

Master Plan Process

→ **A Master Plan identifies and explains the following:**

- Capital projects needed now and for the next 20 years
- Inter-relationship of proposed projects
- Long-term comprehensive perspective for decisions

1. INVENTORY (draft complete)

Documents existing Airport conditions, facilities, and context.

3. FACILITY REQUIREMENTS (underway)

Identifies needs for key facilities (runways, taxiways, hangars, etc.).

5. IMPLEMENTATION PLAN

Identifies phasing plan, required regulatory approvals, and capital funding sources.

2. FORECASTS (draft complete)

Predicts number of future passengers, aircraft types, takeoffs, landings, and based aircraft.

★ *FAA Approval Point*

4. ALTERNATIVES ANALYSIS

Develops concepts for meeting facility requirements and recommends preferred solutions.

6. AIRPORT LAYOUT PLAN UPDATE























Depicts recommended future projects.

★ *FAA Approval Point*

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Master Plan Schedule

Project Elements	2020												2021			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Inventory	Draft complete as of January 1, 2020															
Forecasts	Draft complete as of January 1, 2020															
FAA Forecast Review/Approval*																
Facility Requirements																
Alternatives Analysis																
Facilities Implementation Plan																
Airport Layout Plan Update																
Milestones																
FAA/BOA Coordination Meetings (up to 5)																
Tenant Advisory Group Meetings (up to 6)																
General Public Meetings (3)																
User Meetings (2)																
Final Master Plan Report																

