

CHAPTER 11: TRANSPORTATION

The transportation system is the framework upon which the city is built. A healthy transportation system can improve the economic, social, and cultural conditions of the city and its citizens by providing efficient goods movement and options for people to get to and from work, home, school, shopping and leisure activities. Conversely, an inefficient, congested transportation system can be a deterrent to economic growth, resulting in inconvenience and stress for drivers, traffic accidents, increased travel time, loss of work time, and air pollution (more information on air pollution and air quality can be found in Chapter 18: Environmental Quality). This chapter presents a multi-modal transportation approach that includes all forms of surface transportation (auto, bus, rail, bicycle, pedestrian, etc.), as well as aviation activities, to support the City's mobility goals.

EXISTING CONDITIONS AND TRENDS

The North Central Texas Council of Governments (NCTCOG) Mobility 2030 Plan estimates that the population within the Metropolitan Planning Area will grow to 8.5 million persons by the year 2030. This projection represents an increase of 3.5 million in population from the year 2000. The transportation demand generated by this growth will significantly impact air quality, congestion, land use, and infrastructure capacity.

NCTCOG estimates that the annual cost of congestion is \$4.1 billion to residents and employers in the Metroplex. This figure could grow to \$11 billion annually by 2030 if transportation improvements are not made. In order to help address the potential impact of growth, NCTCOG has completed a multimodal transportation plan for the region. The plan, Mobility 2030, provides a regional strategy for reducing congestion and improving air quality through policies aimed at improving travel demand management and transportation system management, expanding alternative transportation modes, and promoting sustainable development. The current plan was locally approved in January 2007 and approved by the United States Department of Transportation in June 2007. The current plan contains over \$70 billion of planned improvements that are recommended by the year 2030. The plan undergoes periodic review in order to meet the changing needs of the region and meet federal planning requirements.

Fort Worth Mobility and Air Quality Plan

While the region's population is estimated to grow by 3.5 million persons by 2030, Fort Worth and the surrounding area is estimated to nearly double by 2030. With this in mind, the City Council identified improved mobility and air quality as one of seven strategic goals, and in September 2003 approved the development of a Mobility and Air Quality (MAQ) Plan. The MAQ Plan is being developed in partnership with the Fort Worth Transportation Authority (The T) and in coordination with NCTCOG. The MAQ Plan is being conducted in two phases.

The City finalized Phase I of the plan in June 2004. Information was collected

Components of a Balanced Transportation System



The City of Fort Worth can provide mobility choices for residents by integrating all modes of transportation into a balanced system. (Source: *Transportation and Public Works, 2007.*)

concerning land use, travel demand, and transportation infrastructure and services in the city and the region. The major findings include:

- Over 90 percent of population growth will be outside of Loop 820 in the form of low-density residential development.
- The majority of employment growth will occur within existing activity centers and along major highway corridors.
- The combination of the above two factors create increasingly complex travel patterns for the area.
- Growth patterns create longer commutes and additional burden on our future transportation system and air quality.
- The majority of “choice” transit riders—who are not dependent on transit for their travel needs—are outside of The T’s existing service area.
- Mobility needs of the area will not be met even if the planned roadway improvements of the Mobility Plan are funded and constructed.

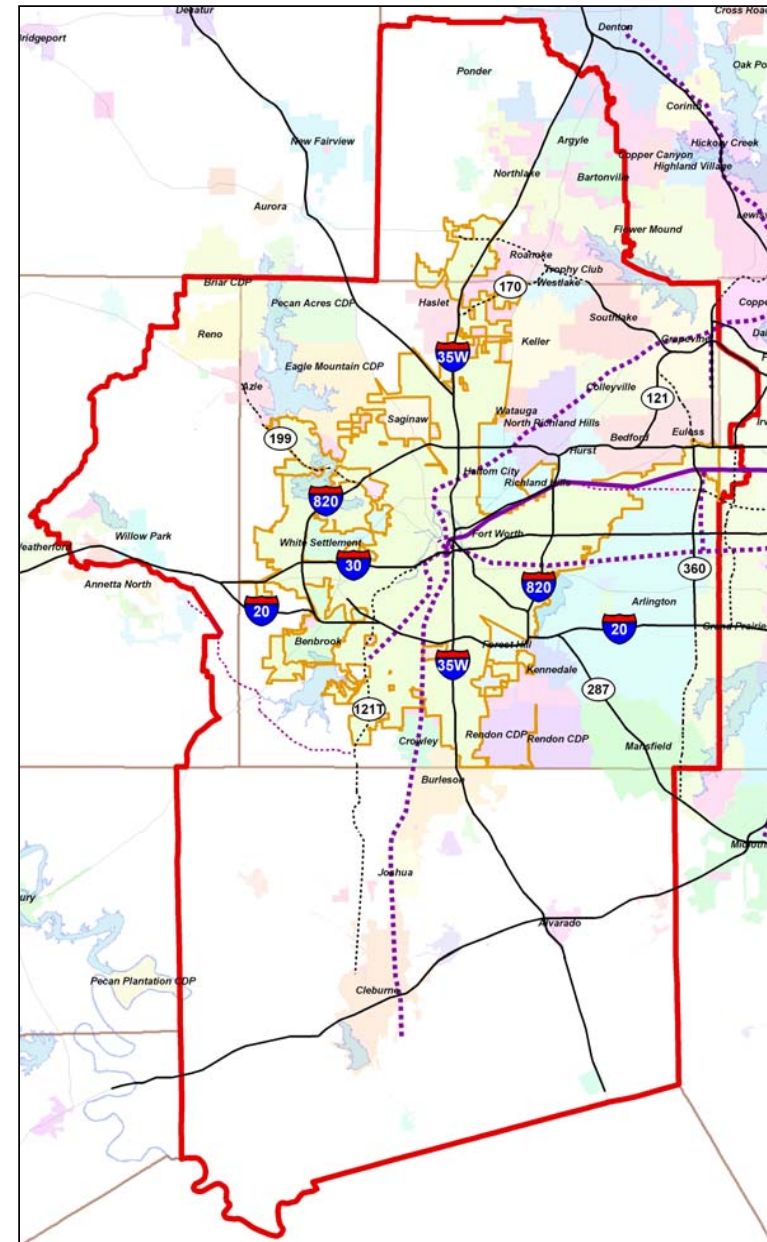
The MAQ Plan examined the current performance conditions of the roadway system and estimated the percent of hours of congestion per weekday at 13 percent for freeways and 14 percent for arterials in the study area. The study projected that this congestion will increase to 54 percent for freeways and 37 percent for arterials by the year 2030 if no projects are implemented after the year 2015. Traffic congestion can have several causes: accidents, disabled vehicles, construction, exceeded roadway capacity, incomplete road system, bottlenecks, linear or sprawling land use patterns, segregated land uses, lack of alternative modes of transportation, availability of parking, and low vehicle occupancy. The goal of the City’s Mobility and Air Quality Plan is to address this future congestion through a multi-modal plan that will involve elements such as rail transit, public bus service, intelligent transportation systems, bicycle and pedestrian transportation, transit-oriented development, and sustainable development.

