



**City of
McMinnville**

Airport Master Plan Update

McMinnville Municipal Airport

**Planning Advisory Committee Meeting #2
April 24, 2024**

Project Team



David Miller

Lead Aviation Planner
Century West Engineering
dmiller@centurywest.com



Samantha Peterson

Planner/Project Manager
Century West Engineering
speterson@centurywest.com



Mark Steele

Planner
Century West Engineering
msteele@centurywest.com



Bryan Condon

Engineering Project Manager
Century West Engineering
bcondon@centurywest.com



City of McMinnville

Willy Williamson
Airport Manager
willy.williamson@mcminnvilleoregon.gov



**Federal Aviation
Administration**

Timothy House
Lead Airport Planner
timothy.a.house@faa.gov



Oregon Department of Aviation
mail.aviation@odav.oregon.gov

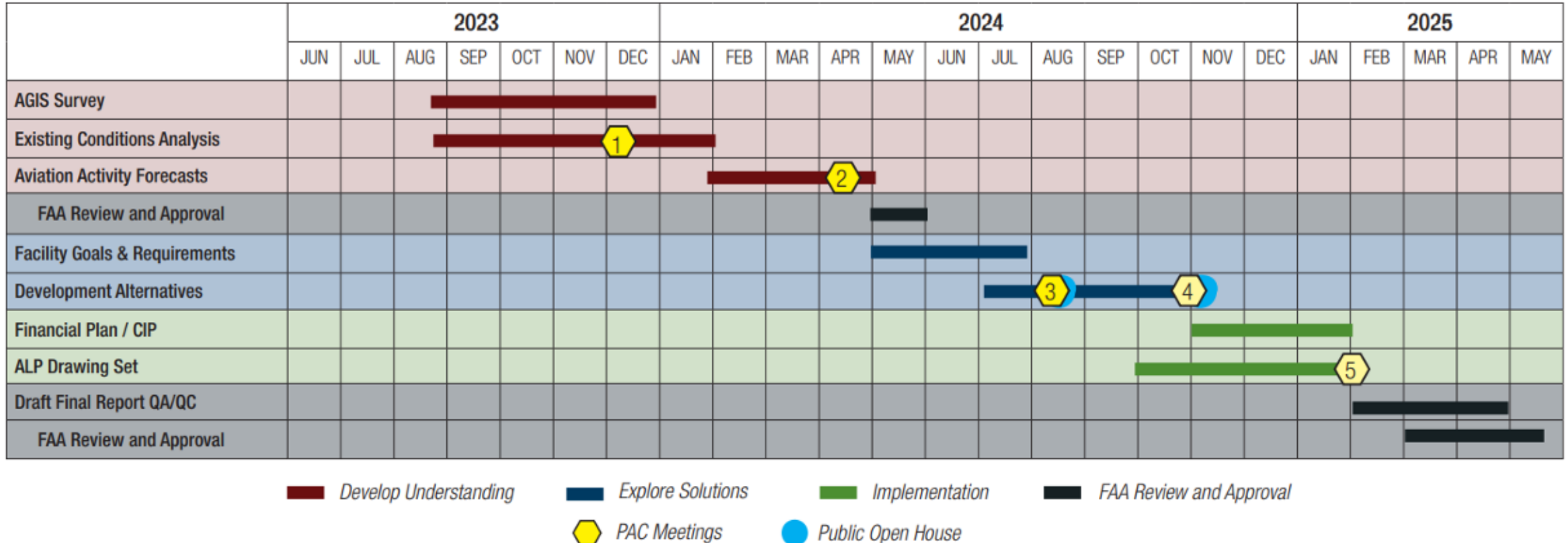
Agenda

- Introductions
- Existing Conditions Overview
- AGIS Survey
- Preliminary Aviation Activity Forecast
 - Based Aircraft Models
 - Aircraft Operations Models
 - Design Aircraft –
Runways 4/22 & 17/35
- Facility Requirements Overview
(Definition of Design Standards)
- Facility Needs Discussion
- Looking Ahead



Project Schedule

McMinnville Municipal Airport - Airport Master Plan - Project Schedule



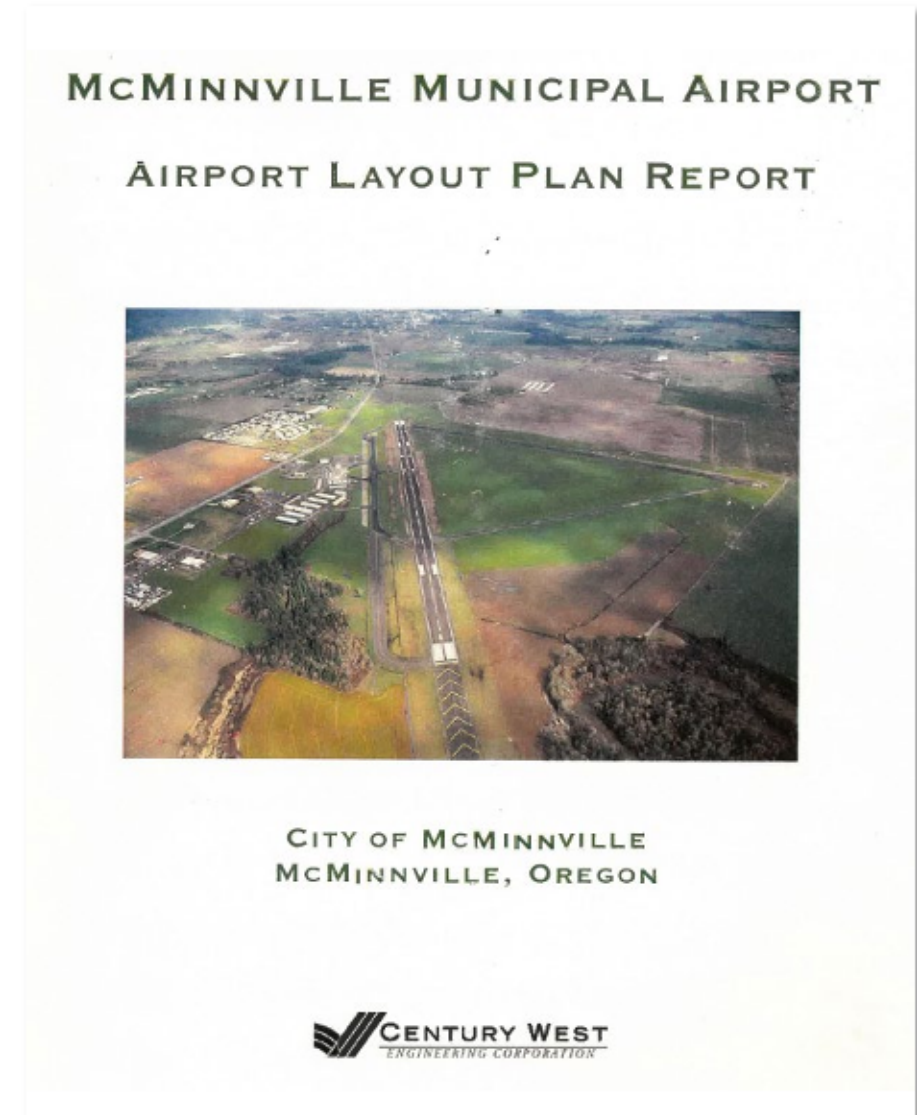
Note: This is a living project schedule, and dates often evolve over the course of the project.

