

Introduction

The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) requires that long-range transportation plans for metropolitan planning organizations should be multimodal, meaning that plans are prepared for all of the main transportation modes. In the past, an airport element has been included in the Dubuque Metropolitan Area Transportation Study (DMATS) Long-Range Transportation Plan even though the airport was about two miles south of the adopted DMATS metropolitan planning area boundary. However, the DMATS boundary has been extended since the last long-range transportation plan and now includes the airport.



Since the last long-range transportation plan, the relationship between the Dubuque Regional Airport and DMATS has changed. The airport has been brought into the DMATS current boundaries. In the past it was not necessary for the expenditure of federal funds by the airport to be included in the DMATS Transportation Improvement Program (TIP). However, once the airport was included in the DMATS boundaries, that situation changed and DMATS is now responsible for the use of federal funds by the airport.

The Dubuque Regional Airport Master Plan was last updated in 2004 by Coffman Associates, Incorporated from Lee's Summit, Missouri. The update of the master plan was undertaken to evaluate and recommend development of facilities that will be required to meet the increase in demand forecast for the airport. The plan is designed to provide systematic guidelines to the City of Dubuque in its overall development of the airport. The Airport Element of the 2031 Long-Range Transportation Plan will summarize and incorporate the recommendations of the 2004 Airport Master Plan update.

Inventory

Inventories provide information on existing conditions, which in turn allow for planning future needs for any project. The inventory of the existing facilities and infrastructure at the Dubuque Regional Airport aids in developing future projects designed to improve the airport and aid in projecting estimated costs for the TIP monies.

Existing Facilities

The Dubuque Regional Airport is located about seven miles south of downtown Dubuque on US 61. Primary access to the airport is off of US 61. The airport location is shown on **Map 7-1**. The airport occupies 1,057 acres and has a field elevation of 1,076 feet. The airport opened at the present location in 1948.

Airside Facilities

The airport has two runways and five taxiways to support air operations.

Runway 18-36 is a north-south oriented runway that serves as the airports primary runway. Runway 18-36 is 6,325 feet long and 150 feet wide. The runway was constructed in 1947 with a nominal 9 inch Portland Concrete Cement section. An asphaltic concrete cement overlay was applied in 1975. The pavement is rated at 75,000 pounds for a single wheel gear aircraft, 173,000 pounds for duel wheel gear aircraft and 215,000 pounds for a duel tandem aircraft. Runway 18-36 is served by a full instrument landing system.



Runway 13-31 is a northwest-southeast oriented runway and serves as the airports secondary runway. Runway 13-31 is 6,498 feet long and 100 feet wide. The runway is constructed of Portland Concrete Cement with a nominal thickness of 9 inches. This was overlaid in 1970 with about 3 to 4 inches of asphaltic concrete cement. The pavement has been grooved to allow proper drainage.

The pavement is rated to 75,000 pounds for a single wheel gear aircraft, 125,000 pounds for a dual wheel gear aircraft and 215,000 for dual tandem aircraft. A localizer, MALSR and MALS, serves runway 13-31.

Taxiways provide adequate access to both of the runways and consist of parallel, connecting, access and entrance/exit taxiways. There is a taxiway parallel to Runway 13-31. In addition, three connecting taxiways provide access between the two runways and the terminal/hanger area.

Taxiway A is parallel to Runway 13-31 and is 50 feet wide, however a portion of Taxiway A is 75 wide (southwest of Taxiway B). This taxiway also provides access to the end of Runway 18-36.

Taxiway B provides a connection from Taxiway A to Runway 13-31 and is 50 feet wide.

Taxiway C extends southwest from the terminal apron to Runway 13-31 where it continues southwest until the intersection of Taxiway E where it turns south to connect to Runway 18-36 threshold. Taxiway C is 50 feet wide.

Taxiway D extends from the terminal apron southwest to Runway 13-31 where it continues southwest upon turning west to connect to Runway 18-36. Taxiway D is 50 feet wide until Runway 13-31, where it narrows to 35 feet wide.

Taxiway E connects Taxiway C to Runway 18-36 and is 100 feet wide.

