IOWA AVIATION SYSTEM PLAN

AIRPORT SUMMARY REPORT

MAQUOKETA MUNICIPAL AIRPORT

Prepared for:

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION

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Prepared by:

Snyder & Associates, Inc. and Wilbur Smith Associates, Inc.

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IOWA AVIATION SYSTEM PLAN - AIRPORT SUMMARY REPORT

This summary is intended to provide a general understanding of the specific information, findings and recommendations from the Iowa Aviation System Plan. An individual airport report was prepared for each public owned airport in Iowa.

INTRODUCTION

The Iowa Department of Transportation Office of Aviation, along with the System Plan Advisory Committee and consultant team, developed a strategic approach by which to identify and evaluate the needs of the Iowa aviation system within the period 2004 to 2024.

The Iowa aviation system is an integral component of the state's transportation network. The aviation system meets aviation and economic needs and links Iowa to the national transportation system. Aviation provides an important and efficient means of transportation for the movement of people and goods. The vision for the Iowa aviation system is to have safe, quality facilities and services that support transportation demands and meet economic development and quality of life needs in the state.

The primary goal of the system plan is to provide a framework that supports informed decisions related to planning and developing the Iowa aviation system. The objectives of this update of the Iowa Aviation System Plan are to:

- Identify and analyze aviation assets, including airspace, ground facilities and services, and needs of the state to assure that aviation performs its role in Iowa's economy and for its citizens.
- Provide continued guidance for development of a system of airports to meet the state's existing and future air transportation needs, projecting five, ten, and 20-year projects and giving guidance to meet needs.
- Build consensus among public policy makers, airport sponsors and users so that the plan's recommendations can be more readily accomplished.

Each airport was assigned to a functional classification. Facility and service objectives were developed for functional classifications. Based on existing facilities and services, recommendations were set forth for each airport.

SYSTEM GOALS

The following five goals and associated performance measures were identified and adopted to guide the Iowa aviation system development and establish the framework for the Iowa Aviation System Plan:

- **Development** – To provide an airport system that meets current and future customer needs.
- **Economic Support** – To promote an aviation system that sustains and enhances Iowa's economy.
- **Safety & Security** – To promote a safe and secure system of airports.
- **Accessibility** – To provide a system of airports that is accessible from both the ground and the air.
- **Education** – To support a system of airports that provides educational and career opportunities and promotes an understanding of the benefits of Iowa's air transportation system.

Performance Measure & Benchmark Summary

Performance Measure: Development

Benchmarks

- Airports meeting aircraft storage objectives
- Airports meeting aircraft parking objectives
- Airports meeting auto parking objectives
- Airports with Pavement Condition Index (PCI) rating of 70 or higher on primary runway
- Airports with current master plan or Airport Layout Plan (ALP)
- Airports included in a local comprehensive plan or with surrounding land use controls/zonings

Performance Measure: Economic Support

Benchmarks

- Airports with jet fuel
- Airports with a runway length of 5,500 feet or greater
- Airports with rental car services
- Airports with a courtesy car available
- Airports with a 24-7 fueling (credit card or FBO)
- Iowa employment within a 30-minute drive time of Commercial or Enhanced Service airport
- Employment growth counties within 30-minute drive time of Commercial or Enhanced Service airport
- Airports supporting air cargo
- Airports with aircraft maintenance

Performance Measure: Safety and Security

Benchmarks

- Airports with clear approaches to primary runway
- Airports with wildlife management plans
- Airports with emergency response plans
- Airports with perimeter fencing
- Airports with controlled access to airfield

Performance Measure: Accessibility

Benchmarks

- Airports with precision approaches
- Airports with any instrument approach
- Airports with approach lighting system (ALS)
- Airports with a precision approach and ALS
- Iowa's Population within 30 minutes of any system airport
- Iowa's population within 30 minutes of a Commercial or Enhanced Service airport
- Iowa's population within 30 minutes of a General Service airport
- Iowa's population within 30 minutes of an airport with a non-precision approach
- Iowa's population within 30 minutes of an airport with a precision approach
- Iowa's population within 30 minutes of an airport with onsite weather reporting equipment
- Iowa's population within 60 minutes of an airport with one or more scheduled commercial airlines
- Iowa's population within 120 minutes of an airport with two or more scheduled commercial airlines
- Iowa's population within 120 minutes of an airport with two or more scheduled commercial airlines or 60 minutes of an airport with one or more scheduled commercial airlines

Performance Measure: Education

Benchmarks

- Airports with on-site flight instruction
- Aviation related training programs connected with local schools
- Airports with public outreach/educational (following National Air Transportation Association (NATA,) National Business Aircraft Association (NBAA,) and Aircraft Owners and Pilots Association (AOPA) guidelines) programs, or hosting functions to bring the non-flying public to the airport

AIRPORT FUNCTIONAL ROLES

Airports within any transportation system contribute to meeting air transportation and economic needs in different ways and at varying levels. While each airport within a system contributes in some way, airports fill different roles. Because airports in the Iowa aviation system play different roles, their needs for facilities and services also vary accordingly.