Airport Master Plan Elements

	Regional Setting	Airside Elements	Landside Elements	Airport Administration
Develop Understanding	Location & Vicinity Socio-Economic Data Airport Role Airport History	Area Airspace Instrument Flight Procedures Navigational Aids Runway/Helipad Taxiways/Taxilanes Pavement Condition Airside Support Facilities	Aprons/Tiedowns FBO/Terminal Building Hangars Airport Fencing Airport Surface Roads Vehicle Parking Utilities Aircraft Fueling	Airport Ownership & Management Airport Financials Airport Rates and Charges Local Rules & Regulations Oregon Aviation Laws FAA Compliance Overview
Explore Solutions	Area Airports Context Airport Operations Relevant Studies Environmental Data			
Implementation	Local Surface Transportation Land Use/Zoning			

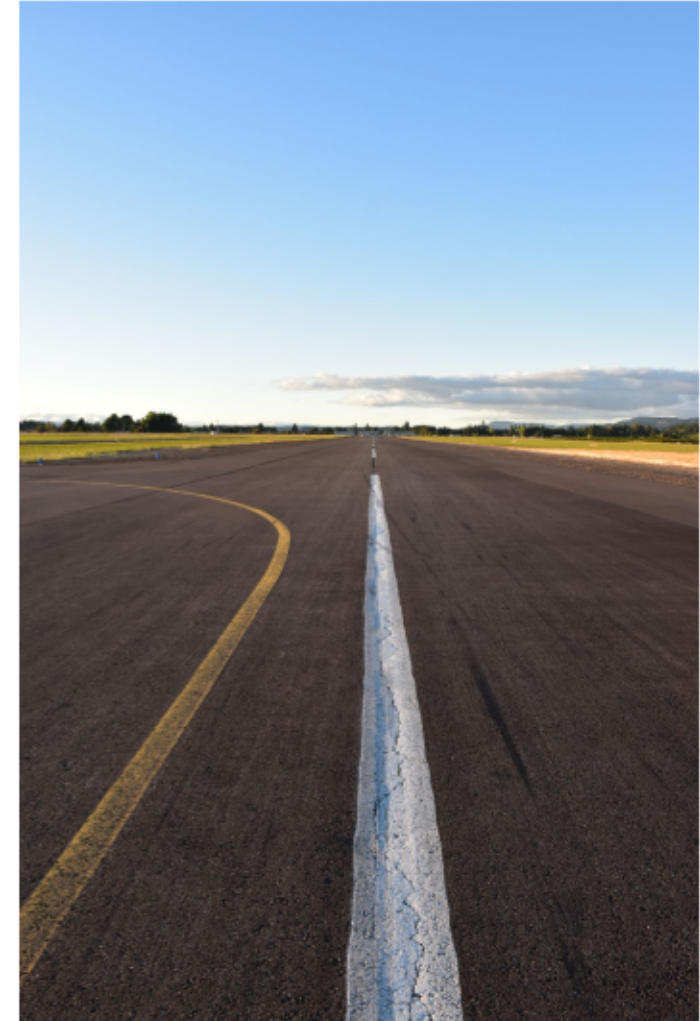
Prior Planning

- **2004 Airport Layout Plan Report**
 - 2003-2023 planning period
 - Numerous recommended airfield improvements have been completed
 - We are beyond the end of the last 20-year planning period
- Minor updates to ALP (as-builts) completed as recently as 2021
- ODAV Aviation Pavement Management Inspection and Plan was last updated in 2023
- Project Environmental Assessments (currently underway)



Recent Major Projects

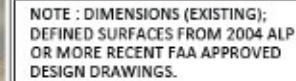
- Main Terminal Apron and East Tiedown Apron Improvements
- Runway 4/22 Reconstruction and Lighting Replacement – New HIRL, PAPI, REIL, REIL (Rwy 04)
- Taxiway A (RWY4/22 Parallel Taxiway) Reconstruction and Lighting Replacement
- Runway 17/35 Rehabilitation
- Taxiway D (RWY 17/35 Parallel and Infield Access Taxiway) Construction
- Hangar Taxiway/Taxilane Construction



Airport Development



Airfield



Existing Conditions

Airside Facilities

- **Runway 4/22** – 5,420' x 100' (Asphalt) with full length parallel taxiway (4 exits); 1,000' Paved Overrun (non-movement area) on Rwy 4 end
 - FAA Standard Lighting, Instrumentation, Pavement Markings, Signage
- **Runway 17/35** - 4,340' x 75' (Asphalt) with partial length parallel taxiway (3 exits)
 - Unlighted; No Visual Guidance Indicators



Existing Conditions

Terminal Area



Existing Conditions

Landside Facilities

➤ Main Apron

- Transient Aircraft Parking (2 –3 large aircraft spaces)
- Aircraft Fuel Storage and Dispensing
- FBO Building

➤ East Apron

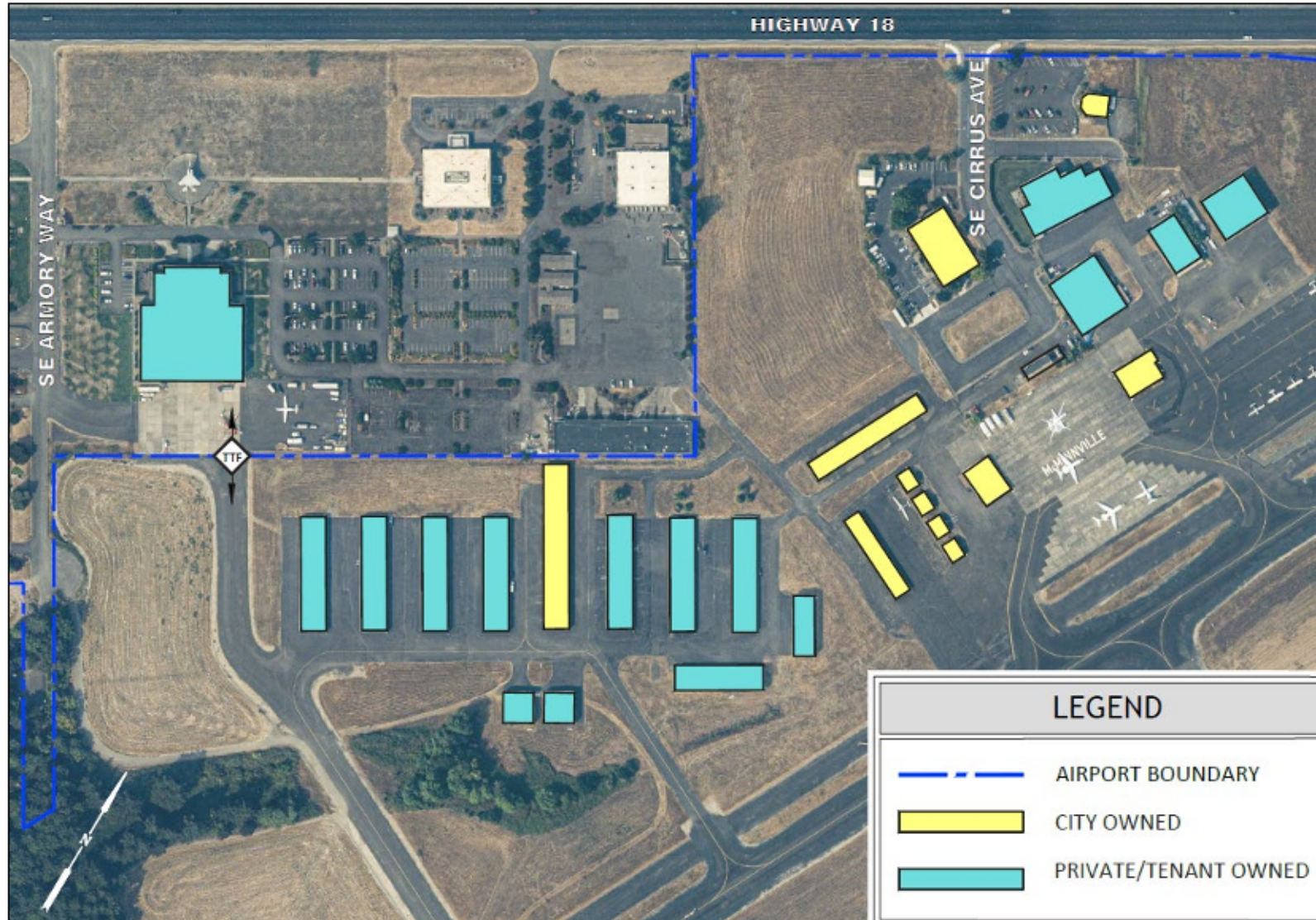
- Small airplane tiedowns (19)
- Aircraft access to hangars/offices

