

Siskiyou County Airport ALP Update with Narrative Report

County Board of Supervisors Briefing

January 2024



Kimley»Horn

Expect More. Experience Better.



Presentation Topics

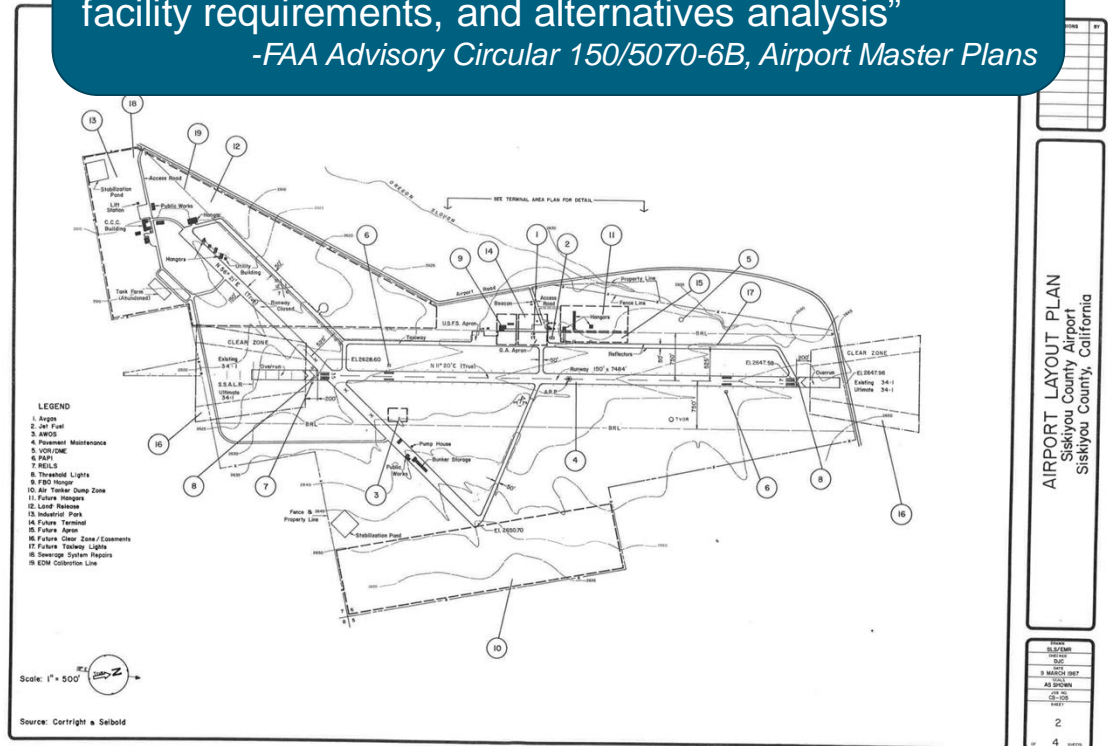
- Project purpose
- Airport facilities overview
- Forecasts of aviation demand
- **Requirements and alternatives**



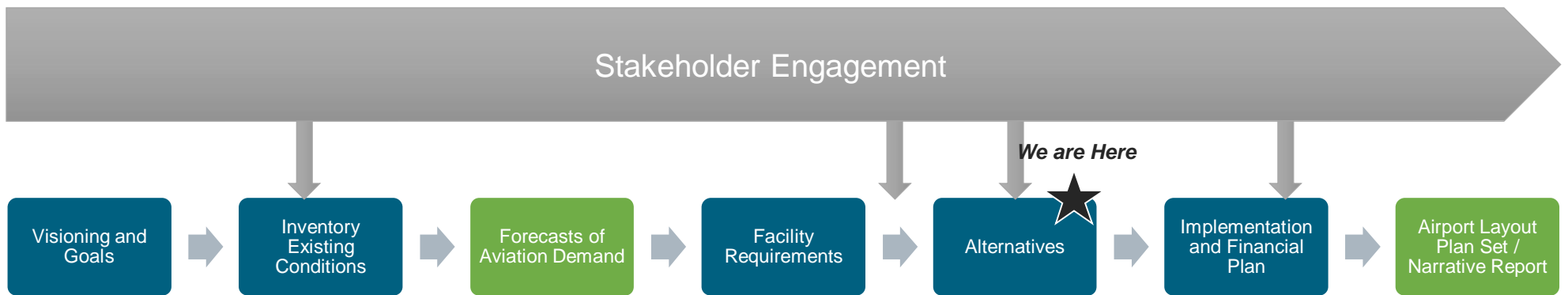
Project Purpose

- Current Master Plan and ALP is 1987
- Keeping the ALP current is a legal requirement for airports that receive federal funding assistance
- Proposed development must be shown on an approved ALP to be eligible for FAA AIP grant assistance
- ALP Narrative Report documents what is depicted on the ALP

“The ALP depicts existing airport facilities and proposed developments as determined from the planners’ review of the aviation activity forecasts, facility requirements, and alternatives analysis”
 -FAA Advisory Circular 150/5070-6B, Airport Master Plans

