317

(Oct. 1990)

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM



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1	. \	AN	IE (	)F F	RO	$\mathbf{PER}$	TY

HISTORIC NAME: American Airways Hangar and Administration Building

OTHER NAME/SITE NUMBER: N/A

2. L	OCATION
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STREET & NUMBER: Meacham Airport, 201 Aviation Way, Hangar 11N NOT FOR PUBLICATION: N/A

CITY OR TOWN:

Fort Worth

**CODE:** 439

**ZIP CODE:** 76106

VICINITY: N/A

STATE: Texas CO

CODE: TX

**COUNTY:** Tarrant

#### 3. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act, as amended, I herebetermination of eligibility) meets the documentation standards for registering properties in the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the pro Register criteria. I recommend that this property be considered significant (_nationally) (_x for additional comments.)	ne National Register of Historic Places and meets the perty ( <u>x</u> meets) ( <u>does not meet</u> ) the National
Theren Ock	3.6.2008 Date
Signature of certifying official	Date
State Historic Preservation Officer, Texas Historical Commission  State or Federal agency and bureau	
In my opinion, the propertymeetsdoes not meet the National Register criteria. ( S	ee continuation sheet for additional comments.)
Signature of commenting or other official	Date
Signature of commenting of other official	Date
State or Federal agency and bureau	V 1 · Carlo
4. NATIONAL PARK SERVICE CERTIFICATION	
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4. NATIONAL PARK SERVICE CERTIFICATION	N 1	
I hereby certify that this property is:  entered in the National Register See continuation sheet determined eligible for the National Register	Signature of the Keeper Ball	Date of Action 4.16.08
See continuation sheet determined not eligible for the National Register		
removed from the National Register	<del></del>	
other (explain):		

#### 5. CLASSIFICATION

OWNERSHIP OF PROPERTY: Public

CATEGORY OF PROPERTY: Building

NUMBER OF RESOURCES WITHIN PROPERTY: CONTRIBUTING NONCONTRIBUTING

1 0 BUILDINGS
0 0 SITES
0 0 STRUCTURES
0 0 OBJECTS

NUMBER OF CONTRIBUTING RESOURCES PREVIOUSLY LISTED IN THE NATIONAL REGISTER: 0

NAME OF RELATED MULTIPLE PROPERTY LISTING: N/A

#### 6. FUNCTION OR USE

HISTORIC FUNCTIONS: TRANSPORTATION: Air-related

**CURRENT FUNCTIONS: TRANSPORTATION: Air-related** 

#### 7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: MODERN MOVEMENT: Moderne

MATERIALS: FOUNDATION Concrete

WALLS

Brick

ROOF

Metal: Steel

**OTHER** 

Glass

NARRATIVE DESCRIPTION (see continuation sheets 7-5 through 7-7).

### National Register of Historic Places Continuation Sheet

Section 7 Page 5

American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

#### **Summary of Description**

The American Airways Hangar and Administration Building (1933) faces north and lies perpendicular to North Main Street (U.S. 81 and State Highway No.2) in north Fort Worth on Meacham Field. The building consists of two parts: a large clear span hangar comprising approximately two-thirds of the southern part of the building, and a two-story brick administration building facing the airfield on the north. The building reflects an Art Moderne architectural influence popular in the 1930s and is constructed of reinforced concrete and steel with a buff brick veneer and fluted cast stone pilasters. The paired pilasters at each corner incorporate the American Airways eagle in a bas-relief capital. Double doors with a large glass block transom are set below cast stone pilasters and a corrugated aluminum spandrel carrying the company's eagle above "American Airways" scripted in the cast stone at the center of the administration building. A row of steel sash multi-lite windows is on both the first and second floors with a corrugated aluminum spandrel between each floor. The large steel frame hangar with oversized steel-sash windows on the south façade is decidedly industrial in appearance and is reinforced with large sliding steel doors (c. 1970) on the west façade, original folding doors with encased windows on the east façade, and exposed steel frame trusses and wood roof decking visible from within the hangar. The building is largely intact with few alterations and thus has a high degree of integrity.

#### Site

Meacham Field lies in north Fort Worth on the west side of North Main Street in the 4200 block, approximately six miles from the Tarrant County Courthouse. Main Street, centered on the courthouse, serves as the spine of the central business district as well as the main thoroughfare to the stockyards and industrial businesses after crossing the Trinity River. The north section of the multi-lane street gradually climbs over several small hills and passes the stockyards on the right before reaching 28th Street, and then takes a fairly sharp left and becomes U.S.81 (State Highway 2) toward Wichita Falls. Terminal Road (FM 156) enters and dead-ends into U.S.81 immediately south of Meacham Field. The area around Meacham is flat and almost treeless, allowing good visibility for miles, as well as a solid landing field.

The current terminal and administration building (Parker-Croston Associates, 1966) is accessed along a broad concrete driveway from Main Street that wraps around grassy medians in front of the principal façade and then continues into two paved parking areas to the north and northeast. This terminal or administration building replaced an Art Moderne terminal and control tower designed by Fort Worth architect Wiley G. Clarkson and completed in 1937. The former administration building and the American Airways Hangar and Administration Building, about 500 feet apart, were both Art Moderne, a popular style in the 1930s, and complemented each other. The terminal, publicly funded by the Works Progress Administration, used the futuristic Moderne expressions befitting the new aviation industry's emphasis on science, technology, machines and speed. The privately funded American Airways Hangar and Administration Building used the same Moderne influences in a boastful expression of corporate identity and functional form.

### National Register of Historic Places Continuation Sheet

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

#### Massing of the building

The American Airways Hangar and Administration Building is divided into two parts, with the larger part being the hangar on the southern side. This building is approximately 230 feet in length by 120 feet in width. On the north and south façades, pairs of cast stone pilasters at each corner support the oversized arched steel truss roof. The pilasters are fluted up the main trunk and mounted with capitals that contain the American Airways eagle as bas-relief a few feet short of the cornice. Large expanses of multi-lite steel sash industrial windows stretch between each pilaster below a brick cornice and frieze and are placed on a brick wall that extends the full width of the building on the south façade. A two-story administration building, projecting 20 feet from the hangar and set approximately 25 feet from each corner, breaks the north façade.

The east and west façades incorporate oversized steel doors punctuated with industrial windows. The gray steel doors slide to the sides on a large track that is visible across the façade just below the capitals on the corner pilasters. The east façade is mostly non-functional, except for two smaller doors that allow workers access to the hangar. The west façade allows aircraft to enter and exit and features very large doors. Above the steel doors is a fixed steel siding that bears the name of the tenant in large letters. This is a common practice in airfields and dates back to the earliest day of private airline use. Tenants replaced the western façade doors, c. 1970, in order to update the mechanisms and make them more functional for modern aircraft.

The interior of the hangar is spanned by rows of large steel trusses that run north to south. A wooden deck for the composition roof material is visible through the trusses and original to the building except for a few areas of repairs along the northern edge. The large steel sash industrial windows provide abundant light into the workspace, especially from the south elevation. A flat concrete floor allows for seven to eight aircraft to occupy the interior for repairs or maintenance. Workers access supplies and equipment along the north elevation and at the extreme southwestern corner. A single door at the west corner allows entry into the administration building on the north. Additional lighting hangs from the trusses. The work area is now cooled and heated mechanically.

The two-story administration building projecting from the main body of the larger hangar approximately 25 feet served as the administration building and terminal for the company. This section is symmetrical in composition, with double doors centered on the north façade and flanked by cast stone fluted pilasters with unadorned capitals. Stretched between the two pilasters is an aluminum spandrel with the American Airways eagle and "American Airways" inscribed below in cast stone. Similar pilasters are at each corner of the administration building but with American Airways eagles in bas-relief. Steel sash industrial windows that pivot in the center section cross the full façade below a brick cornice and frieze on the second floor and another set is placed on a brick base on the first floor. A corrugated aluminum spandrel stretches between the floors the full width of the building and on the east and west façades of the administration building. A bronze plaque commemorating the dedication of the building on October 18, 1933 hangs to the right of the double front doors. An arched cloth canopy set on poles extends from the front doors to the edge of the concrete apron and airfield.

# National Register of Historic Places Continuation Sheet

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

The interior of the Administration Building originally housed offices, a ticket counter and waiting room for passengers. A steel staircase connects to the second floor directly from the double entry doors. Double automatic doors are on the east and north façades of the building. The second floor is largely untouched with original hardwood floors, exposed wood lath, and steel sash windows. This area is now (2006) under construction for additional offices.

The current owners (City of Fort Worth) and tenants (Trajen) of the American Airways Hangar and Administration Building made repairs and alterations in a few locations. The tenants cleaned and repointed the exterior and removed obsolete flues or stacks. In addition they rebuilt the southwest and northwest walls below the windows, replaced a single doorway at the northwest corner, and substituted modern aluminum doors at each entrance to the administration building. The large sliding doors and track extending on either side of the opening on the west façade replaced original folding doors in the 1970s. The interior of the administration building was updated and new office and management spaces created. The original staircase was retained, as was the flooring on the second floor. These alterations occurred in 2005.

