



PUBLIC WEBINAR

July 1, 2021

Webinar Procedures

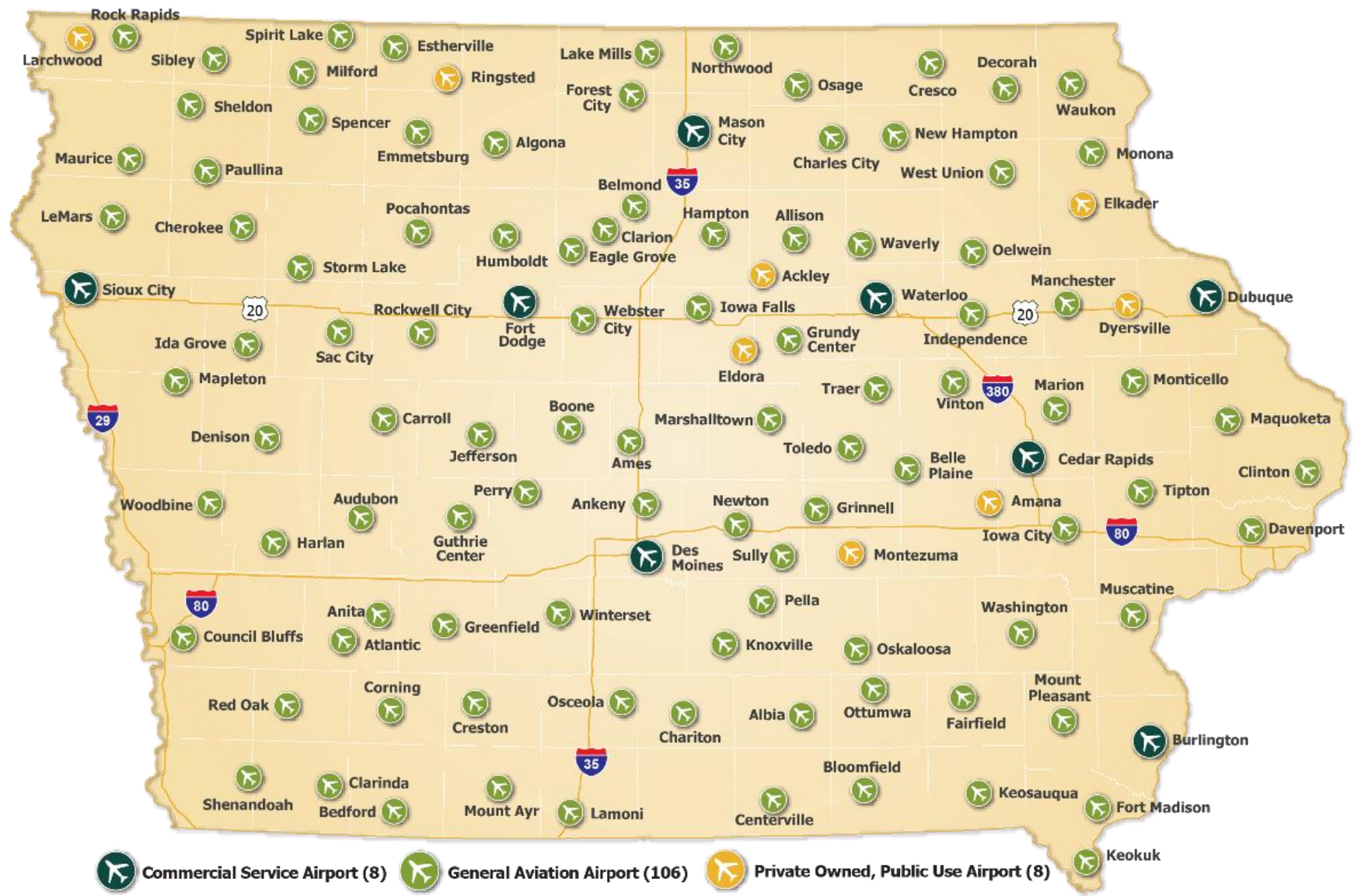
- Deadline for Public Comment is July 16th, 2021
- Presentation will last approximately 60 minutes
- Please mute your phone to avoid feedback
- Ways to comment:
 - During call (depending on number of participants)
 - Verbal questions taken at key points and end of presentation
 - Use Chat feature in “Teams” site
 - We will try to answer all comments/questions at end of call

Project Background

- Develop a system plan to advance an already outstanding airport system
- 10 years since last system plan
- Project team and primary role
 - Aviation, a Woolpert Company - Lead
 - McClure Engineering – Data collection
 - Marr Arnold Planning – Forecasts
- Assistance provided by Project Advisory Committee (PAC)



Iowa's Commercial and General Aviation Airports





A State Plan Builds on FAA's National Plan

National Plan of Integrated Airport Systems - NPIAS

- Commercial Service – Enplanement based
- General Aviation – Based on number of aircraft, operations, and other factors
 - National
 - Regional
 - Local
 - Basic
 - Unclassified

How Will Iowa's Airports Benefit from the System Plan?



Provides for the prioritization of limited state aviation funding for airport system improvements



Results help to educate state and local elected officials



Recommendations help to steer local airport planning decisions



Plans provide a platform for coordinating airport development needs with other state agencies, regional/metropolitan planning organizations, and aviation groups in neighboring states



Results inform system changes needed to address current and emerging aviation issues

System Plan Goals

Safety and Security – Provide a safe and secure system of airports

Infrastructure and User Support – Provide an airport system that meets existing and future user needs

Accessibility – Provide a system of airports that is adequately accessible from both the ground and the air

Economic Support – Support economic development through the air transportation system.

Planning – Establish airport related local planning and sustainability to guide the development and operation of airports in Iowa

Education and Outreach – Provide local aviation education opportunities that promote understanding, safety, utilization, and career development

Extensive Inventory Effort

Visited 60 airports

Collected data from all 114 airports

- Great response rate
- Collected airport-specific information and additional anecdotes from airports
- Vetted data with the Aviation Bureau and PAC



IOWA AIRPORT INVENTORY SURVEY

The Iowa Department of Transportation - Aviation Bureau is undertaking a Statewide Aviation System Plan for all public-use airports in Iowa. This study seeks input on current facilities and services offered at your airport. Your timely participation in this survey is critical to the success of this study.

THANK YOU FOR ASSISTING US WITH THIS IMPORTANT EFFORT!

This survey can also be completed online at: **Survey Link**
Please complete and return this survey by **Date**.

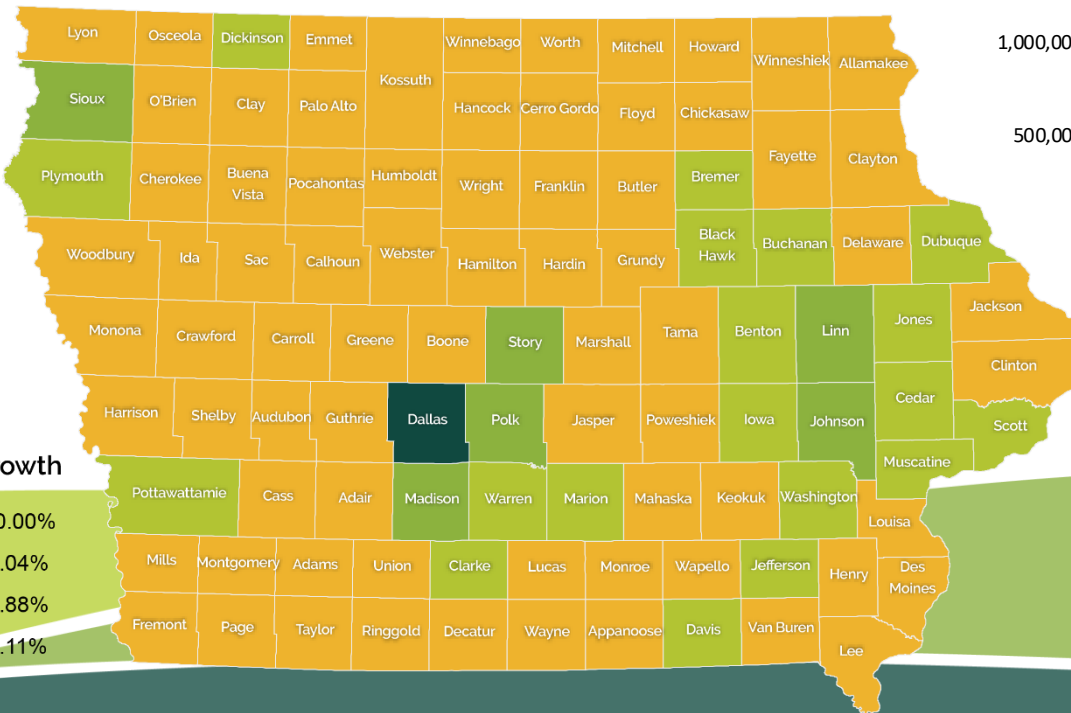
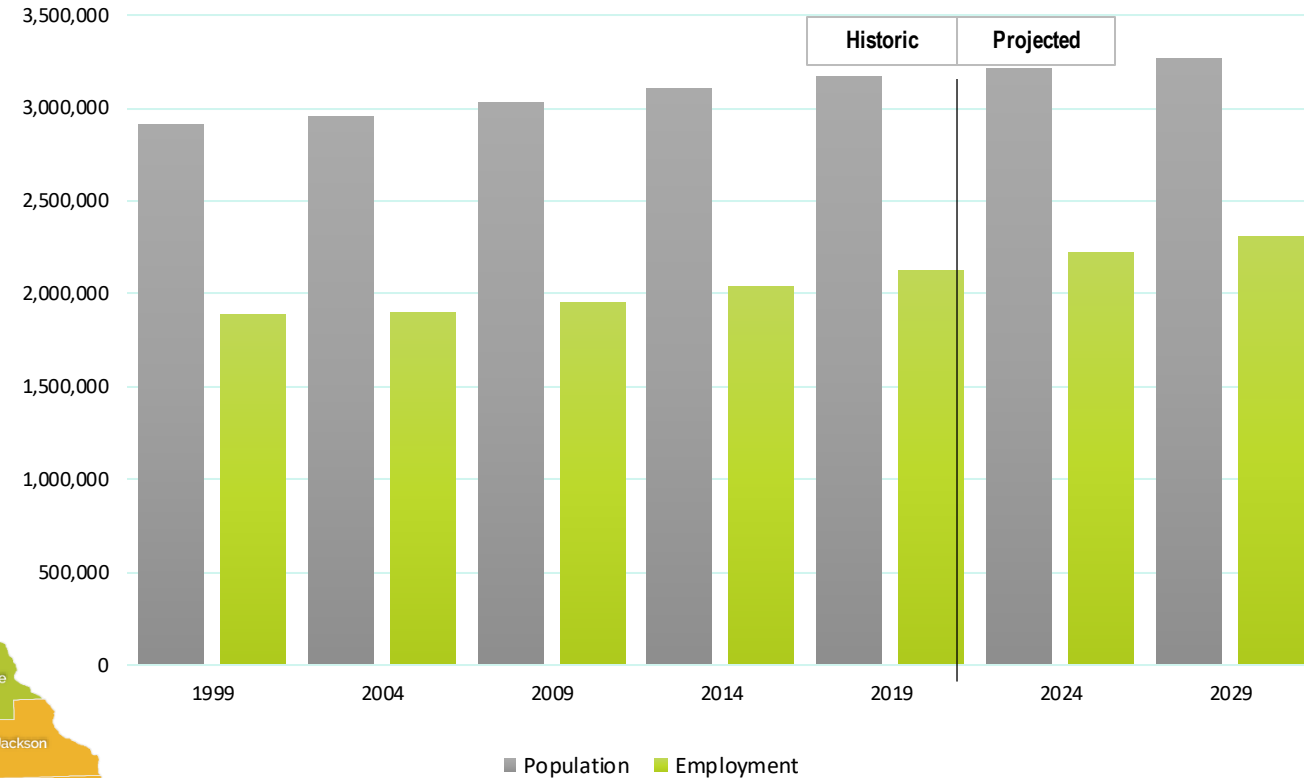


