



DETROIT METRO ▪ WILLOW RUN  
WAYNE COUNTY AIRPORT AUTHORITY



# Community Advisory Committee

Detroit Metropolitan Airport Master Plan Update

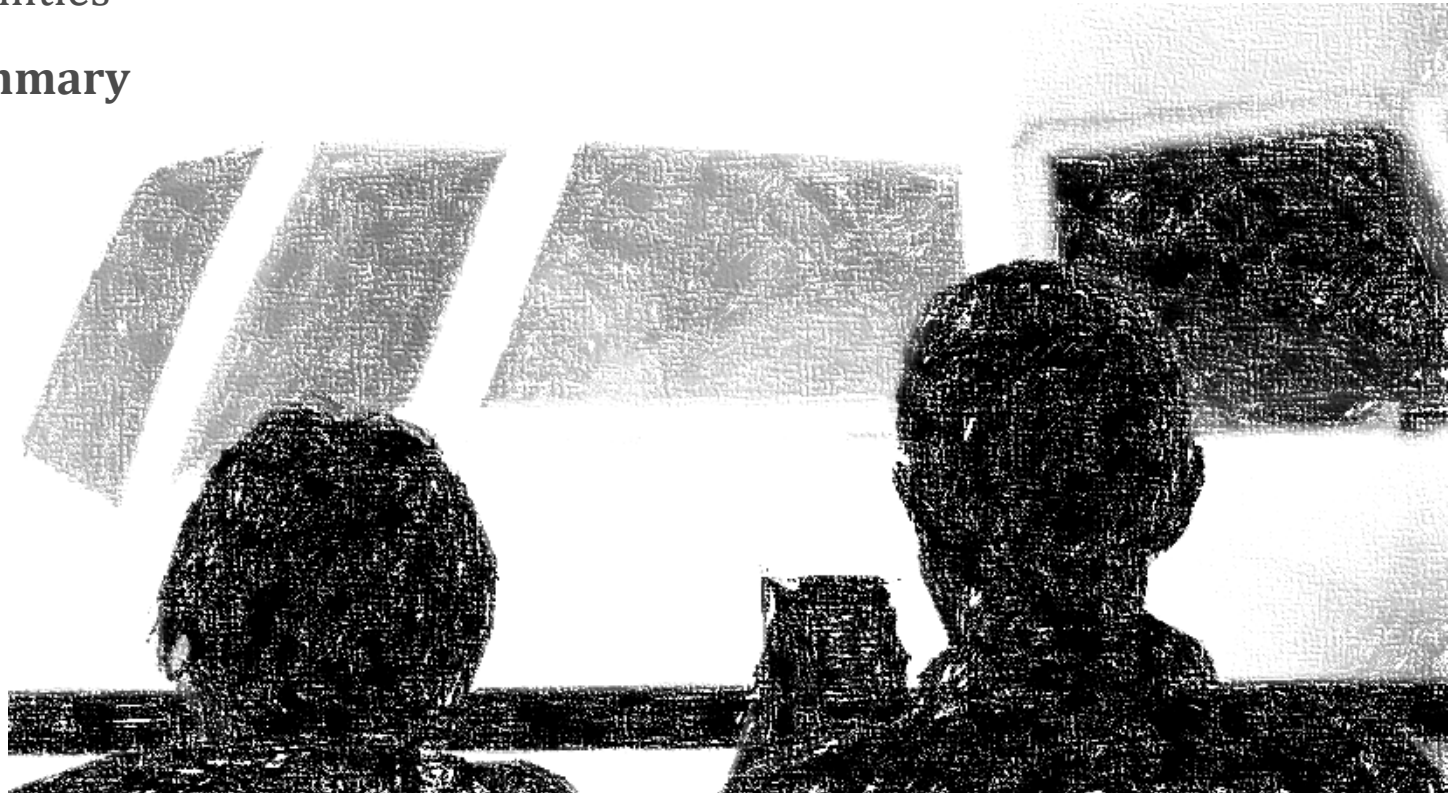
Meeting #3: Development Alternatives

August 25, 2016

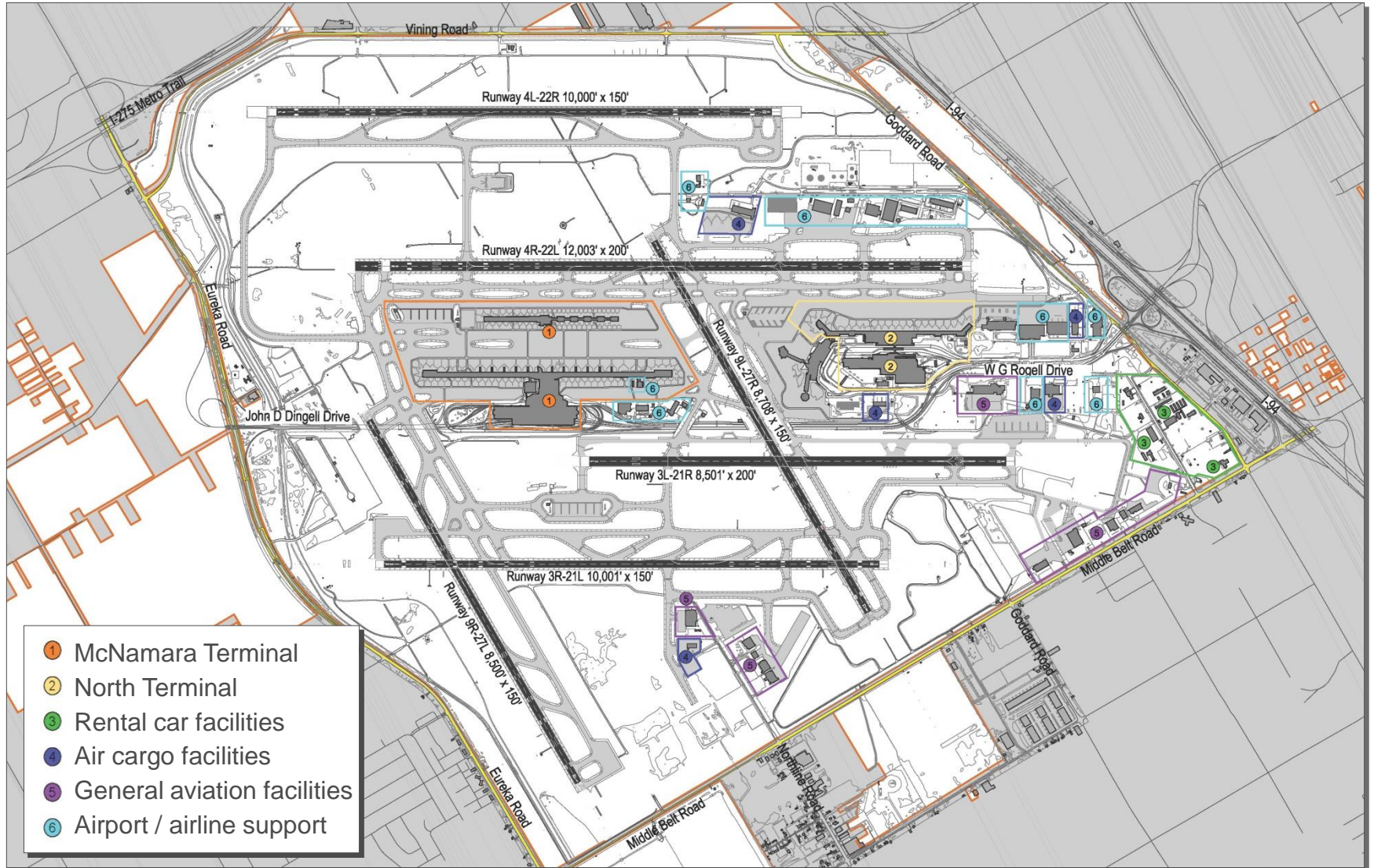
**Leigh** | Fisher

## Today's agenda and discussion items

- 1. Project overview and applicable background**
- 2. Alternatives development**
  - Airfield
  - Passenger terminals
  - Ground transportation
  - Support facilities
- 3. Closing / summary**