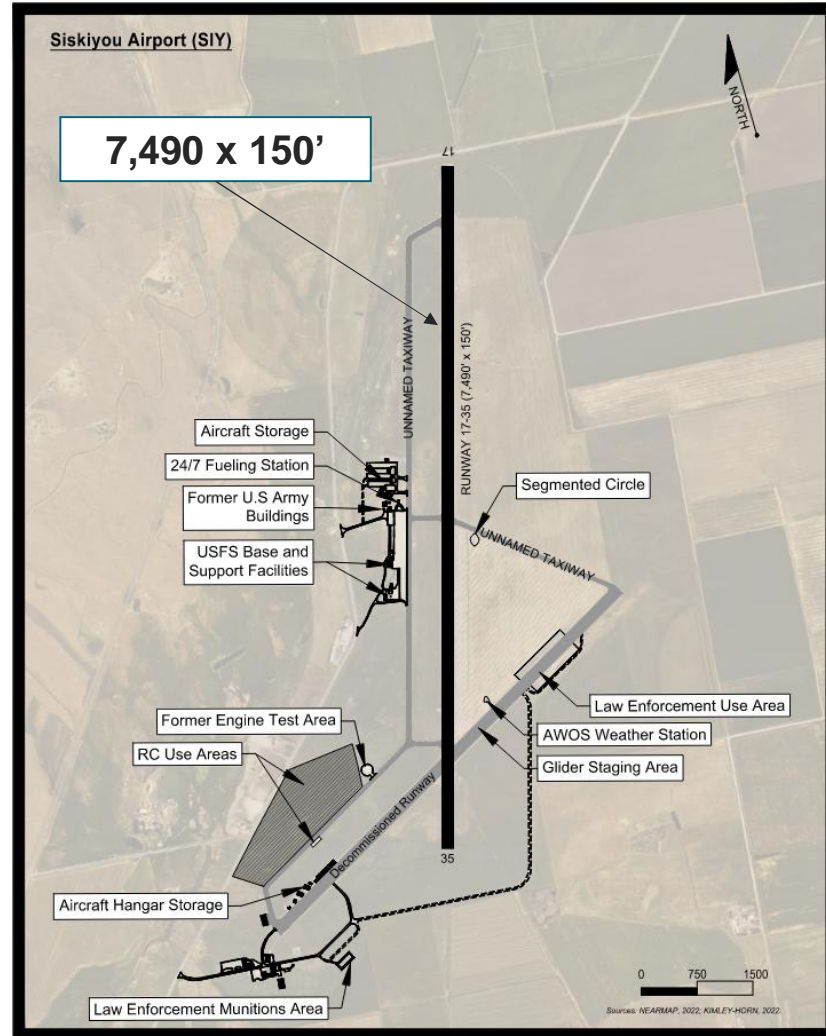


Project Timeline

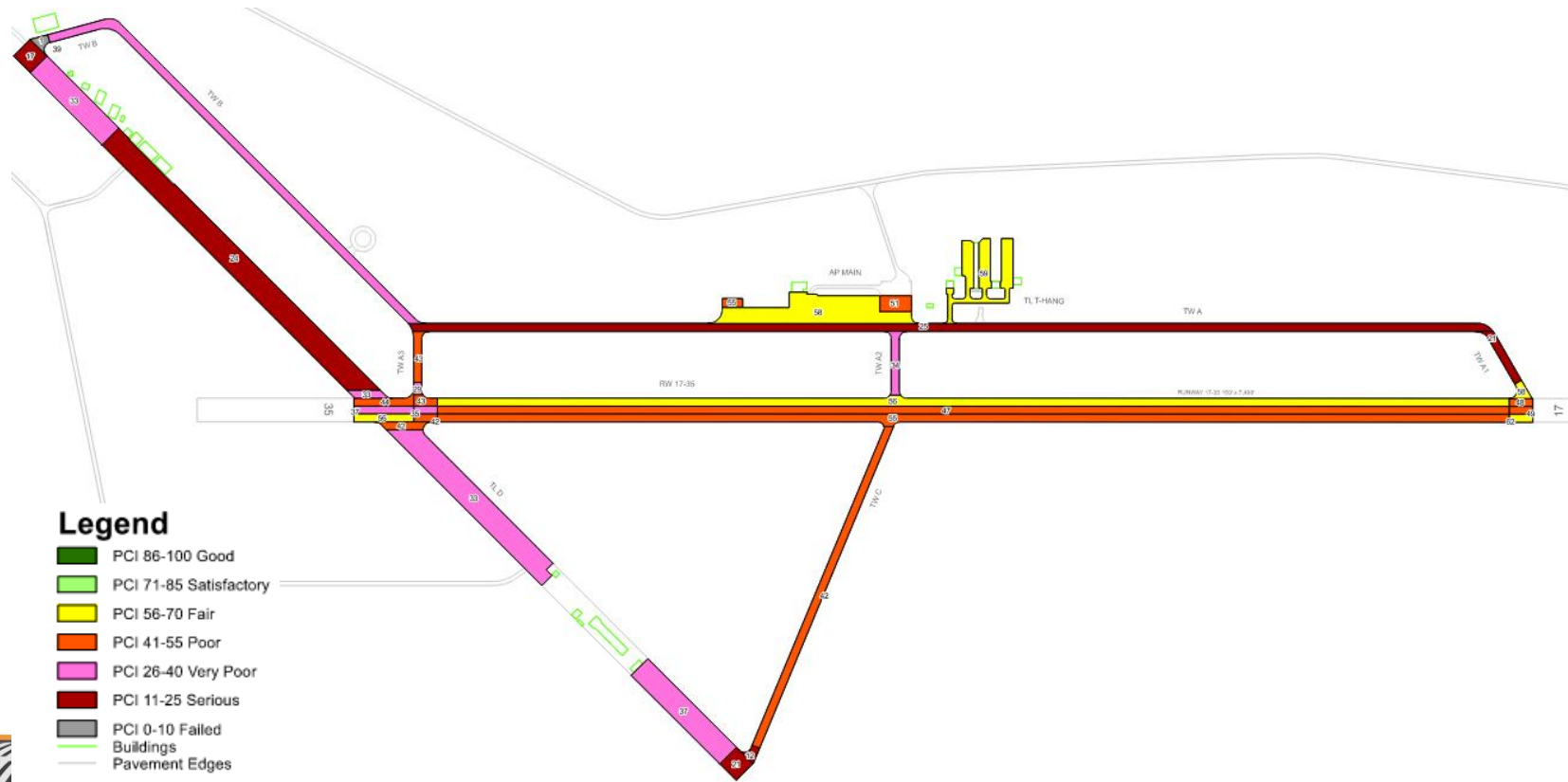


Siskiyou County Airport Overview

- Former U.S. army airfield
- 1,080 acres of property
- Non-towered and unattended
- One runway
- FAA classification:
 - General aviation airport, basic
- Caltrans classification:
 - Community Airport
- Current users:
 - United States Forest Service (USFS)
 - CalFire
 - Recreational aircraft
 - Sheriff's department (non-Aeronautical)



