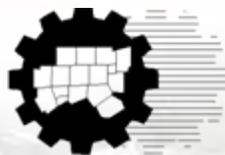


Dallas/Fort Worth Regional General Aviation and Helicopter System Plan

FAA Southwest Region Conference

March 11-12, 2008



**North Central Texas Council of Governments
Transportation Department**

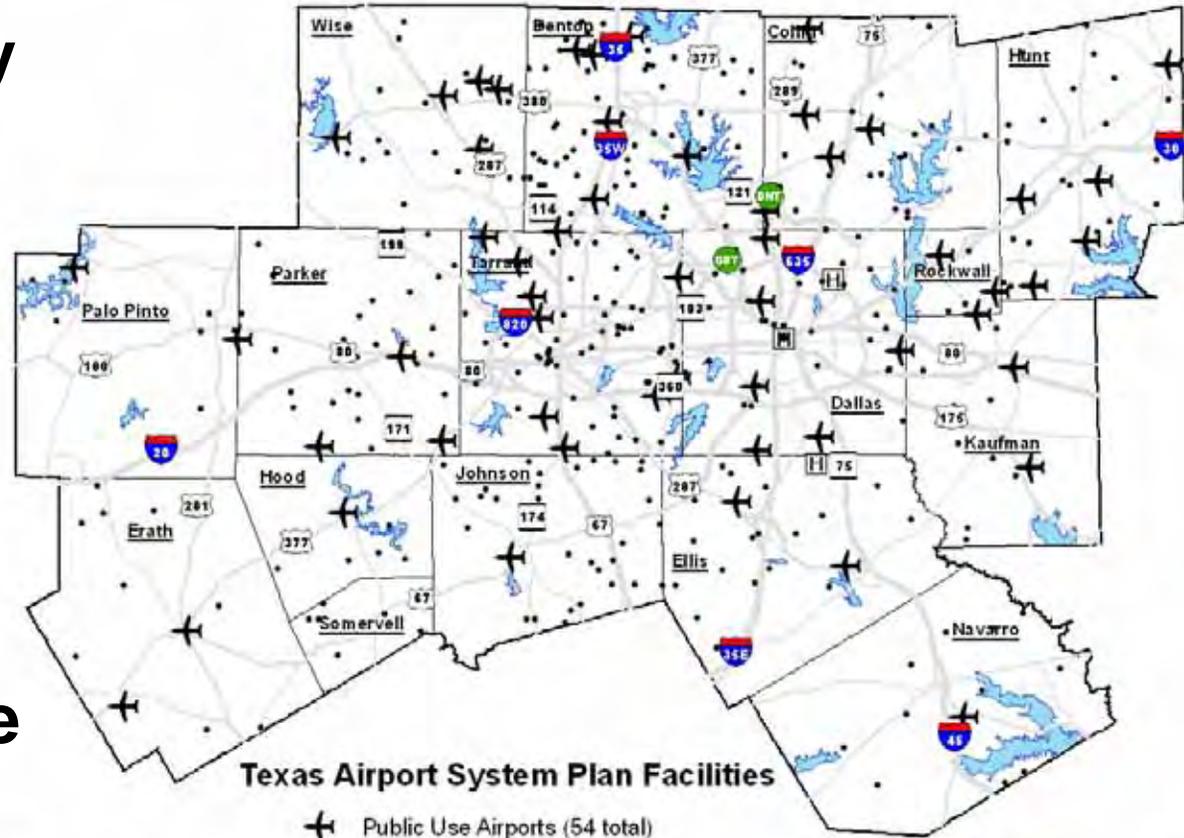
NCTCOG Aviation Initiatives

**Air Transportation
Technical Advisory
Committee**

**Federal Aviation
Administration
Partnership**

**Naval Air Station
Joint Reserve Base
Program**

**Surface Access to
Aviation**



Texas Airport System Plan Facilities

- ✈ Public Use Airports (54 total)
- Ⓜ Public Use Heliports (3 total)
- Private Aviation Facilities (340 total)