The property retains its integrity of location, feeling, setting, workmanship, design, materials and association. There is a high level of integrity that is unusual for airport buildings modified for significant technological changes and private airline programmatic needs.

#### Architectural Influences and Property Type

The American Airways Hangar and Administration Building is overwhelmingly industrial in presence and material. The building form is classified in some aviation literature as a "lean-to" as the administration building is smaller and appears to lean on the hangar. The form, however, is heavily inspired by the industrial buildings of Germany and other European countries as well as by the early automobile manufacturing buildings in the United States. The decorative pilasters are derivatives of the Art Moderne and to some degree the Streamline machine-age designs of the 1920s and 1930s. The overall impression of the building is nationalist perhaps in deference to the role of the machine, military and government in the development of aviation around the world. This influence is discussed further in the significance statement.

#### 8. STATEMENT OF SIGNIFICANCE

#### APPLICABLE NATIONAL REGISTER CRITERIA

- **X** A PROPERTY IS ASSOCIATED WITH EVENTS THAT HAVE MADE A SIGNIFICANT CONTRIBUTION TO THE BROAD PATTERNS OF OUR HISTORY.
  - **B** PROPERTY IS ASSOCIATED WITH THE LIVES OF PERSONS SIGNIFICANT IN OUR PAST.
- <u>X</u> C PROPERTY EMBODIES THE DISTINCTIVE CHARACTERISTICS OF A TYPE, PERIOD, OR METHOD OF CONSTRUCTION OR REPRESENTS THE WORK OF A MASTER, OR POSSESSES HIGH ARTISTIC VALUES, OR REPRESENTS A SIGNIFICANT AND DISTINGUISHABLE ENTITY WHOSE COMPONENTS LACK INDIVIDUAL DISTINCTION.
  - **D** PROPERTY HAS YIELDED, OR IS LIKELY TO YIELD INFORMATION IMPORTANT IN PREHISTORY OR HISTORY.

CRITERIA CONSIDERATIONS: N/A

AREAS OF SIGNIFICANCE: Transportation; Architecture

PERIOD OF SIGNIFICANCE: 1933-1953

SIGNIFICANT DATES: 1933

SIGNIFICANT PERSON: N/A

**CULTURAL AFFILIATION: N/A** 

ARCHITECT/BUILDER: Epstein, A. (architect/engineer, Chicago); Byrne, Thomas S., Inc. (builder,

Fort Worth)

NARRATIVE STATEMENT OF SIGNIFICANCE (see continuation sheets 8-8 through 8-24).

#### 9. MAJOR BIBLIOGRAPHIC REFERENCES

BIBLIOGRAPHY (see continuation sheets 9-25 through 9-	26).
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#### PREVIOUS DOCUMENTATION ON FILE (NPS): N/A

- preliminary determination of individual listing (36 CFR 67) has been requested.
- \_ previously listed in the National Register
- previously determined eligible by the National Register
- \_ designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

#### PRIMARY LOCATION OF ADDITIONAL DATA:

- x State historic preservation office (Texas Historical Commission)
- Other state agency
- Federal agency
- \_Local government
- \_ University
- Other -- Specify Repository:

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

#### Summary of Significance

The American Airways Hangar and Administration Building is being nominated at the statewide level of significance. First, it is important for its association with the early evolution of commercial aviation in the United States, and second, for its singular association with American Airlines, which, in addition to pioneering many of today's air transit standards, remains one of the world's largest air carriers. Finally, the building is one of few, or perhaps the only, extant examples of the "lean-to" form associated with early air transit building types.

The American Airways Hangar and Administration Building (1933) is the oldest extant building on Meacham Field (1925). The building, designed by structural engineer A. Epstein of Chicago and built by Thomas S. Byrne, Inc. of Fort Worth, is a rare property type where a functional airplane hangar is attached to an administration building in a "lean-to" form with the latter providing offices, a ticket counter, waiting room and space for other airline operations. The building also is significant for its role in the development of American Airways, as it served as the first permanent company-owned facility for the Southern Division of the airline and the only extant one designed in this "lean-to" form within the company system. In 1933, the company relocated its Southern Division from Dallas to Fort Worth at the encouragement of Amon Carter, then mayor of Fort Worth and a director of the company, and then renamed itself American Airlines in 1934 following reorganization. The Southern Air Transport Division became the leading division of the company in 1933 under the management of Cyrus R. Smith who also became president in 1934. The company introduced its first transcontinental airplane and employed its first airline stewardesses from this location in 1933. Later in the 1930s, American Airlines founded the air traffic control system tracking flights within 100 miles of the airport (1934), introduced overnight sleeper service with the DC-3 (1936), served the first hot food in flight (1936), offered the first air travel scrip book for business travelers (1936), and began a central reservations operation with a 100-line switchboard. American Airlines continued to use this facility until 1953 when it relocated to the Great Southwest International Airport and later to the Dallas-Fort Worth International Airport.

The American Airways Hangar and Administration Building is eligible under Criterion A in the area of Transportation for its role in the development of the aviation industry in the United States and under Criterion C in the area of Architecture as a rare surviving example of the "lean-to" form with combined administration and hangar property type in an Art Moderne style. The areas of Transportation and Architecture are both at the statewide level of significance.

#### **Aviation in Fort Worth**

Aviation began in Fort Worth during World War I as the state as a whole welcomed hundreds of young pilots for training. Camp Bowie, southwest of the downtown, became a military center for flight training. By the end of the war, Fort Worth offered eight training schools including one for Canadian pilots (Texas Monthly,

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

February 1929). The site of Camp Bowie, however, returned to residential use after the war and largely disappeared (Texas, WPA Guide, p. 261).

In May 1925, C.A. Wheeler, former president of the Fort Worth Chamber of Commerce announced the city's plans to open an airport. Wheeler acquired a 100-acre tract just north of the city limits near the federal government's helium plant. Much of the local agitation for a field came from the Fort Worth Flying Club, but the municipal leaders' interest was to make the city competitive with other cities in the country. On July 3, 1925, the city adopted a resolution accepting the site. The airport with dirt landing strips first attracted military pilots using the field as a "line station" that connected to Washington, D.C., St. Louis, and San Antonio. On August 27, 1925, the U.S. Army Air Corps assigned William G. Fuller to the field to facilitate military flights. Fuller would later enter civilian employment as manager of Meacham Field and by the 1950s became Director of Aviation for the city. In May 1926, National Air Transport, Inc., operated the first mail plane. Occasionally, a private or commercial pilot located the strip using nearby smoke columns for the meat packing plants at the stockyards for wind direction.

In June 1927, the city officially reopened its airport with 56 planes from Kelly Field in San Antonio. Local newspapers reported that 20,000 spectators came to Meacham Field watching stunt pilots and meeting Miss Mildred A. Doran, a Flint, Michigan, schoolteacher who announced plans to fly from California to Honolulu later in the summer. On June 28, 1927, the city officially named the airport for former Mayor H.C. Meacham, recognizing the downtown department store owner and civic leader. Newspaper reports noted that the city expended \$180,000 in improvements that included a "large modern hangar, quarters, and all facilities for aviators." Meacham and Amon Carter, Sr., owner of the *Fort Worth Star-Telegram*, became bitter political enemies with Carter refusing to allow the airport to be called anything but "Municipal Airport" in the paper. The ban continued until after World War II when Amon Carter married Meacham's daughter, Minnie, as his third wife (ST, 11/4/83).

Several commercial companies and airmail service soon dominated the use of Meacham Field. On February 6, 1928, Texas Air Transport, Inc., (also known as T.A.T. Flying Service, Inc., and a subsidiary of Southern Transport, Inc.) began mail service to the south including Brownsville and added passenger service on June 8, 1928, preceding similar service at Dallas' Love Field. In October 1928, city officials authorized the purchase of an additional 60 acres of land "across the road from the field." In January 1929, the increased usage of the field required an additional hangar to be constructed. City Engineer D.L. Lewis designed the new hangar "200 feet" south of the first hangar as a 160-by-78-feet building (DMN, 1/11/29).

In May 1929, two pilots, Reginald Robbins and Jim Kelly, set an endurance record from Meacham Field staying in the air for 172 hours and 30 minutes. Their claim to aviation fame came from developing a way to refuel in the air (ST, 11/4/83; DMN, 5/16/29, 1/19/75). This record attracted national publicity appealing to the country's fascination with air travel as a source of entertainment. In July 1929, Texas Air Transport added its first airport stewards, E.W. Turpin at Meacham Field and Deane Spencer at Love Field(DMN, 7/16/29). For what appears

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

to be a short time, the Airport Engineering and Construction Corporation of Fort Worth, drafted plans and specifications for a number of airport hangars in other cities including Dallas. This business became an early leader in airport facility planning and design (DMN, 9/5/29).

Fort Worth officials continued their efforts to improve Meacham Field in 1929 with approval and expenditures of \$500,000 in bonds. The newly formed Aviation Committee of the Association of Commerce in Fort Worth requested a concrete apron in front of the hangars, a high wire fence on the east side of the field, acquisition of a chemical fire truck, and construction of a safety ramp to the administration building. In February 1930, the city ordered another hangar for the field aligned along the landing strip in a north-south row. This hangar was completed in August as a second part of an existing hangar (323-by-80 feet) with two electrically operated doors, one 100 feet and the other 60 feet wide and eighteen feet high (DMN, 2/27/30, 8/17/30).