* FAA review and approval schedule may vary depending upon FAA response time

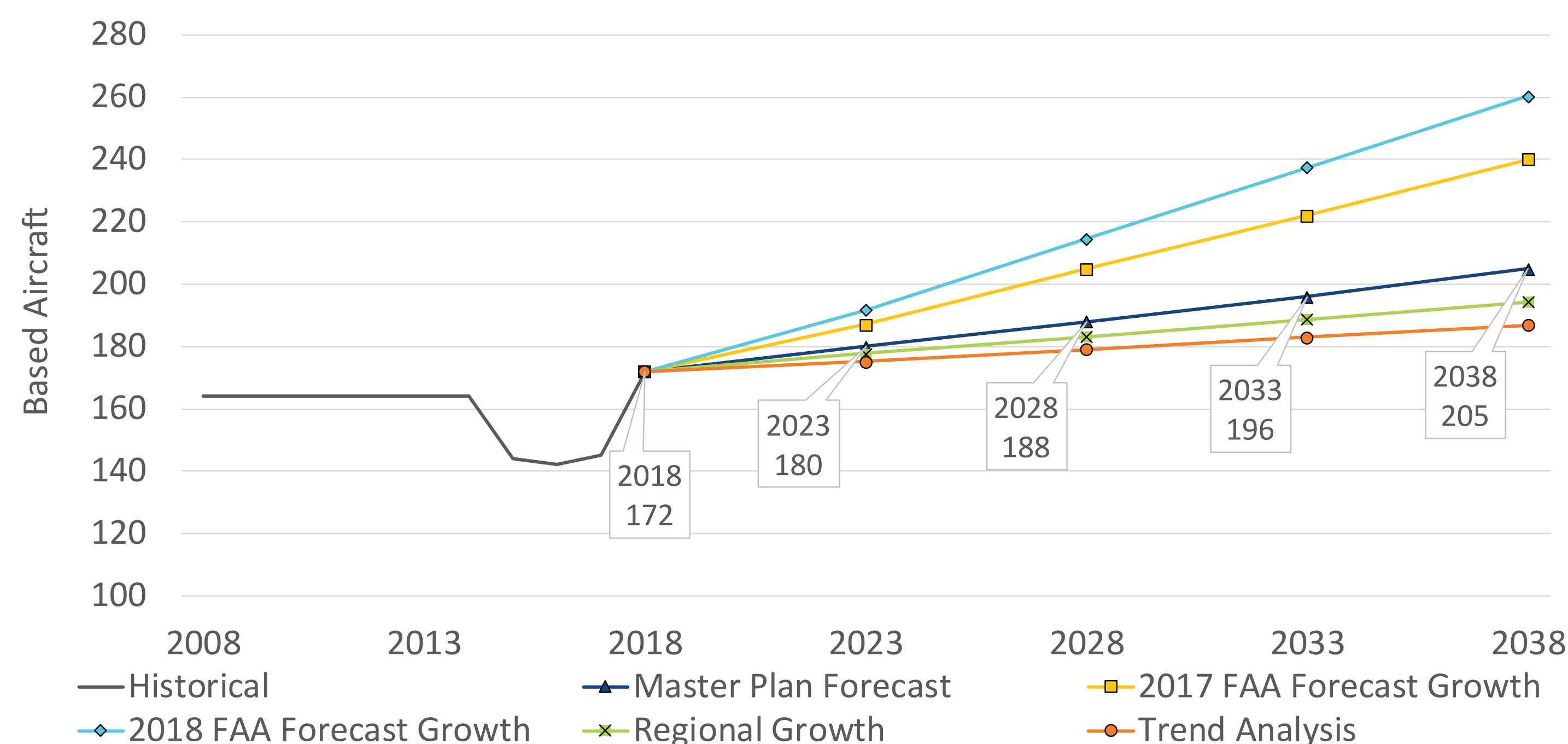


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Forecast

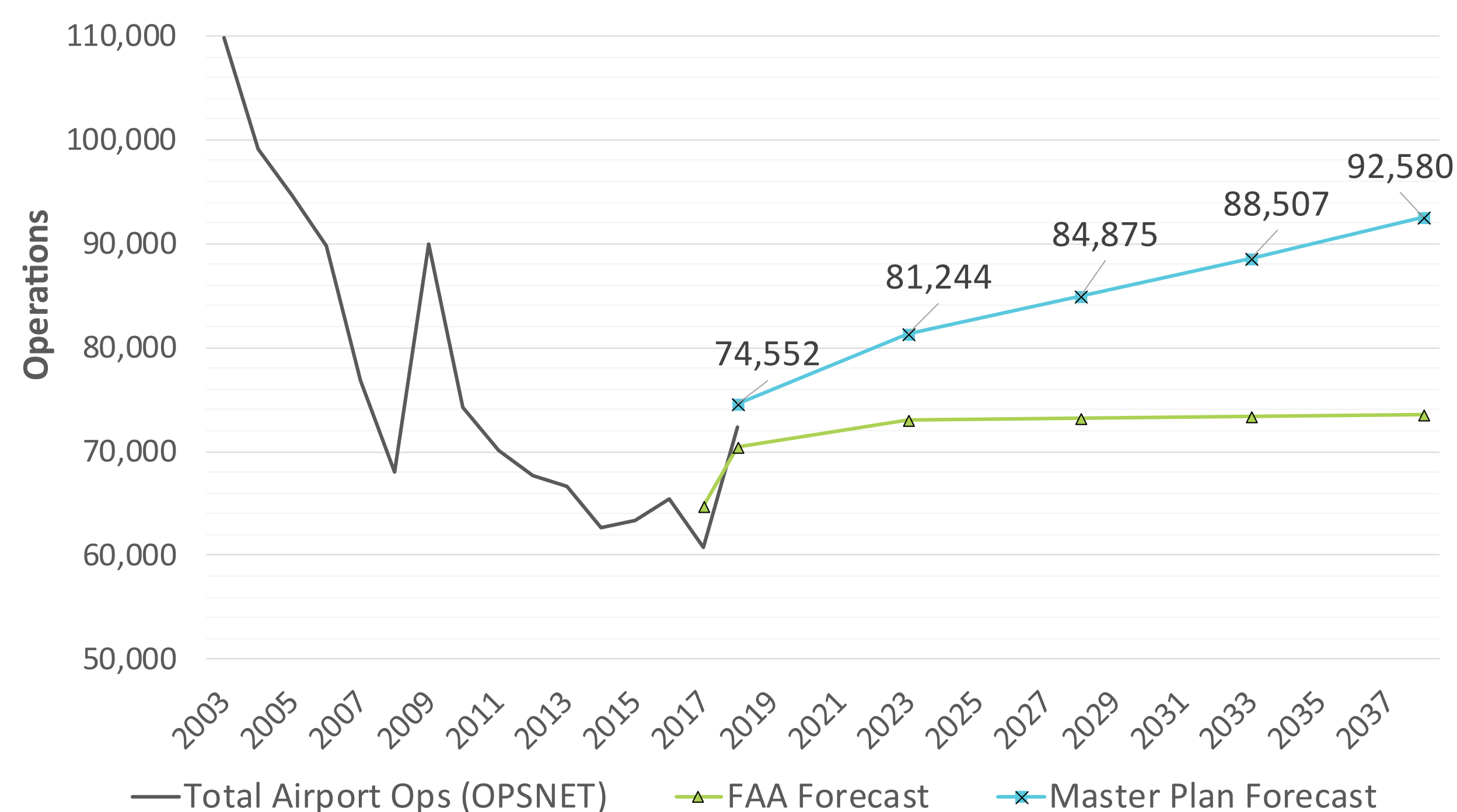
A master plan considers several different projections, then selects a preferred forecast