Forecast of Aviation Activity

- Based aircraft
- General aviation (GA) operations
- Commercial enplanements
- Air cargo
- Discuss aviation technology and industry changes
- Assumes two year rebound to 2019 base levels due to COVID

Forecast - Trends Considered

- Iowa Population and Employment
 - Increasing, though at a slightly lower rate than US average
 - Growth in urban areas, declines in many rural counties



2019 - 2039
Population Growth

- -0.09% - 0.00%
- 0.01% - 0.04%
- 0.05% - 0.88%
- 0.89% - 2.11%

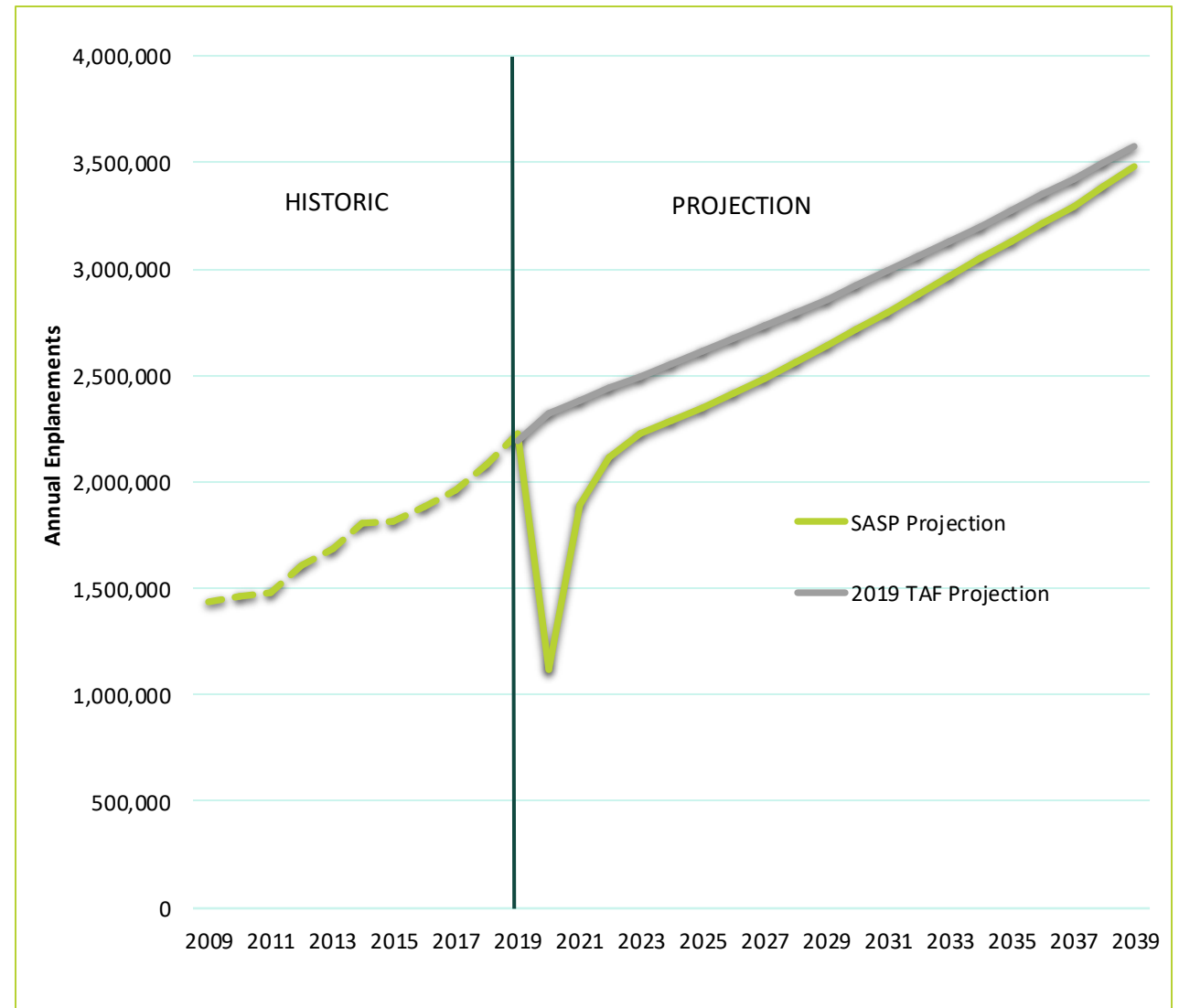
Forecast – National GA Trends to Consider

- FAA projects no growth in national active fleet
 - Jet and rotorcraft are expected to increase
 - Flight training was up in 2019, though nationally pilots aging
 - GA aircraft cost have increased significantly
 - Cessna 172 - \$230,000 in 2005; \$379,000 in 2018



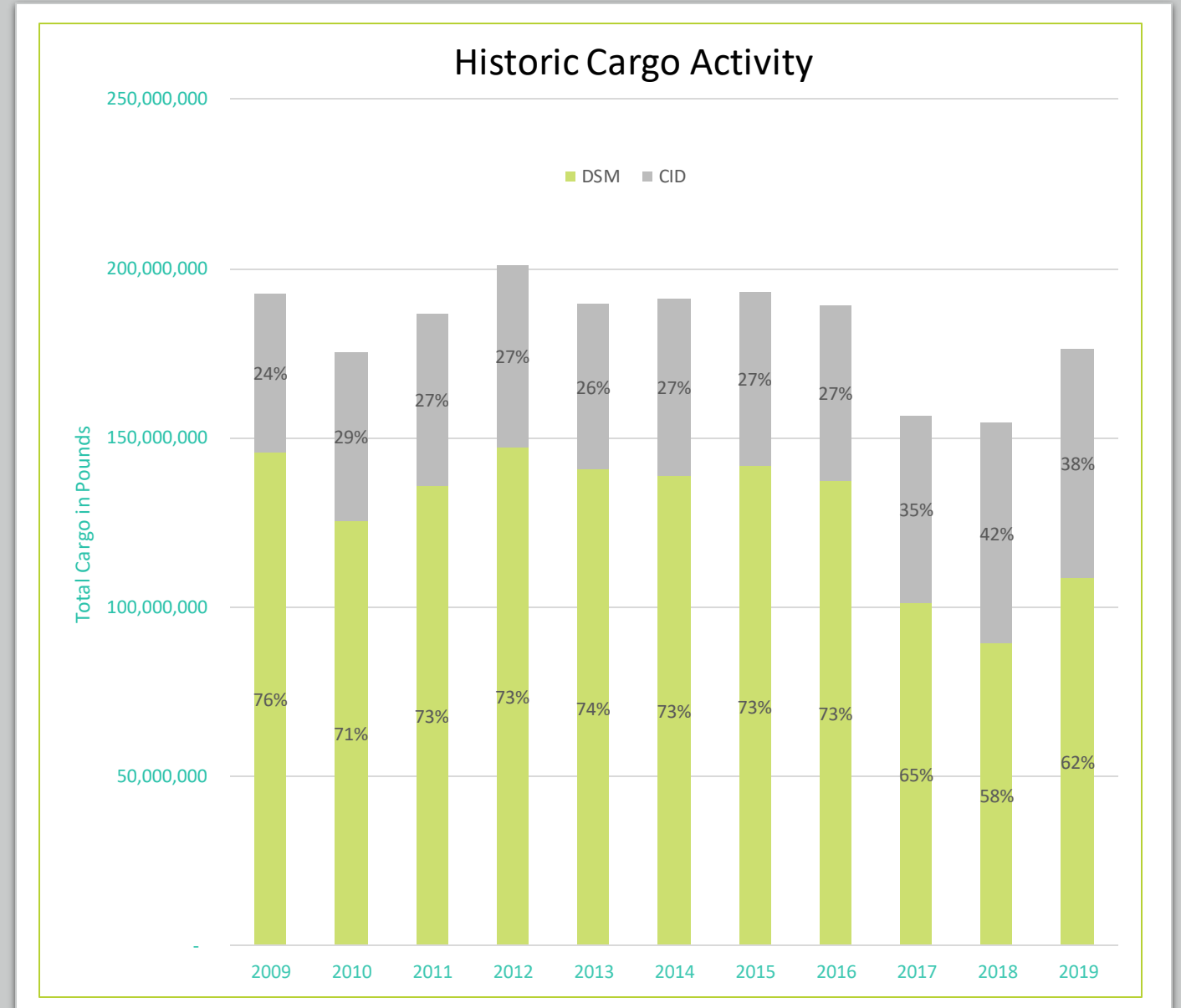
Forecast - Enplanements

- Forecast relies on FAA TAF enplanement growth rates
 - 2019 – 2.2 million
 - 2039 – 3.5 million
- Assumes two years to rebound to 2019 levels due to COVID



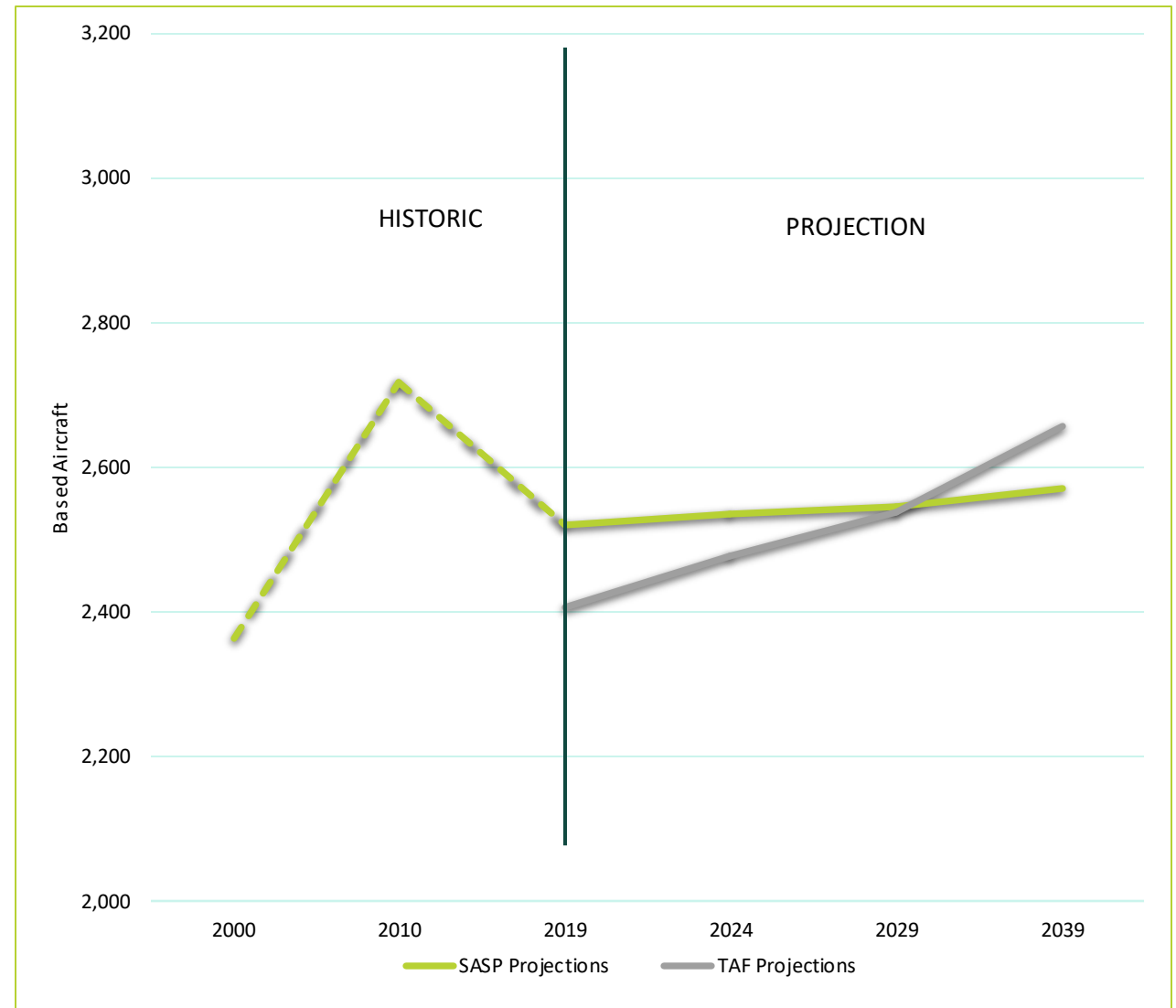
Forecast – Air Cargo

- Includes DSM and CID
- Considered Boeing's World Air Cargo Forecasts
 - 2019 – 176.1 million pounds
 - 2039 – 256.6 million pounds

