

# Salt Lake City International Airport Master Plan



# What is a Master Plan?

**“An airport master plan is a comprehensive study of an airport and usually describes the short-, medium-, and long term development plans to meet future aviation demand.”**

*-FAA Advisory Circular 150/5070-6B Airport Master Plans*



## Whose project is this?

The Master Plan was prepared by the Salt Lake City Department of Airports and their consultants.

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as provided under Section 505 of the Airport and Airways Improvement Act of 1982, as amended by the Airway Safety and Capacity Expansion Act of 1987.

# What was the planning process?

## Public Involvement/Stakeholder Coordination

Stakeholder Scoping Sessions

Advisory Committee

Airline Working Group

Public Workshops

Website



### Inventory

- Collect Physical and Operational Characteristics
  - Airfield
  - Terminal
  - Landslide
  - Support Facilities

### Aviation Activity Forecasts

- Review Historical Activity
- Identify Trends and Relationships
- Forecast Future Activity

### Facility Requirements

- Assess Existing Facility Capacities
- Determine Future Facility Requirements

### Alternatives Development

- Identify Alternatives
- Short-List Alternatives
- Refine Alternatives
- Evaluate Alternatives
- Select Preferred Alternative

### Development Plan

- Identify Preferred Development Plan
- Determine Plan Phasing
- Estimate Project Costs

# How was your community involved?

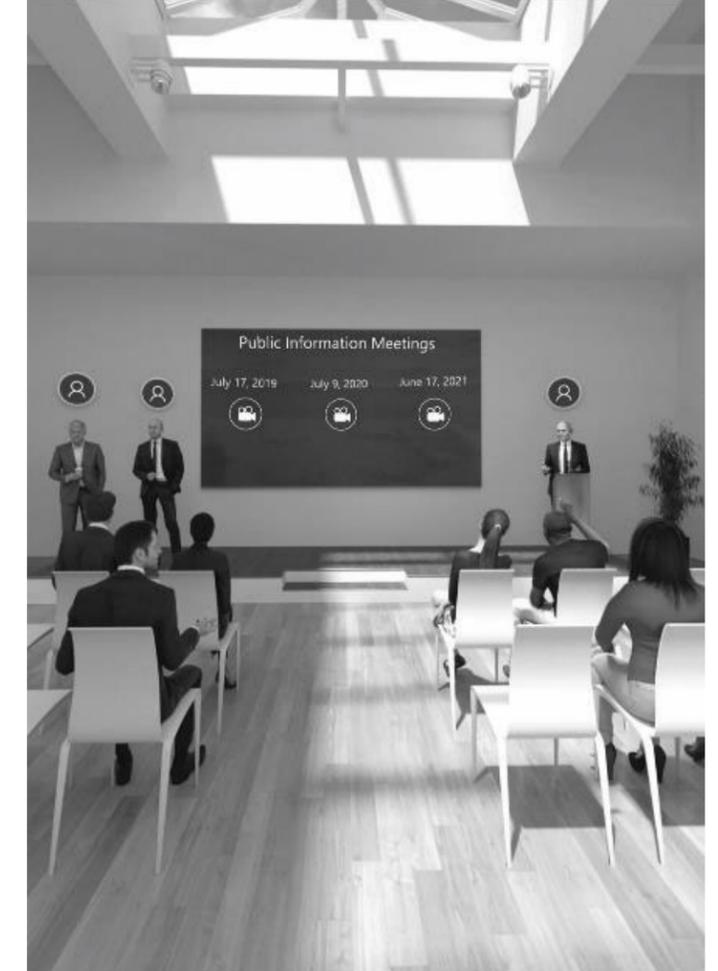
The SLCIA Master Plan analysis was guided by several committees and a thorough public involvement program was deployed to seek public feedback during all phases of the project and at all key decision points.



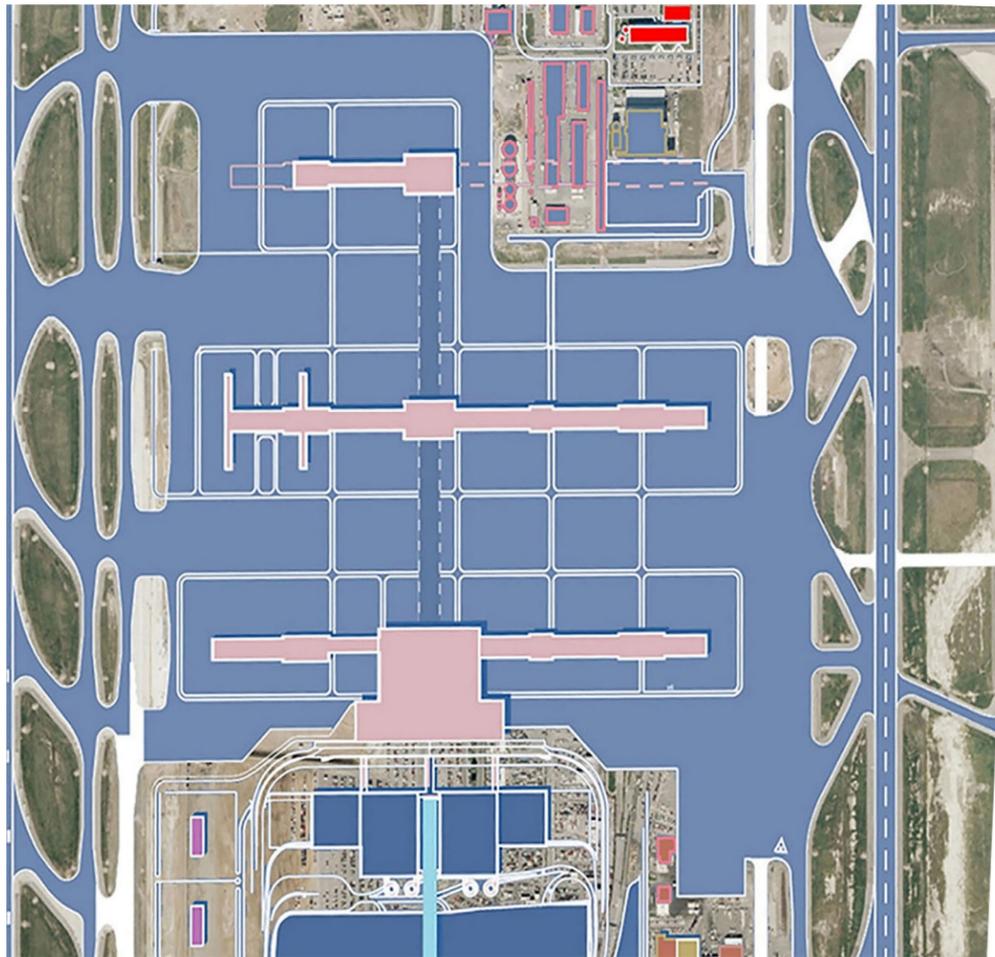
# How was your community involved?