The expansion of Meacham Field coincided with expanded airmail service and a new national system of airways for night flying. In October 1930, federal officials announced that plans for the Fort Worth to El Paso airway were underway with eight new fields projected on the route. Adding to their statement, officials noted that the Fort Worth to Brownsville airway with 26 towers each hosting a beacon soon would be completed (DMN, 10/20/20). In December 1930, Fort Worth continued to announce its expansion plans by building a repair shop and new hanger at Meacham Field for Texas Aero Corporation of Dallas and Temple. The company agreed to move both its Dallas and Temple shops to Fort Worth and eventually manufacture planes there (DMN, 12/16/30). At the end of the year, the McNary-Watres Act of 1930 allowed airmail carriers to combine that service with passenger service. T.A.T., which had become a subsidiary of American Airways, Inc., announced that it would begin passenger service from Fort Worth and Dallas to Galveston and Brownsville. Simultaneously, the Southern Air Transport, Inc., also a subsidiary of American Airways, discontinued its duplicate service (DMN, 12/14/30).

On July 21, 1931, Fort Worth authorized another \$500,000 in bonds for improvements (Plans for Installation of Lighting, 1936). Over the next few years, Fort Worth initiated a number of improvements in order to outbid Dallas for new airline headquarters. In 1936, after the reorganization of airmail service into four major companies and a group of smaller carriers, the city offered special attractions to Braniff Airlines who won the North Texas to Chicago mail route. Because of a now abundance of hangar space and runway improvements constructed in the prior five to ten years, Meacham possessed premium facilities that exceeded that offered by any other municipality in Texas (DMN, 6/29/36).

In 1936, the City of Fort Worth again used bond money to build concrete runways with lighting, terminal, and a control and weather bureau. The concrete runways were built in several sections from 1931 to 1936 using a combination of labor including city employees, Reconstruction Finance Commission (RFC) relief labor in 1933, Civil Works Administration (CWA) labor in 1934, and Works Progress Administration (WPA) contract work in 1936 (Wright, p. 8). The city also owned essentially four hangars aligned immediately south of the proposed terminal building. In September 1936, S.R. Wright, Utility Engineer, reported to the city manager that \$31,900

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

of expenditures with more than 70% funded by the WPA was dedicated to a beautification of grounds between the hangars and the highway. (Wright, p. 6) He also reported on each of the four hangars: *North Hangar* built in two units (1926 by Thomas S. Byrne and 1927 by Clardy Brothers) 66-by-360 feet, steel and corrugated iron with concrete floors, holds 24 planes; *South Hangar* built in two units (1929 Ellsworth Long and 1930 Quizle & Andrews) 80 by 320 feet in steel and concrete tile with concrete floors, holds 32 planes. The city also owned a repair shop (1931, demolished c. 1990) constructed of steel and concrete tile with concrete floor that was 206 by 80 feet (exclusive of additions by American Airlines) east of the American Airlines Hangar and Administration Building near North Main Street. Quizle & Andrews designed the repair shop.

One year later in 1937, the city's contractors completed the first terminal and administration building designed by Fort Worth architect Wiley G. Clarkson in the Art Moderne style. The two-story administration building was a Public Works Administration (PWA) project and included an observation tower and basement with reinforced masonry bearing walls faced with stone, tile floors, marble wainscoting and air conditioning. The cost was \$137,161. The terminal became the central focus of the airport in front of which landing strips crossed diagonally and parallel to the building. Clarkson's design mirrored work by other architects across the country as public programs assisted in construction. This period of municipal airport architecture is sometimes referred to as Work Progress Administration architecture or WPA Modern (Gordon, pp. 101-102)(Wright, p. 6-7).

The manager's residence was the last building of that era constructed at Meacham Field. The city and William G. Fuller, airport manager, funded this small five-room frame cottage. Mr. Fuller's house lay on the southeast end of the airport near the intersection of the farm-to-market road and U.S. 81. Access to the manager's house was from the main entrance and south on an airport facilities road (Wright, p.8).

By 1953, Meacham Field no longer served the city as its principal airfield. The Amon Carter Field or Greater Fort Worth International Airport opened with a new terminal designed by Preston Geren. Many Dallas residents, however, referred to the airport as Midway. The 1,838-acre airfield lay on the Dallas-Tarrant County line but within the City of Fort Worth, located on U.S. Highway 183 and adjacent to the Dallas-Fort Worth Toll Road. The City of Fort Worth constructed and leased to American Airlines a new \$1.5 million dollar hangar and office building to replace the one at Meacham Field. Thomas S. Byrne again served as contractor for the new American Airlines terminal as well as the new airport, which operated at various times as Midway, Greater Fort Worth International, Amon G. Carter Field, and Greater, or Great, Southwest International Airport (GSW); it closed in 1972. In 1973 (although planned in the 1960s), the first full regional airport became the Dallas-Fort Worth (DFW) International Airport set between Dallas and Fort Worth.

#### **Aviation in North Texas**

Private and spectator interest in aviation shifted in an important way in 1925. While the U.S. Postal Service long before determined the expediency of delivering mail by airplane, most delivery to this point was the responsibility of Army pilots. This left the selection of airfields up to the military, which only marginally

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

carried out its responsibilities. The Kelly Bill passed the U.S. Congress on February 2, 1925, allowing the Post Office Department to contract with private air carriers for the handling of mail. This opened up competitive bidding for routes and stimulated the formation of commercial airlines. In June 1925, Postmaster General Harry S. New released a call for bids on eight of the transcontinental routes including the Dallas to Chicago route. The City of Dallas, the chamber of commerce and the Dally Flying Club gathered forces to submit a request for serving as the southern terminus. With the offer of a free hangar and landing facilities, Dallas attracted a newly formed National Air Transport company that won the route from Dallas to Chicago.

National Air Transport (NAT), later a subsidiary of United, initiated its first service in Dallas in May 1926 on the Dallas-Chicago route. NAT based its southwestern and later southern terminus as Love Field making some important steps locally. NAT offered its first night passenger flight from Dallas and would later (1932) complete one of the best terminal and hangar buildings in the Southwest at the field (DMN, 5/12/32).

In 1928, a new private airline, Texas Air Transport, won two new routes within Texas. These routes were from Dallas to Galveston/Houston and Dallas to San Antonio. T.A.T. initiated its airmail routes on February 6, 1929, from Meacham Field and by the end of 1928 their pilots had flown 445,591 miles carrying mail and transported 72,020 pounds of mail. The company reported no accidents or lost mail. T.A.T. indicated that it had met 95% of its schedules, a record for the industry (Texas Monthly, p. 159).

The stock market crash of 1929 created havoc among the newly formed airlines and airmail services. Within a few months, Postmaster General Walter Brown issued the McNary-Watres Bill in coordination with the presidents of Western Air Express, Aviation Corporation (AVCO), and National Air Transport. This bill changed payments for airmail delivery to private companies from being based on mileage to "space miles" thus allowing larger airplanes and the addition of passengers. In the aftermath of the McNary-Watres Act, the Texas companies of Texas Air Transport, Southern Air Transport, Delta Air Service and Southwest Air Fast Express (SAFEway) all became subsidiaries to Aviation Corporation (AVCO), later American Airways.

In 1928, Dallas leaders made plans for the development of another airport or airdrome along the Dallas-Fort Worth turnpike and interurban line in Grand Prairie. The 300-acre site became a regional airport serving both cities with the initial intention of leasing the facility to the military or a private company. The Curtiss-Wright Flying Service leased the facility and constructed almost one million dollars worth of facilities. Curtiss-Wright, once based at Love Field, initiated a national plan of development that included 42 similar sites by 1930. The field opened in April 1930 with local dignitaries and throngs of spectators to watch the air show. This effort was part of the company's national strategy to offer an alternative to publicly owned air facilities. In an unusual agreement, the two cities jointly invested in the site, although Dallas showed most of the leadership. Curtiss-Wright closed within a few years and ended their plans for national development as the Great Depression took its toll on investors and private aviation.

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

Undeterred by the stock market crash, National Air Transport of United Air Lines announced in July 1931 plans to construct a new and larger passenger station and administration hangar at Love Field. The contract equaled \$100,000 and would be designed by A. Epstein, a Chicago structural engineer. United had recently entered into a 20-year lease with Dallas for the new home of NAT allowing for the new building along Lemmon Avenue at Love Field Drive (DMN, 7/22/31). The Austin Company of Cleveland and Dallas received the contract for construction by September. He described the building as a hangar of heavy steel framing with a clear span of 120 feet. In total, the building stretched 130-by-150 feet with a light colored brick and steel on the exterior. Offices, waiting rooms, and ticket windows would be added to the hangar and airplane storage. This building is not extant (DMN, 9/27/31).

Representatives of the Austin Company visited Dallas later in 1931 to inspect the new United Air Lines building as well as to oversee the paving and lighting of runways and expanded taxi strips occurring at Love Field. These improvements, funded by city bond money, were designed to increase the competitiveness of Dallas with other cities.

