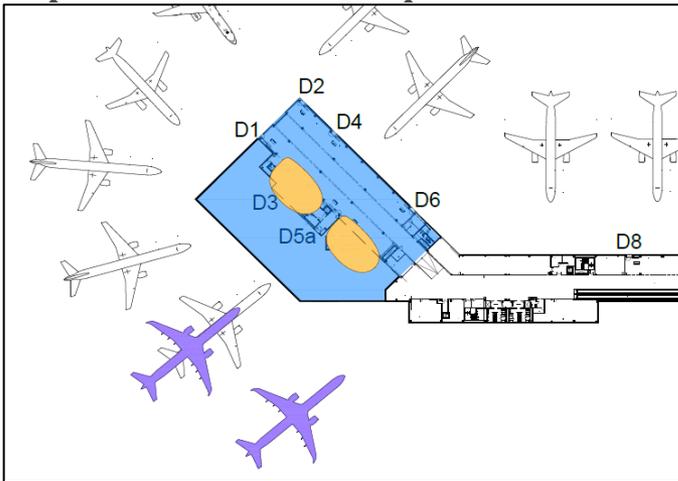
Option 1 - North End Fill-in



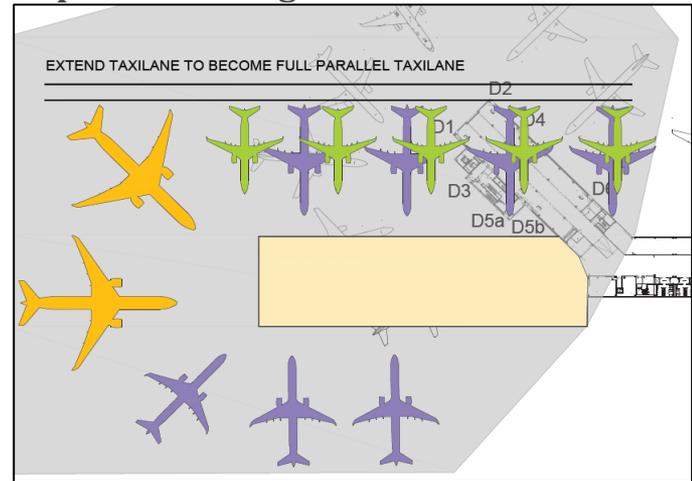
Option 2 - South End Fill-in



Option 3 - South End Expansion

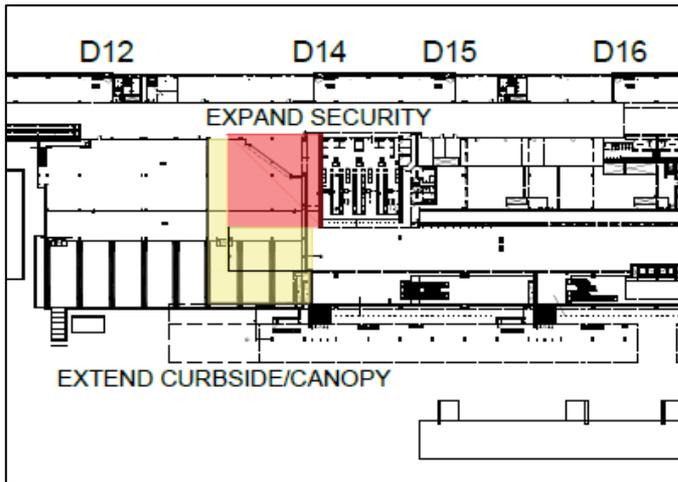


Option 4 - Straighten South End

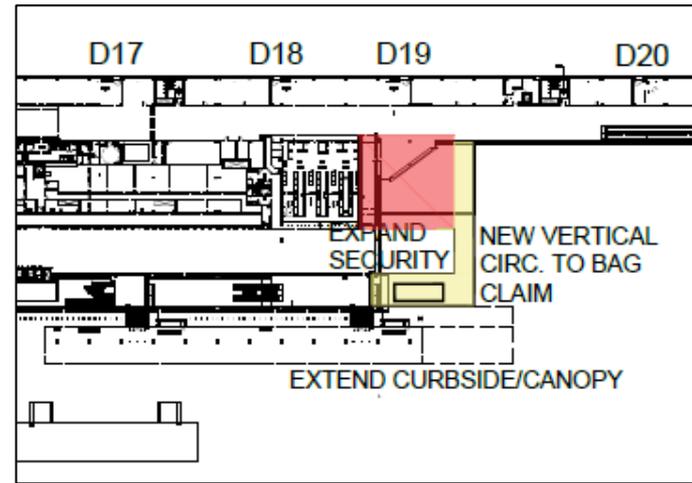


North Terminal Security Checkpoint Expansion

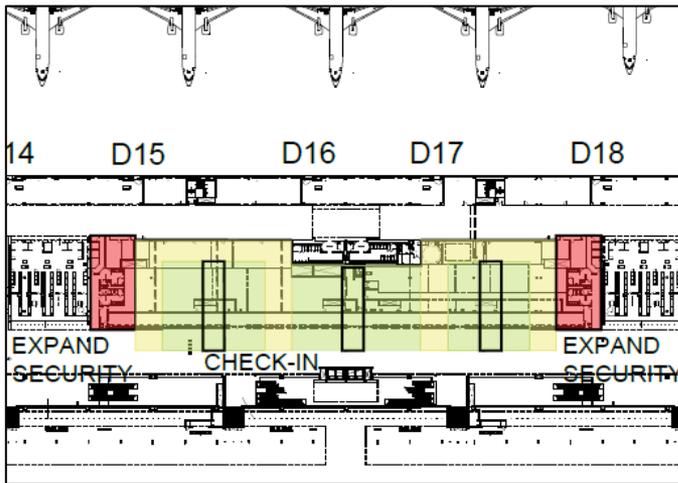
Option 1 - South Expansion



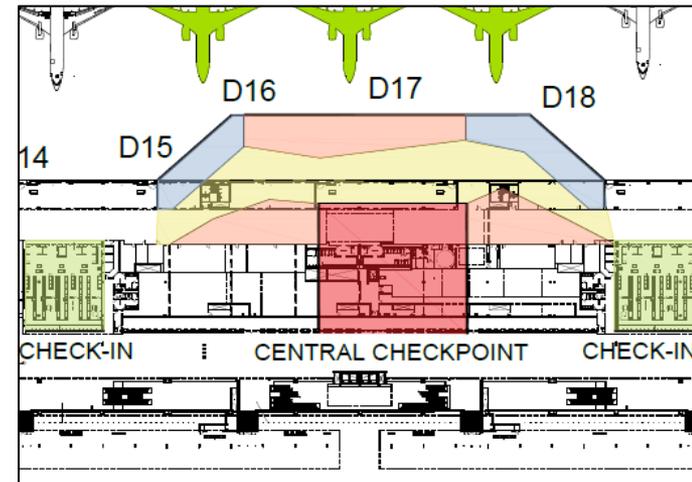
Option 2 - North Expansion



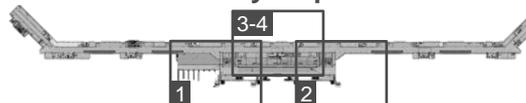