There was 1 Virtual Engagement Room, 3 Public Information Meetings, 7 Airport Board updates, 6 working papers posted, 40 technical meetings, 65 stakeholder meetings, 350 public participants, and over 20,000 hours of planning conducted during the process.

[www.slcairport.com/about-the-airport/master-plan/](http://www.slcairport.com/about-the-airport/master-plan/)



# Introduction



1998 Master Plan Vision



Today Being Realized!



# Inventory and History

## 2018-19



- Central Utility Project, Gateway Center, Parking Garage, Terminal and portions of New Concourses A and B construction continues.
- Break ground on New Concourse B-west.

## 2020



- Completion of Gateway Center, Parking Garage, Terminal, New Concourse A-west.
- Demolish existing parking garages and former Terminals 1 and 2 / former Concourses A and E.

## 2021-24



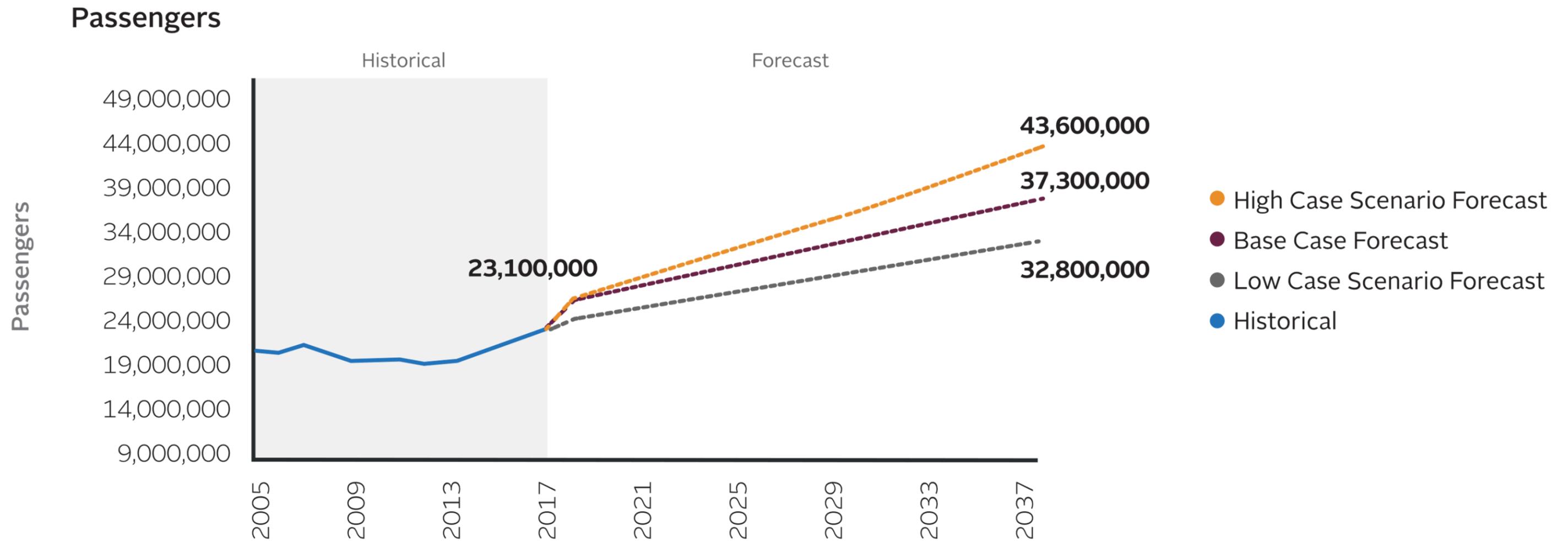
- New Concourse B-west opens
- New Concourses A and B-east construction
- Former Concourses B and C demolished
- Project completion



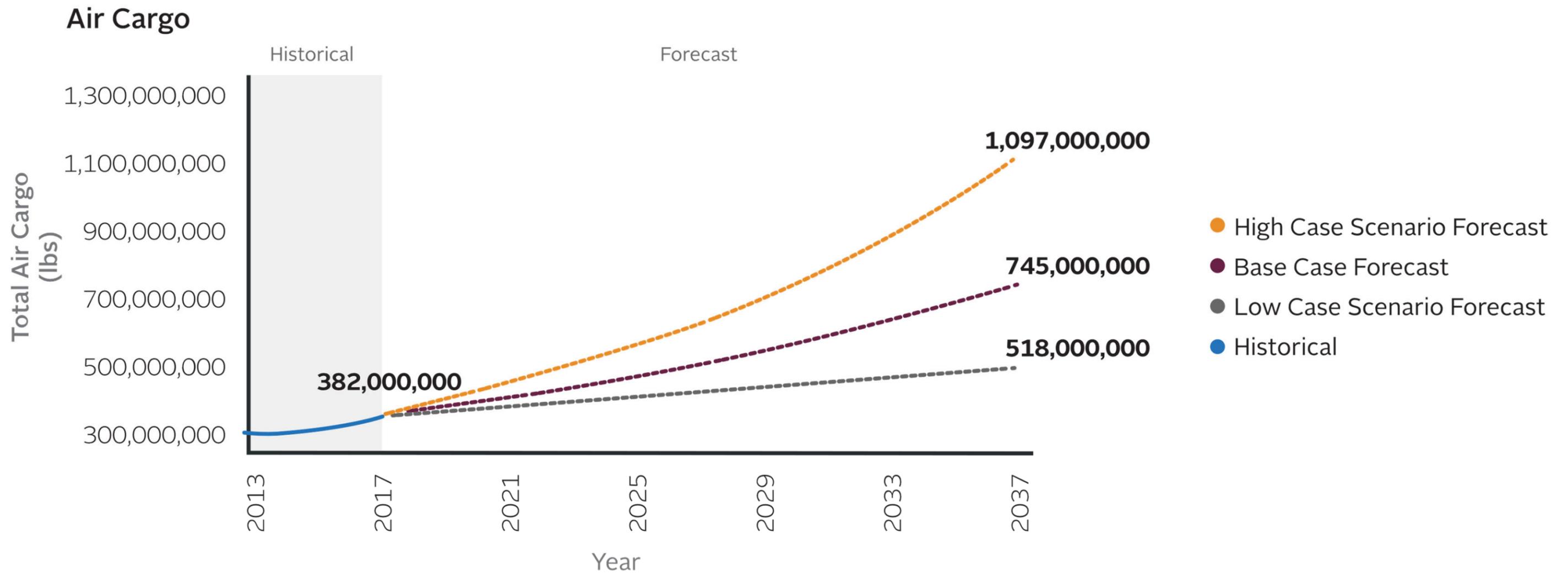
## Aviation Activity Forecast

The forecast of aviation demand provides a basis for determining future facility requirements including the type, size, and timing of aviation development. Consequently, the forecast influences virtually all phases of the planning process.

