



# Airport Layout Plan Update

Airport Commission Briefing

January 5, 2022

# Meeting Agenda

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- Director's Remarks
- Stakeholder Engagement to Date
- Plan Overview and Progress
- Results of Public Surveys
- 2040 Requirements and Alternatives
- Next Steps
- Open Discussion

Total slides: ~50  
Approximate duration : 1 hour including Q&A

Thank you for participating!



# Director's Remarks



- Purpose of ALP Update

- Long Range Planning
- Strategy for Growth
- Necessary for FAA Grants

- State of the Industry

- State of STL

- Rebound of passenger traffic
- Increase in cargo tonnage





# Stakeholder Engagement to Date

Communications with:  
Technical Advisory Committee (TAC)  
& Airport/Airline Affairs Committee (AAAC)  
STL Commission



# TAC Role

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- Provide advisory input to expectations, alternatives development and implementation strategy:
  - Will provide opinion for ALPU Team to consider when making planning decisions
  - Certain aspects of ALP are technical and FAA process-driven
- Seek out and understand community, operational and technical views
- Comprised of representatives from local, state and federal governmental agencies, organizations, airlines, concessions and private businesses

TAC Meeting #1  
June 2020

TAC Meeting #2  
January 2021

TAC Meeting #3  
November 2021



# TAC Members

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- Federal Aviation Administration
- Passenger Airlines
- Cargo Airlines
- Ground Services Providers
- General Aviation
- Rental Car Operators
- The Boeing Company
- MoDOT
- St. Louis County
- Mayors' Representatives
  - City of St. Louis, Bridgeton, St. Ann, Woodson Terrace, St. John
- Bi-State Development
- East West Gateway Coordinating Council
- St. Louis Regional Business Council
- Greater St. Louis Inc. (merged with St. Louis Regional Growth Association & Civic Progress St. Louis)
- St. Louis Economic Development Partnership
- St. Louis Development Corporation
- City of St. Louis
- St. Louis Airport Authority
- WSP Team

40 invitees



# AAAC Members

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- Air Choice One
- Alaska Airlines
- American Airlines
- Delta Airlines
- Federal Express Corporation
- Frontier Airlines
- Cape Air Airlines
- Southwest Airlines
- Spirit Airlines
- United Airlines
- United Parcel Service
- Lufthansa Airlines (new member)

AAAC Meeting #1  
August 2021

AAAC Meeting #2  
October 2021



# Airport Commission

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- Members:

- Chaired by Rhonda Hamm-Niebruegge, Director of Airports
- Comprised of a broad spectrum of regional business, civic and labor leadership

- Role:

- Provides advisory input for the airport business decisions, including strategic planning and the advisory approval of contracts for airline service, new construction, ongoing maintenance and the many services provided at STL Airport

Commission Briefing #1  
October 2020

Commission Briefing #2  
January 2022







# Public Survey Results



# Public Survey #1 Results

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- ✓ Survey open from September 4 to October 5, 2020
- ✓ Survey focused on understanding traveling patterns, COVID impacts, and terminal / parking related preferences
- ✓ Shared on social media platforms, flystl.com, and broadcast by TAC to its constituents
- ✓ 511 respondents
- ✓ 60% fly Southwest, ~35% flying American, Delta or United
- ✓ Improvements most wanted:
  - Dining, check-in, gate area, parking, restrooms, roads, wayfinding, security
  - 55% of respondents would like improvements to arrival/departure experience
  - 50% of respondents would like improvements to dining
  - 32% of respondents would like improvements to technology inside terminal



# Public Survey

## #1 Results



### Who is the STL Traveler?

- 60% Use their vehicle to get to the airport
- 70% Arrive 1-2 hours before their flight
- 60% Fly Southwest Airlines most frequently

### I would like to see...

- Free WiFi
- Improved Roadway Access
- Familiar Dining Options
- More Promotion of the Region
- Even More Local Artwork
- More parking in garages
- Better wayfinding

"Better WiFi, more power outlets, more seating at gates, more artwork... historical info about the region, more promotion about St. Louis."

"Improved air service (more direct flights, transatlantic flights,...)"

It would be nice to have more "fast casual restaurants."

"I'd like to see even more examples of local artists and their work around the airport."

"I'm not a seasoned traveler, so signage is my guide. The same would be for people who have a layover or are new to arriving in St. Louis."



# Public Survey #2 Results

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- ✓ Survey open from February 17, 2021 to March 15, 2021
- ✓ Survey focused on understanding curbside (pick-up/drop-off) and terminal convenience related preferences
- ✓ Shared on social media platforms, flystl.com, and broadcast by TAC to its constituents
- ✓ 820 respondents (great response)
- ✓ 81% of respondents are/will travel in 2021 for leisure
- ✓ 254 unique zip codes responded to the survey

## **Terminal Curbside Improvements Identified:**

- More drop-off, pick-up temporary parking
- Capacity for vehicles
- Uber/Lyft (TNC) drop-off or pick-up areas
- Signage
- Shuttles zones
- Pedestrian shelters and lighting

## **Preference on Terminals:**

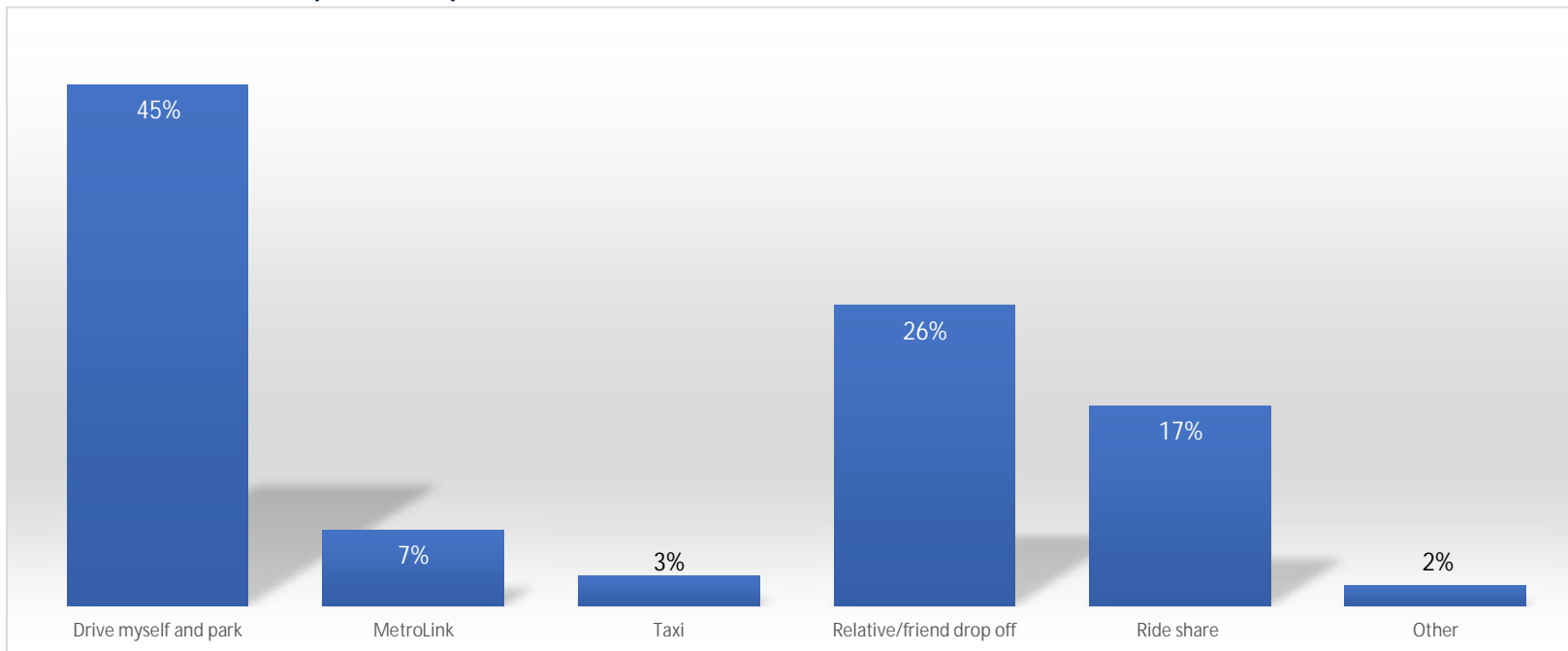
- 82% of the respondents commented on the number of terminals, and of those, 52% prefer a single terminal
- Connection between terminals is preferred if two remain
- Dropping off and picking up passengers is easier with one terminal



# Public Survey #2 Results



- ✓ 45% of respondents drive and park
- ✓ 43% of those park in private lots



Note: More than one answer was possible



# Public Survey #2 Results



# Pending Public Survey #3

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- ✓ Survey will be open for public input for up to 4 weeks
  - Target publication: late January/early February into March 2022
- ✓ Shared on social media platforms, flystl.com, and broadcast by TAC members
- ✓ QR codes at gates, concourse restaurants, etc.

Questions/survey will focus on collecting:

- Additional details on parking needs (convenience, walking distances, shuttle ride duration)
- Opinions regarding access road improvement needs to the curbside/parking garage
- Opinions regarding concession/restroom space inside a consolidated concourse
- Other/open input