With input from the Iowa DOT Office of Aviation and the System Plan Advisory Committee, each public owned airport in Iowa was assigned to one of five roles.

RECOMMENDED FUNCTIONAL AIRPORT ROLES

- **Commercial Service Airports** – these airports support some level of scheduled commercial airline service and they support a full range of general aviation aircraft to virtually all domestic and possibly some international destinations.
- **Enhanced Service Airports** – these airports support almost all general aviation aircraft, including most types of business jets; these airports generally serve as transportation centers and economic catalysts for the State.

  Facility and service objectives: 5,500' x 100' runway, parallel taxiway, precision approach, approach lighting, AWOS/ASOS, covered aircraft storage, jet and aviation fuel, full service FBO, and ground transportation
- **General Service Airports** – these airports support most twin and single engine general aviation aircraft and may experience occasional use by business jets. These airports support regional and in-state air transportation needs and local economic development.

  Facility and service objectives: 4,000' x 75' runway, partial parallel taxiway or turnarounds, non-precision approach, AWOS/ASOS, covered aircraft storage, jet and aviation fuel, limited service FBO, and ground transportation.
- **Basic Service Airports** – these airports support primarily single engine general aviation aircraft but may also sometimes accommodate smaller twin-engine general aviation aircraft. These airports support local air transportation, and special use aviation activities.

  Facility and service objectives: 3,000' x 60' runway (paved), 2,500' runway (turf), exits as needed, visual approach, covered aircraft storage, and aviation fuel.
- **Basis Service II Airports** – These airports support local air transportation, special use aviation activities, and may duplicate services in the area.

  No facility and service objectives are specified for these airports.

AIRPORT FACILITY AND SERVICE OBJECTIVE

Airport facility and service objectives were established for the functional roles. These objectives were developed with input from the Iowa DOT Office of Aviation and System Plan Advisory Committee. The facility and services objectives should not be considered a requirement or development standard. Current airport facilities and services were compared to the facility and service objectives. Where existing facilities and services do not meet or exceed the objectives, consideration may be given by the airport owner to develop future facility and services improvements. Development of some facilities would require local support and justification of need through development of an airport master plan or through the environmental documentation process.

No state or federal funding resources are guaranteed or committed by inclusion of specific facility and service improvements in this report.

Facility and service objectives for commercial service airports should, at minimum, equal those developed for enhanced service airports as well as recommendations set forth in a current Airport Master Plan.

Basic Service II airports should meet state minimum safety standards: Runway width 50', visual approach 20:1, wind indicator, and 24 hour public telephone. Additional facility and service objectives were not established for Basic Service II airports.