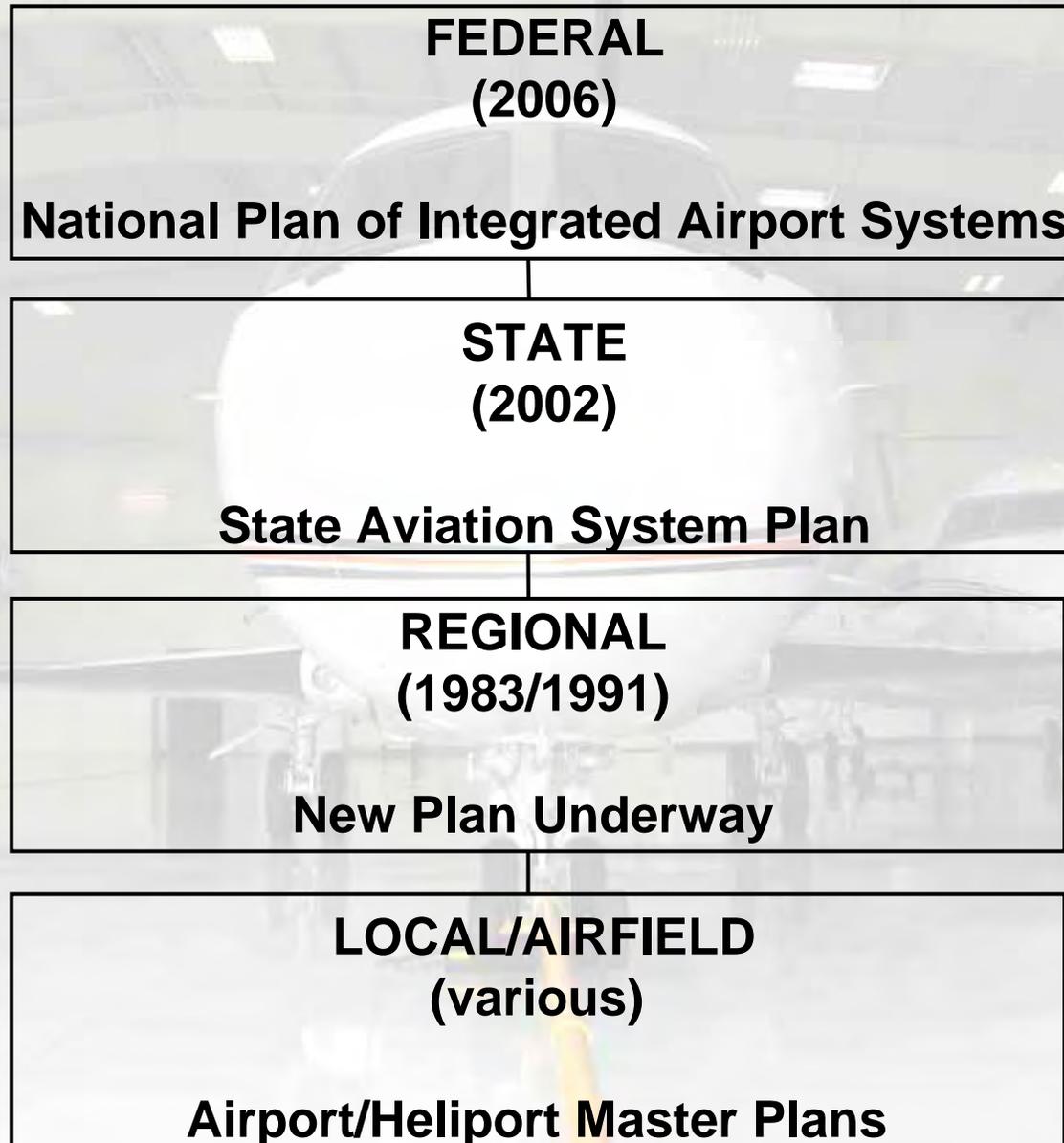


North Central Texas
Council of Governments
Transportation Department



Regional General Aviation and Heliport System Plan

Aviation Planning Levels



Regional General Aviation and Heliport System Plan

Partnerships

Program Leadership

NCTCOG's Executive Board and the Regional Transportation Council

Technical Oversight

NCTCOG's Air Transportation Technical Advisory Committee (ATTAC)

Coordination

Federal Aviation Administration

Texas Department of Transportation, Aviation Division

Local Aviation Facilities

Regional General Aviation and Heliport System Plan

Air Transportation Technical Advisory Committee (ATTAC)

Bob Porter, A.A.E., **Chair**, Arlington Municipal Airport
Cynthia Godfrey, **Vice Chair**, Mesquite Metro Airport
Donald J. Barbour, **Secretary**, Bell/Agusta Aerospace Company
Bobby Bateman, Mineral Wells Airport
Worth M. Blake, North Texas Commission
Randy J. Byers, C.M., Grand Prairie Municipal Airport
Raymond E. Caldwell, City of Ennis
Mike Claunch, City of Cleburne
Keith A. Craigo, Serspec Associates Inc
Ruben Delgado, P.E., Collin County
Donald C. Jensen, City of Irving
Kerry G. McAnally, American Airlines
Terry Mitchell, City of Dallas
Lt. Keith Morris, Naval Air Station Joint Reserve Base Fort
Mark Nelson, C.M., Denton Municipal Airport
Allen D. Parra, A.A.E., Dallas/Fort Worth International Airport
Kenneth L. (Kent) Penney, Jr., A.A.E., City of Fort Worth
Lori Philyaw, City of Greenville
Kenneth Pyatt, SKY Helicopters, Inc.
Lisa Pyles, A.A.E., Addison Airport
Arb Rylant, C.M., Lancaster Airport
David Turnbow, City of Bridgeport
Timothy D. Ward, A.A.E., Alliance Air Services
Kenneth F. Wiegand, A.A.E., Collin County Regional Airport

Regional General Aviation and Heliport System Plan

ATTAC Roles

Oversee work elements associated with Regional General Aviation and Heliport System Plan.

Provide review of consultant deliverables.

Provide review of NCTCOG work elements.

Provide direction in study out-years as additional funding is sought from Federal Aviation Administration.

Recommend NCTCOG Executive Board and Regional Transportation Council approve the final Plan.

Regional General Aviation and Heliport System Plan

Overview

Update older plans created before recent developments came about: Alliance Airport opened; some airports have closed; aviation technologies are changing; and population growth continues.

Evaluate long-term general aviation and vertical flight supply and demand.

Set a new strategic vision for advancing general aviation and heliport resources in and around Dallas-Fort Worth.

Regional General Aviation and Heliport System Plan

Aviation Facilities in North Central Texas

Facility	Use	Count	Public Ownership	Private Ownership	Military Ownership
Airports		268			
	<i>Public</i>	55	30	25	
	<i>Private</i>	213	1	211	1
Heliports		124			
	<i>Public</i>	3			
	<i>Private</i>	121			
Gliderport		1			
	<i>Public</i>	0			
	<i>Private</i>	1			
Stolport		2			
	<i>Public</i>	0			
	<i>Private</i>	2			
Ultralight		3			
	<i>Public</i>	0			
	<i>Private</i>	3			
		<hr/> 398 Total Landing Facilities <hr/>			

Regional General Aviation and Heliport System Plan

Direct and Indirect Economic Impact

Total Jobs
30,000+

Total Payroll
\$1,113,000,000

Total Economic Impact
\$4,556,000,000

Regional General Aviation and Heliport System Plan

Growth Standards

3% Annual Growth

6% Annual Growth

+

+

25 Years

25 Years

=

=

Demand Doubles

Demand Doubles Twice

Population Growth: 3-4%

D/FWIA Commercial Service Growth Rate: 2-4%

Vehicle Miles of Travel Growth: 4-5%

Commodity Growth: 9-10%

Regional General Aviation and Heliport System Plan

Potential Future Economic Impact

**Total Current Economic Impact
\$ 4.6 Billion Annually**

+

25 years of growth at 6% per year

=

**Future Economic Impact
\$18 Billion Annually**

Regional General Aviation and Heliport System Plan

Market Realities

Supply Factors

Runways
Taxiways
Towers
Airspace
Labor Force
Fuel
Aircraft Type
Hanger Space
Surface Access