Phase II of the MAQ Plan will identify, analyze, and recommend transportation alternatives and provide a strategic implementation plan, including a financial element. The final product will be a comprehensive and multi-modal transportation system plan and a programmed effort to improve air quality. The MAQ Plan is scheduled for completion in 2008. For more information on the MAQ Plan, visit the City’s Website at: www.fortworthgov.org/tpw/ (click on Mobility/Air Quality Plan under “Quick Links”).

Roadway System

The City of Fort Worth maintains approximately 7,000 lane miles of street surface, which is equivalent to driving from Fort Worth to New York and back twice. Development throughout the city is generating greater demand for street improvements to move traffic efficiently on the north-south and east-west major corridors. Citizens desire increased mobility, while maintaining pedestrian-oriented neighborhoods. Neighborhoods and commercial areas in the city are also requesting street improvements that include landscaping and sidewalks, as well as traffic mitigation measures to assist inner city areas with redevelopment. For a description of efforts aimed at addressing neighborhood transportation issues, see the Programs

MAQ Plan Study Area



The City utilized a regional perspective to determine the study area for the MAQ Plan. (Source: Transportation and Public Works Department, 2007.)

and Projects section of this chapter.

Maintenance of the city's existing street infrastructure is critical for the roadway system to function efficiently and at its intended capacity. An aging infrastructure, increasing number of traffic miles, and annexation of sometimes substandard streets require additional resources to ensure adequate maintenance. In the central city, maintenance of public alleys is particularly challenging. A recently completed pavement inventory and collection assessment rated 32 percent of the city's roads in 'excellent' condition, 28 percent in 'good' condition, 28 percent in 'fair' condition, and 12 percent in 'poor' condition. In 2004, the citizens of Fort Worth approved a bond package allocating \$65 million for the rehabilitation of 209 neighborhood streets and \$57 million for 12 arterial street projects.

In addition to maintenance, additional roadways are needed to improve the transportation system. The lack of network completion is most notable in far north and southwest Fort Worth. The rural roadway systems in these areas are being replaced with urban arterials as development occurs. This practice often results in arterial system gaps and bottlenecks. The intensity of existing land uses and new development in these corridors is creating pressure for the completion of road improvements to eliminate arterial gaps. Deficiencies in the roadway system are subjecting some areas of the city to increased congestion because streets do not adequately support existing or changing land uses.

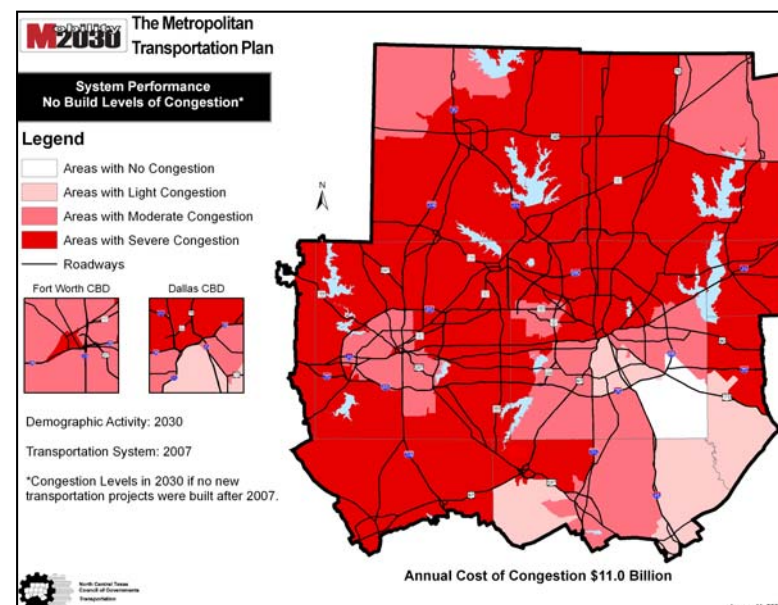
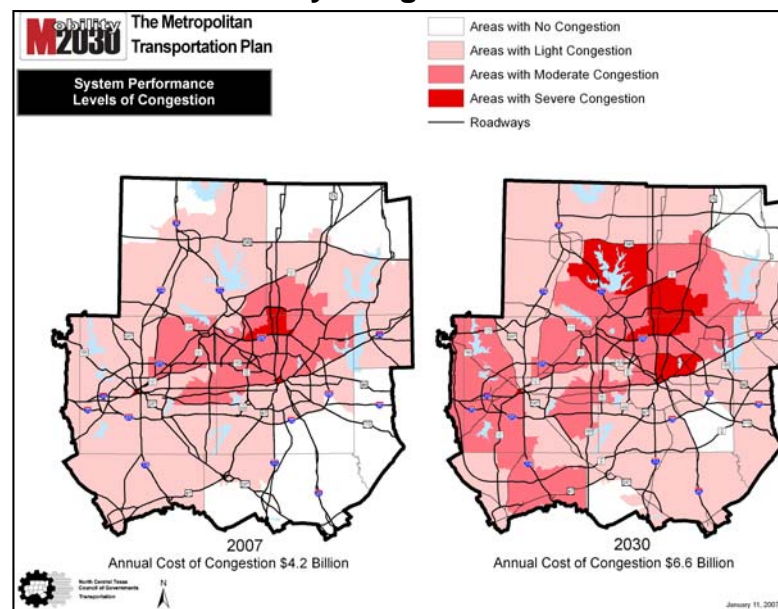
In order to help address many of these issues, the City maintains a Master Thoroughfare Plan (MTP) and associated Street Development Standards, which were adopted in 2002 and updated in 2004. The standards are expected to be revised again in 2007. Together, these documents provide comprehensive transportation standards for the street system within the city and its extraterritorial jurisdiction. The standards also recommend specific pavement cross sections for each street classification and provide the framework for a hierarchical system of freeways, arterials, collectors, and local streets. The MTP guides the ultimate development of the City's thoroughfare system.

Public Transportation Service

The Fort Worth Transportation Authority (The T) has provided public transportation services since 1983, and its services have expanded steadily over the years. In addition to Fort Worth, The T provides service to Richland Hills and Blue Mound. Ridership increased from 5.1 million in 1997 to just over 8 million in fiscal year 2006. This includes ridership from the Trinity Railway Express, Mobility Impaired Transportation Services, Tarrant County Transportation Services, Northeast Transportation Services, and Vanpool. Within the last fiscal year, total ridership grew 13.1%.

