



Airport Layout Plan Update

Airport Commission Briefing

January 5, 2021

Meeting Agenda



- 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



- 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



- 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



- 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



- 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



- ✓ 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



- ✓ 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:

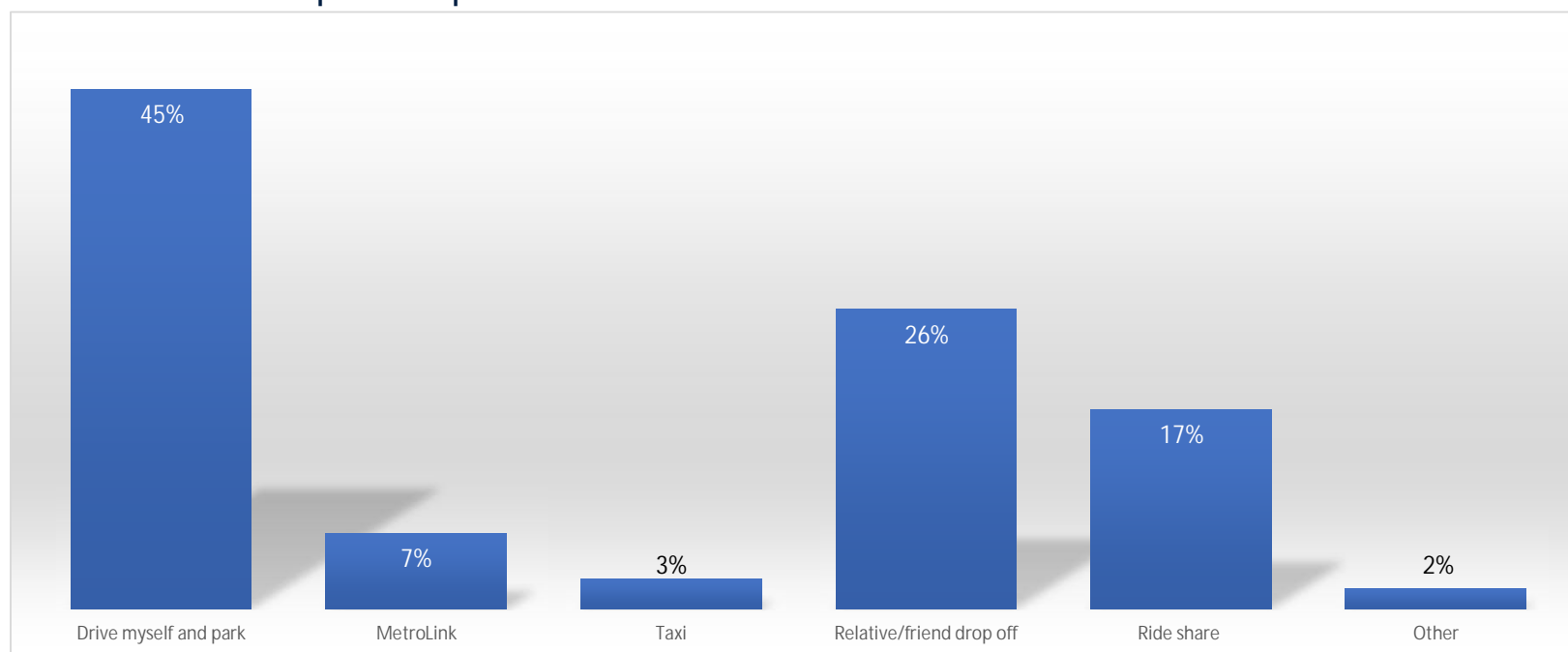
- 82% of the respondents commented on the number of terminals, and of those, 52% prefer a single terminal
- Connection between terminals is preferred if two remain
- Dropping off and picking up passengers is easier with one terminal



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



- ✓ 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

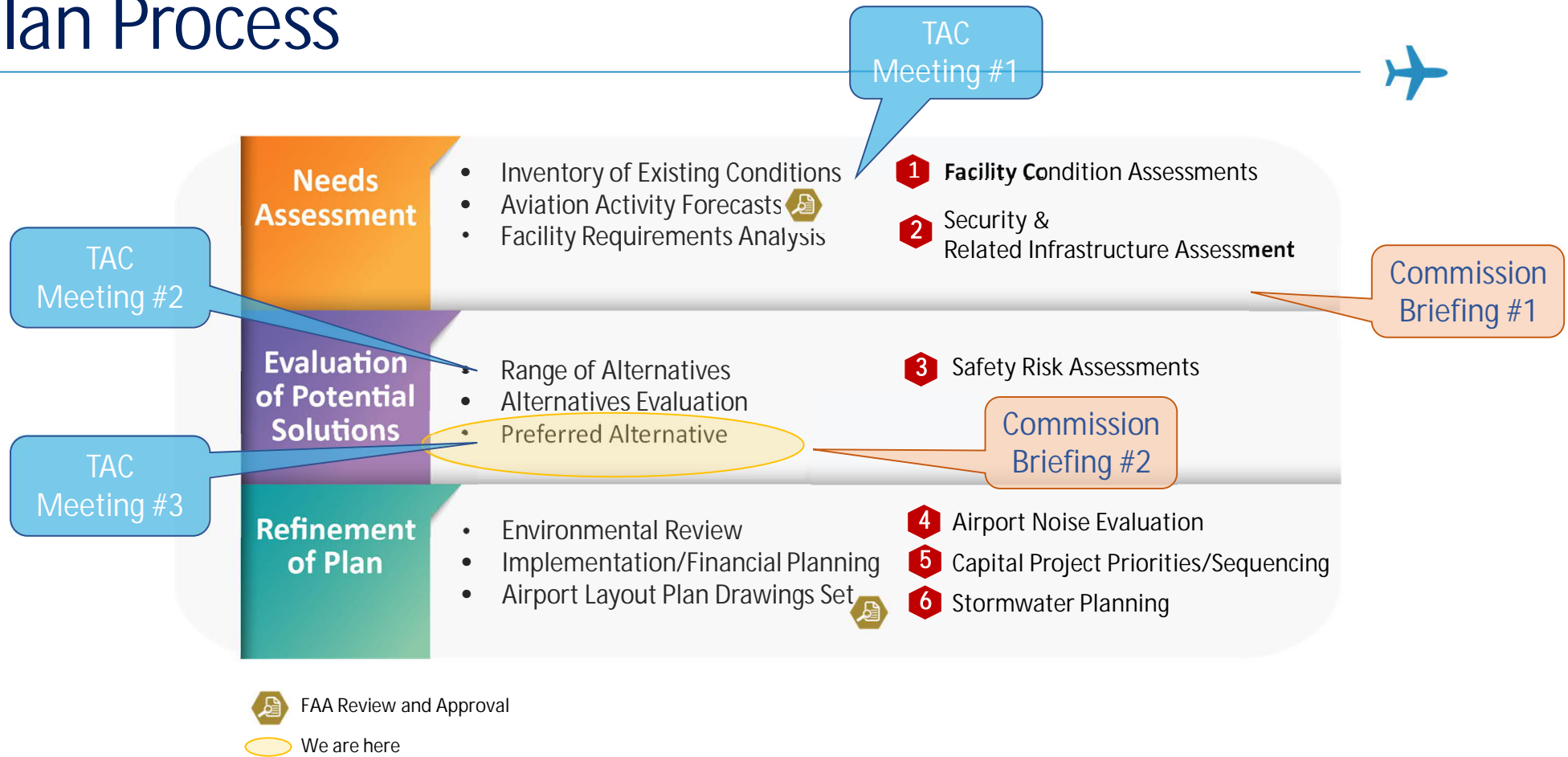




Plan Overview & Progress



Plan Process



Plan Progress



- 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



- 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

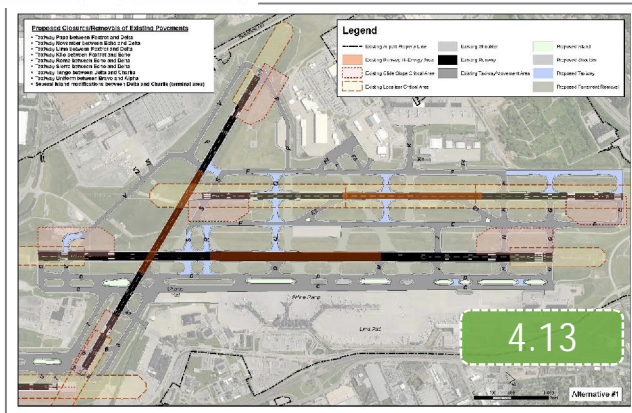


FedEx
Boeing 767 (ADG IV)



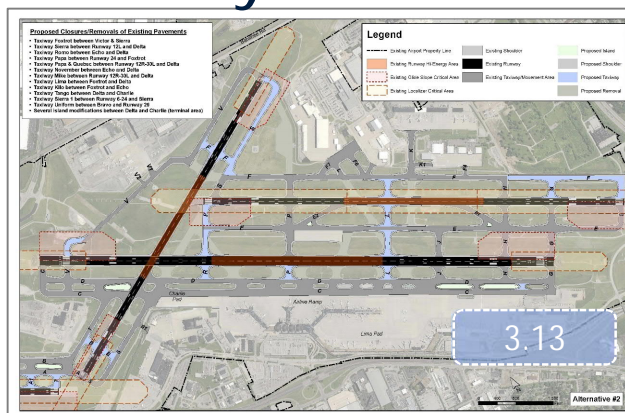
Lufthansa Airlines
Airbus A330-300 (ADG V)