Demand Factors

Economic Growth
Corporate Activity
Cargo Movements
Recreation
Interurban Travel
Intraurban Travel
Emergency Service
Special Events
Cost

Nationwide Based Aircraft

Per 100,000 People

	Top 10 Metropolitan Statistical Area (MSA) by Population	Population (millions)	Based Aircraft (Per 100,000)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	18.82	24.0
2	Los Angeles-Long Beach-Santa Ana, CA	12.95	42.8
3	Chicago-Naperville-Joliet, IL-IN-WI	9.51	89.0
4	Dallas-Fort Worth-Arlington, TX	6.00	108.3
5	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.83	41.1
6	Houston-Sugar Land-Baytown, TX	5.54	59.6
7	Miami-Fort Lauderdale-Miami Beach, FL	5.46	67.1
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	5.29	35.7
9	Atlanta-Sandy Springs-Marietta, GA	5.14	64.0
10	Detroit-Warren-Livonia, MI	4.47	55.1

*Includes Based Helicopters

General Aviation Operations

Per 100,000 People

	Top 10 Metropolitan Statistical Area (MSA) by Population	Population (millions)	GA Operations (Per 100,000)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	18.82	11,449
2	Los Angeles-Long Beach-Santa Ana, CA	12.95	19,109
3	Chicago-Naperville-Joliet, IL-IN-WI	9.51	17,942
4	Dallas-Fort Worth-Arlington, TX	6.00	34,917
5	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.83	20,654
6	Houston-Sugar Land-Baytown, TX	5.54	29,290
7	Miami-Fort Lauderdale-Miami Beach, FL	5.46	73,970
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	5.29	23,296
9	Atlanta-Sandy Springs-Marietta, GA	5.14	66,146
10	Detroit-Warren-Livonia, MI	4.47	54,777

Based GA Jet Aircraft

Per 100,000 People

	Top 10 Metropolitan Statistical Area (MSA) by Population	Population (millions)	Based GA Jets (Per 100,000)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	18.82	2.0
2	Los Angeles-Long Beach-Santa Ana, CA	12.95	2.7
3	Chicago-Naperville-Joliet, IL-IN-WI	9.51	2.8
4	Dallas-Fort Worth-Arlington, TX	6.00	15.3
5	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.83	2.1
6	Houston-Sugar Land-Baytown, TX	5.54	6.0
7	Miami-Fort Lauderdale-Miami Beach, FL	5.46	9.4
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	5.29	0.8
9	Atlanta-Sandy Springs-Marietta, GA	5.14	4.5
10	Detroit-Warren-Livonia, MI	4.47	6.7

Regional General Aviation and Heliport System Plan

Year One Highlights

Air Transportation Technical Advisory Committee

Aviation Summit

Project Management Plan/Public Involvement Plan

Data Management Plan

Industry Trends and New Technologies Report

Demonstration Encroachment Analysis

Traffic Counts on Roadways Surrounding Airports

Year One

Activities to Date

- **Reliever Airport Tours (11), July 19 – July 27, 2007**
- **Aviation Summit (1), August 21, 2007**
- **ATTAC Meetings (6)**
- **STTC, RTC, NCTCOG Executive Board (5)**
- **MPO Public Meetings (3)**
- **Community Events/Presentations (5)**
- **City Council Presentations (2)**
- **TxDOT Aviation Planning Public Meetings (3)**
- **Airport Managers Luncheons (1)**