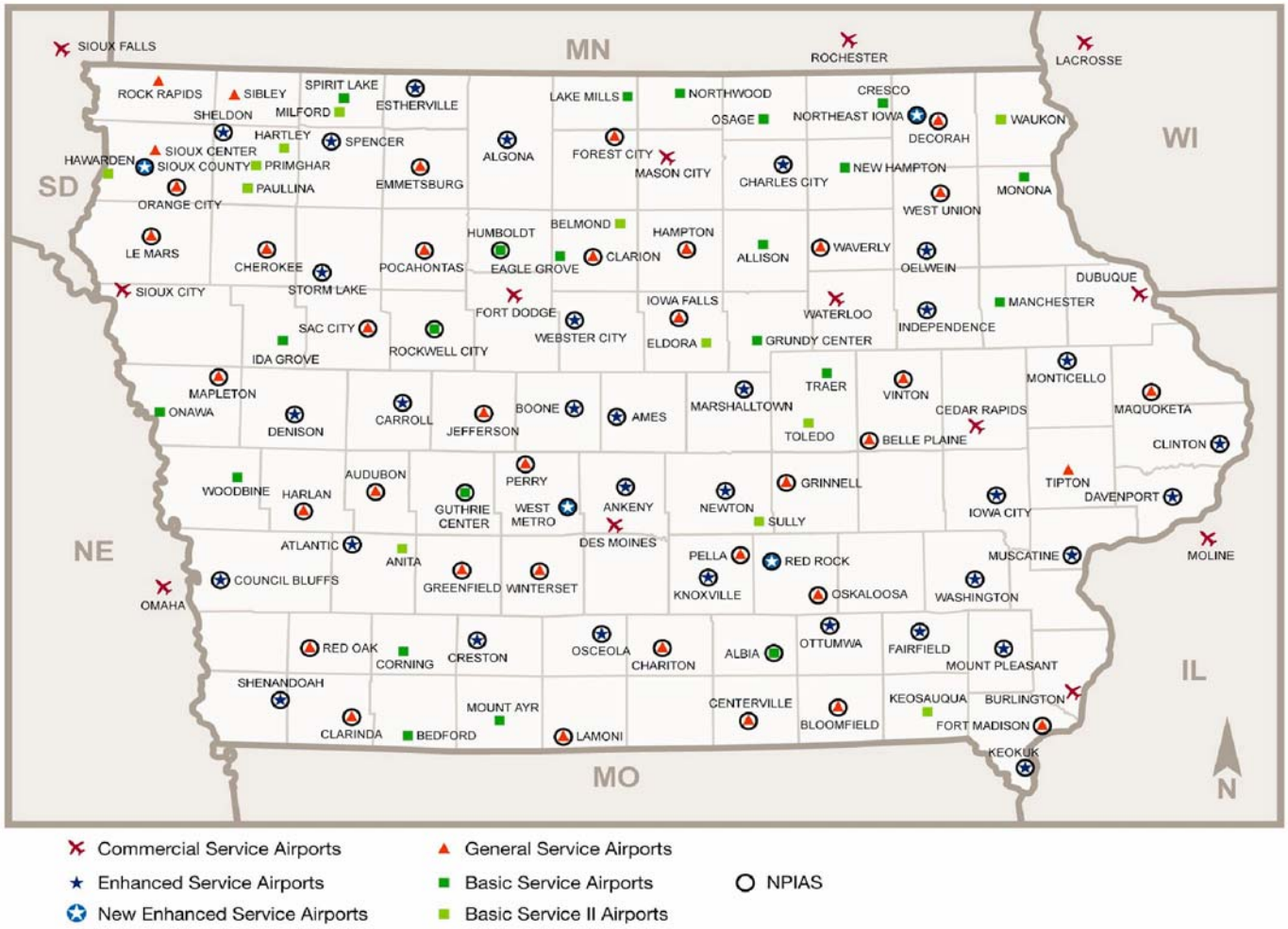
The following table sets forth the facility and service objectives for Enhanced Service, General Service, and Basic Service airports.

FACILITY AND SERVICE OBJECTIVES

	Enhanced Service Airports	General Service Airports	Basic Service Airports
Airport Reference Code (ARC)	C-II	B-II	B-I or Below
Runway Length (Primary)	Minimum 5,500 feet	Minimum Length 4,000 feet	3,000 feet Paved; 2500 feet Turf
Runway Width	100 feet	75 feet	60 feet Paved; 120 feet Turf
Taxiway	Full Parallel	Partial or Turnarounds	Exits as Needed
Approach	Precision	Non-Precision	Visual
Runway Lighting	MIRL/HIRL	MIRL	LIRL (Pilot Controlled)
Taxiway Lighting	MITL/HITL	LITL	Not An Objective
Weather Reporting	AWOS/ASOS	AWOS/ASOS	Not An Objective
Approach Aids	ALS	ALS	Not An Objective
Visual Guidance Slope Indicator (VGSI)	Both Runway Ends	Both Runway Ends	Not An Objective
Runway End Identifier Lights (REILS)	Both Runway Ends	Both Runway Ends	Not An Objective
Rotating Beacon	Rotating Beacon	Rotating Beacon	Not an Objective
Lighted Wind Indicator	Lighted Wind Indicator	Lighted Wind Indicator	Lighted Wind Indicator/Wind Sock
RCO Facilities	RCO Facilities	Not an Objective	Not an Objective
Other Pavement Strength	To Be Determined	To Be Determined	To Be Determined
Covered Storage	For 100% of Based Aircraft	100% of Based Aircraft	100% of Based Aircraft
Aircraft Apron	100% of Daily Transient	50% of Daily Transient	50% of Daily Transient
Terminal/Administration Bldg.	Yes	Not An Objective	Not An Objective
Auto Parking	Spaces equal to 100% of Based Aircraft (paved)	75% of Based Aircraft	50% of Based Aircraft
Fencing	Perimeter	Not An Objective	Not An Objective
Other	Building for Airport Maintenance Equipment	Not An Objective	Not An Objective
Fuel	100LL & Jet A - 24 Hour	100LL & Jet A 24 Hour (as needed)	100LL
FBO	Full Service - 24 Hour	Limited	Not An Objective
Ground Transportation	Rental Car, Taxi or Other	Courtesy Car/Off Site Rental Car	Not An Objective
Food Services	Vending	Vending	Not An Objective
Phone	Yes	Yes	Yes
Restroom	Yes	Yes	Yes
Pilot Lounge	Yes with Weather Reporting	Yes with Weather Reporting	Not An Objective
Security*	*	*	*
Snow Removal	Snow Removal	Snow Removal	Yes