Thirty-four bus routes cover the city and extend to the suburban city of Richland Hills. The current bus service plan focuses on incremental expansion to serve a larger regional area. In May 2007, The T introduced a new bus route to the Mercantile industrial park that provides service to over 70 businesses, 14 hotels, and two colleges in the area. Six transfer centers are strategically located in destination areas: The Historic Stockyards (NW 25th and Houston), East Fort Worth (E.

Roadway Congestion Levels



According to the North Central Texas Council of Governments, congestion levels in the region will continue to increase by 2030 even with the assumption that all identified projects are built, but the impact will be lessened with needed improvements and a strategic approach to sustainable development. (Source: North Central Texas Council of Governments, 2007.)

Lancaster and Sargent), La Gran Plaza (formerly Town Center Mall), Ridgmar Mall, and two Downtown locations (Intermodal Transportation Center and T&P Vickery Boulevard park-and-ride lot). The transfer centers are integral parts of the transportation system. They provide central points for transfers between the various transportation modes.

The T's bus fleet is 98% equipped with Compressed Natural Gas (CNG). The T offers a number of additional services, including:

- Four Express Routes, which provide limited stop service to Downtown.
- Four routes that utilize The T's historic rubber-wheeled trolleys. These routes include service to the Fort Worth Zoo, the Stockyards, Pier 1, and RadioShack.
- Free Downtown service within a zone bounded by Henderson on the west, Jones on the east, Belknap to the north, and Vickery to the south.
- Rider Request Service (Route 41) within the City of Richland Hills provides curb-to-curb bus transportation within Richland Hills city limits. Riders may also use this route to access Downtown Fort Worth at specified times.
- The T's Employer Services Department (formerly Rideshare) provides information and assistance with carpools, vanpools, employer-subsidized transit (E-Pass), and other similar services.
- Guaranteed Ride Home Service is provided for all monthly or E-Pass holders.
- Bicycle racks on the front of all fixed-route buses.

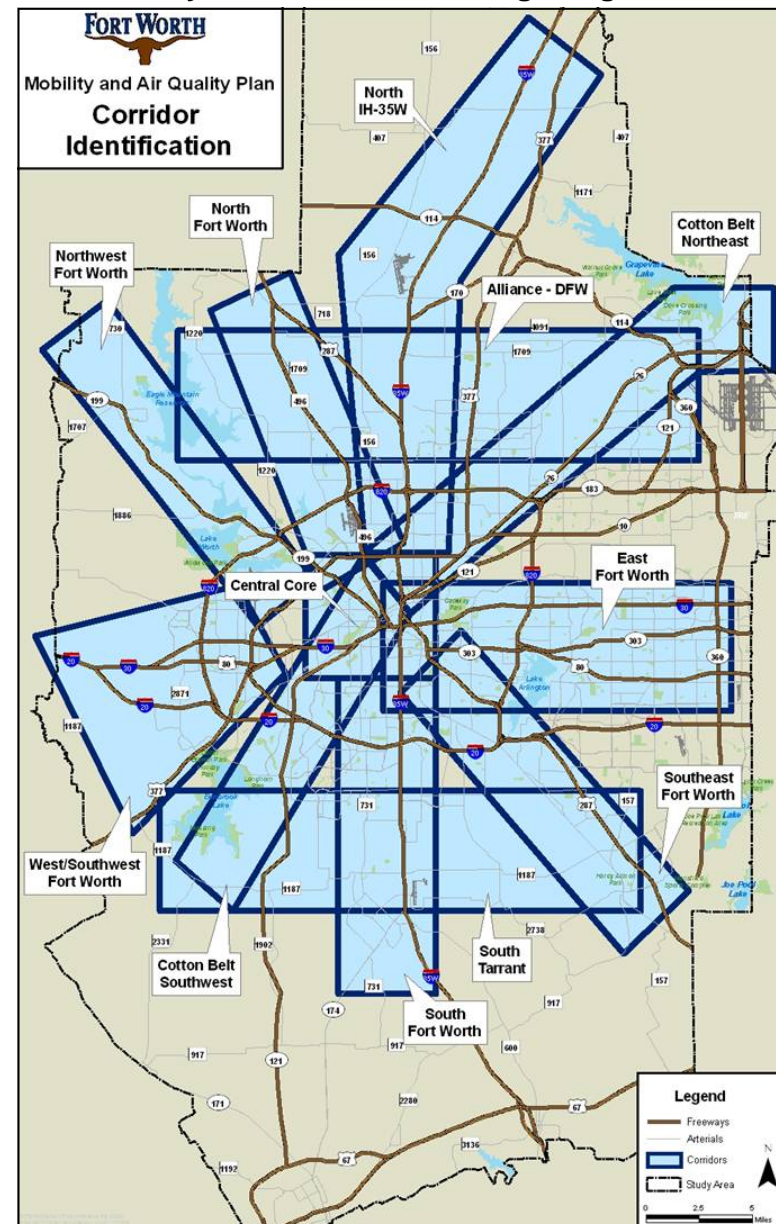
The T also provides Mobility Impaired Transportation Service (MITS) for residents who have disabilities that restrict them from using the regular fixed bus routes. MITS is door-to-door service that allows participants to schedule trips up to 14 days in advance. Riders who qualify for MITS will receive a MITS+1 card that allows them to use fixed-bus service for free.

Balancing public transportation costs, routes, and schedules with the needs of the transit-dependent population is an ongoing challenge. The T provides public transportation to major areas of employment, including Downtown, the Medical District, CentrePort, and area malls such as Hulen, Ridgmar and La Gran Plaza. As the city continues to expand, especially in the north and west, The T continues to study possible enhancements and additions to its service to allow all Fort Worth residents access to important employment growth centers. Continued cooperation and partnerships with the City, employers, and public agencies are critical to this effort.

There are over 1,800 bus stops in The T's service area. The T provides benches and passenger shelters at a number of these bus stops for the added convenience of its passengers. The goal is to place benches at frequently used stops distributed equally throughout the service area. Currently, there are over 350 benches in place.

Passenger shelters provide seating and protection from bad weather and are particularly important to senior citizens, parents with small children, and persons with disabilities. Although shelters are a popular amenity option at bus stops, only a limited number of shelters are feasible throughout the service area. To identify the most appropriate locations, The T uses a point system to prioritize and rank bus stops using factors such as daily boardings, existing land use, and the presence of a public

Priority Corridors for Reducing Congestion



The Fort Worth Mobility and Air Quality (MAQ) Plan identifies 12 corridors containing over 80 major roadway and transit alternatives for analysis. The MAQ Plan is one of a number of plans analyzing transportation choices for our community. (Sources: Transportation and Public Works Department, North Central Texas Council of Governments, 2007.)

facility or employment center among other criteria. There are currently over 100 shelters located throughout The T's member city area. In 2005, The T began working with a Task Force of Downtown business and civic leaders and City of Fort Worth staff to redesign the fourteen passenger shelters along Houston and Throckmorton Streets. The Task Force's mission is to lead the effort to design, produce and install Downtown shelters that are both functional and aesthetically appealing. The new shelters were installed in the spring of 2008.