2022 Pavement Condition Index



- Legend**
- PCI 86-100 Good
 - PCI 71-85 Satisfactory
 - PCI 56-70 Fair
 - PCI 41-55 Poor
 - PCI 26-40 Very Poor
 - PCI 11-25 Serious
 - PCI 0-10 Failed
 - Buildings
 - Pavement Edges



Siskiyou County ALP
Update

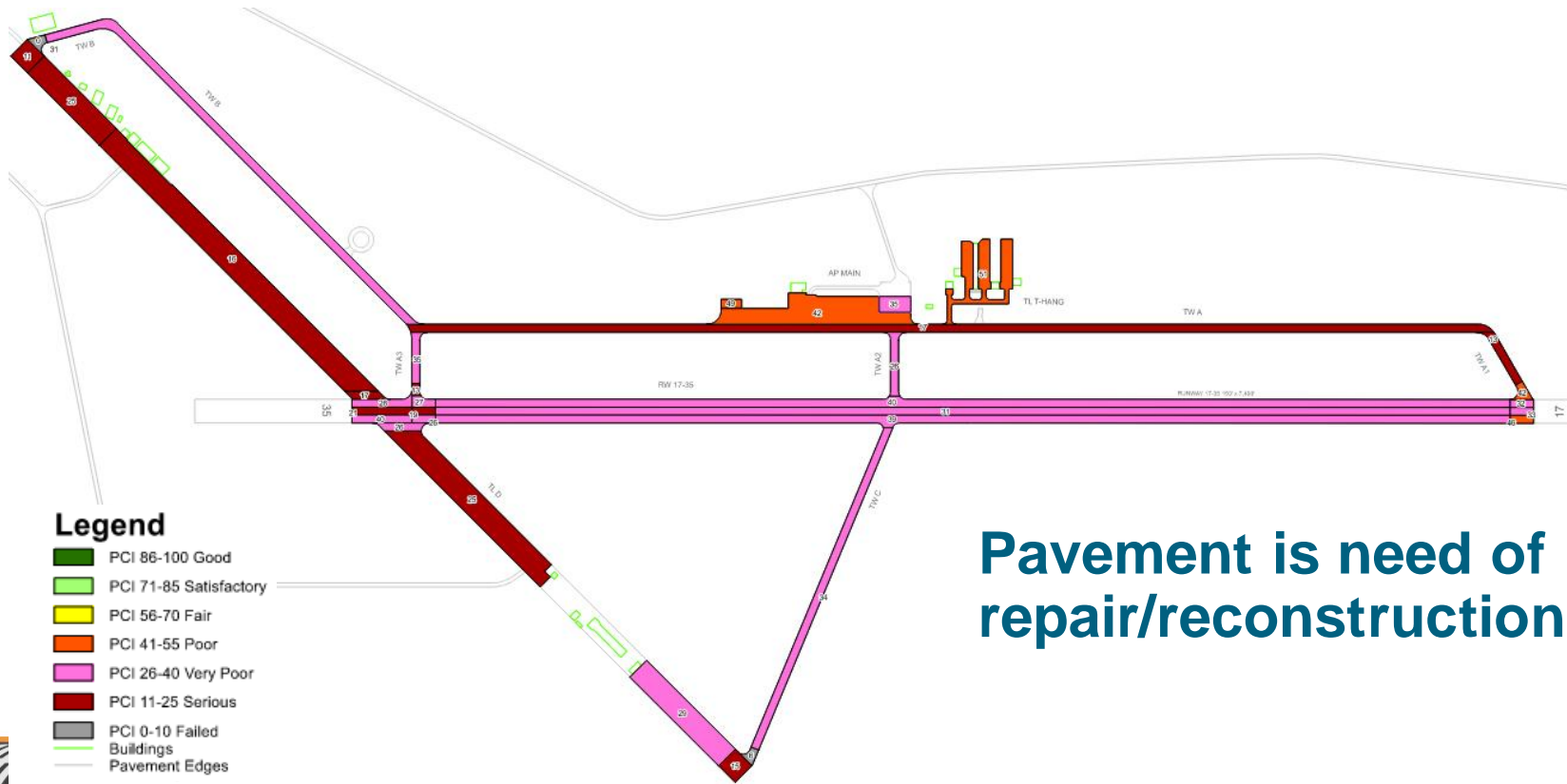
2022 Pavement Condition Index Con't.



- Different pavement types
- Pavement layer separation
 - Delamination
- SIY Airport Pavement Management Program
 - Conducted 2023