Year One Products

New Technologies and Industry Trends Report

Demonstration Encroachment Analysis around
Lancaster Airport

Project Management Plan

Public Involvement Plan

Data Management Plan

Traffic Counts on Roadways Surrounding Airports

Online Regional Aviation Data Management
System – framework established

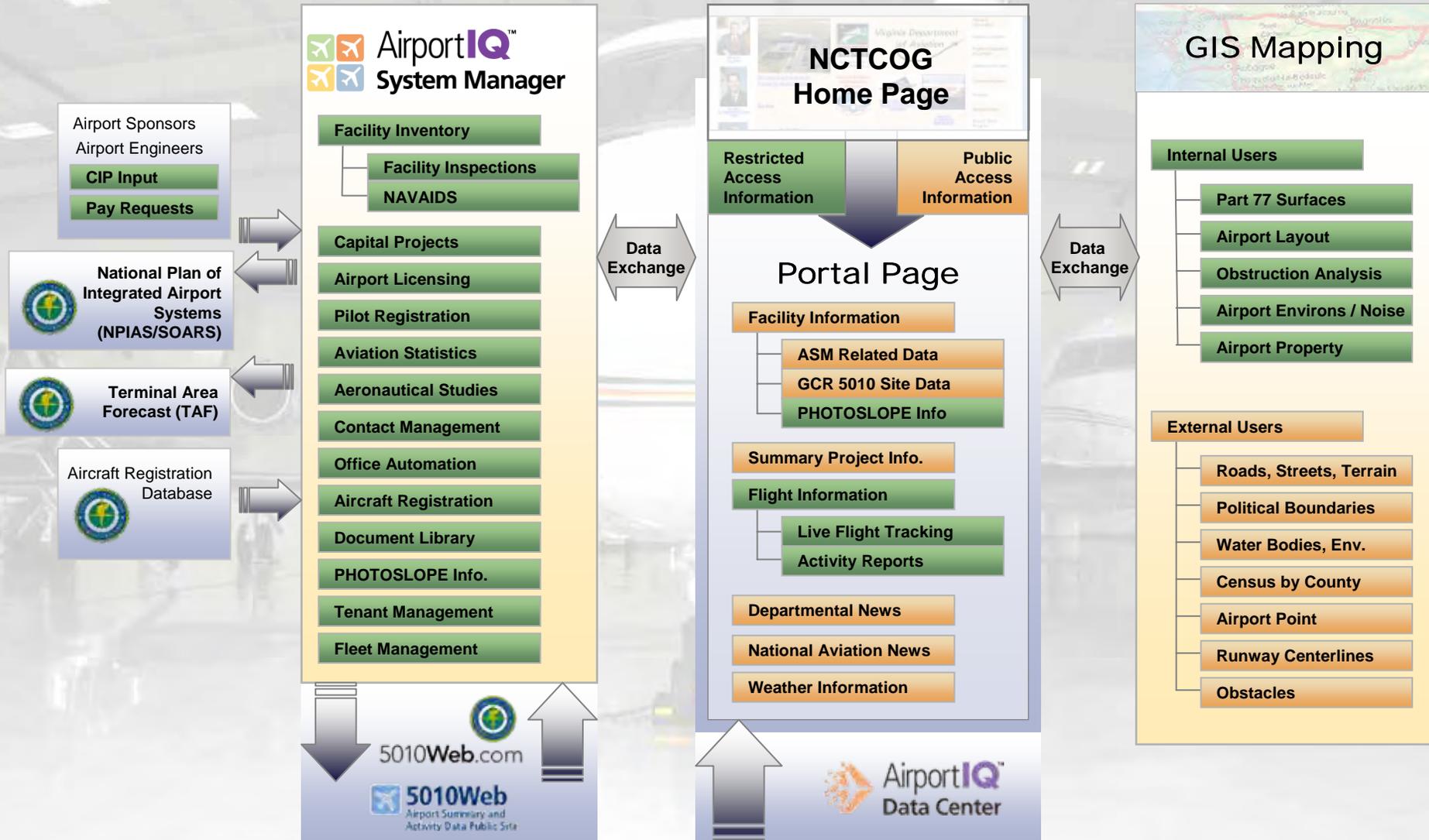


Regional Aviation Data Management System

Goals (Approved by ATTAC in September 2007)

- 1. Provide the base for developing the new Regional General Aviation and Heliport System Plan.**
- 2. Facilitate communication between regional airports on a variety of issues.**
- 3. Provide a clearinghouse of information about regional aviation resources.**
- 4. Facilitate aviation-related development at airports.**
- 5. Improve efficiency of day-to-day airport operations, airport capital planning, and airport construction management efforts.**
- 6. Interface seamlessly with existing databases maintained by other agencies.**

Regional Aviation Data Management System



Activity

- Development Master Plan
- Facility Data

Facilities

All Airports Public Use

- COMMERCIAL
- DALLAS EXECUTIVE
- DALLAS LOVE FIELD
- DALLAS SOUTH PORT
- DALLAS/FORT WORTH INTL
- DECATUR MUNI
- DENTON MUNI
- DUBLIN MUNI

Selected Facilities

- DALLAS/FORT WORTH INTL

Update Clear Selections

Last Update: 10:31:02 AM
Aircraft Displayed 198

Aircraft

Traffic to Display:

- Show Arrivals
- Show Departures

Weather

Features

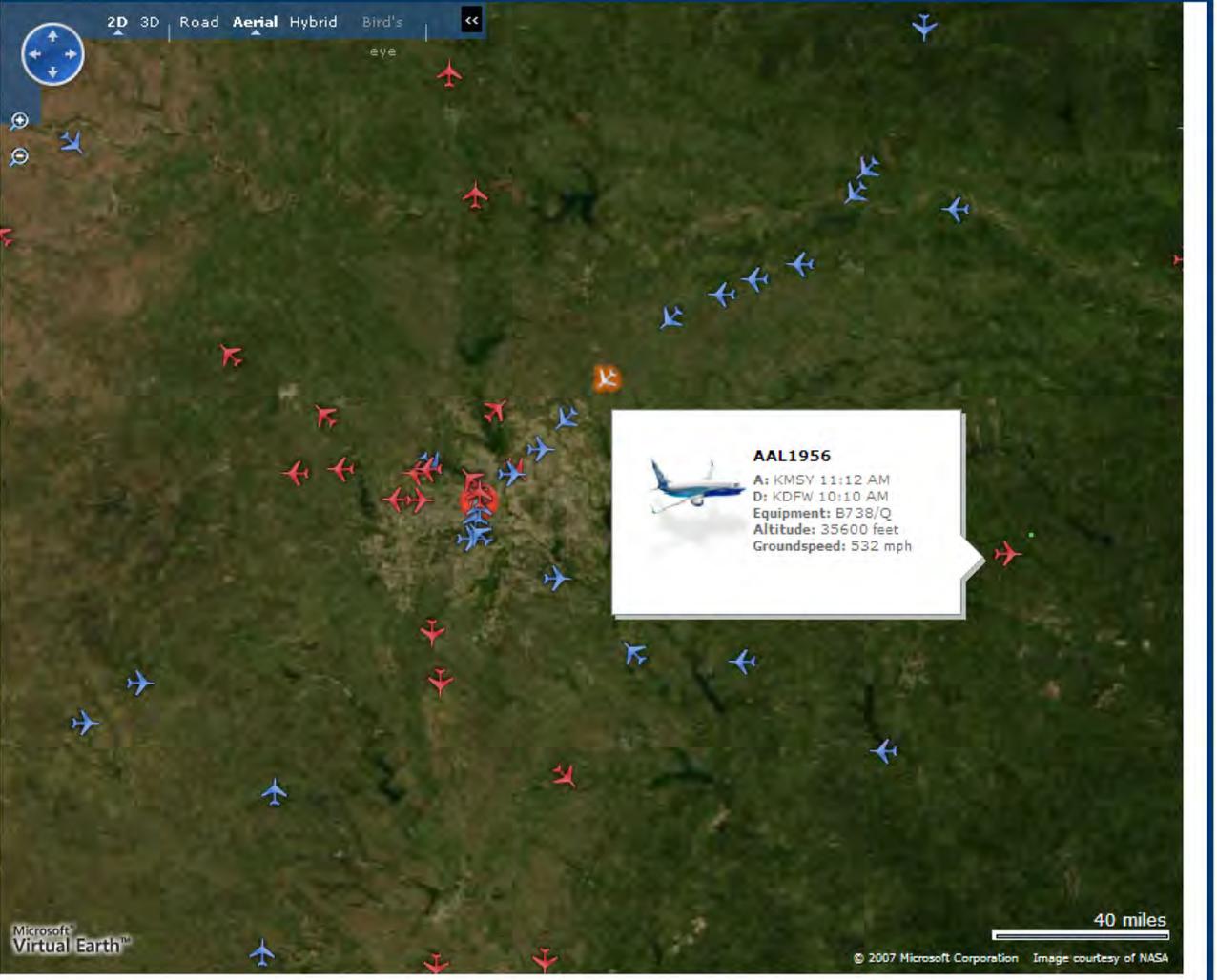
Update Map Re-Center

Selected Aircraft

Flight: AMT4957 (B738/J)
Arrival: KDFW 10:38 AM
Departure: KMDW 8:37 AM
Speed: 309 mph
Altitude: 12700 feet
Heading: 135 deg from N