Option 3 - Reconfigure Check-in



Option 4 - Centralize Checkpoint

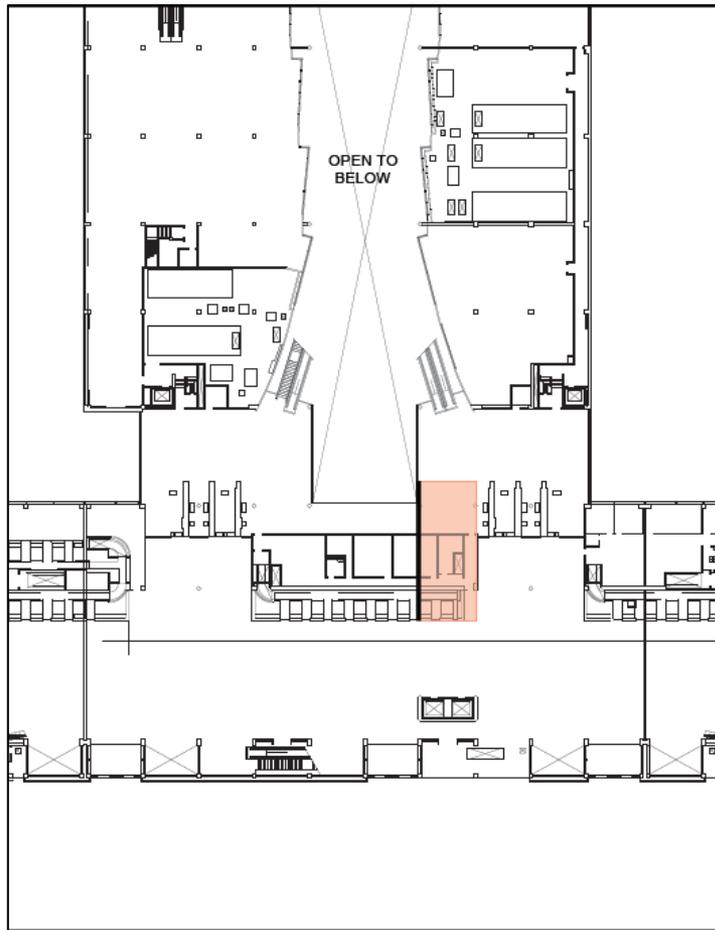


Key Map

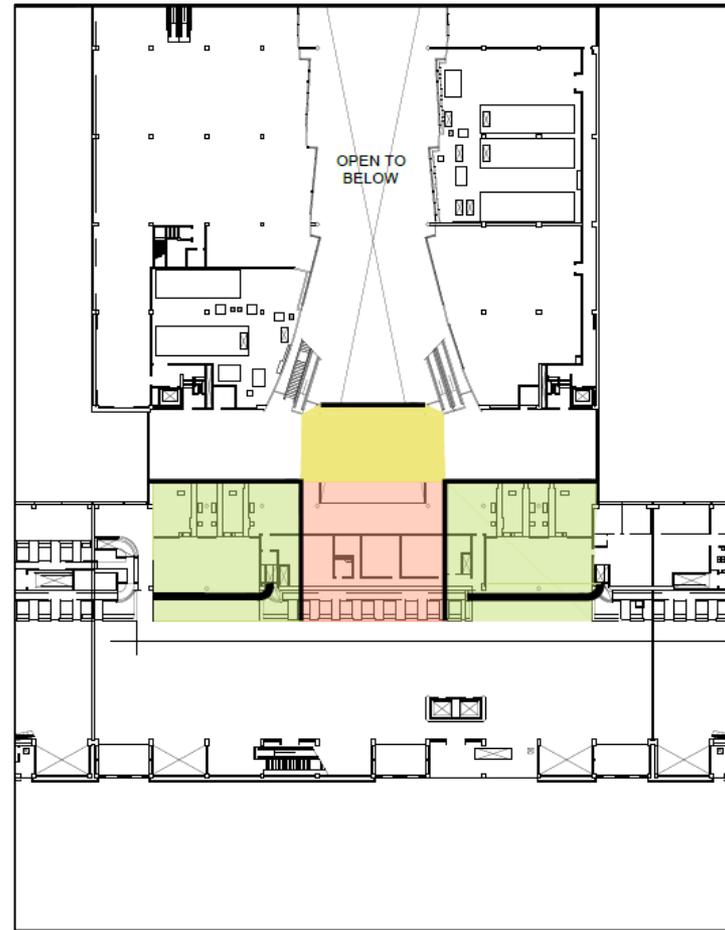


McNamara Terminal Checkpoint Optimization

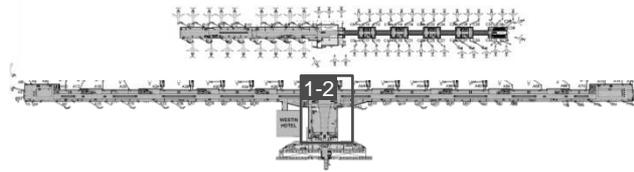
Option 1 - Expand Existing Checkpoint



Option 2 - Centralize Checkpoint

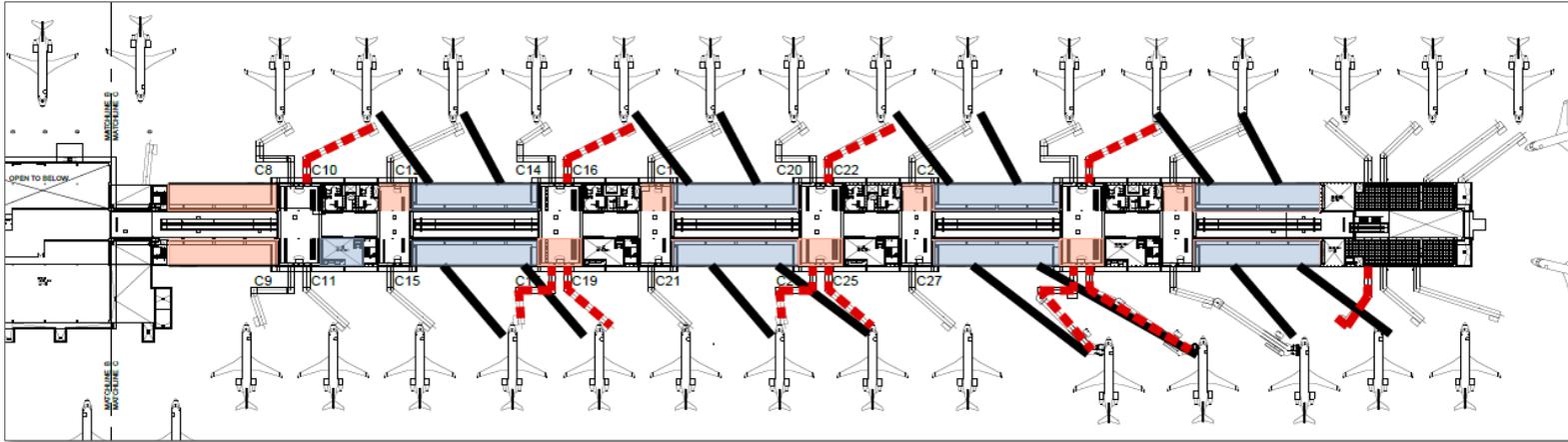


Key Map

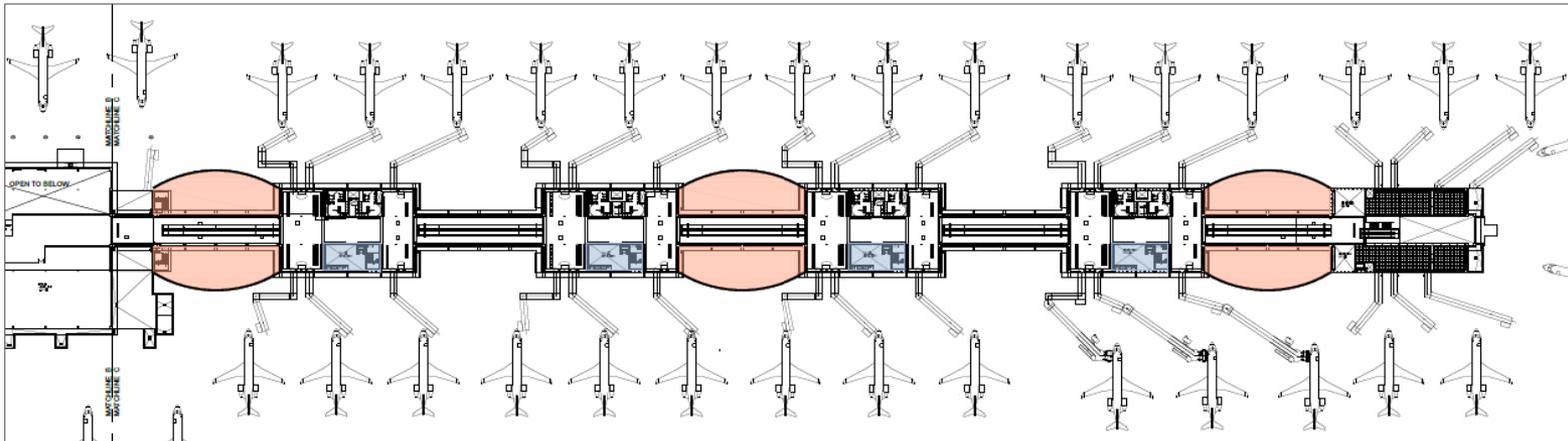


McNamara Terminal Concourse C Expansion

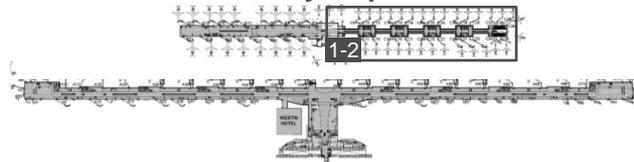
Option 1 - Fill-in and Expand Hold Rooms