Based Aircraft: Preferred forecast projects a modest increase from 172 to 205



Operations: Preferred forecast projects 92,580 operations in 2038

Types of operations include corporate, military, and general aviation



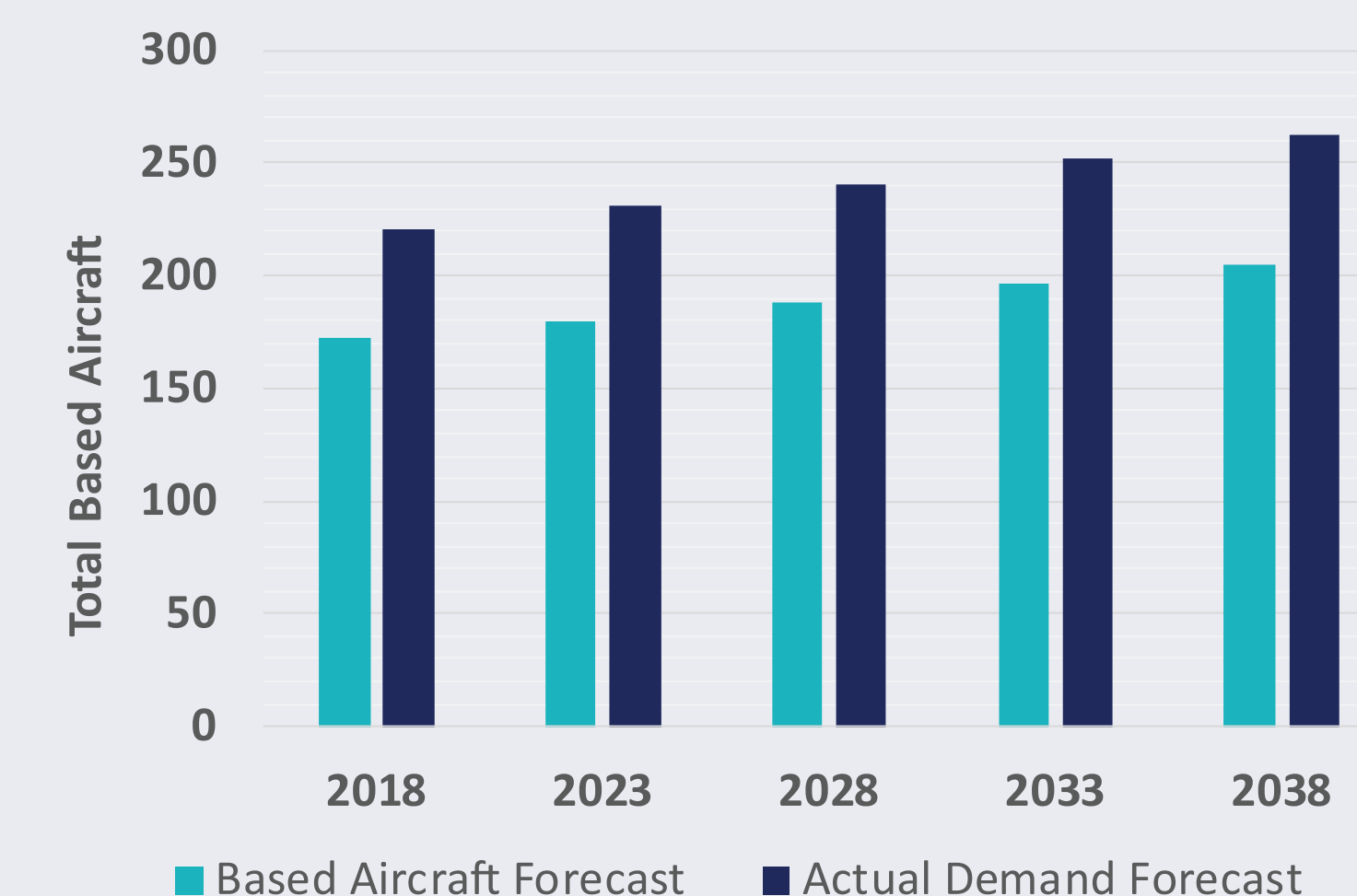
Hangar Demand

Based aircraft forecast does not account for all demand.

Current actual demand includes waitlist and aircraft based at Wittman for less than six months per year, which are excluded from the official forecast.

- **Current Based Aircraft:** 188
- **Current demand (2018):** 221
- **Long-term demand:** 263
- **Current hangar capacity:** approximately 190 aircraft

Actual demand will be used to determine facility requirements



Peak Hour Operations

Historical data was used to project the peak hour of operations during normal conditions (excluding AirVenture)

Approximately 20 percent of daily operations happen during the peak hour

Year	Peak Hour
2018	60
2023	72
2028	76
2033	80
2038	85

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Critical Aircraft

The design characteristics of the airfield (e.g. runway or taxiway length and width and safety areas) are based on the aircraft intended to use them: the “critical aircraft”

- The critical aircraft family must conduct at least 500 annual operations on the runway or facility where the standards apply
- A critical aircraft’s aircraft approach category (AAC), based on speed, and airplane design group (ADG), based on size, can be selected separately

Aircraft Approach Category (AAC)		Airplane Design Groups (ADG)		
AAC	Approach Speed	ADG	Tail Height	Wingspan
A	< 91 knots	I	< 20 feet	< 49 feet
B	≥ 91 knots, < 121 knots	II	20 – 29 feet	49 – 78 feet
C	≥ 121 knots, < 141 knots	III	30 – 44 feet	79 – 117 feet
D	≥ 141 knots, < 166 knots	IV	45 – 59 feet	118 – 170 feet
E	≥ 166 knots	V	60 – 65 feet	171 – 213 feet
		VI	66 – 79 feet	214 – 261 feet

Different runways have unique critical aircraft

Runway 18/36 and 09/27 Critical Aircraft

Aircraft Approach Category (AAC)



Challenger 300



Challenger 600



Learjet 45

C

This family of aircraft with C-III characteristics was chosen as the critical aircraft because they are the most demanding frequent users

Aircraft Design Group (ADG)



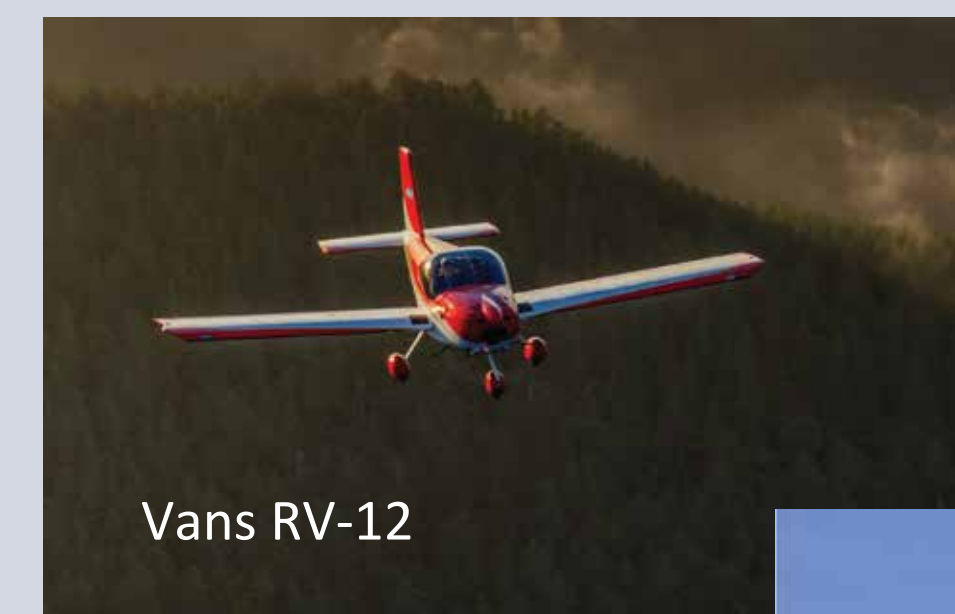
BT-67 / DC-3



B17 “Aluminum Overcast”