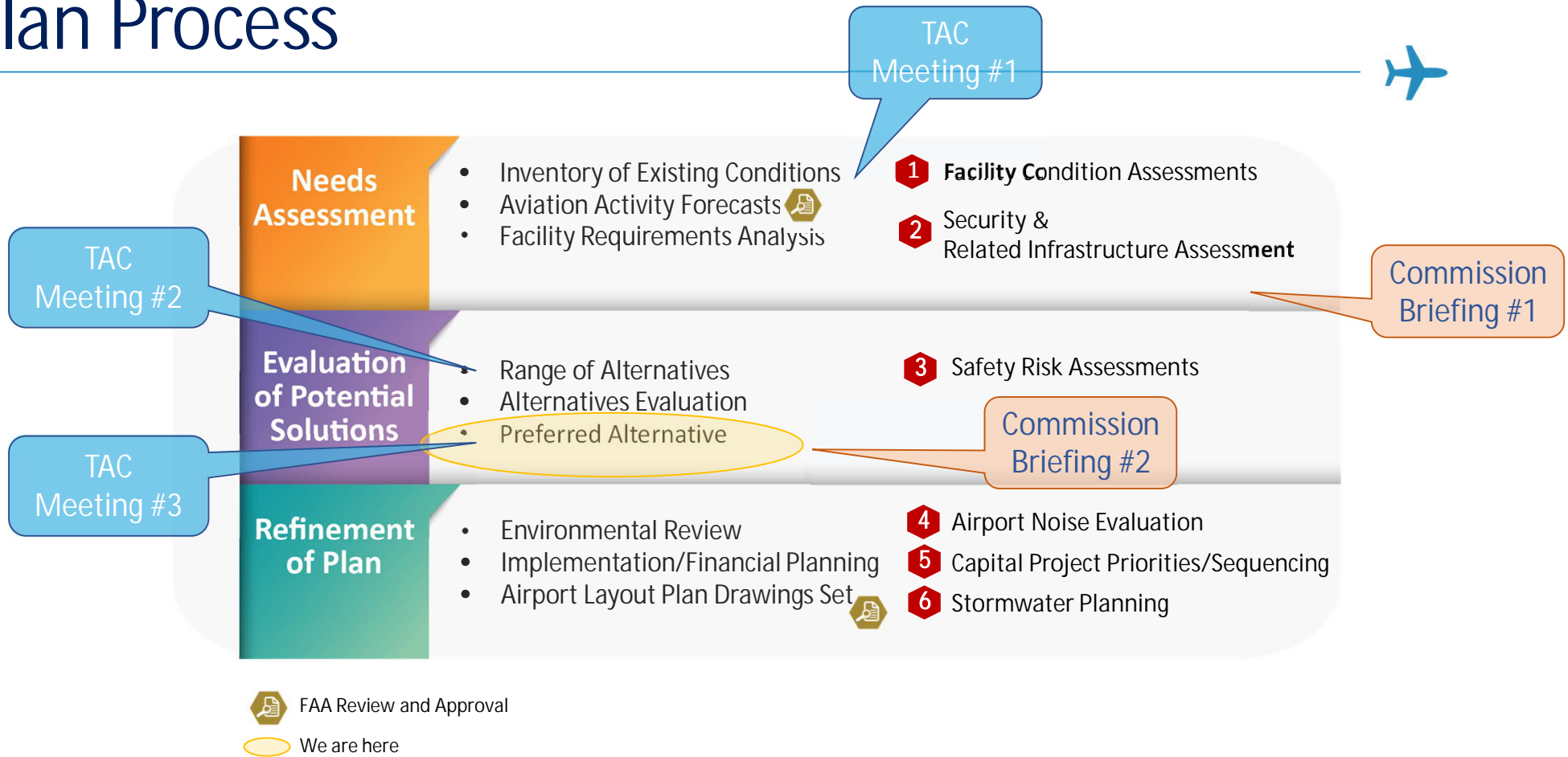


# Plan Overview & Progress





# Plan Process



# Plan Progress

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- Needs Assessment (Jan-Aug 2020) - complete
- Evaluation of Potential Solutions - Alternatives Analysis (Fall 2020 / Winter 2021-2022) – in progress
- Refinement of Plan (Winter 2021-2022) – in progress :
  - Preliminary Comprehensive Plan: ongoing
  - Environmental Review: Winter 2022
  - Financial Analysis: Winter 2022
  - Airport Layout Plan Drawings Set Development/Submittal: Winter 2022
- Documentation/Complete (FAA Approval): Summer 2022





# Evaluation of Needs and Potential Solutions - Alternatives Analysis



# Alternatives Development and Evaluation Process

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- Assess facility needs (industry planning standards, tenant/strategic/public survey input)
- Identify potential alternatives for each major function
- Evaluate each alternative
- Identify preferred alternative





# Evaluation of Airfield Alternatives





# Airfield Alternatives

## Needs



- Long-term development strategy:
  - Airfield capacity ✓
  - Runway length ✓
  - Wind coverage & approach capability ✓
  - Design aircraft: ADG IV (Boeing 767) ✓
- Airfield geometry improvements to meet current FAA standards:
  - Current taxiway geometry design standards
  - Continue to enhance overall safety and operational flexibility



FedEx  
Boeing 767 (ADG IV)



Lufthansa Airlines  
Airbus A330-300 (ADG V)







# Airfield Alternatives

## Preliminary Preferred Layout



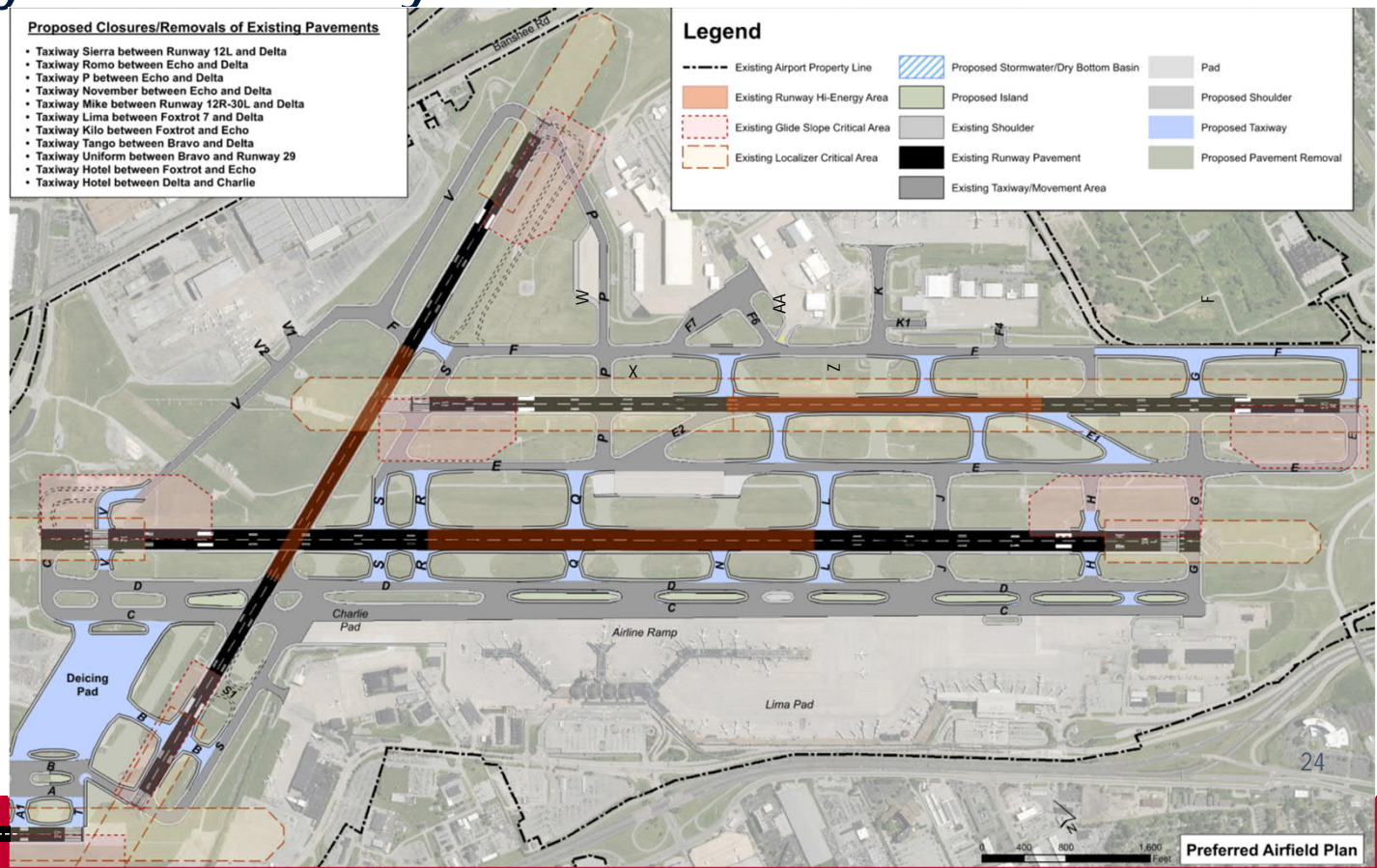
Generalized Improvements – align with current FAA Standards:

- Eliminating multi-node taxiway intersections
- Reducing number of high energy zone runway crossings
- Eliminating direct access from apron to runway

- Proposed Closures/Removals of Existing Pavements**
- Taxiway Sierra between Runway 12L and Delta
  - Taxiway Romo between Echo and Delta
  - Taxiway P between Echo and Delta
  - Taxiway November between Echo and Delta
  - Taxiway Mike between Runway 12R-30L and Delta
  - Taxiway Lima between Foxtrot 7 and Delta
  - Taxiway Kilo between Foxtrot and Echo
  - Taxiway Tango between Bravo and Delta
  - Taxiway Uniform between Bravo and Runway 29
  - Taxiway Hotel between Foxtrot and Echo
  - Taxiway Hotel between Delta and Charlie

**Legend**

--- Existing Airport Property Line	Proposed Stormwater/Dry Bottom Basin	Pad
Existing Runway Hi-Energy Area	Proposed Island	Proposed Shoulder
Existing Glide Slope Critical Area	Existing Shoulder	Proposed Taxiway
Existing Localizer Critical Area	Existing Runway Pavement	Proposed Pavement Removal
	Existing Taxiway/Movement Area	