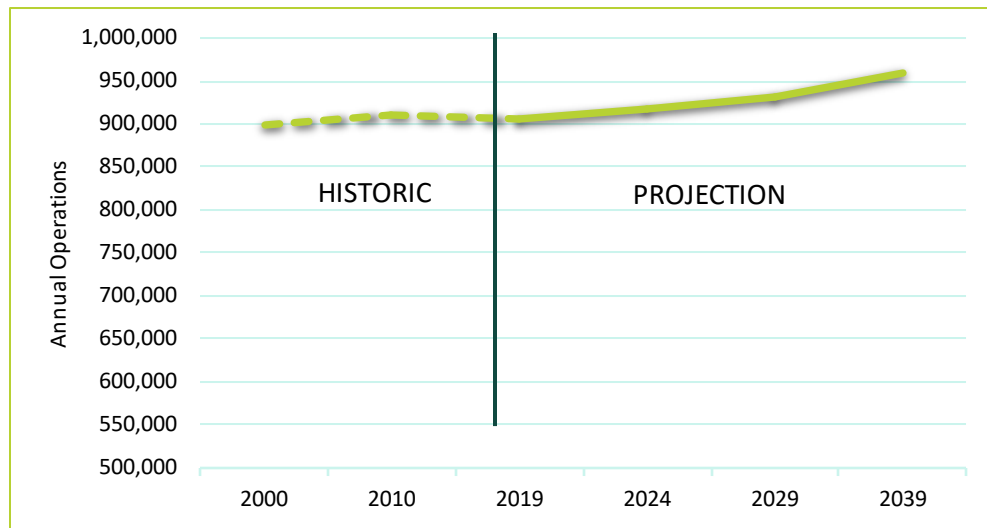


Forecast – Based Aircraft

- Considered various scenarios
 - FAA national trends, fleet mix, county population and employment
- County Population Growth – Preferred
 - 2019 – 2,520
 - 2039 – 2,570



Forecast - GA Operations

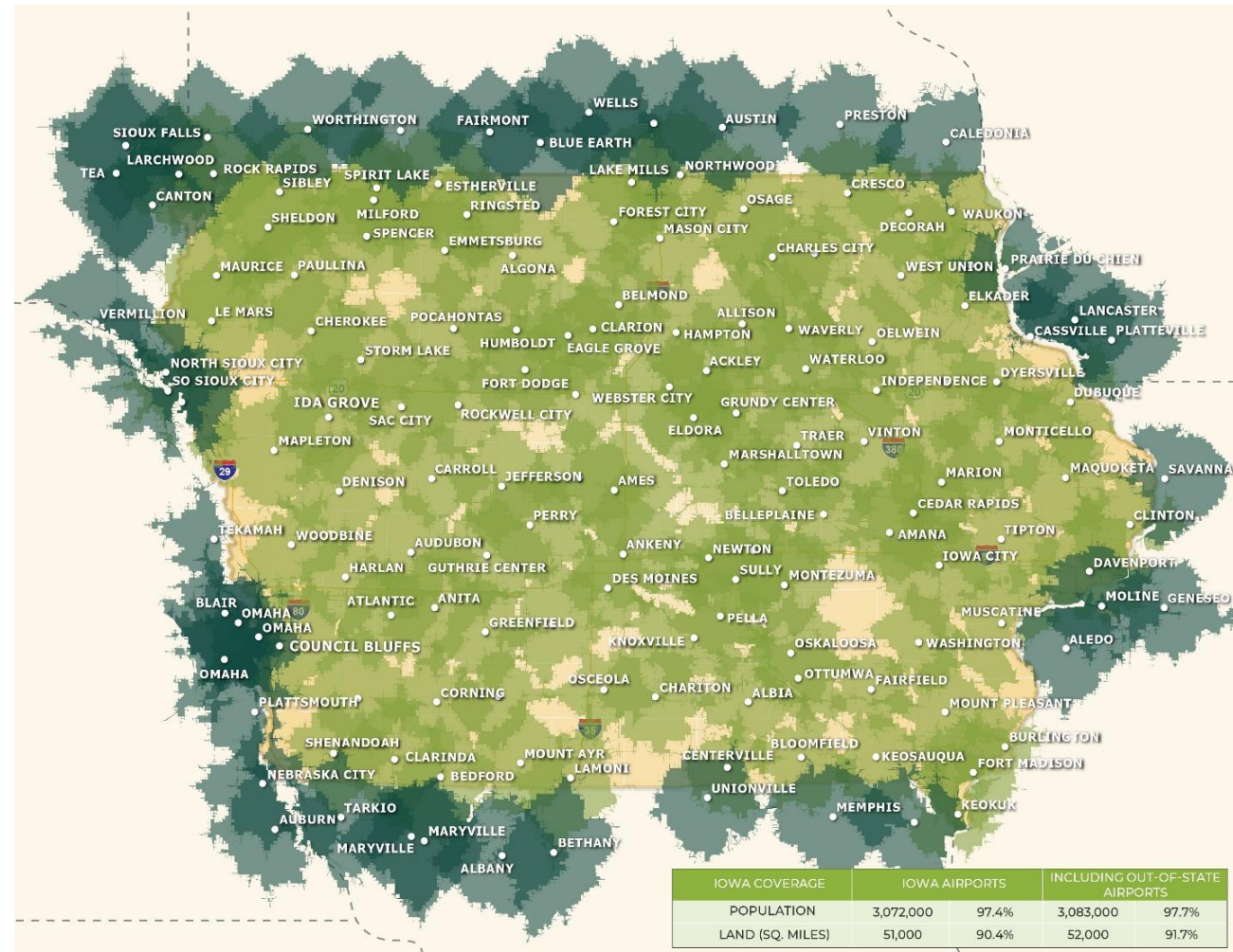


- Considered various scenarios
 - FAA GA hours flown/market share, operations per based aircraft, fleet mix, county employment
- Hours Flown/Market Share – Preferred
 - 2019 – 905,150
 - 2039 – 959,830
- Conservative, yet considers activity at Iowa and national airports

System Performance – General Aviation Airports

- Iowa has outstanding coverage
- Population - 97 percent
- Geographic– 90 percent
- Out-Of-State airports provide additional coverage along states borders

30-Minute Drive Time

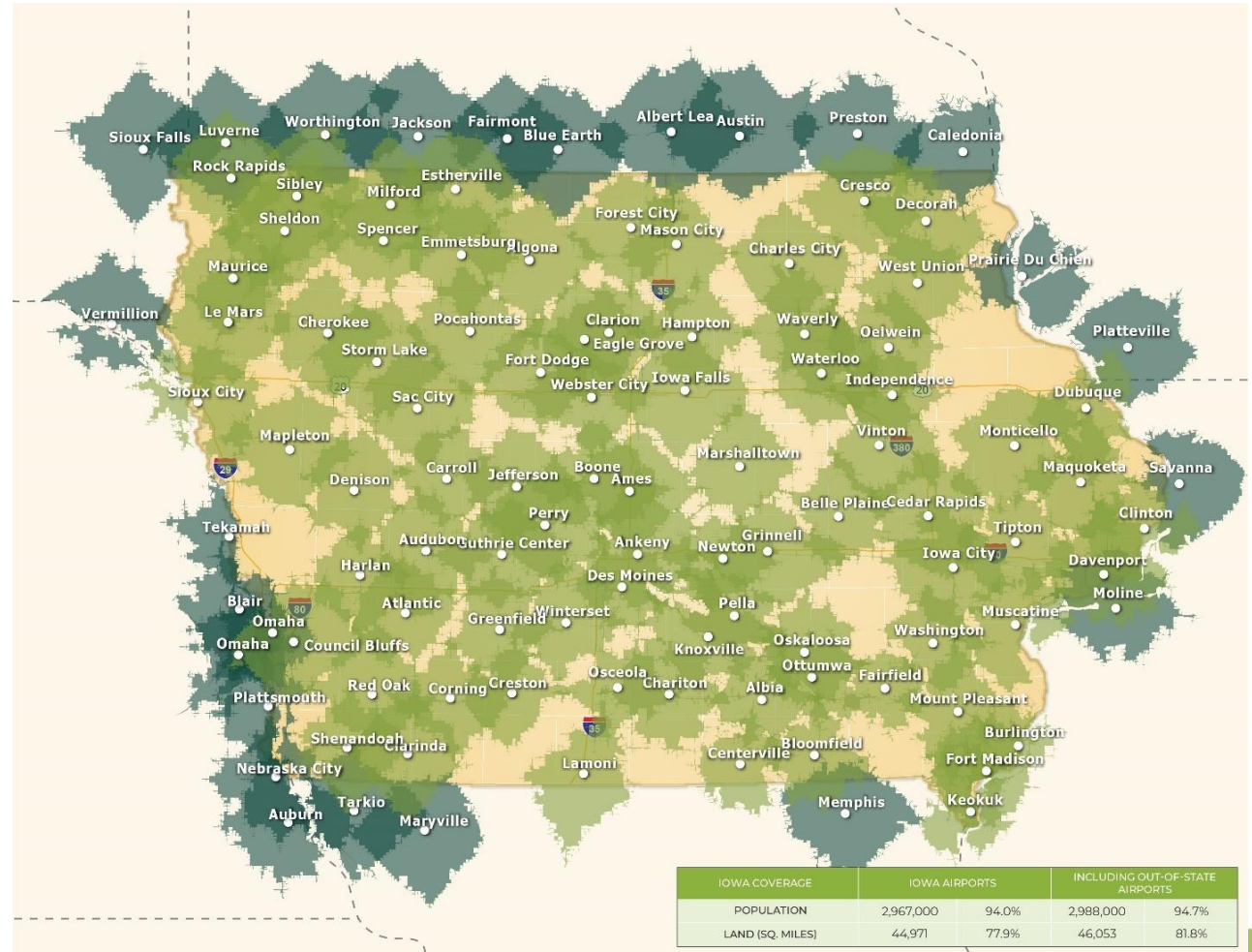


System Performance – Published Approaches

- Robust network of approaches
- Population - 95 percent
- Geographic– 82 percent
- Out-Of-State airports provide additional coverage along states borders