➤ Terminal Area

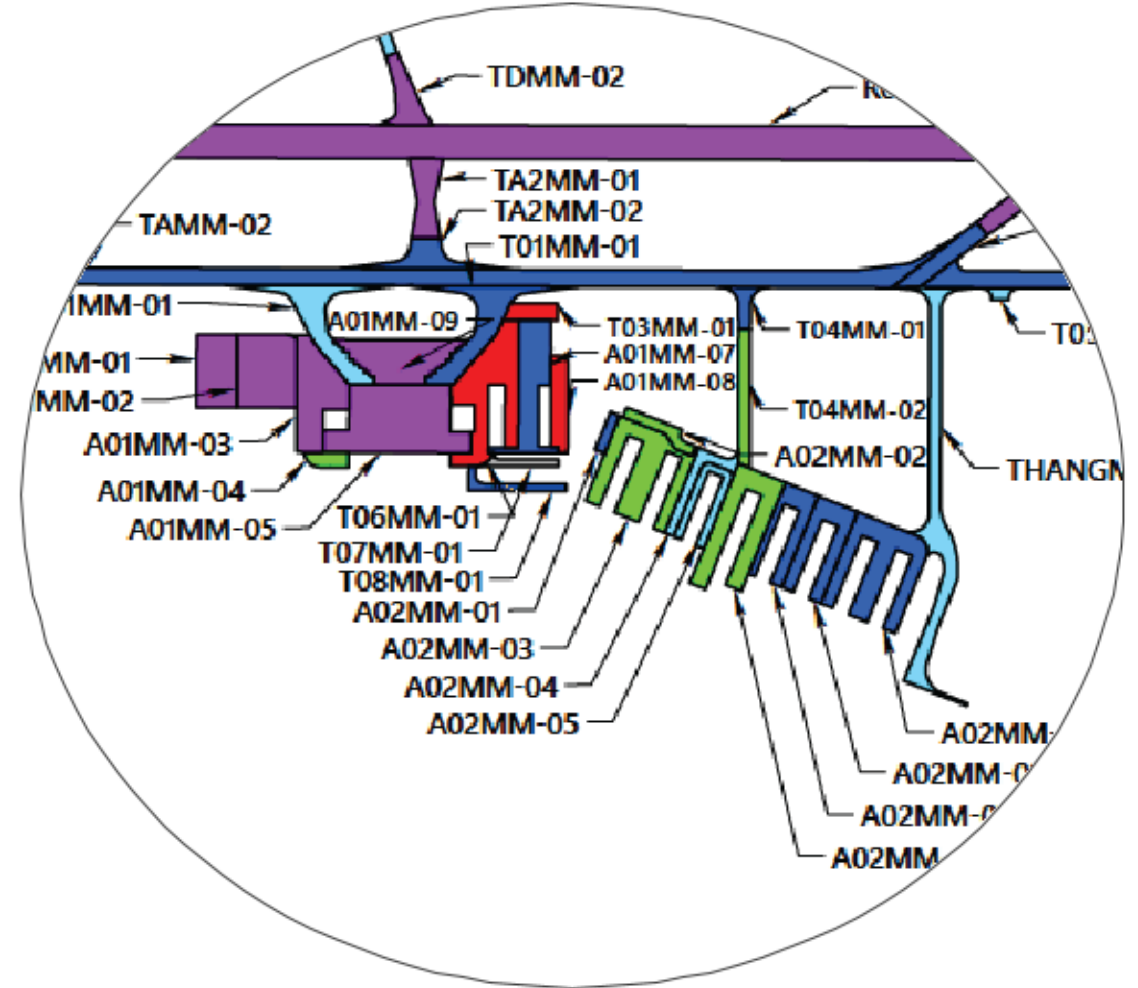
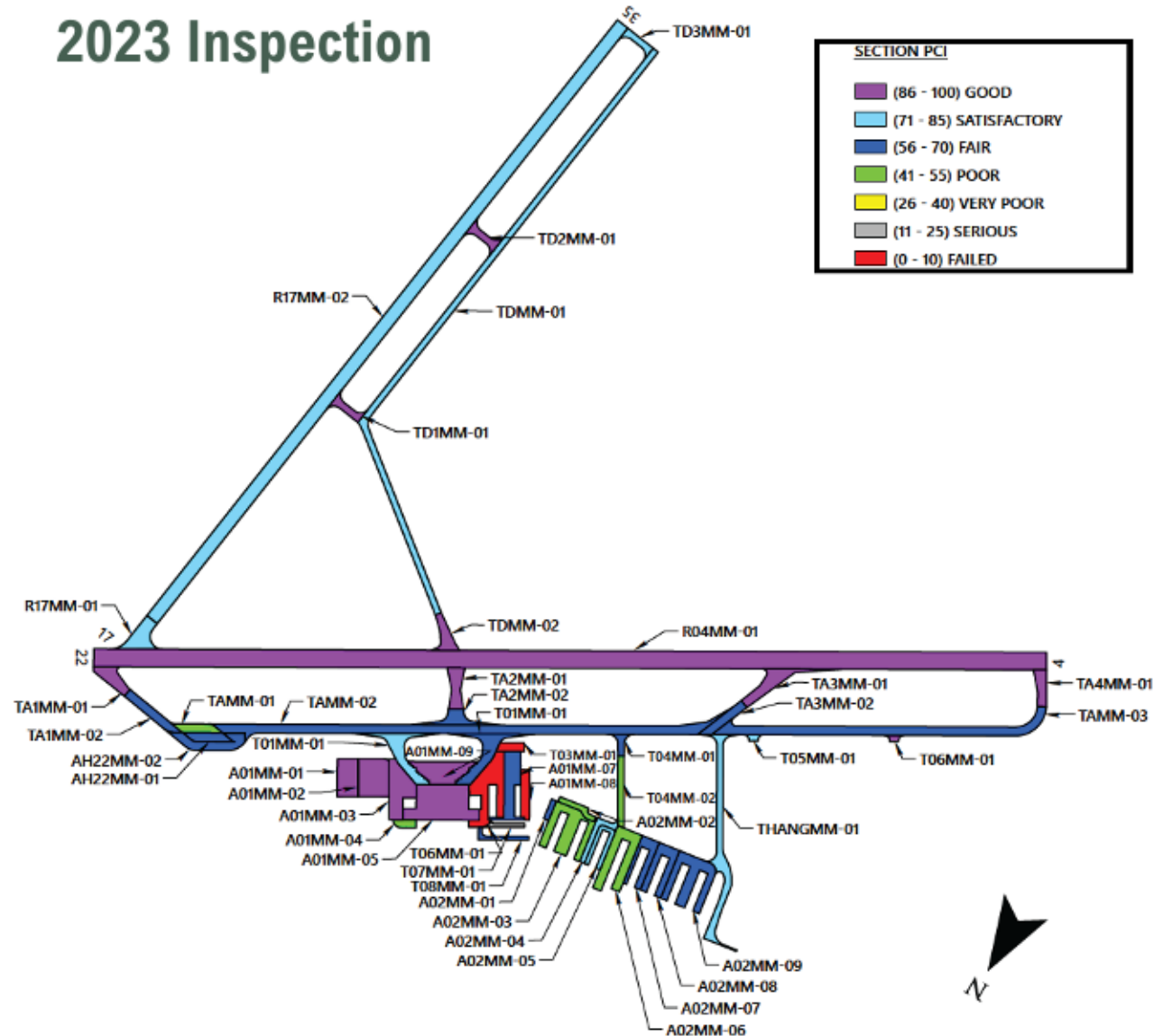
- T-Hangars - 90 units
- Conventional Hangars (storage) - 6 buildings
- Multi-Unit Hangars - 5 units
- Conventional Hangars (commercial) – 6 buildings + 1 TTF
- Non-Aeronautical (offices) - 2 buildings