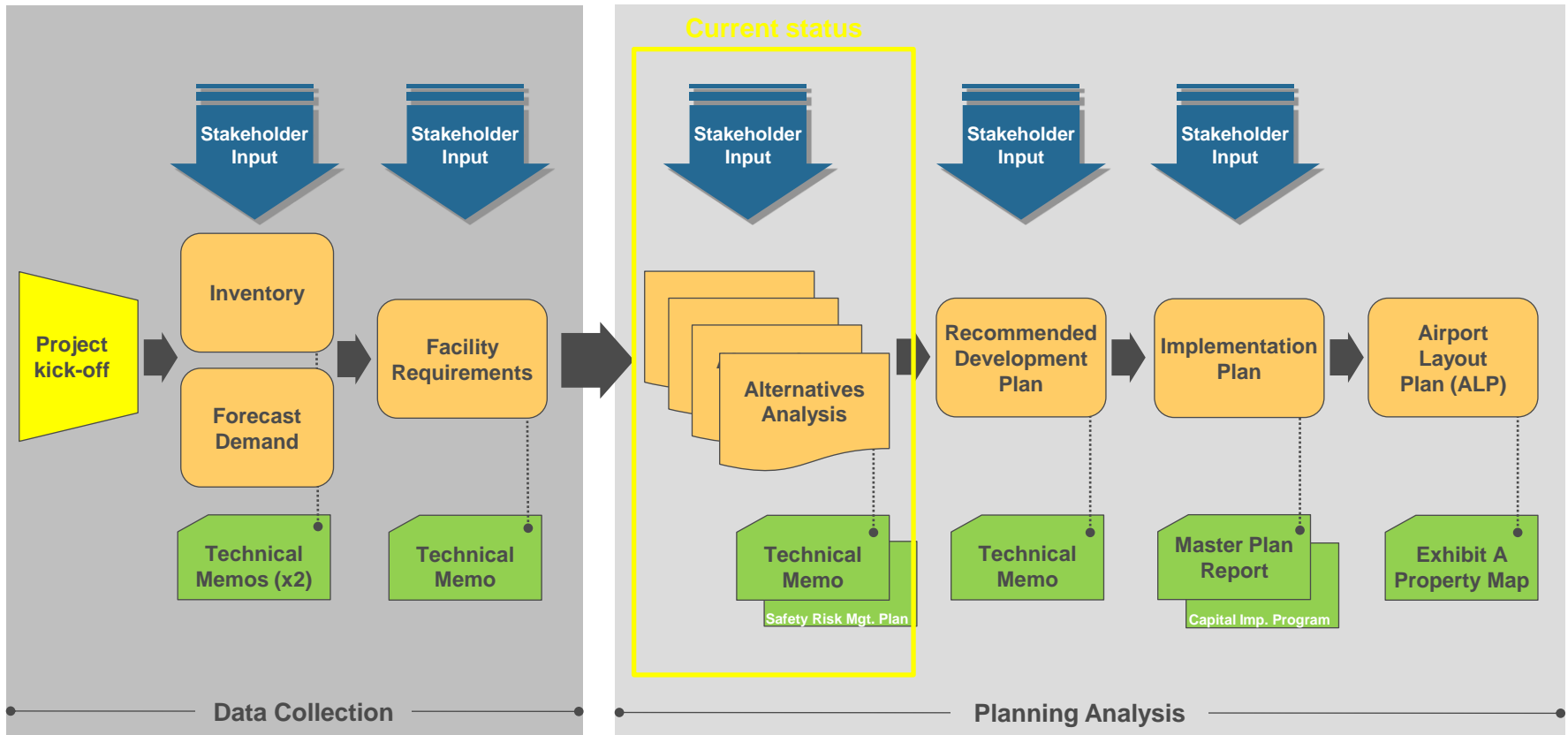


# Detroit Metropolitan Wayne County Airport



# The Master Planning Process

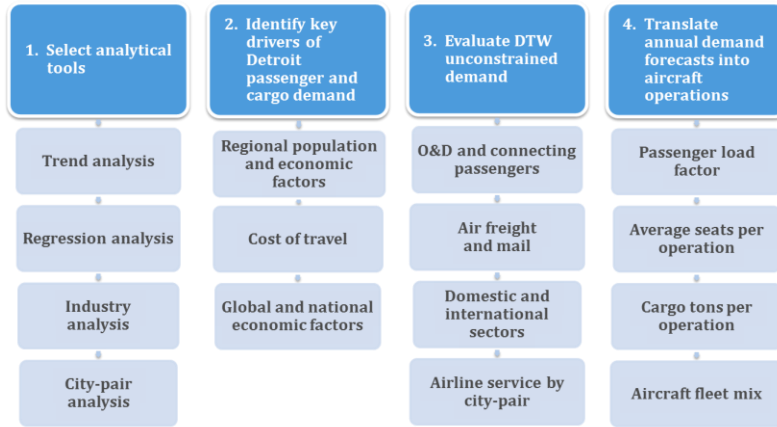
The master planning process includes a series of technical analyses and summary documents, as well as opportunities for stakeholder and community input