**Runway 11-29 Complex**  
(No changes outside of Runway 29 end improvements)





# Terminal Needs and Alternatives





# Passenger Terminal

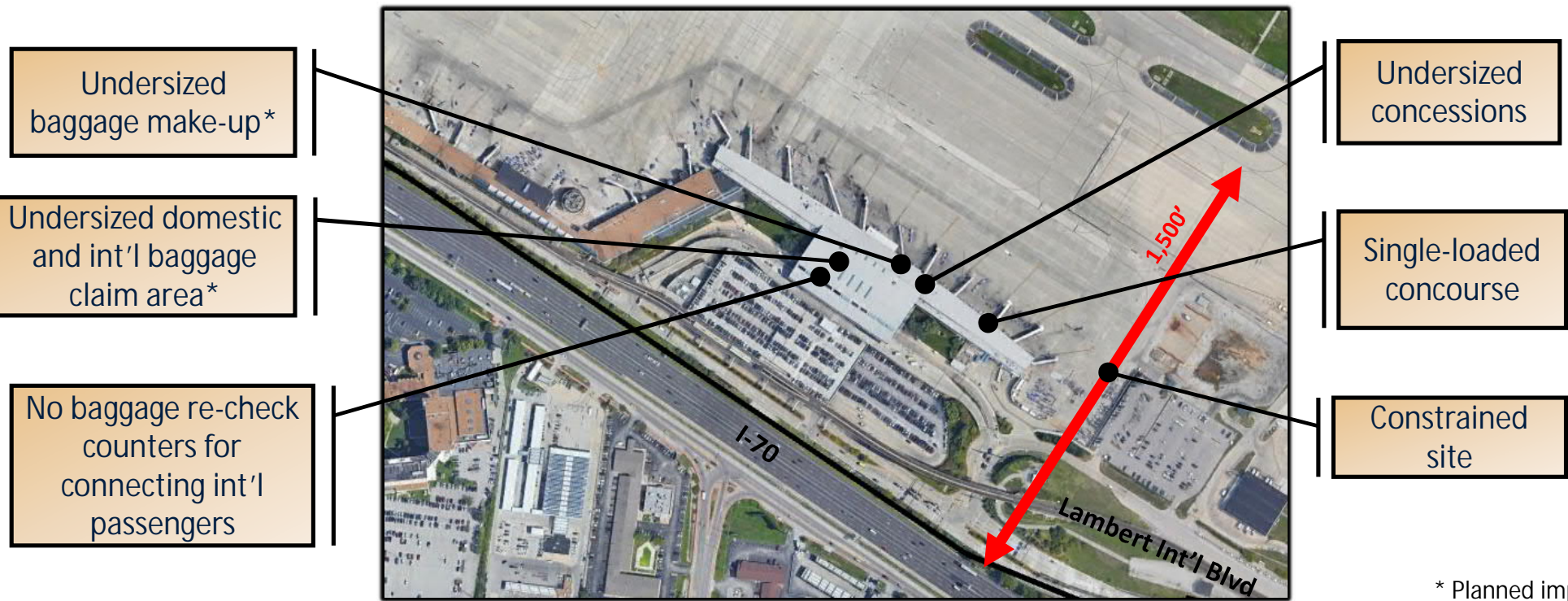
## Existing Issues – Terminal 1





# Passenger Terminal

## Existing Issues – Terminal 2



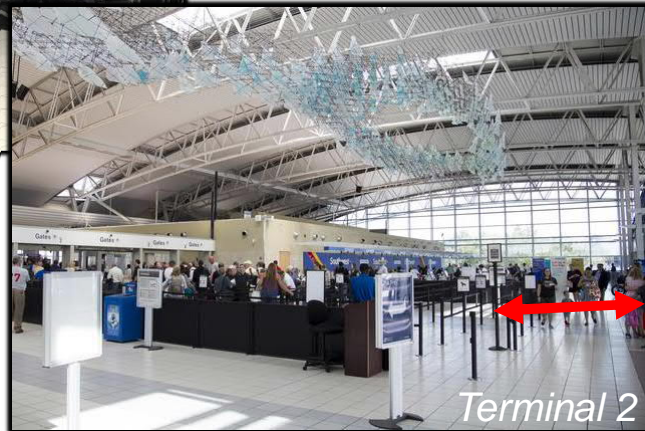
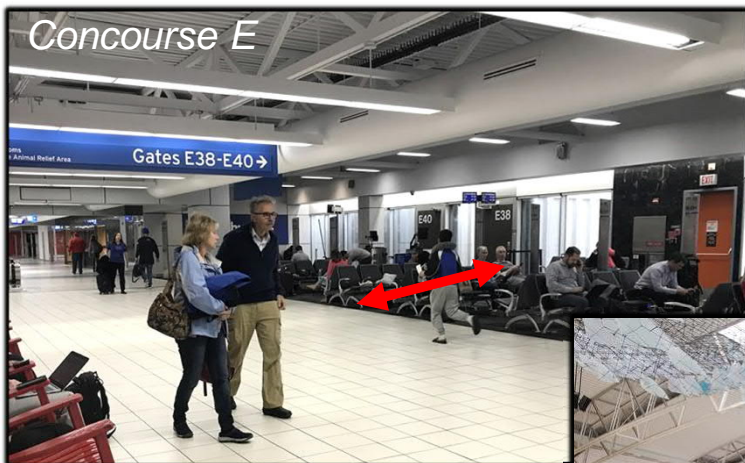
\* Planned improvements





# Passenger Terminal

## Existing Conditions (congestion)





# Passenger Terminal

## Existing Conditions vs 2040 Needs



	Number of Gates		Building (Sq. Ft.)	
	Existing	2040	Existing	2040
<b>Separate Terminals</b>				
Terminal 1	36	37	899,000	775,000
Terminal 2	18 (incl. 3 FIS)	22	406,000	800,000
FIS	In Terminal 2	3 (TBD)		48,000
<b>Total</b>	<b>54*</b>	<b>62</b>	<b>1,305,000</b>	<b>1,623,000</b>
<b>Single Terminal</b>	N/A	62	N/A	1,568,000

\* As of 2020

Existing gates:  
mix of gate sizes, designed  
for smaller aircraft & lower  
load factors

Future gates:  
sized for the larger  
airplanes in the existing  
and future fleets

Notes:

- Gate turns assumptions based on industry average
- Turns/gate will increase over time (can accommodate additional growth with planned gates)
- ALPU will provide for post-2040 expansion





# Terminal Alternatives

## Existing Issues and 2040 Needs



### Terminal 1

- Surplus space, but functionally obsolete
- Historic Terminal Domes older facilities, adapted uses
- Two security checkpoints at the eastern and western end
- Remaining useful life of Terminal 1 Garage, which needs replacement
- Unbalanced concessions distribution across concourses
- Terminal area constrained by Runway 12R/30L, I-70, MetroLink tracks, and DOD property

### Terminal 2

- Insufficient space for all functions
- Undersized baggage make-up, domestic and int'l baggage claim
- No baggage recheck counters for connecting international passengers
- Sparse concession opportunities
- Single-loaded concourse, long walking distances for connecting passengers
- Terminal area constrained by Runway 12R/30L, I-70 , and MetroLink tracks

2040  
Needs

T1: upgrade  
space

T2: double  
the space

62 gates  
(54 as of 2020)





# Terminal Alternatives

## Evaluation Criteria



### Fatal Flaw Decision Points

- Meet gate/aircraft parking position needs
- Elevate passenger experience to industry standards
  - Walking distances
  - Functional criteria
- Provide dual taxi lanes around concourses
- Provide aircraft pushback zone off the gate
- Meet landside access/curb front needs

### Other Criteria

- Phasing/constructability
- Cost - capital/O&M
- Project duration
- Passenger experience
- Non-aeronautical revenue opportunities (parking)
- Expansion beyond 2040
- Airport/St. Louis area image





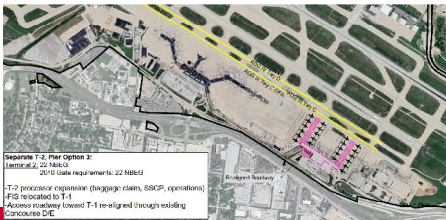
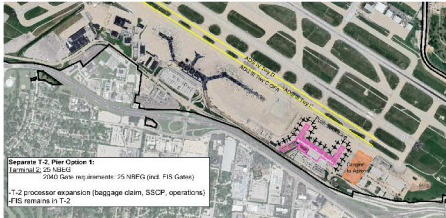
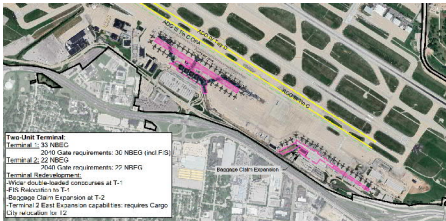
# Terminal Alternatives

## Considering All the Options (22 initial concepts)

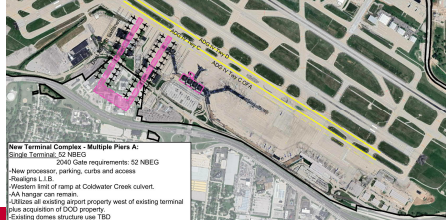
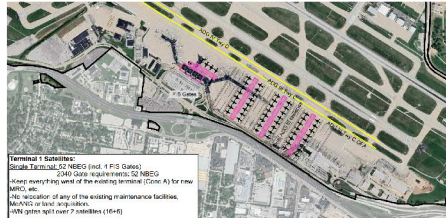
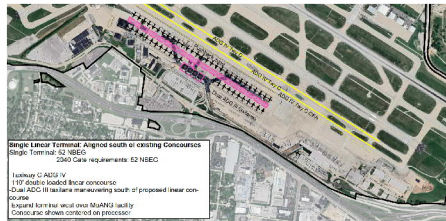


The initial analysis included potential new terminal sites across the entire Airport property. Due to cost, only the existing site was retained.

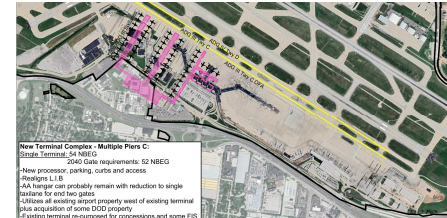
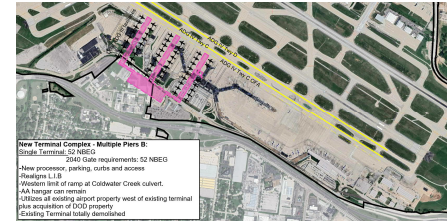
### Retain Two Terminals



### Consolidate Terminals

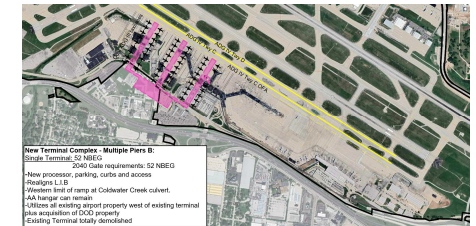


### With or Without Domes



### Work with Existing or All New

- Reopen Concourse D
- Airline terminal swap

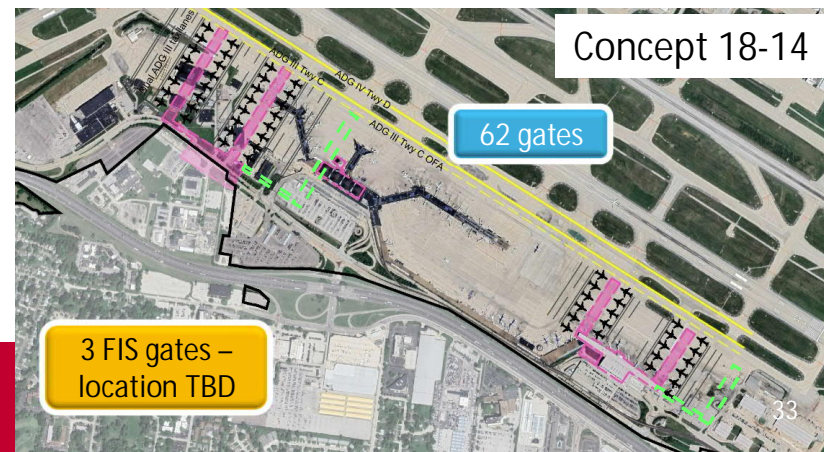
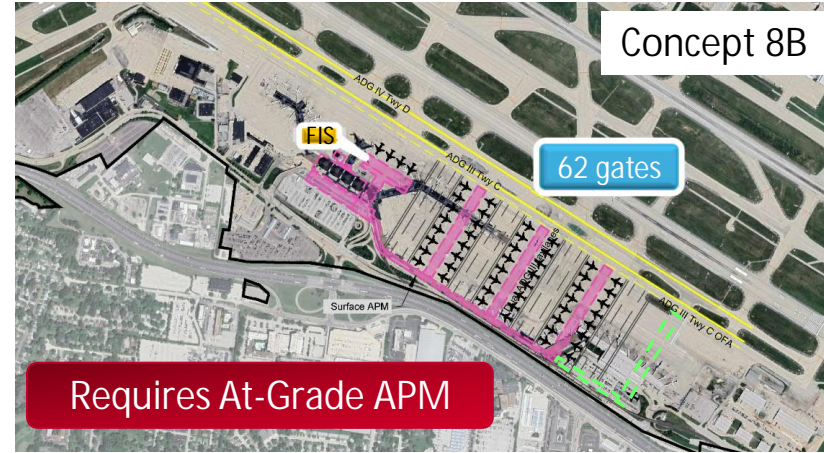
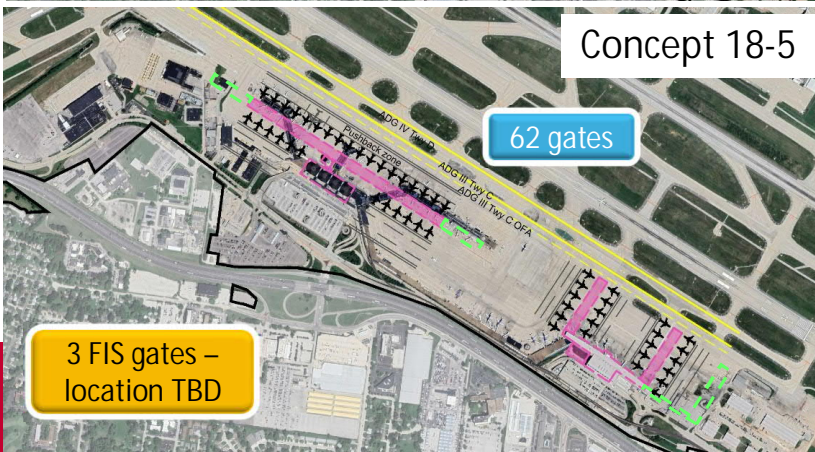
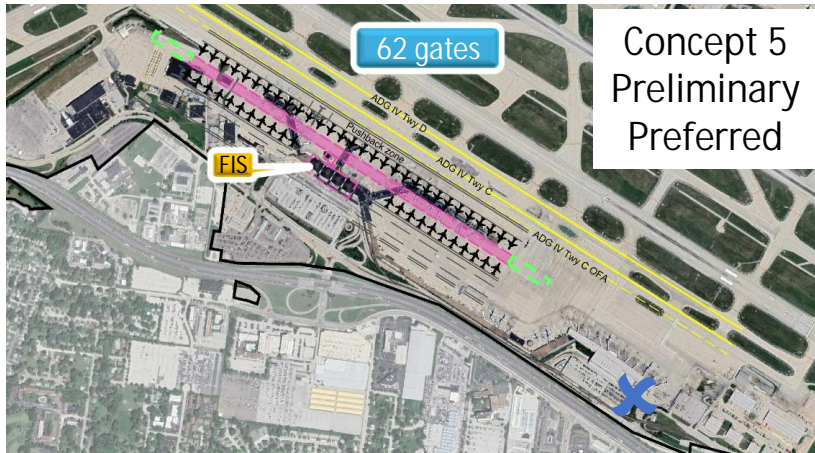