T Strategic Plan

In October 2005, The T Board adopted a new Strategic Plan. The 12-month planning process resulted in a long-range strategy for public transportation in the region over the next 25 years. The T invited staff from the City of Fort Worth and NCTCOG to serve on the Planning Committee and guide the plan. An intensive public involvement process was developed to assure that the plan represented the region's future vision of public transportation in the western half of the Metroplex. In all, over 1000 comments were generated from focus group interviews, a Tarrant County-wide household survey, stakeholder interviews, comment cards and public meetings.

The Strategic Plan presents the following six goals for The T:

1. Enhance public transit
2. Expand transit options for regional travelers
3. Create a more seamless regional transit system
4. Provide rapid travel options
5. Support the sustainable development of the region
6. Improve the perception of public transportation

Several key action items have been initiated as a result of the Strategic Plan:

- Commuter rail line alternative analysis
- New bus service to far north Fort Worth and Alliance area
- Park and ride facility expansion study
- TRE strategic planning effort in coordination with DART
- TRE double tracking to allow for faster service
- Bus transit signal priority coordination with the City
- Sierra Vista Transit Plaza project
- New passenger shelter design
- The T's Customer Service Initiative

Rail Transit

The Trinity Railway Express (TRE) commuter rail connects Downtown Dallas to Downtown Fort Worth. Downtown Fort Worth has two stations: the Intermodal Transportation Center at 9th and Jones Streets, and the T&P Terminal on Lancaster Avenue. Both terminals opened in January 2002. During fiscal year 2006, the TRE had just over 950,000 riders (T side only). The T, the Dallas Area Rapid Transit (DART), and NCTCOG are collaborating on the development of a Strategic Plan for the TRE. When finalized, this plan may result in changes to the TRE's governance and/or operational goals.

Mobility 2030 identifies potential rail corridors that could serve to expand commuter rail service throughout the region, including Fort Worth. To study regional passenger

Passenger Shelter



The T is replacing all 112 existing shelters with the new aesthetically pleasing style shown above. The two-year replacement plan was completed in 2007. (Source: Fort Worth Transportation Authority, 2007.)

Intermodal Transportation Center



The Intermodal Transportation Center (ITC) in Downtown Fort Worth is home to the TRE commuter rail, a major bus transfer center, Amtrak, and Enterprise Rent-A-Car. The Greyhound bus terminal moved into the facility in June 2006. (Source: Planning and Development Department, 2007.)

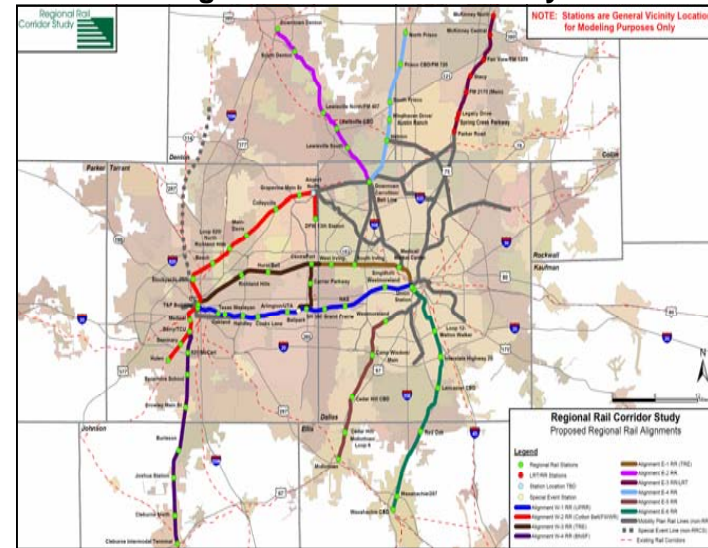
rail options, NCTCOG conducted a Regional Rail Corridor Study (RRCS) and Regional Transit Initiative (RTI). Completed in fall 2004, the purpose of the RRCS and RTI respectively is to assess the feasibility of implementing passenger rail service along existing Metroplex rail corridors, and to develop a framework for how best to deliver these services financially, institutionally, and legislatively. The RTI began in January 2004 and was completed in fall 2004. The RRCS was completed in December 2004. During the 2007 session the Texas Legislature did not pass an increase in sales taxes for transit, but the issue is likely to come up again in the 2009 session.

The City of Fort Worth is part of the RRCS western subregion and participated in evaluating the following rail corridors: W-1 or the Union Pacific (UP), W-2 which includes Fort Worth & Western and Cotton Belt, W-3, which is the existing Trinity Railway Express, and W-4 the Burlington Northern Santa Fe (BNSF). The RRCS recommended regional rail as the appropriate mode for these corridors as well as the double-tracking of the existing TRE line. The W-2 line stretches from Southwest Fort Worth through northeast Tarrant County and connects to the north end of DFW International Airport. The Cotton Belt on the W-2 line is a publicly-owned line (by DART), aside from a 2.5 mile portion just north of Downtown Fort Worth. The T is currently in negotiations with Union Pacific, the owner of the 2.5 mile portion, to purchase it. The Fort Worth & Western, also on W-2, connects Downtown through southwest Fort Worth to Hulen Street. The W-1 UP line connects Downtown Fort Worth eastward to Downtown Dallas, passing through the cities of Arlington and Grand Prairie. The W-4 BNSF line connects Downtown Fort Worth south to Cleburne. The W-2 and W-4 lines have limitations for converting to passenger rail use because they pass through Tower 55, the most congested rail line crossing in the western United States.

As a follow-up to the RRCS and as authorized by The T's 2005 Strategic Plan, The T recently completed an alternative analysis study called the Southwest-to-Northeast Transportation Corridor Study (TCS), which identified what major transit improvements would best serve southwest and northeast Tarrant County. The final recommended improvement is identified as the Locally Preferred Alternative (LPA). The TCS is the first step toward obtaining federal funding for major capital investment in transit improvements. The area studied covered approximately 40 miles from southwest of Downtown Fort Worth to north of Dallas Fort Worth International Airport, and into the airport. The TCS investigated options involving both commuter and light rail, and bus rapid transit. The study also looked at ways transit improvements could enhance movement of privately-owned vehicle traffic, such as by implementing High Occupancy Vehicle Lanes, promoting carpooling, or other transportation management options.