III

Runway 13/31 and 05/23 Critical Aircraft



Vans RV-12



Piper Cherokee



Cessna 172

A/B-I (small)



Maule M-7



Beech G36



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Runway Classification



FAA Airport Improvement Program (AIP) Handbook classifies runways that are eligible for federal funding

- **Primary Runway:** Single or main runway at an airport that is consistent with FAA design and engineering standards (18/36)
- **Crosswind Runway:** Justified when the wind coverage on the primary runway is less than 95% (09/27)
- **Secondary Runway:** Justified when the primary runway is operating at 60% or more of Annual Service Volume or when FAA determines it is necessary for the operation of an airfield (09/27)
- **Additional Runway:** Does not meet requirements to be designated a crosswind runway or secondary runway



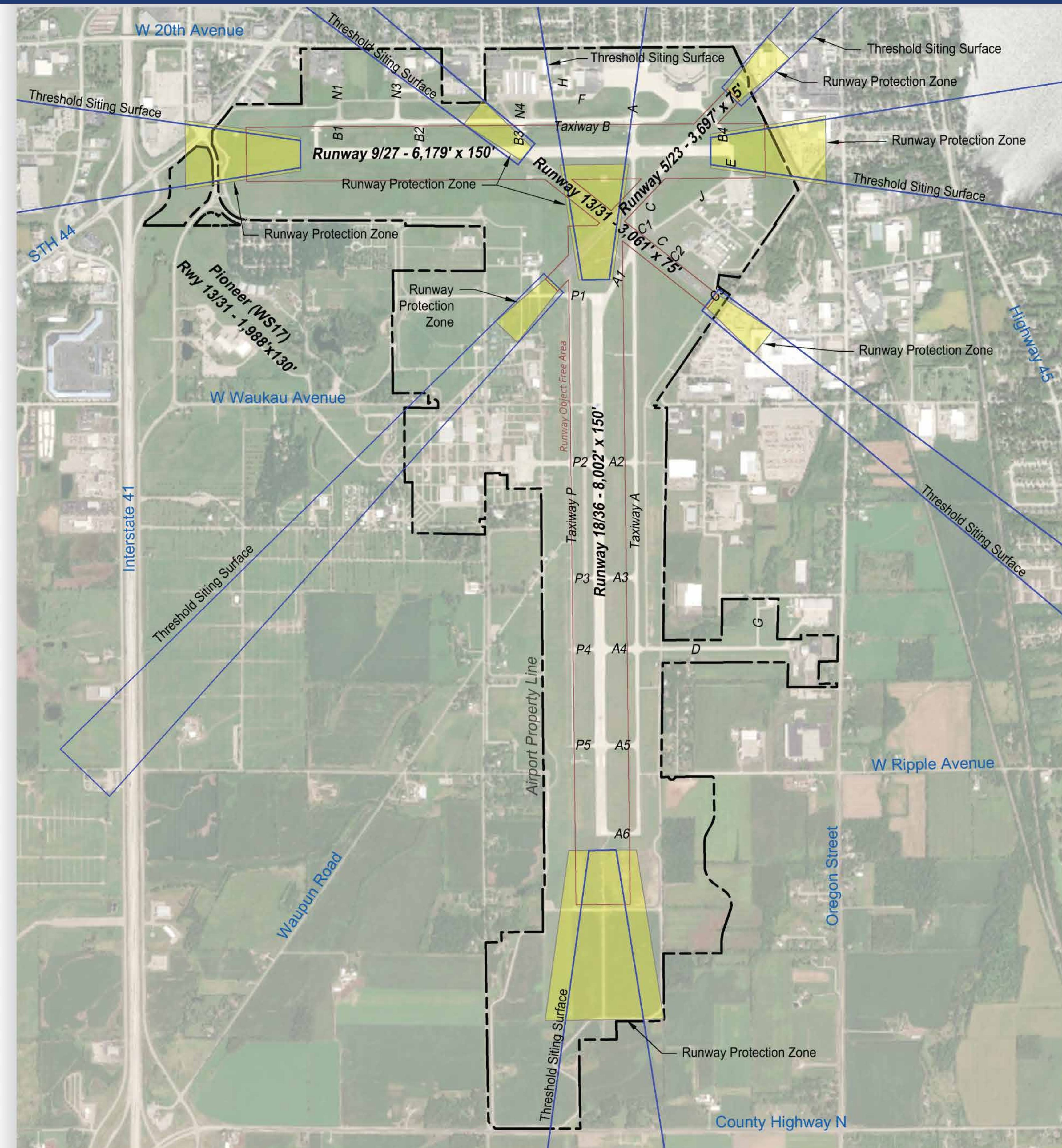
FAA policy only allows for federal funding for a single runway unless crosswind or secondary runways are justified

Additional runways are not eligible for federal funding

Classification for Runways 05/23 and 13/31 is still being considered

Survey Responses:

- "Continued availability of cross runways"
- "We'd like to see the cross runways available more on crosswind days, and we don't want to see those runways close"
- "More use of cross runways, have to request"