Option 2 - Relocate Concession Space into New Nodes

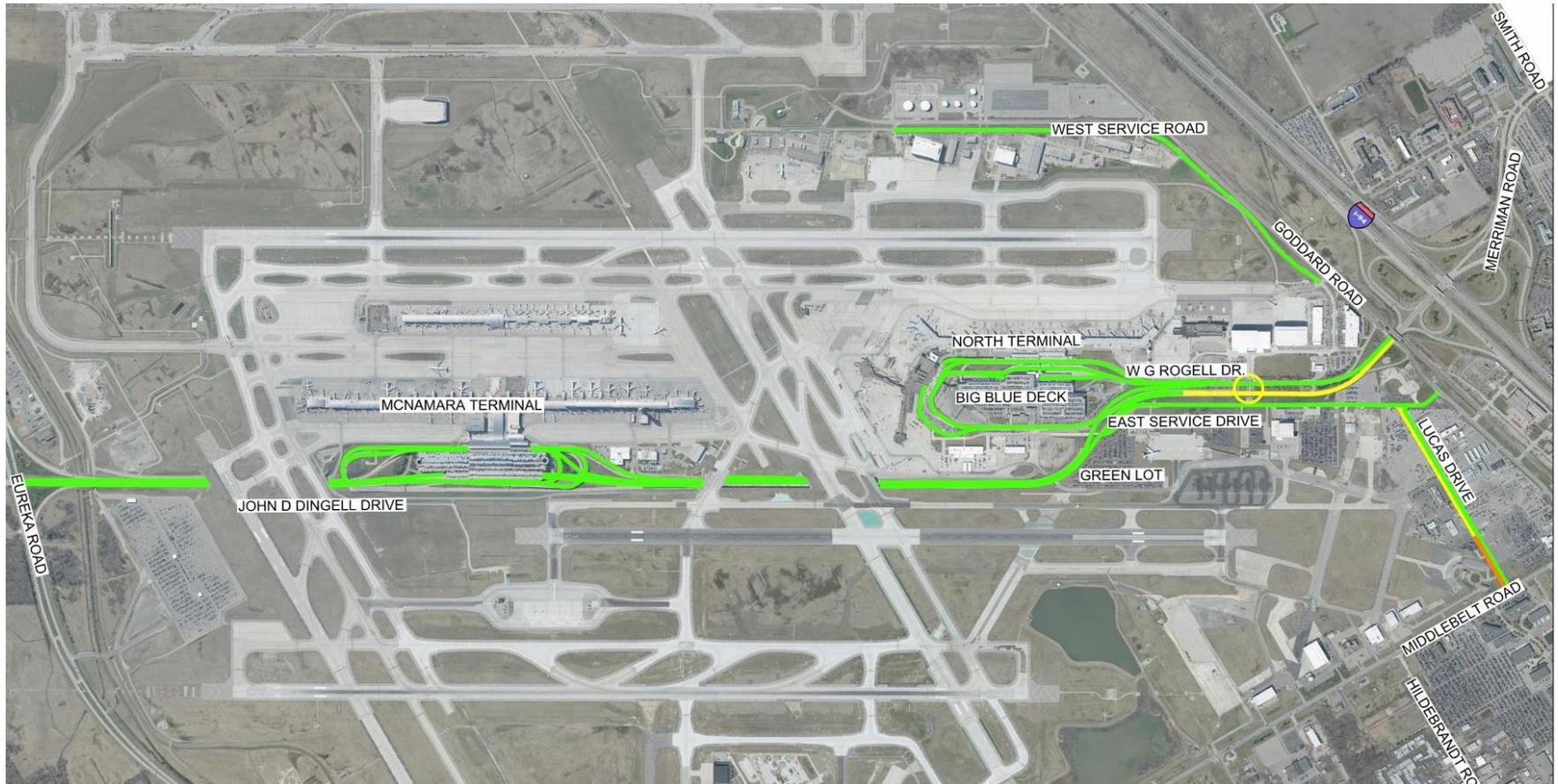


Key Map



*Technical Progress: Ground Transportation
& Parking*

Airport roadways are projected to operate within an acceptable level of service throughout the planning period



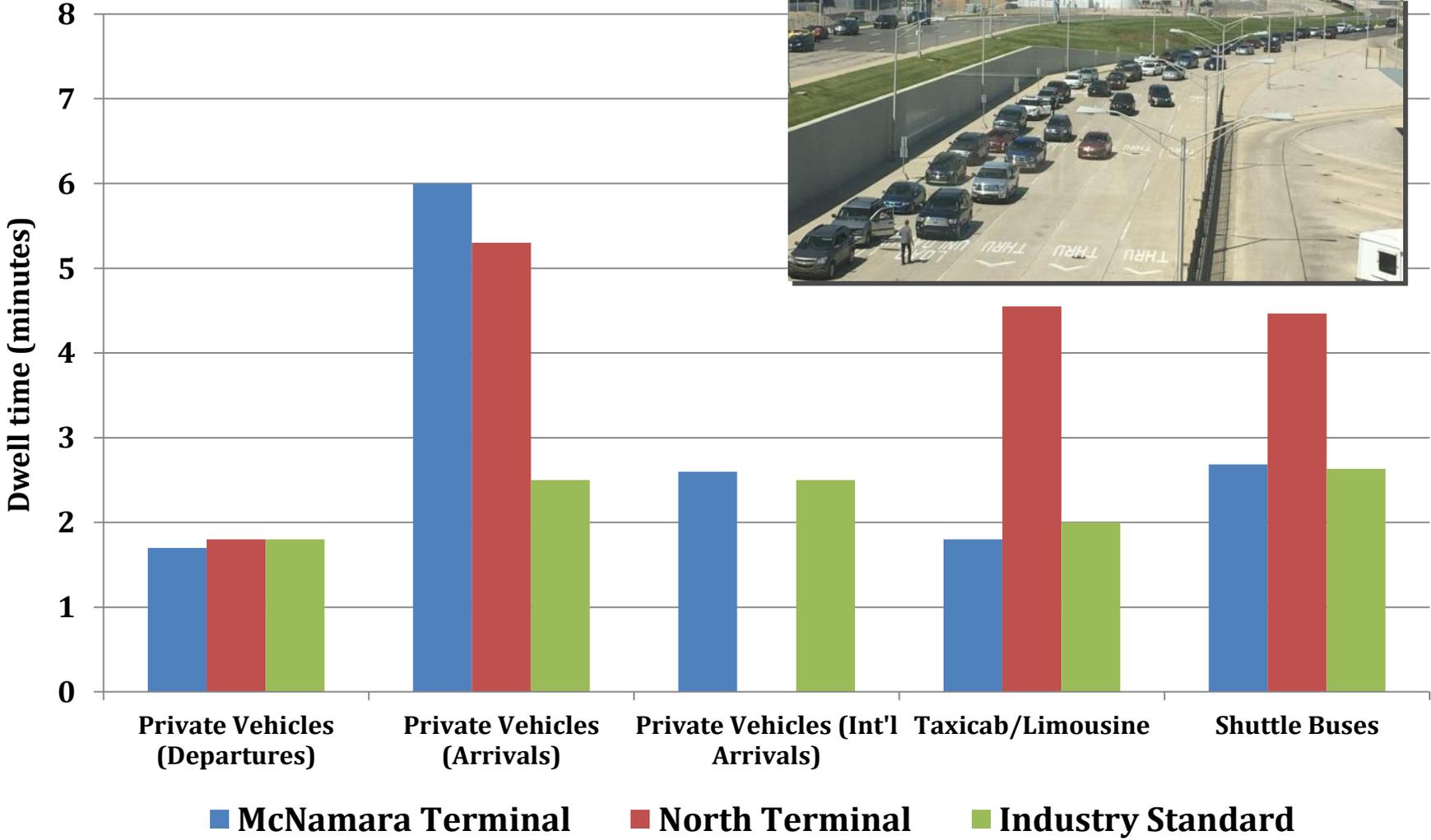
V/C = Volume to capacity ratio

LOS = Level of service

V/C Ratio	LOS	V/C Ratio	LOS
0 - 0.26	A	0.60 - 0.79	D
0.26 - 0.41	B	0.79 - 1.00	E
0.41 - 0.60	C	1.00 - 5.00	F

