IOWA AVIATION SYSTEM PLAN

AIRPORT SUMMARY REPORT

NORTHWOOD MUNICIPAL AIRPORT

Prepared for:

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION

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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.

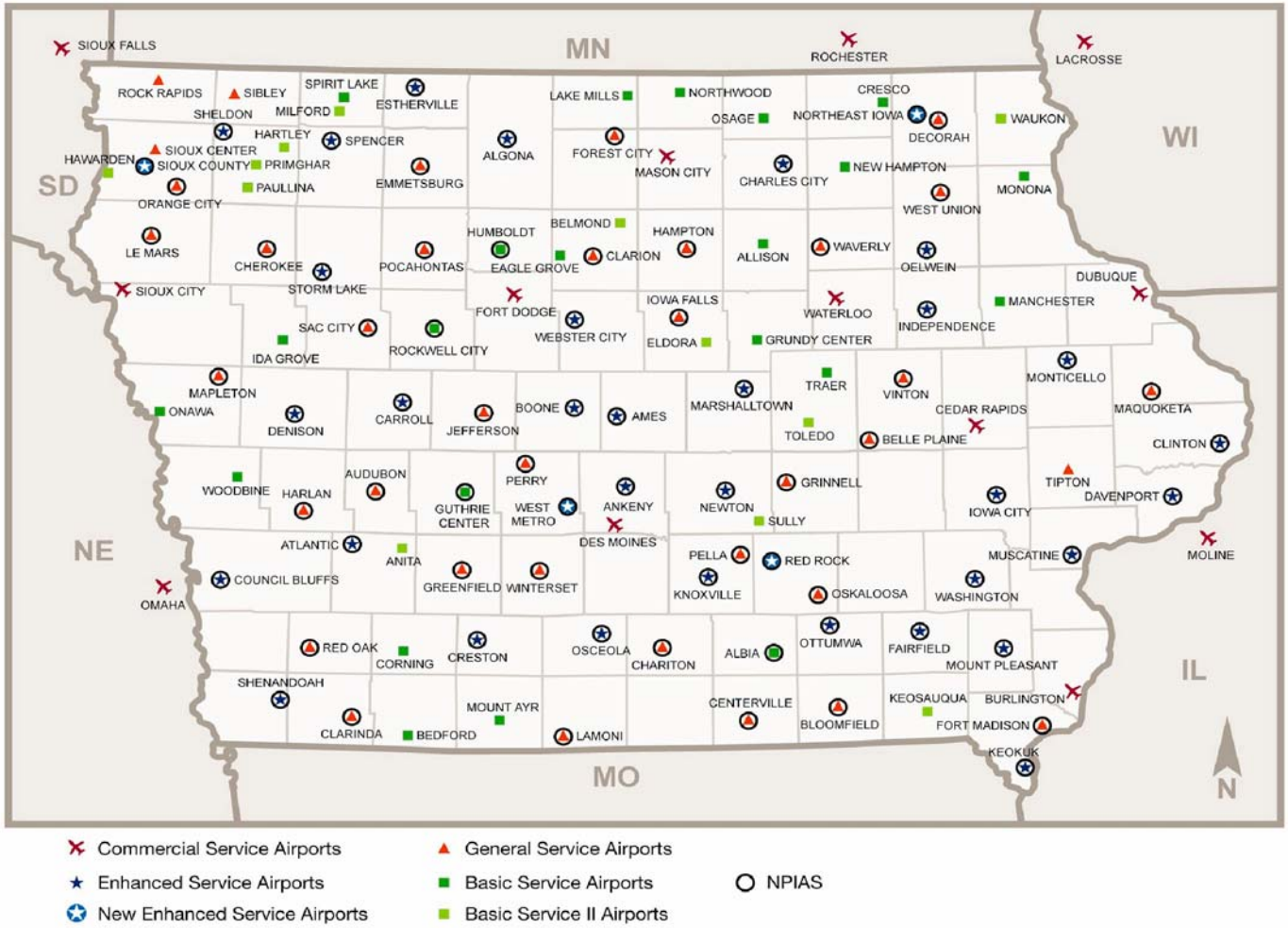
The following table sets forth the facility and service objectives for Enhanced Service, General Service, and Basic Service airports.