# Aviation Activity Forecast

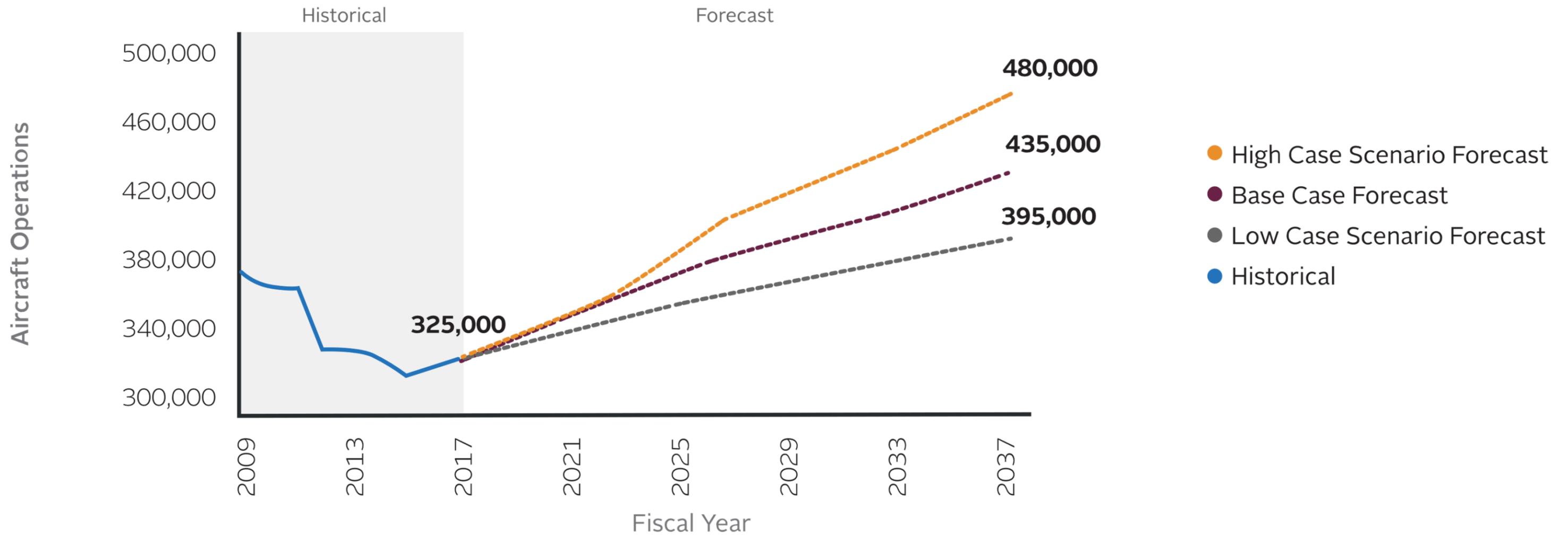


# Aviation Activity Forecast

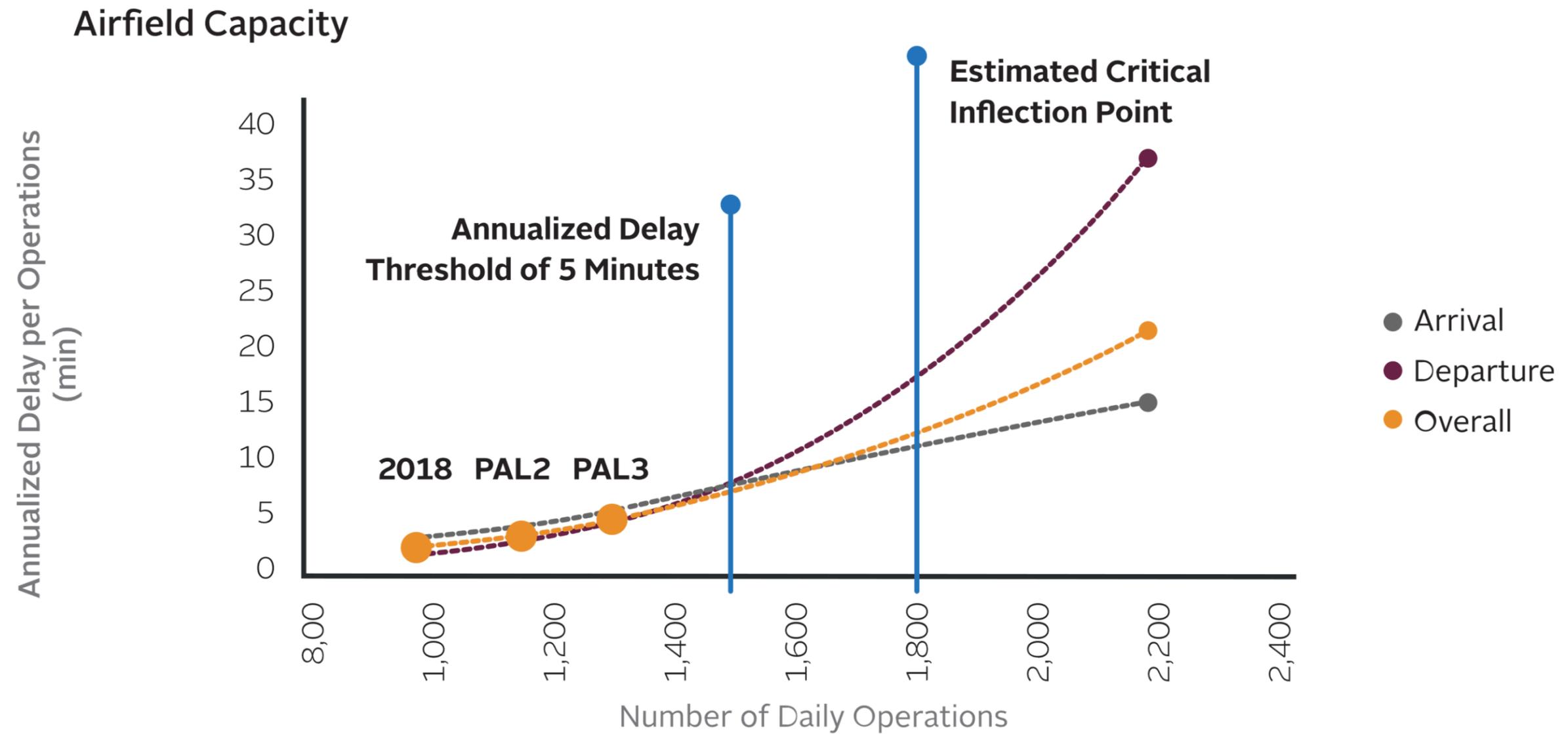


# Aviation Activity Forecast

## Aircraft Operations



# Aviation Activity Forecast





# Facility Requirements

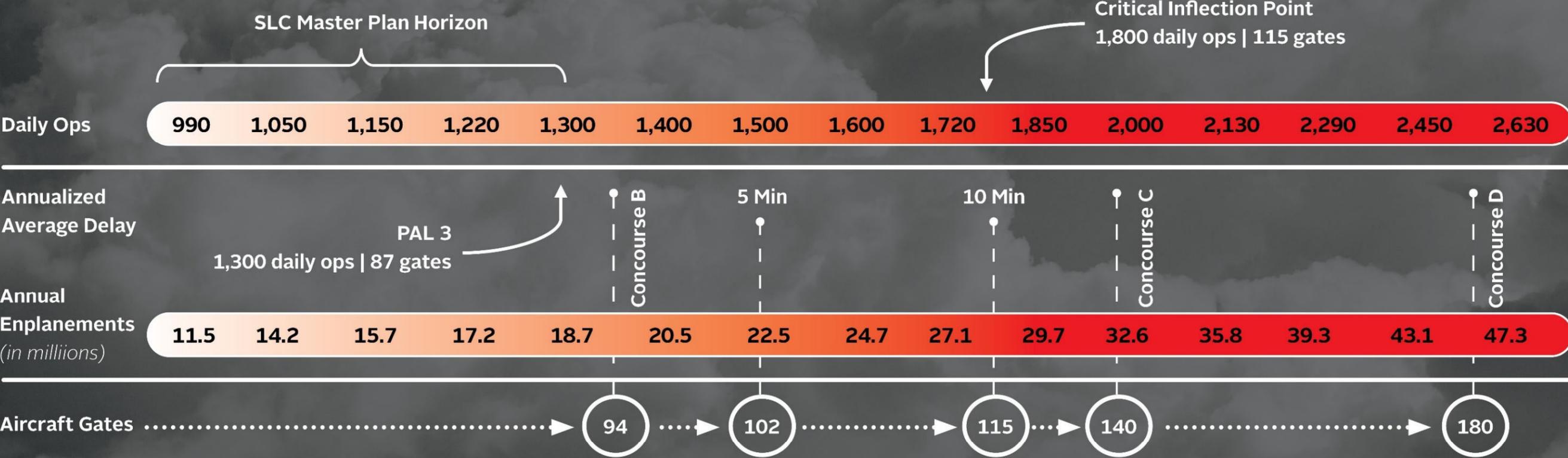
Future airport facility requirements, including the type, size, and quantity, are dependent on future aviation activity levels projected in the aviation demand forecasts.

# Facility Requirements

## Future Facility Requirements

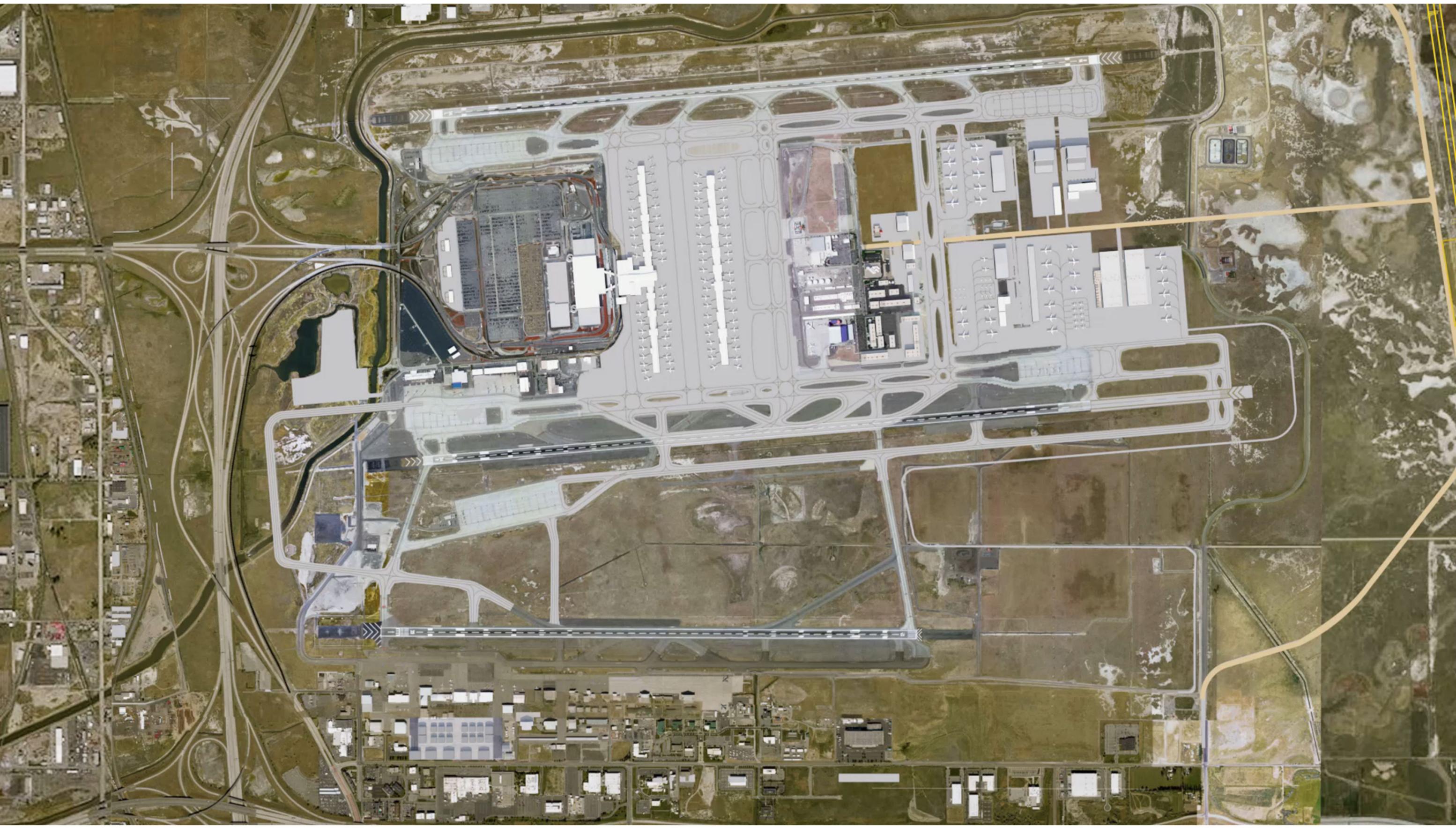
		2017	PAL 1	PAL 2	PAL 3
PAL	Annual Operations	325,000	355,000	385,000	435,000
	Passengers	24 Million	28 Million	32 Million	38 Million
Airfield	Hourly Throughput	[Green to Yellow gradient bar]			
	Runway Length	[Green to Red gradient bar]			
	Airfield Meets FAA Standards	[Red bar]			
Terminal	Terminal Capacity	[Green to Red gradient bar]			
Landside	Terminal Roadways	[Green to Red gradient bar]			
	Parking and Rental Car Spaces	[Red bar]			
Cargo	Dedicated Air Cargo	[Green to Red gradient bar]			
Support	Support	[Yellow to Red gradient bar]			