*See the Iowa DOT Security Enhancement Guidelines.

Airports by System Role



MAQUOKETA MUNICIPAL AIRPORT (OQW)
INDIVIDUAL SUMMARY REPORT

The Maquoketa Municipal Airport is owned and operated by the City of Maquoketa and is included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS designates the Maquoketa Municipal Airport as a general aviation airport. The Iowa Aviation System Plan identifies the Maquoketa Municipal Airport as a General Service airport.

General aviation airports in Iowa provide an important means of accessing the communities and regions they serve and provide a link to the national transportation system. The Maquoketa Municipal Airport serves the general aviation needs of Jackson County and the City of Maquoketa. The airport is utilized by single engine and multi engine aircraft. The airport does not have a full time fixed-base operator (FBO) but offers fueling (100LL) and charter service. The airport also offers aircraft parking and hangar storage.

A variety of aeronautical activities occur at the Maquoketa Municipal Airport including: personal travel, business travel, agricultural and medical transport.

LOCATION MAP

The Maquoketa Municipal Airport is located in Jackson County approximately 3 miles west of the City of Maquoketa. Local access is provided via Iowa Highway 64.

EXISTING FACILITIES

The Maquoketa Municipal Airport supports one paved runway facility. Runway 15/33 is 3,300 feet in length and 60 feet in width. The asphalt surfaced runway has a 12,500 pound single wheel loading. Medium intensity edge and threshold lights are in place. Runway 15 and 33 are equipped with runway end identifier lights (REIL) and pulsating visual approach slope indicators (PVASI).

Runway 15/33 is served by a connecting taxiway with a partial parallel taxiway to Runway 15 and a turnaround at the Runway 33 end.

A non-precision instrument (NPI) approach may be made to Runway 15 and 33.

NDB RWY 15
GPS RWY 15
GPS RWY 33

The airport has a rotating beacon, lighted wind indicator and non-directional beacon (NDB).

Landside facilities include a terminal building, aircraft storage hangars, fuel facilities, apron area and vehicle parking.

The 3,000 square foot terminal building was constructed several years ago.

Aircraft storage facilities are noted as follows:

Hangar	Year Constructed	Aircraft Storage	Area
Tee	Unknown	8	9,300 square feet
Conventional	Unknown	10 Single Engine	8,000 square feet

The airport has storage space for 10 aircraft.

Fuel (100LL) storage is provided by an above ground 3,000 gallon tank. Fuel is dispensed by pump.

The concrete surfaced (4,330 square yard) apron provides 10 tiedowns. Parking is available for 10 vehicles.

EXISTING SERVICES

Aeronautical services provided include fuel (100LL) and charter service.

The terminal building provides a pilot lounge, rest rooms, and other amenities.

MAQUOKETA MUNICIPAL AIRPORT (OQW)

Federal Role: General Aviation Airport
State Role: General Service Airport

CURRENT AND FORECAST DEMAND

There were nine aircraft based at the airport in 2003. Six of those were single engine aircraft and three were multi engine. The number of based aircraft is forecast to increase to no fewer than ten in 2022.

There were an estimated 4,381 total annual operations conducted in 2003. The total number of operations is expected to increase to 5,232 in 2022.