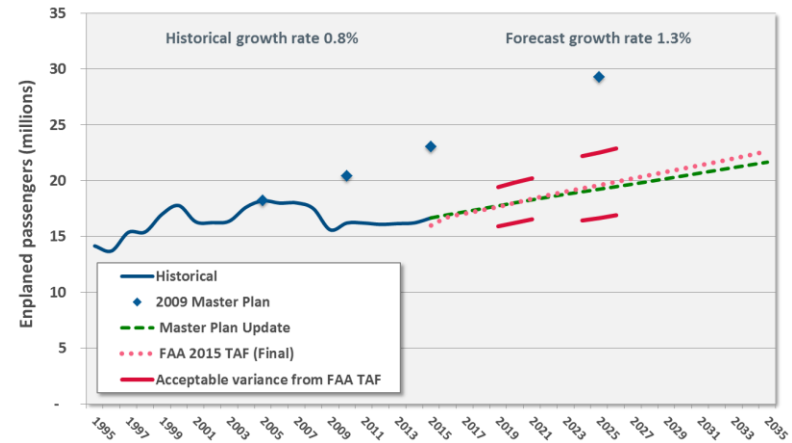
# Forecast Aviation Activity

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

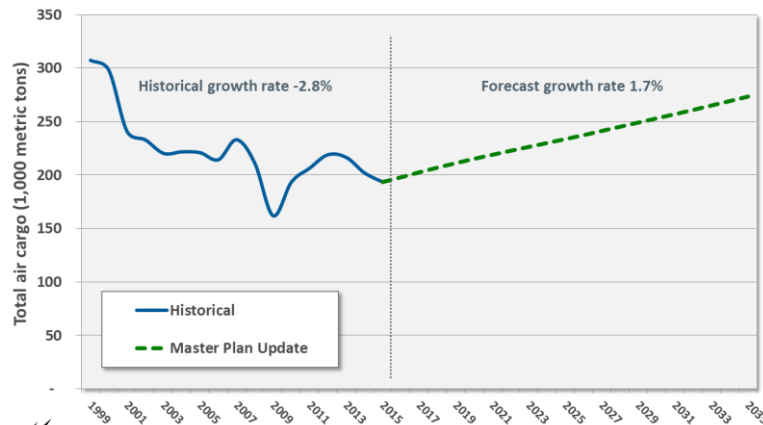
## Forecast Methodology and Approach



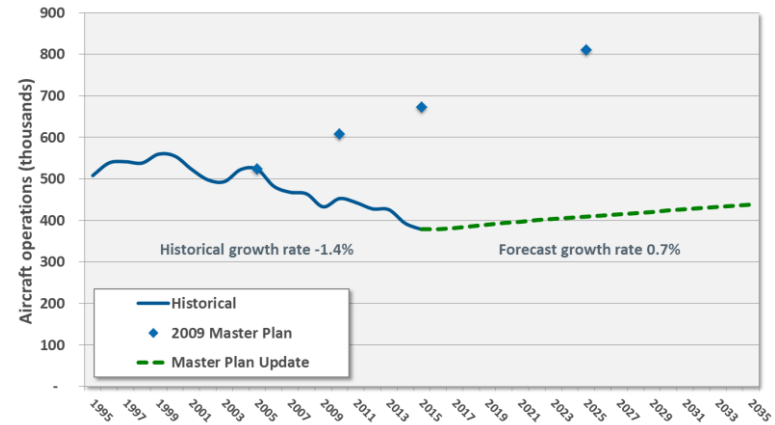
## Forecast Passengers



## Forecast Air Cargo



## Forecast Aircraft Operations



# *Alternatives Development: Airfield*

## **Focus areas in the Master Plan:**

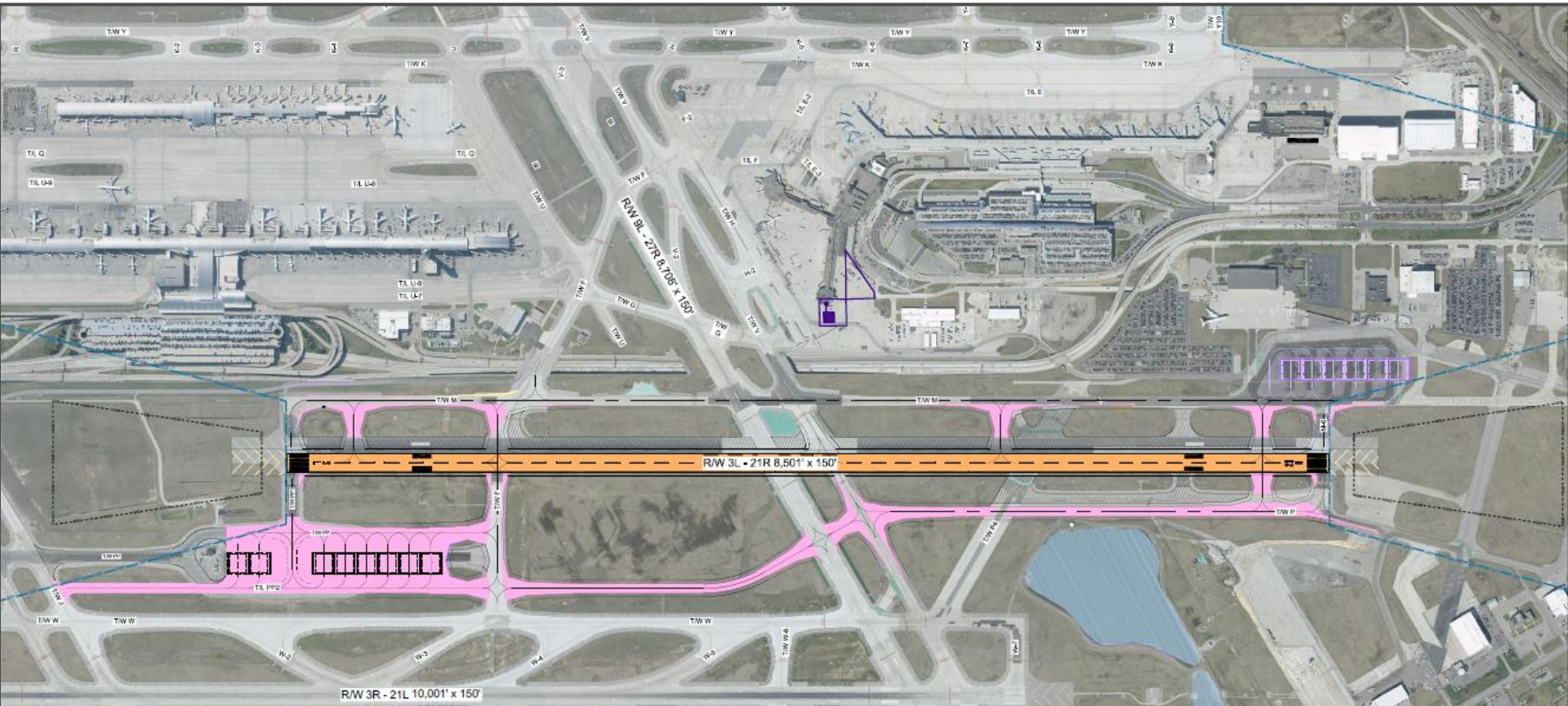
- Enhance an already safe airfield
- Provide efficiency to ensure the Airport is an attractive place for air carriers to operate
- Provide upgrades and infrastructure to meet FAA standards
- Investigate strategies to reduce fuel burn and emissions