Groundside Facilities

The Dubuque Regional Airport has extensive groundside facilities serving passengers, freight, airport administration and general aviation needs. The current terminal building is 11,656 square feet in extent. The original terminal was built in 1948. A new terminal was constructed next to the existing one in 1969. In a remodeling project in 1989 the two buildings were combined. The airport also includes six T-hangers buildings and six conventional/executive hangar buildings. The airport has five parking lots. These parking lots include 440 parking spaces that are available for use by airport patrons, employees and other airport users.

Aircraft Operations

The Dubuque Regional Airport provides two distinct types of services. These are commercial air service for regional/commuter passengers and general aviation service. The Dubuque Regional Airport is designated as a Level I airport by the Iowa Aviation System Plan. There are ten Level I airports in the state. These airports are expected to provide 100 percent of commercial air service and 40 percent of general aviation service to the population within 45 miles of the airport.

Commercial Air Service

The 2004 Dubuque Regional Airport Master Plan identified the market for commercial air service. The plan broke the area into categories: primary service area and secondary service area. The primary service area is as follows: Dubuque, Jackson, Clayton, Delaware Counties in Iowa; Jo Daviess County in Illinois and LaFayette and Grant Counties in Wisconsin. The following areas were classified as secondary service areas: Clinton, Jones, Buchanan, Fayette and Allamakee Counties in Iowa; Carroll and Stephenson Counties in Illinois and Crawford County in Wisconsin. This core market area can generally be described as being the area that is within two hours driving time. Airports that define the boundaries of the market area include Cedar Rapids, Waterloo, IA; Moline, Illinois, Rockford, Illinois and Madison, Wisconsin.

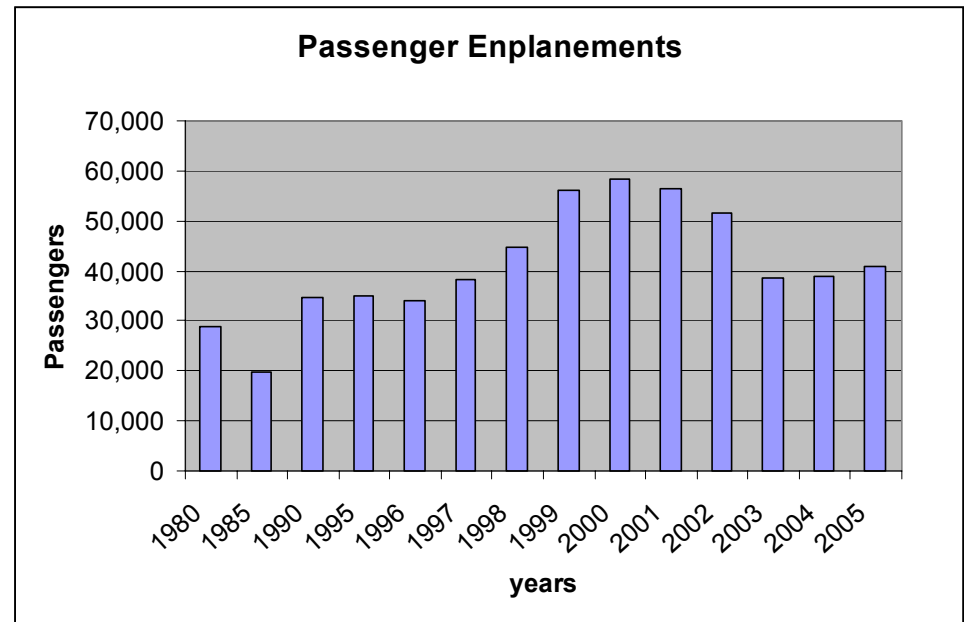
Terminal Access Roadway

Principal access to the airport is from the U.S. highway 61 interchange with Airport road. This interchange is not currently signalized. Along Airport Road are several access points for other aviation and non-aviation facilities. Future planning should consider a loop road with the potential for a dedicated commercial access roadway system. It is advised that the interchange at U.S. 61 should be looked into to accommodate more commercial traffic.

Graph 7-1 shows the recent history of passenger enplanements at Dubuque Regional Airport.

Graph 7-1

Passenger Enplanements



Data Source: Dubuque Regional Airport

Typically, commercial air service passenger enplanements are very cyclical. Changes in enplanement rates often come quickly in response to the type of service being offered at the airport, the overall cost of air travel and competitive pressure from the surrounding airports.