2028 Forecasted Pavement Condition Index



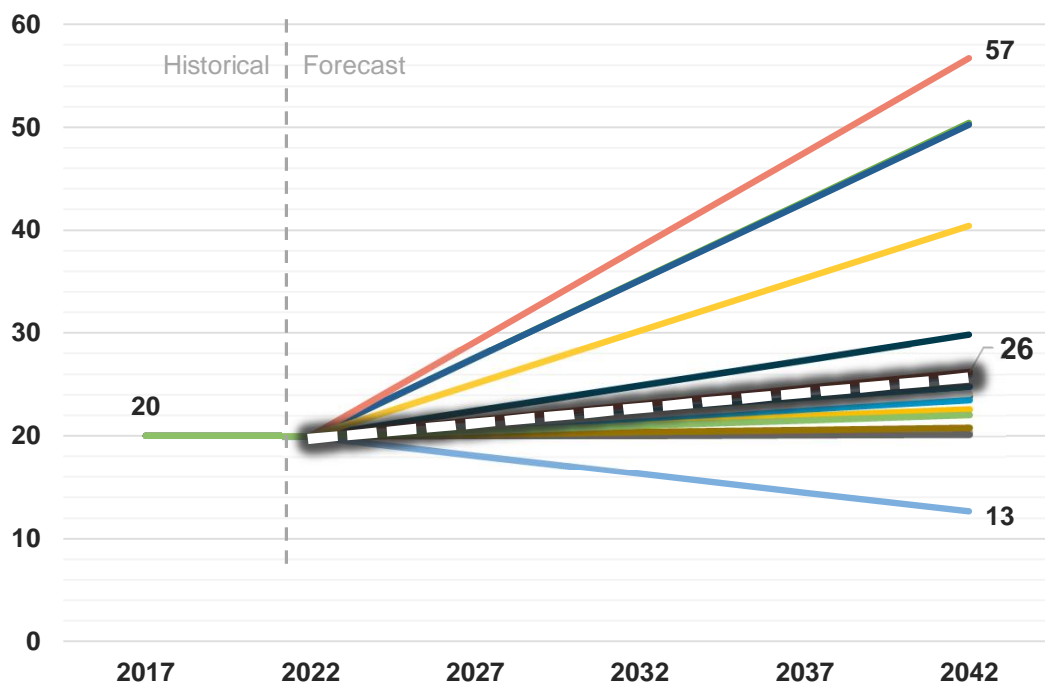
**Pavement is need of
repair/reconstruction**

- Legend**
- PCI 86-100 Good
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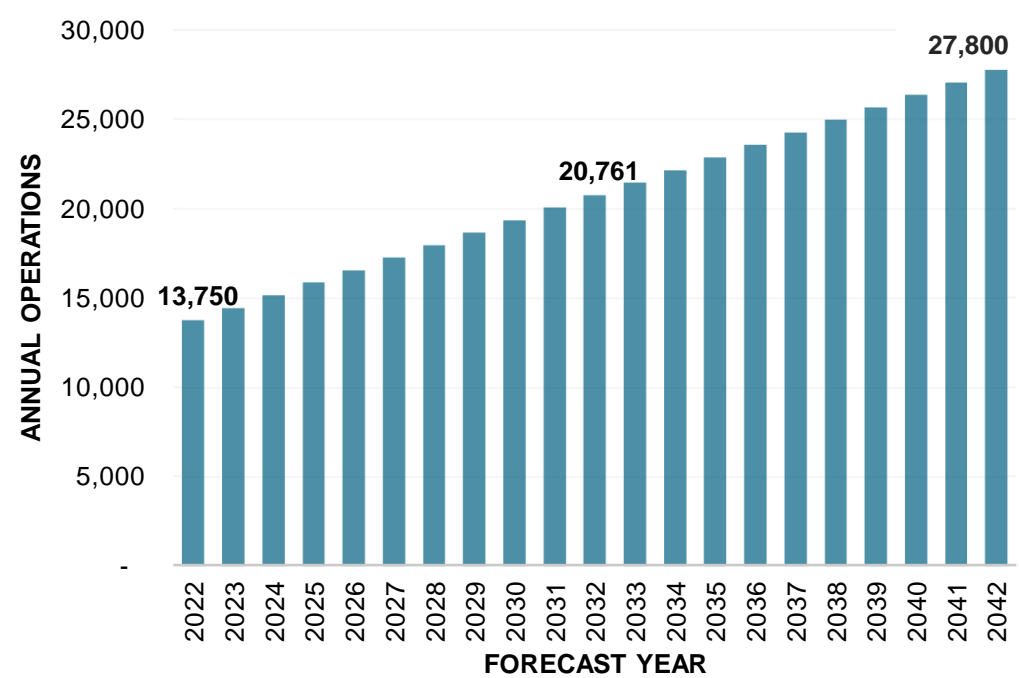


Forecasts of Aviation Demand

Based Aircraft



Annual Operations



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Critical Aircraft Requirements

- An aircraft that conducts 500 annual operations (or 250 departures)
 - Non-training (touch and go's), non-military, non-USFS
- Used to determine facility sizing
- Dictates safety areas and design standards
- Used by the FAA to determine AIP funding eligibility
- Existing (Now), Future (20 years), Ultimate (20+ years), and “Anticipated” (Sponsor Desired)



Critical Aircraft Determination



- **Critical Aircraft Existing and Future**

- **King Air**
- More than 500 combined annual operations
- Design Codes: B – II | TDG 2A

- **“Anticipated” Critical Aircraft**

- **Fire Fighting C-130H**
 - 50 Annual Operations
- **Military C-27J Spartan**
 - 202 Annual Operations by 2042
- **252 combined annual operations by 2042**
 - Existing operations are estimated at 175 annual operations
- **Design Codes: C - IV | TDG 2B**

There is limited data available at the Airport to make a compelling case to the FAA for any larger critical aircraft.

“Anticipated” forecast is driven by government entities: Military, U.S. Forest Service and CalFire operations. The FAA funds civil aeronautical uses, therefore, these operations do not influence FAA airport funding decisions.