## **Analyses indicated the following are NOT required in this Master Plan**

- New runway
- Runway extensions

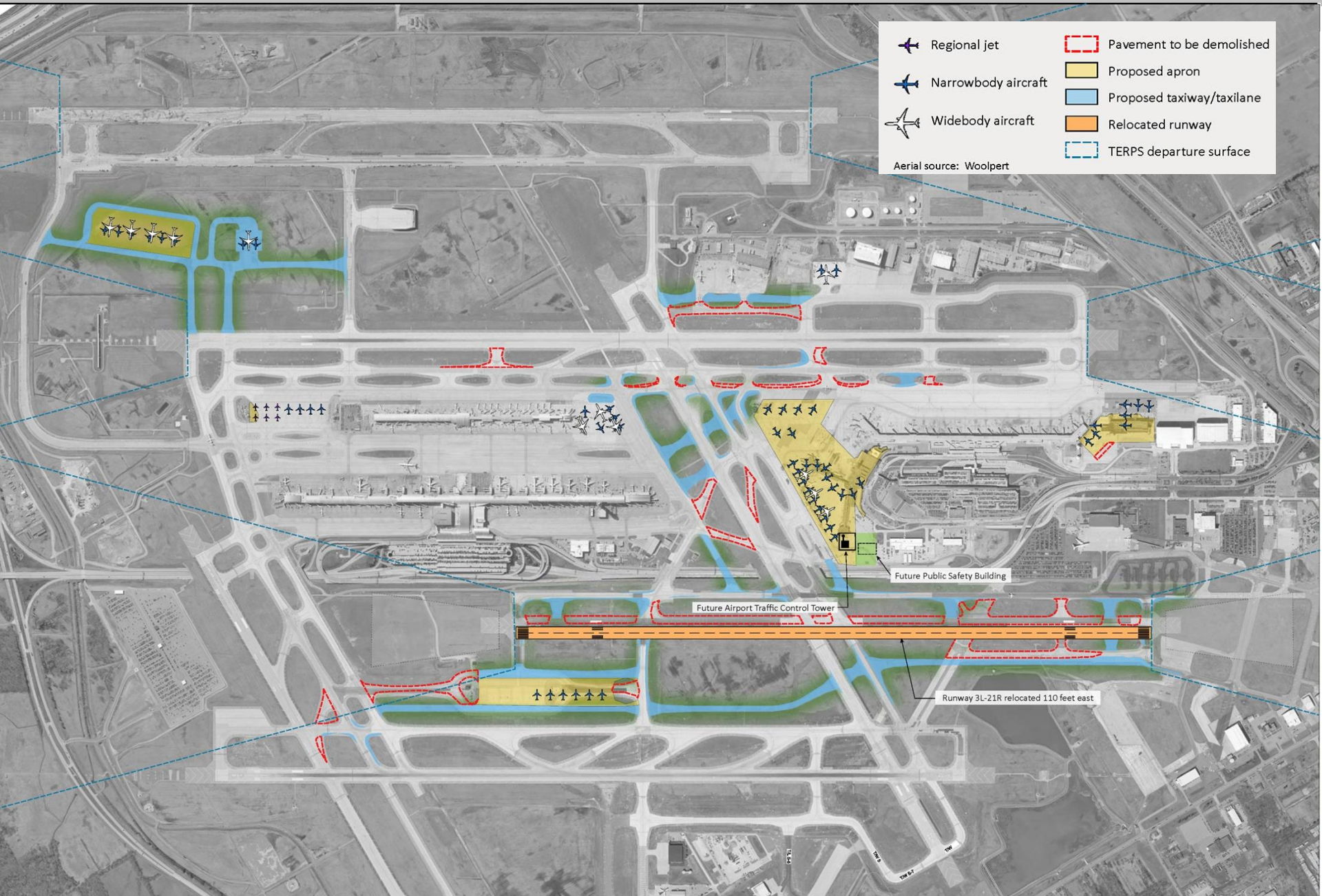
# Runway 3L-21R Reconstruction

Runway 3L-21R must be reconstructed in 2020 to provide a safe operating environment; the reconstruction will require that the runway, adjacent taxiways, and deicing pad be relocated and or improved to meet new FAA standards

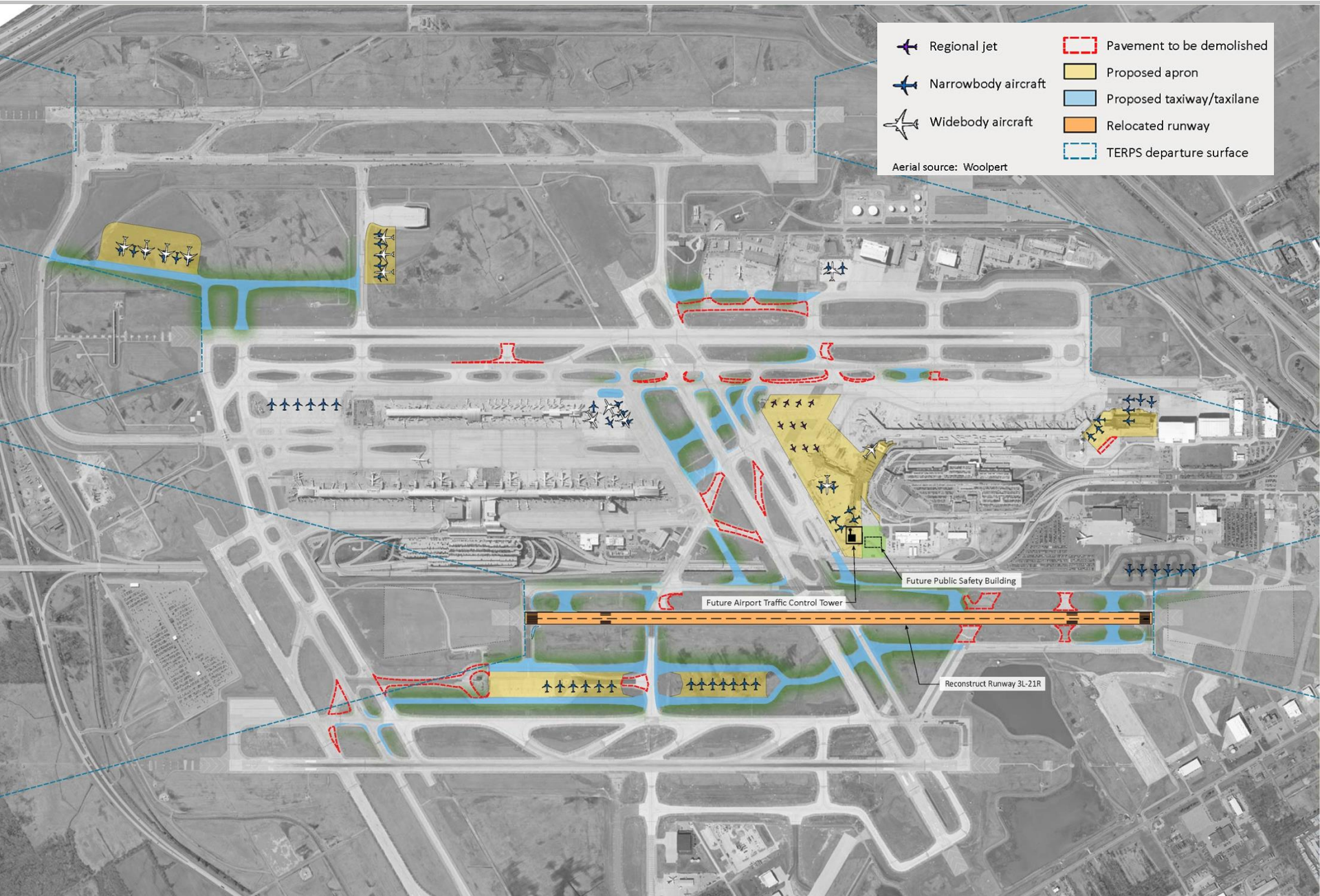












# Consolidated Airfield Alternative #1



# Consolidated Airfield Alternative #2



	Regional jet		Pavement to be demolished
	Narrowbody aircraft		Proposed apron
	Widebody aircraft		Proposed taxiway/taxilane
			Relocated runway
			TERPS departure surface