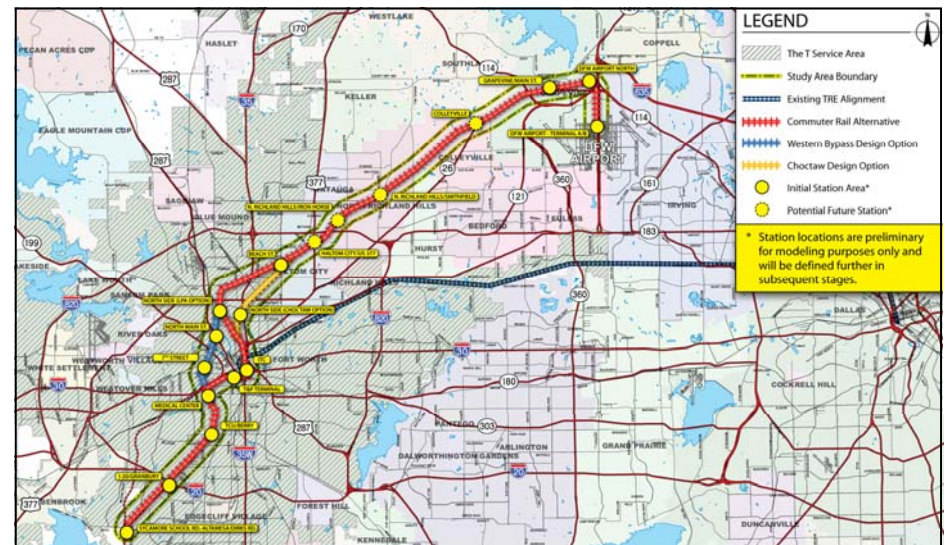
The T's Board of Directors formally endorsed the preliminary LPA in November 2006. A series of public meetings were held to get input from the community in October 2006. The regional rail line recommended as the preliminary LPA will utilize existing tracks of the Fort Worth and Western and Union Pacific railroads, and the Cotton Belt route. The LPA would provide direct access to all activity centers and would connect with other transportation modes in Downtown Fort

Regional Rail Corridor Study



The City of Fort Worth participated with The T in the North Central Texas Council of Governments' Regional Rail Corridor Study. Completed in 2004, the study evaluated the feasibility of implementing passenger rail service along existing rail corridors in the Dallas-Fort Worth Metroplex. (Source: North Central Texas Council of Governments, 2007.)

Southwest-to-Northeast Transportation Corridor Study



This regional rail line from southwest Fort Worth to DFW Airport was identified as the preliminary Locally Preferred Alternative and the best transportation investment The T could make in the Southwest-to-Northeast corridor. It was endorsed by The T's Board of Directors in November 2006. (Source: The T, 2007.)

Worth. To move forward with implementing the LPA, The T will need to complete appropriate federal documents and fulfill environmental review requirements. This next phase of the Southwest-to-Northeast Rail Corridor project, known as the Draft Environmental Impact Study and Preliminary Engineering phase, began in April 2007 and consists of the following tasks:

- Completing engineering tasks to a level sufficient for developing more detailed cost estimates and identifying more precise locations for stations; and,
- Conducting an environmental review and submitting an Environmental Impact Statement (EIS) document to the Federal Transit Administration (FTA) that will document any environmental issues and allow The T to request federal funding assistance to build the project.

Public meetings were held in June, August, and November 2007 to share information, including the project scope and schedule, and to learn about public concerns regarding the project. It is anticipated that the EIS portion of the planning process will be complete in Spring 2008.

Other Rail

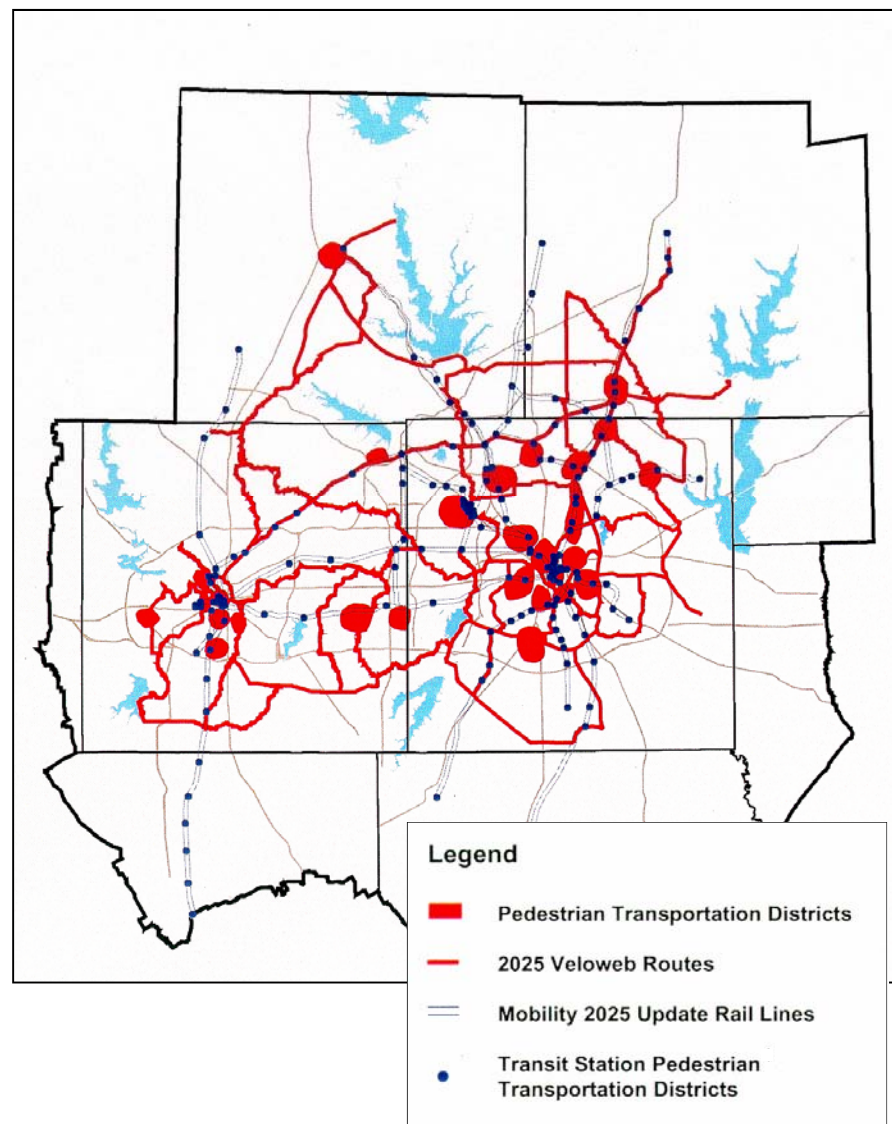
Existing rail passenger service in Fort Worth includes Amtrak, which provides interstate passenger service from Fort Worth to Houston, Oklahoma City, and San Antonio. The Intermodal Transportation Center at Ninth and Jones Streets includes the Amtrak station.