# Terminal Alternatives

## Shortlisted 4 Concepts





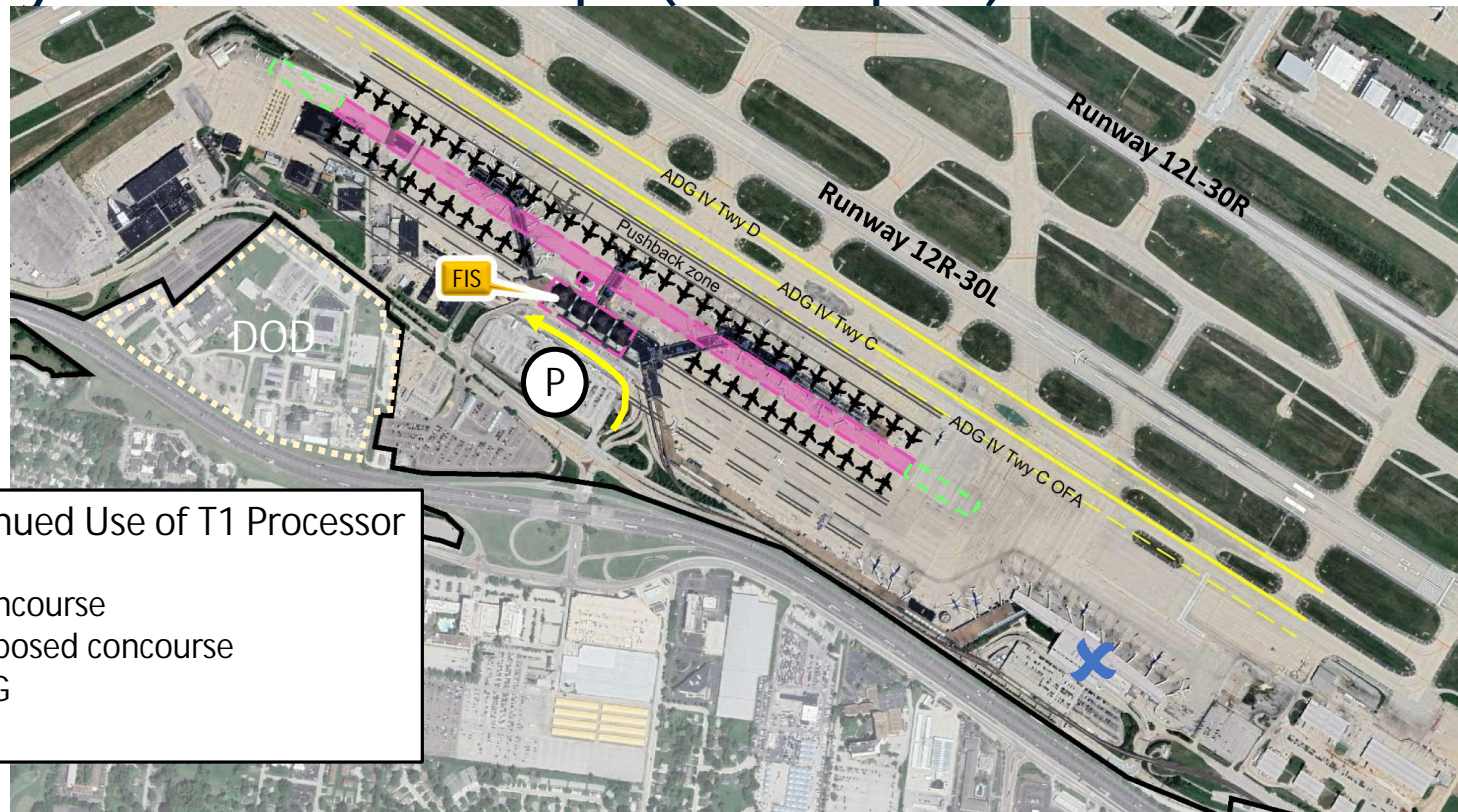
# Terminal Alternatives

## Preliminary Preferred Concept (Concept 5)



Validation / Reaffirmation of previous studies - preferred single, consolidated terminal concept:

- 2012 Master Plan
  - On the current Airport Layout Plan (approved by FAA)
- 2018 Privatization Study



### Single Linear Terminal with Continued Use of T1 Processor

62 gates in 2040

- 110'-wide double-loaded linear concourse
- Dual ADG III taxilanes south of proposed concourse
- Expand terminal west over MOANG
- Concourse centered on processor





# Preliminary Preferred Terminal Processor Overview



Proposed

Departures Drive Stacked Above Arrivals Drive



Existing Walkway

Existing Arrivals Dr.

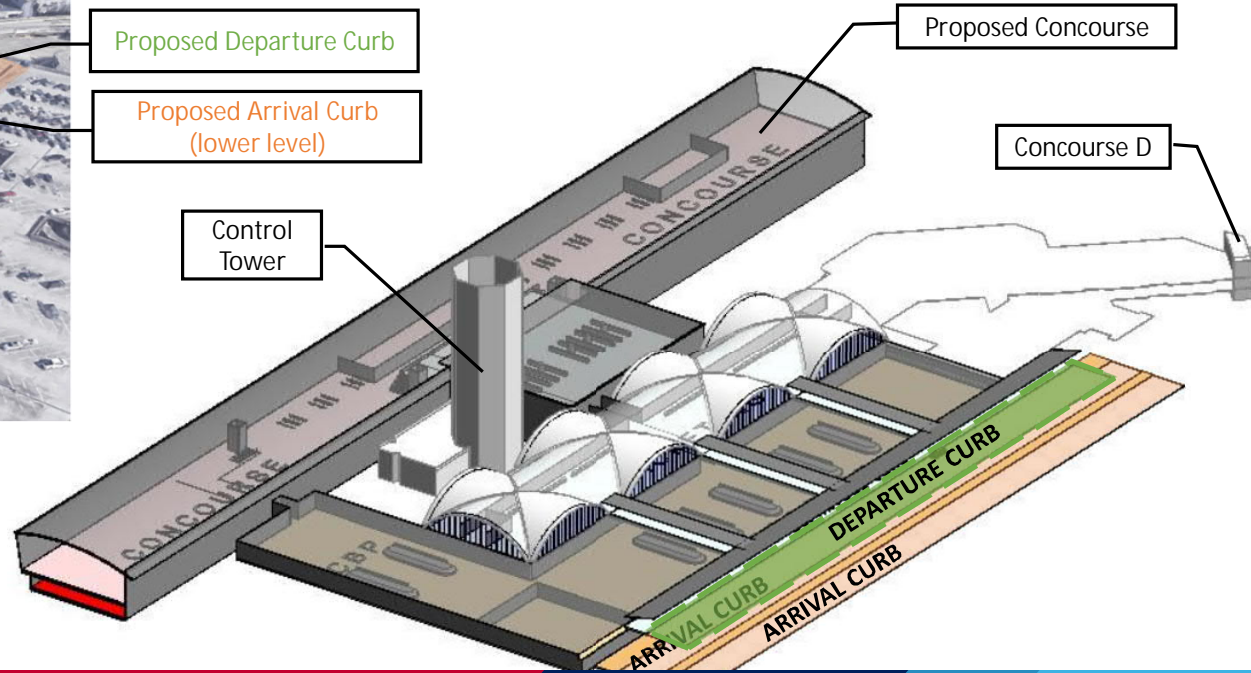
Existing Arrivals Dr.