By December 1931, the new United Airlines hangar had taken shape with its large steel framed gable roof. The new hangar drew many comments and comparisons to covering at least two houses and being noteworthy for its inclusion of an administration building as well. When completed and dedicated in February 1932, aviation dignitaries from around the country and local politicians attended (DMN, 2/26/32).

In July 1932 the National Democratic Party held its convention in Chicago. After several votes, the Governor of New York, Franklin Delano Roosevelt became the party's candidate. Roosevelt, with his wife and children, boarded an American Airway plane in Albany, New York, and made an unprecedented flight across the country to accept the nomination. Roosevelt's political and publicity move confirmed the soon-to-be new president's respect for air travel.

The economy in the early 1930s continued to fail contributing to a mounting national concern after the departure of the Hoover administration for the airmail contracts. In February 1934, Roosevelt rescinded all mail contracts with private air carriers and returned the delivery of mail to the U.S. Army. This policy change followed a major media tour of Fort Worth to open the new American Airways headquarters and a promise to support private airline delivery. Roosevelt's transfer to the Army quickly proved inappropriate and within a few months Postmaster General James Farley reissued mail contract to private carriers. All previous contract carriers, however, were prohibited from submitting offers. The new national policy required all existing airlines to reorganize; this included what became the major corporate airlines.

#### Formation of American Airways

In 1929, The Aviation Corporation (AVCO) formed and acquired a number of small aviation companies across the country. Five companies constituted the majority in AVCO and subsequently American Airlines. First of

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

these was Colonial Airways Corporation, based in the Northeast, which offered airmail service between New York and Boston by 1926. The Colonial expanded into Canada, western New York, and eventually Cleveland. In March 1929, three separate divisions of Colonial combined into a single holding company known as Colonial Airways Corporation.

Interstate Airlines, Inc., organized in 1928, became the second airline to be acquired. Interstate operated between Chicago and Atlanta and provided a critical link to the Great Lakes region. This company joined AVCO in 1930.

The Southern Air Transport System operated as a collection of companies serving area from Atlanta to El Paso. Southern Air included a company organized by Temple Bowen of Texas Air Transport, Inc., (T.A.T.) in 1927 that operated airmail contracts for routes between Dallas-Galveston and Dallas-Brownsville. T.A.T. later added San Antonio and El Paso, making it attractive for investor A.P. Barrett of Tennessee to purchase the company in 1928. Barrett hired Cyrus R. Smith to manage the company's books, giving Smith his introduction to the airline's business. In 1929, Barrett consolidated all his holdings into the company of Southern Air Transport.

The fourth company became Universal Aviation Corporation owned by a group of bankers from Minneapolis, St. Louis, and Chicago. Universal possessed a sizeable acquisition budget allowing them to acquire several smaller operations in the Midwest including Northern Air Lines, Robertson Aircraft and Braniff Air Lines. These purchases gave Universal a key position in the middle part of the country down to Oklahoma and Texas and allowed them to be the first airline to provide coast-to-coast service in 1929.

The last company to join forces was the Embry-Riddle Company of Cincinnati. The Embry-Riddle Company sold and maintained aircraft, operated a flying school, and served the airmail route that connected Cincinnati and Chicago. Embry-Riddle became the Embry-Riddle Aeronautical University, one of the top training facilities in the country. A preemptive strike to prevent Embry-Riddle from being acquired by the Curtiss Company caused the formation of The Aviation Corporation (AVCO) as a subsidiary of Fairchild Aviation who supported Embry-Riddle. AVCO raised large sums of money and in turn began its active program of buying 90 small companies. AVCO offered a stock swap to the smaller companies and sold shares in the new company of American Airways that incorporated on February 1, 1930.

Frederick G. Coburn became the first president of American Airways, but in March 1932 he gave the position to Lamotte T. Cohu. Under Cohu's leadership, American Airways began to consolidate routes and streamline operations in what became full transcontinental flights. In a short time, E.L. Cord, the aggressive entrepreneur and owner of Auburn Motor Company and founder of two airlines that he sold to American, challenged Cohu for leadership by initiating a proxy fight. By March 1933, Cord replaced Cohu and then went on to initiate more routes between New York and Chicago and the purchase of Transamerican Airlines Corporation.

NPS Form 10-900-a

OMB Approval No. 1024-0018

#### United States Department of the Interior National Park Service

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E.L. Cord supported C.R. Smith as operations manager for all of American Airways; Smith had assumed these duties just prior to the proxy vote. One of Smith's first moves was to purchase 10 Curtiss Condor sleeper airplanes providing overnight accommodations for customers flying on transcontinental routes. This purchase introduced the use of trained stewardesses. The stewardesses were registered nurses that received limited training. The two combined moves quickly upstaged the competition, placing American Airways well above the average commercial airline by 1933.

In early 1934, President Roosevelt and Postmaster General James Farley reorganized contracts to private airmail carriers. The regulations prevented former companies from bidding. In the wake of these new regulations, American Airways reformed as American Airlines. Other airlines also reformed, establishing Eastern Airlines and Trans World Airlines. After the bidding war for contracts ended, several airlines no longer held a base in North Texas, including United Air Lines; however, Braniff Airlines of Tulsa won a prized route from Dallas to Chicago and looked to Texas for a new home. The latter placed Fort Worth in competition with Dallas to be home to the reconstituted Braniff.

#### American Airways in North Texas

At the time American Airways acquired Texas Air Transport, Inc. (T.A.T.), Dallas Love Field served as its headquarters, although airmail service originated from Fort Worth as well. In December 1930, T.A.T. announced its intention to combine passenger service with existing mail service from Fort Worth and Dallas as allowed by the Watres-McNary Act of 1930. T.A.T., by then a subsidiary of American Airways, replaced the passenger service of Southern Air Transport, also a subsidiary (DMN, 12/14/30).

In early June 1930, the *Dallas Morning News* reported that the position of American Airways in Dallas seemed solid. It noted that the company received approval for two new airmail and passenger routes from Dallas with one to Nashville and Cleveland and another to New Orleans-Jackson-Memphis. The writer further remarked that American Airways facilities in Birmingham and Shreveport, both served from Dallas, were complete with extensive hard-surfaced and lighted runways (DMN, 6/2/31).

Later in June 1930, Frederick Coburn, president of American Airways, visited North Texas to inspect the aviation facilities at Love Field and Meacham Field. While visiting Dallas he recommended paved runways rather than the dirt ones so that larger aircraft could land year around, and he mentioned company plans to introduce their newest plane on several flights from and to Dallas. Coburn's comments were a first hint at how Love Field did not meet current airfield standards found at newer facilities. Cyrus Rowlett (C.R.) Smith, vice president of the Southern Division, and Silliman Evans, public relations director, accompanied Coburn on the visit. Evans had previously served as correspondent for the *Fort Worth Star-Telegram* and would be transferred to New York as assistant to the president in August 1931 making an important connection for Fort Worth and to Amon Carter, Sr., and owner of the newspaper (DMN, 7/22/31).

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The Southern Division of American Airways assumed the headquarters of Texas Air Transport, Inc., in 1930 with C.R. Smith serving as head of the division. It seemed appropriate for Dallas to continue in the capacity of headquarters. Over the course of the next few years, corporate executives of American Airways seemed increasingly detached from Love Field, while their competitor United Air Lines seemed more committed. In May 1932, the Dallas Chamber of Commerce received information that the Southern Division of American Airways would relocate to Fort Worth. This surprise move followed an action of the Fort Worth City Council to offer American a 33-year rent-free, tax-free contract with another 20-year renewal option. The airline announced its plan to build a \$150,000, two-story, 235 feet by 120-foot hangar and office building that would accumulate to an additional \$500,000 in local payroll. This hangar and administration building exceeded the size and scope of another hangar and administration building designed by A. Epstein of Chicago for National Air Transport of United Air Lines completed in February 1932 at Love Field. Early reports included the relocation of some 400 American Airways employees to Fort Worth as well. In a short time, the Dallas Chamber issued its response that appeared to be more in disbelief that Fort Worth had moved ahead of them as much as its general sense of competition (DMN, 5/5/32, contract dated April 29, 1932, No. 1105).

One month later, Lamotte Cohu, president of American Airways, retracted his statement about relocation to Fort Worth. When announcing a new centralized plan, Cohu noted that New York operations would move to St. Louis at Lambert Field for the Central Division and that Dallas would continue as the Southern Division (DMN, 6/21/32). This message appeared during the shift of leadership from the first president to Cohu, perhaps appearing before new plans had developed completely.

By February 1933, Lester D. Seymour president of American Airways, announced the company's final decision to relocate the Southern Division to Fort Worth from the terminal at Love Field. The company noted that the executive, operating and maintenance personnel in Dallas would be moved to make this shift possible (DMN, 3/21/33).

One month later, American Airways selected Thomas S. Byrne, Inc. of Fort Worth as contractor for the new terminal that included a hangar and administration building to house the headquarters of the Southern Division. The new building designed by A. Epstein of Chicago (structural engineer) would be slightly smaller than originally projected at 200-feet by 135-feet with an additional office of 25 by 142 feet. The contractors anticipated a 60-day construction timeframe (DMN, 4/23/33). American Airways again announced that the building cost \$150,000 to erect.