30-Minute Drive Time

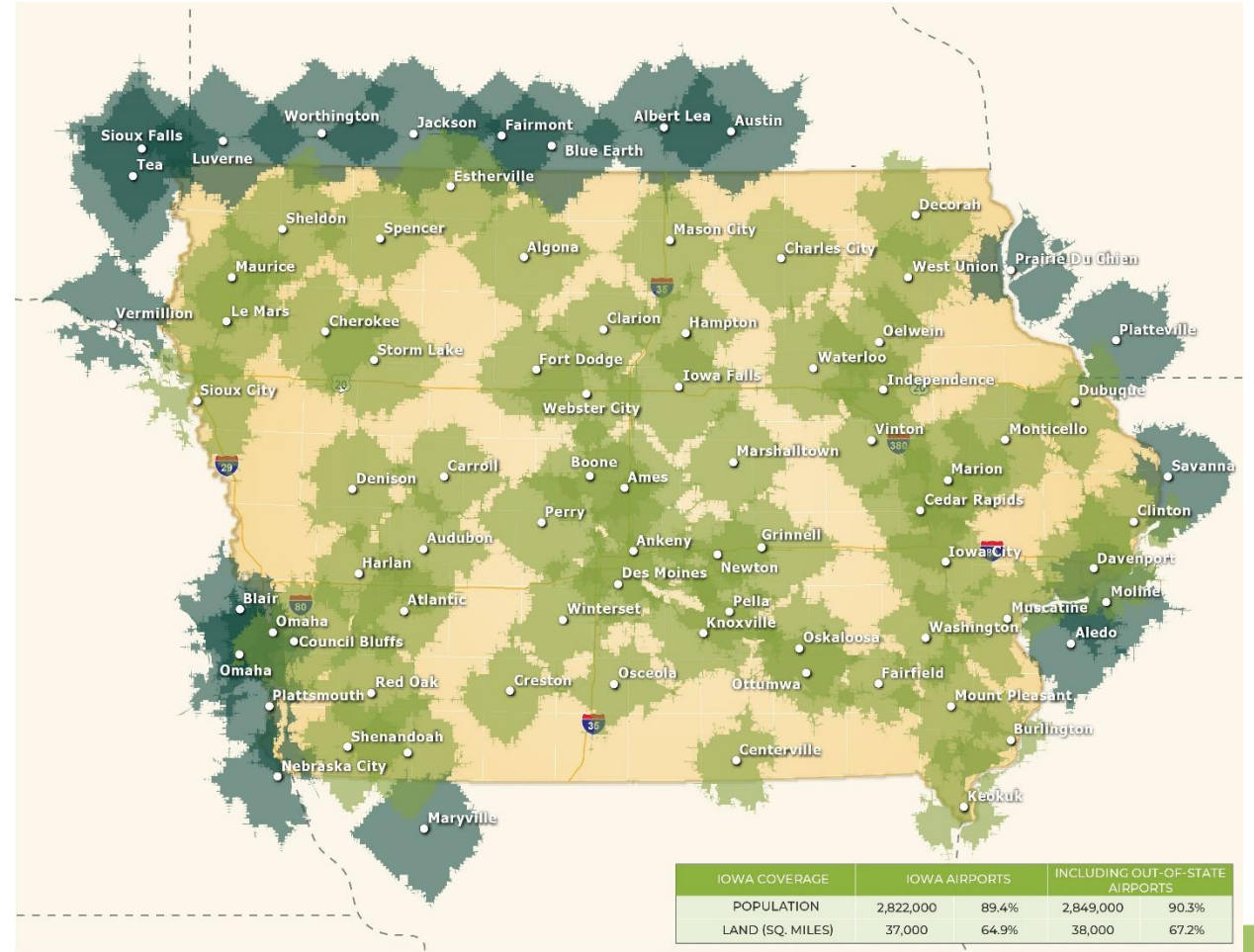


System Performance – Jet A Fuel

- Population – 90 percent
- Geographic – 68 percent

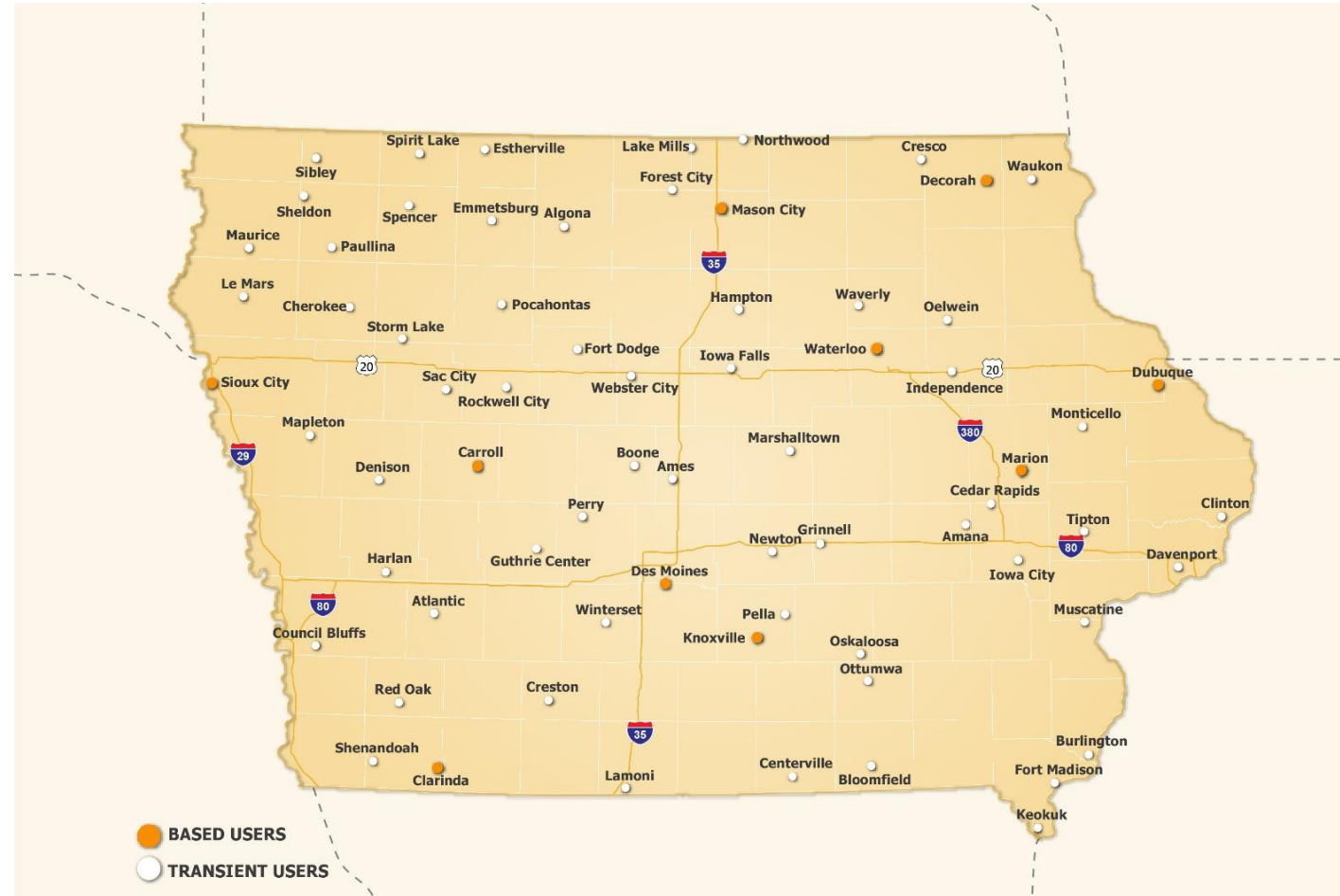


30-Minute Drive Time



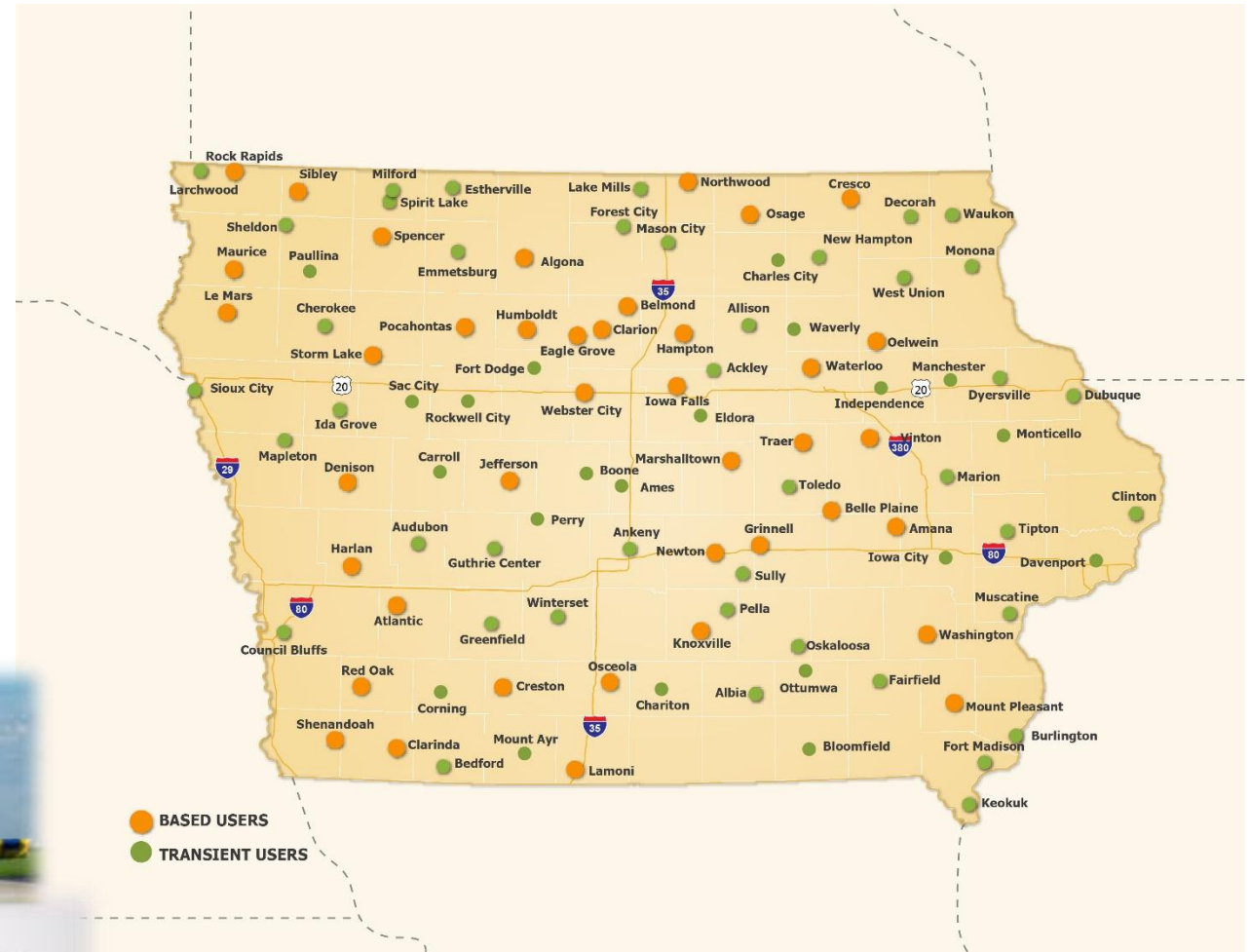
System Performance – Air Ambulance Locations