Proposed Terminal Walkways from Departure Curb

Proposed Departure Curb

Proposed Arrival Curb (lower level)

Control Tower



Proposed Concourse

Concourse D

CONCOURSE  
CONCOURSE  
DEPARTURE CURB  
ARRIVAL CURB  
ARRIVAL CURB

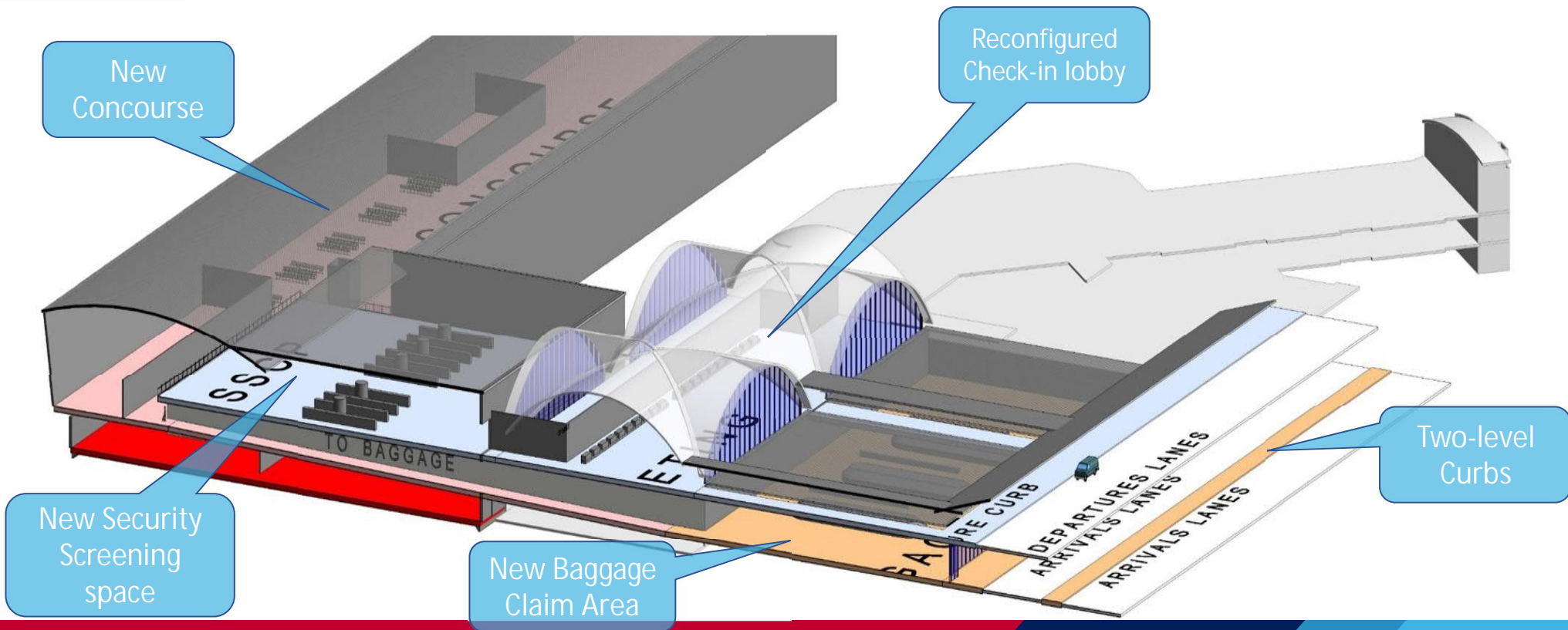
Existing Departures Drive Adjacent to Arrivals Drive





# Preliminary Preferred Terminal Processor

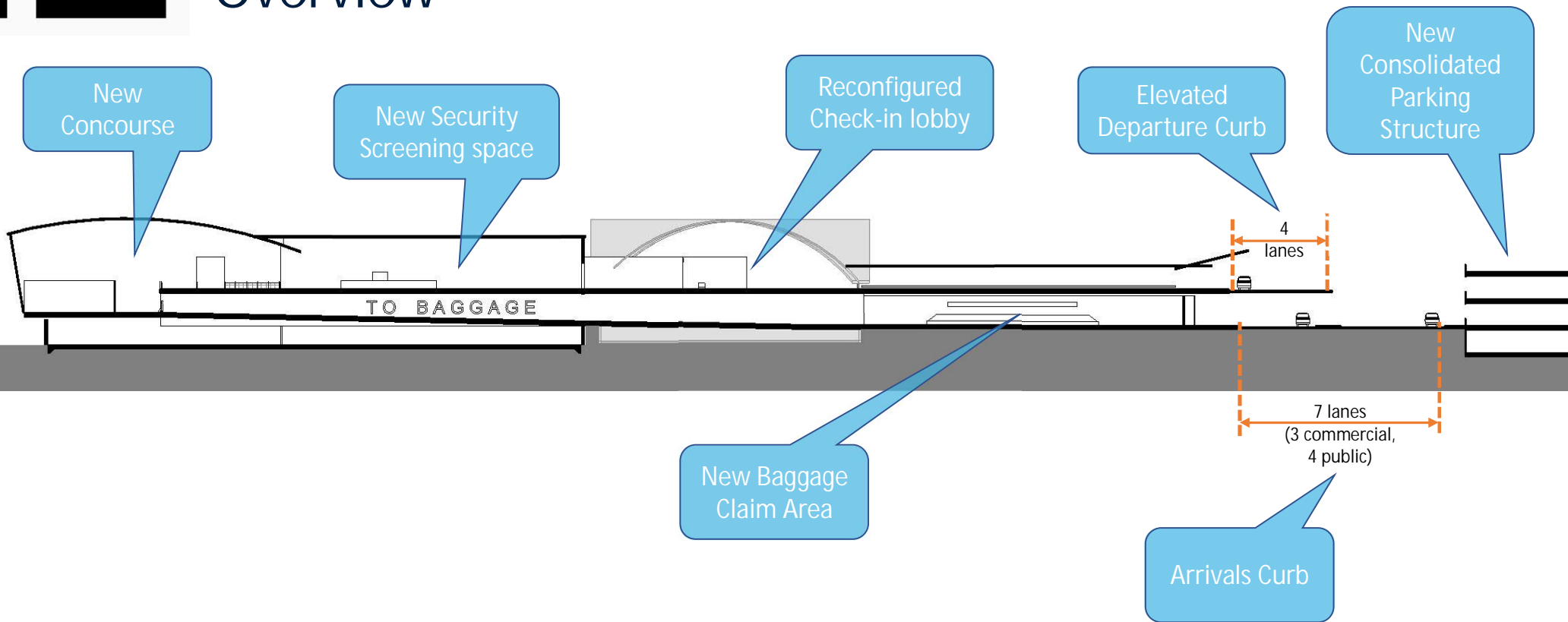
## Overview





# Preliminary Preferred Terminal Processor

## Overview





# Preliminary Preferred Terminal

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## Next Steps



- Additional detail and refinement of:
  - Program costs
  - Phasing and sequencing
  - Enabling projects (e.g. consolidated parking garage, departure/arrival curbsides, relocation of support facilities)
- Additional stakeholder collaboration with:
  - Airline partners
  - Tenants
  - FAA
  - Others





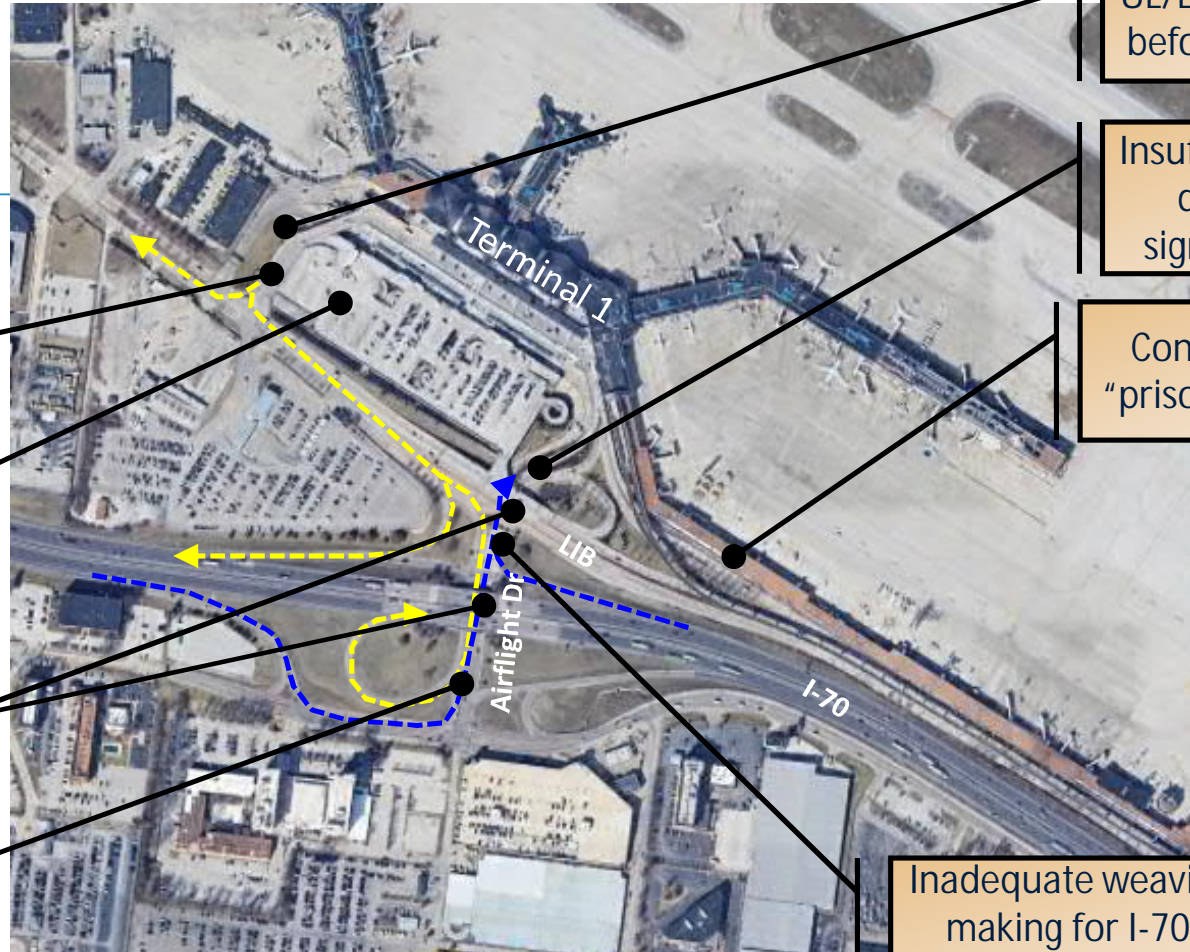
# Landside Needs and Alternatives





# Landside Alternatives

## Terminal 1 Access Issues



Short decision-making distance to intersection; Major boulevard in front of terminal

Tight parking envelope

Confusion from two underpasses

Airflight Dr. also used for off-site shuttles and hotel traffic

UL/LL should merge before intersection

Insufficient decision distance and signage overload

Concourse D wall "prison appearance"