The sixty-day construction period expanded, allowing for a dedication of significant magnitude on October 18, 1933. Orchestrated by Amon Carter, Sr., owner of the *Fort Worth Star-Telegram*, the dedication ceremony included the Postmaster General James Farley, Vice President John Nance Garner, Governor Miriam Ferguson, U.S. Senator Tom Connally and U.S. Congressman Fritz Lanham. Regrets came from U.S. Senator Morris Sheppard and Will Rogers. Jesse Jones, chairman of the Reconstruction Finance Corporation, and J.F.T. O'Connor, Comptroller of Currency, joined the group for post-ceremonial events. As a host of other federal,

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state and local officials and local community leaders gathered in front of the recently completed headquarters of American Airways at Meacham Field, L.W. Manning of American Airways presented a bronze plaque dedicating the building to Amon Carter whom he credited with securing the move to Fort Worth. With the speeches of Postmaster Farley, Vice President Garner and others, the dedication event quickly turned into a political rally for President Roosevelt before a wrap up of activities that evening (DMN, 10/18/33). The dedication illustrated the influence of Amon Carter as a politician as well as his power as a businessman and local booster. The new headquarters marked a critical point of development for American Airways as it established its headquarters for the Southern Division and became the first construction of its kind in the company's system. The spacious hangar and administration building served American Airways, Inc., and later American Airlines as it grew for the next 20 years from the Southern Division.

Within a few months, American Airways would reorganize in response to the scandals of the spoils conferences held by the previous postmaster. As previously discussed, American Airways, Inc. was ineligible to bid so the president of American Airways formed American Airlines. The new airlines regained most of its former airmail routes in the new bidding contest, thereby securing the presence of American Airlines, Inc., in Fort Worth with its Southern Division headquarters and control of the southern route for airmail service. The newly formed Trans World Airlines received the central routes and thereby dominated American's routes out of St. Louis, United received the northern routes dominating American out of Chicago, and Eastern Air Transport controlled the eastern routes including American's East Coast system of flights (Szurovy, p. 30).

American Airlines developed rapidly in the 1930s after securing the new location for its Southern Division. From this site, the company introduced its first transcontinental airplane and employed its first airline stewardesses in 1933. Later American Airlines founded the air traffic control system tracking flights within 100 miles of the airport (1934), introduced overnight sleeper service with the DC-3 (1936), served the first hot food in flight (1936), offered the first air travel scrip book for business travelers (1936), and began a central reservations operation with a 100-line switchboard. Many of these later innovations found service at this location in Fort Worth. The Southern Division eventually supplanted most of the other divisions, although the national headquarters remained in New York until late in the 20th century.

#### **Design of Airfields**

Pastures, parks and any open flat land became the earliest airfields. Huffman Prairie Flying Field in Dayton, Ohio, near the home of the Wright brothers, provided a 100-acre dairy pasture allowing experimentation for model aircraft in 1904. Huffman Prairie met, as did many rural sites, the basic definition for an airport being "a place set aside primarily for the purpose of conducting regular, sustained flights" and became the country's first airport (Szurovy, p. 13). College Park Airport in Maryland offered a large square site for demonstrating aircraft to the Army by 1909 and became the nation's second airport and oldest continuously operating airport in the country (Szurovy, p. 15)(NRHP 1977). Other airfields appeared near large cities such as New York and Chicago, but the majority of early fields developed in conjunction with flight schools, developers of aircraft,

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and as part of military facilities.

In Texas, Fort Sam Houston's parade ground became the state's first airport, though that lasted only a few years. Katherine Stinson, the fourth woman licensed as a pilot in the United States, practiced with her family's flying circus from Fort Sam Houston until the family relocated in 1916 to a 750-acre site south of town that is today Stinson Field (Szurovy, pp. 16–17)(NRHP date). The Stinsons joined another 20 civilian flying fields scattered across the country just before World War I. Common features included being privately owned, unimproved flat land usually on the edge of a city, and absence of any government regulations. On some airfields, a crudely built hangar might exist to house aircraft and in a few cases seating existed as the major use of these fields was for demonstration or entertainment, e.g., the flying circus. In most cases, the field was accessible by public transportation such as a railroad or commuter rail line. (Szurovy, p. 19)

Europe exceeded the United States in airfield and air flight development in general prior to World War I. As events transpired in Europe leading to the war, the U.S. Army, once reluctantly interested in aircraft, moved full force into enhancing the Air Service. In 1916, the Air Service established Langley Field in Hampton, Virginia, as its first permanent airfield and employed Albert Kahn as the country's first architect to design an airfield and facilities. Kahn, already noted for his industrial designs and especially his facility planning for the emerging automotive industry, created procedures for airfield grading, drainage, design and location of hangars, maintenance and supply support requirements (Szurovy, p. 20).

After Kahn's success with Langley Field, the Air Service requested that he create a generic airfield that might serve as a model for other airfields in the United States. Kahn provided a design for 200 aircraft and four air squadrons placed on a one mile square field that allowed for take off and landings in any direction. His design also included fifteen hangars along one edge allowing quick access to the field, with each hangar being easily assembled and supported by his own designed truss (Szurovy, p. 21). Each airfield could be assembled in sixty days. By 1918, the Air Service supported more than twenty training fields including these Texas sites: Camp Bowie (Fort Worth), Kelly Field (San Antonio), Rich Field (Waco), Ellington Field (Houston) and Love Field (Dallas). Within one year, the military published a guide for future fields entitled, *Municipal Landing Fields for Air Service*, and by 1923, *Airways and Landing Fields*. These publications served as a valuable resource for the emerging interest in airports, especially those built by municipalities. They also furthered a national interest in establishing a network of airports across the country with defined airways (Szurovy, pp. 23–24).

In addition to the military interest in aircraft and airports, the U.S. Postal Office Department recognized the value of delivering mail by air as early as 1912. The Post Office furthered this interest in experimental programs during World War I despite the absence of available commercial aircraft. By 1918, the military agreed to assist with delivery and several successful projects demonstrated the facility of air transportation. As the need for aircraft and airports increased, the combined interests of the Post Office and the military led to the development of civilian air facilities across the country. Municipalities competed for stations and points of delivery in the national system giving rise to the formation of publicly owned airports with privately owned support operations

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and improvements. By 1920, the Post Office had in place a national network from New York to San Francisco allowing for the first transcontinental airmail service (Szurovy, pp. 27–28).

Several milestones during this period established the network and served as precedents to other airport developments. In 1919, Tucson, Arizona, became the first city to establish an airport by municipal legislation and to be funded with public money. Several years later (1923), Boston's first airport, Commonwealth Airport, emerged with a "T" layout being the model for modern runway configuration and also the first hard-surfaced runway in the country. This airport is now known as Boston Logon International Airport (Szurovy, p. 31).

Competition between municipally owned airports and privately owned ones appeared in the 1920s. Some municipalities viewed private interests as a means of controlling local air access though many such airports were owned for business purposes such as flying schools, entertainment companies, and manufacturers. By the middle 1920s, more than eighty cities held airports with roughly fifty of them being municipally owned. The aviation industry and its related land uses such as airports dominated many municipal chambers of commerce and government agendas. The nation now accepted, even enthusiastically embraced air travel, but no national policies on air travel existed thus leaving the industry to issue its own safety regulations. In 1926, Congress changed this with the passage of the Air Commerce Act where regulations and standards became the guiding force for aviation (Szurovy, pp. 30–31).

By 1931, American Airways served a number of major cities in the United States. This prompted an article in the *Dallas Morning News* discussing the merits of other municipal airports used by the company. The writer noted that the Birmingham, Alabama, airport covered 340 acres with a hard-surfaced runway, 150 feet wide and 4000 feet long. Their administration building cost \$80,000 designed as a replica of Mount Vernon. Burbank, California, the western terminus for American Airways, seemed superior to all other airports. This airport cost two million dollars set on 240 acres with a hard-surfaced runway. In addition, the airport had two large hangars, one propeller plant and two plane assembly plants (DMN, 6/2/31).

#### **European Airfields**

Although the airplane and its associated properties grew dramatically in the United States, the early European airfields were precedents for the physical attributes and design of the American counterparts. In a 1928 report by Lieutenant Colonel Stedman S. Hanks of the U.S. Air Corps Reserve, Hanks reported Berlin's Tempelhof airport and London's Croydon airport as the two finest in the world. These two European airports possessed several design features of note. Croydon focused on a large Classical terminal for passengers by 1928. By 1924, independent airlines formed a single Imperial Airways, that later became British Airways. This model of private sector leadership preceded similar development in the United States by as many as 10 years (Pearman, p. 50).

Tempelhof airport near Berlin offered air shows and demonstrations before World War I, but did not open to private aircraft until 1923. The leadership of the Weimar Republic embraced commercial aviation. Ernst

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Sagebiel, designer of the second airport at Tempelhof (1935–1939), conceived of an airport with hangars, then a central radio and control tower, and then a passenger building. Consequently, Tempelhof is regarded as the most important airport in aviation history (Pearman, p. 53). It is slated for closure in October 2008.