# Balanced Airport



# Existing Conditions







South End Around Taxiway

Employee Parking

Runway 14-32 Removed

Taxiway U & V

Deicing Pad Construction

Roadway Realignment and Tunnel

Runway Extension

Subsurface Transmission Line

2100 N Roadway Relocation



# Solutions

The solutions identified ensure airport facilities are capable of meeting projected activity demand levels, are making efficient and effective use of available airport land and are meeting FAA airfield design standards.

# Airfield



# Terminal and Gates



# Landside



# Cargo and Support



# General Aviation



# Environmental Overview



Environmental Resource	Description
Air Quality	The Airport is in a maintenance area for Carbon Monoxide (CO) and Particulate Matter-10 (PM <sub>10</sub> ), and in a nonattainment area for Particulate Matter-2.5 (PM <sub>2.5</sub> ), 8-Hour Ozone (O <sub>3</sub> ), and Sulfur Dioxide (SO <sub>2</sub> ).
Biological Resources	There are federal- and state-threatened and –endangered species, and migratory birds in the Airport area. There is no critical habitat at the Airport.
Climate	There are greenhouse gas (GHG) emissions produced at the Airport.
Coastal Resources	The Airport is not within a coastal zone and there are no Coastal Barrier Resource System (CBRS) segments within airport property.
Department of Transportation Act, Section 4(f)	There is one Section 4(f) property on airport property.
Farmlands	The Airport contains farmland of statewide importance and prime farmland soil types.
Hazardous Materials, Solid Waste and Pollution Prevention	The Airport is considered a hazardous waste site. SLCDA is required under its Utah Pollutant Discharge Elimination System (UPDES) stormwater discharge permit (UPDES Permit #UT0024988, approved on March 14, 2014) to have a Stormwater Pollution Prevention Plan (SWPPP). SLCDA additionally has a Spill Prevention, Control, and Countermeasure Plan (SPCC). Salt Lake County Landfill is the only municipal solid waste landfill in Salt Lake County.

Historical, Architectural, Archaeological and Cultural Resources  
 There are no known historic resources located at the Airport.

Environmental Resource	Description
Land Use	Future development plans would occur entirely on airport property; therefore, would be compatible with surrounding land uses.
Natural Resources and Energy Supply	Electricity is supplied to the airport by Rocky Mountain Power, natural gas is supplied by Dominion Energy, and water and sewer is supplied by the Salt Lake City Department of Public Utilities. None of the natural resources or energy supplies used at the Airport are in rare or short supply.
Noise and Noise-Compatible Land Use	There are no noise-sensitive land uses within the updated DNL 65 dBA noise contour.
Socioeconomics, Environmental Justice, Children's Environmental Health and Safety Risks	The Airport is located within the Salt Lake City, Utah Metropolitan Area, as defined by the U.S. Census Bureau.
Visual Effects	Light emissions at the airport currently result from airfield, building, access roadway, parking, and apron area lighting fixtures required. The visual resources and visual character of the Airport currently includes the terminal building, fixed base operators, hangars, and maintenance buildings.
Water Resources	The airport property does contain wetlands. There are 100-year floodplains located on airport property. Three canals exist on airport property: the Surplus Canal, the North Point Canal, and a city drain. In addition, two unnamed ponds are in the southern portion of airport property. The airport property is within the Crystal Creek and Jordan River watersheds. The airport property does not contain any wild and scenic rivers.

# Sustainability



To be a leader in the community and airport industry by preserving and enhancing Salt Lake City Department of Airport's financial, human, natural, and energy resources.



Project	Energy Conservation	Air Quality and Climate Change	Water Resources	Waste Recycling	Energy Efficiency	Community Health and Safety
Examples of Sustainability Aspects	Incorporate efficient lighting and energy efficient equipment. Use low-E glass, Capture ambient lighting, Renewable Energy.	Improved operational efficiencies, Encourage low emission vehicle use, Heat-Island Reduction, Reduce Vehicle Miles Traveled, Electric Vehicle Charging Stations	Harvest rainwater, Use permeable pavements, Install low flow fixtures, Stormwater protection (SWPPP and BMP Implementation), Recover and recycle deicing fluid, Incorporate native plantings	Reuse and salvage resources, Use of recycled materials, Facilitate recycling through design, Construction waste recycling, asphalt milling, Utilize low embodied carbon materials, Balanced earthwork	Promote green building, energy efficiency, and operational efficiency, LEED certification, Envision Sustainable Infrastructure Framework	Enhance passenger experience, Procure local materials, Install Electric Vehicle Charging Stations in public parking projects, Protect wetlands
<b>Airfield Projects</b>						
Remove Runway 14-32		x	x	x	x	x
Deicing Pads Facilities Upgrades and Expansions	x	x		x	x	x
Taxiway U, V, and L Construction	x	x		x	x	
4000W & 2100 N Roadway Relocation	x	x	x	x	x	x
Runway 16L-34R and Taxiway Complex Extension	x	x		x	x	x
South End Around Taxiway Construction	x	x		x	x	x
Public Parking Improvements		x	x	x	x	x
Parking Garage Expansion	x	x		x	x	x
Powerline Mitigation			x	x	x	x
North Cargo Area Expansion / RON	x			x	x	



# Future Development

The preferred solution for each facility was combined into a comprehensive preferred alternative. The plan for future development identifies short-term (0 to 5 years), mid-term (6 to 10 years), and long-term (11 to 20-years) projects. The division between short-, mid-, and long-range projects was established through an evaluation process based on priority, need, and the SLCDA Vision. The following priorities were established to guide the sequencing of the projects in the Development Plan:

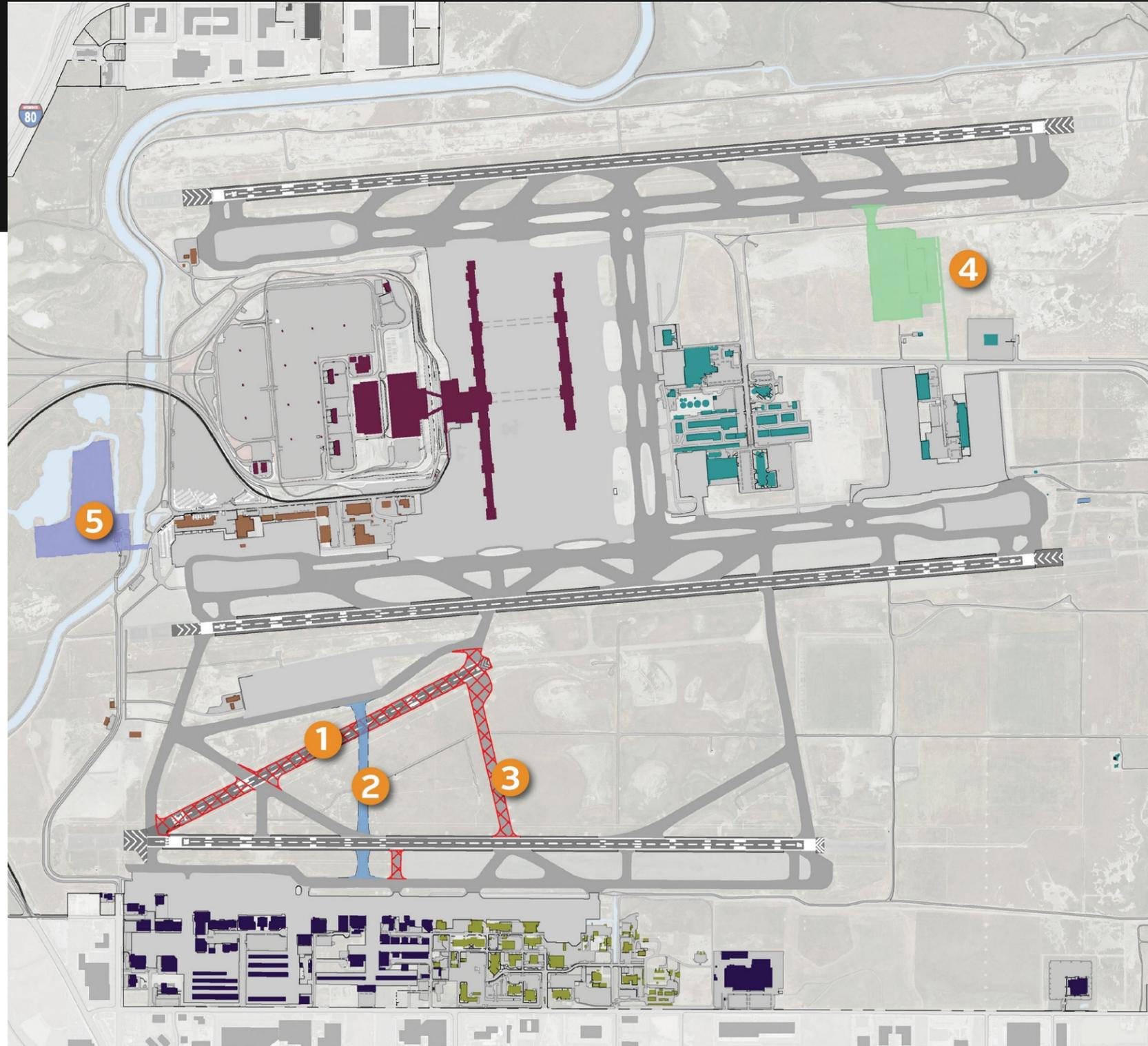
**Priority 1** – Address all safety and design deficiencies