The Tower 55 freight rail intersection in downtown Fort Worth serves as the east-west and north-south intersection for the BNSF and UP railroads and is one of the most congested rail intersections in the nation causing train delays. These delays have a negative impact on economic and business activities, vehicular and pedestrian access, air quality, and future plans for passenger rail expansion. A congressional earmark of \$1.6 million was included in the latest federal transportation bill (SAFETEA-LU) for the purpose of conducting a study of Tower 55 in order to identify a solution to this freight bottleneck. The total cost of the study is \$2 million. The City is participating with The T, BNSF, UP, City of Arlington, and Tarrant County to provide a local funding match of \$400,000 for the study. The City's portion of the local match is \$66,600. The study will identify the infrastructure necessary to mitigate national freight risks, alleviate current freight congestion, and accommodate the expected growth in national goods movement needs over the next 25 years. The Tower 55 study began in early 2007. Public meetings were held in November 2007 to share potential railroad and roadway improvements associated with Tower 55. The study should be completed within two years.

Grade Crossings and Quiet Zones

Fort Worth has more railroad crossings per capita than any other large city in Texas. Because of significant historical railroad developments dating back to the first railroad, the Texas and Pacific in 1876, today there nearly 200 grade crossings in the City. With the high amount of train activity and high number of grade crossings in Fort Worth, the City is committed to improving railroad crossing safety and developing new quiet zones. City projects underway involve railroad signal crossing upgrades, crossing surface projects, quiet zone projects, grade separations (bridges and underpasses), and other railroad crossing improvements.

Pedestrian and Bicycle Facilities



The North Central Texas Council of Governments has adopted strategies for providing effective, cost efficient, and safe intermodal access for bicyclists and pedestrians. These strategies include integrating future rail corridors with pedestrian districts and bicycle networks. (Source: North Central Texas Council of Governments, 2007.)

Quiet zones are improved railroad grade crossings where locomotives are not required to sound their horn. A quiet zone can therefore significantly improve the environmental quality of a neighborhood. A crossing or a group of railroad crossings can qualify for a quiet zone if, in addition to modern crossing flashers and gates, additional specific crossing devices are used to increase the safety of each crossing.

Sustainable Development

Sustainable development, as it relates to transportation, can be defined as:

- Land use and transportation practices that promote economic development while using limited resources in an efficient manner;
- Transportation decision-making that seeks to reduce adverse impacts on congestion, vehicle miles traveled, the viability of alternative transportation modes, and maximizing compatibility with adjacent land uses; and,
- Planning efforts that effectively balance access, finance, mobility, affordability, community cohesion, and environmental quality.

Sustainable development leverages the land use and transportation relationship to improve mobility, enhance air quality, support economic growth, and ensure the financial stability of the transportation system. A successful multi-modal transportation system will support and encourage sustainable development. Transit-oriented development (TOD) is an important component of sustainable development. TOD refers to a compact urban village that is centered around and coordinated with a transit station in its use and design. The purpose of TOD is to establish land uses and to design structures and public spaces that will encourage residents, workers, and shoppers to drive their cars less and ride mass transit more. In 2006, the City of Fort Worth, The T, and the NCTCOG began work on a study to develop TOD guidelines for future capital-intensive transit projects in Fort Worth. In order to encourage mixed-use and transit-oriented development, the City of Fort Worth adopted two new mixed-use zoning classifications in March 2001. These new categories encourage mixed-use and higher-density developments, especially in designated mixed-use growth centers and urban villages (see Chapter 4: Land Use). Mixed-use zoning significantly reduces parking requirements and provides design standards that are transit- and pedestrian-friendly.

Encouraging mixed-use and transit-oriented development leverages the strong relationship between land use and transportation to support sustainable development. Historically, Fort Worth's transportation system has been based on a system of roadways that primarily serve vehicular traffic. Federal, state, and local governments have recognized the need to use resources more effectively and to improve air quality by planning for alternative transportation choices within an interconnected transportation system.

Context Sensitive Solutions (CSS) is a philosophy wherein safe transportation solutions are designed in harmony with the community. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic and environmental values with transportation safety, maintenance, and performance goals. The Transportation and Public Works Department (TPW) has begun to approach these issues by creating a CSS program and developing CSS design guidelines for use in designated urban villages and mixed-use growth centers.

Trinity Trail Network



The Trinity Trail network provides opportunities for hiking, biking, and in-line skating. These trails enjoy high levels of recreational use, and are also included in NCTCOG's regional veloweb, a bicycle commuting and pedestrian network encompassing the Fort Worth/Dallas area. (Source: North Central Texas Council of Governments, 2007.)

Some of the issues that TPW will need to address when considering CSS include funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes and safety, and ensuring adherence to relevant laws, rules and regulations.

In 2007, TPW collaborated with local residents, businesses, developers, other City departments, and other stakeholders to develop a comprehensive CSS policy. Upon Council adoption, it is anticipated that this policy will amend the existing City of Fort Worth Street Standards in order to provide stakeholders with additional flexibility for achieving their community goals.

Intelligent Transportation System

Part of the solution to congestion is to efficiently use existing street facilities. This is accomplished through the implementation of an intelligent transportation system (ITS). ITS uses technology and effective management strategies to manage real-time traffic information and coordinate response activities with local or regional transportation and emergency services. ITS uses technology to manage traffic and ultimately provide a regional seamless transportation system.