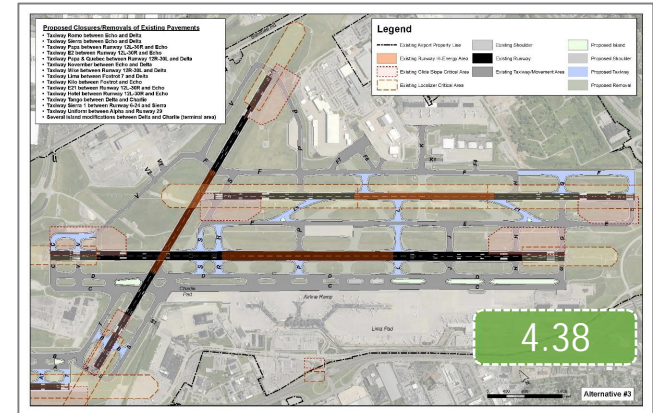
4.13

Alternative #1



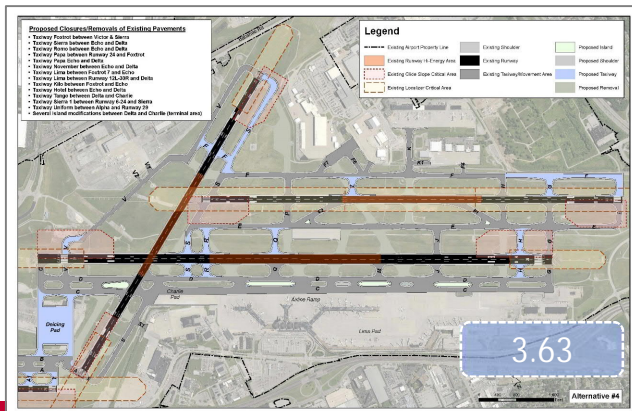
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Alternative



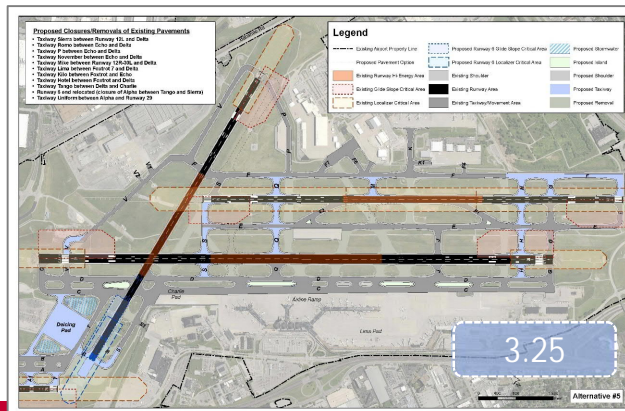
4.38

Alternative #3



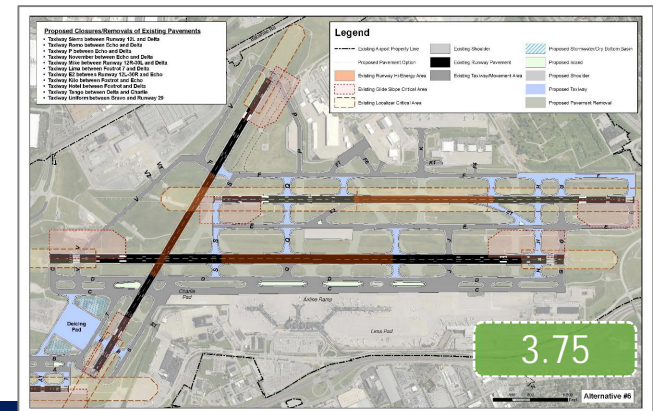
3.63

Alternative #4



3.25

Alternative



3.75

Alternative #6





Airfield Alternatives

Preliminary Preferred Layout

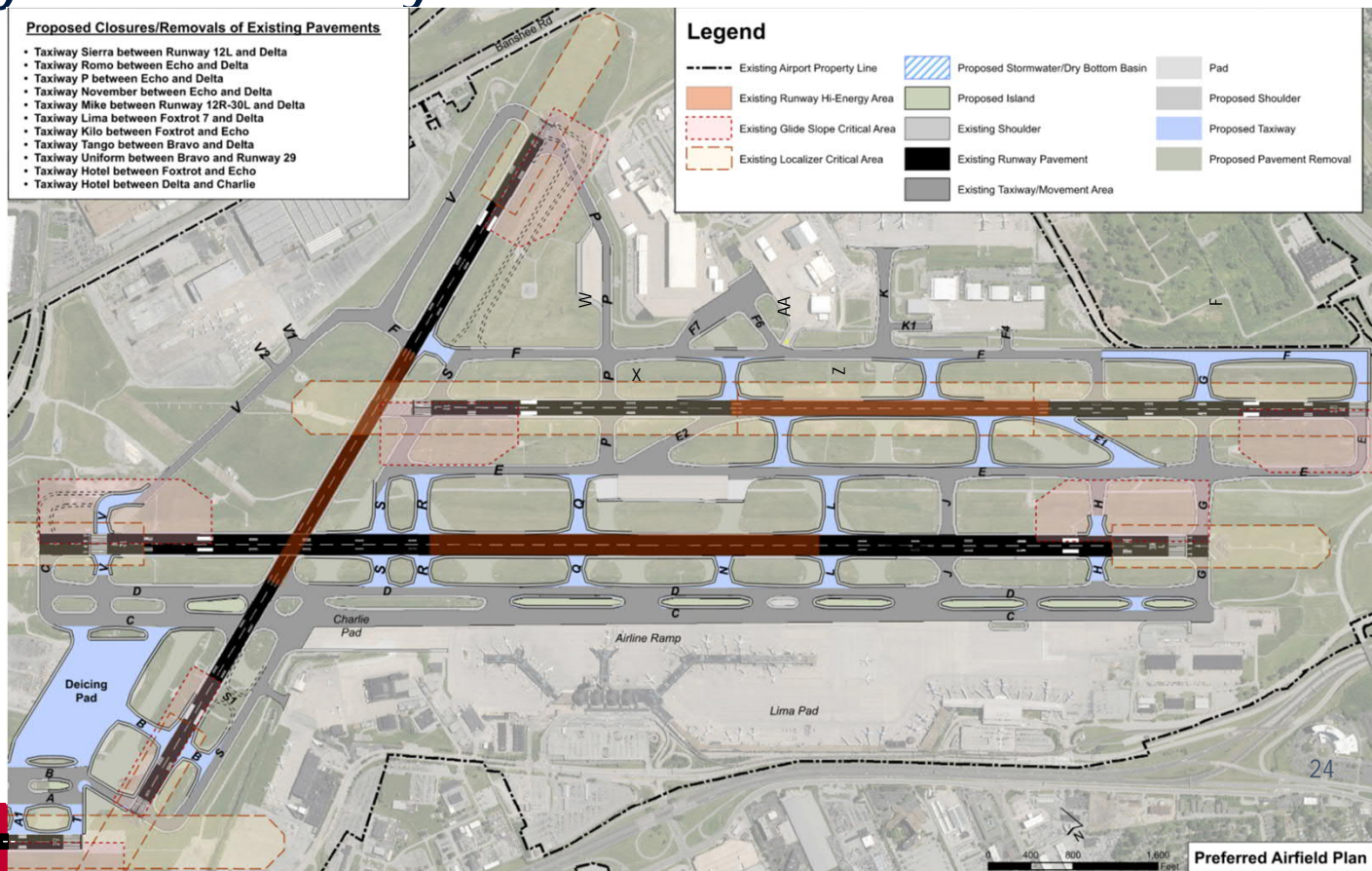


Generalized Improvements – align with current FAA Standards:

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

Runway 11-29 Complex

(No changes outside of Runway 29 end improvements)