Existing Aviation/Non-Aviation Use Buildings



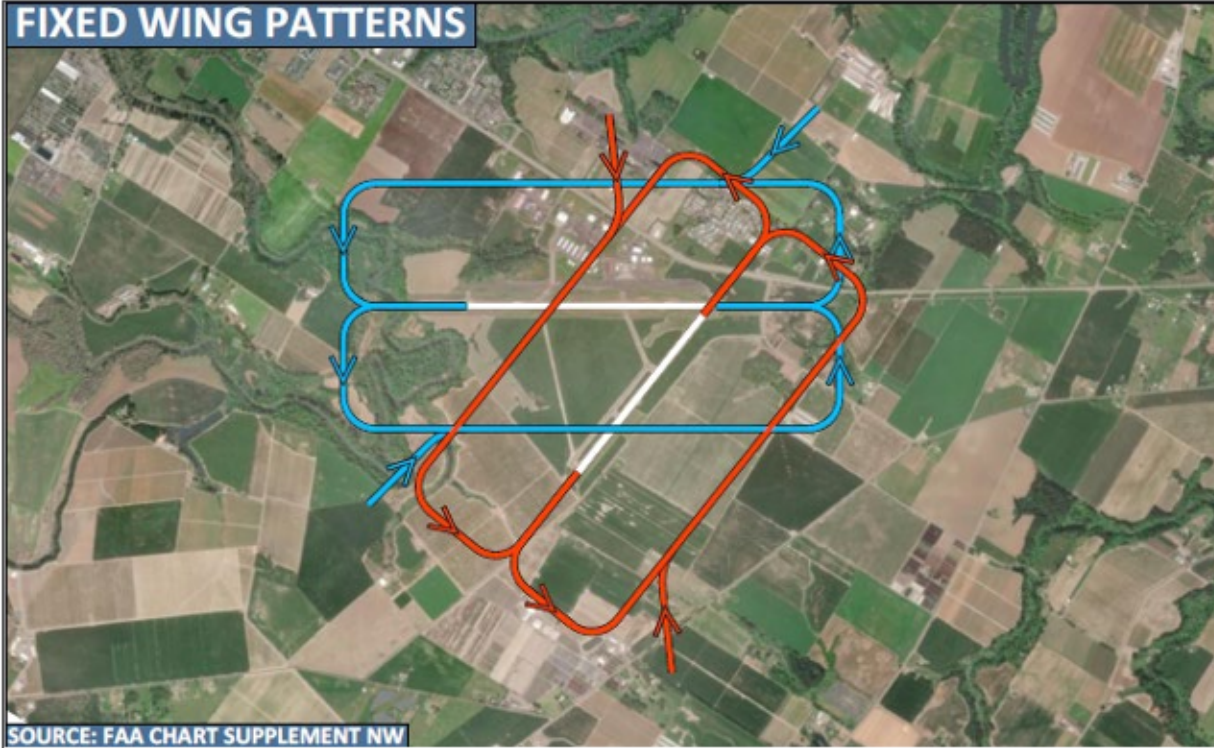
2023 Inspection



CENTURY
WEST
ENGINEERING

Traffic Patterns

FIXED WING PATTERNS



HELICOPTER PATTERNS



Existing Conditions

Airport Land Use

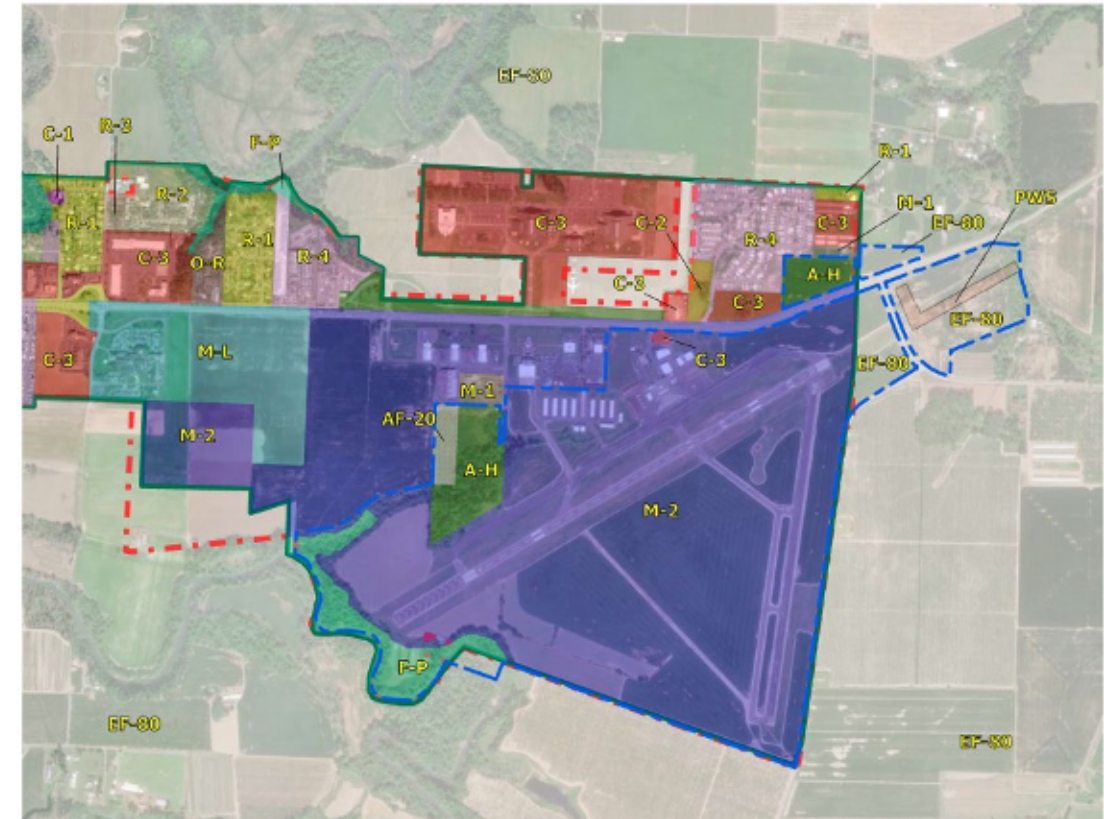
- Airport: 650 Acres (Owned by the City of McMinnville)
- The main section of the Airport is in the McMinnville city limits and small sections are in Yamhill County
- The primary land use on the Airport is aeronautical
- Other uses on airport property include:
 - Public (city) park
 - Law enforcement shooting range
 - Commercial offices



Existing conditions

Zoning

- Most areas of Airport zoning is under the jurisdiction of the City of McMinnville (MMC – Title 17)
- Small areas of Airport zoning are under Yamhill County jurisdiction (YCC – Title 11)
- The main section of the Airport is zoned **General Industrial (M-2)**
- The Airport borders large areas of **Exclusive Farm Use (EF-80)** zoning south and east, and the Highway 18 corridor and the McMinnville urban area north and west (commercial, industrial, residential zones)
- **R-4** is the highest density zone (single- to multiple-family dwellings) near the Airport (north of Highway 18)



Source: City of McMinnville Zoning Code Title 17 and Yamhill County Zoning Code Title 11

Yamhill County Zoning

- EF-80, Exclusive Farm Use
- PWS, Public Works/Safety
- AF-20, Agricultural Forestry 20 Acres

City of McMinnville Zoning

- R-1 Low Density Residential
- R-2 Low Density Residential
- R-3 Medium Density Residential
- R-4, Medium Density Residential
- O-R, Office/Residential
- C-1, Neighborhood Business
- C-2, Travel Commercial
- C-3 General Industrial
- M-1, Limited Light Industrial
- M-1, Light Industrial
- M-2, General Industrial
- A-H, Agricultural Holding
- F-P, Flood Plain

Jurisdictional Boundaries

- Property Line MMV
- City Boundary
- UGB Yamhill County

Airport Activity

Current Based Aircraft Fleet

Single-Engine Piston	79
Multi-Engine Piston	7
Jet	2
Helicopters	19
Experimental/Light Sport Aircraft	21
Total	128
FAA Validated Based Aircraft Count (Updated by MMV Airport Management, January 2024) <i>* Excludes gliders and off-airport aircraft</i>	

2003 Based Aircraft Fleet

Single-Engine Piston	97
Multi-Engine Piston	9
Jet	1
Helicopters	4
Experimental/Light Sport Aircraft	-
Total	111
2004 ALP Report Forecast Baseline <i>* Excludes gliders and off-airport aircraft</i>	

Historical Conditions

Based Aircraft

- **Net increase of 17 aircraft** over the last 20 years
- **+15% increase in based aircraft**, excluding changes in off-airport aircraft and gliders, which are not included in FAA activity measures