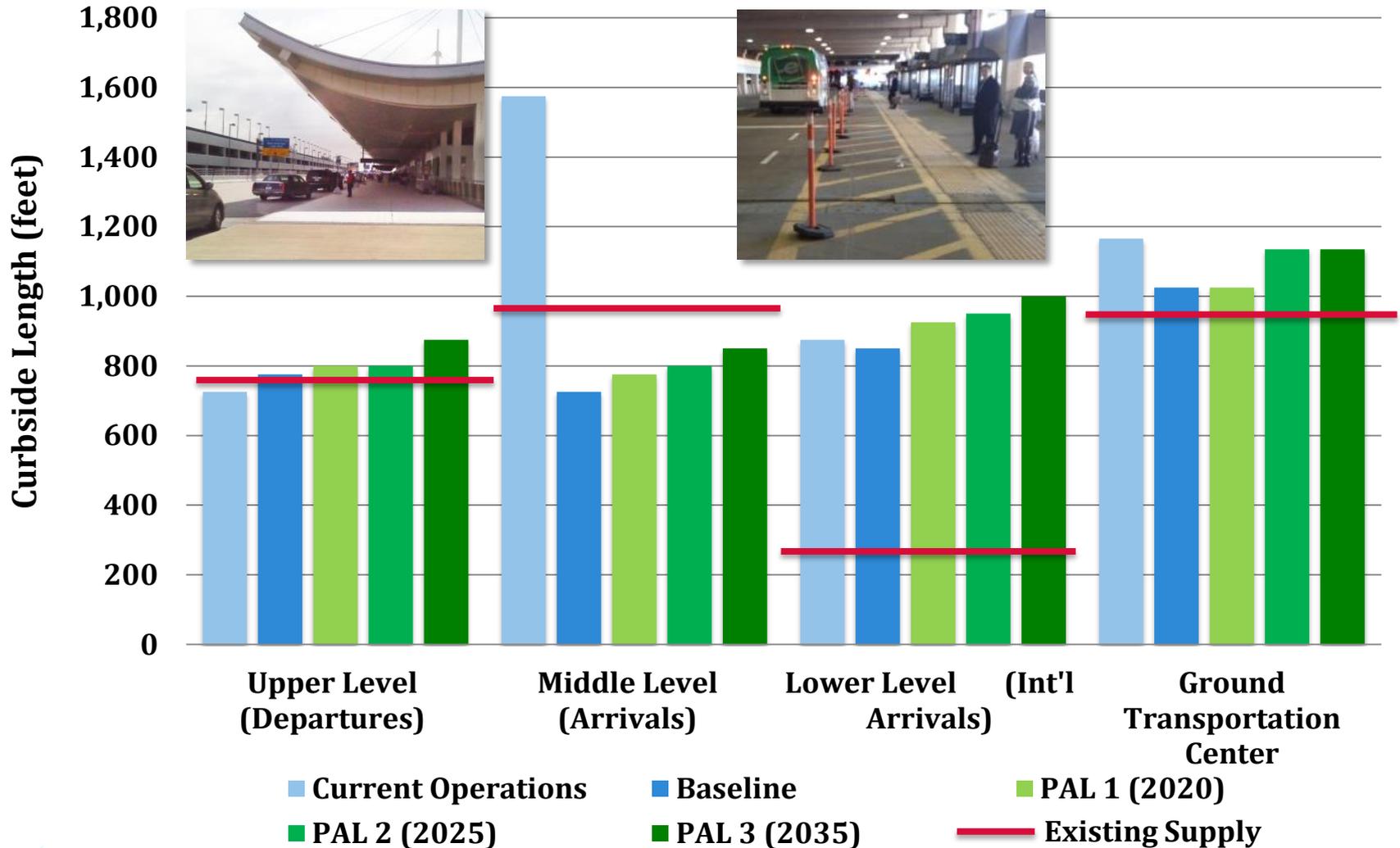
Vehicle Dwell Times

Dwell times and traffic volumes determine curbside demand; managing dwell times will reduce the required curbside lengths



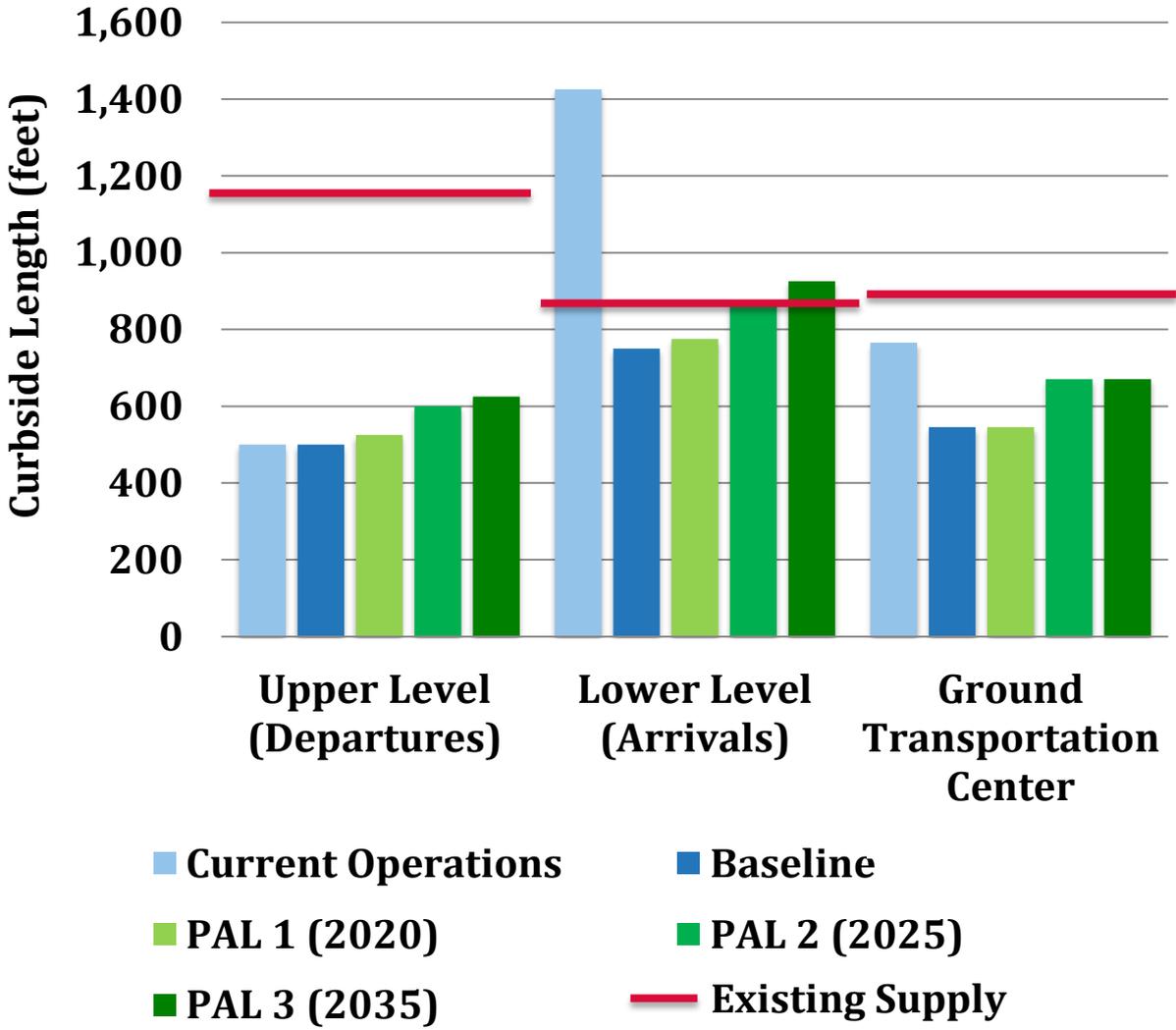
Curbside – McNamara Terminal

The international arrivals curb and ground transportation center (GTC) are projected to experience the most congestion