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



NORTHWOOD MUNICIPAL AIRPORT (5D2)
INDIVIDUAL SUMMARY REPORT

The Northwood Municipal Airport is owned and operated by the City of Northwood and is not included in the National Plan of Integrated Airport Systems (NPIAS). The State Aviation System Plan identifies the Northwood Municipal Airport as a Basic 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 Northwood Municipal Airport serves the general aviation needs of Worth County and the City of Northwood. The airport is utilized by single engine aircraft. The airport offers no fixed-base operator (FBO) services. The airport offers hangar storage. Fuel is not available.

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

LOCATION MAP

The Northwood Municipal Airport is located in Worth County approximately one mile east of the City of Northwood. Local access is provided via County Road 105.

EXISTING FACILITIES

The Northwood Municipal Airport supports one turf runway facility. Runway 17/35 is 3,300 feet in length and 100 feet in width. Low intensity edge and threshold lights are in place.

There are no published instrument approaches to Runway 17/35.

The airport has a lighted wind indicator.

Landside facilities include eight conventional hangars providing storage for eight aircraft.

There is no aircraft parking apron.

EXISTING SERVICES

There is no terminal/administration building. Off-site ground transportation is not available.

NORTHWOOD MUNICIPAL AIRPORT (5D2)

Federal Role: Non NPIAS
State Role: Basic Service Airport

CURRENT AND FORECAST DEMAND

There were five aircraft based at the airport in 2003. All were single engine piston. The number of based aircraft is forecast to increase to no fewer than seven in 2022.

There were an estimated 2,434 total annual operations conducted in 2003. The total number of operations is expected to increase to 3,600 in 2022.

Operational Activity	2003	2007	2012	2022
Based Aircraft	5	5	6	7
Annual Operations	2,434	2,546	3,402	3,600
Itinerant Operations	1,383	1,524	2,041	2,160
Local Operations	1,051	1,016	1,361	1,440

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 Northwood Municipal Airport has been classified as a Basic 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	A-I	B-I or below	None
Primary Runway Length	3,300' (Turf)	3,000' paved; 2,500' turf	None
Primary Runway Width	100'	60' paved; 120' turf	Move lights
Taxiway	Exits	Exits as needed	None
Approach	Visual	Visual	None
Runway Lighting	LIRL	LIRL	None
Taxiway Lighting	No	Not an Objective	None
Approach Aids	No	Not an Objective	None
Visual Guidance Slope Indicators (VGSI)	No	Not an Objective	None
Runway End Identifier Lights (REIL)	No	Not an Objective	None
Rotating Beacon	No	Not an Objective	None
Lighted Wind Indicator	Yes	Lighted Wind Indicator	None
RCO Facilities	No	Not an Objective	None
Pavement Strength	Turf	To be determined	None
Landside			
Covered Storage	8	100 % Based Aircraft	None
Aircraft Apron	Turf/3 tiedowns	50% Daily Transient	None
Terminal/Admin Building	No	Not an Objective	None
Auto Parking	10 spaces	Space equal to 50% based aircraft	None
Fencing	No	Not an Objective	None
Storage	No	Not an Objective	None
Fuel	100LL	100LL	None
FBO	No	Not an Objective	None
Ground Transportation	No	Not an Objective	None
Food Services	No	Not an Objective	None
Phone	Yes	Phone	None
Restroom	No	Restroom	None
Pilot Lounge	No	Not an Objective	None
Security*	*	*	*
Snow Removal	Snow Removal	Snow Removal	None
Other	NA	Not an Objective	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 widening. More specifically, the runway must minimally be able to provide the required runway safety area (which is reflected in the 120 feet wide turf runway requirement) and runway protection zones (RPZ) for a visual runway utilized by small aircraft. The RPZ is an area 250 feet wide at the end of the runway extending to 450 feet wide at 1,000 feet from the end of the runway.

The site constraints at the Northwood Municipal Airport will require additional evaluation.

SYSTEM DEVELOPMENT COSTS

None.

OTHER RECOMMENDATIONS

The airport facilities should be maintained in a fashion to protect the public investment and level of use. Annual municipal budgetary considerations should be applied to airport improvements to provide facilities commensurate with current and projected use.

A tall structure zoning ordinance based on FAA Part 77 should be adopted to control the height of objects within the airport environs.

DEVELOPMENT COSTS - OTHER

None.

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