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Taxiway Geometry

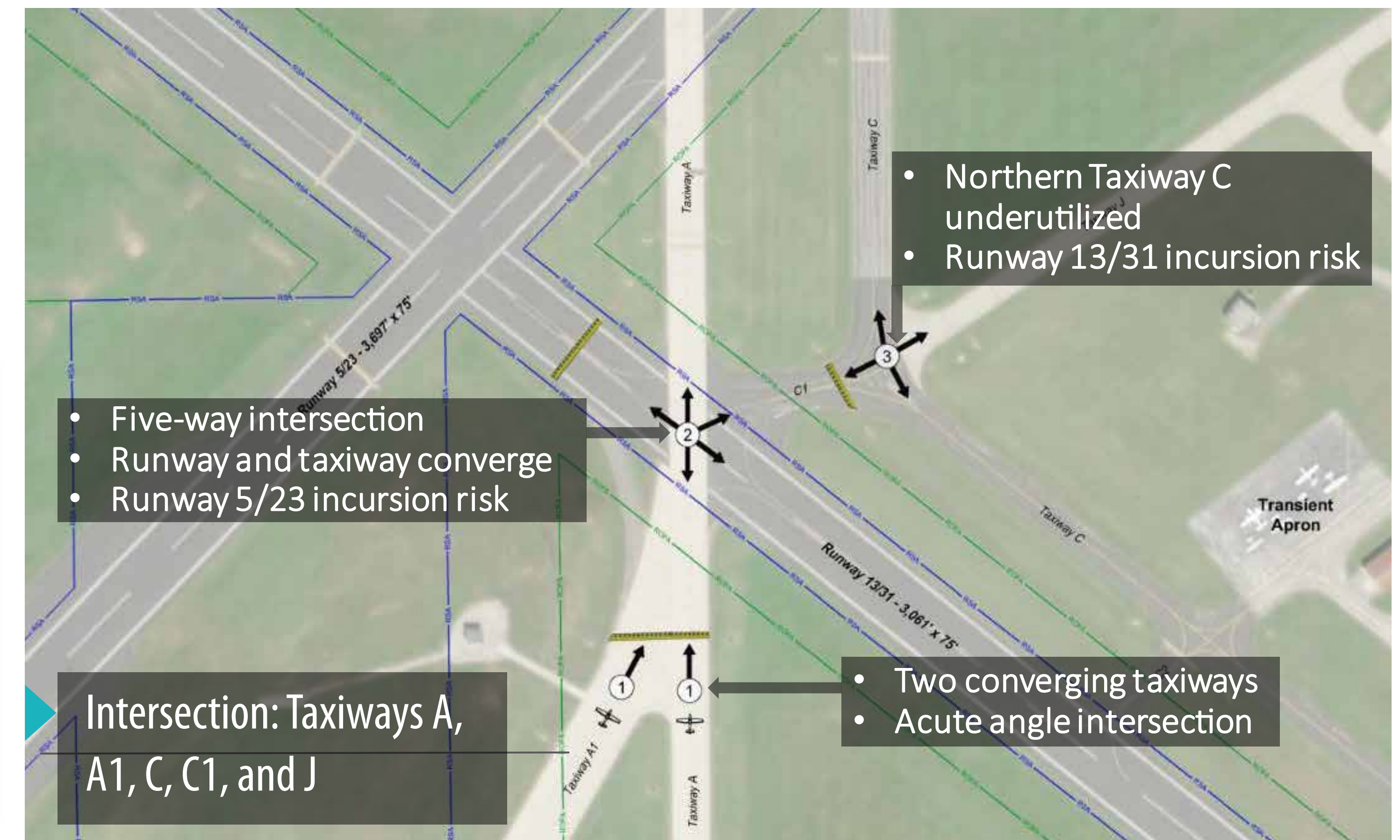
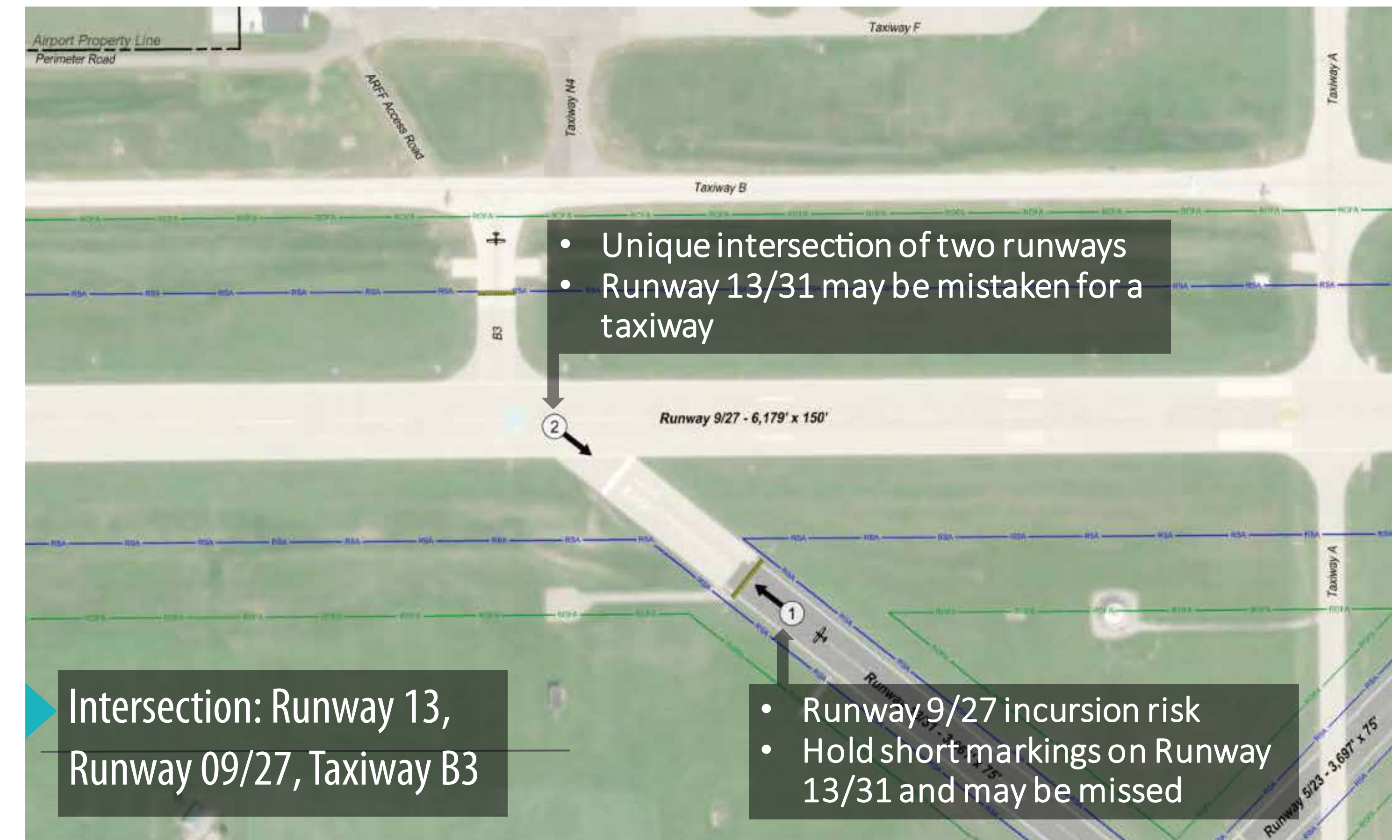