- 10 air ambulance bases
- System provides excellent access



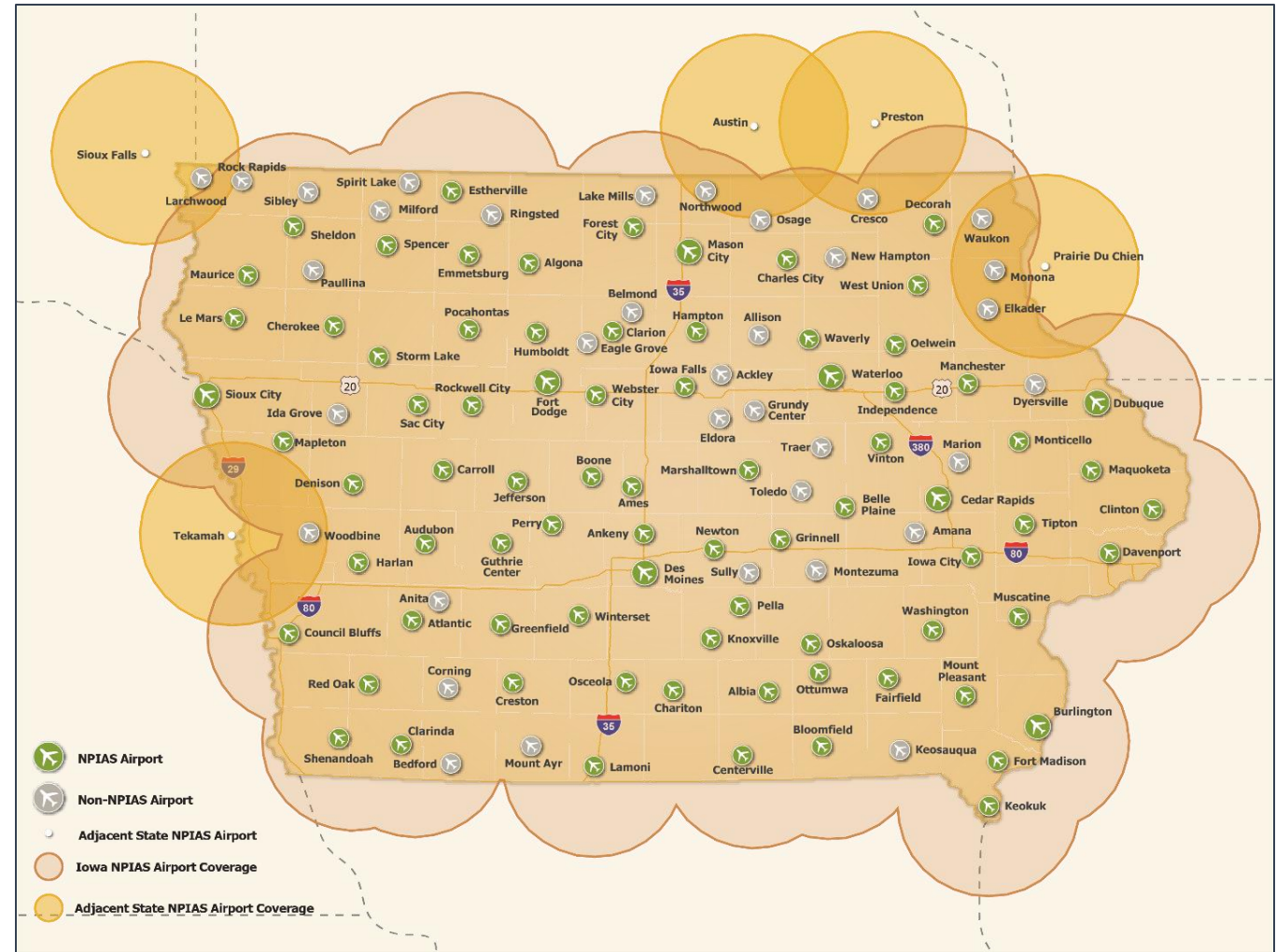
System Performance – Aerial Applicator Locations

- 29 airports - based operations
- 102 airports – reported based/transient users



Non-NPIAS Airport Evaluation

- Must meet FAA NPIAS Requirements, including:
 - 10 based aircraft
 - Outside 30-mile radius of other NPIAS airport
 - Operated by public sponsor
- 35 Non-NPIAS airports in system
 - 8 airports have 10 or more based aircraft
 - No airports are beyond 30 miles of a NPIAS airport
 - No airports appear eligible for NPIAS inclusion





System Airport Roles

- Based on the roles developed in 2010 plan
- Used to assess system and develop facility and service objectives
- Iowa's 5 airport roles:
 - Commercial Service
 - Enhanced Service (5,000 ft rwys, jets)
 - General Service (4,000 ft rwys, mid-sized jets)
 - Basic Service (3,000 ft rwys, fuel)
 - Local Service (turf, limited services)

Airport Role Designations



Commercial Service – Support commercial service airline service and support all types of general aviation activity



Enhanced Service – Includes airports with runways over 5,000 feet that serve as economic centers for the region



General Service – Airports that have runways of 4,000 feet or greater and services that cater to small and mid-sized jets. Recognized as community assets.



Basic Service – Airports with runways greater than 3,000 feet and services that meet recreational general aviation activity



Local Service – Supports local activity and provide limited aircraft services

Required Role Criteria from 2010 System Plan

Commercial and Enhanced Service

- C-II ARC
- 5,000 feet
- Jet A and 100LL (24/7)
- Standard business hours, after hours on-call
- Based aircraft maintenance, charter, and aircraft rental. Flight instruction available.

General Service

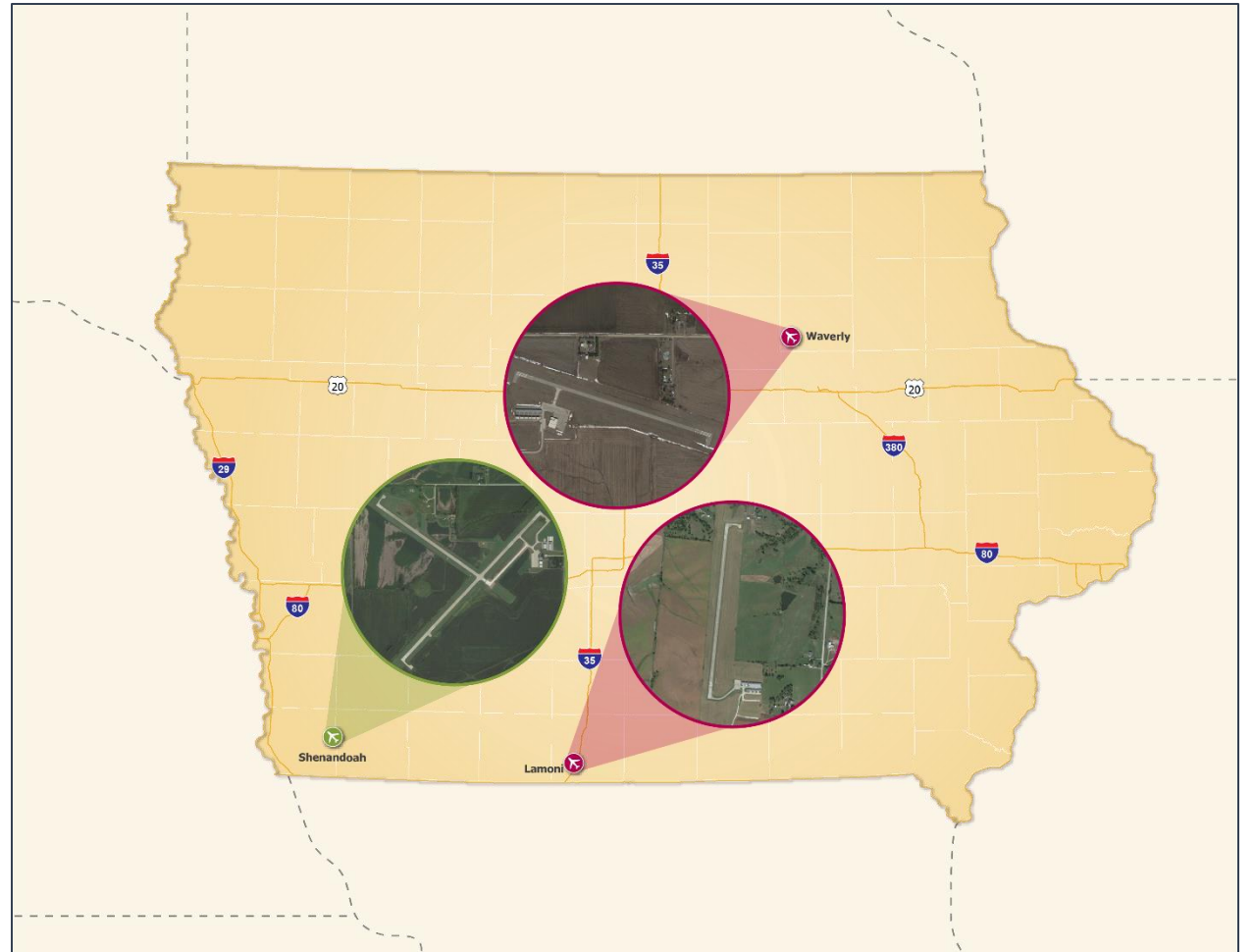
- 4,000 feet
- Jet A and 100LL
- Standard business hours, after hours on-call

Basic Service

- 3,000 feet
- 100LL
- On-call

2020 Updated Roles

Airport	2010 Role	New 2020 Role
Lamoni	Local	Basic
Shenandoah	Basic	General
Waverly	Local	Basic



2020 New System Airports

Airport	2020 Role
Maurice	Enhanced
Ringsted	Local



Airport Facility and Service Objectives

- Develop facility and service objectives (i.e. runway, taxiway, approach, lighting, weather, etc.)
 - Recommendations vs. requirements
 - Based on 2010 plan objectives
 - Must be measurable and in database
 - Scaled to each airport role
 - Used to develop project needs and development costs



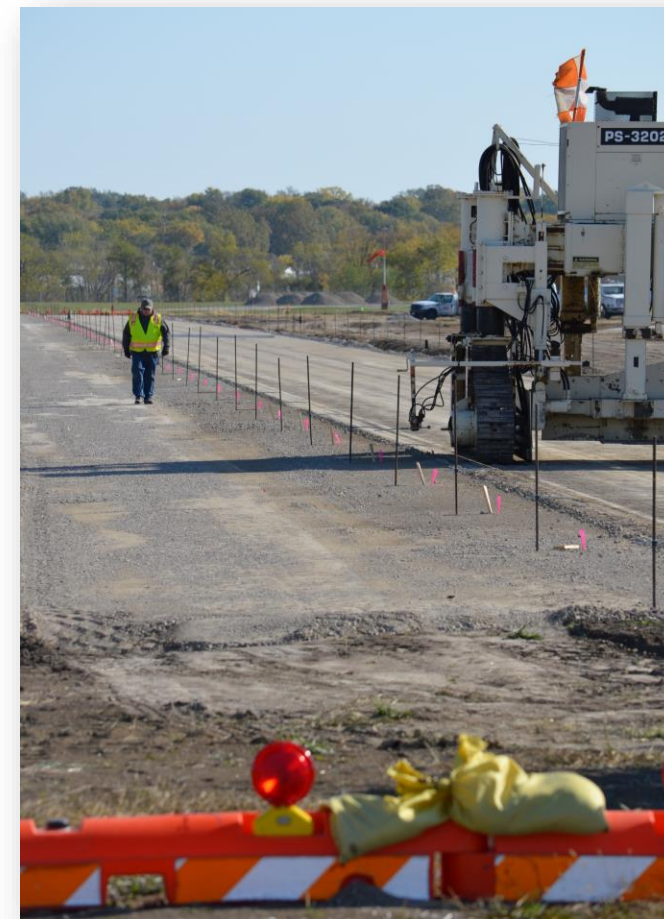
Facility and Service Objectives

100% of Airports Meet Role Objective
Percentage of Airports Meeting the Role Objective
No Role Objective

Description	Commercial Service Objectives	Enhanced Service Objectives	General Service Objectives	Basic Service Objectives	Local Service Objectives
Airport Reference Code	100%	88%	97%	100%	100%
Primary Runway Length	100%	100%	100%	100%	
Primary Runway Width	100%	100%	97%	79%	95%
Type of Parallel Taxiway	100%	100%	81%	100%	
Type of Runway Approach	100%	100%	100%	100%	100%
Runway Lighting	100%	100%	100%	89%	
Taxiway Lighting	100%	100%	100%		
Visual Glide Slope Indicator	100%	100%	97%		
Runway End Identifier Lights	100%	100%	100%		
Rotating Beacon	100%	100%	100%	95%	
Lighted Wind Indicator	100%	100%	100%	100%	
Covered Storage	100%	94%	97%	95%	
Overnight storage for business aircraft	88%	88%	52%		
Terminal building	100%	100%	100%	95%	
Paved entry/terminal parking	100%	100%	94%		
Fixed Base Operator	100%	100%	100%		
Fuel	100%	88%	100%	100%	
Attendance	100%	100%	97%	58%	
Ground transportation	100%	100%	100%		
WiFi	100%	100%	100%		
Restrooms (24/7 / key code)	88%	88%	94%	84%	
Security	100%	31%	74%	53%	90%
Snowremoval	100%	88%	100%	100%	
Aircraft Maintenance/Repair	100%	88%	90%		
Flight Instruction	100%	100%	87%	47%	
Aircraft Rental	88%	100%	61%		
Aircraft Charter	63%	81%	19%		
Weather Reporting	100%	100%	100%		
Land Use Plan	100%	100%	77%	63%	33%
Height Zoning	100%	100%	100%	100%	50%
Airport Layout Plan	100%	88%	77%	100%	