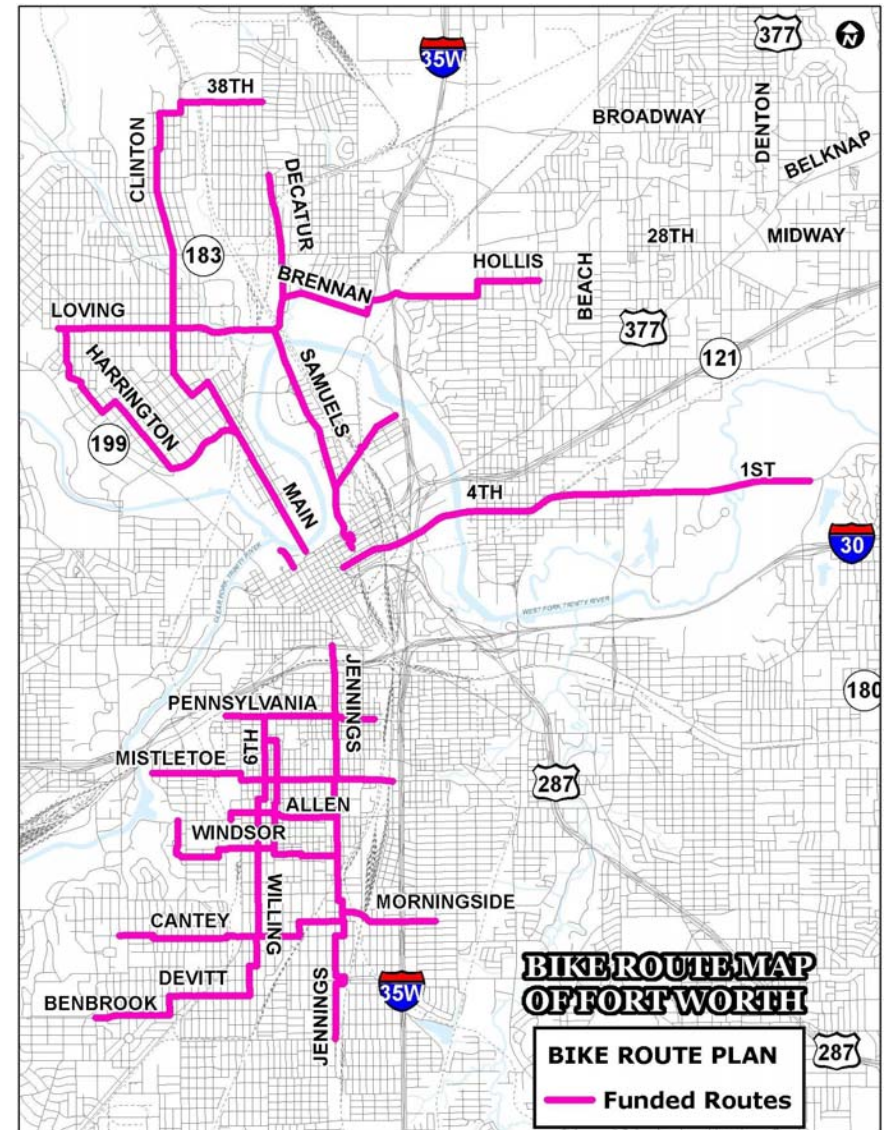
The City has developed an Intelligent Transportation System Plan for Fort Worth. The plan has several elements, including an incident management system to provide timely information to responding agencies such as fire, police, and emergency medical; a coordinated traffic signal system to manage the timing of signals to improve traffic flow; methods to alert motorists of congested areas and offer alternative routes or modes of travel; and a traffic monitoring system to monitor system flow. Fort Worth's ITS plan was developed in coordination with TxDOT's regional ITS plan and in cooperation with NCTCOG.

One important step in implementing the ITS Plan is the development of a Communication Master Plan that identifies how all of the City's ITS devices (traffic signals, traffic cameras, etc.) can be connected to the City's Traffic Management Center. The City completed a Communication Master Plan in 2003, which will guide the improvement and expansion of the communication system in upcoming projects. The City is also working with The T on an ITS test project—entitled Transit Signal Priority (TSP)—to allow The T's buses to have signal priority along some bus route lines which have historically had difficulties staying on schedule. Future deployment of TSP may take place along specific corridors with high levels of transit usage or may be used to help speed transit vehicles to outlying service areas, thereby decreasing travel time. This TSP project began in fall 2005. In early 2006, The T began the development of an ITS plan consisting of: Cameras on all buses to increase passenger security; Automatic Passenger Counters on select vehicles to improve data collection and analysis efforts; and Global Positioning System units on buses to pave the way for future real time information.

Bicycle Transportation

Riding a bicycle provides benefits for the cyclist and the community: a cyclist benefits from improved health while reducing automobile congestion and improving air quality. The Trinity Trail Network includes more than 40 miles of multi-use trails that follow Marine Creek and the Clear Fork and West Fork of the Trinity River. The trails can be used for biking and enjoy high levels of recreational use. However, the trail system requires improved connections with the existing street system to enhance

Fort Worth Bicycle Blueprint



The Fort Worth Bicycle Blueprint recommends 300 miles of planned on-street routes within the City of Fort Worth. Phase I, which includes the 60 miles depicted above, was completed in March 2007 and involved the installation of four route signs per mile and a bike road stencil at regular intervals. (Source: Transportation and Public Works Department, 2007.)

its viability as an alternative transportation route. Crossing freeways and the Trinity River pose particular problems for bicyclists, as do discontinuous street systems. NCTCOG Mobility 2030 designates Downtown as a Bicycle District. This designation helps spawn more interest within the Fort Worth community toward improving cycling conditions citywide.

City representatives worked with NCTCOG on the 1999 Fort Worth Bicycle Blueprint, which recommends over 300 miles of signed, on-street bicycle routes throughout the city, as well as a regional bike system. Installation of the first 60 miles of the system was completed in March 2007. The City intends to expand on the Bicycle Blueprint effort in 2007 and 2008 by developing a citywide bicycle transportation plan. To provide bicycle riders greater transportation options, The T provides bicycle racks on all of its fixed route buses. A survey conducted by The T found that over 2,300 cyclists utilize The T's bus bike racks each month, and the City has provided bicycle racks throughout Downtown and in the Medical District. Bicycles are also allowed on the front cars of Trinity Railway Express commuter trains. Additionally, when the street development standards were revised in February 2002, the street design was modified to provide wide outside curb lanes on all arterial roads, facilitating their use as an on-street bicycle network.

Pedestrian Transportation

Fort Worth neighborhoods have incomplete sidewalk networks, often characterized by broken segments that are overgrown with weeds. Incomplete pedestrian networks can prevent residents from walking to destinations and public transportation; they can also discourage the general public from considering alternative modes of transportation. Properly-designed pedestrian accommodations are particularly important for persons with disabilities and for children who walk to school. Strategies and policies to improve the City's pedestrian transportation network will be outlined in the City's Mobility and Air Quality Plan, which is expected to be adopted by Council in October 2007.

In 2007, under guidance from the Access Subcommittee of the Mayor's Committee on Persons with Disabilities, the City initiated a pedestrian curb ramp improvement program. The objective of this program is to retrofit intersections where they are currently lacking with pedestrian curb ramps that are compliant with the standards of the Americans with Disabilities Act.

The City is also working with local Independent School Districts and individual schools to identify potential projects to be implemented under the Texas Department of Transportation's Safe Routes to Schools program. This program aims to construct infrastructure and implement programs that encourage more children to walk to school and that provide them with safe facilities for walking.

The City is currently undertaking a number of initiatives in urban villages along commercial corridors that will improve pedestrian circulation and comfort within the villages and to adjacent neighborhoods. Specific projects are discussed in Chapter 10: Economic Development and Chapter 14: Urban Design. The initiatives discussed in these chapters, such as mixed-use zoning, streetscape projects, and crosswalks and wider sidewalks, will encourage increased pedestrian activity within these project areas.

DFW Airport Automated People Mover System



The automated people mover at DFW Airport, Skylink, which opened in May 2005, allows airline passengers greater mobility between airport terminals. Future plans may allow for connection to the commuter rail station at CentrePort. (Source: DFW Airport, 2007.)