General Aviation

General aviation encompasses all facets of civil activity except commercial operations. At Dubuque Region Airport this component of the aviation industry accounts for the largest overall share of operations. The level of general aviation activity is typically reported in terms of the number of operations. A general aviation operation is any takeoff or landing by an aircraft. Data in **Table 7-1** shows the trend in aircraft operations since 2000:

Table 7-1 General Aviation Aircraft Operations

Year	Air Carrier	Air Taxi	General Aviation	Military	Total
2000	4	4,114	14,526	38	18,682
2001	0	6,946	40,767	238	47,951
2002	42	5,058	48,471	73	53,644
2003	38	4,049	49,446	91	53,624
2004	28	3,630	51,534	136	55,328
2005	28	3,959	50,926	109	55,022

Data Source: 2004 Dubuque Regional Airport Master Plan

Forecast

Typically, airport master plans like the Dubuque Regional Airport Master Plan include forecasts of total aircraft operations, enplanements and based aircraft. These three factors are the keys for determining actual facility needs. Airline enplanements are key to sizing the terminal building, apron and automobile parking. Based aircraft is a primary indicator of growth in general aviation. As a result, it is used to indicate the type and capacity of aircraft facilities for fueling and for storage. Aircraft operations (takeoffs and landings) are used to examine the capacity of the airfield. **Table 7-2** shows the adopted forecast for the Dubuque Regional Airport.

Table 7-2 Dubuque Regional Airport Forecast Summary

	2010	2015	2020	2025
Total Aircraft Operations	56,500	61,800	70,300	79,000
Annual Enplaned Passengers	58,000	71,000	86,000	105,000
Dubuque Based Aircraft	89	100	124	-

Data Source: 2004 Dubuque Regional Airport Master Plan

The forecasts shown in the table above set out specific levels of activity that are expected to be achieved in specific years. While it is necessary to focus on the timing of airport development for scheduling and budgeting purposes, the actual need for the facilities is in fact established by levels of activity themselves. Therefore, implementation of the master plan by the Dubuque Regional Airport will depend more on when the specific levels of activity are achieved, rather than on the specific years that those levels were expected to be reached.

Proposed Projects

Based on the inventory of the airports existing facilities and the adopted aviation forecast, the Dubuque Regional Airport has determined that the following projects will be necessary over the coming 20 years to maintain and expand the airports level of service.

- **Snow Removal Storage Building Addition**
- **Equipment Replacement**
- **Slurry Seal Terminal Ramp**
- **Airport Master Drainage Study**
- **Environmental Assessment – Terminal Building**
- **Land Acquisition for Terminal Building (103 acres)**
- **Construct Executive Hagar Apron**
- **Engineering Design for Terminal Building**
- **Improve Runway 31 RSA
(road, prop, aq., earthwork, localizer)**
- **Construction Water Tower**
- **Construct Terminal Entrance**
- **Road Aircraft Apron and Sitework**
- **Construct T-hangar Taxiways – Phase I**
- **Construct Terminal Taxiways, Phase 1**
- **Terminal Building & Auto Parking**
- **Construct 10-unit T-hangar Facility**
- **Construct Phase II Terminal Building,
Loop Road and Terminal Curb**
- **Extend Partial Parallel Taxiway C to Taxiway D**
- **Construct T-hangar Taxiways – Phase II**
- **Construct 10 unit T-hangar Facility**
- **Construct Executive Hangar Apron – South GA Area**
- **Construct Executive Hangar Roads – South GA Area**
- **Construct New ATCT**
- **Acquire Property for Runway 18-36 Extension**
- **Relocate ILS Glideslope Antenna**
- **Extend Runway 18-36/Taxiway C 1,200 feet South**
- **Rehabilitate Airfield Pavements**
- **Rehabilitate Landside Pavements**
- **Construct T-hangar Taxiways – Phase II**
- **Construct 20 T-hangars (Two 10-unit facilities)**
- **Terminal Building Expansion**

Detailed information on the projects proposed for the Dubuque Regional Airport can be found in the adopted 2004 Dubuque Regional Airport Master Plan.