Requirements and Alternatives

- Based on Forecasts of Aviation Demand facility requirements are calculated
- The runway is the most critical item, so all planning starts with the runway and extends outward



Siskiyou County Airport Facilities

Airside Facilities

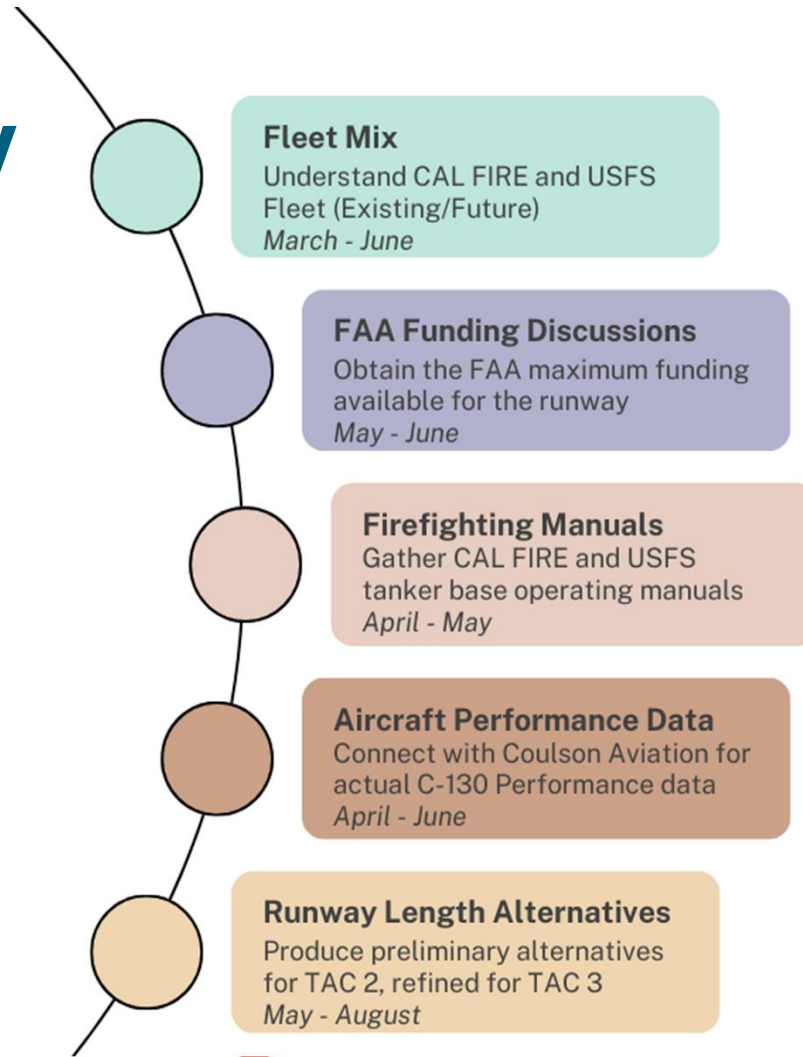
- Runway
- Taxiways
- Associated safety areas
- Navigational aids
- Approach/departure surfaces

Landside Facilities

- Aprons
- Tie-downs
- Hangars
- Vehicle circulation and parking
- Maintenance and support facilities



Inputs to Runway Alternatives



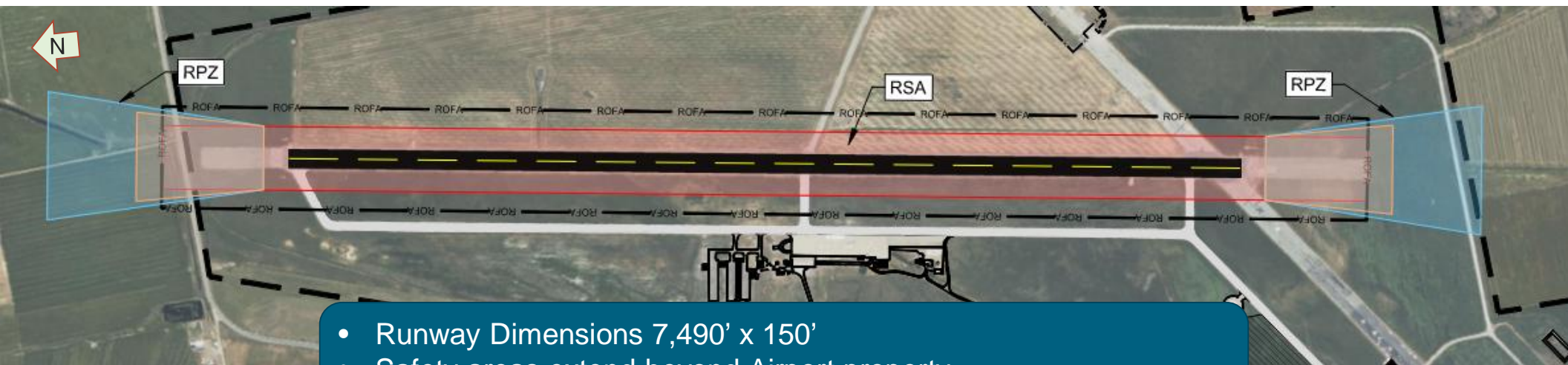
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Critical Aircraft Runway Requirements

- King Air Beechcraft Family
 - 4,100' runway length for optimal takeoff
- Lockheed C-130
 - Optimal takeoff – 7,100'
 - Balanced takeoff – 6,100'
 - Minimum takeoff – 4,200'



Existing Runway - 7,490' x 150'



- Runway Dimensions 7,490' x 150'
- Safety areas extend beyond Airport property
- Oversized for existing operations