Legend:  
--- Outbound  
--- Inbound

Inadequate weaving/decision-making for I-70 WB traffic exiting at Airflight Dr

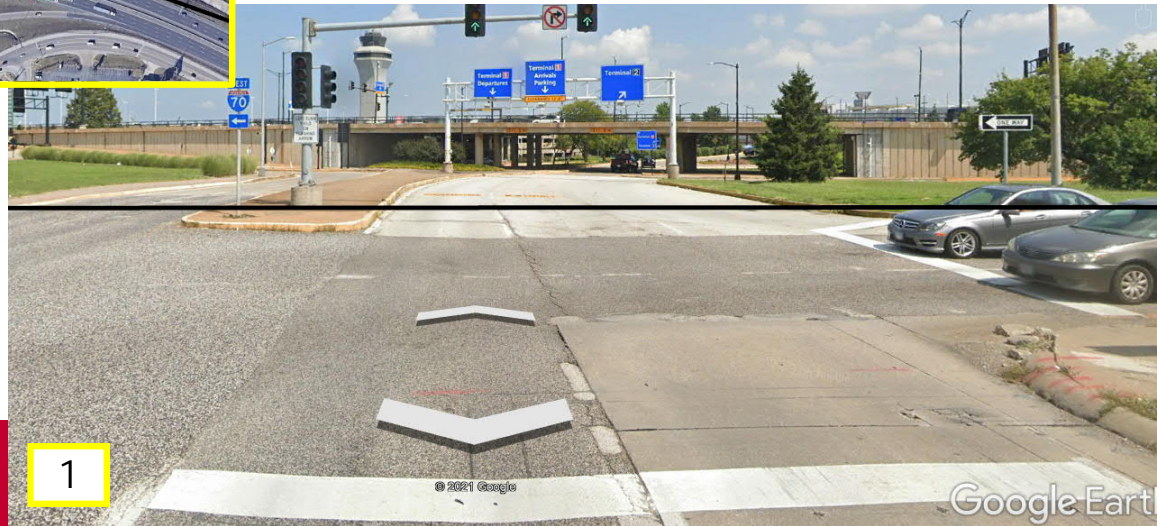
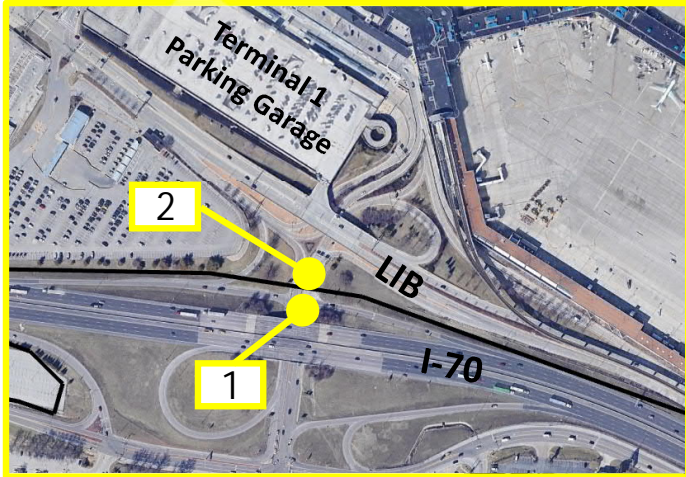






# Landside Alternatives

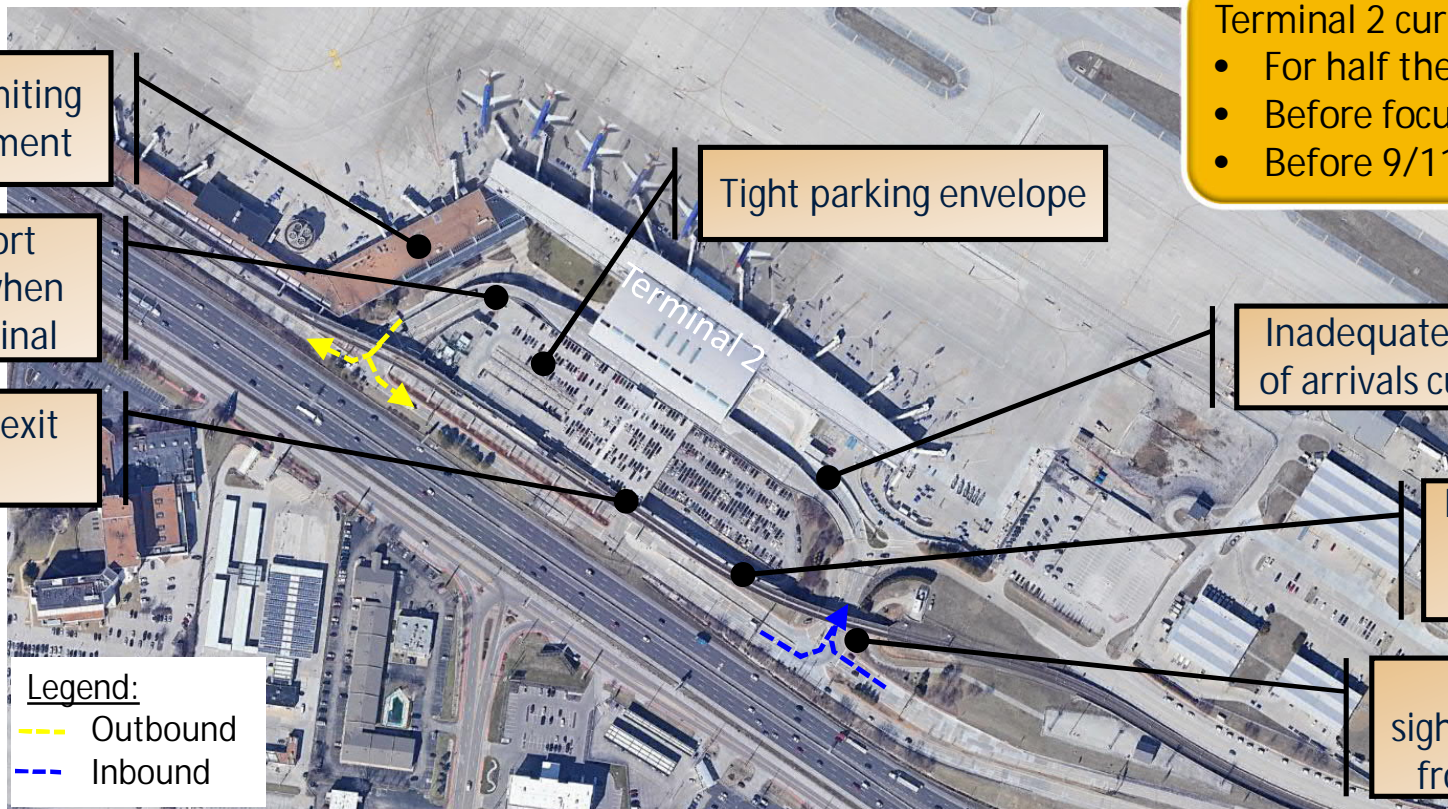
## Terminal 1 Access Issues





# Landside Alternatives

## Terminal 2 Access Issues



Terminal 2 curbside designed:

- For half the current traffic
- Before focus city status
- Before 9/11

Concourse E limiting roadway alignment

Tight parking envelope

Inadequate number of arrivals curb lanes

Elevated MetroLink tracks limit development

Short sightline/decision time from LIB onto T2 Dr

Tight turn/short decision time when departing terminal

Parking garage exit onto LIB

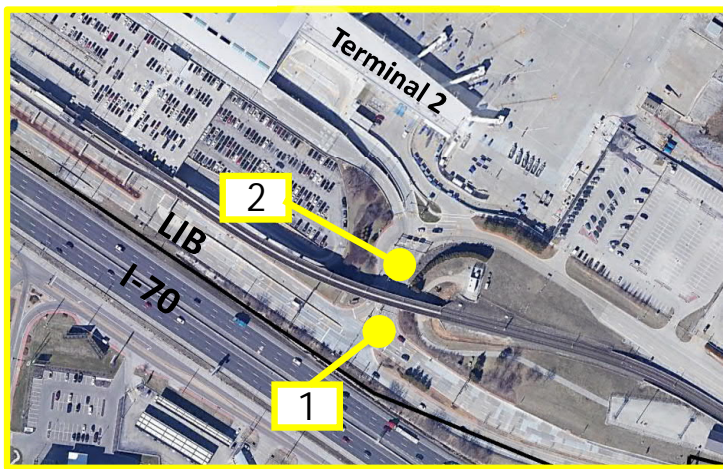
Legend:  
--- Outbound  
--- Inbound





# Landside Alternatives

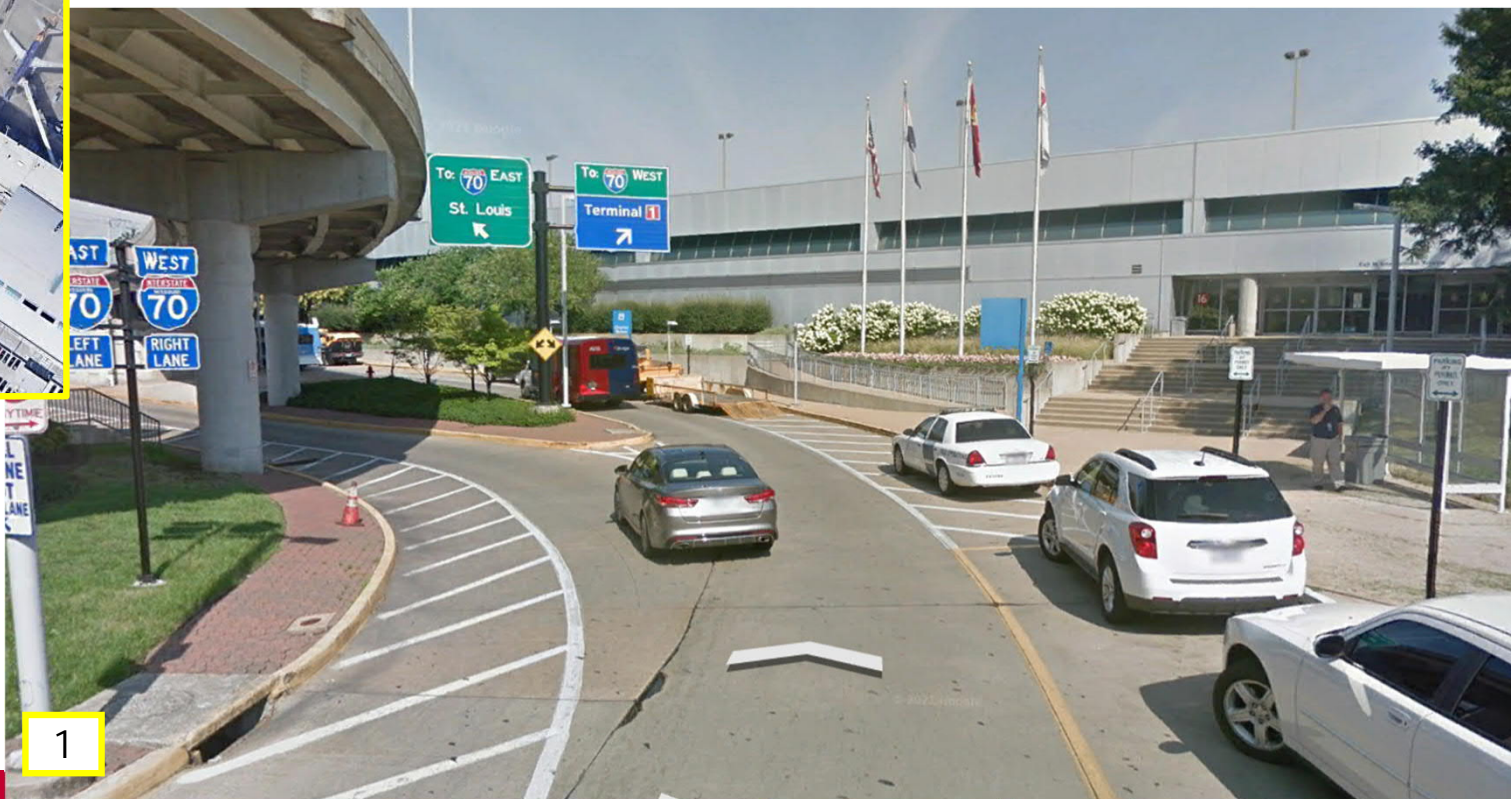
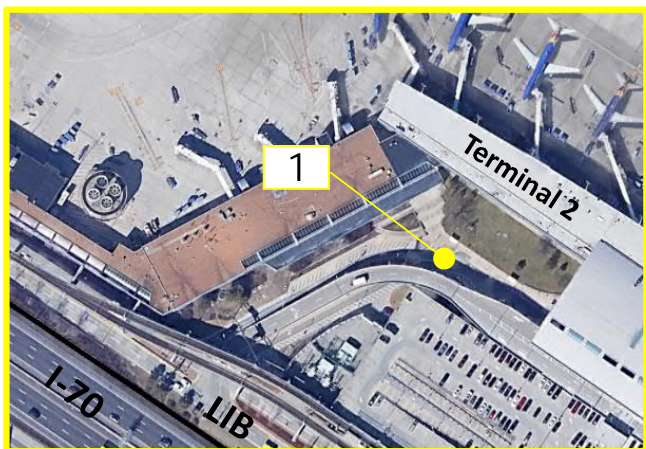
## Terminal 2 Access Issues (Entering)