Curbside – North Terminal

The lower level arrivals curb will approach capacity near the end of the planning horizon



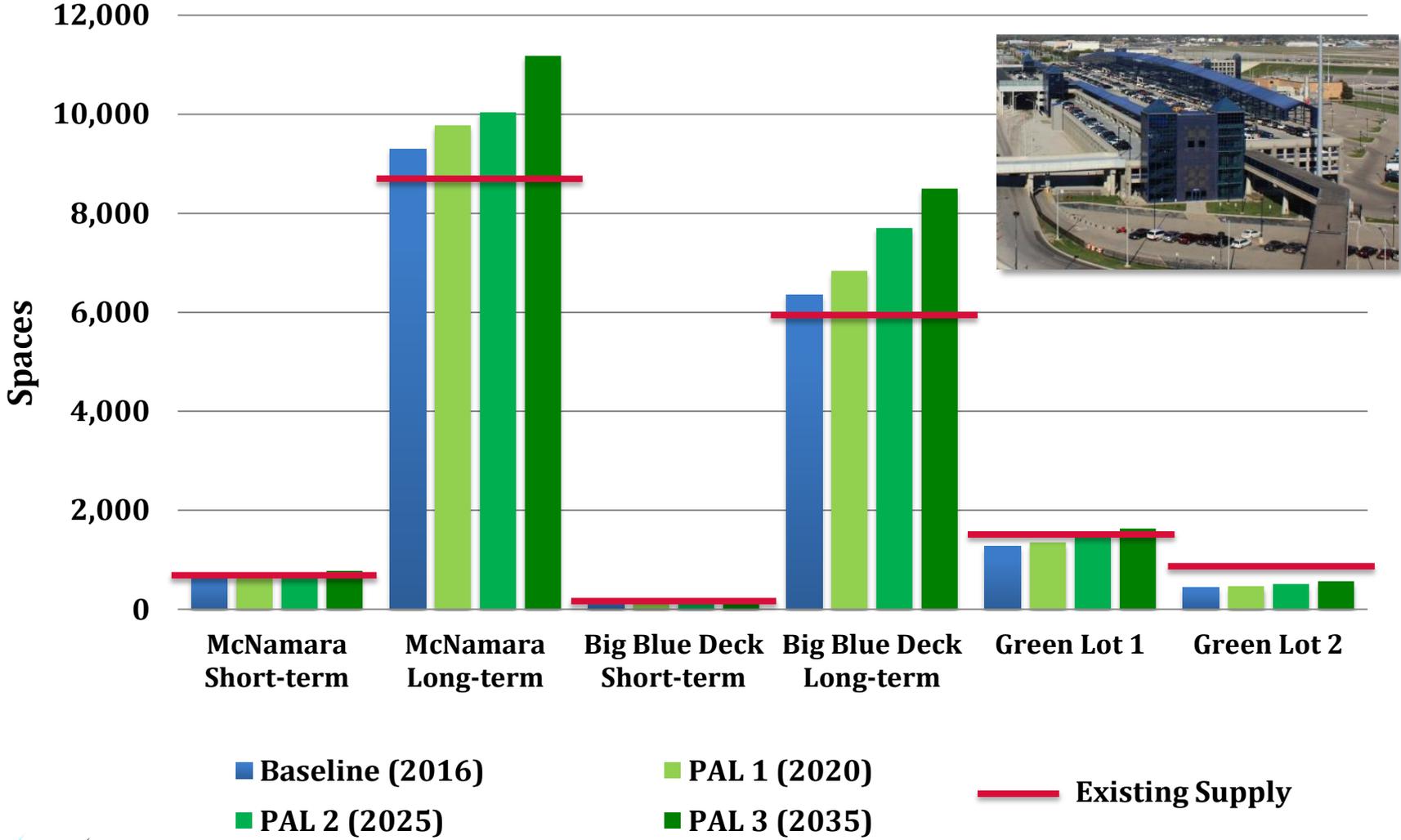
Potential Cell Phone Lots

Cell phone lots can shorten curbside dwell times and reduce curbside congestion

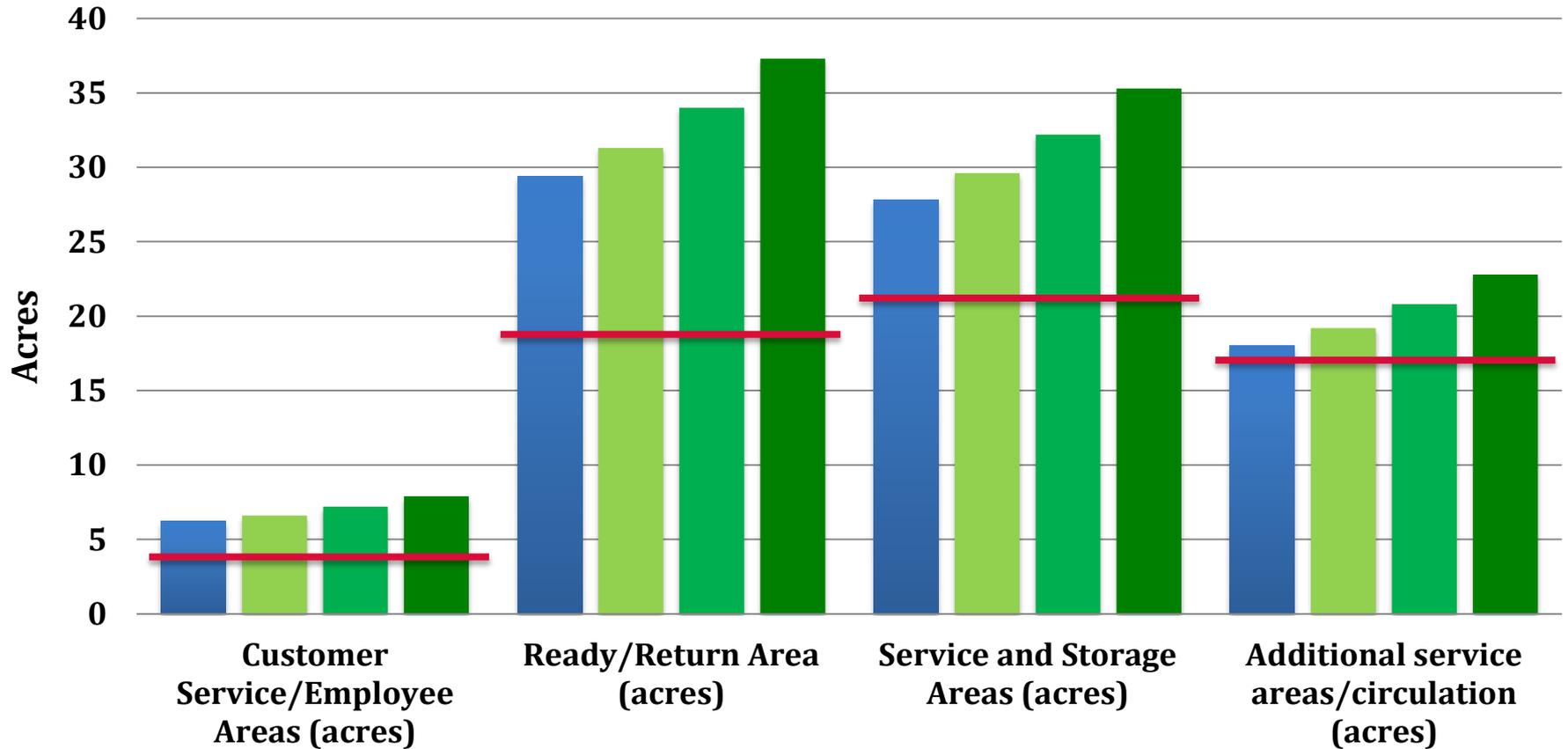


Automobile Parking

Parking requirements assume unconstrained demand within each lot; demand may be managed by rate changes to divert demand between facilities