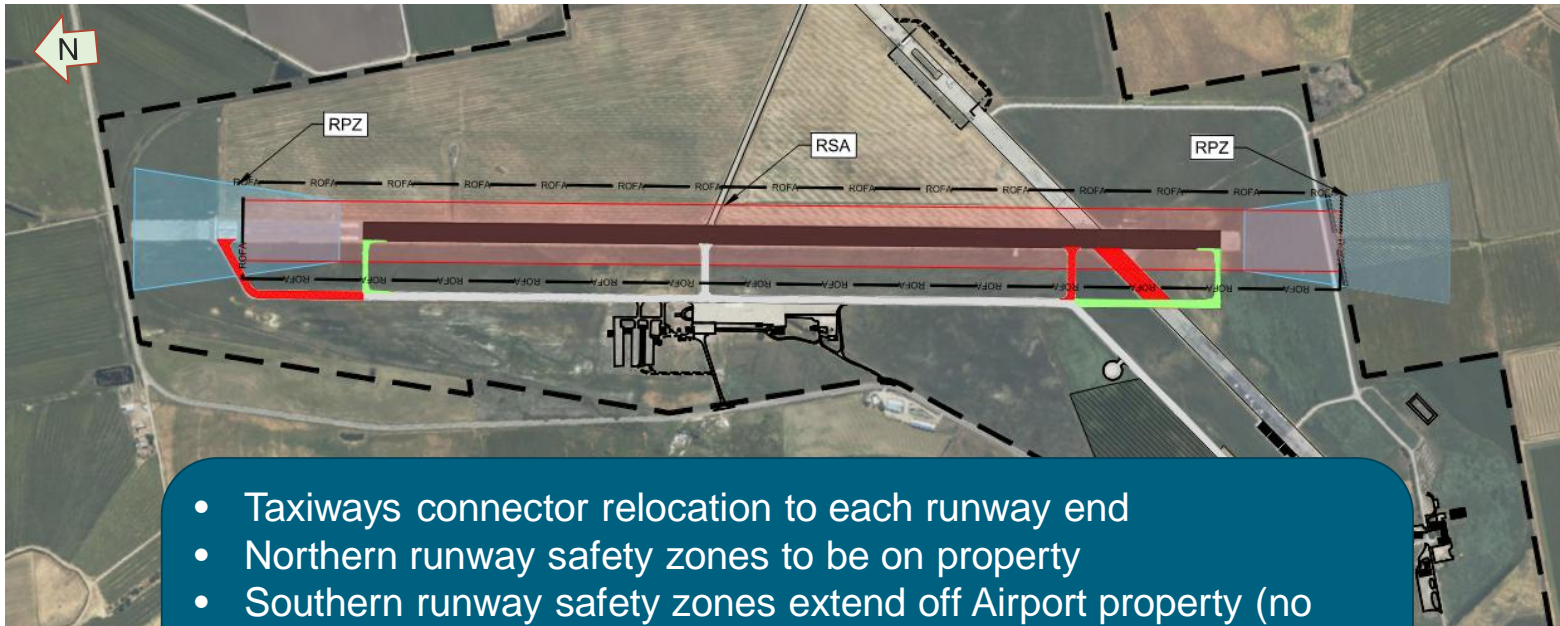
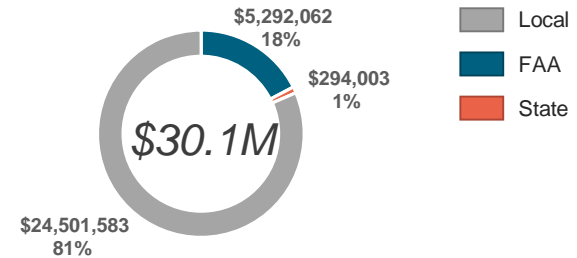
Opinions of Probable Costs

- **Costs for a Full-Depth Reclamation (FDR)**
 - No Pavement Demolition
- Raw Material Costs
- Hard Costs
 - Geotechnical, utility, FDR stabilization (40%)
 - Construction mobilization (10%)
 - Phasing (6%)
 - General construction adjustment (10%)
- Soft Costs
 - Owners project management/design (12%)
 - Engineer design fee (11%)
 - Contingency/testing/quality controls (11%)
- Inflation

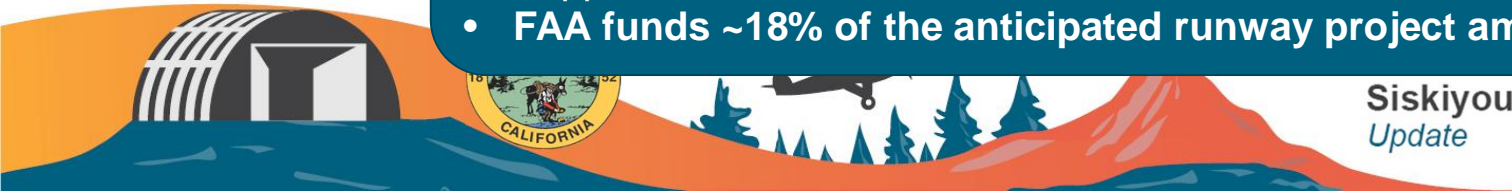


Runway Option 1

7,100' x 150'



- Taxiways connector relocation to each runway end
- Northern runway safety zones to be on property
- Southern runway safety zones extend off Airport property (no public roads)
- Supports all aircraft that use SIY
- **FAA funds ~18% of the anticipated runway project amount**



Runway Option 1 – 7,100’ x 150’

Raw Pavement Costs	Subtotal Construction Costs	Total Construction Costs	Total Project Costs with Contingency	Total Cost with Inflation	Total Project Cost	Anticipated 20 Year Maintenance
\$12,488,315	\$19,481,772	\$21,429,949	\$28,930,431	\$30,087,649	\$30,087,649	\$1,465,470