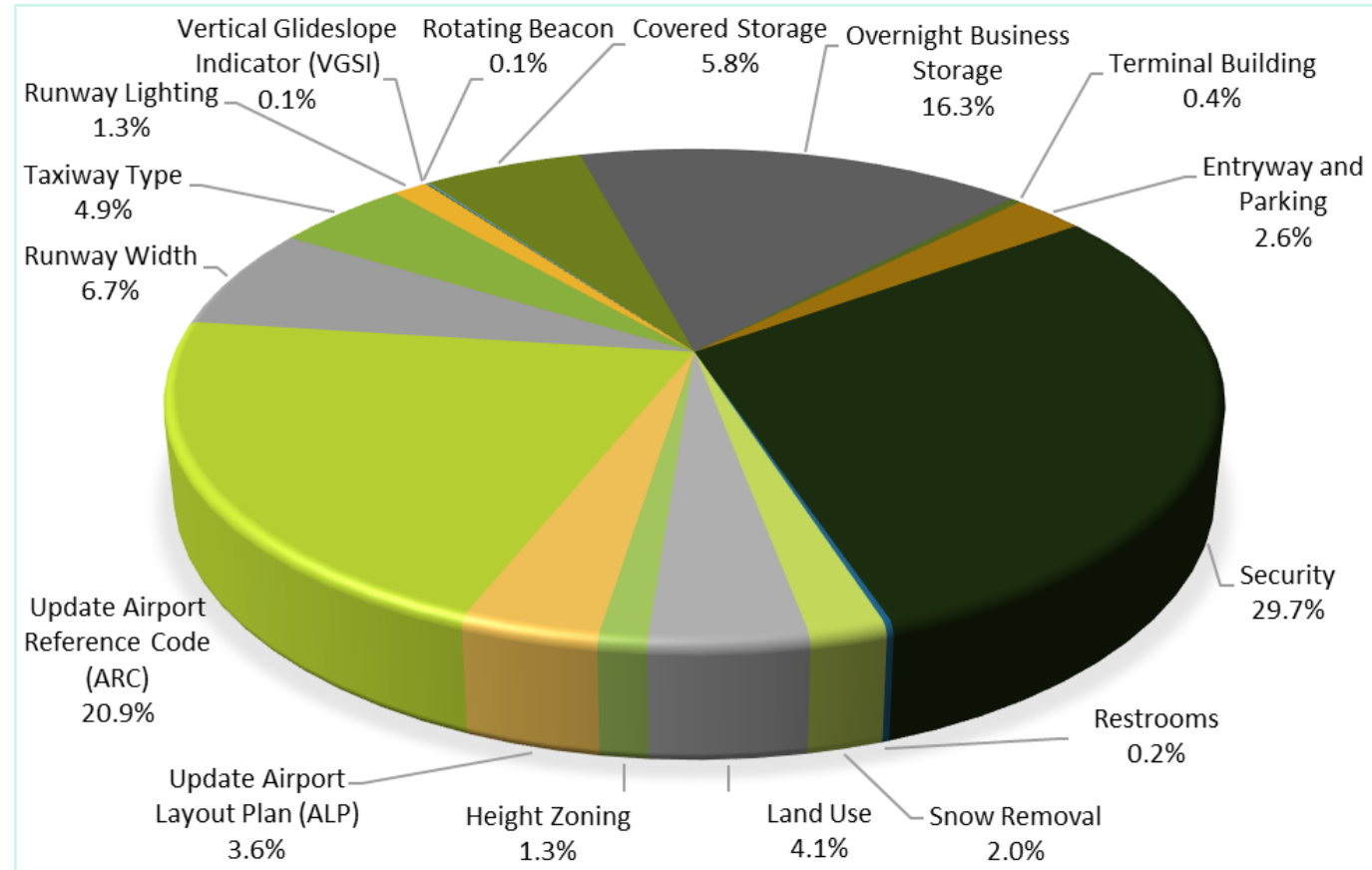
Cost Estimating and Project Funding

- Explanation of cost estimating methodology
- Summary of costs associated with:
 - System Plan Recommendations
 - Airport Capital Improvement Program (ACIP) Projects
 - Preventive Pavement Maintenance and Rehabilitation
- Combined estimated development costs
- Review of funding sources including the Federal Aviation Administration (FAA), Iowa DOT, and other state and local sources



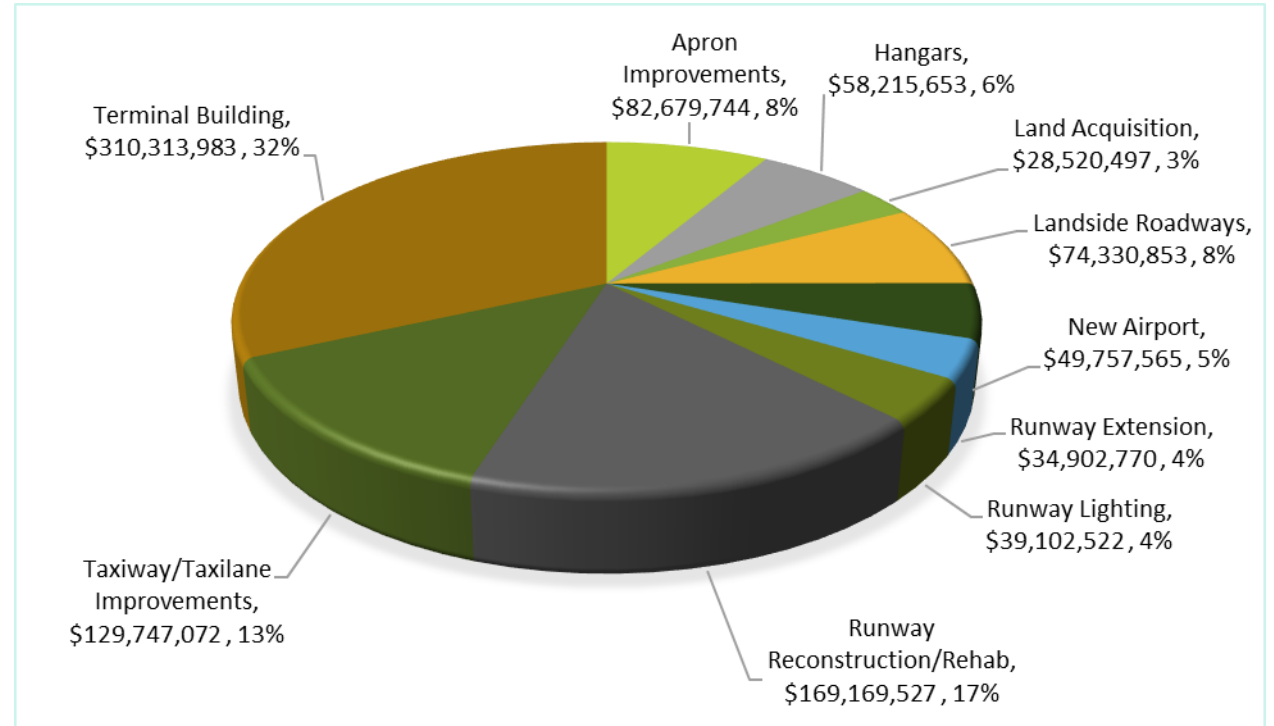
System Plan Project Costs

- Projects derived from Facility and Service Objective shortfalls
- Total Cost - **\$49.4 million**
 - Commercial - \$1.1 million
 - Enhanced Service - \$28.3 million
 - General Service - \$13.3 million
 - Basic Service - \$4.7 million
 - Local Service - \$2.0 million



ACIP Project Costs – 2021 through 2030

- Derived from FAA and airport data
- Total Cost - **\$1.06 billion**
 - Commercial - \$701.3 million
 - Enhanced - \$146.2 million
 - General Service - \$139.9 million
 - Basic Service - \$48.0 million
 - Local Service - \$26.4 million



Preventative Pavement Maintenance and Rehabilitation

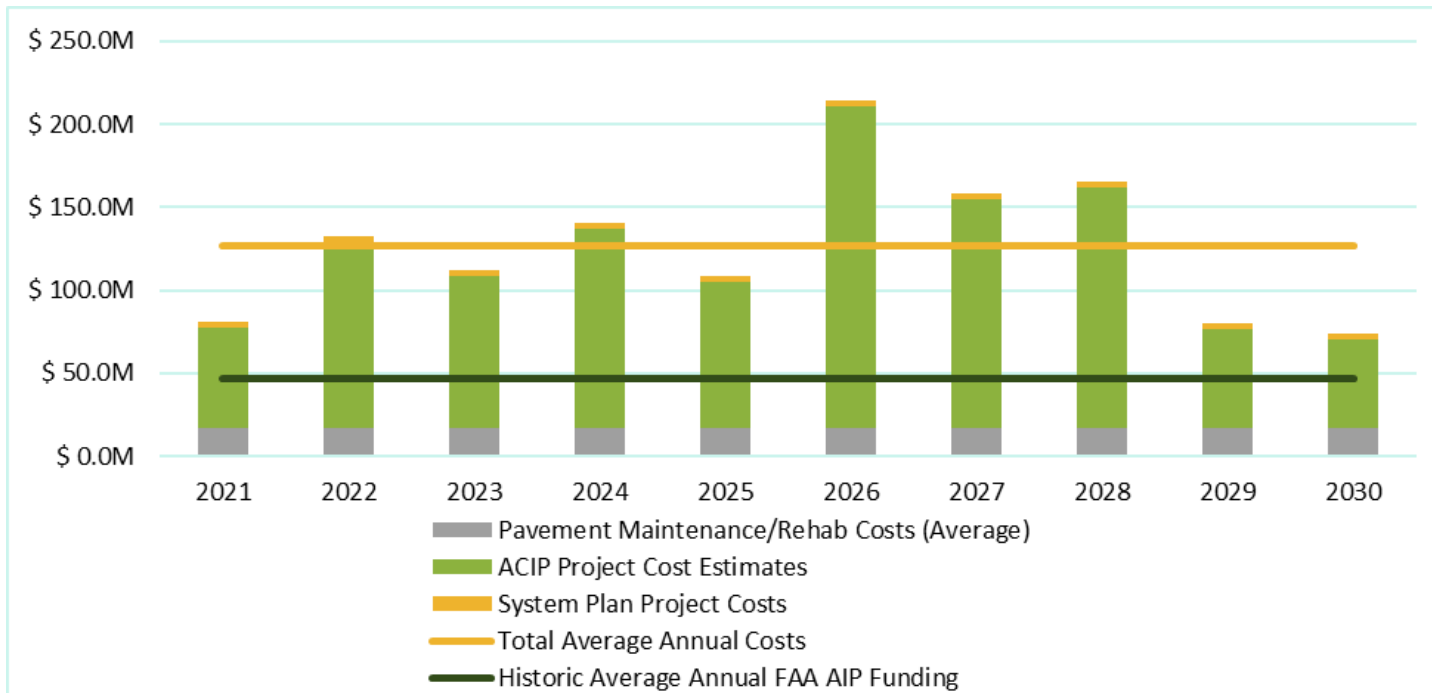
- Derived from Airport Pavement Management System data
- Does not include:
DSM, DBQ, CID, SUX, ALO
 - Pavement included in ACIP
- **\$84.4 million** in APMS
- Annual Average = \$16.9 million