Rental car lots are at capacity and utilize space for multiple purposes



■ Baseline

■ PAL 2 (2025)

■ PAL 1 (2020)

■ PAL 3 (2035)

— Existing Supply

Potential Consolidated Rental Car Facility Sites

Potential consolidated facility locations are being reviewed

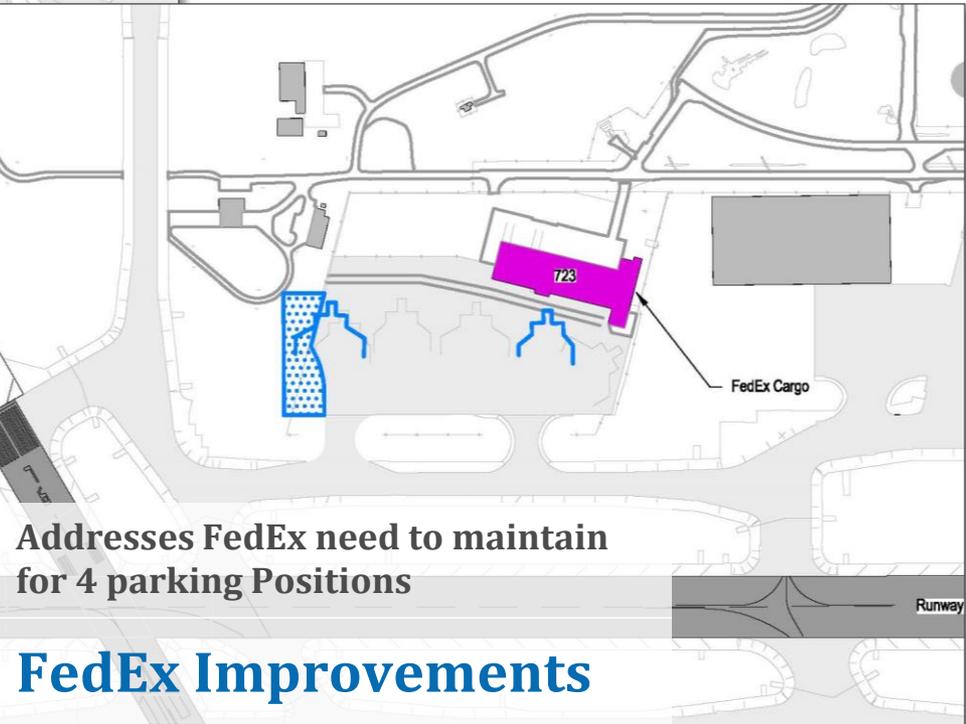
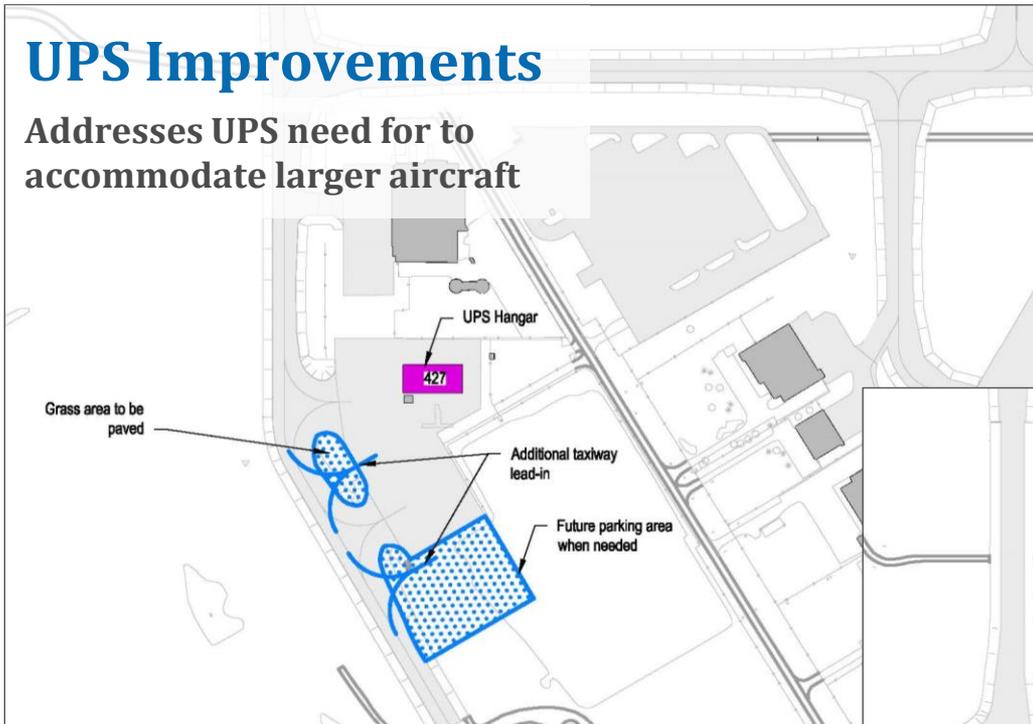