Center Zoom



- Summary
- Activity
- Development
- Facility Data
- Analysis

Facilities
All Airports Public Use

- ADDISON
- AERO COUNTRY
- AIR PARK-DALLAS
- AIRPARK EAST
- ARLINGTON MUNI
- BISHOP
- BISHOP'S LANDING

Selected Facilities

- ADDISON

Update Clear Selections

Compare Years Compare Range Activity Data Source TAF Compare 1985 to 2006

Activity Group	1985	2006	Avg Chg
Operations			
<input type="checkbox"/> Air Carrier	0	156	152.7%
<input type="checkbox"/> AT & Comm.	981	17231	24.9%
<input checked="" type="checkbox"/> GA - Itinerant	151273	105813	-1.5%
<input type="checkbox"/> Military Itin	64	54	13.5%
<input type="checkbox"/> Military Local	32	0	29.0%
<input checked="" type="checkbox"/> GA Local	11325	10664	3.1%
<input type="checkbox"/> Operations	163675	133918	-0.9%
Based Aircraft			
<input type="checkbox"/> Glider	0	0	0.0%
<input type="checkbox"/> Helicopter	17	22	21.6%
<input type="checkbox"/> Jet	0	186	21.7%
<input type="checkbox"/> Single	443	379	-0.4%
<input type="checkbox"/> Multi	393	187	-0.6%
<input type="checkbox"/> Military	0	0	0.0%
<input type="checkbox"/> Ultralight	0	0	0.0%
<input type="checkbox"/> Based Aircraft	853	774	-0.2%
Cargo Data			
<input type="checkbox"/> Package	0	0	0.0%
<input type="checkbox"/> Mail	0	0	0.0%



Activity Item Details

New Technologies and Industry Trends Report

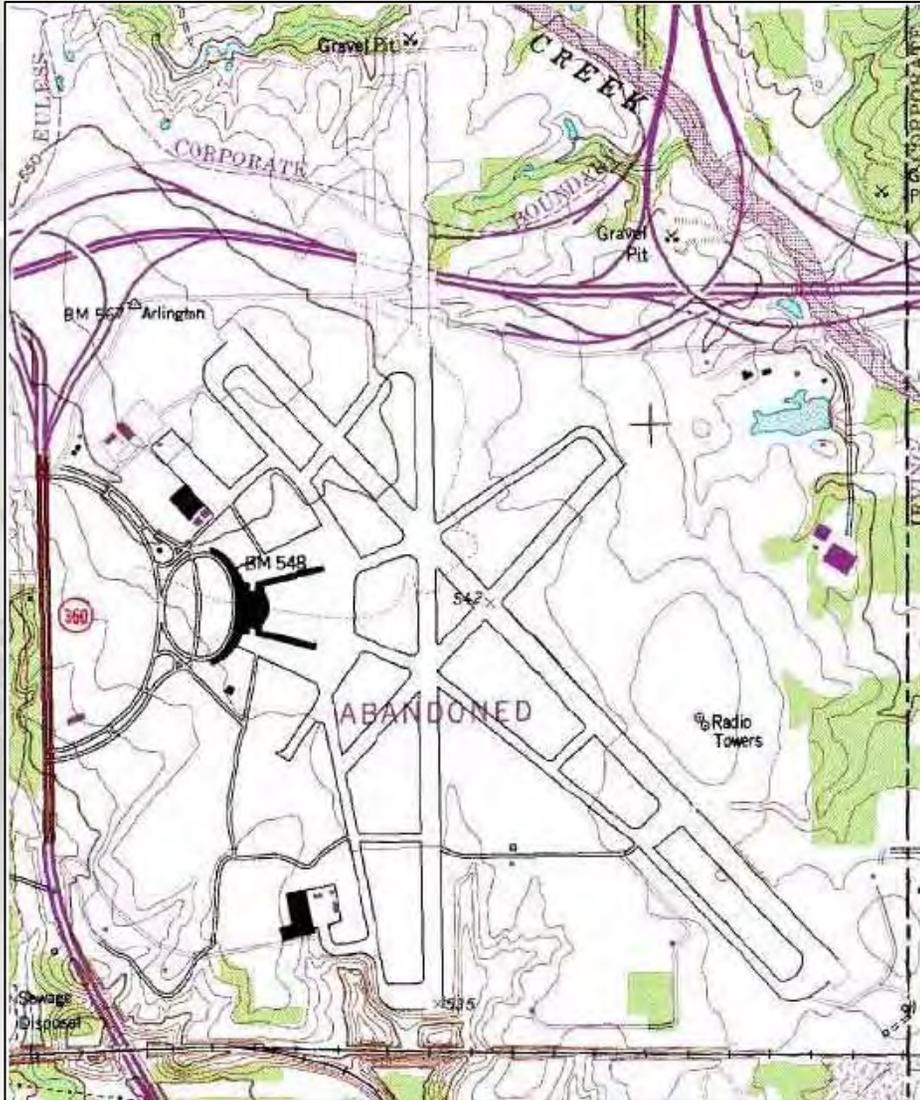
Table of Contents – First Edition

- I. Introduction**
- II. Historical Perspectives**
- III. Foundations for Viewing the Future**
- IV. The Aircraft**
- V. The Aviator**
- VI. The Airspace**
- VII. The Airports**
- VIII. The Airport Community**