# Landside Alternatives

## Terminal 2 Access Issues (Exiting)





# Landside Alternatives

## Ideal Terminal Access: IND Airport Example



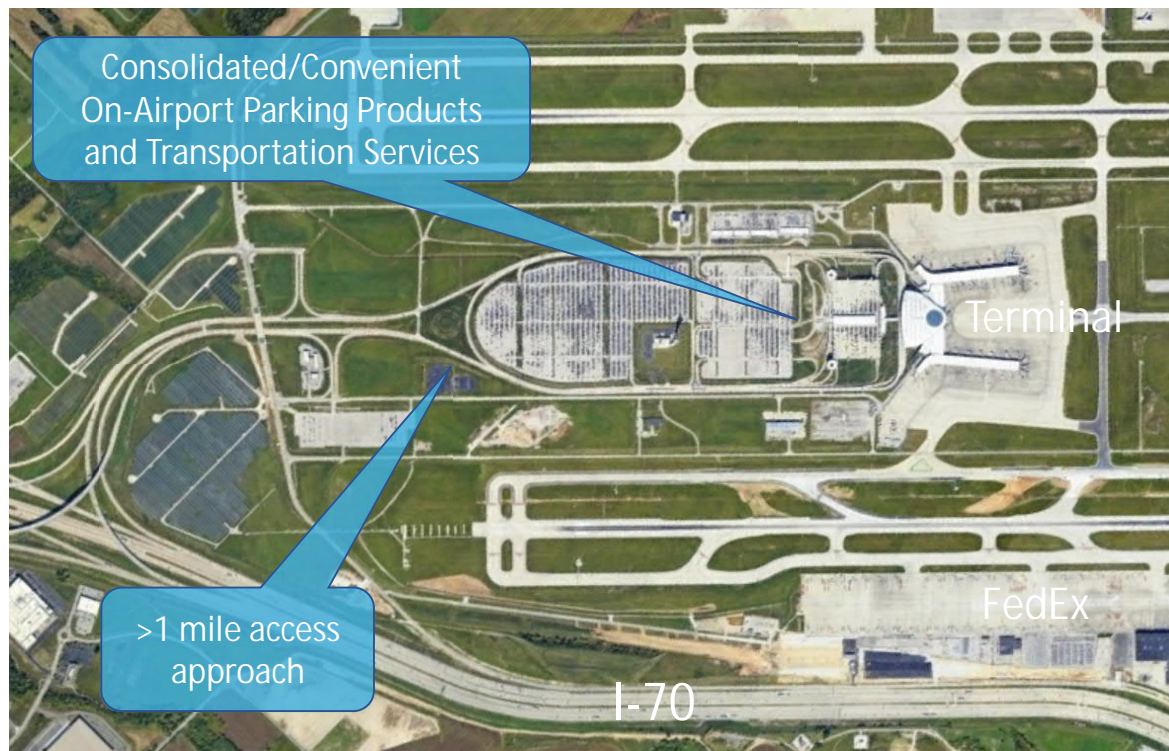
### Goals:

Meet projected demand with minimal congestion for cars, transit, pedestrian, bicycle, future modes:

- Easy decision-making
- Minimal weaving
- Simple, free-flowing

### List of Priorities:

- Passengers
- Employees
- Shuttles/other



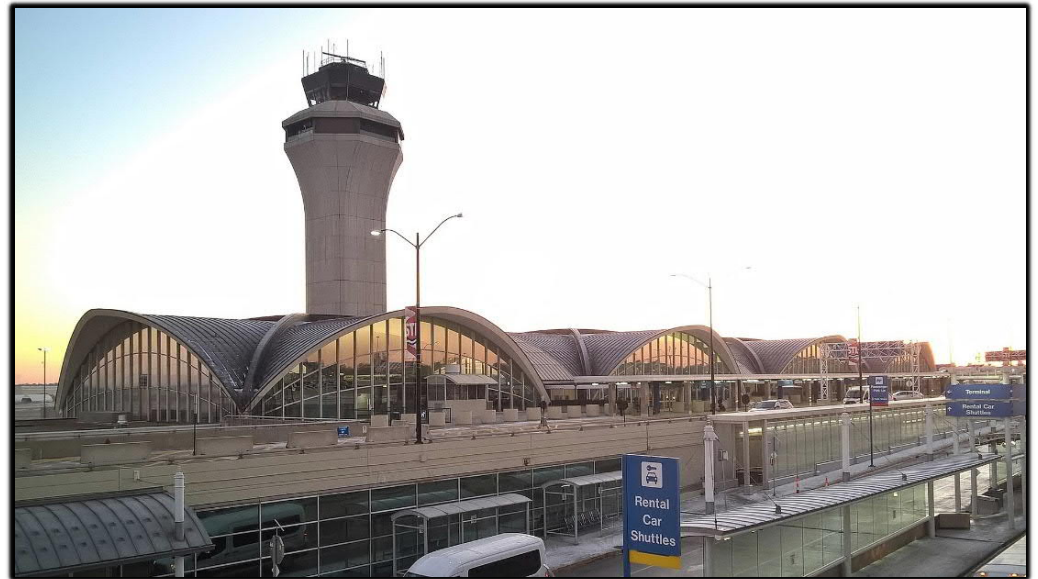


# Landside Alternatives

## Evaluation Criteria



- Easy decision making & distances
- Minimal weaving
- Simple, free-flowing access
- Grand entrance
- Access to parking
- Implementation timeline
- Connectivity to neighboring communities
- Bike/pedestrian access
- Avoid new roadways inside runway protection zone
- Avoid DOD property acquisition dependency





# Landside Alternatives

## Concepts Development



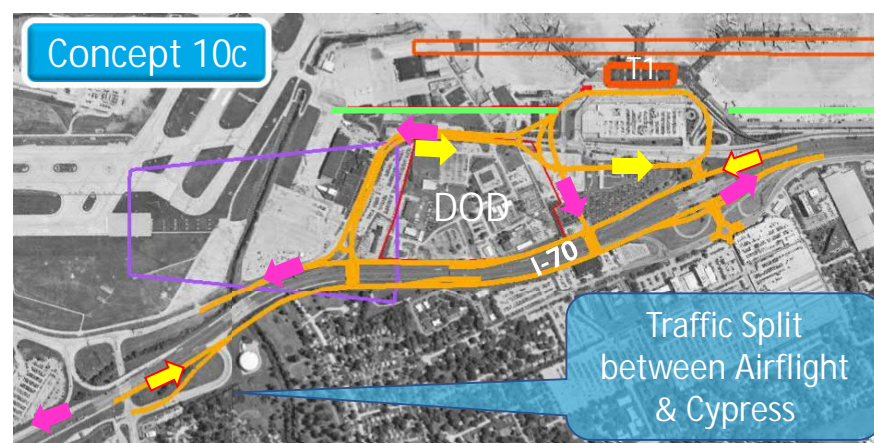
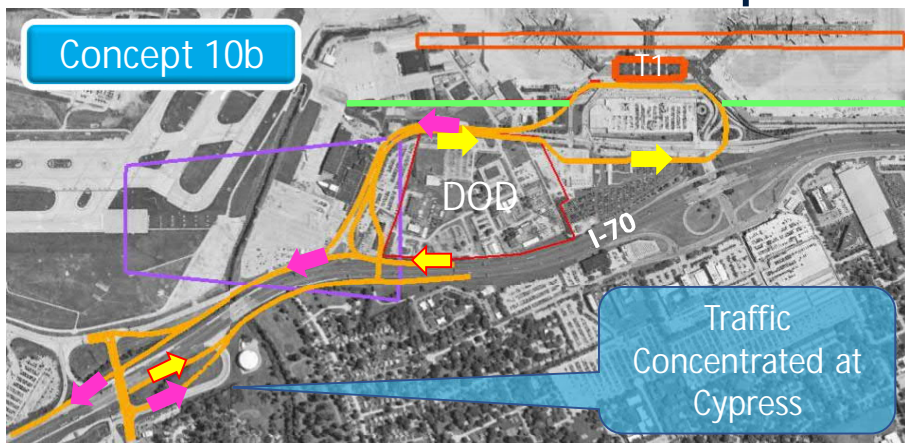
- Short distance between highway and terminal
- Looked at 25+ concepts:
  - Range of Airport access locations off highway from Cypress Rd to I-170
  - Range of interchange types





# Landside Alternatives

## Shortlisted Concepts



### Legend:

- Proposed Terminal
- Airside Boundary
- Runway Protection Zone
- Proposed Roads
- Inbound Traffic
- Outbound Traffic







# Landside Alternatives

## Preliminary Preferred – Alternative 10c



Legend:

- Inbound Traffic
- Outbound Traffic
- I-70 Entrance/Exit
- Elevated Roadway
- Consolidated Garage



- Maintains access to/from South of I-70
  - preserves local network
- Maintains 2-way LIB & Natural Bridge traffic
- Improves Pedestrian/Bicycle access
- Redundancy for Entry/Exit points to/from I-70
- Avoids DOD property (independency)





# Landside Alternatives

## Next Steps



- Develop additional detail to continue evaluating the Preliminary Preferred Landside Alternative (10c)
- Include in depth investigations with MoDOT, St. Louis County Highways, and neighboring municipalities
- Facilities also considered once a preferred roadway alternative is selected:
  - Parking (public, employee, ride share, taxi)
  - Ground Transportation Center
  - Consolidated Rental Car Facility (CONRAC) – future flexibility