**Priority 2** – Maximize the capacity and efficiency of SLCIA

**Priority 3** – Utilize demand reduction techniques to delay major capacity enhancements

**Priority 4** – Provide additional runway capacity

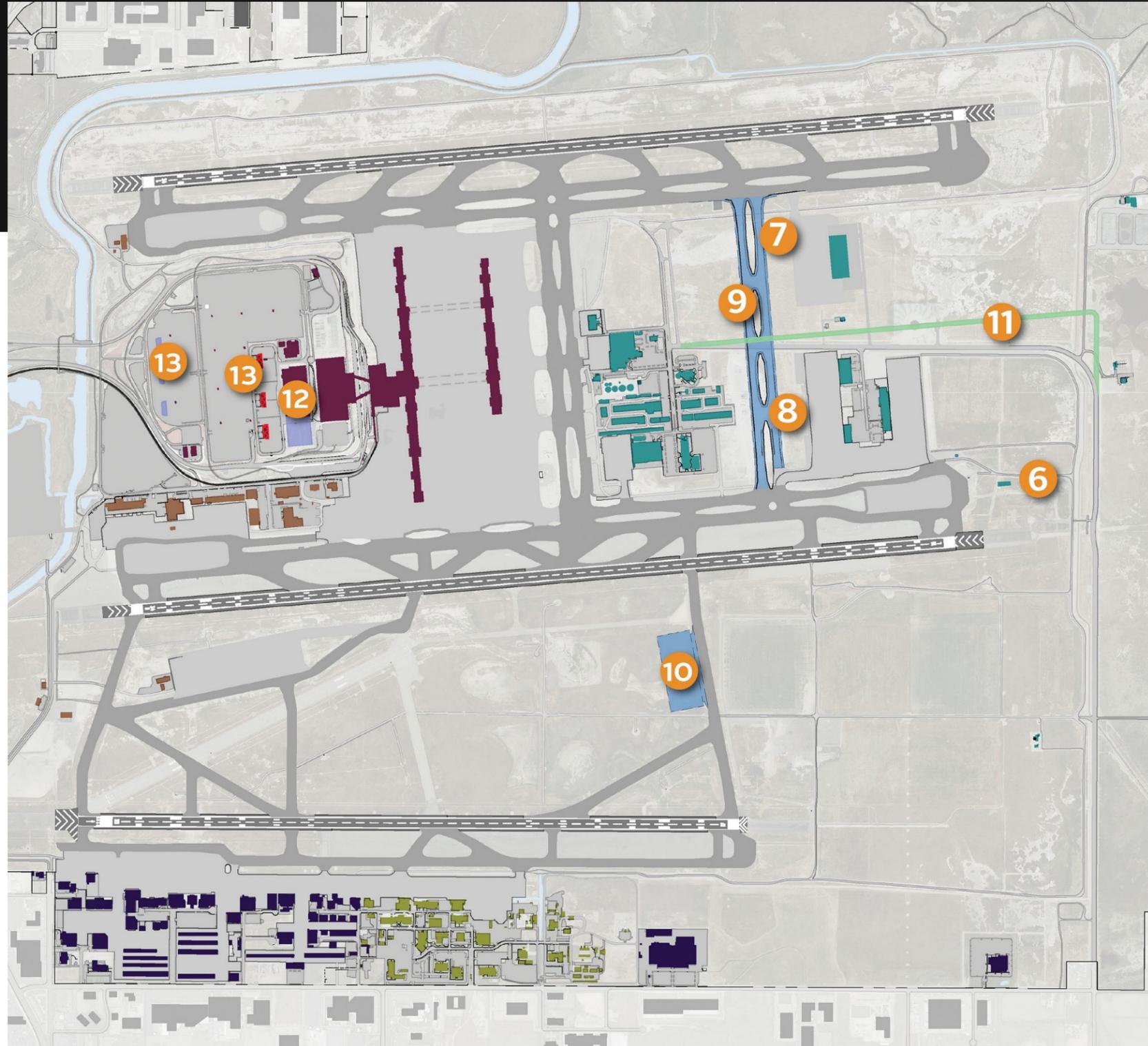
# Short Term



## Short-Term (0-5 Year) Projects

1. Remove Runway 14-32
2. Taxiway K2 Crossfield Connector
3. Taxiway Q Removal
4. North Cargo Expansion
5. Public Parking Phase I - Employee Lot

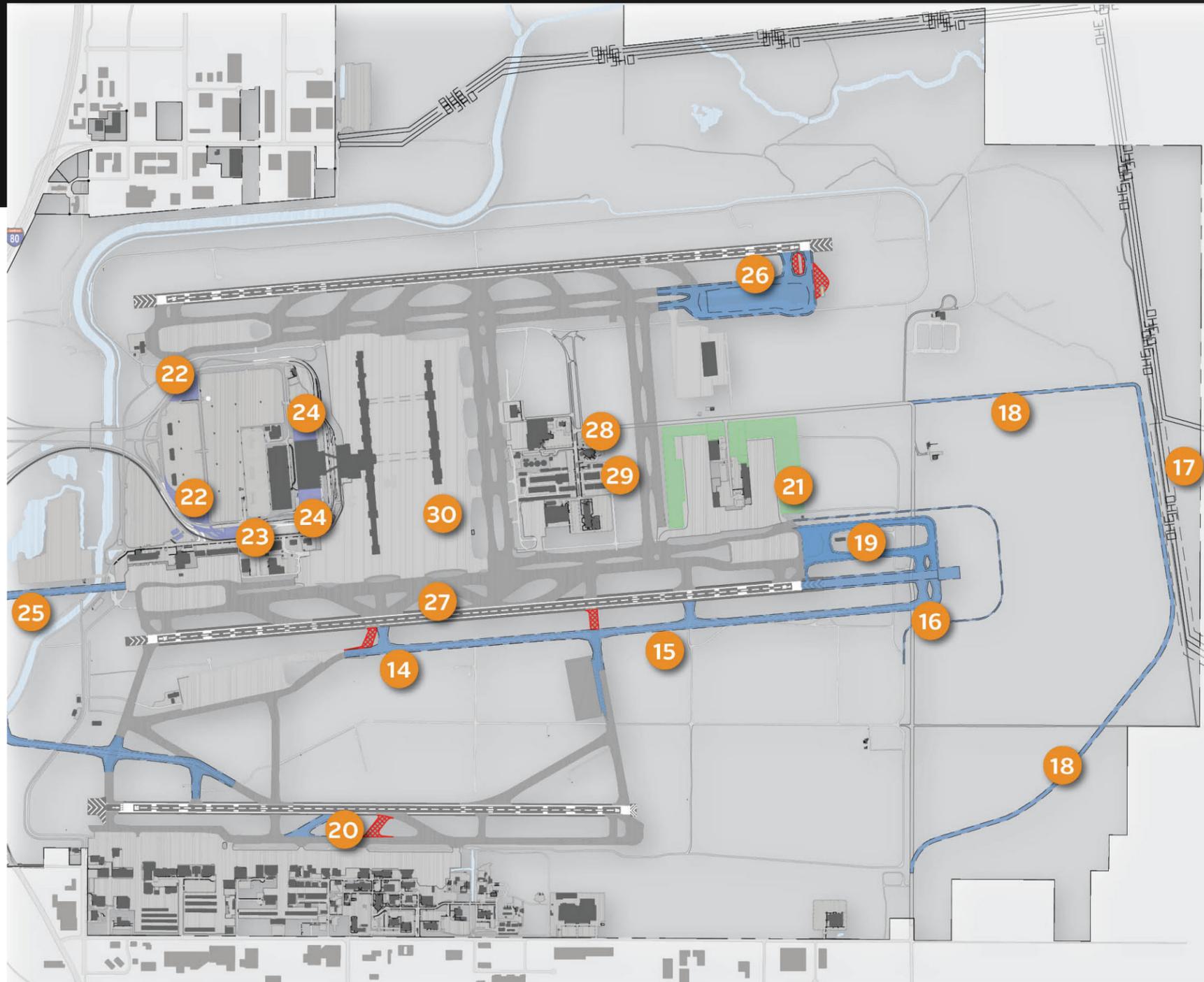
# Mid Term



## *Mid-Term (6-10 Year) Projects*

6. Runway 16L Deice Pad Facility Upgrades
7. West Portion of Taxiway V
8. East Portion of Taxiway V with Tunnel
9. Full Taxiway U
10. Taxiway S Deice Pad
11. Initial 4000W Roadway Relocation
12. RAC QTA/Storage
13. Public Parking Phase II - RSS Relocation

# Long Term



## Long-Term (11-20+ Year) Projects

- 14. Taxiway L Extension Phase I
- 15. Taxiway L Extension Phase II
- 16. Taxiway L Extension Phase III
- 17. Power Line Mitigation
- 18. 2100 North Realignment
- 19. Runway 16L-34R and Taxiway Extension
- 20. Taxiway K5 Enhancement
- 21. Cargo Apron Expansion
- 22. Public Parking Phase III  
Service Center Relocation
- 23. CV Staging and Park 'n' Wait
- 24. Public Parking Phase IV  
Garage Parking Expansion
- 25. South End Around Taxiway
- 26. 16R Deicing Pad
- 27. RWY 16L-34R High-Speed  
Taxiway Optimization
- 28. ARFF Relocation  
Airport Maintenance
- 29. Relocation
- 30. Concourse B Build Out