Airport Activity

2023 Baseline Aircraft Operations	
MMV-Based Flight Schools (Fixed Wing)	8,408
MMV-Based Flight Schools (HELI)	19,780
Area Flight Schools (FW/Heli)	20,954
Military	500
Other General Aviation*	20,300
Total Operations (Takeoffs and Landings)	69,942

*(Non-duplicated based aircraft (116) x 175 OPBA captures locally-based and transient activity)

Airport Activity

Aircraft Operations (2023)

- Major Activity Segments:
 - Flight Training (70%)
 - Local and Area Flight Schools – Fixed Wing and Helicopter
 - Business & General Aviation (30%)
 - Local and Transient Corporate and GA Aircraft
 - Military (1%)
 - Transient Helicopter and Fixed Wing Aircraft



Historical Conditions

- Moderate sustained local population and economic growth, significant annual fluctuations (Great Recession and COVID-19 pandemic) experienced in last 20 years

Population

- **City of McMinnville** (averaged **1.17%** annual growth since 2000) (+8,113)
- **Yamhill County** (averaged **1.12%** annual growth since 2000) (+24,751)
- **Oregon** (averaged **0.99%** annual growth since 2000) (+870,126)

Economic Activity (Yamhill County)

- Gross Regional Product: **+2.17%** annual growth (2017-2022)
- Per Capita Income: **+4.06%** annual growth (2003-2022)

Forecast Models – Based Aircraft

Model 1 – Non-Towered NW Mountain Region TAF

The **Non-Towered NW Mountain Region TAF** model is derived from the FAA's forecast of based aircraft for all airports in the region that do not have a control tower. The relevance of this model is partly attributed to its regional geographic focus, and the types of airports that are included/excluded.

Model 2 – Bottom-Up National Aerospace Forecast

The **Bottom-Up National Aerospace Forecast** model is derived from the FAA's long-term forecast of the U.S. general aviation fleet. The relevance of this model is partly attributed to its focus on the national general aviation industry, including aircraft manufacturing and aircraft utilization trends within the aviation system, and broad economic modeling. The projection was developed using a “bottom-up” methodology that reflects individual growth rates for single-engine pistons, multi-engine pistons, turbines, experimental aircraft, LSAs, and Jets within the Aerospace Forecast.

Forecast Models – Based Aircraft

Model 3 – Historical Trend

The **Historical Trend** model is created by evaluating the net change in based aircraft totals, measured between the 2023 baseline and the 2003 based aircraft total used in the 2004 ALP Report. The model standardizes the data to be consistent with current FAA data, which removes gliders and off-airport aircraft from the Airport's based aircraft totals.

Model 4 – Woods and Poole GDP Forecast

The **Woods and Poole GDP** model is derived from the Woods and Poole 2050 Economic Forecasts for Yamhill County GDP. Although airport activity often reflects broad economic conditions, it is difficult to establish a reliable statistical relationship between the two. However, this model provides a more robust projection of demand that could be used to define long-term development reserves for hangars and aircraft parking.

Airport Activity

2023-2043 Master Plan – PRELIMINARY BASED AIRCRAFT FORECASTS

Forecast Models	CAGR	2023	2028	2033	2038	2043
Non-Towered Airports - FAA NW Mountain Region Terminal Area Forecast	0.82%	128	133	139	145	151
FAA National Aerospace Forecast (Bottom-Up Weighted GA Fleet)	0.11%	128	128	129	130	131
MMV Historical Trend (2003-2023)	0.72%	128	133	138	143	148
Woods & Poole Yamhill County 2050 Forecast GDP	1.77%	128	140	153	167	182
FAA TAF (Reference Line)	1.42%	123	133	143	153	163

CAGR: Compound Annual Growth Rate (20 years)

Forecast Models – Aircraft Operations

Model 1 – Non-Towered NW Mountain Region TAF

The **Non-Towered NW Mountain Region TAF** model is derived from the FAA's forecast of aircraft operations for all airports in the region that do not have a control tower. As with the similar based aircraft model, the relevance of this model is attributed to its regional geographic focus, and the types of airports that are included/excluded.

Model 2 – National Aerospace Forecast Hours Flown

The **National Aerospace Forecast Hours Flown** model is derived from the FAA's long-term forecast of annual hours flown within the U.S. general aviation fleet. This model reflects national trends within general aviation that are considered relevant for MMV.

Forecast Models – Aircraft Operations

Model 3 – Hybrid Model (Airport-Specific Factors)

The **Hybrid** model is derived by defining three factors that may be highly relevant for MMV and independently applying their trends:

- **10 years of Instrument Flight Plan Data (Jet Operations).** FAA TFMSC data for MMV indicate that jets operations at MMV increased at an average of 3.35% annually between 2014 and 2023. This is used to project growth in business jet activity within the overall airport activity.
- **Flight Training – Student Pilot Certificates.** FAA data indicate that the volume of student pilot certificates increased at an average of 0.88% annually between 2004 and 2023. This is used to project growth in flight training within the overall airport activity.
- **Non-Duplicated Activity.** The remaining activity at MMV is projected by using the applicable FAA National Aerospace Forecast individual growth rates by category.

Airport Activity

2023-2043 MASTER PLAN – PRELIMINARY AIRCRAFT OPERATIONS FORECASTS

Forecast Models	CAGR	2023	2028	2033	2038	2043
Non-Towered Airports - FAA NW Mountain Region Terminal Area Forecast	1.36%	69,942	74,829	80,058	85,652	91,637
FAA National Aerospace Forecast – Hours Flown	0.80%	69,942	72,785	75,743	78,882	82,025
Hybrid Flight Training/Business Aviation/GA Model	0.67%	69,942	72,319	74,776	77,317	79,345
FAA TAF (Reference Line)	1.45%	64,418	69,216	74,374	79,923	85,894