Financial

Implementation of the Airport Master Plan will take a financial commitment of \$61 million over the planning period. Financing of the improvement program will not rely entirely on one source. Federal, local and private sources will contribute to the development. In each case, the primary contributor will be the aviation community and the airport user through airport aviation user fees and leases.

Dubuque is eligible for up to 95% of the funding for the airport improvement projects from Federal grant aid programs to public airports. The source of these funds is the aviation trust fund. The trust fund is a depository of federal funds that result from taxes on airline tickets, aviation fuel, aircraft registrations and other aviation related fees. The Federal Aviation Administration (FAA) under appropriations set by Congress to all eligible airports distributes the funds.

Table 7-3, below shows the anticipated funding streams that are projected by the airport to meet the required needs.

Table 7-3 Dubuque Regional Airport Development Funding Sources

Dubuque Share	FAA Share	Total Costs
4,214,867	57,282,466	61,497,333

Data Source: 2004 Dubuque Regional Airport Master Plan

Table 7-4 shows project implementation and the funding breakdown for projects that need to be implemented. The projects have been broken into FYs from FY 2006 to FY 2010.

The **Map 7-2** shows the airport layout indicating where the facilities and infrastructure are located within the airport itself.

Summary

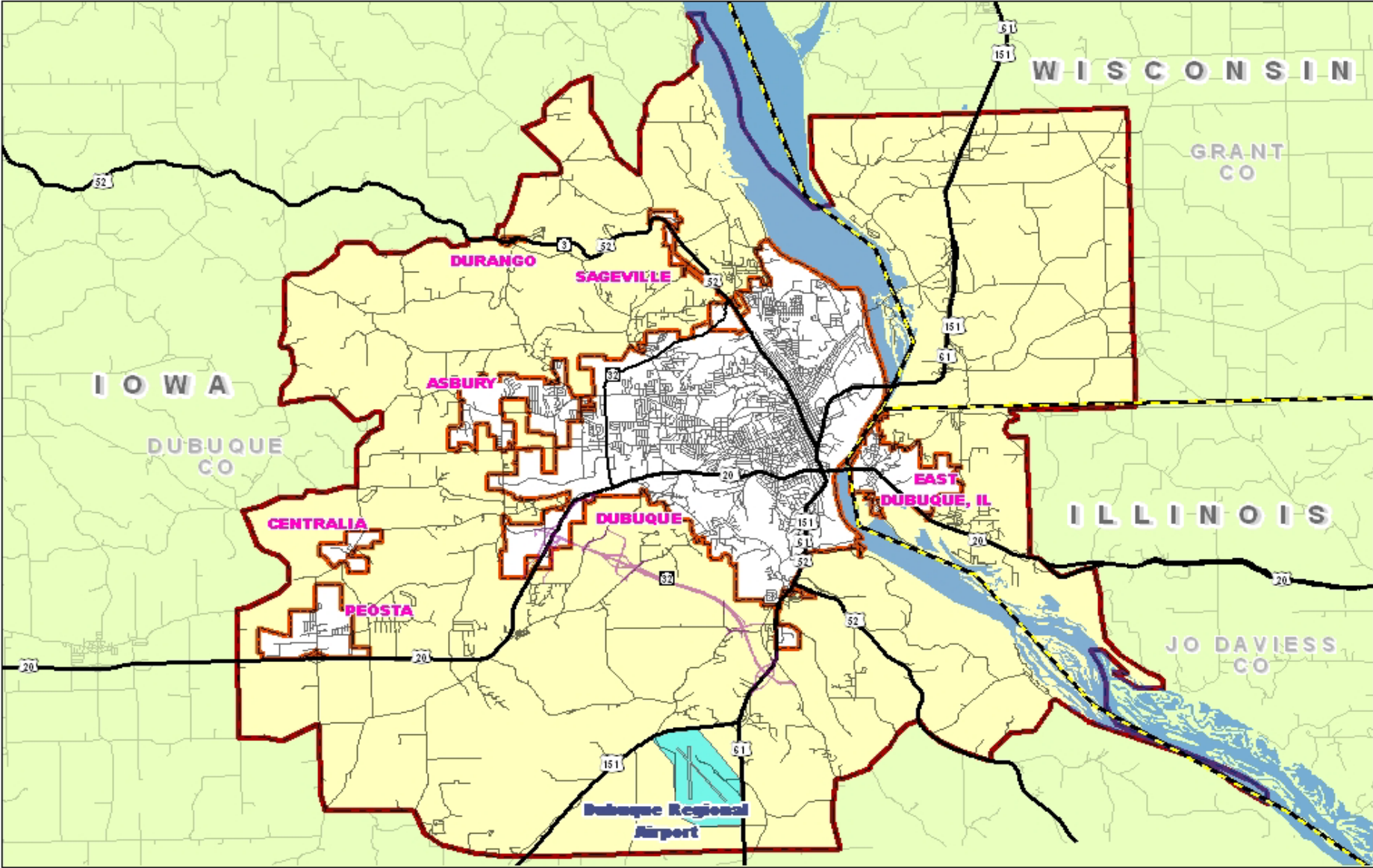
DMATS Staff will work closely with the Dubuque Regional Airport to aid in federal funding sources for implementing the various projects that have been identified in the Airport Master Plan over the next several years.