South End Around Taxiway

Employee Parking

Runway 14-32 Removed

Taxiway U & V

Deicing Pad Construction

Roadway Realignment and Tunnel

Runway Extension

Subsurface Transmission Line

2100 N Roadway Relocation

# Development Costs

Year	Program	ROM	Project
<i>Short-Term 1-5 Years</i>			
2022	Cargo Expansion Program	\$ 25,000,000	North Cargo Area Expansion
2023	Runway / Taxiway Safety Program	\$ 1,900,000	Remove Runway 14-32
2023	Runway / Taxiway Safety Program	\$ 1,100,000	TWY Q Removal
2025	Landside Program	\$ 30,000,000	Public Parking Phase I - Employee Lot
<i>Mid-Term 6-10 Years</i>			
2026	Deicing Enhancement Program	\$ 11,000,000	16L North Deicing Pad Facilities Upgrades
2028	Taxiways U&V Program	\$ 30,000,000	4000 W Realignment and Tunnel Construction
2029	Taxiways U&V Program	\$ 26,500,000	Full Taxiway V Construction
2030	Taxiways U&V Program	\$ 40,000,000	Full Taxiway U Construction
<i>Long-Term 11-20+ Years</i>			
2031	Runway 16L-34R Extension Program	\$ 25,700,000	Roadway Relocation Phase I
2032	Airport Enhancement & Readiness Program	\$ 40,000,000	Powerline Mitigation
2033	Runway 16L-34R Extension Program	\$ 53,000,000	Runway & Taxiway Complex Extension Phase II
2037	Runway 16L-34R Extension Program	\$ 25,000,000	16L Deice Pad Extension
2038	Taxiway L Extension Program	\$ 15,000,000	Taxiway L Extension Phase I
2039	Taxiway L Extension Program	\$ 30,000,000	Taxiway L Extension Phase II
<i>Demand Driven Airfield Projects Not Programed</i>			
	Deicing Enhancement Program	\$ 107,000,000	16R North Deicing Pad
	Airfield Enhancement Program	\$ 105,400,000	SEAT Construction

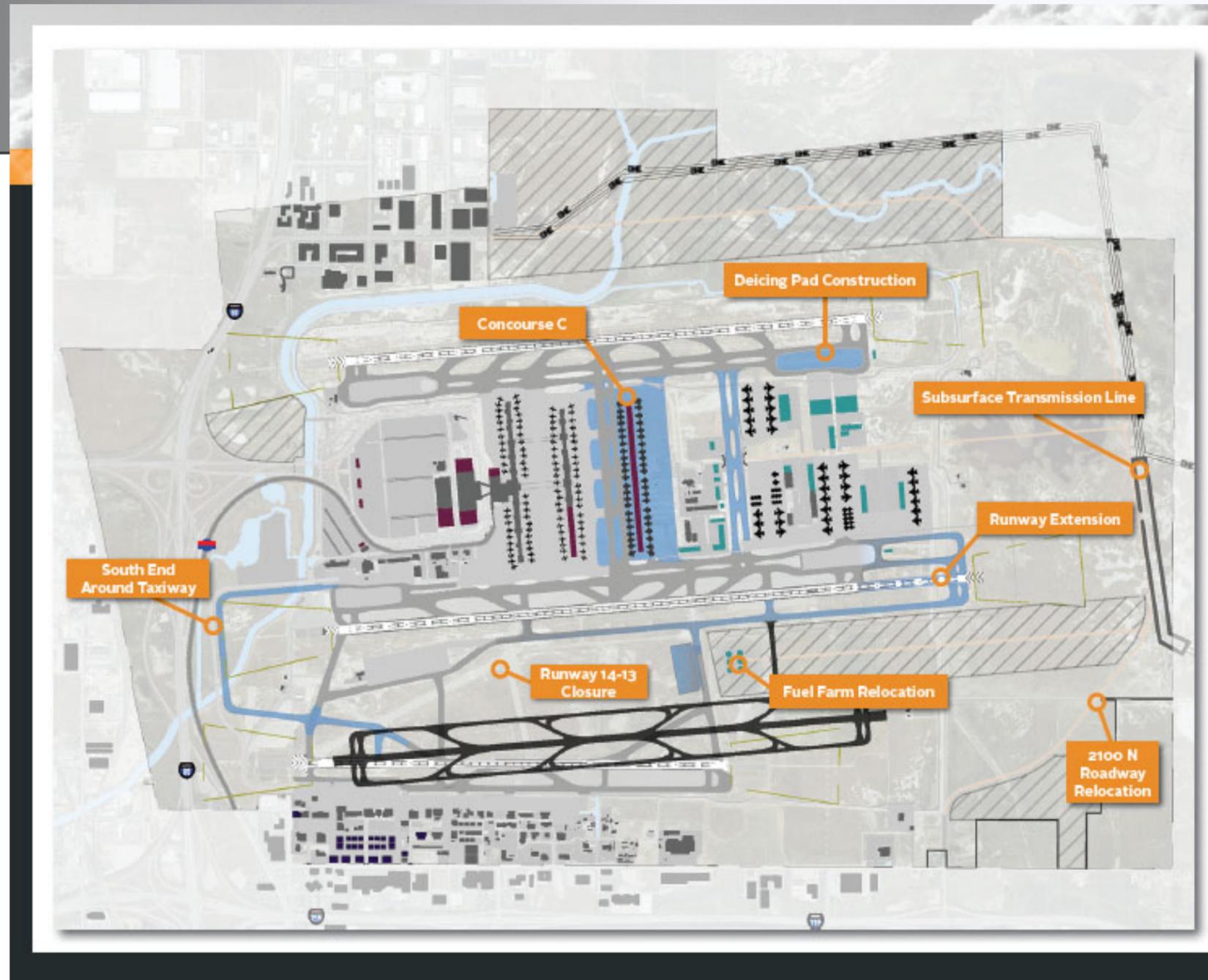
Source: RS&H Analysis, SLCD, 2021

Note: All costs in 2020 dollars. ROM (Rough Order of Magnitude) costs include construction costs, and soft costs at the following percentage of construction: Design 10 percent; CA/Admin/QA/QC 10 percent; Contingency 30 percent.

# Strategic Vision

The 1998 Master Plan study set forth the path for new terminal and concourse facilities. This 2021 Master Plan's strategic vision strikes a strategic balance of airfield and support facilities improvements to match passenger demand anticipated within and beyond the planning period.

SLCDA will balance passenger demand with airfield projects that improve operational efficiency, enhance safety, and increase overall airfield capacity.



# Strategic Vision



# Thank you

**RS&H**



*Airspace System  
Planning*



*Airport  
GIS*



*Aviation Noise  
Consulting (DBE)*



*Land  
Development*



*Tower Siting/Airspace*



*Airspace  
Assessment*



**TRANS SOLUTIONS**

*Simulation Modeling  
(DBE)*



*Public Involvement  
Program*



*Airport Landside  
System*



*Forecasting  
(DBE)*



*Utility/Infrastructure  
Coordination*