CAGR: Compound Annual Growth Rate

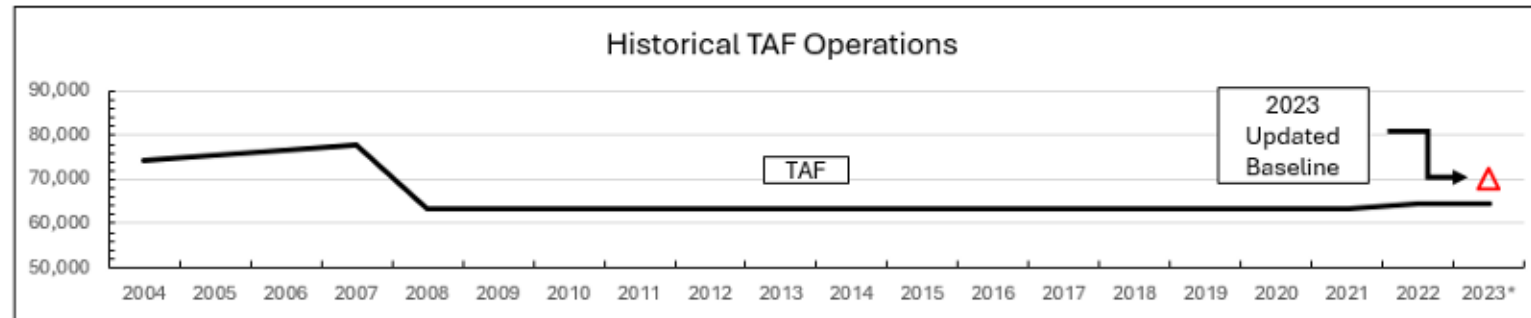
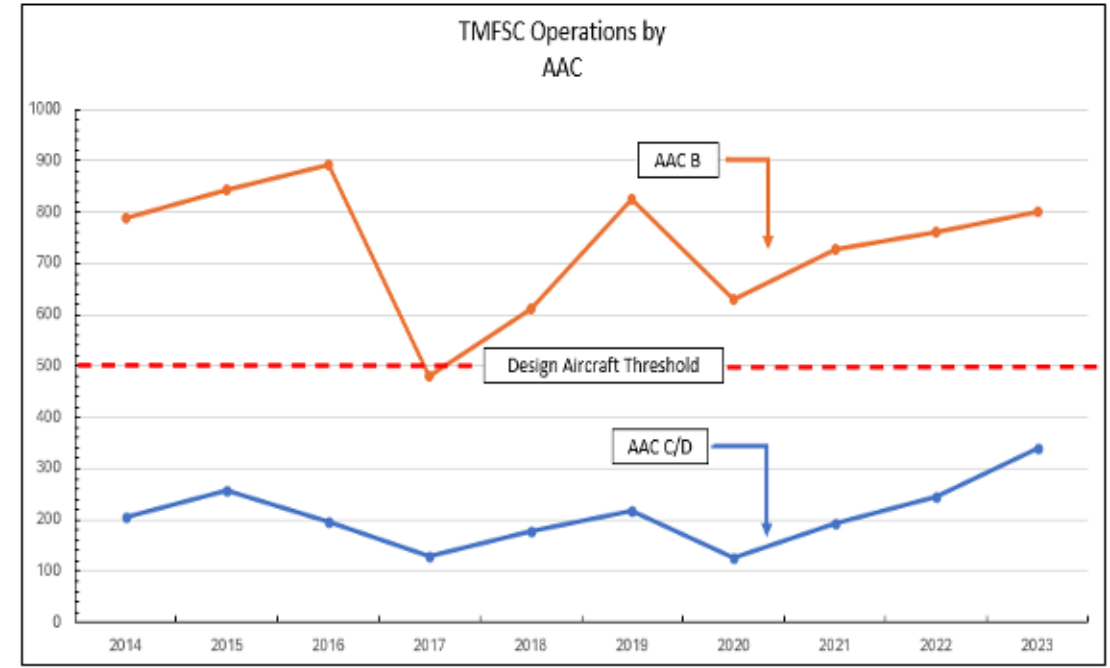
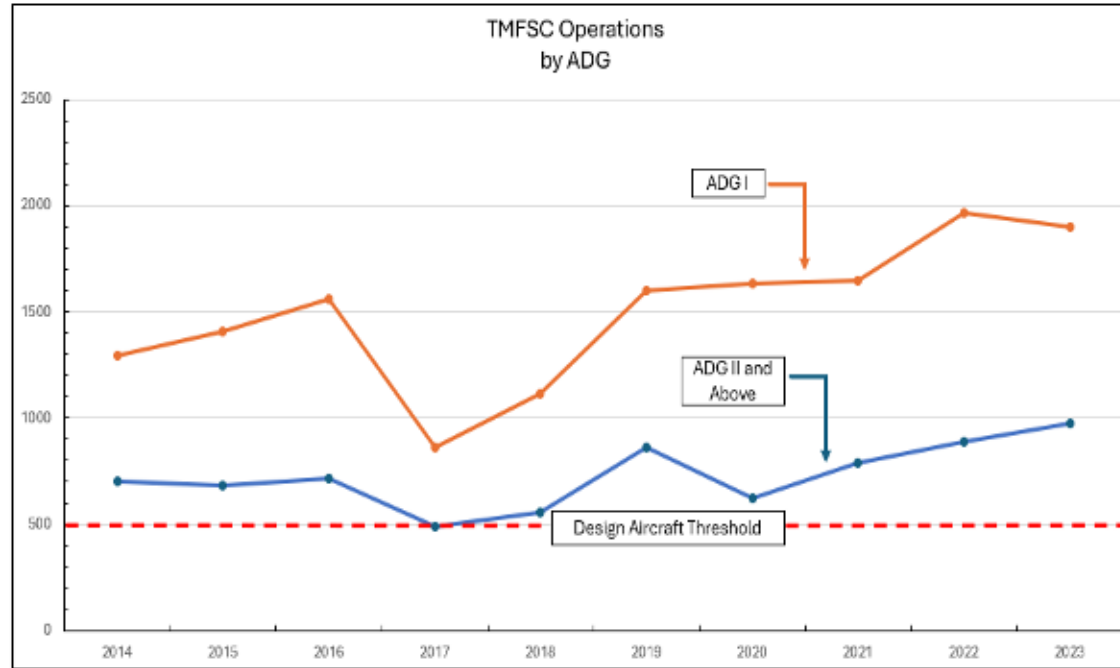
FAA Design Aircraft Designation

A-I 12,500 lbs. or less	 Beech Baron 55 Beech Bonanza Cessna 182 Piper Archer	B-I (small) 12,500 lbs. or less	 Beech Baron 58 Beech King Air C90 Cessna 402 Cessna 421	A-II, B-II 12,500 lbs. or less	 Super King Air 200 Pilatus PC-12 DCH Twin Otter Cessna Caravan
ARC - B-II Greater than 12,500 lbs.	 Super King Air 300, 350 Beech 1900 Cessna Citation Falcon 20, 50	A-III, B-III Greater than 12,500 lbs.	 DHC Dash 7, Dash 8 Q-200, Q-300 DC-3 Convair 580	C-I, D-I	 Lear 25, 35, 55, 60 Israeli Westwind HS 125-700
C-II, D-II	 Gulfstream II, III, IV Canadair 600 Canadair Regional Jet Lockheed JetStar	C-III, D-III	 Boeing Business Jet Gulfstream 650 B 737-300 Series MD-80, DC-9	C-IV, D-IV	 B - 757 B - 767 DC - 8-70 DC - 10

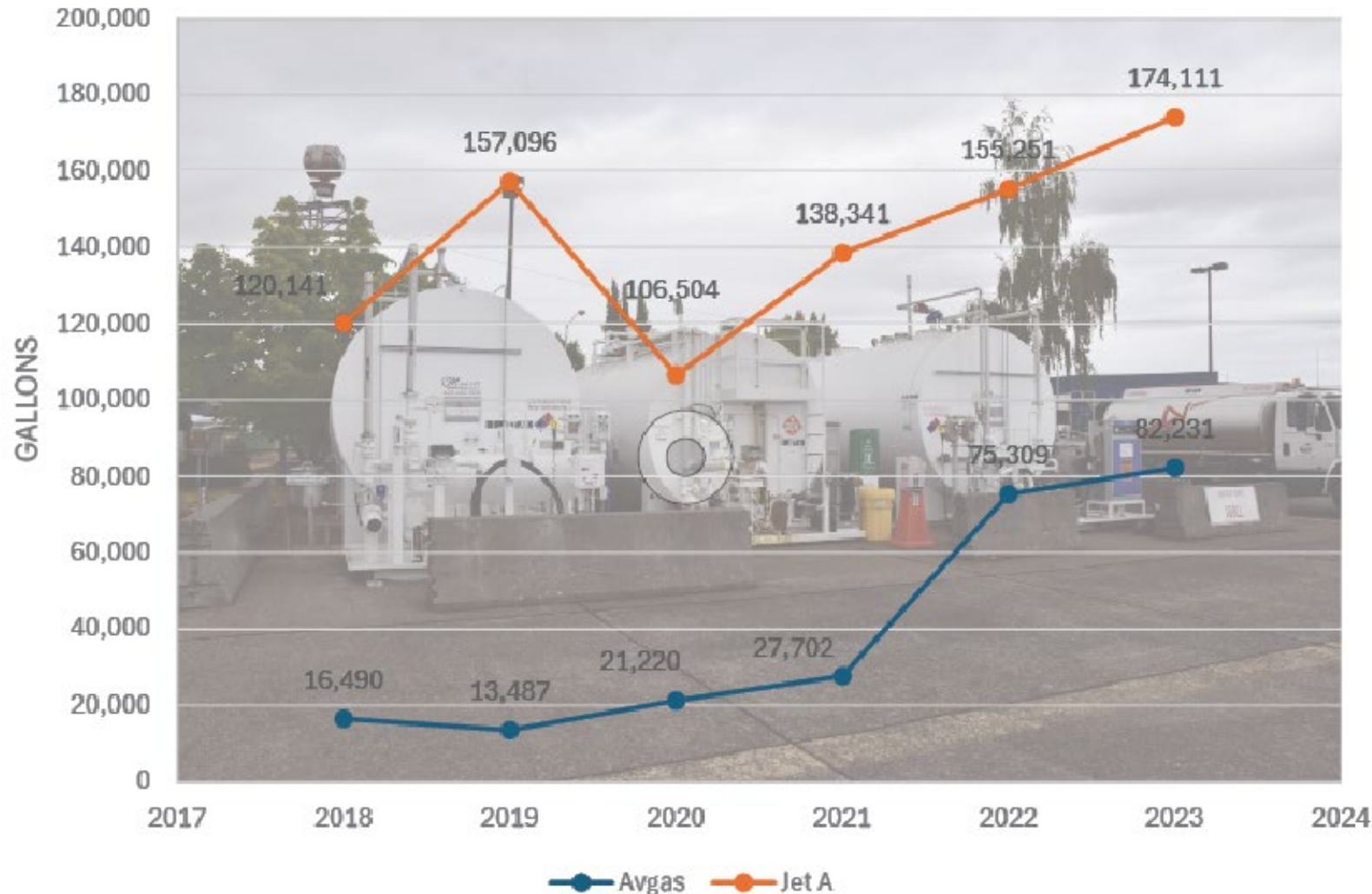


Airport Activity

Annual Instrument Flight Plan Operations (2013-2022)