Table 7-4 Dubuque Regional Airport Project Cost Breakup by Years

Breakdown of FAA Fiscal Year projects	Total Project	FAA Share
FY 2007 (Planning)		
Terminal Land Acquisition	\$1,471,000	\$1,397,450
RSA Land Acquisition – Phase 1	\$50,000	\$47,500
(\$ 1,148,678 entitlement \$ 302,222 discretionary)	\$1,521,000	\$1,434,950
FY 2008 (Planning)		
Terminal Schematic and Design	\$521,000	\$494,950
Runway 31 parallel and connecting taxiway	\$2,686,100	\$2,551,795
Water Reservoir	\$610,400	\$549,360
RSA earthwork, road/fence relocation – Phase 2	\$185,000	\$175,750
(\$1,000,000 entitlement \$ 2,802,375 discretionary)	\$4,002,500	\$3,802,375
FY 2009 (Planning)		
Terminal Site Work	\$2,599,400	\$2,469,430
Utility Improvements	\$1,956,400	\$1,858,580
(\$1,000,000 entitlements \$3,328,010 discretionary)	\$4,555,800	\$4,328,010
FY 2010 (Planning)		
Terminal Roads and Apron	\$4,799,400	\$4,559,430
Terminal Design	\$285,360	\$271,092
PCI Study (<i>required in 10'</i>)	\$27,000	\$25,650
(\$1,000,000 entitlements \$ 3,856,172 discretionary)	\$5,111,760	\$4,856,172
FY 2011 (Planning)		
1. Terminal Phase 1 – Terminal (FAA 85% - Local 15%)	\$3,231,100	\$2,746,435
2. Terminal Taxiway Stub (FAA 95% - Local 5%)	\$608,600	\$578,170
3. Terminal Parking (Local 100%)	\$1,545,600	\$0
(\$1,000,000 entitlements \$ 2,324,605 discretionary)	\$5,385,300	\$3,324,605
FY 2012 (Planning)		
1. Terminal Ring Road/ Load Area (FAA 95% - Local 5%)	\$2,461,200	\$2,338,140
2. Terminal Phase 2 (FAA 85% - Local 15%)	\$3,202,300	\$2,721,955
3. Terminal Parking (Local 100%)	\$1,448,800	\$0
(\$1,000,000 entitlements \$ 4,060,095 discretionary)	\$7,112,300	\$5,060,095