Total Project Costs

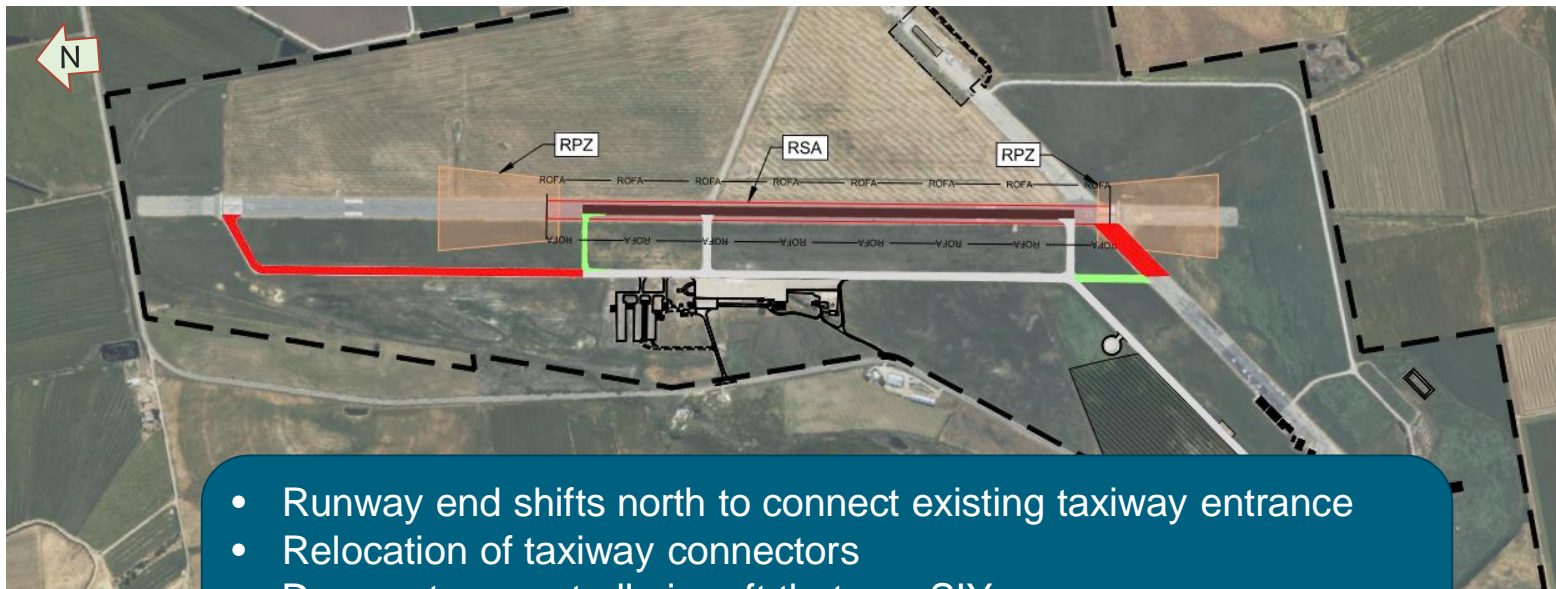
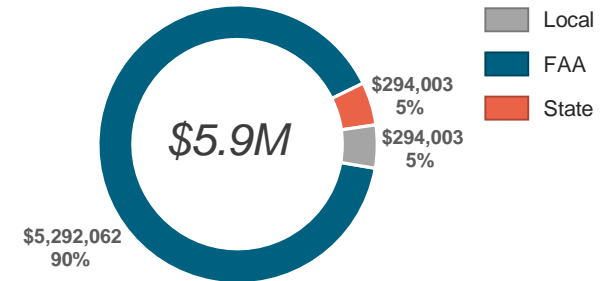
FAA Share	State Share	Local Share
\$ 5,292,062	\$ 294,003	\$ 24,501,583

\$30.1M



Runway Option 2

4,100' x 75'



- Runway end shifts north to connect existing taxiway entrance
- Relocation of taxiway connectors
- Does not support all aircraft that use SIY
- Does not support firefighting tanker flights
- **FAA funds 90% of the anticipated runway project amount**



Runway Option 2 – 4,100’ x 75’

Raw Pavement Costs	Subtotal Construction Costs	Total Construction Costs	Total Project Costs with Contingency	Total Cost with Inflation	Total Project Cost	Anticipated 20 Year Maintenance
\$2,440,608	\$3,807,348	\$4,188,083	\$5,653,912	\$5,880,069	\$5,880,069	\$398,370

Total Project Costs

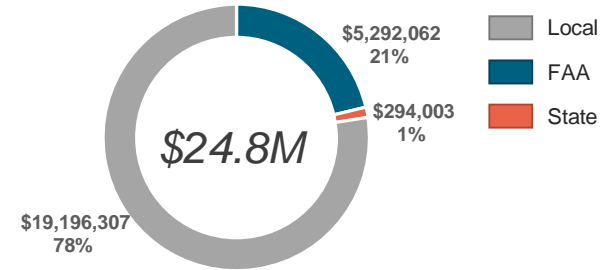
FAA Share	State Share	Local Share
\$5,292,062	\$294,003	\$294,003

\$5.9M



Runway Option 3

6,075' x 150'



- Two relocated taxiway connectors
- Runway safety zones within Airport property
- Supports all existing tenants
- Supports firefighter tanker flights
- **FAA funds ~21% of the anticipated runway project amount**



Runway Option 3 – 6,075’ x 150’

Raw Pavement Costs	Subtotal Construction Costs	Total Construction Costs	Total Project Costs with Contingency	Total Cost with Inflation	Total Project Cost	Anticipated 20 Year Maintenance
\$10,286,284	\$16,046,602	\$17,651,262	\$23,829,204	\$24,782,373	\$24,782,373	\$1,305,878




Total Project Costs

























FAA Share	State Share	Local Share
\$5,292,062	\$294,003	\$19,196,307

\$24.8M



Runway Alternatives Screening Matrix

-  Positive
-  Neutral
-  Negative

	7,100' x 150'	4,100' x 75'	6,075' x 150'	7,490' x 150'
Rating Criteria	Option 1	Option 2	Option 3	Existing
Compliance with FAA Design Standards				
Off-Airport Impacts				
Satisfies forecast demand				
Stakeholder Input				
Support Fire Fighting				
Rough Order of Magnitude Costs				



Funding Sources

- The FAA's national budget has not kept up with costs
- Remained relatively the same since the late 1990s
- State match funding is subject to availability of funds
 - Limited to \$150,000
- Unpredictable funding bills
 - BIL funding
- Runway funding issues with even the biggest airports
- **Have projects planned and shovel ready**



Other Pavement Maintenance Options

Note: Mill and Overlay costs more annualized over useful life of pavement. —————>



7,100' x 150'

• Mill and Overlay

- 10 years of useful life
- \$24,070,119 total cost

• Full runway reconstruction

- 20 years of useful life
- \$38,606,977 total cost

6,075' x 150'