Historical Fuel Activity



➤ Overall Increase in Fueling Volume

- Jet Fuel volume has increased nearly 50%
- 100LL Avgas volume has increased steadily

➤ Fuel Data:

- Potcake Aviation: 2018-2023
- Jerry Trimble: 2022-2023

Preliminary Forecast – Design Aircraft

Runway 4/22

➤ Current Design Aircraft

- Medium Business Jet
- Cessna Citation Latitude (CE680)
- **AAC/ADG: B-II** (>12,500#)



➤ Future Design Aircraft (TBD **)

- ☐ Medium Business Jet
- ☐ Bombardier Challenger 300/350 **
- ☐ **AAC/ADG: C-II** (>12,500#) **



Preliminary Forecast – Design Aircraft

Runway 17/35

Current/Future Design Aircraft

- Runway 17/35 accommodates predominantly single-engine and multi-engine aircraft, helicopters, and gliders
- This activity most closely corresponds with RDC A-I (small)
- **AAC/ADG: A-I** (small <12,500#)
- Cessna 182 (Typ.)



Known Issues & Potential Opportunities

1	Terminal Area Pavement Rehabilitation/Reconfiguration
2	Airfield Lighting
3	Airport Fence Extension (North Section)
4	Airport Fuel Storage
5	Hangar Development Areas
6	Helicopter Facilities and Operations
7	Terminal Area Facilities (Terminal/FBO Building)
8	Aeronautical/Non-Aeronautical Development



Future Facility Needs

➤ Discussion

- Airside?
- Landside?
- Support?
- Other?



Next Steps

PAC Meeting #3

- **Aviation Activity Forecast Chapter**
- **Facility Requirements Chapter**
 - Updated Facility Needs & FAA Design Standards
- **Development Alternatives**
 - Preliminary Development Concepts



**City of
McMinnville**

Airport Master Plan Update

McMinnville Municipal Airport

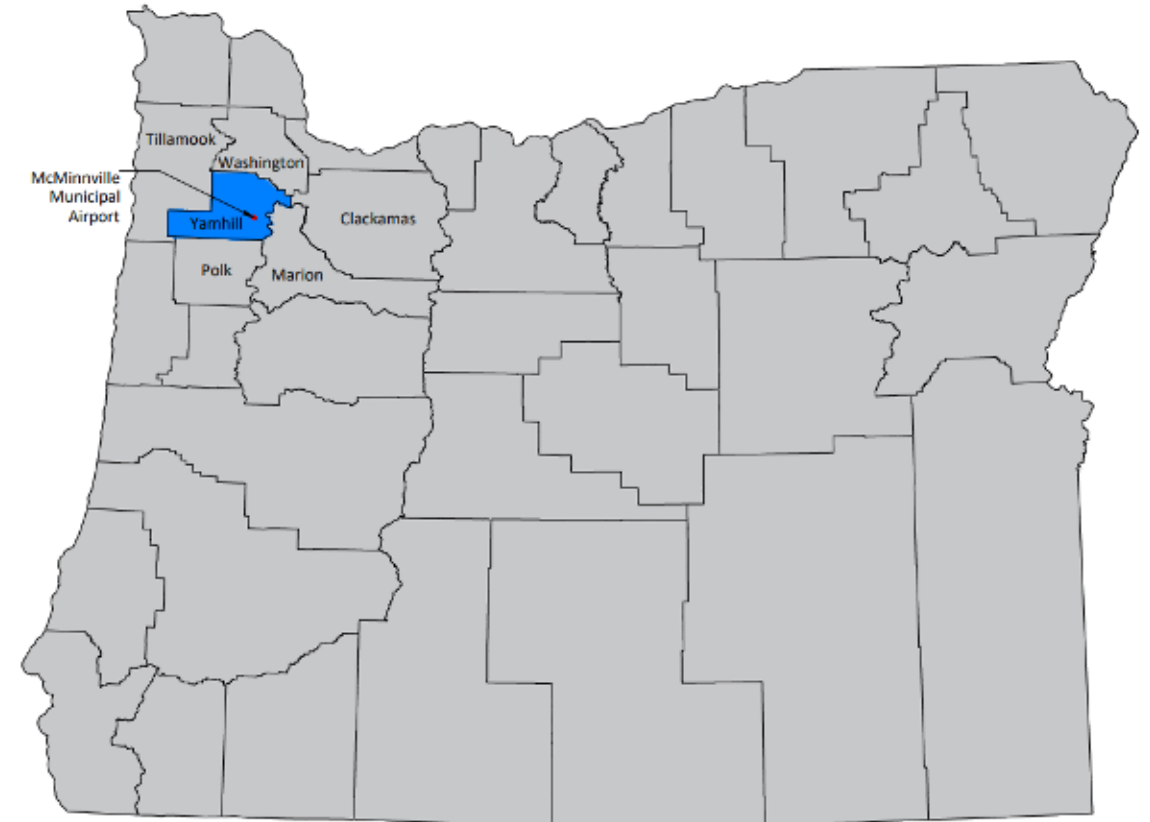
**Planning Advisory Committee Meeting #1
December 7, 2023**

Agenda

- Introductions
- What this project is
- Project Funding and Schedule
- FAA Airport Planning
- Planning Advisory Committee (PAC) and Public Involvement
- Project Elements
- Recent Major Projects
- Prior Planning
- Known Issues & Opportunities
- Looking Ahead
- Questions?



Airport Locale



What this project is

Century West Engineering is updating the 2004 Airport Layout Plan Report with a full Airport Master Plan.

- *The master plan will provide a comprehensive evaluation of current and long-term facility needs*
- *FAA Airport Master Plans have a 20-year planning horizon*



What this project is

- FAA Airport Design Standards have been revised since the last plan was completed
- Current FAA standards will be applied to:
 - *Existing & future facilities (conformance to current FAA standards)*
 - *Proposed Improvements*
 - *New ALP drawing set*