Combined Development Costs

	Commercial Service	Enhanced	General	Basic	Local	Statewide	Costs Subtotal
System Plan Objective Costs	\$1,125,000	\$20,593,610	\$8,061,900	\$3,139,900	\$1,987,200	\$0	\$34,907,610
ACIP Annual Cost Estimates	\$701,258,666	\$146,230,636	\$139,894,581	\$48,030,233	\$26,443,292	\$675,000	\$1,062,532,408
Pavement Maintenance/Rehab Costs	\$4,396,144	\$20,724,747	\$25,641,772	\$15,135,513	\$18,509,094	\$0	\$84,407,270
Total	\$706,779,810	\$187,548,993	\$173,598,253	\$66,305,646	\$46,939,586	\$675,000	\$1,181,847,288
Percent	59.8%	15.9%	14.7%	5.6%	4.0%	0.1%	100.0%

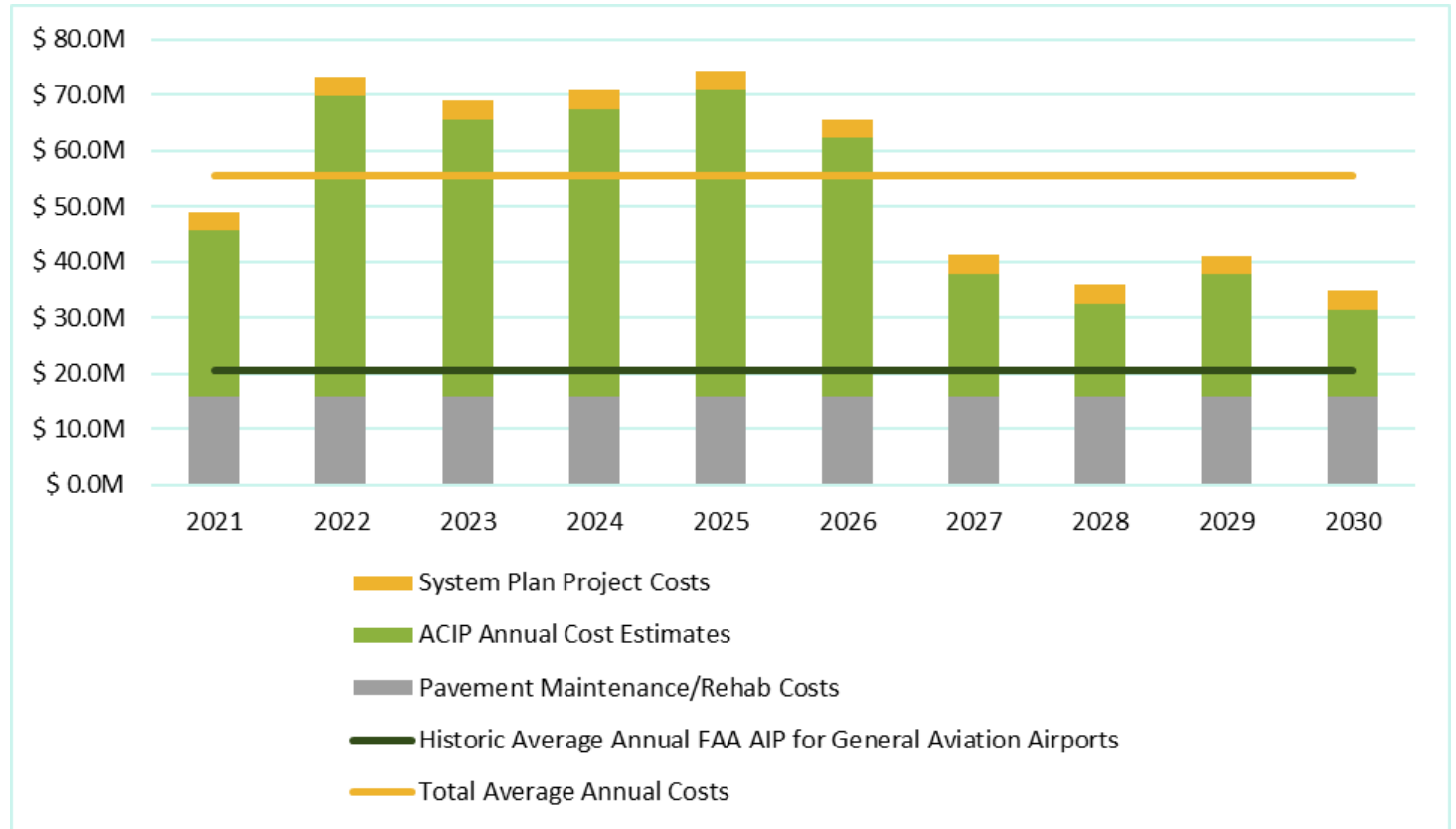
Combined Development Costs – All System Airports



- Average Annual Project Costs
 - **\$126.6 million**
- Average Annual Historic FAA AIP Funding
 - **\$46.5 million**
- **Projected Deficit: \$80.1 million**

Combined Development Costs – General Aviation Airports

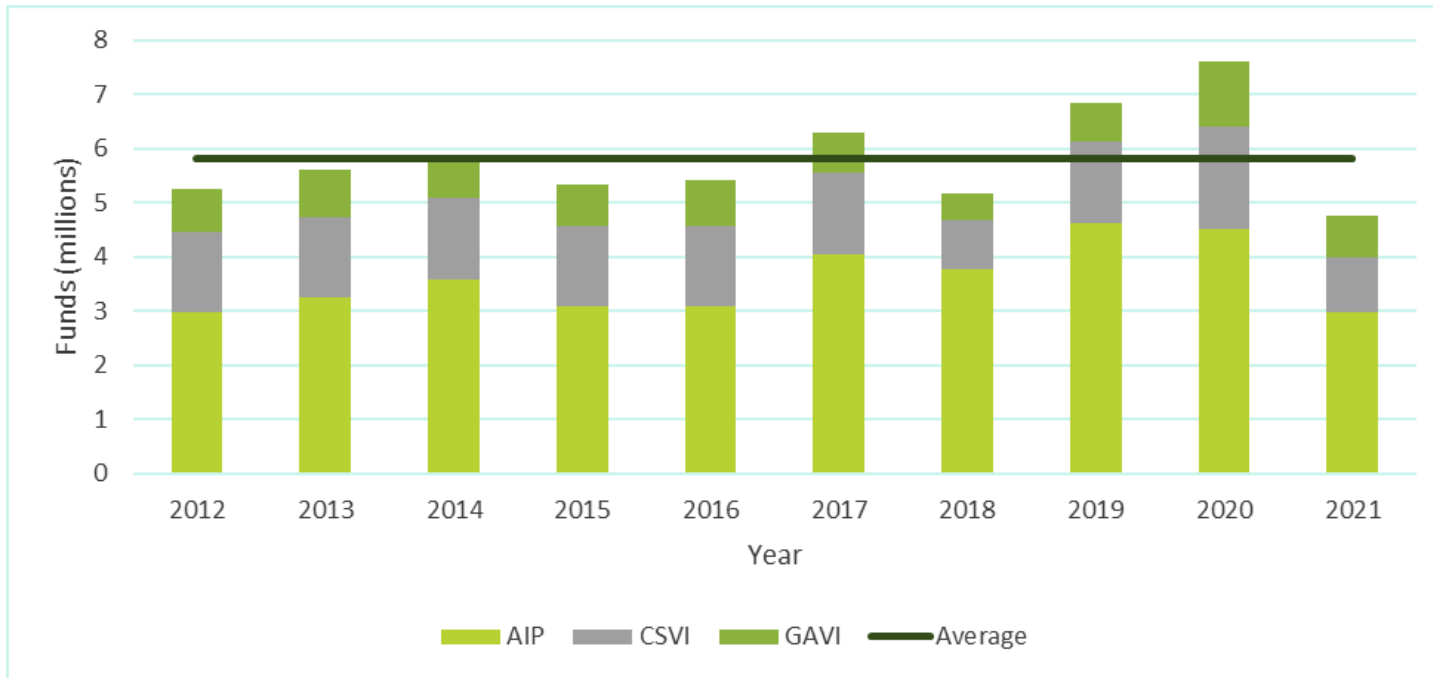
- Average Annual Project Cost
 - **\$56.0 million**
- Average Historic FAA AIP Funding
 - **\$20.7 million**
- **Projected Deficit: \$35.3 million**



Iowa DOT State Aviation Funding Program

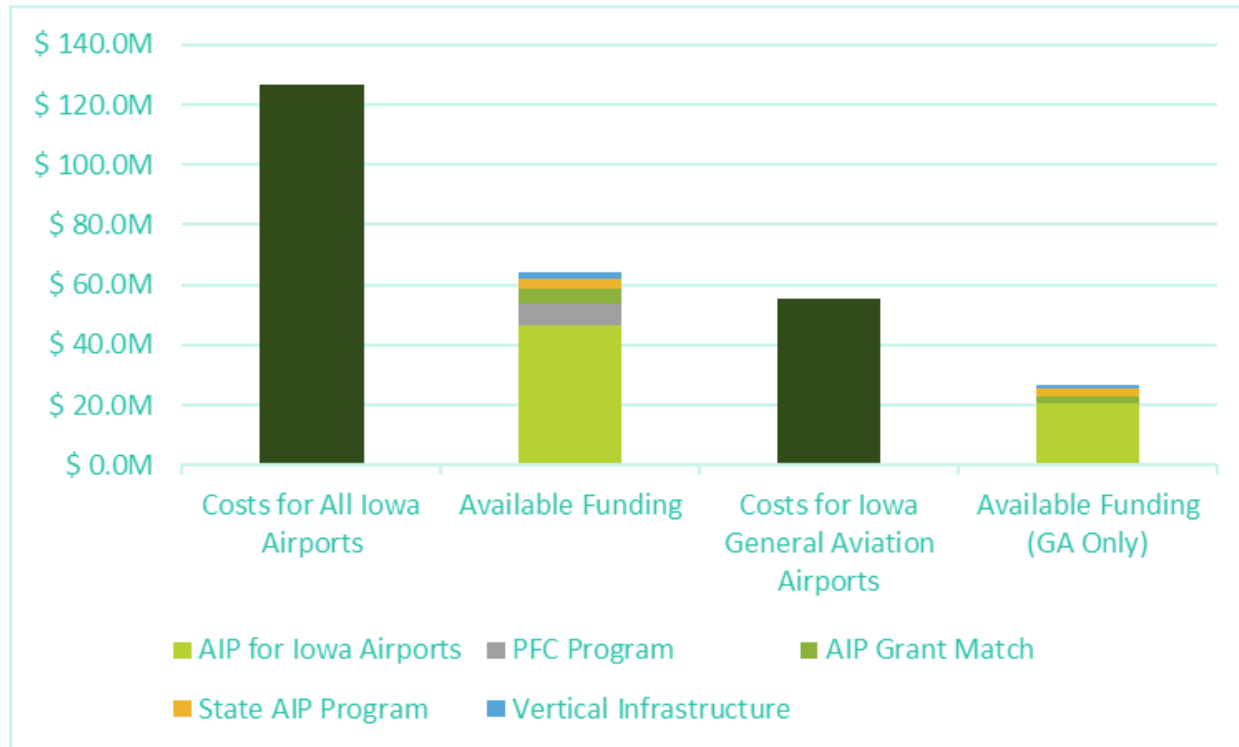
Historic Annual Average

- AIP - **\$3.6 million**
- Commercial Service Vertical Infrastructure - **\$1.5 million**
- General Aviation Vertical Infrastructure - **\$800,000**



Average Annual State Grant Funding - **\$5.9 million**

Funding Need vs. Funding Available



Historic Average Annual Funding - **\$64.4 million**

- FAA AIP - **\$46.5 million**
- PFC Program - **\$7.4 million**
- State AIP and Grants - **\$5.8 million**
- Local Grant Match - **\$4.7 million**

All Airport Annual Funding Shortfall: **\$62.2M**

GA Airport Annual Funding Shortfall: **\$28.9M**

Public Private Partnerships

- Marion Airport – Considered a unique occurrence
- Other privately-owned, public use airports are all low activity Local Service facilities, so P3 unlikely
- DSM considered P3 for development opportunities



Recommendation: Vertical Infrastructure

Support continued vertical infrastructure improvements by maintaining existing funding and identify additional funding sources for maintaining and improving terminal buildings and hangar infrastructure. Maintain coordination with airport sponsors regarding terminal building and hangar existing conditions and future need.