Taxiways and taxilanes provide access to runways and connect the airfield to airport facilities like aprons and hangar areas

- Taxiway geometry should meet certain standards in order to provide optimal visibility and situational awareness for pilots, as well as good airfield circulation
- Multiple taxiway intersections at Wittman are complex or potentially confusing, which may contribute to runway incursions
- ATC helps with confusing geometry but issues may arise during ATC off-hours

Survey Responses:

"I currently do not have concerns as ATC is always diligent on this issue."
"The intersection of 5/23, 13/31, and A taxi is not well marked and confusing to non-local pilots"
"Out of the identified 'Hot Spots', the area adjacent to taxiway A is the most problematic... however, we are used to navigating it and the tower does a good job of managing it"



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Landside Development

Survey Responses:

- "More GA hangars to bring more business"
- "Need more hangars"
- "The airport needs more rental hangars"
- "Newer nicer single t-hangars"

Landside planning is focused on these three areas



North Hangar Area

- Some hangars are in poor condition and will need to be replaced
- Existing access to the airfield should be maintained
- There is room for growth in open land areas

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East Hangar Area

The east hangar area was divided into three areas with different needs

✈️ Realignment

This area will likely be reconfigured when facilities are at the end of their useful life to use space more efficiently and align with the rest of the east hangar area

- Poor pavement conditions throughout the area
- Large open areas without clear markings
- Multiple building orientations and taxiway angles
- Many vehicle access points and roads

✈️ Established

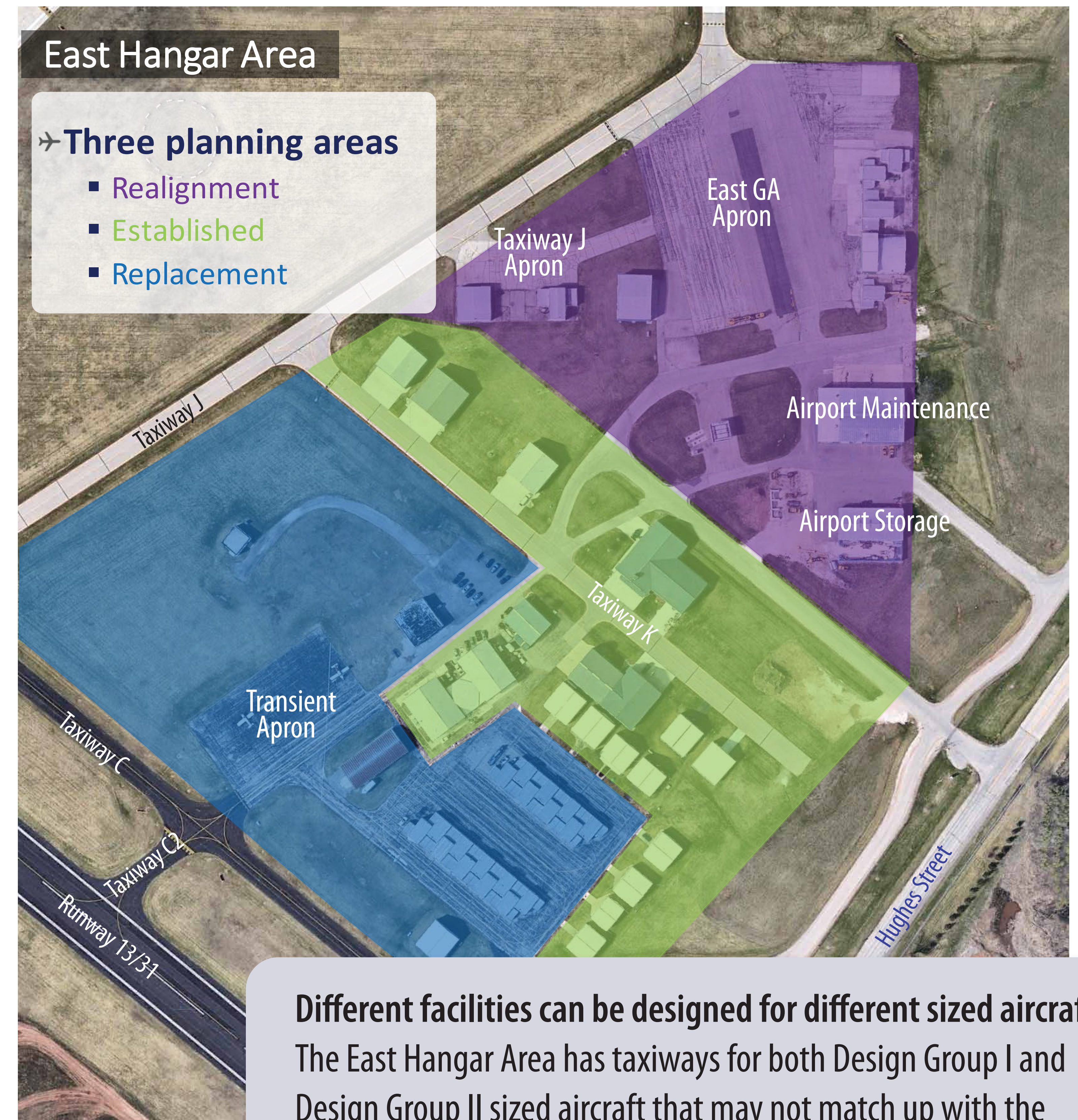
Few changes will be explored for this area