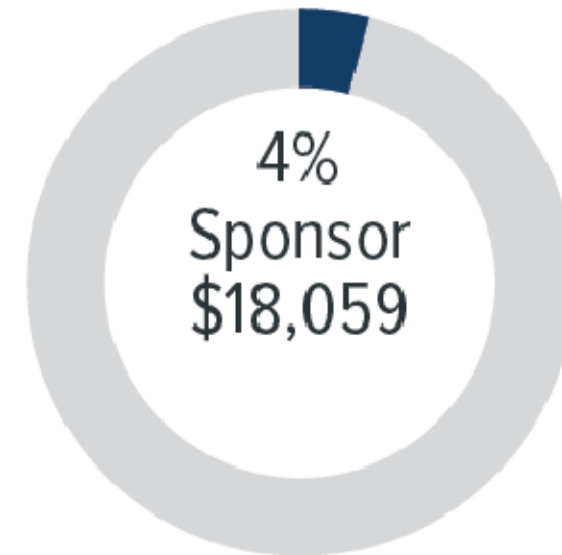
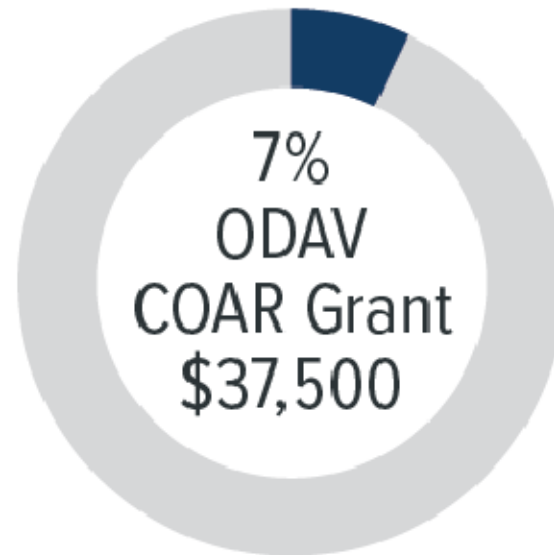
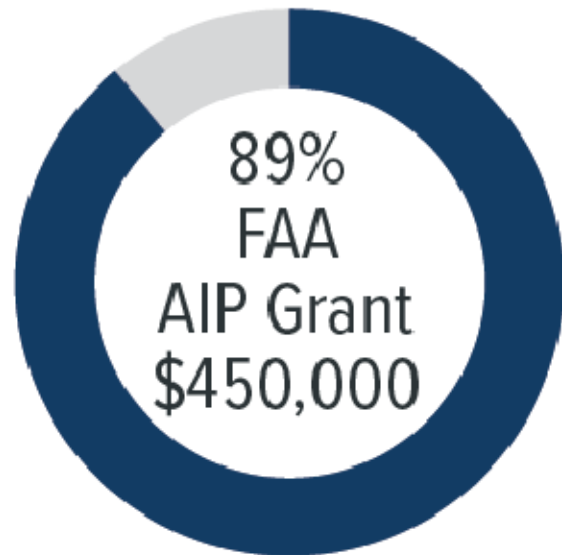
Why are we updating the Airport Master Plan?

Airport plans are typically updated every 10 years, or sooner if conditions require:

- Changes in FAA airport design standards or areas of FAA emphasis
- Changes in Airport activity
- When previous planning recommendations have been implemented
 - *The last FAA-approved airport layout plan/master plan for McMinnville Municipal Airport was completed in 2004*
 - *Numerous projects identified in the last plan have been completed*

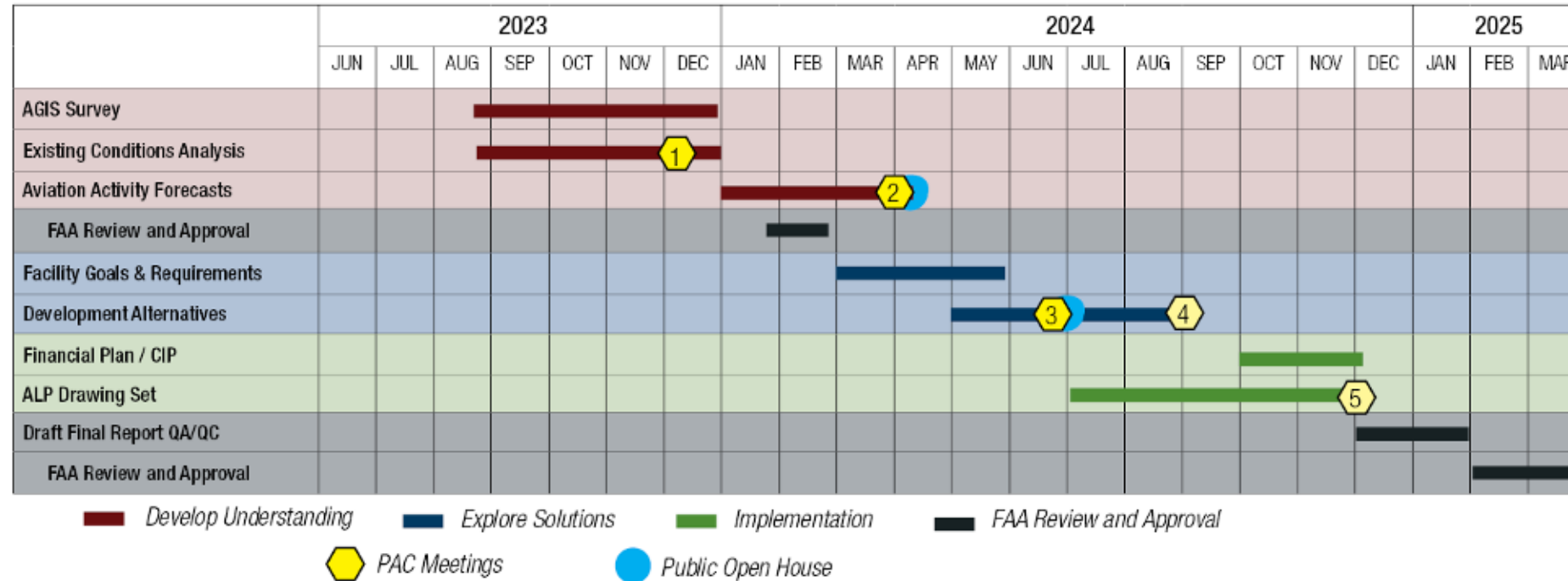
FAA Airport Grant Assurances require airport sponsors to
“keep up to date at all times an airport layout plan of the airport...”

Airport Master Plan Funding



Total Project Cost: \$505,559

Project Schedule



1 PAC Meeting Summary

Project Introduction & Airport
Master Plan Process

2 PAC Meeting Summary

Airport Existing Conditions and
Aviation Forecasts
Public Open House

3 PAC Meeting Summary

Facility Requirements and
Development Alternatives.
Public Open House

4 PAC Meeting Summary

Preferred Alternative

5 PAC Meeting Summary

Airport Layout Plan (ALP)
Capital Improvement Plan (CIP)

Note: This is a living project schedule, and dates often evolve over the course of the project.

FAA Airport Planning

FAA Airport Master Plans have a 20-year planning horizon that is divided into three periods:

- Short-term (0-5 years)
- Intermediate-term (6-10 years)
- Long-term (11-20 years)



Airport plans are typically updated every 10 years, or as changing conditions require.

Airport Master Plan Elements

	Regional Setting	Airside Elements	Landside Elements	Airport Administration
Develop Understanding	Location & Vicinity Socio-Economic Data Airport Role Airport History	Area Airspace Instrument Flight Procedures Navigational Aids Runway/Helipad Taxiways/Taxilanes Pavement Condition Airside Support Facilities	Aprons/Tiedowns FBO/Terminal Building Hangars Airport Fencing Airport Surface Roads Vehicle Parking Utilities Aircraft Fueling	Airport Ownership & Management Airport Financials Airport Rates and Charges Local Rules & Regulations Oregon Aviation Laws FAA Compliance Overview
Explore Solutions	Area Airports Context Airport Operations Relevant Studies Environmental Data			
Implementation	Local Surface Transportation Land Use/Zoning			

Planning Advisory Committee (PAC)

A PAC has been assembled to assist the City and Consultant in developing the Airport Master Plan.

The PAC is responsible for:

- Attending PAC meetings
- Reviewing and commenting on draft work products
- Providing input during the planning process
- Providing local expertise to reflect community interests or concerns



Public Involvement

- The plan will take about 20 months to complete, including FAA review and approval
- Five PAC meetings are scheduled at key points during the study
- PAC meetings are open to the public
- Two public open houses are planned at key points during the study
- Draft work products will be available for public review on the project website:



Major Project Elements

Key Tasks and Deliverables

- *Existing Conditions Assessments
(document any changes since 2004)*
- *20-year Aviation Activity Forecast
(2024-2044)*
- *Define Current & Future Design Aircraft*
- *Facility Requirements Assessment*



Major Project Elements

Key Tasks and Deliverables

- *Airport Development Alternatives Evaluation (Select Preferred Alternative)*
- *Airports GIS obstruction survey (New Task)*
- *Updated Airport Layout Plan (ALP) drawing set*
- *Updated Airport 20-year Capital Improvement Program (CIP)*



Recent Major Projects

- Main Terminal Apron and Small Aircraft Tiedown Apron Improvements
- Runway 4/22 Reconstruction and Lighting Replacement
- Taxiway A (RWY4/22 Parallel Taxiway) Reconstruction and Lighting Replacement
- Runway 17/35 Rehabilitation
- Taxiway B (RWY 17/35 Parallel and Access Taxiway) Construction
- Hangar Taxiway/Taxilane Construction