# Evaluation of Support Facilities Alternatives





# Other/Support Facilities Needs

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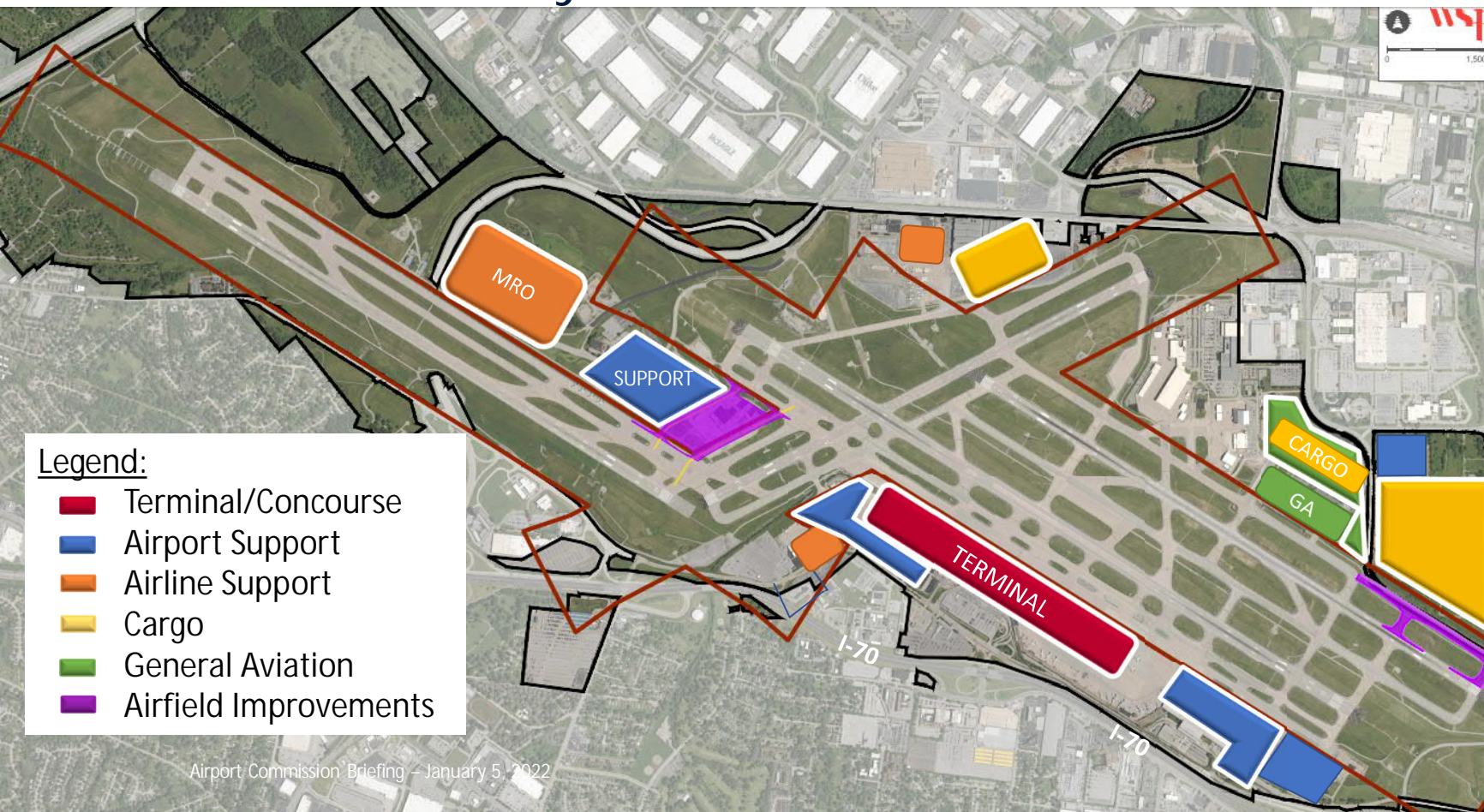
- Cargo
- General Aviation
- Aircraft Maintenance, Repair & Overhaul
- Airline Support:
  - MRO
  - RON/hardstand parking
  - GSE repair
  - Belly cargo
- Airport Support:
  - Consolidated ARFF
  - Airport maintenance
  - Fuel storage
  - Concessions' logistics
  - Airport police
  - Airport administration
  - Control tower





# Other/Support Facilities Alternatives

## Preliminary Preferred



Legend:

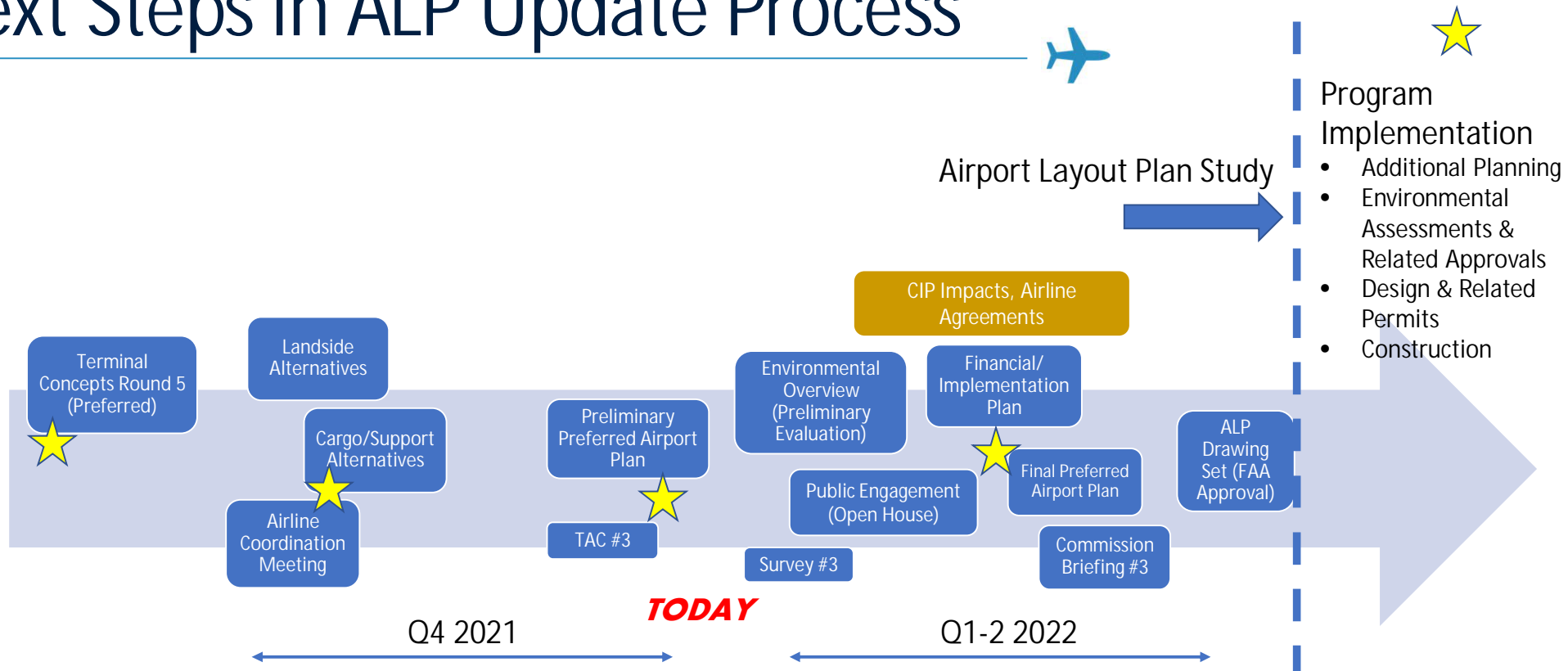
- Terminal/Concourse
- Airport Support
- Airline Support
- Cargo
- General Aviation
- Airfield Improvements



# Next Steps



# Next Steps in ALP Update Process

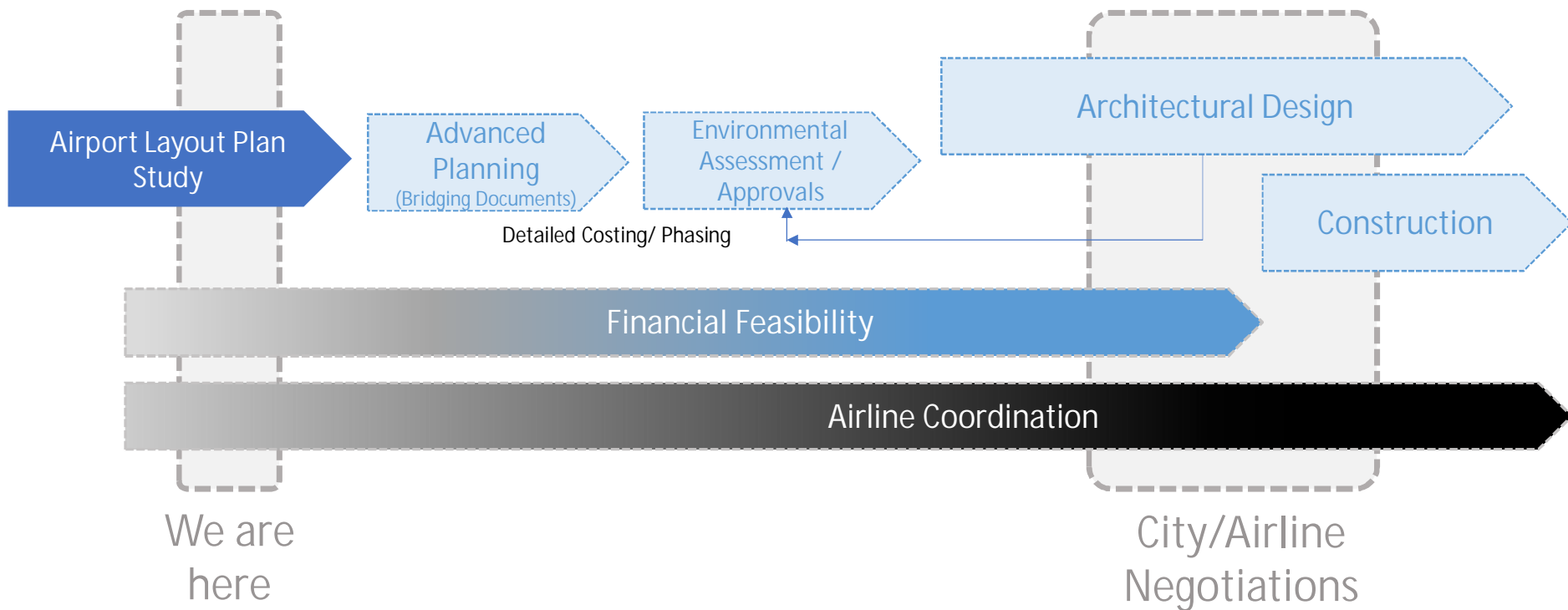


★ TAC/AAAC Meetings



# Beyond the ALP Update Process

## Typical Airport Program Implementation





# Next Steps

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- Additional Commission/TAC/AAAC, Public Surveys, Public Engagement and other stakeholders' communications
- Implementation/Financial Planning
- Environmental Overview
- Finalize Plan
- Airport Layout Plan Drawing Set Submittal to FAA for Approval
- Final ALP Update Report

## Stakeholder Communication to come:

- Airport Commission Briefing: **TODAY**
- Website updates: Q4 2021 (**just published**) and Q2 2022
- Survey #3
- Public Engagement (Open House)



Thank You



[flystl.com](http://flystl.com)

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314-551-5027

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