• Mill and Overlay

- 10 years of useful life
- \$20,321,545 total cost

• Full runway reconstruction

- 20 years of useful life
- \$31,807,483 total cost

4,100' x 75'

• Mill and Overlay

- 10 years of useful life
- \$5,350,863 total cost

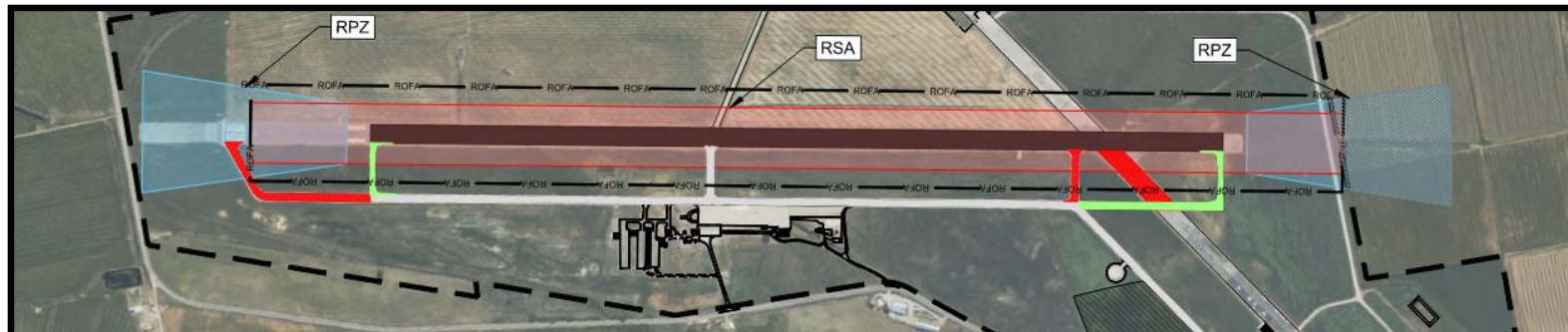
• Full runway reconstruction

- 20 years of useful life
- \$8,085,095 total cost



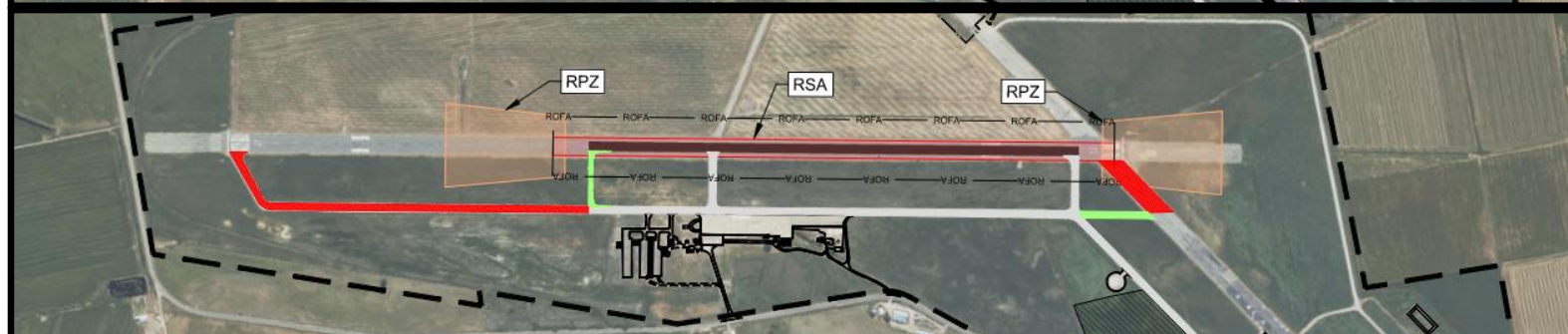
Option 1

Runway Dimensions 7,100' x 150'



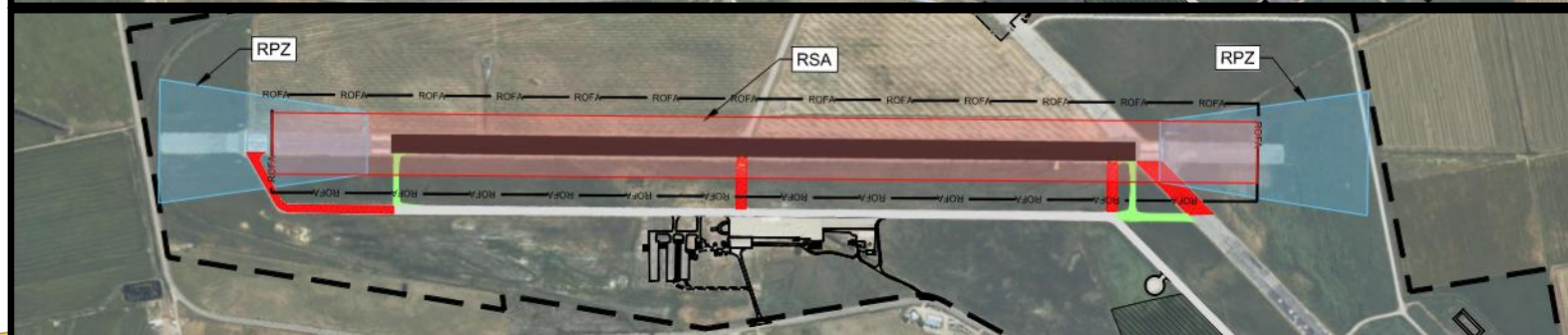
Option 2

Runway Dimensions 4,100' x 75'



Option 3

Runway Dimensions 6,075' x 150'



Next Steps

- Define preferred runway length for long-range planning purposes
- Finalize overall preferred alternative
- Develop implementation and funding plan
- Develop the Airport Layout Plan Set and Narrative Report



Thank You for Your Time