Technical Appendix: Comparison of state legislation related to general aviation (Texas, California, Florida, Virginia)

New Technologies and Industry Trends Report

Sample Trend #1: Airport Closures and Consolidations



New Technologies and Industry Trends Report

Sample Trend #2: Shrinking Aviation Workforce

Certificate	1997	2007	% Change
Student & Sport Pilots	96,385	89,247	-7.40%
Private Pilots	247,604	233,545	-5.70%
Commercial Pilots	125,300	130,513	4.20%
Air Transport Pilots	130,858	146,325	11.80%
Aircraft Maintenance	383,897	345,205	-10.10%

New Technologies and Industry Trends Report

Sample Trend #3: Technology Will Change the Rules for Aviation

- Surge of technological improvements will change the entire system
- Technology will increase the number of operations and aircraft
- Changes in aircraft and the way they operate will lead to changes in airport designs, development, and operations



Demonstration Encroachment Analysis

Lancaster Airport

Goal Statement:

To perform a demonstration encroachment analysis for a sample General Aviation Airport and to demonstrate how an aggressive land use strategy surrounding the airport can maximize long-term functionality of the airfield and economic development opportunities.



Lancaster Encroachment Study

2006 Land Use & Zoning with 2006 DNL Noise Contours(5,000' Runway)



	A-0 (UNSHADED)		PLANNED DEVELOPMENT (PD)
	COMMERCIAL SERVICE (CS)		SINGLE FAMILY 6 (SF-6)
	LIGHT INDUSTRIAL (LI)		DNL Noise Contour
			CITY LIMIT



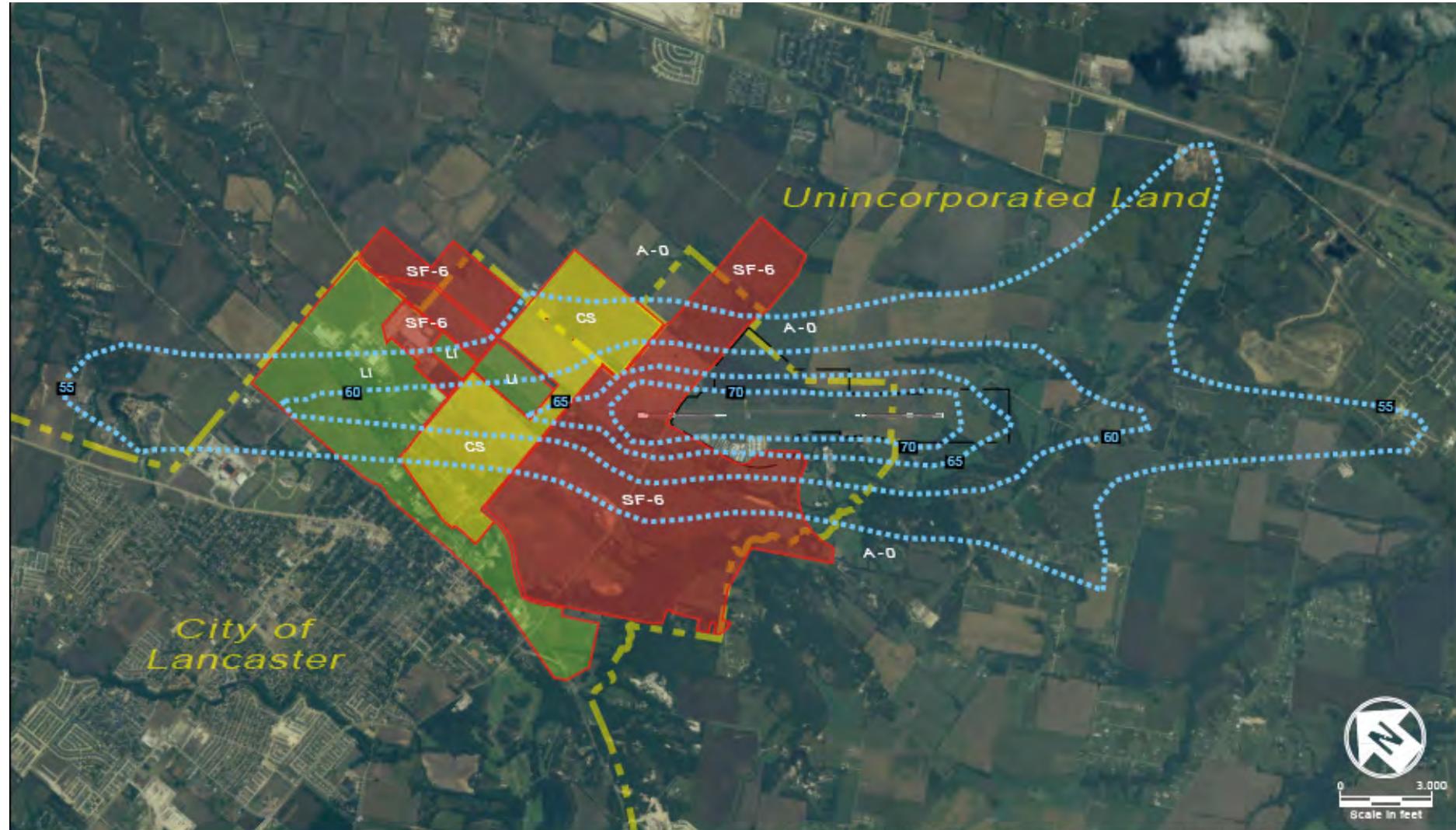
2006 LAND USE AND ZONING
WITH 2006 DNL NOISE CONTOURS
Demonstration Encroachment Analysis
Lancaster Airport



FIGURE 2.1
SEPTEMBER 2007
PROJECT NO.
16929

Lancaster Encroachment Study

Projected 2026 Land Use & Zoning with 2026 Noise Contours(10,000' Runway)