***Technical Progress: Cargo, GA,
& Support Facilities***

Apron Expansion and Operational Improvements

UPS Improvements

Addresses UPS need for to accommodate larger aircraft

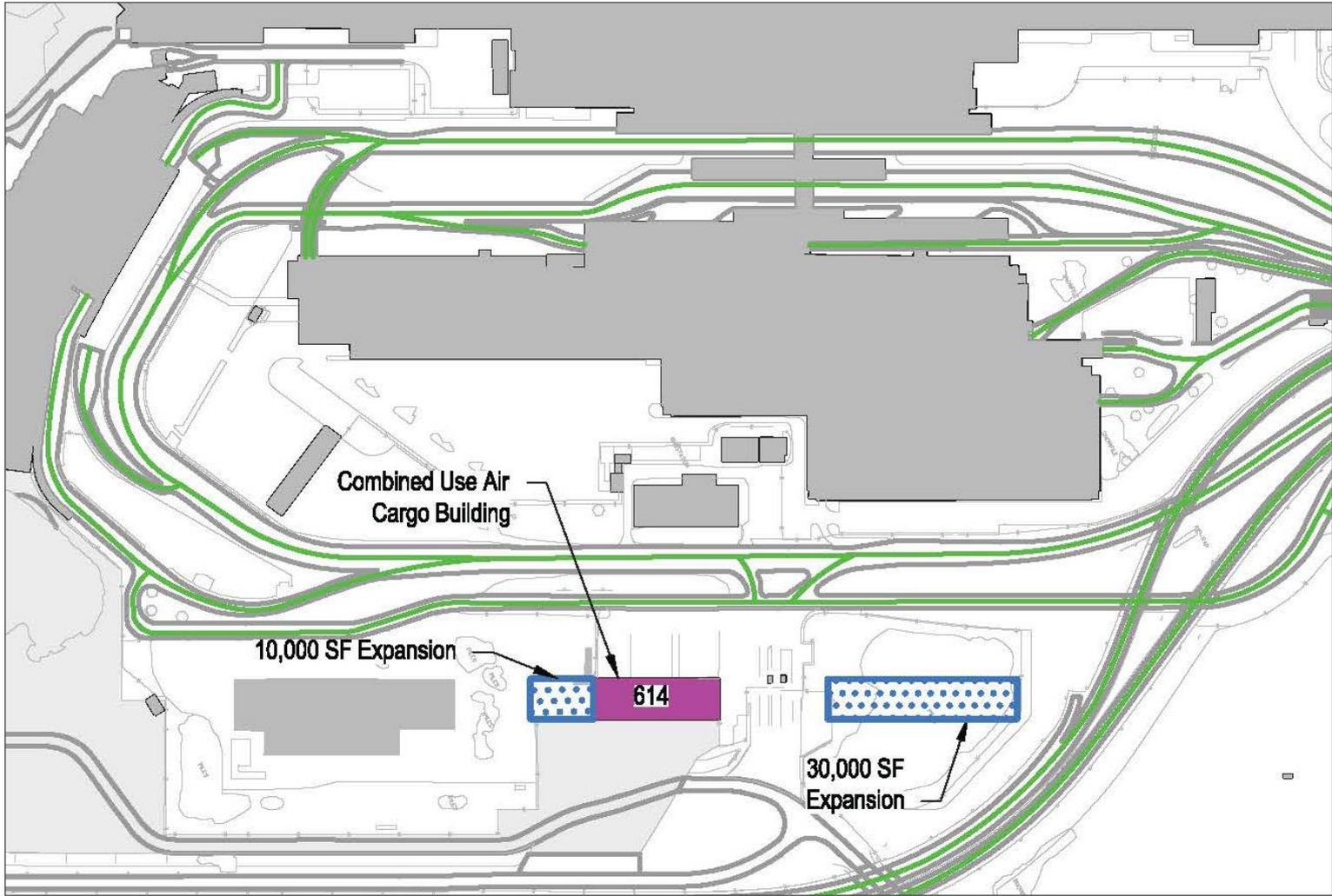


Addresses FedEx need to maintain for 4 parking Positions

FedEx Improvements

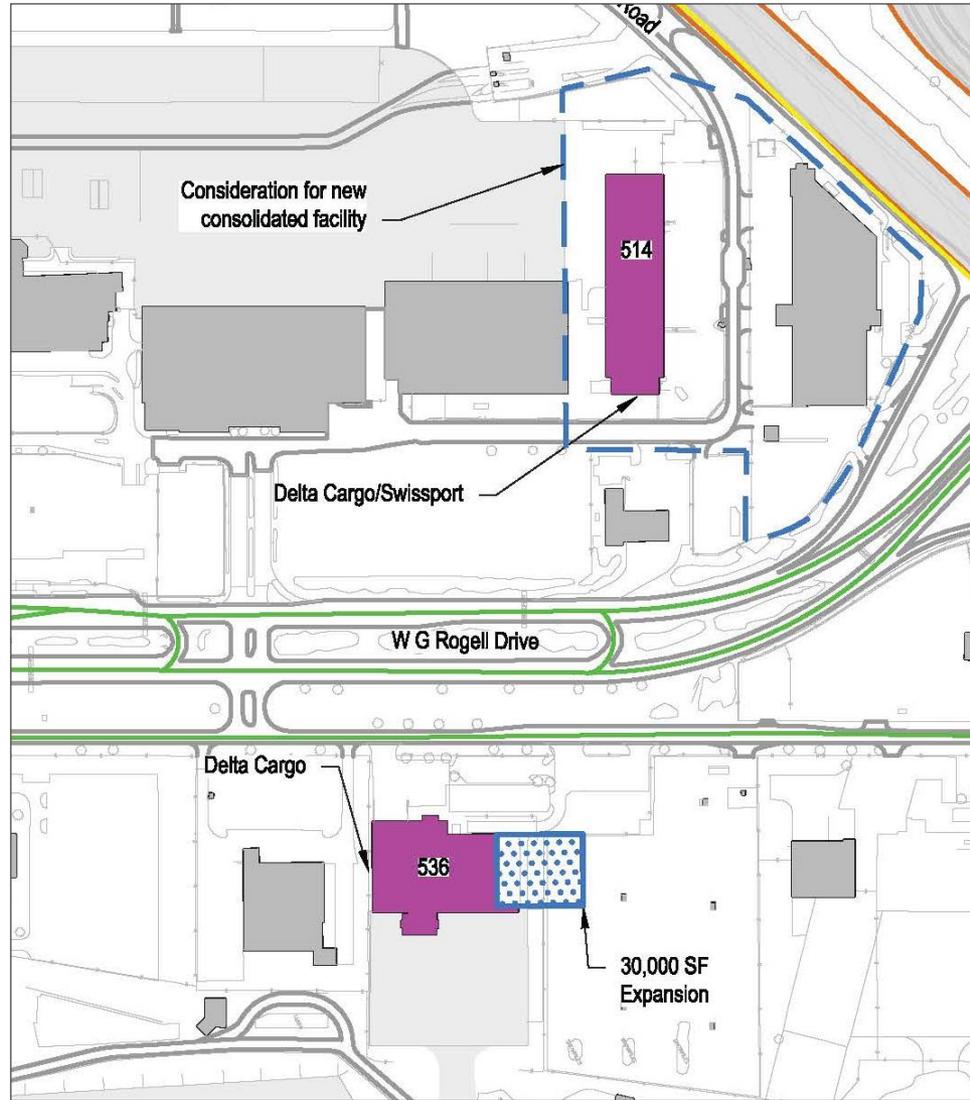
Consideration of Combined Use Facility

Long-term need for approximately 70,000 square feet of cargo warehouse space



Belly Cargo Expansion and Potential Redevelopment Area

Consideration may be given to a multi-tenant cargo facility



Next Steps

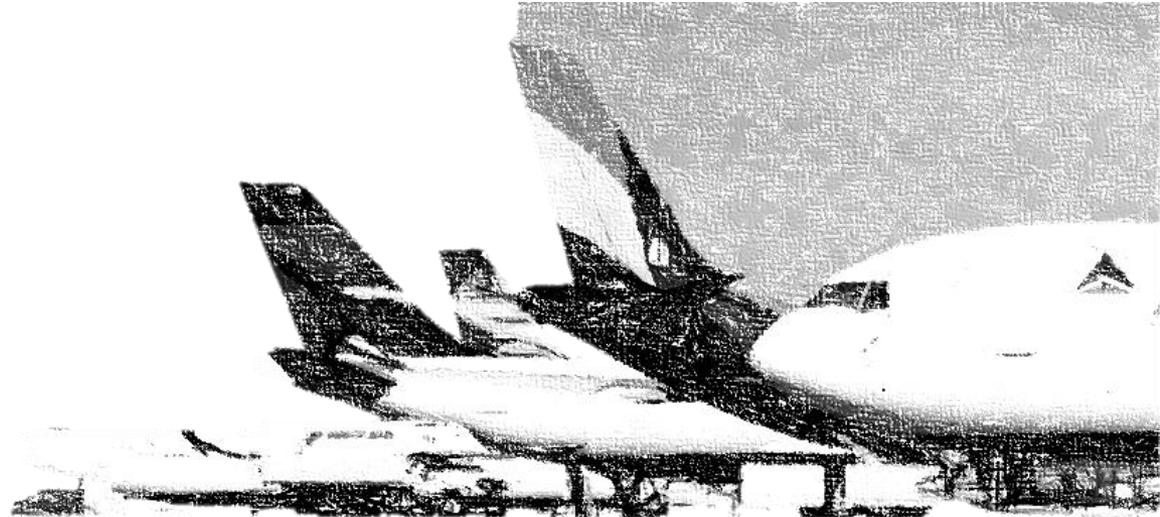
1. Finalize requirements

- Stakeholders, tenants, and communities ideas
- Additional suggestions to address technical problems

2. Assess alternatives

3. Financial capacity assessment

4. Draft Existing ALP for FAA review



www.detroitmetroairportmasterplan.org

Detroit Metropolitan Wayne County Airport Master Plan Update

Welcome

An airport Master Plan is a comprehensive study that identifies near-, medium-, and long-term plans for airport development. This Master Plan Update will provide the Wayne County Airport Authority and its stakeholders with a comprehensive, organized, and rational plan for developing airport facilities over the next 20-years. This Plan will allow the Authority to efficiently and effectively meet the demands for commercial passenger and air cargo service, as well as other aviation-related needs. Development of the Master Plan Update will include input from stakeholders who have an interest in the Airport's future, such as: Airport users, community groups, local businesses, government agencies, and the general public.





View the Schedule
View the Master Plan Update schedule, progress, and other facts

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Documentation
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News and Updates



Garage B Complete

We are happy to announce that Garage B is now complete. We are moving along through these...