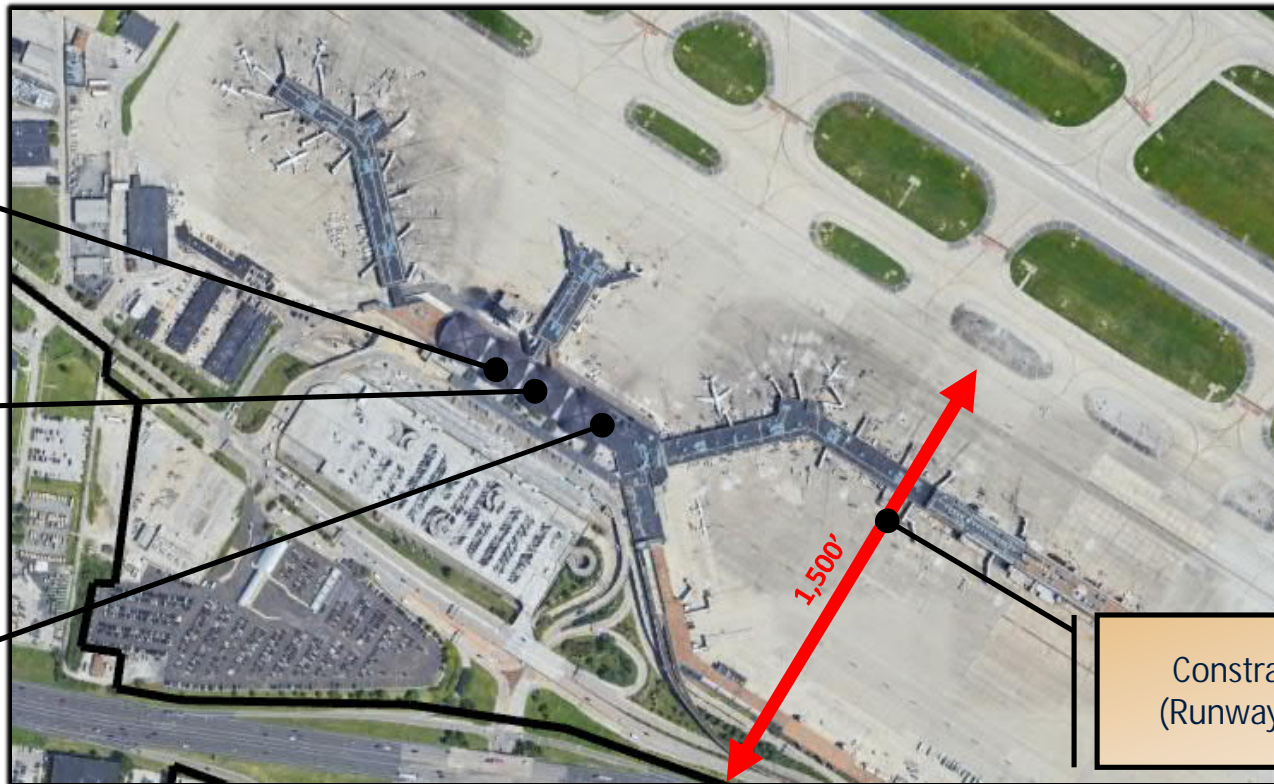
Terminal Needs and Alternatives





Passenger Terminal

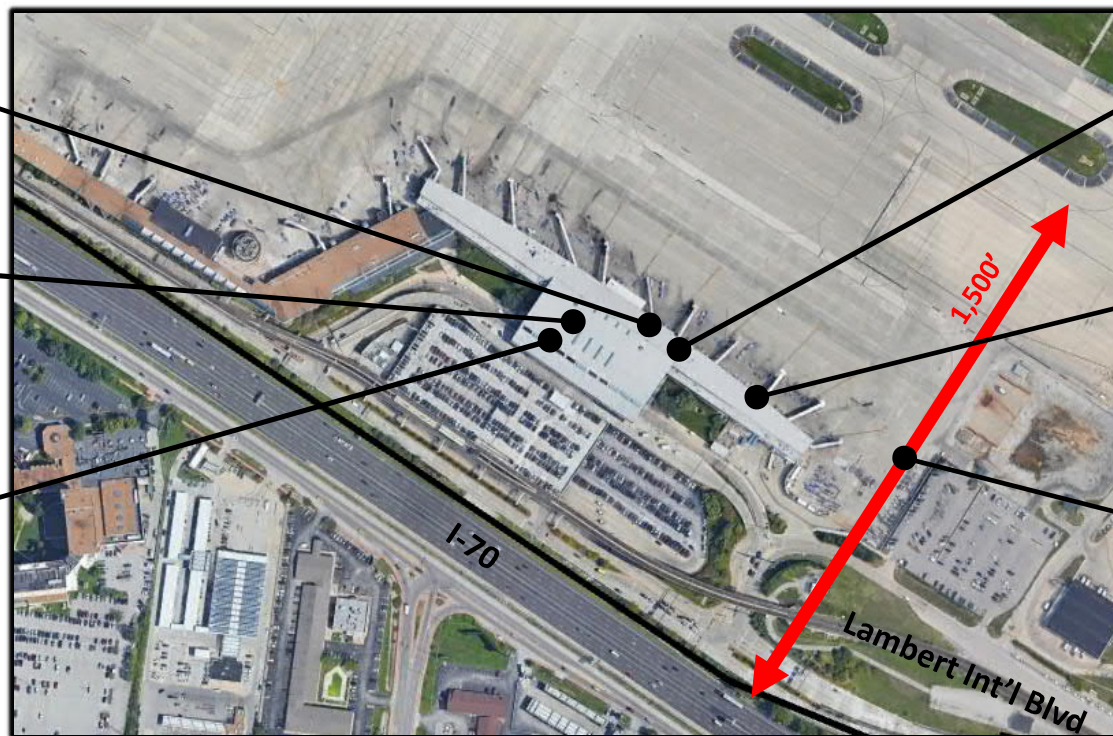
Existing Issues – Terminal 1





Passenger Terminal

Existing Issues – Terminal 2



Undersized
baggage make-up*

Undersized
concessions

Undersized domestic
and int'l baggage
claim area*

Single-loaded
concourse

No baggage re-check
counters for
connecting int'l
passengers

Constrained
site

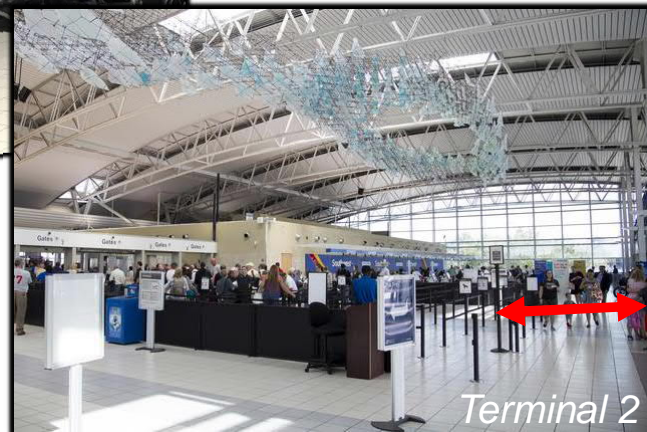
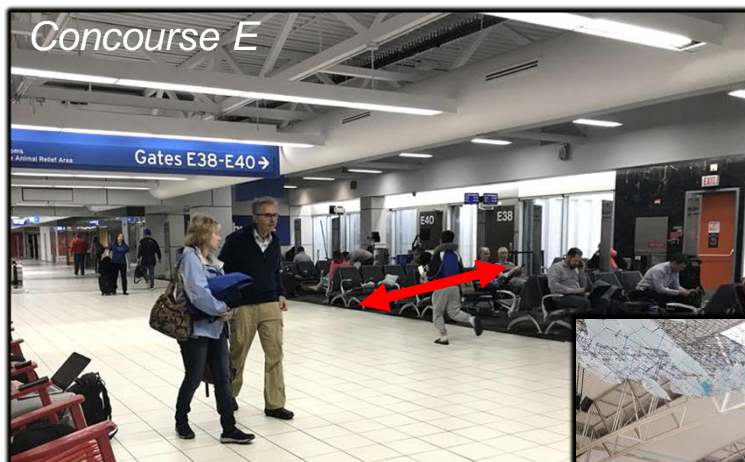
* Planned improvements





Passenger Terminal

Existing Conditions (congestion)





Passenger Terminal



Existing Conditions vs 2040 Needs

	Number of Gates		Building (Sq. Ft.)	
	Existing	2040	Existing	2040
Separate Terminals				
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
Total	54*	62	1,305,000	1,623,000
Single Terminal				
	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



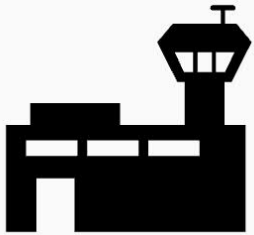
Fatal Flaw Decision Points

- 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





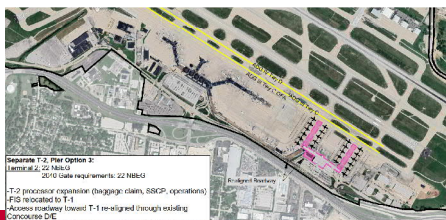
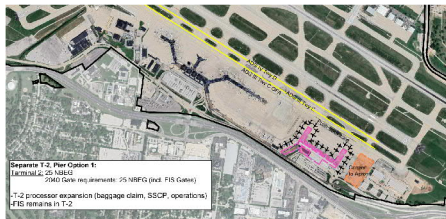
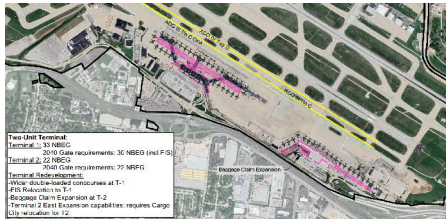
Terminal Alternatives

Considering All the Options (22 initial concepts)

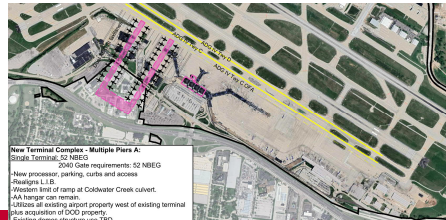
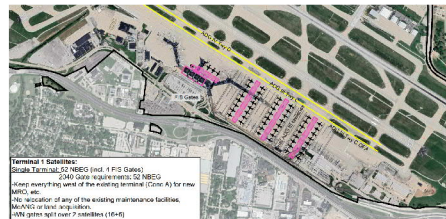
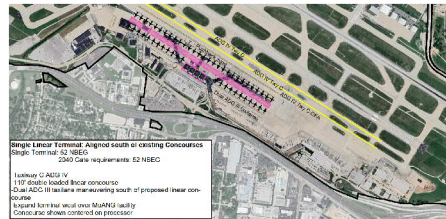


The initial analysis included potential new terminal sites across the entire Airport property. Due to cost, only the existing site was retained.

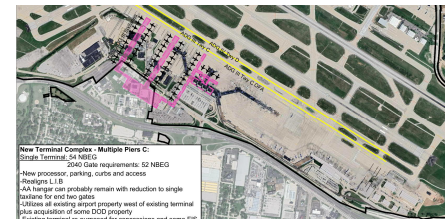
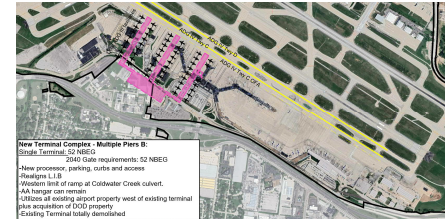
Retain Two Terminals