The Tempelhof airport by Ernst Sagebiel is a monumental design. Large square masses lie at the ends of recessed flank of vertical windows that create an expanse of glass for passengers and airplane enthusiasts to view the airfield. Sagebiel, a student of Eric Mendelsohn, a noted Expressionist architect who had to leave Germany during the Nazi regime, reflects much of the master's influence and even to some degree Mendelsohn's own pre-World War I unbuilt airport design. Tempelhof would become the hub of German air power during World War II and remain in use long after the war because of the flexibility of Sagebiel's design. His large reinforced concrete building, similar to Mendelsohn's Futurist's inspired design, set the pace for commercial aviation to allow for expansion both with passenger accommodation and airfield length and services.

Hanks' report and that of later American aviation inspectors generally placed these two airports at the forefront of literature disseminated across the United States. From these studies, airport designers in America's airports of the 1930s began to focus first on high quality voluminous hangars for aircraft repair and storage. Engineers often played critical design roles because they could design large clear-span spaces with unfettered interiors flooded with natural light from large windows. The European precedents of hangars in England, France, Germany and Italy emerged as models (Pearman, p. 61).

Designers then focused on passenger terminals and amenities centered on tall control towers. The modern architectural trends of the 1920s and 1930s easily supported this programmatic concept and resulted in tall Art Deco, Moderne and simple modern concrete buildings. Interestingly enough, the passenger terminals often contained a waiting room and a large restaurant and viewing station. Architects, but not engineers, in the United States borrowed these concepts and amenities that would later become essential to every airport.

#### **Development of Night Fields**

Lighting, as early as the 1920s, became an important and perhaps critical innovation for airfields and navigation. Prompted by the U.S. airmail service, a system for night flying emerged in the competition with trains. Airplanes needed to fly at night as well as during the day in order to meet delivery demands. Thus, the airmail service demanded cross-country night flying. The first experimental section for night flight came along the Chicago to Cheyenne routes. Large electric beacons placed along air routes kept the aircraft on route and emergency landing fields set every 25 miles added to the safety of night flying (Szurovy, p. 30). Through the 1930s, lighted airways facilitated mail delivery and later passenger travel allowing for transcontinental convenience. A Humble Oil Company publication of 1930 noted that beacons from Fort Worth to Oklahoma City allowed night flights but no other airway did at the time. The beacon lights coupled with runway lights and

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control tower lights led to the modern airport. Until advancements in radio beams, this lighting system defined the nation's airports.

#### **Curtiss-Wright Fields**

Some of the most important developments came from the private airports of the 1920s and 1930s. Following Charles Lindbergh's New York-to-Paris flight in 1927, a public debate emerged about the need for publicly owned air facilities. Despite that debate, privately owned airports outnumbered those owned by public entities for a number of years. The Curtiss Corporation led all other companies such as Pan American and T.A.T. in building private airports. While public bodies might take months or years to decide on an airport and how to fund it, Curtiss Corporation moved rapidly to acquire appropriate sites and build. Curtiss, later known as Curtiss-Wright, selected airfields in or near major cities where they could offer flight training as well as a location for passenger and other air services. The lack of knowledge in the emerging field of airport design among professionals such as architects, engineers and urban planners meant that Curtiss forged the way for modern design and construction.

Curtiss initially hired civil engineers to design airfields and buildings. With their professional input, the engineers concentrated first on the landing surface that would allow all weather flying especially with good drainage. The second interest, however, was for suitable multi-purpose buildings where the engineers continued their dominance early in the development of airports. Curtiss ordered a number of early hangars by civil engineers who incorporated construction techniques of a large-span, open-space structure in wood and steel similar to buildings used by the railroad and in early factory and industrial structures. One of the company's first projects resulted in a "lean-to" form where the administrative building and passenger terminal "leaned" on the much larger clear span hangar. Built in Memphis, this form influenced many privately owned buildings that predated full-service publicly owned airports (see Figure 3). The same occurred with American Airways at Meacham Field in Fort Worth (Szurovy, p. 47 and p. 53). The innovations of Curtiss-Wright who planned expansion between Dallas and Fort Worth came to an abrupt end during the Great Depression of the 1930s yielding to the larger community and publicly funded programs of that era.

#### **WPA Air Facilities**

President Franklin D. Roosevelt set about creating jobs for thousands of unemployed in the 1930s and in so doing identified the nation's airports for one form of public work. The Federal Emergency Relief Administration (FERA) and the Civil Works Administration (CWA) created by the Federal Emergency Relief Act of 1933 were the first federal organizations to provide work relief. The Work Projects Administration (WPA) replaced both of these agencies in 1935. Municipally owned or leased airports became eligible for relief assistance including runway construction as well as new construction of airfields. In 1934, the CWA had 808 airports under construction or making improvements with many communities under 5,000 populations receiving first-time assistance. After the formation of the WPA, all airfield construction came under the Division of

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Airways and Airports, requiring recipients to meet the standards of the Bureau of Air Commerce. These much tougher standards and, for the first time, the oversight of the federal government led to national regulation of the airline industry (Szurovy, pp. 70–85).

The presence of the WPA and later the Public Works Administration (PWA) allowed municipal airports around the country to materialize with the latest technology, design and runway construction. As the 1930s brought the need for work relief programs, airplane technology also improved producing larger airplanes needing more extensive landing sites. Some of the country's finest airports emerged through these programs and efforts including San Francisco's Mills Field (renamed San Francisco Airport), Newark Airport in New Jersey that handled most of New York's airmail and airlines, Chicago's Municipal Airport and many others (Szurovy, pp. 84–85).

The New York Municipal Airport, later known as LaGuardia, was the most ambitious and largest single project undertaken by the WPA. New York's powerful Mayor Fiorello LaGuardia grew determined to provide an airport for the city in New York. After losing his initial request for land, he identified the former privately owned Curtiss-Wright Company owned North Beach Airport in Queens. The 105-acre site along Bowery Bay appeared to some to be too small and hard to manage near the water. The first WPA project focused on reclaiming land and then the full airport development followed. LaGuardia set his sights on completion by the opening of the New York World's Fair in the summer of 1939. Publicly funded workers continued 24 hours each day toward reclamation and completion. The New York architectural firm of Delano and Aldrich, designers of Pan American's many air terminals, got the contract for both a landplane base and seaplane base each with its own terminal on the site. Their landplane terminal became the model for most airports that followed where arriving and departing passengers were separated vertically. It also incorporated the latest control tower and passenger service areas. A large stylized eagle sat atop of the Art Deco terminal designed by Delano and Aldrich and greeted passengers to the terminal (Szurovy, pp. 90–93).

Despite the innovations apparent in the LaGuardia terminals, the greatest technical achievements came with the pentagonal maintenance hangar serving the flying boats adjacent the terminal. Equally noteworthy were two sets of three landplane hangars with "lean-to" office blocks running their length that served the airlines administrative needs. This "lean-to" form once again employed by a public entity for the private airlines' combined the needs of each airline in one location. By the point of this construction, however, the "lean-to" reached extra large proportions compared to those built earlier in the decade (Szurovy, p. 93). LaGuardia opened in October 1939 with more than 70% of the construction paid by the WPA and where 28,000 workers had moved 17 million cubic yards of landfill (Szurovy, pp. 94–95).

#### Architecture and Design of Airplane Facilities

The architectural underpinnings for the design of the American Airways Hangar and Administration Building lie in the early 20th century European movements, in particular that of post-Bismarck Germany of 1890. During

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the last decade of the 19th century and into the first of the 20th, German intellectuals outlined a means of national development to make German products the highest quality. Supported by the nationalists and Christian-Social Democrats, the concept disregarded other European thoughts on handcrafts and arts and instead embraced machine production. As the concept of industrialism grew, so did that of Pan-German nationalism, Germany sought intrinsic crafts and products that eventually centralized under the leadership of Hermann Muthesius, who in 1907 founded the Deutsche Werkbund with two other artists.

The Werkbund became the center for the new German cultural revolution. An early leader of the Werkbund, Peter Behrens emerged at almost the same point becoming the architect and designer to the Allgemeine Elektricitats Gessllschaft (AEG), a vast electrical company based in Germany in 1907. The AEG led the nation as an industrial power and Pan-German nationalism dominated the corporation. In 1909, Behrens began design work for the Turbine Factory as an architectural symbol of the company's industrial might. The Turbine Factory consisted of an over-scaled light steel frame with heavy corner elements connected by expanses of windows to emit light. A secondary flat roofed administrative building attached to one side of the large framed structure. Behren's Turbine Factory and the subsequent design work of the Werkbund furthered the industrial dominance of architecture (see Figure 4). Periodic Werkbund Exhibitions released variations on the industrial theme typically in steel frames, brick, and glass buildings.