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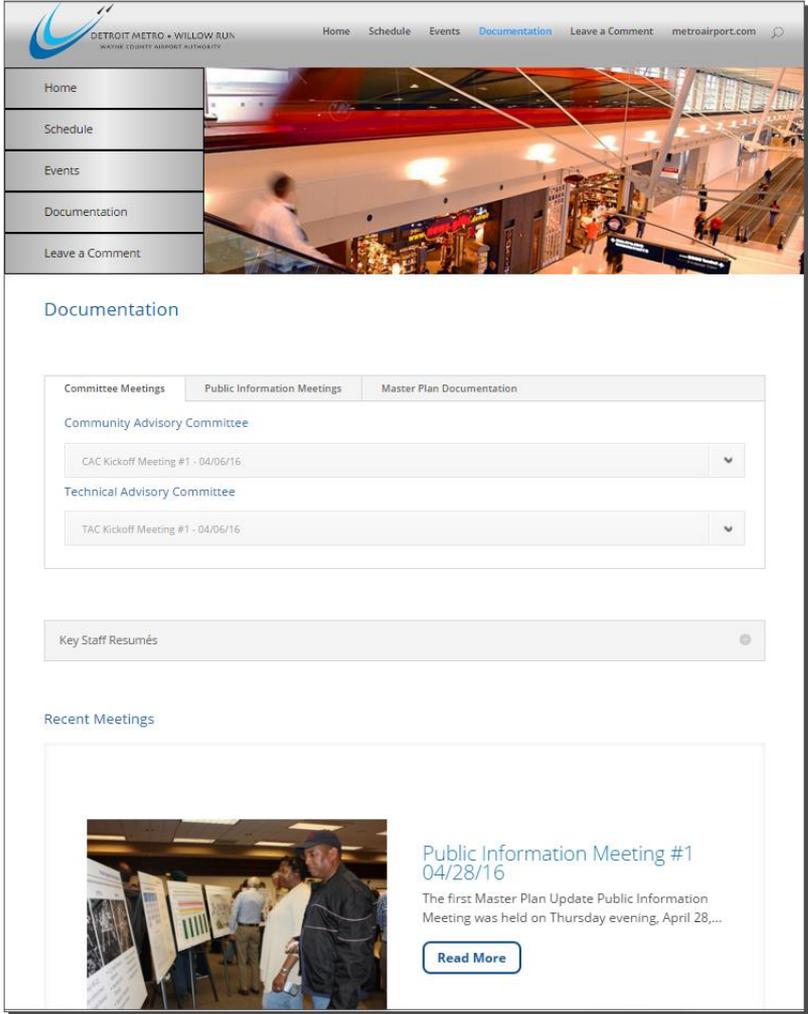
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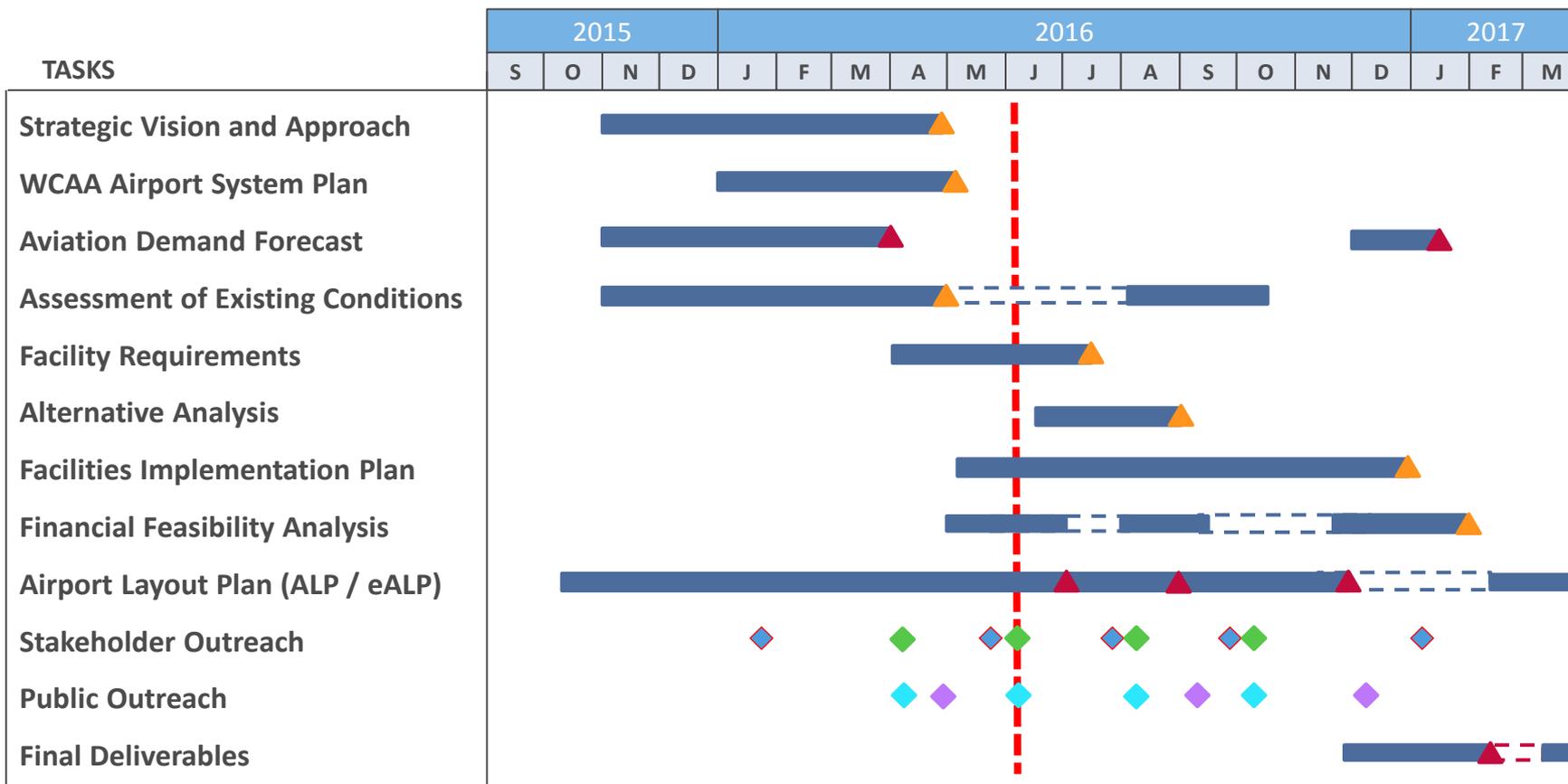
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The screenshot shows the website's navigation menu with options: Home, Schedule, Events, Documentation, Leave a Comment, and metroairport.com. The main content area features a large image of an airport terminal interior. Below this, there is a 'Documentation' section with tabs for 'Committee Meetings', 'Public Information Meetings', and 'Master Plan Documentation'. Under 'Committee Meetings', there are dropdown menus for 'Community Advisory Committee' (CAC Kickoff Meeting #1 - 04/06/16) and 'Technical Advisory Committee' (TAC Kickoff Meeting #1 - 04/06/16). There is also a 'Key Staff Resumés' section and a 'Recent Meetings' section featuring a 'Public Information Meeting #1 04/28/16' with a 'Read More' button.

DTW Master Plan Project Schedule



- ◆ Project Steering Committee (PSC) meeting
- ◆ Technical Advisory Committee (TAC) meeting
- ◆ Citizen Advisory Committee (CAC) meeting
- ◆ Public workshop
- ▲ Draft Technical Memorandum
- ▲ FAA review and approval

Note: Not all Scope of Work tasks are depicted; some tasks assumed to occur within the primary tasks shown above.

Committee Meetings and Topics for Discussion

Dates are tentative and subject to change

Target dates	Discussion topics
April 6 	Project kick off; Airport Master Plan introduction; project progress and initial findings
June 8 	Facilities needed to accommodate future demand; initial alternatives
August 3	Final alternatives
October 5	Recommended development plan and implementation strategies
September 8 December 8	Public meetings to present master plan findings

Questions and Closing Remarks