Aerial source: Woolpert

Future Airport Traffic Control Tower

Future Public Safety Building

Reconstruct Runway 3L-21R

# Airfield Alternatives Evaluation

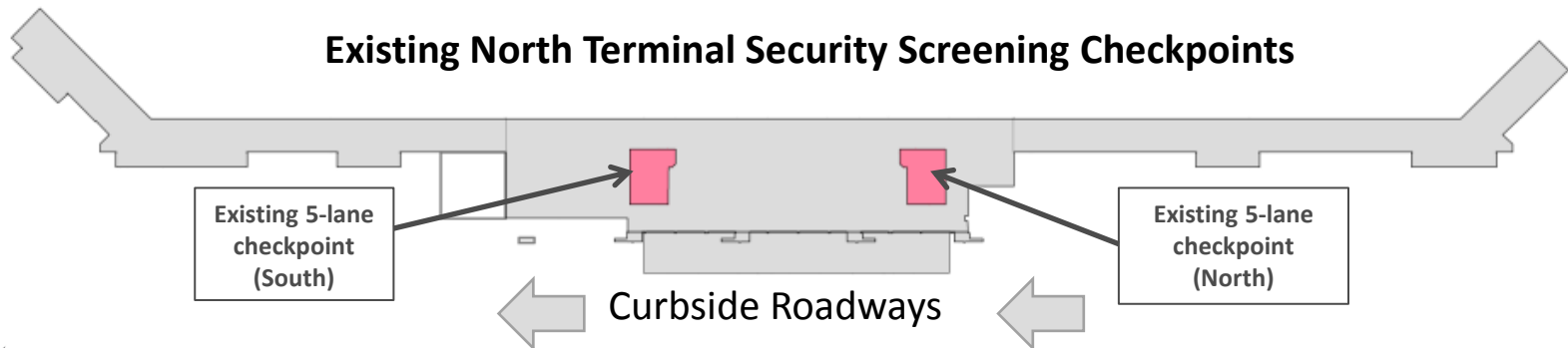
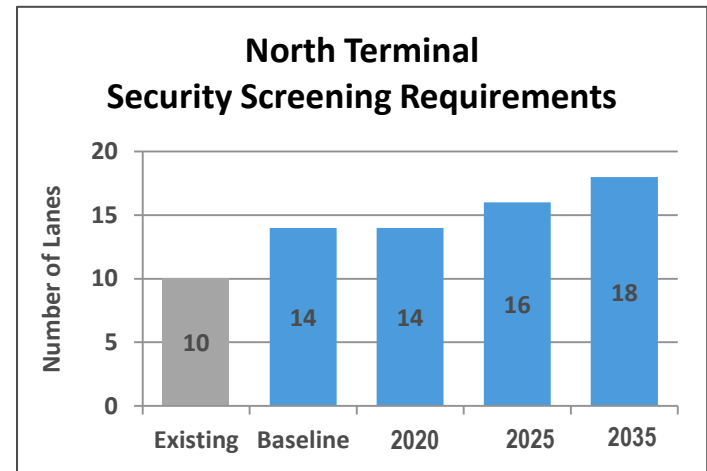
	PROS (+)	CONS (-)
<b>Alternative 1</b> <b>Cost ~\$120M</b>	<ul style="list-style-type: none"> <li>• Improves deicing for large aircraft</li> <li>• Provides enhanced access</li> <li>• Reduces taxi times</li> <li>• Enhanced Air Traffic Control flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces deicing positions</li> <li>• Downgrades the capability of Taxiway J-11 to accommodate large aircraft</li> </ul>
<b>Alternative 2</b> <b>Cost ~\$150M</b>	<ul style="list-style-type: none"> <li>• Improves deicing</li> <li>• Improves FAA standards</li> <li>• Enhanced Air Traffic Control flexibility</li> <li>• Does not downgrade the capability of any taxiways</li> </ul>	<ul style="list-style-type: none"> <li>• Mixes deicing vendors</li> <li>• Increases runway crossings</li> <li>• Additional ATC workload</li> <li>• Does not benefit all airlines equally</li> </ul>

*Alternatives Development:  
Passenger Terminal*

# North Terminal Security Screening Checkpoint Requirements

**Existing security screening checkpoints are insufficient to meet 20-year demand**

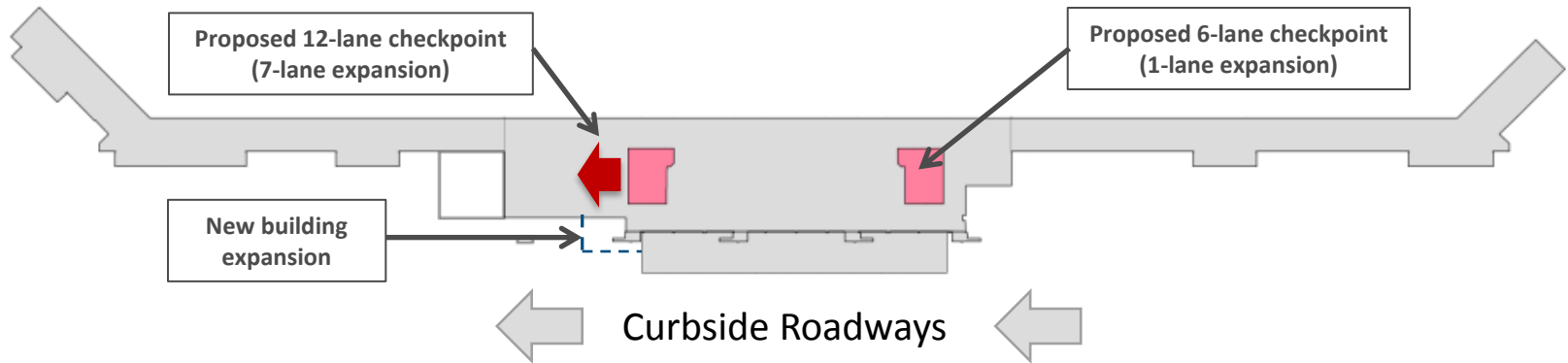
- 4 new lanes required today; 8 additional lanes required in the future
- Existing check-in area will be preserved



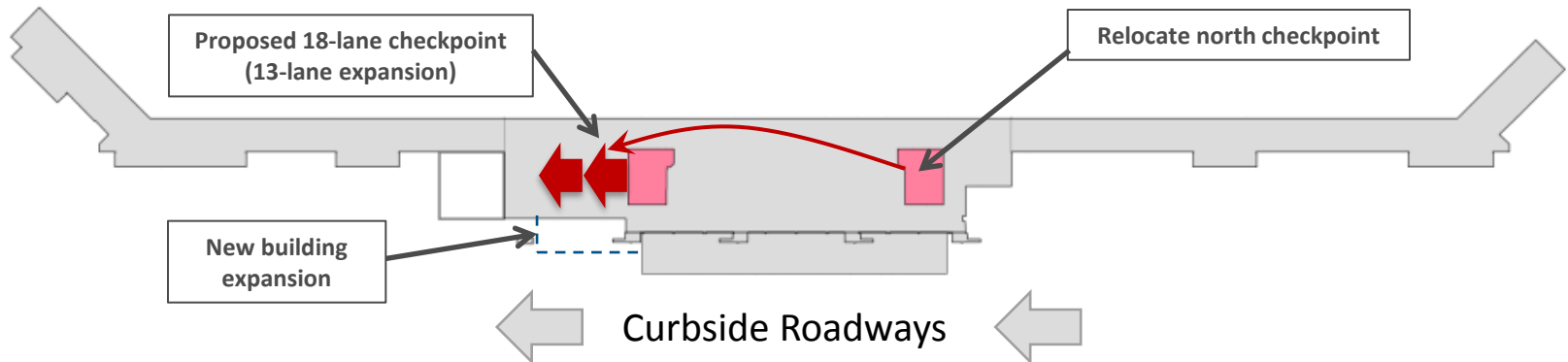
# North Terminal Security Screening Options