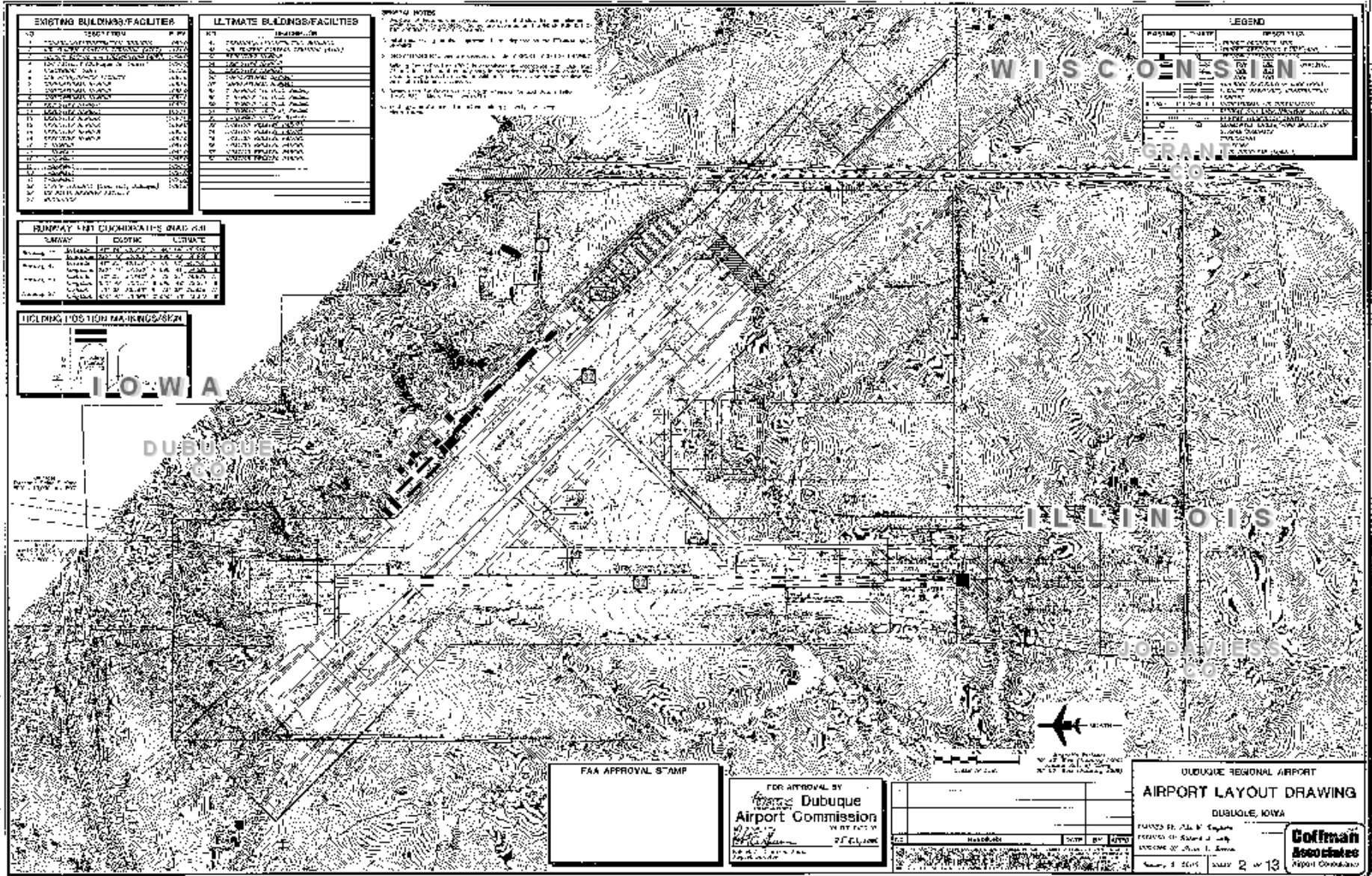
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Dubuque Regional Airport Location Within The DMATS Area



Legend 		Scale 1:150,000 		Data Created : 8/2008 Data Revised : Created By : Debra Smith Data Source : IDOT, Dubuque, Co. City of Dubuque, DNR, ECA Data, ILLDOT, WDCI NOT FOR LEGAL USE  Map 7-1
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Dubuque Regional Airport Improvements



Scale
1:160,000

Date Created : 8/10/06
Date Revised :
Created By : Debra Smith
Data Source : SDOT, Dubuque, Co.
City of Dubuque, IOWA, SDOT, ILLINOIS, WISCONSIN
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DUBUQUE REGIONAL AIRPORT
AIRPORT LAYOUT DRAWING
DUBUQUE, IOWA
PLANNED BY: Debra Smith
DESIGNED BY: Debra Smith
APPROVED BY: Debra Smith
August 8, 2006 Sheet 2 of 13
Coffman Associates
Airport Consultants
ECIA
IOWA

Map 7-2