Consolidate Terminals

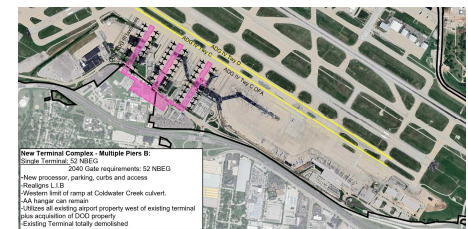


With or Without Domes



Work with Existing or All New

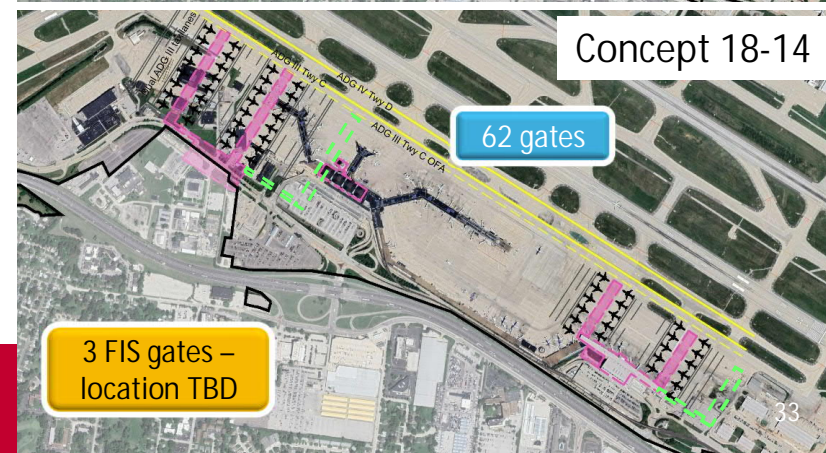
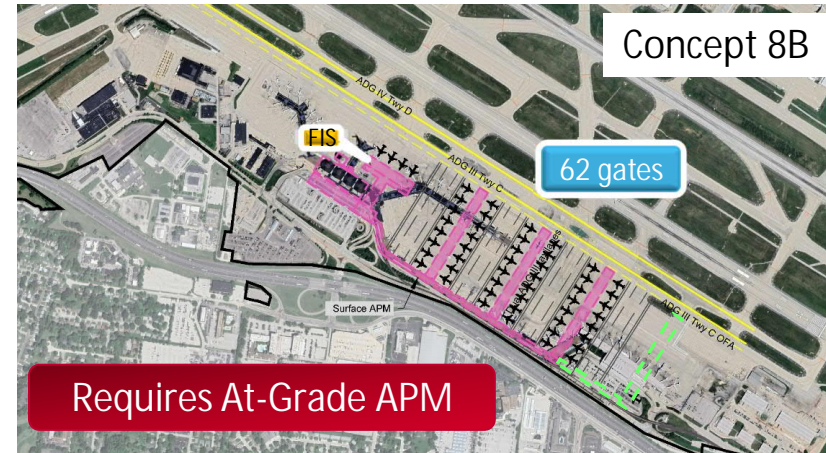
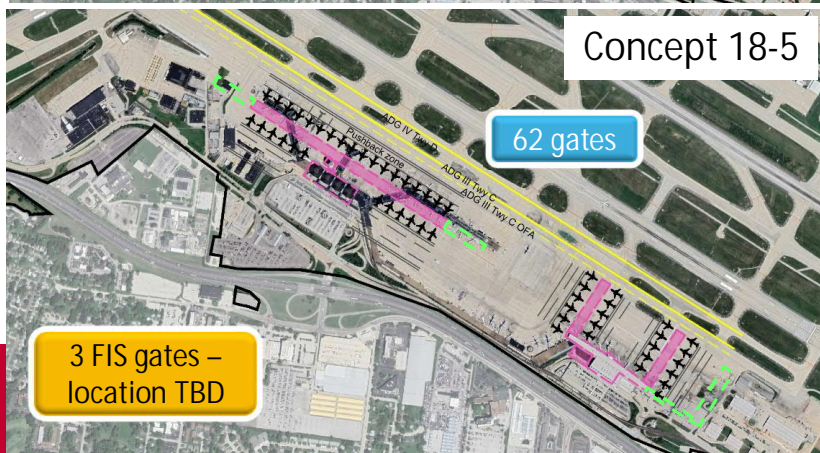
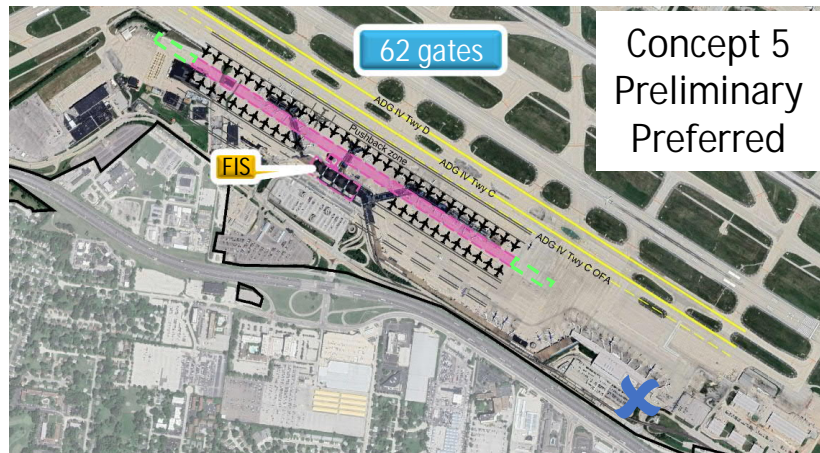
- Reopen Concourse D
- Airline terminal swap





Terminal Alternatives

Shortlisted 4 Concepts



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January 5, 2022



Terminal Alternatives

Preliminary Preferred Concept (Concept 5)



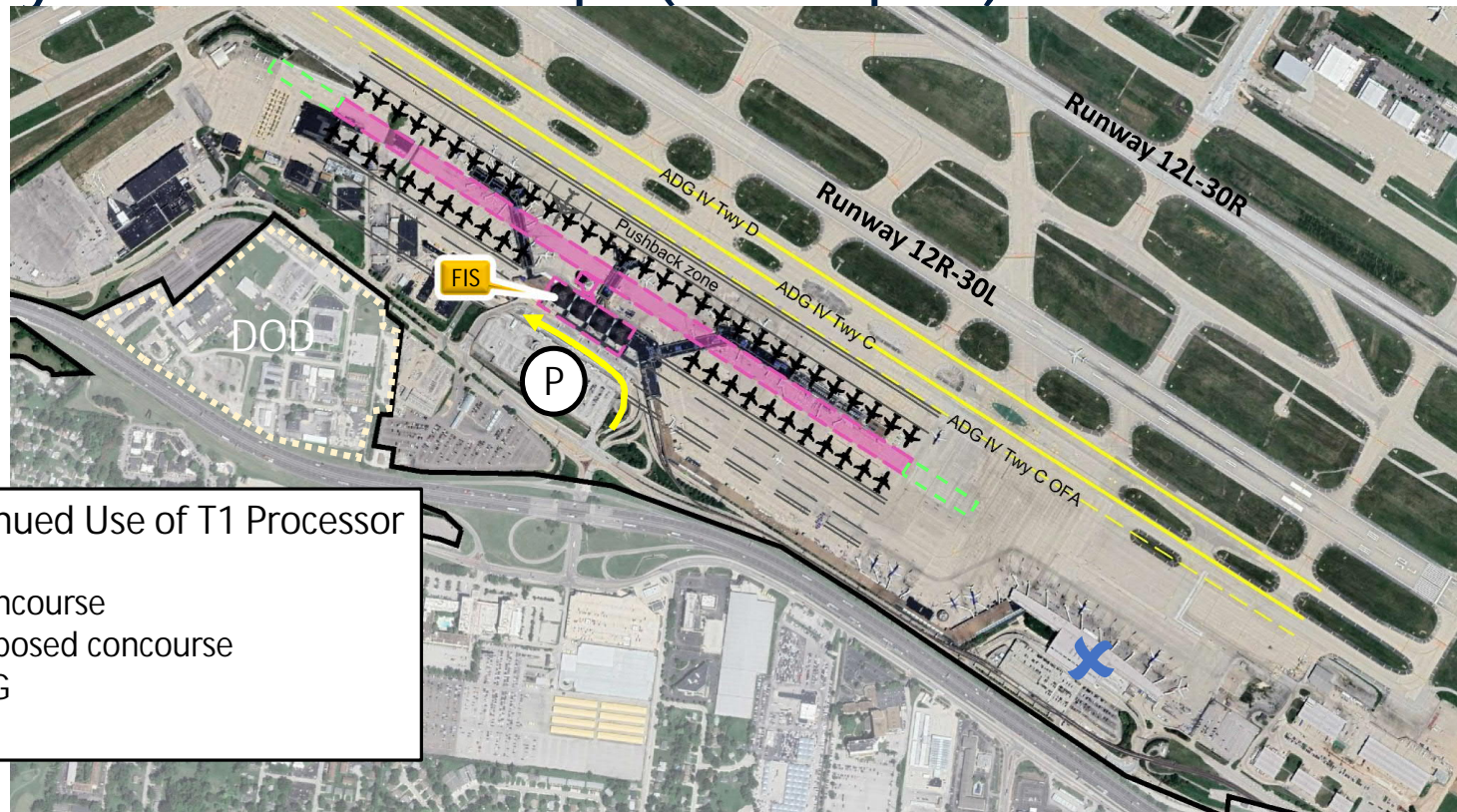
Validation / Reaffirmation of previous studies - preferred single, consolidated terminal concept:

- 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

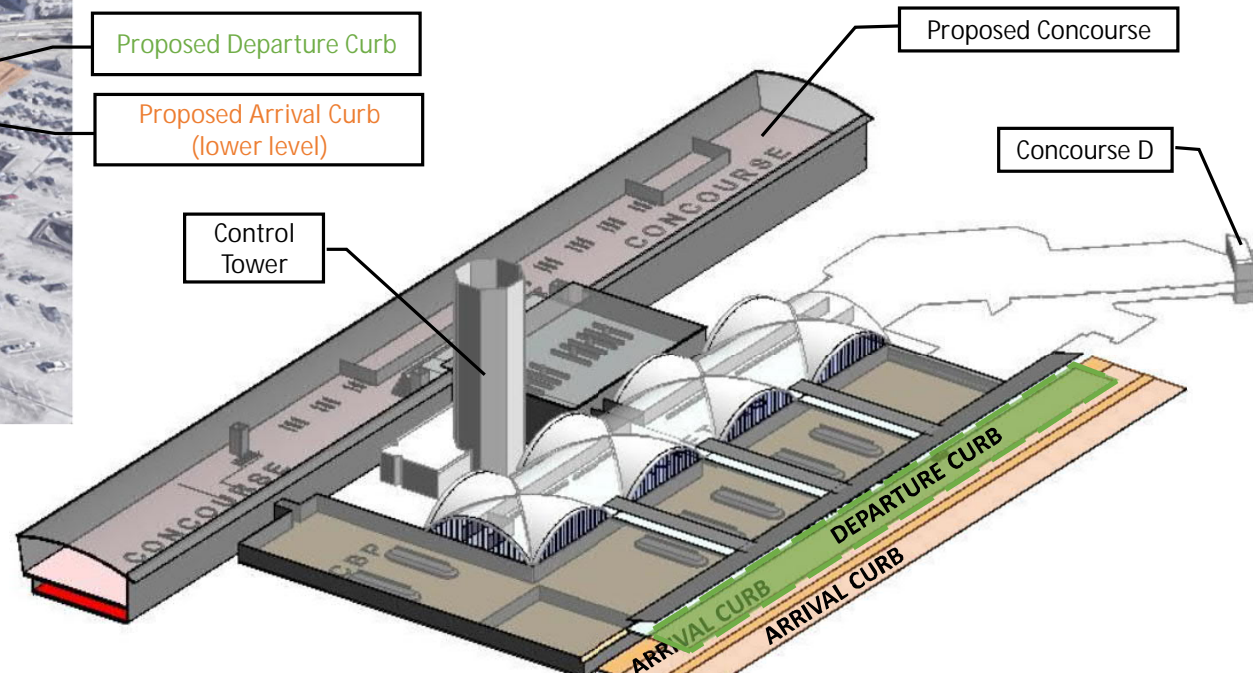


Proposed Terminal Walkways from Departure Curb

Proposed Departure Curb

Proposed Arrival Curb (lower level)