Two expansion options are being considered which would meet demand

## Option 1 – Expanded Dual Security Screening Checkpoint

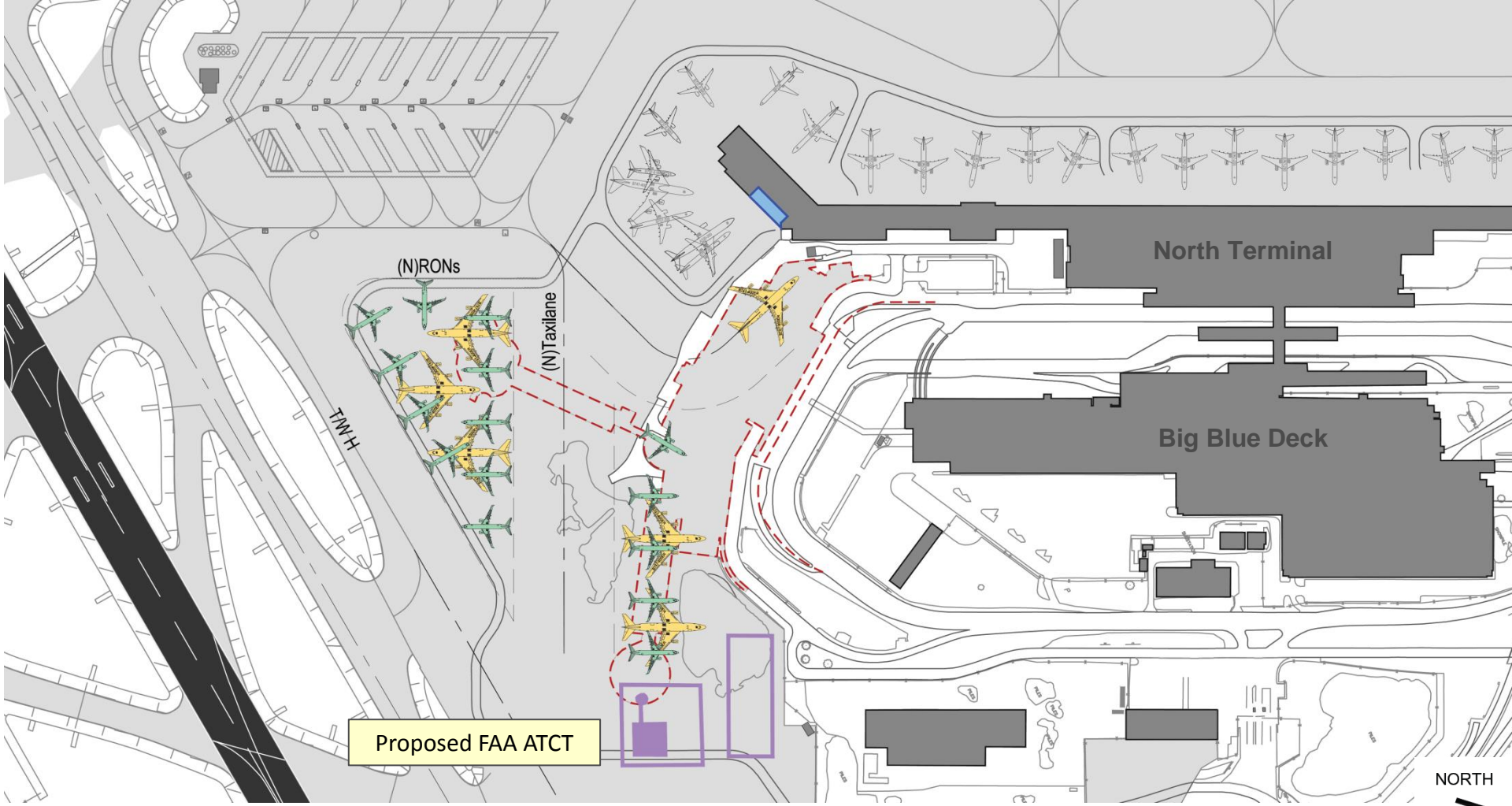


## Option 2 – New Consolidated Security Screening



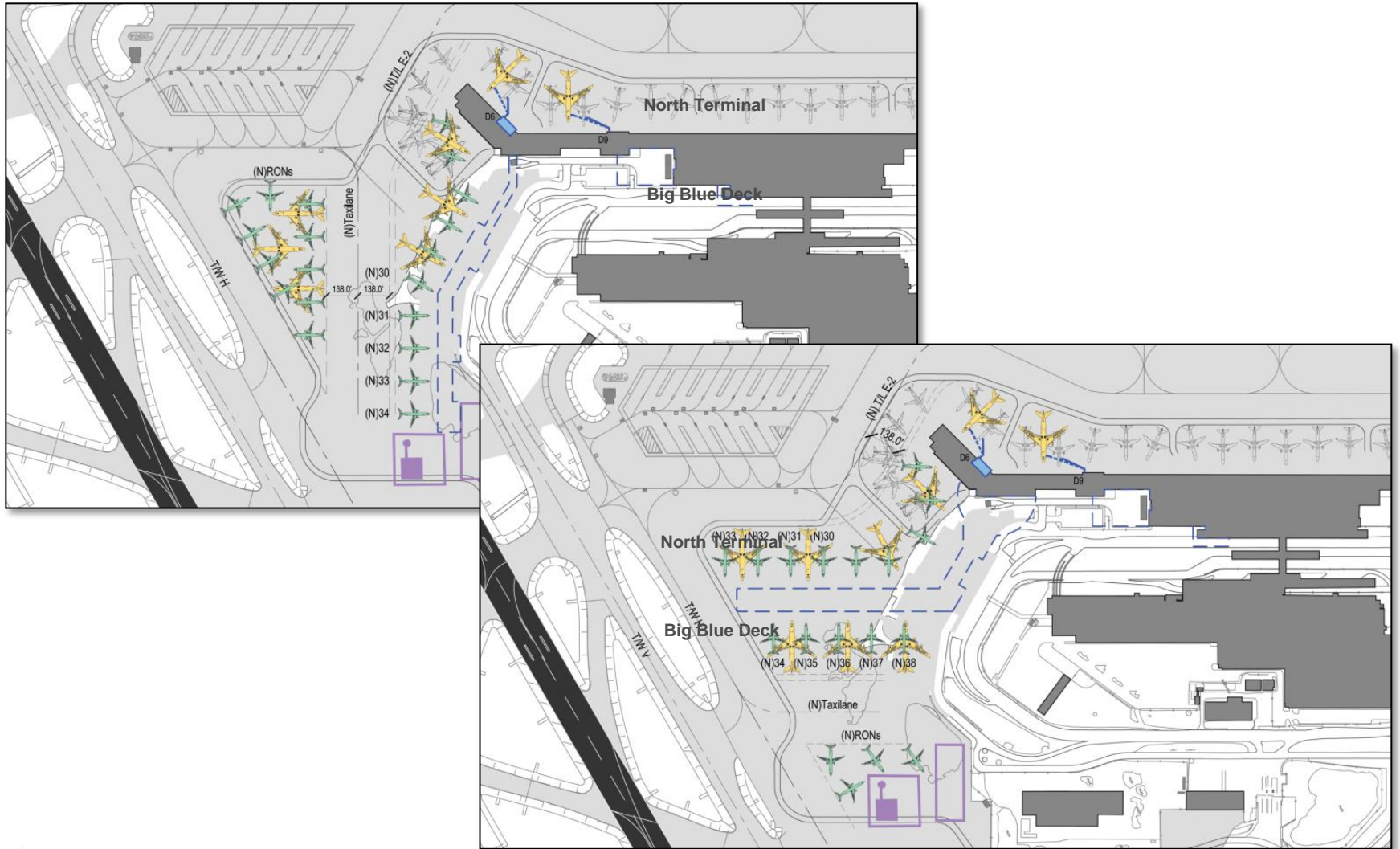
# Proposed Use of the Smith Terminal Site

Smith site to be used for parking and de-icing in the near- and mid-term



# Various Long-term Options Were Considered for the Smith Site

Unexpected changes in demand could necessitate construction of additional gates before 2035





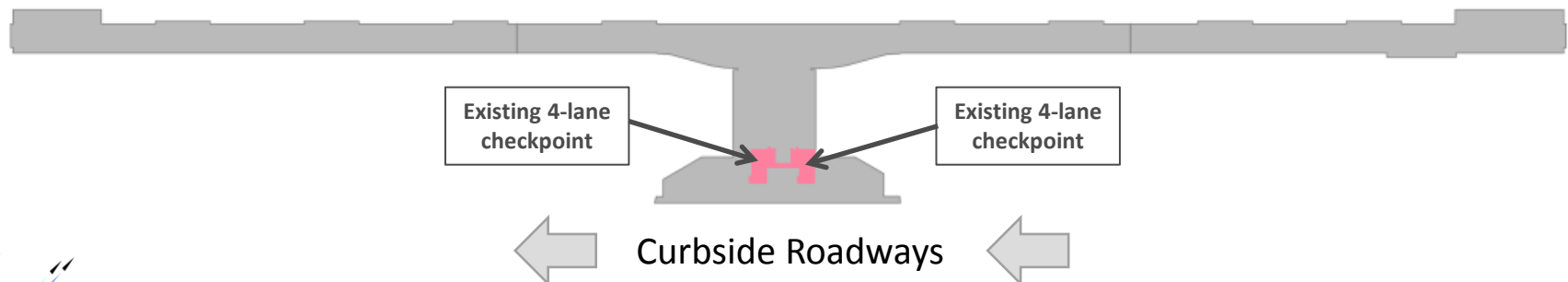
# McNamara Terminal Security Screening Requirements