	A-0 (UNSHADED)		SINGLE FAMILY 6 (SF-6)
	COMMERCIAL SERVICE (CS)		65 DNL Noise Contour
	LIGHT INDUSTRIAL (LI)		CITY LIMIT



PROJECTED 2026 LAND USE AND ZONING WITH 2026 DNL NOISE CONTOURS
 Demonstration Encroachment Analysis
 Lancaster Airport

FIGURE 2.4
 SEPTEMBER 2007
 PROJECT NO. 16929



Regional General Aviation and Heliport System Plan

Year Two Highlights

Regional Aviation Data Management System

Mapping of Regional Aviation Facilities

Airspace Analysis

Economic Impact of Aviation Facilities

Analysis of Obstructions

Forecasting Methodologies, Scenarios and Thresholds

Aviation Summit II

Aviation Demand Forecasting

Factors Affecting Forecasting Methodology

- **Economics**
- **General Aviation as a Business Tool**
- **Technology**
- **Airport Locations and Access**
- **Airport Characteristics**
- **Service Area Population and Employment**
- **Community Support and Promotion**
- **Fuel Prices**
- **Regional Pilot Population**
- **Personal Preferences: Amenities and Service**
- **Airport Community Value**
- **Thresholding**

Aviation Demand Forecasting

Draft Sample Terminal Specific Forecast

Planning
Factor

Warrant for
Improvements

Capital improvement time lag

Growth Rates

High

Med

Low

Historic Trend line

Time Scale

High - Optimistic assumptions has a net lower probability of occurring

Med – Average probability of occurring

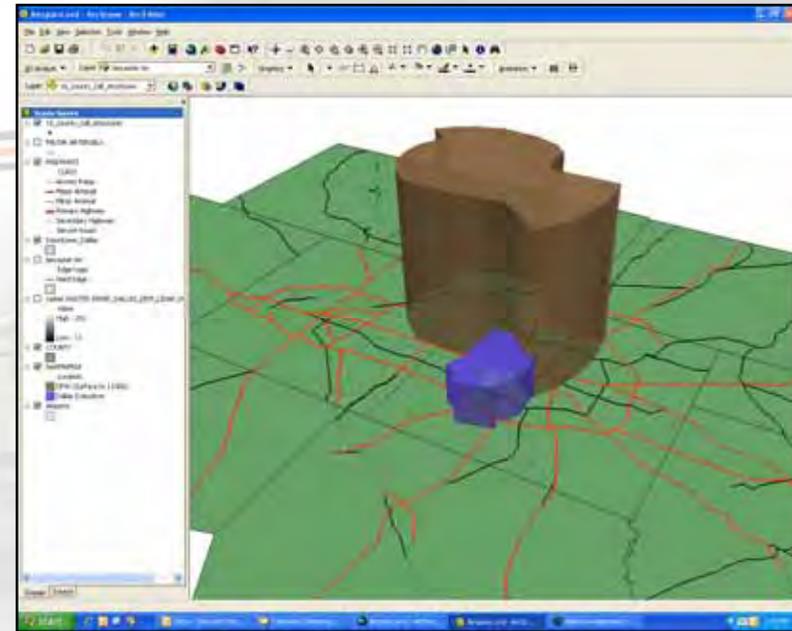
Low – Likely to be achieved even under “negative” circumstances