Control Tower



Existing

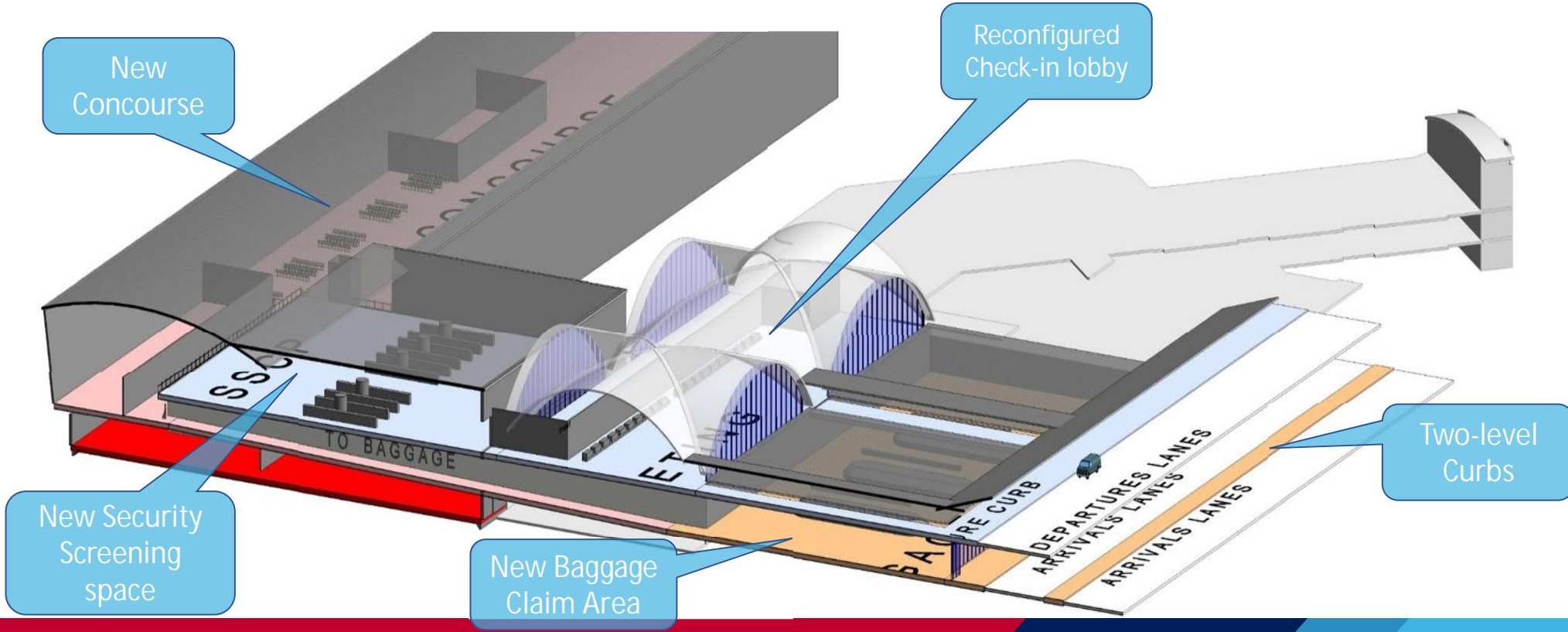
Departures Drive Adjacent to Arrivals Drive