**Existing security screening checkpoints are insufficient to meet 20-year demand**

- No additional lanes or building expansion are required on Level 3 checkpoints
- Screening equipment getting longer/ wider; more screening area is needed
- Additional queue area should be provided



## Existing McNamara Terminal Level 3 Security Screening Checkpoints



# Future Screening Technologies

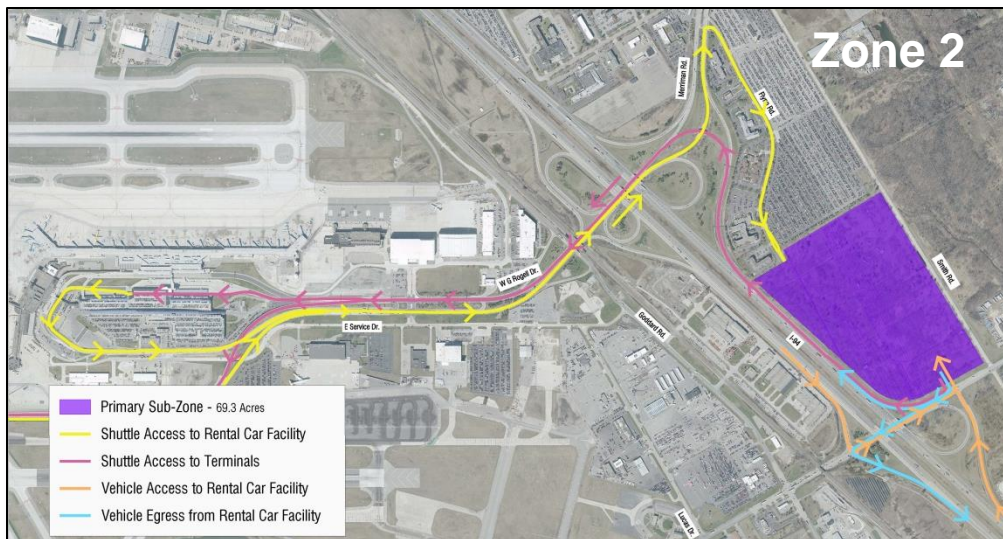
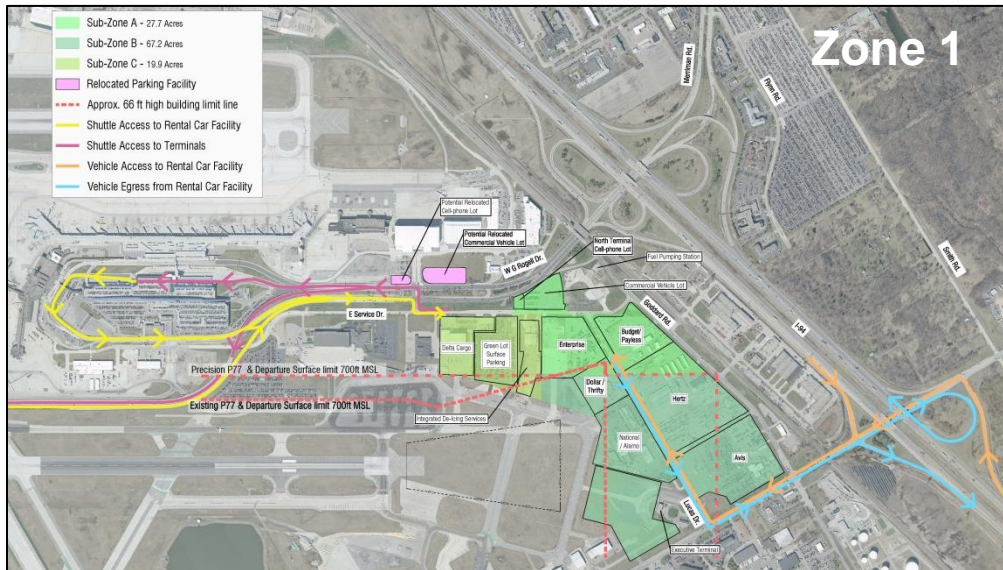
## Future technologies which can impact screening checkpoints being considered

- Secure way to accurately identify passengers
  - Fingerprint
  - Iris
  - Face
  - Heartbeat
- Biometric data accelerates processing



*Alternatives Development:  
Ground Transportation*

# Two “Zones” Considered for a Consolidated Rental Car Facility



## Development considerations

Total area

Expansion opportunity

Infrastructure needs

Construction phasing

Environmental/ site conditions

Vehicle access

Shuttle times

# Curbside Considerations

Managing the times cars sit on the curbside (“dwell time”) reduces the required curb length

	Existing dwell time		Recommended dwell time
	McNamara Terminal	North Terminal	
Vehicle Arrivals	6.0 min	5.3 min	2.5 min

- Arrivals curb lengths can meet demand if dwell times are reduced
- Cell phone lots recommended



A range of options will be considered

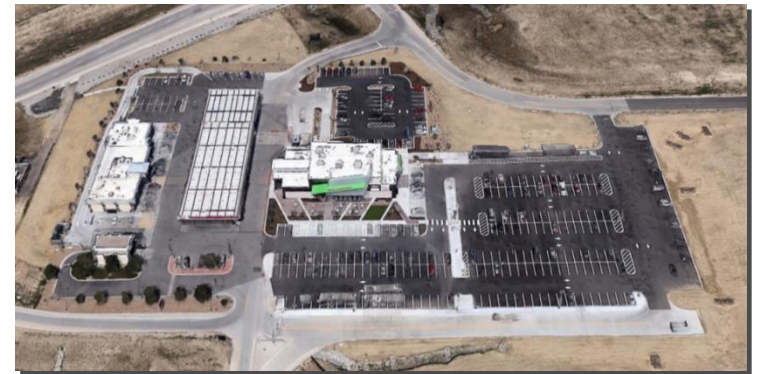
**Basic** – Parking lot only; no amenities



**Intermediate** – Parking lot with some amenities, such as flight information displays, restrooms, vending machines, wi-fi, electric vehicle charging stations



**Advanced** – “Travel plaza” with restaurants and other concessions, lounge seating, children’s play areas, fueling stations, etc.