The Werkbund accumulated additional designers and architects, including Walter Gropius, and influenced Eric Mendelsohn. Both of these architects embraced the industrial aesthetic with Mendelsohn becoming especially consumed by the machine and the Futurists of Italy. The Futurists in particular wrote of a modern aesthetic that centered on the automobile and airplane as modern machines that would change the world. They, like the German nationalists, believed that modernism and the machine contributed to a superior aesthetic and economy. Mendelsohn's early designs for factories and an unbuilt airport reflect this aesthetic. Reyner Banham in his *Theory and Design in the First Machine Age* (1960) labeled this architectural movement as the "factory aesthetic."

The machine age design or factory aesthetic first appeared in the United States in the work of German-born and Detroit-based Albert Kahn. Kahn's early industrial designs were released in the early 20th century but were little more than updated 19th-century industrial images. His major breakthrough began with the Pierce Plant in Buffalo, New York (1906) and more importantly with the assembly line factories for Henry Ford shortly afterwards. These large industrial plants were not as sophisticated in design as the European counterparts, but they nonetheless incorporated large clear span trusses and extensive windows for work light both required for American industrial programs.

As they began conceiving airports or hangars in the 1920s, architects and designers developed early concepts on the same premise as the factory. Indeed, much of the program needed for a hangar included a large expanse of lighted space for repair to engines as well as lofty unencumbered interiors created by clear span trusses. The factory or machine aesthetic seemed an appropriate evolution of the original idea. The relationship became even

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stronger when Henry Ford launched his own Ford Trimotor airplane and built the private Henry Ford Airport in Dearborn, Michigan. The national precedent was thus set for the evolution of hangars and eventually attached administration and passenger service buildings. In 1928, with the opening of the Pan American Airways Airport in Miami, Florida, designed by Delano and Aldrich of New York, the concept of design, not just engineering, and machine aesthetics entered the picture. In 1930, the hangar and administrative facilities of Curtiss Flying Service in Los Angeles at Mines Field followed suit by being designed in the Spanish Colonial or Spanish Eclectic style.

The "lean-to" form evident in the American Airways Hangar and Administration Building is easily traced to the early factory designs. Its large over-scaled work hangar clearly allows for an industrial workspace while the "lean-to" administration building leaves the appearance of a more restrained industrial office space. The "lean-to" form may have been the preferred architectural style for a short period in the early 1930s with the expansion of the independent and private airway companies. There are a number of local references to a similar design being constructed at Love Field for a competing airline as well as the use by American Airways at locations in St. Louis, New York, and maybe Chicago (or the other regional hubs). There is no evidence that any other "lean-to" hangar and administrative building terminals are extant or intact today.

This heavy dependence on industrial design remained the lead architectural vocabulary until the emergence of the WPA Moderne style during the mid to late 1930s. At that point, the more established Art Moderne and Streamline styles dominated. Nevertheless, the architecture of the American Airways Hangar and Administration Building is founded on principles of the machine and factory, and it represents a rare surviving example of this influence in an Art Moderne vocabulary adapted to a unique property type.

#### Conclusion

The American Airways Hangar and Administration Building (1933) must be placed in a national context that recognizes the evolution of the private sector airline industry with government oversight, technological advancements in the airplane as a machine, and the parallel development of an architectural aesthetic that embraced European antecedents as well as American innovation. The building is further a rare example of a property type ("lean-to" hangar and administration building) placed in encasement reflecting strong architectural overtones from the Art Moderne and Streamline movements. At the same time, the building represents the independent and early development of one of the nation's most significant airline companies, American Airlines. It is worth noting that the building probably exists today because Meacham Field became the second municipal airfield shortly after construction of the building. This factor allowed the building to remain almost unaltered to this point. Thus, the American Airways Hangar and Administration Building survives as an excellent representative with high integrity where parallel aspects of the nation's development in an industry came together making it a rare and significant building in the broad patterns of our history (Criterion A) while embodying distinctive characteristics of a type, period and method of construction (Criterion C).

#### 10. GEOGRAPHICAL DATA

ACREAGE OF PROPERTY: less than one acre

**UTM REFERENCES** 

Zone Easting 653915

Northing 3632735

VERBAL BOUNDARY DESCRIPTION: Meacham Airport, Remainder Blk 1, Possessory Int Only, 25.07

Exemption

BOUNDARY JUSTIFICATION: Nomination includes all property historical associated with the building

#### 11. FORM PREPARED BY

NAME/TITLE: W. Dwayne Jones

ORGANIZATION: N/A

DATE: June 2006

STREET & NUMBER: P.O. Box 191784

TELEPHONE: 214/763-6490

CITY OR TOWN: Dallas

STATE: Texas

**ZIP CODE:** 75219

#### ADDITIONAL DOCUMENTATION

#### **CONTINUATION SHEETS**

MAPS (see continuation sheet Map-27 through Map-28)

**PHOTOGRAPHS** (see continuation sheet Photo-29 through Photo-37)

ADDITIONAL ITEMS

#### PROPERTY OWNER

NAME: City of Fort Worth, Aviation Department

STREET & NUMBER: 4201 North Main, Suite 200

**TELEPHONE:** 817/871-5401

CITY OR TOWN: Fort Worth

STATE: Texas

ZIP CODE:

## National Register of Historic Places Continuation Sheet

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American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

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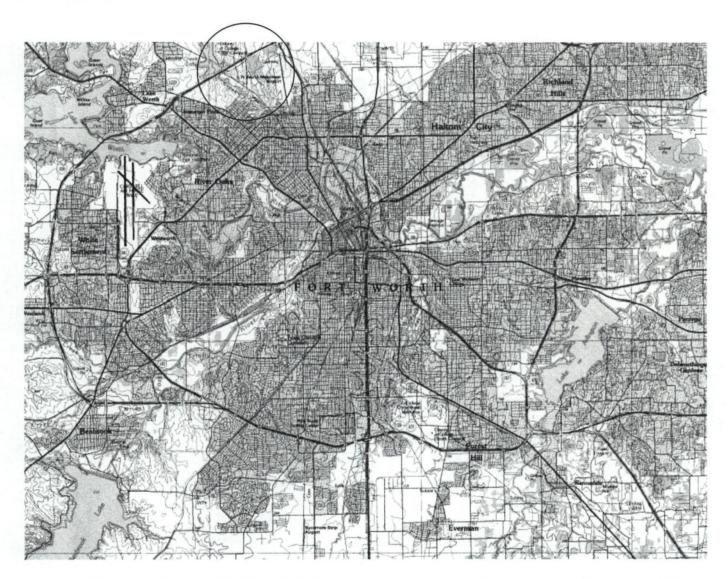


Figure 1. Meacham Field encircled at top; map from mapcard.com, accessed January 4, 2008

# National Register of Historic Places Continuation Sheet

Section MAPS Page 28

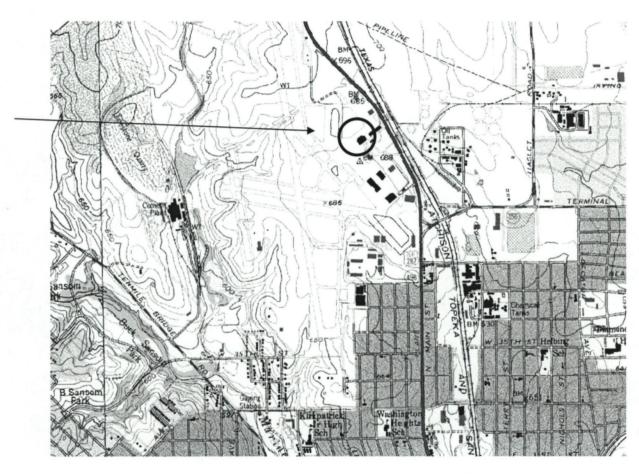


Figure 2. American Airways Hangar and Administration Building encircled; map from mapcard.com, accessed January 4, 2008.

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Figure 3. The "Lean-to Form" dates from the early 1930s in Memphis, Tennessee, at a Curtiss Flying Field.

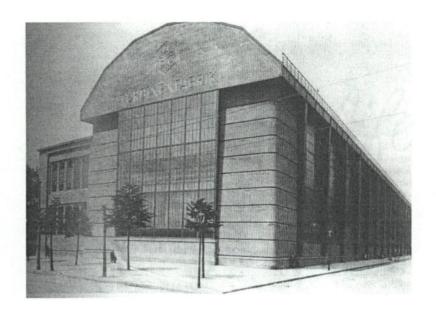


Figure 4. Behrens completed the influential AEG Turbine Factory, Berlin, 1908–1909

### National Register of Historic Places Continuation Sheet

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Figure 5. Historic aerial.