Preliminary Preferred Terminal Processor

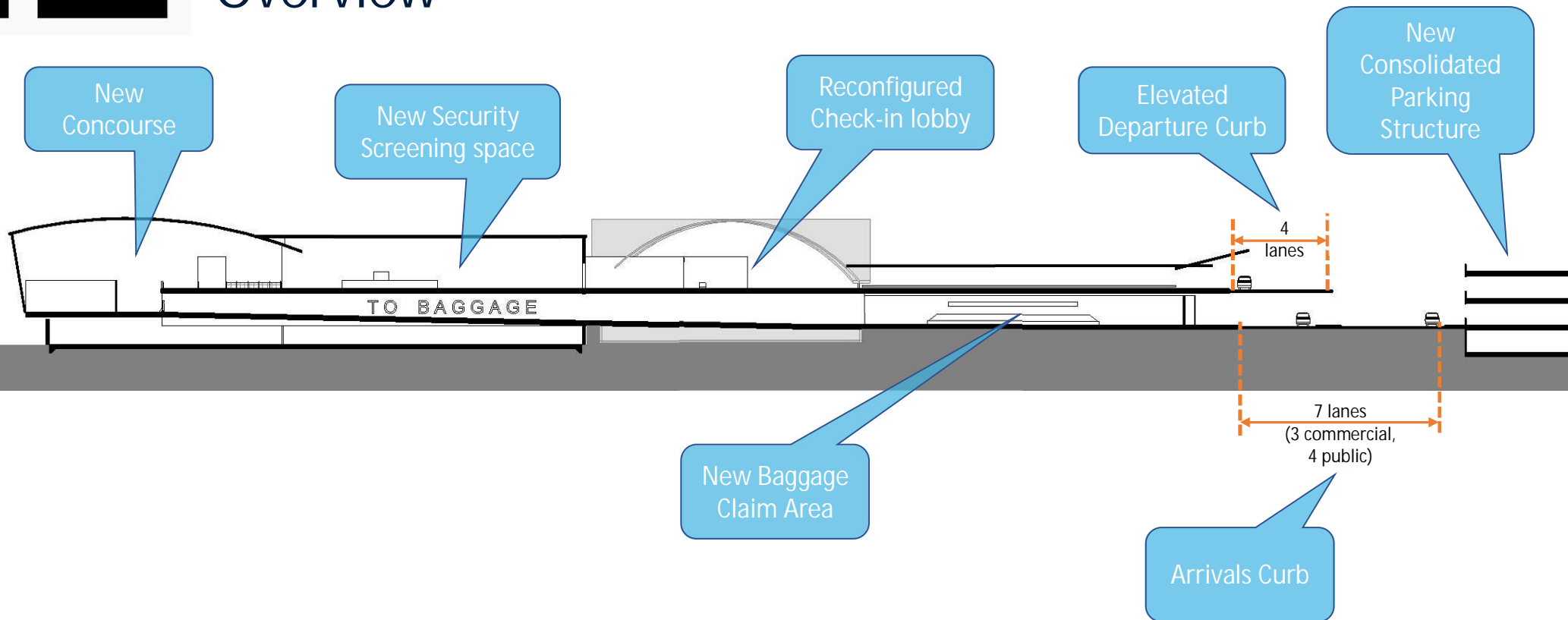
Overview





Preliminary Preferred Terminal Processor

Overview





Preliminary Preferred Terminal

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





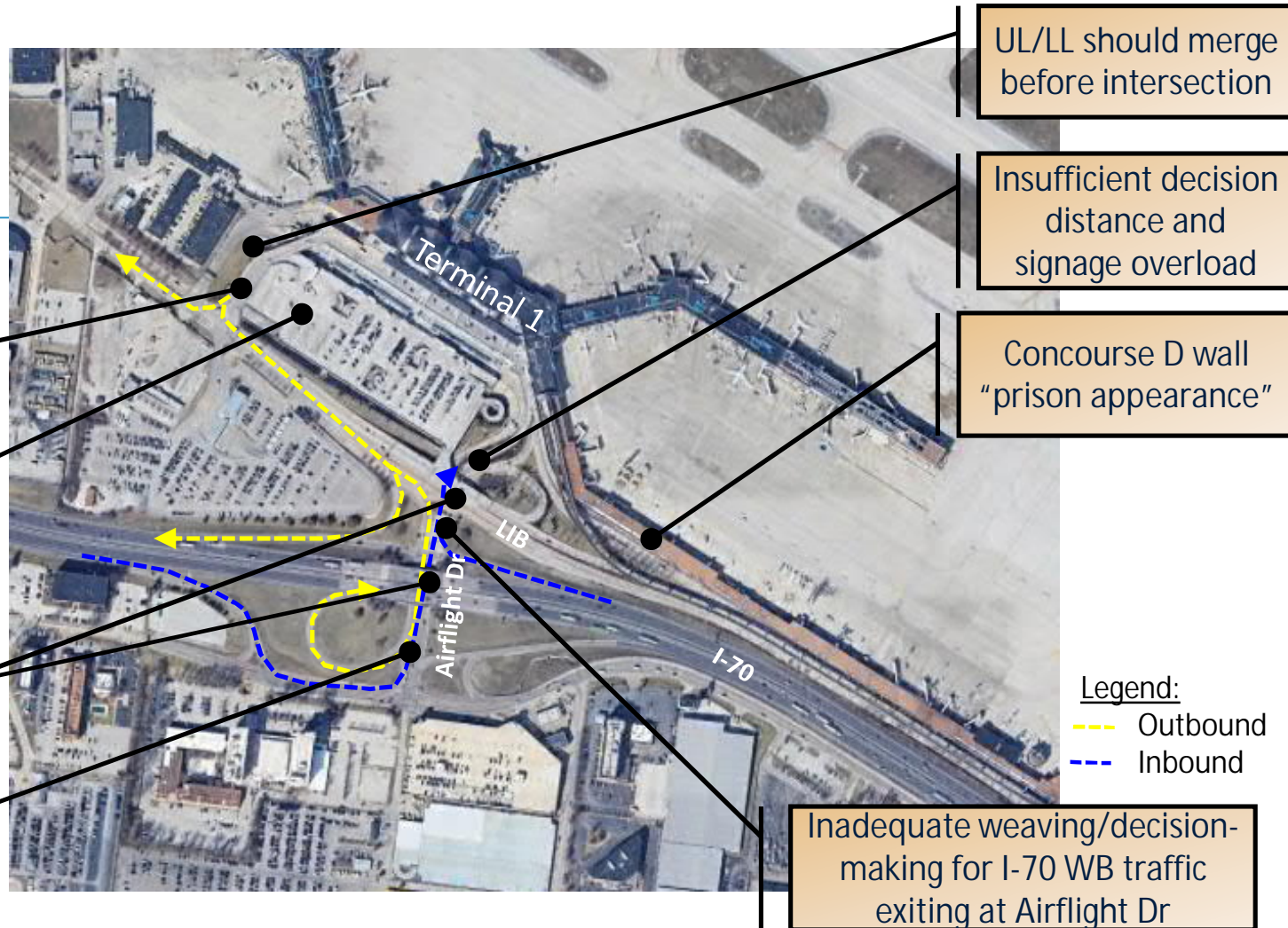
Landside Needs and Alternatives





Landside Alternatives

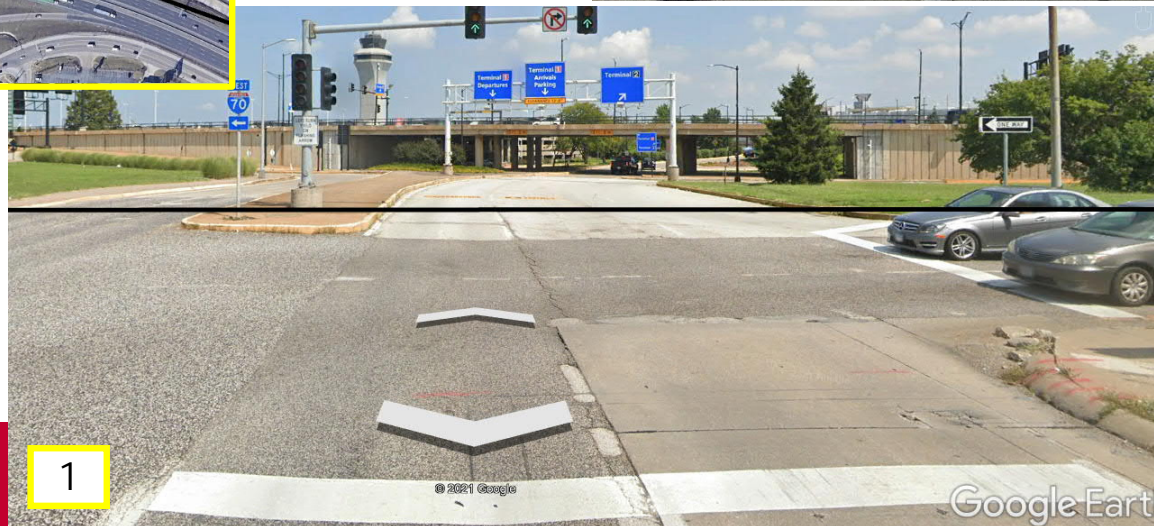
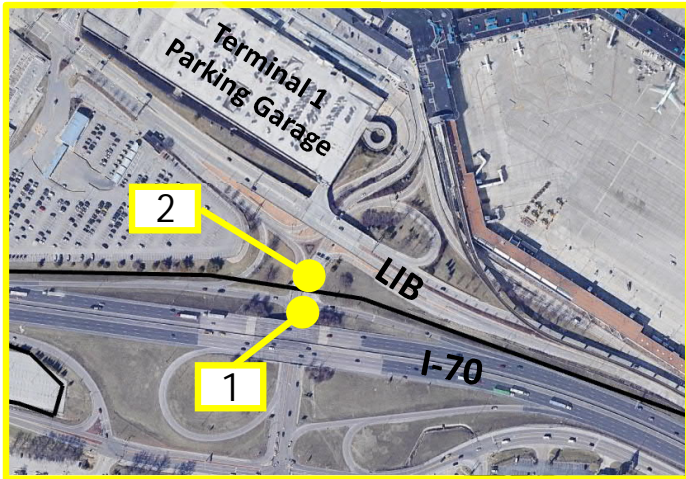
Terminal 1 Access Issues





Landside Alternatives

Terminal 1 Access Issues



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Landside Alternatives

Terminal 2 Access Issues



Concourse E limiting roadway alignment

Tight turn/short decision time when departing terminal

Parking garage exit onto LIB

Tight parking envelope

Terminal 2 curbside designed:

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

Inadequate number of arrivals curb lanes

Elevated MetroLink tracks limit development

Short sightline/decision time from LIB onto T2 Dr

Legend:

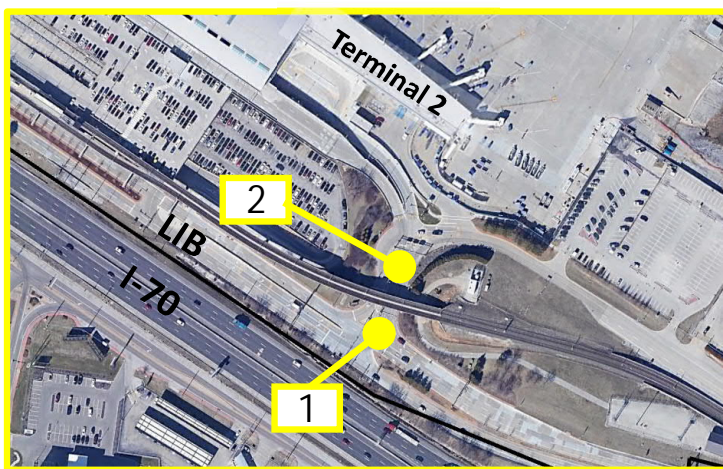
--- Outbound
--- Inbound





Landside Alternatives

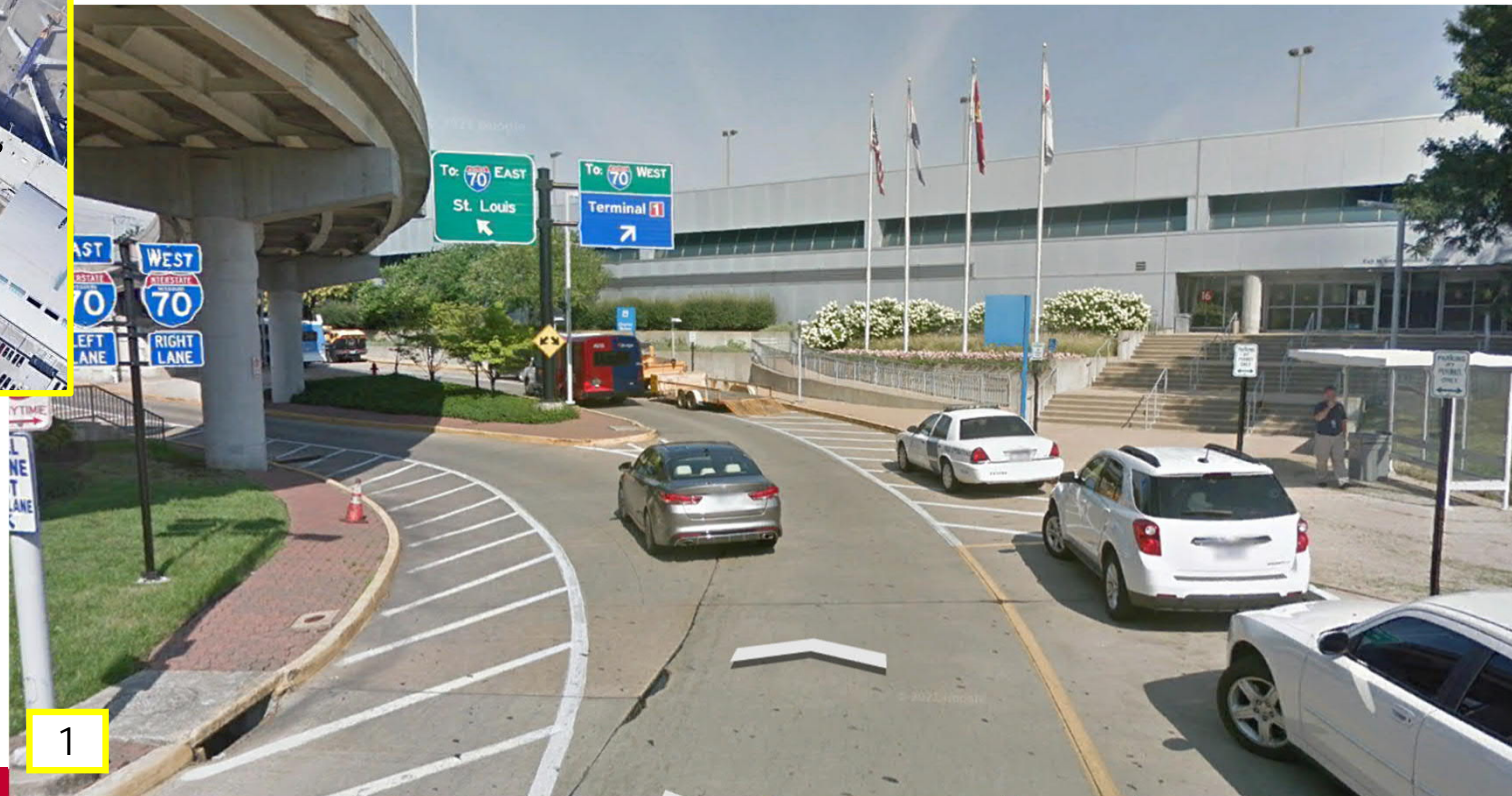
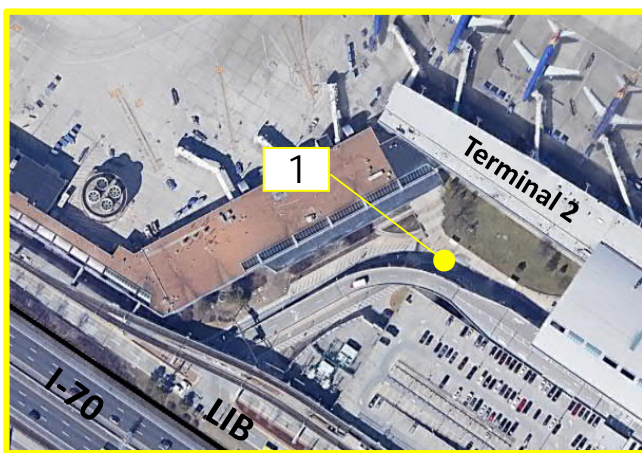
Terminal 2 Access Issues (Entering)