- Established area with newer facilities and consistent layout
- Parallel or perpendicular taxiways and buildings contribute to an efficient layout
- Future buildings will generally attempt to align with this area

✈️ Replacement

Facilities in this area are in poor condition and need to be replaced

- Many buildings, aprons, and taxilanes are in poor condition
- Port-a-ports will be removed and future uses will be identified for this space
- Taxiways and layout could be improved to provide greater separation



Different facilities can be designed for different sized aircraft. The East Hangar Area has taxiways for both Design Group I and Design Group II sized aircraft that may not match up with the actual use in these areas. All taxiways in the East Hangar area will be evaluated for adequate standards and size.

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AirVenture Planning

Aircraft Parking

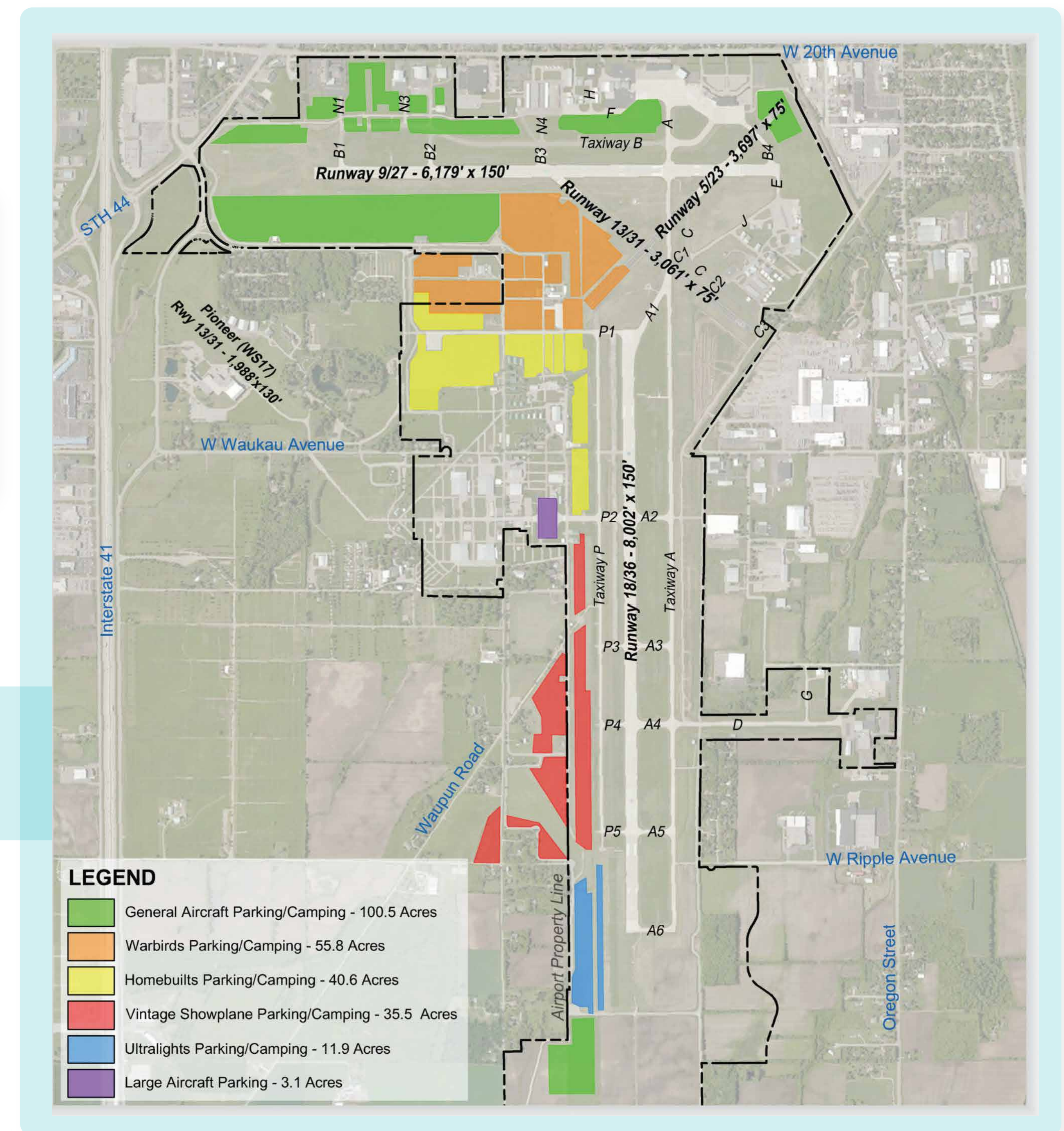
- For AirVenture 2019, 2,758 aircraft camped at Wittman
- Increased public apron space would improve AirVenture parking
- Aircraft park on Runway 5 and 31 ends
- A total of about 15.3 acres of paved parking is available in various areas
- Most aircraft park on grass--more grass parking needed to accommodate EAA's "no aircraft turned away" policy