55 airports having a waiting list

17 airports having a waiting list with 10 or more potential users

42 airports identifying a need for new hangars

25 airports identifying a need for repairs or replacement hangars due to condition

9 airports identifying a need for new corporate hangars or a corporate hangar for overnight storage

8 airports identifying a need for new box hangars

28 airports identifying a need for new T-hangars



Recommendation: Airport Attendance

Encourage attendance at Enhanced and General Service airports. Identify an airport contact at Basic and Local Service airports without after-hours arrangements, or that are unattended or maintain irregular hours.

Some form of attendance, either regular business hours or on-call availability, is an objective for Commercial, Enhanced, General, and Basic Service airports

44 airports are unattended or maintain irregular hours



Recommendation: Security and Fencing

Prioritize airfield security with 8-foot perimeter fencing at all Commercial and Enhanced Service airports. If an airport is planning to update or replace fencing, encourage 8-foot height.

11 airports in the Commercial or Enhanced Service role do not have 8-foot fencing



Recommendation: 24/7 Restroom Access

Incorporate 24/7 airside access to a restroom via a keypad. Many airports already have a restroom but lack the keypad technology required to make the facility fully accessible 24/7. Consider agreements with private operators if improvements at terminal buildings or other public facilities are not viable.

8 airports in roles (Commercial, Enhanced, General, and Basic) with 24/7 restroom access do not meet the objective

Recommendation: Aircraft Services

Continue to support aviation services at system airports that will promote a strong aviation system including maintenance, flight instruction and aircraft rental services.

5 airports in the Enhanced and General Service roles reported no aircraft maintenance services

12 airports in the Commercial, Enhanced, and General Service roles reported no aircraft rental availability



Recommendation: Planning Measures

Continue supporting the development and implementation of zoning ordinances and land use plans that protect Iowa airports.

20 Local Service airports were identified as lacking height zoning measures

41 airports were identified as lacking land use control measures



Recommendation: Entryway and Parking Conditions

Encourage signage and adequate entrances and parking facilities.

22 airports noted that terminal parking areas needed improvement



Recommendation: Pavement Maintenance

Encourage improved routine pavement maintenance practices and educate airport officials on the benefits of pavement maintenance and the existing PCI program.

78 airports reported some type of routine pavement inspection.

Only **28 airports** listed having a local budget to support pavement maintenance

50 airports reported regularly utilizing Pavement Management Report website to monitor pavement condition



Deliverables: Executive Summary



• AVIATION SYSTEM PLAN 2020 •



EXECUTIVE SUMMARY



INCREASED AVIATION ACTIVITY ON THE HORIZON

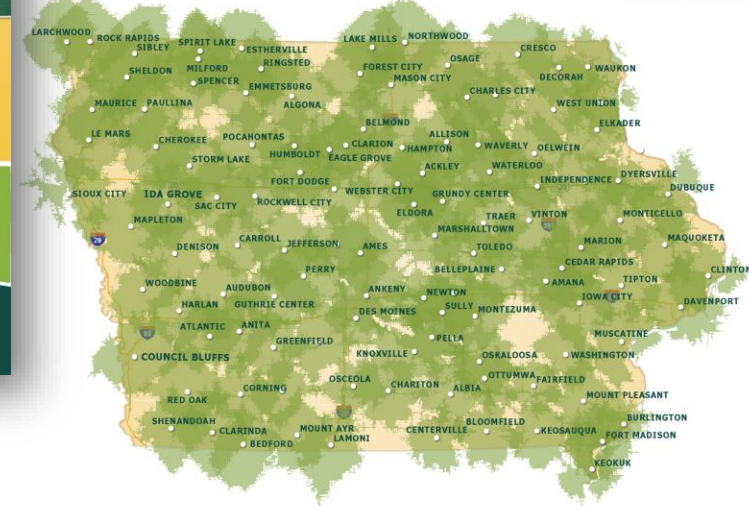
Forecasts developed as part of SASP 2020 addressed based aircraft, general aviation operations, enplanements, and air cargo activity. COVID-19 created uncertainty in the aviation industry, which impacted aviation activity throughout the state. Projections included in the study assume that it will take a minimum of two years for the industry to replicate 2019 levels of activity. Results from the forecasts are presented below:

BASED AIRCRAFT	OPERATIONS	ENPLANEMENTS	CARGO
2,520	983,840	2.2 M	176M LBS
2,550	1,014,320	2.6 M	257M LBS

SYSTEM ACCESS AND PERFORMANCE

30-MINUTE DRIVE TIME

Iowa's robust system provides coverage within 30 minutes to 97% of the state population, nearly 3.1 million people.



ADAPTING AIRPORT ROLES FOR A CHANGING AVIATION ENVIRONMENT

Since the 2010 SASP, three airports have completed improvements to facilities and services that warrant an upgrade to their SASP role. Since completion of the last study, five airports have closed Morningstar Field, Onawa Municipal, Orange City Municipal, Primghar, and Sioux Center Municipal. Two of the airports, Orange City and Sioux Center, were closed and combined resulting in the opening of the Sioux County Regional Airport. The South Central Regional Airport is planned in the coming years and would combine the airports in Pella and Oskaloosa to become an Enhanced Service Airport.



COMMERCIAL SERVICE

Includes airports that support scheduled commercial service and provide support for all types of general aviation activity. These airports are essential in the national transportation system and are economic pillars in the state and their communities.



ENHANCED SERVICE

Includes airports that have runways over 5,000 feet and services for a wide range of general aviation activity. Airports in this role serve as economic centers for regions, supporting business jet operations as well as other general aviation activity.



GENERAL SERVICE

Includes airports that have runways over 4,000 feet and services that cater to small and mid-size business jets. The airports in this role are recognized as community assets.



BASIC SERVICE

Includes airports that have runways over 3,000 feet and services that meet recreational general aviation activity.




LOCAL SERVICE

Includes airports that primarily support local activity and provide limited aircraft services.




Deliverables: Individual Airport Summary



AMES MUNICIPAL AIRPORT (AMW)

OVERVIEW

The Iowa DOT Aviation Bureau, in completing the 2020 Iowa Statewide Aviation System Plan (SASP 2020), seeks to support its mission to ensure that the airport system will serve all facets of aviation in a safe and efficient manner. This report provides a summary of findings as they relate to Ames Municipal Airport and the state system.



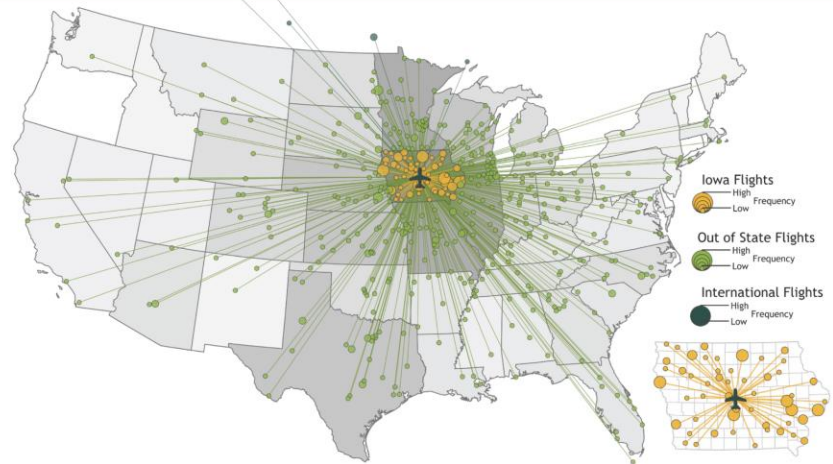
AMES MUNICIPAL AIRPORT (AMW)

AMES, IOWA


PRIMARY RUNWAY: 01/19, 5,701' X 100'
APPROACH TYPE: INSTRUMENT
FUEL: 100LL, JET A
BASED AIRCRAFT: 76
FIXED BASE OPERATOR: FULL SERVICE

MARKET CONNECTIONS

The airport supports connectivity to numerous markets throughout the United States and beyond. FAA flight data shown on this map presents a one-year snapshot of the markets served.

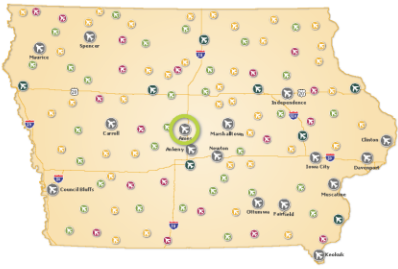


Data Source: FAA TFMS; CY 2018



AMES MUNICIPAL AIRPORT (AMW)

AMES MUNICIPAL AIRPORT AN ENHANCED SERVICE AIRPORT



- COMMERCIAL SERVICE
- ENHANCED SERVICE
- GENERAL SERVICE
- BASIC SERVICE
- LOCAL SERVICE

ENHANCED SERVICE airports are those with runways over 5,000 feet and services for a wide range of general aviation activity. Enhanced Service airports serve as economic centers for regions; supporting business jet operations as well as other general aviation activity.

DIFFERENT ROLES FOR DIFFERENT NEEDS:

A highly-functioning transportation system has airports with varying facilities and services that serve distinct roles. Iowa's airport system is stratified into five roles that aid the Aviation Bureau in planning and prioritizing airport improvement and maintenance projects. These roles help the Aviation Bureau drive Iowa airports to best serve their market niche and user base.

AMES MUNICIPAL AIRPORT FACILITY AND SERVICE OBJECTIVES

OBJECTIVE	MEETS OBJECTIVE
AIRSIDE FACILITIES	
Primary Runway Dimensions	✓
Taxiway Layout	✓
Approach Type	✓
Navigational and Visual Aids	✓
Weather Reporting	✓
LANDSIDE FACILITIES	
Aircraft Storage	✓
Terminal Building	✓
Paved Auto Parking	✓
SERVICES	
Fixed Base Operator	✓
Fueling Services	✓
Attendance Schedule	✓
Terminal Amenities	✓
Ground Transportation	✓
Snow Removal	!
Security	!
Aircraft Maintenance	✓
Flight Instruction	✓
Aircraft Rental/Charter	✓
PLANNING	
Land Use Plan	✓
Height Zoning	✓
Airport Layout Plan	✓

Meets Objective | Improvement Recommended

FACILITY AND SERVICE OBJECTIVES

Facility and service objectives were identified to help guide future development, creating a path for each airport to best serve its market. Existing airport conditions are compared to the objectives for each role; projects are recommended when a deficiency is noted.

FUTURE AIRPORT DEVELOPMENT NEEDS

Development needs from 2021-2030 for this airport include system plan recommendations, the airport's current capital improvement program (CIP), and identified pavement maintenance.

SYSTEM PLAN DEVELOPMENT RECOMMENDATIONS	\$1.9M
CAPITAL IMPROVEMENT PROGRAM (CIP)	\$2.3M
PAVEMENT MAINTENANCE	\$5.5M
TOTAL	\$9.8M



Thank you for participating in the Public Webinar!

Public Comment Period open through **July 16th**

Website: 2020-iowa-aviation-system-plan.com

Coming Soon: Iowa Aviation Economic Impact Study