Landside Alternatives

Terminal 2 Access Issues (Exiting)





Landside Alternatives

Ideal Terminal Access: IND Airport Example



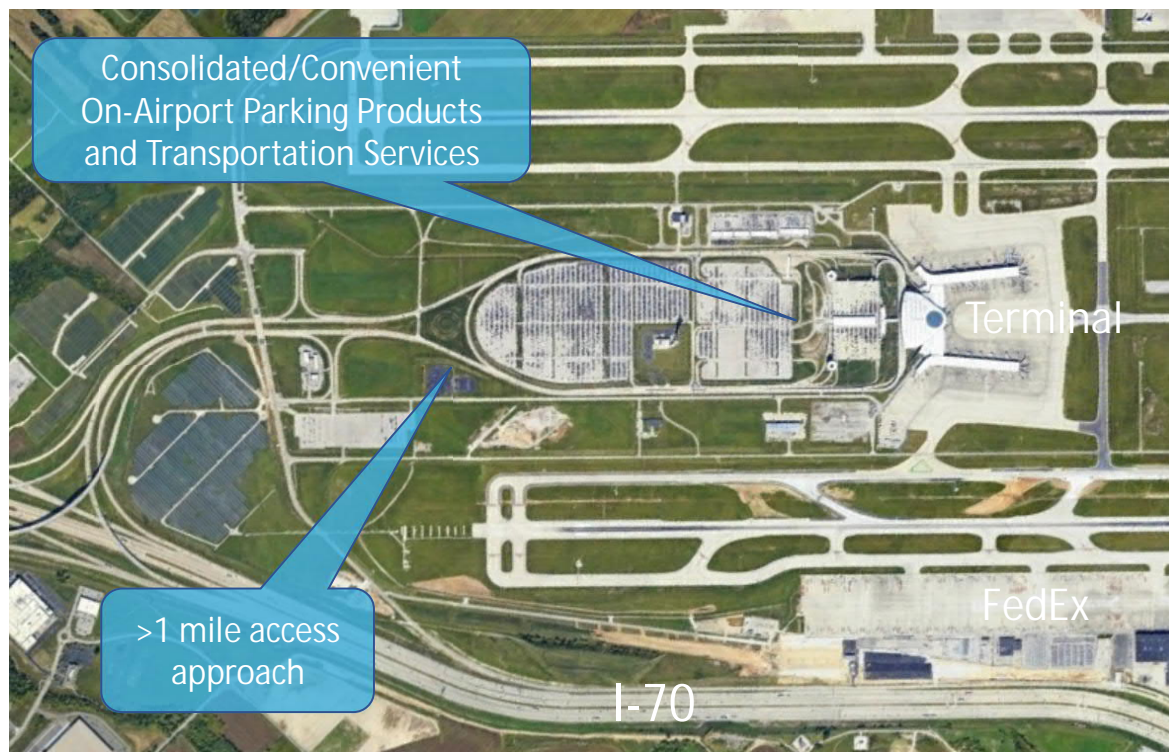
Goals:

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



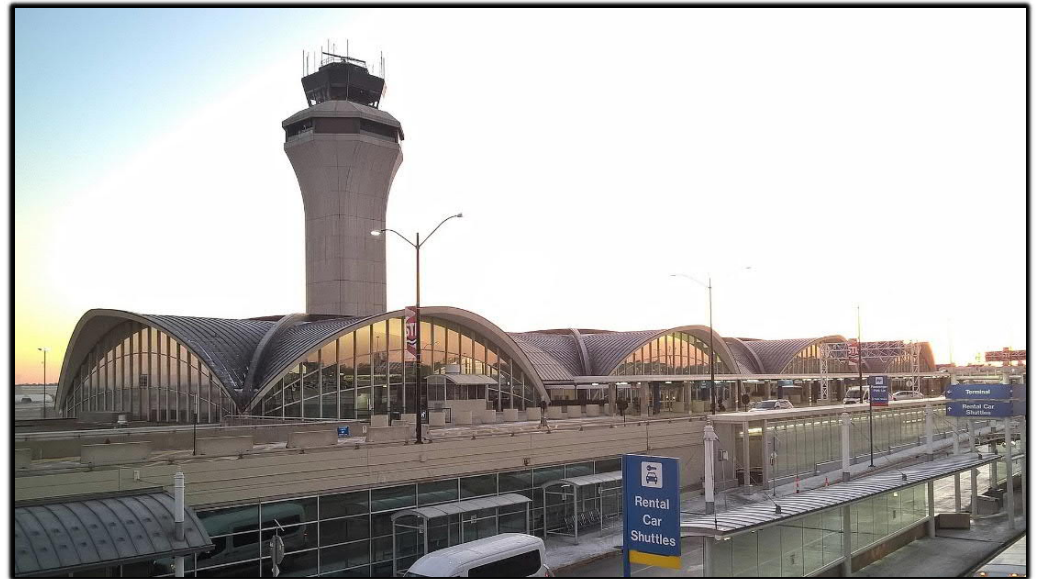


Landside Alternatives

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



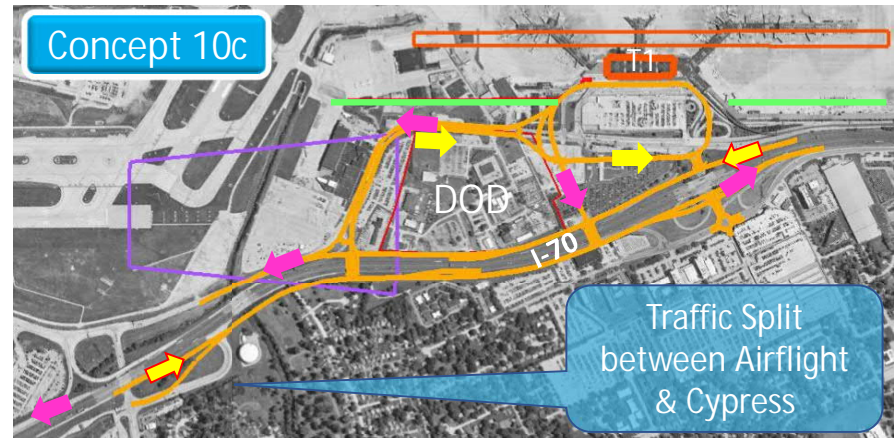
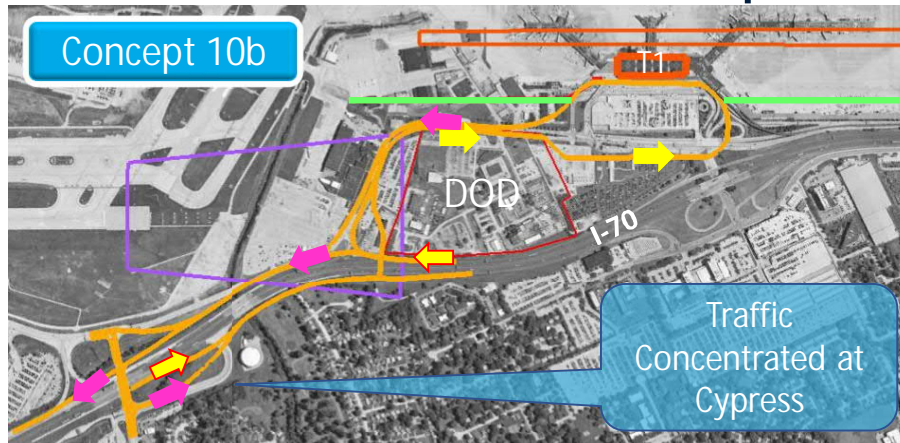
- Short distance between highway and terminal
- Looked at 25+ concepts:
 - Range of Airport access locations off highway from Cypress Rd to I-170
 - Range of interchange types