DFW Regional Airspace

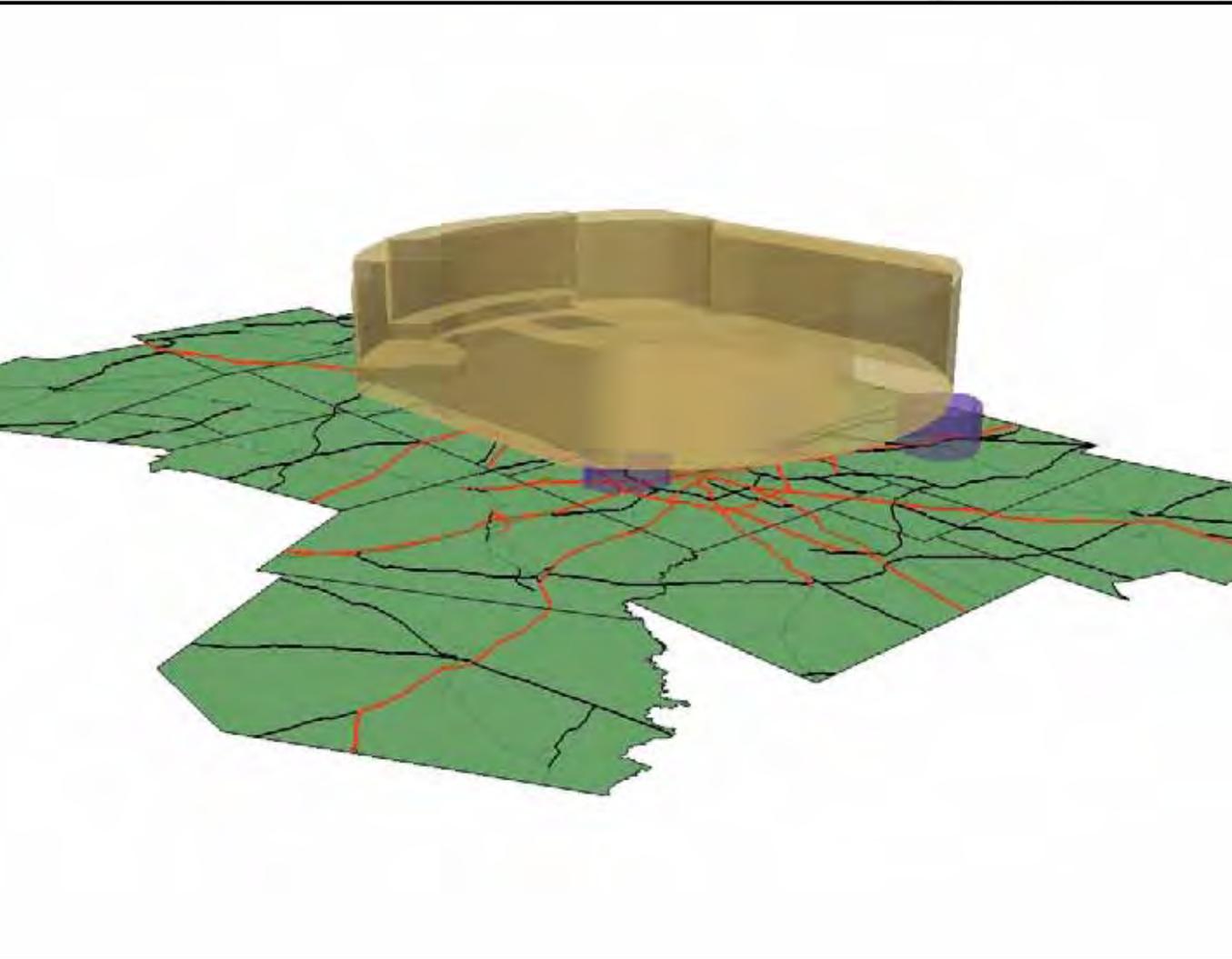


Why Use 3D Airspace?

- Help forecasting for the system plan by identifying airspace capacity needs and demands
- Identify future capacity/feasibility for airspace upgrades for additional airports (new airspace)
- Encroachment prevention by identifying obstacles to navigation
- Educational tool for city officials and others, to visualize airspace



Using ArcScene



- Navigation through airspace
- Additional data can be included and displayed
- FAA data base for tall structures can be shown in 3D

Regional General Aviation and Heliport System Plan

Overall Five-Year Program Products

Administration and Management

System Inventory

Access and Demand Studies

System Assessment and Forecast

Economic Impact Analysis

Develop Regional Heliport System Plan

Develop Regional General Aviation System Plan

Documentation of Final Plan and Implementation Plan

Regional General Aviation and Heliport System Plan

For more information:

**Rachel Wiggins, E.I.T.
Principal Transportation Planner**

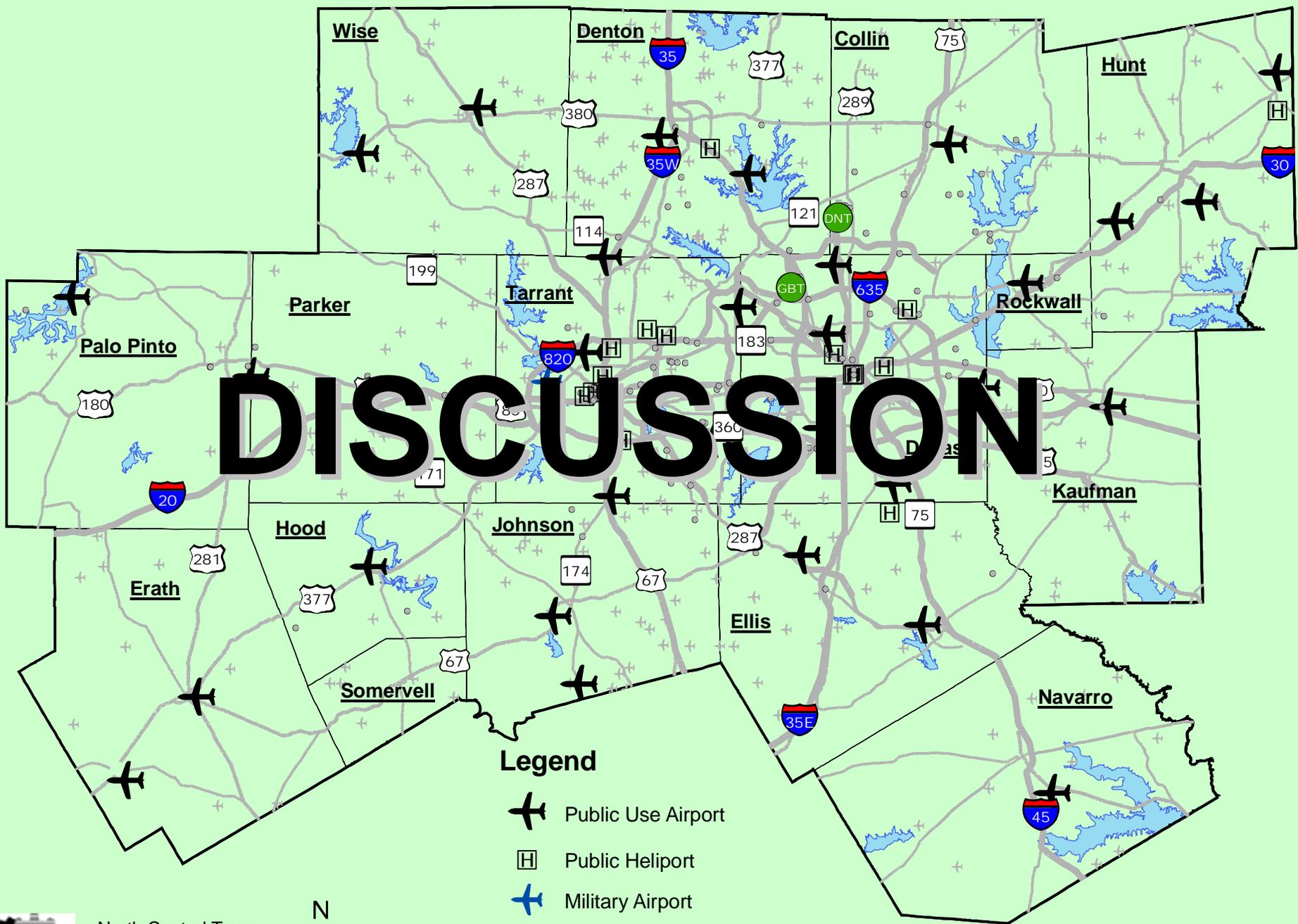
**rwiggins@nctcog.org
(817) 704-2502**

or

**Michael Mallonee
Transportation Planner**

**(817) 704-2513
mmallonee@nctcog.org**

www.nctcog.org/aviation



DISCUSSION

Legend

-  Public Use Airport
-  Public Heliport
-  Military Airport
-  Private Heliport
-  Private Aviation Facility



North Central Texas
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Transportation Department