# Ground Transportation and Access

**Numerous additional improvement are being investigated**

**Roadway improvements** – Improve access to the Airport; provide capacity for the future



**Parking expansion** – Enhance the customer experience; provide capacity for the future



**Ground Transportation Centers** – Provide needed space; improve operations

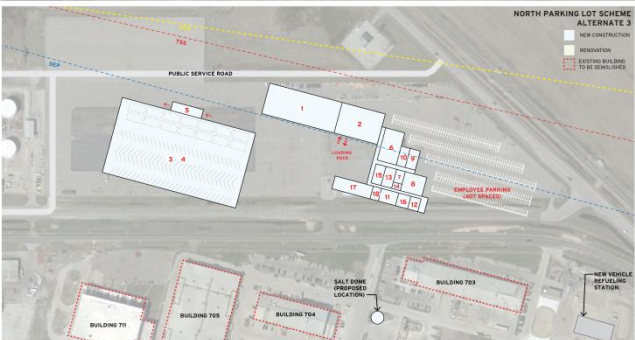
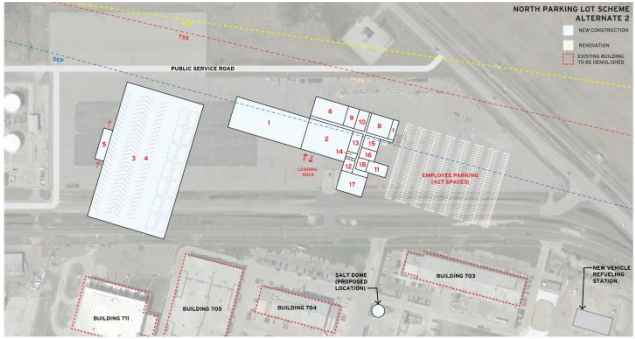


*Alternatives Development:  
Support Facilities*



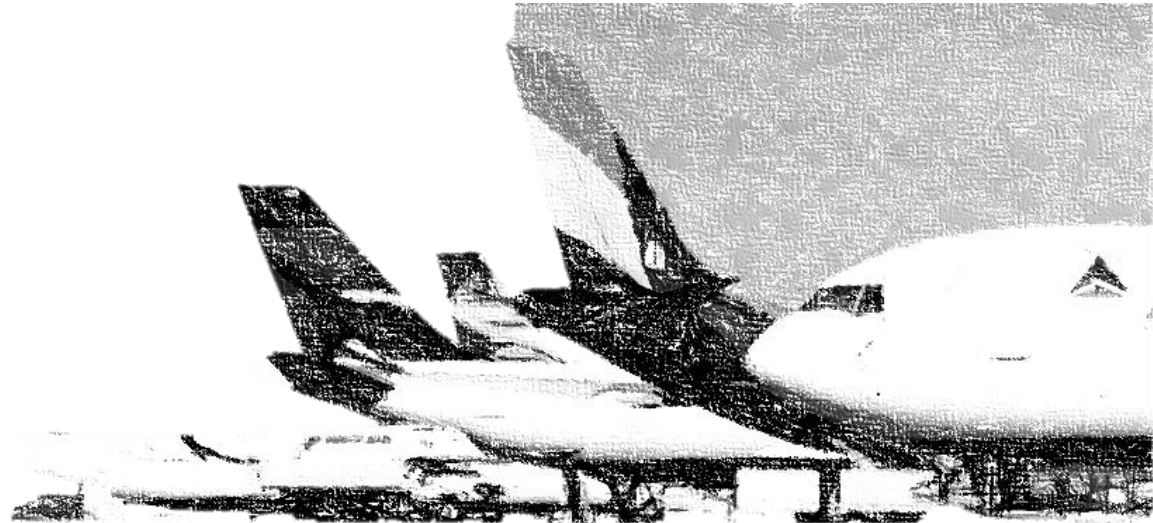
# Airport Maintenance Facility

- The Airport's existing Maintenance Campus does not meet current needs
- Alternative solutions to renovate, infill and/or construct new facilities are being considered

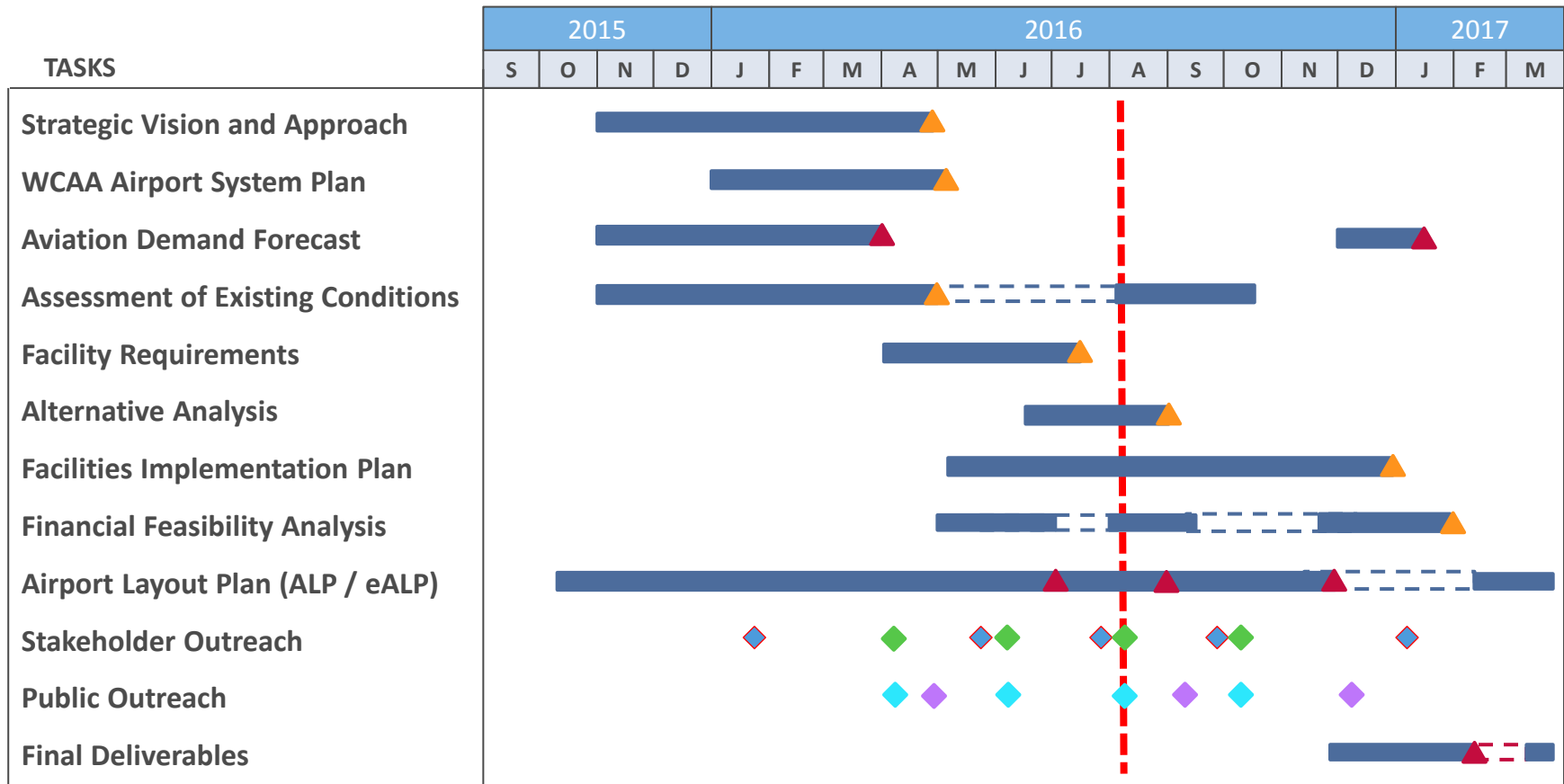


*Closing / Summary*

1. Finalize alternatives and prepare a Recommended Development Plan (RDP)
2. Financial assessments and development of the Capital Improvement Program (CIP)
3. FAA coordination and review of submittals
4. Public Information Workshop 9/8/16



# 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
<b>April 6</b>	✓	Project kick off; Airport Master Plan introduction; project progress and initial findings
<b>June 8</b>	✓	Facilities needed to accommodate future demand
<b>August 25</b>	✓	Alternatives
<b>October</b>		Recommended Development Plan
<b>September 8 December 8</b>		Public meetings to present master plan findings
<b>Subcommittees</b>		Ongoing and being scheduled

# Questions and Closing Remarks