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



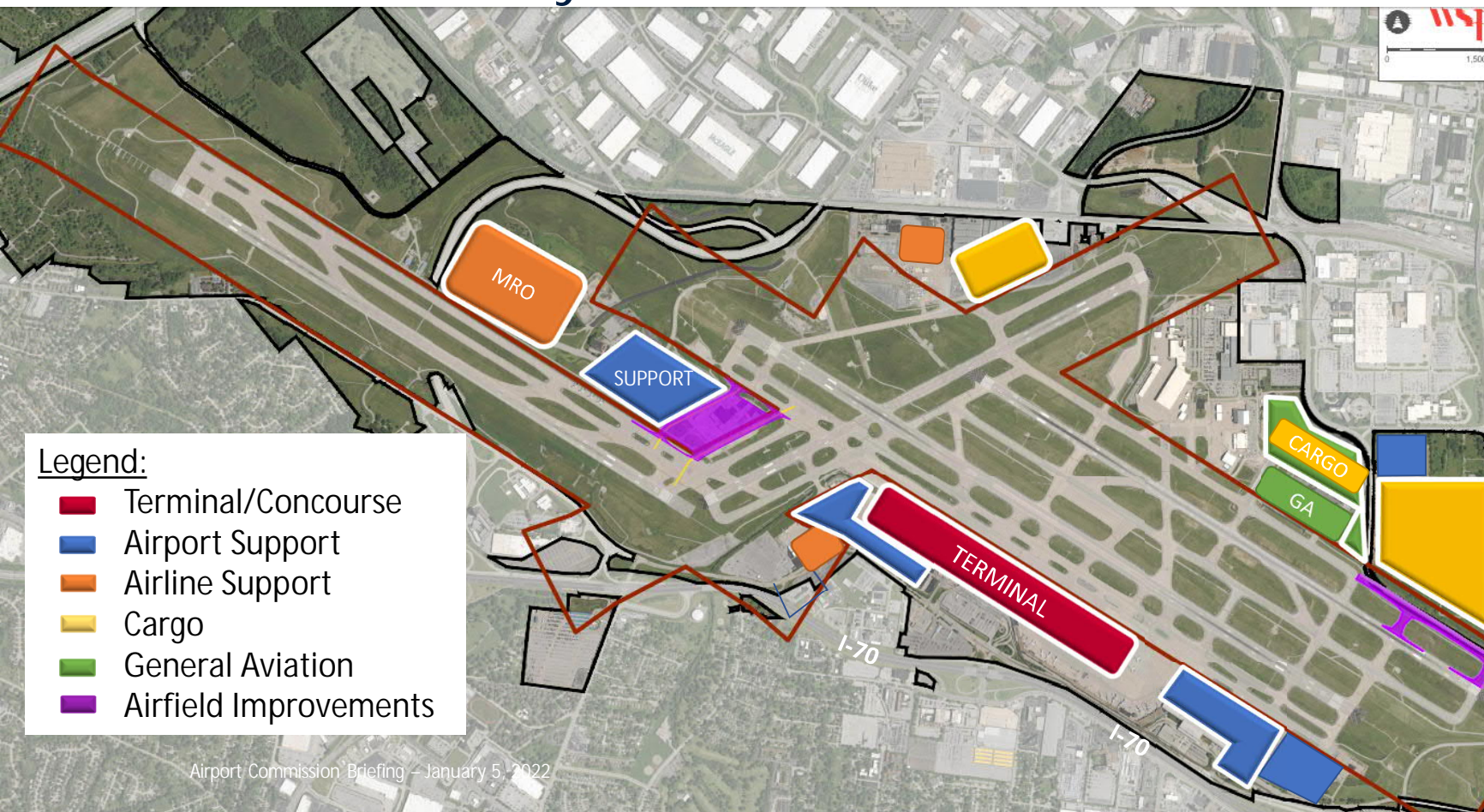
- Cargo
- General Aviation
- Aircraft Maintenance, Repair & Overhaul
- Airline Support:
 - MRO
 - RON/hardstand parking
 - GSE repair
 - Belly cargo
- Airport Support:
 - Consolidated ARFF
 - Airport maintenance
 - Fuel storage
 - Concessions' logistics
 - Airport police
 - Airport administration
 -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





Other/Support Facilities Alternatives

Preliminary Preferred



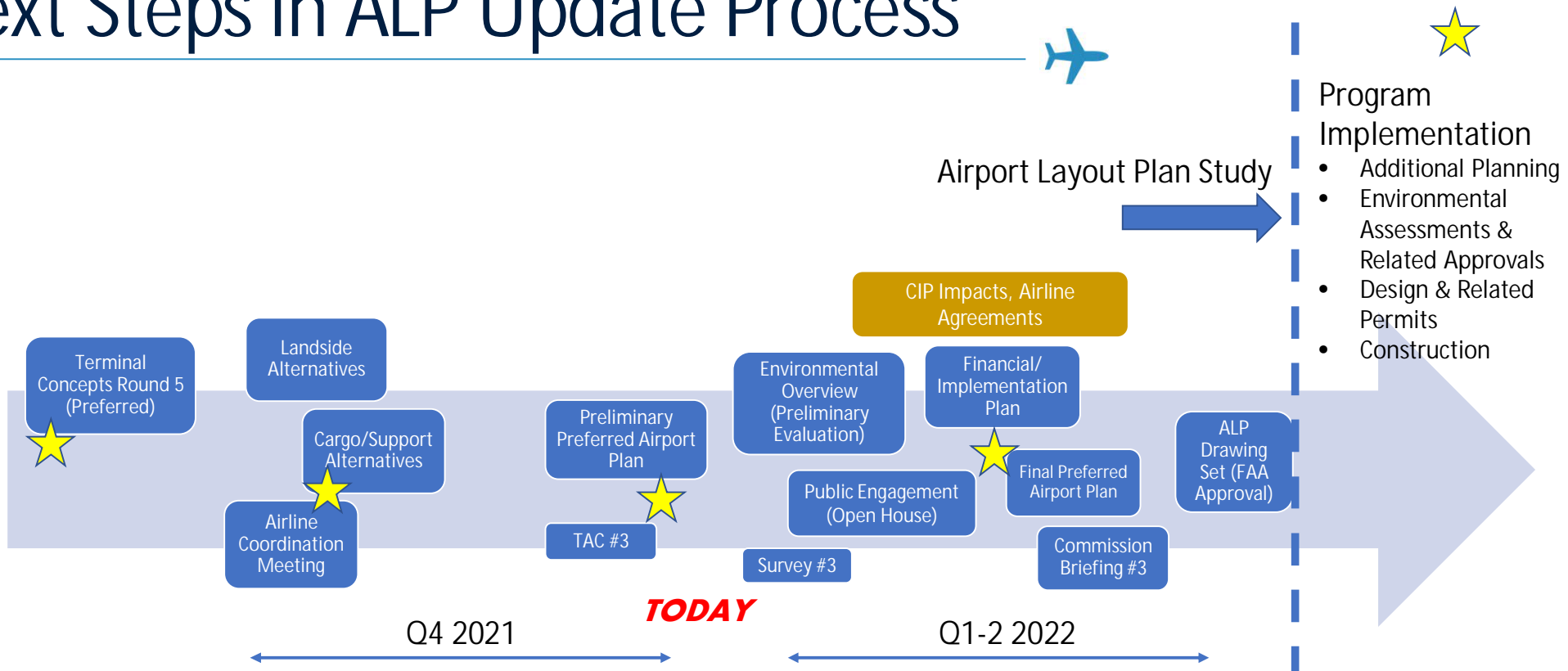
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Next Steps



Next Steps in ALP Update Process

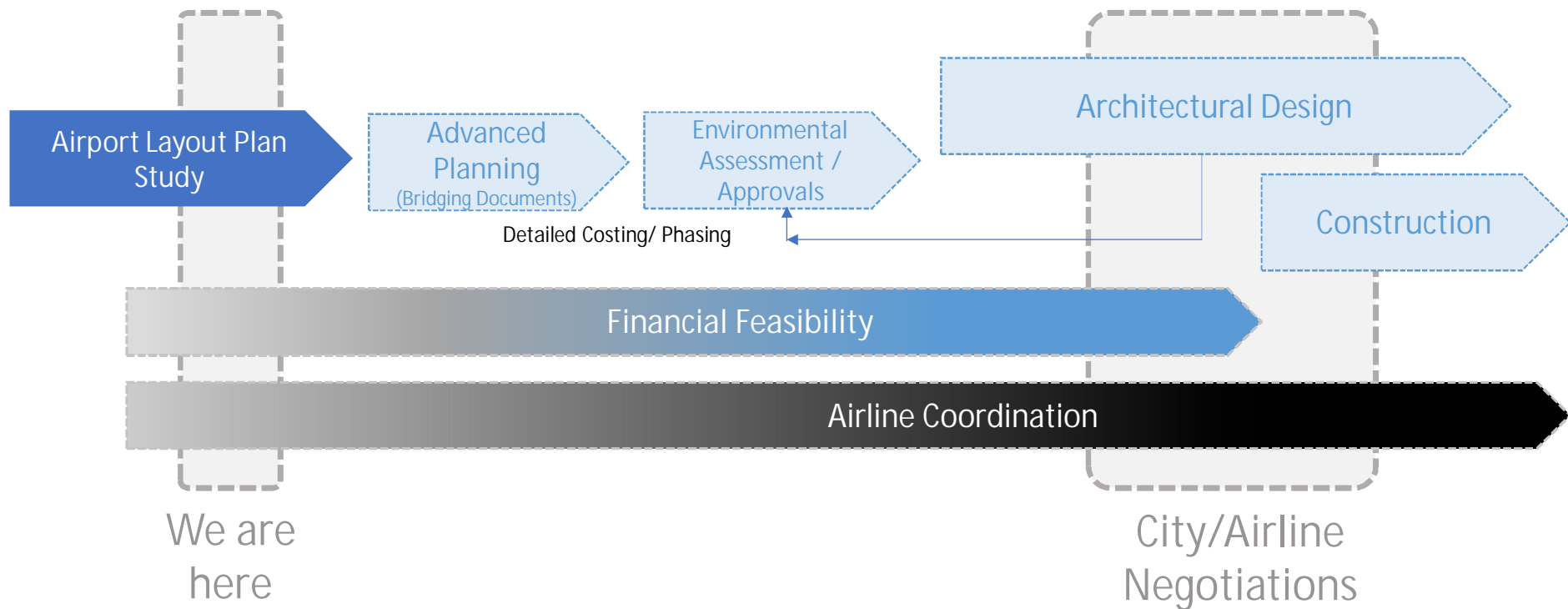


★ TAC/AAAC Meetings



Beyond the ALP Update Process

Typical Airport Program Implementation



Next Steps



- 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

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