AirVenture 2017-2019 Average Operations

- *Total AirVenture Operations: 17,873*
- *Average Daily AirVenture Operations: 1,625*

Circulation

- Taxiway A is the only access to the north side of the airfield, aircraft must hold short of 09/27
- Diagonal runways are often used to taxi to and from parking areas



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Terminal Area Development



New General Aviation Terminal

- New building will provide space for general aviation passengers, Basler Flight Service, airport administration, rental car operation, and meeting rooms available to the general public
- The project will include paving for a new parking lot and improved access road from 20th Avenue
- Construction will begin May 2020 with completion expected in June 2021 using a combination and state and local funds

Future Redevelopment Area

- Existing terminal building will be demolished following GA terminal construction
- Approximately 7.5 acres of prime airport real estate will be available for redevelopment
- The master plan will consider several redevelopment options, including hangar, business, educational, and civic uses

Survey Responses:

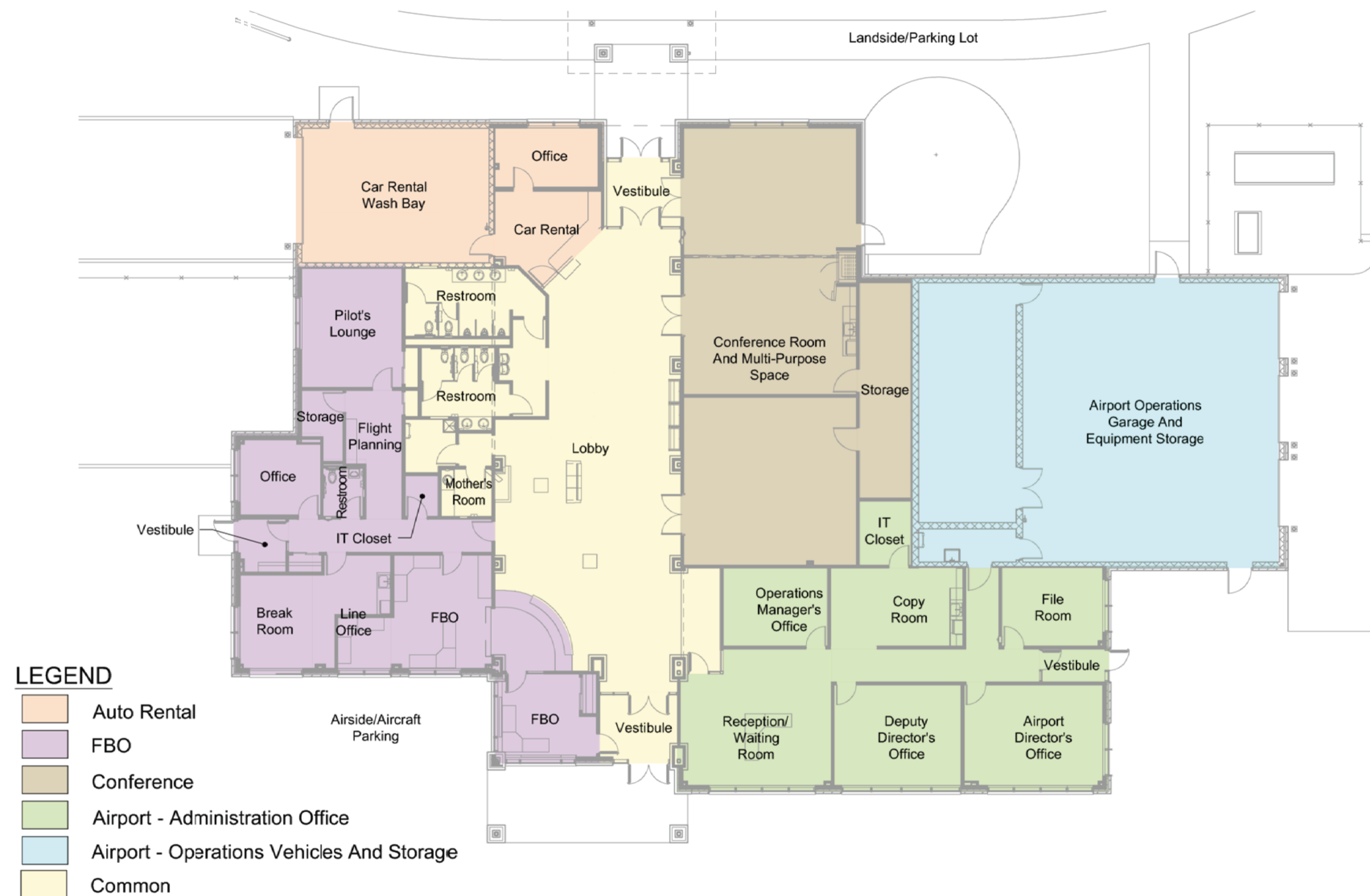
Would like to see “A healthy general aviation terminal with access to the EAA museum and facilities... It would draw more transient traffic and bring more people to our airport, community, and local businesses.”

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Terminal Interior



Interior Facing North



Interior Facing South

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