Operational Activity	2003	2007	2012	2022
Based Aircraft	9	9	9	10
Annual Operations	4,381	4,572	5,019	5,232
Itinerant Operations	2,490	2,743	3,011	3,139
Local Operations	1,891	1,829	2,008	2,093

The based aircraft mix and aircraft operational mix are not expected to change significantly over the 20 year planning period. Reference may be made to Chapter Four of the 2004-2024 Iowa Aviation System Plan for additional forecast data regarding:

- Based aircraft mix
- Operational mix
- Annual Instrument Approaches
- Annual Instrument Operations

AIRPORT FACILITY AND SERVICE NEEDS

The Maquoketa Municipal Airport has been classified as a General Service airport and should provide facilities and services commensurate with its system role.

The following table summarizes current facilities and services, the airport's facility and service objectives, and actions/projects recommended to meet objectives within the context of the system plan. Local airports may have additional projects planned to accommodate local needs and demand.

Airside Facilities	Existing	System Objective	Recommendation
Airport Reference Code	B-I	B-I	None
Primary Runway Length	3,300'	4,000 min.	Extend 700'
Primary Runway Width	60'	75'	Widen 15'
Taxiway	Partial & Turnaround	Partial or Turnaround	Extend turnaround
Approach	NPI	Non-Precision	None
Runway Lighting	MIRL	MIRL	None
Taxiway Lighting	None	LITL	Light turnarounds and connecting taxiway
Approach Aids	None	ALS	None
Visual Guidance Slope Indicators (VGSI)	PVASI Runway 15/33	Both Ends	Add PAPI Runway 15/33
Runway End Identifier Lights (REIL)	Runway 15/33	Both Ends	None
Rotating Beacon	Yes	Rotating Beacon	None
Lighted Wind Indicator	Yes	Lighted Wind Indicator	None
RCO Facilities	No	Not an Objective	None
Pavement Strength	12,500 lbs. SW	To be determined	None
Landside			
Covered Storage	10	100 % Based Aircraft	None
Aircraft Apron	4,330 SY/10 tiedowns	50% Daily Transient	None
Terminal/Admin Building	Yes/with hangar	Not an Objective	None
Auto Parking	10 spaces	Space equal to 75% based aircraft	None
Fencing	Partial	Not an Objective	None
Storage	None	Not an Objective	None
Fuel	100LL	100LL, Jet A (As needed)	None
FBO	Limited	Limited	None
Ground Transportation	Courtesy Car	Courtesy car/off-site rental car	None
Food Services	Vending	Vending	None
Phone	Yes	Phone	None
Restroom	Yes	Restroom	None
Pilot Lounge	Yes	Yes w/weather reporting	None
Security*	*	*	*
Snow Removal	Yes	Snow Removal	None
Other	None	None	None

*Security enhancements for each airport depend on the size and activity at the airport. Each airport is encouraged to complete a security plan that addresses security enhancements recommended by the Transportation Security Administration and the Iowa DOT."

The facility and services recommendations noted above are based on the Iowa Aviation System Plan facility and service objectives. The airport has a number of site constraints. A detailed evaluation of airport site constraints is recommended. The evaluation should consider all reasonable alternatives to include the "No Project" alternative as well as utilization of an alternative systems airport when necessary.

The "No Project" alternative is defined as one where existing facilities and services would be maintained at their present level.

The evaluation should consider the ability of the site to accommodate a runway extension and a non-precision approach. More specifically, the ARC B-I must be able to provide the required runway safety area (RSA), runway object free area (ROFA) and runway object free zone (ROFZ).

The site constraints at the Maquoketa Municipal Airport will require additional evaluation and be identified on the airport layout plan (ALP).

SYSTEM DEVELOPMENT COSTS - OTHER

Airport improvements identified on the Airport Capital Improvement Program (ACIP) data sheets are noted as follows:

- Runway 15/33 rehabilitation

Development Item	2004-2009	Phase Two 2010-2015	Phase Three 2016-2024
Runway 15/33 rehabilitation	$864,516	---	---
Total	**$864,516**	**$0**	**$0**

OTHER RECOMMENDATIONS

- Tee hangar
- Taxiway improvement

DEVELOPMENT COSTS - OTHER

None.

Snyder & Associates, Inc.

SNYDER & ASSOCIATES
Engineers and Planners

2727 SW Snyder Blvd.
Ankeny, Iowa 50023
Phone: 515.964.2020
Fax: 515.964.7938
www.snyder-associates.com

Wilbur Smith Associates, Inc.

ENGINEERS
PLANNERS
ECONOMISTS
Wilbur Smith Associates

6600 Clough Pike
Cincinnati, OH 45244
Phone: 513.233.3700
Fax: 513.624.5182
www.wilbursmith.com

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