# National Register of Historic Places Continuation Sheet

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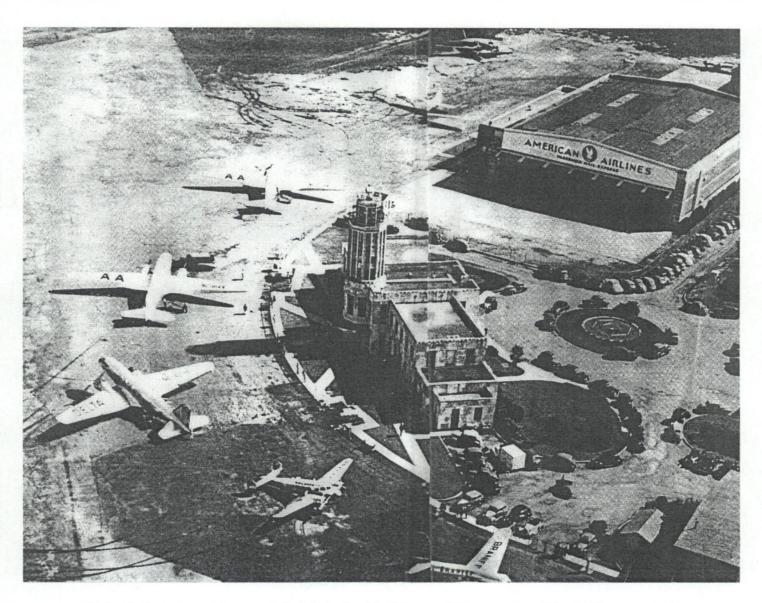


Figure 6. American Airways Administration Building and Hangar, Fort Worth, Texas, c. 1940

# National Register of Historic Places Continuation Sheet

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Interior, First Floor, Administration Building



Northwest Elevation



Interior of Hangar, Looking Southeast



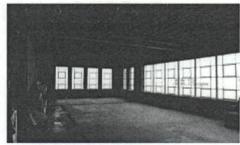
North Elevation



North and West Elevation



North and East Elevation



Interior, Second Floor

# National Register of Historic Places Continuation Sheet

Section PHOTO Page 33



South Elevation



American Airways Eagle on Pilaster



East Elevation



Northwest Elevation of Hangar

# National Register of Historic Places Continuation Sheet

Section PHOTO Page 34



East Elevation, Camera Facing West

# National Register of Historic Places Continuation Sheet

Section PHOTO Page 35



American Airways Eagle on Pilaster

# National Register of Historic Places Continuation Sheet

Section PHOTO Page 36



Northeast Elevation of Administration Building and Hangar

NPS Form 10-900-a

OMB Approval No. 1024-0018

United States Department of the Interior National Park Service

## National Register of Historic Places Continuation Sheet

Section PHOTO Page 37

American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas

PHOTO LOG

## UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

## NATIONAL REGISTER OF HISTORIC PLACES EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION
PROPERTY American Airways Hanger and Administration Building NAME:
MULTIPLE NAME:
STATE & COUNTY: TEXAS, Tarrant
DATE RECEIVED: 3/05/08 DATE OF PENDING LIST: 3/24/0 DATE OF 16TH DAY: 4/08/08 DATE OF 45TH DAY: 4/18/0 DATE OF WEEKLY LIST:
REFERENCE NUMBER: 08000317
REASONS FOR REVIEW:
APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL:
COMMENT WAIVER: N  ACCEPT RETURN REJECT 4,16.05  DATE
ABSTRACT/SUMMARY COMMENTS:
Entered in The National Register of Historic Places
RECOM./CRITERIA
REVIEWERDISCIPLINE
TELEPHONE DATE
DOCUMENTATION see attached comments Y/N see attached SLR Y/N
If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.



American Airways Hangar & Administration Building Fortworth, Tarrant County, Texs Photo 1 of 14



American Airways Hungar ? Administration Building Fort Worth, Tarrant County, Texas Photo 2 of 14



American Airways Hungar & Administation Building Fort Worth, Tarrant County, Texas Photo 3 of 14



American Airways Hangar and Administration Building Fort Worth, Tarrant County, Texas Photo 4 of 14

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American Airnays Hangar ? Administration Building Fort Worth Tarrant County Texas Photo 5 of 14

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American Airways Hungar? Administration Building Fort Worth, Tarrant County, Texas

Photo 6 of 14



American Airways Hangar & Administation Building Fort Worth, Tarrant County, Texas Photo 7 of 14

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American Airways Hangar ? Administration Building Fort Worth, Tarrant County, Texas Photo 8 of 14



American Airways Hangar ? Administration Building Fort Worth, Tarrant County, Texas Photo 9 of 14

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American Airways Hangar & Administration Building Fort Worth, Tarrant County, Texas Photo 10 of 14

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American Airways Hungar & Administration Building Fort Worth, Tarrant County, Texas

Photo 11 of 14



American Airways Hungar ? Administration Building Fort Worth, Tarrant County, Texas Photo 12 of 14

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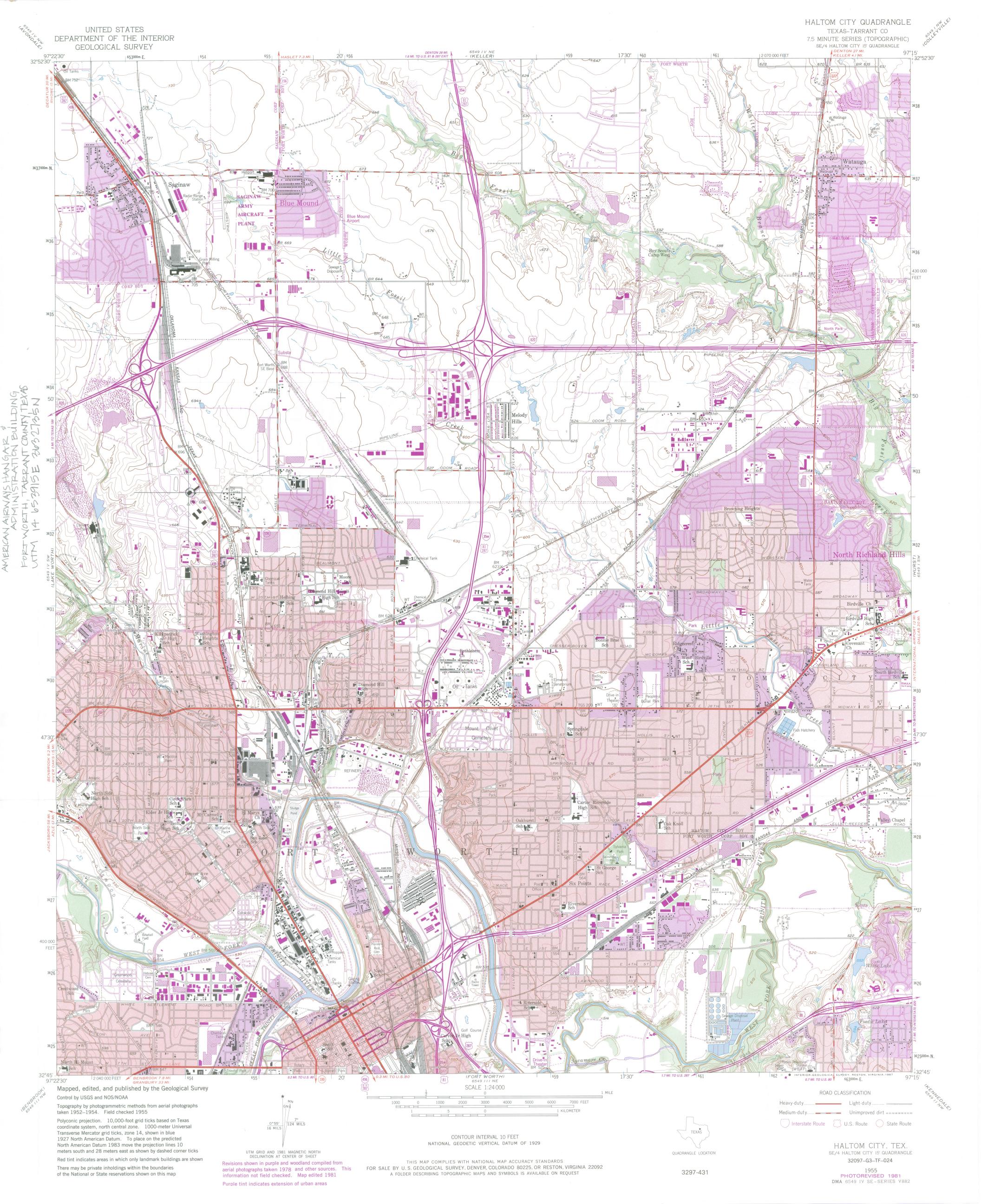


American Airways Hangar & Administration Building Fortworth. Turrant County, Texas
Photo 13 of 14



American Airways Hangar & Administration Building Fort Worth, Tarrant County, Texas Photo 14 of 14

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Rick Perry • Governor

John L. Nau, III • Chairman

F. Lawerence Oaks . Executive Director

The State Agency for Historic Preservation

MAR - 5 2008

NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

TO: Linda McClelland

National Register of Historic Places

FROM: Linda Henderson, Historian

**Texas Historical Commission** 

RE: American Airways Hangar & Administration Building, Fort Worth, Tarrant Co., Texas

DATE: 3 March 2008

The following materials are submitted regarding: American Airways Hangar & Administration Building,

X	Original National Register of Historic Places form  Resubmitted nomination
14 <u>-</u>	Multiple Property nomination form
X	Photographs
Х	USGS map
_	Correspondence
	Other:

COM	MENTS:
	SHPO requests substantive review
	The enclosed owner objections (do) (do not) constitute a majority of property owners
	Other