DFW Airport International Terminal



The new International Terminal D, which opened in April 2005, allows airline passengers greater convenience in reaching their international destinations. The new terminal contains 120 ticketing positions and a Federal Inspection Facility capable of processing 2,800 passengers per hour. (Source: DFW Airport, 2007.)

Many neighborhoods and commercial areas can be connected to the Trinity Trail network, thereby improving livability and enhancing economic vitality. The City's Parks and Community Services Department received a \$1 million grant from the Federal Highway Administration for the Trinity River Neighborhood Trails Program. A study to assess and prioritize possible trail connection routes was completed in 2006.

Municipal Aviation

Aviation is an important component of the overall transportation system. Four major airports serve the Fort Worth area providing cargo, corporate, and large-scale passenger service.

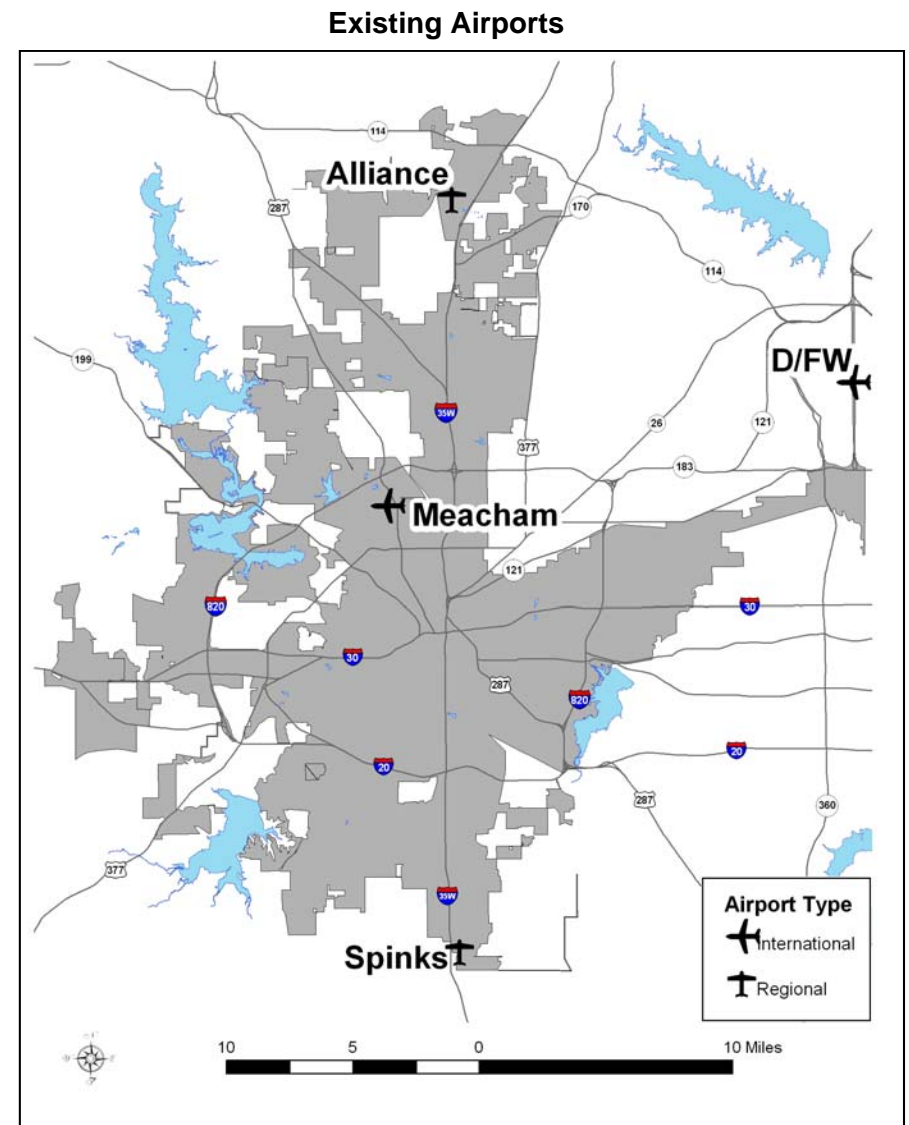
Dallas/Fort Worth International Airport (DFW) is a regional hub, jointly owned by the cities of Fort Worth and Dallas. The airport encompasses 18,076 acres, with 7,979 currently used for aviation purposes and 173 dedicated for commercial use. DFW has identified 8,080 acres that are available for future development, and an additional 1,844 acres have been designated for greenbelt areas. The airport provides nonstop service to more than 160 cities worldwide, including over 130 nonstop domestic destinations and over 30 nonstop international destinations. There were more than 342,000 landings at DFW in 2006. DFW generates approximately \$11.2 billion annually for the region in economic development.

The 1997 DFW Master Plan calls for attracting industrial complexes, retail centers, and corporate offices to this area. DFW is undergoing a \$2.6 billion expansion that includes a consolidated international terminal, an automated people mover system, a new hotel, additional parking facilities, and airfield improvements. DFW estimates that this investment will generate an additional \$34 billion to the North Texas economy and an additional 77,000 new jobs over the next 15 years. The new international terminal, which opened in April 2005, added 23 new gates to the airport.

The new Automated People Mover (APM) System, Skylink, which opened in May 2005, connects DFW's existing Terminals A, B, C, E, and the new International Terminal D, as well as the future Terminal F. DFW Airport, NCTCOG, DART, and The T completed a DFW Airport Rail Planning and Implementation Study that evaluated alternatives to allow an interface between the regional rail system and the airport. The study recommends regional rail service along the Cotton Belt line from Downtown Fort Worth to the airport.

The City of Fort Worth Airport System currently includes three general aviation reliever airports: Alliance Airport, Meacham International Airport, and Spinks Airport. These airports are important to the metroplex airport system because they handle smaller aircraft, thus relieving DFW of this traffic. All airports are located adjacent to interstate highways and major arterials, which allows them to coordinate with other modes of transportation. Additionally, rail transportation is located near Alliance and Meacham Airports.

The City recently completed Master Plan updates for both Meacham and Spinks Airports. The data compiled in these Master Plans will be used to develop an Airport Systems Plan that will include Alliance, Meacham International and Spinks Airports. The Airport Systems Plan will be developed as a stand alone component of the



Dallas-Fort Worth International Airport (DFW), jointly owned by the cities of Fort Worth and Dallas, serves as the regional hub airport for the area, providing nonstop services to over 160 cities worldwide. The three municipal airports, Alliance, Meacham and Spinks, handle smaller aircraft, relieving DFW of this traffic. (Sources: Transportation and Public Works Department, Planning and Development Department, 2007.)

Mobility and Air Quality Plan. The Airport Systems Plan will help to clearly identify the roles of each airport and allow the City to strategically develop and promote each airport in their respective markets as a system. The Texas Department of Transportation has offered the City of Fort Worth a grant for the development of an Airport Systems Plan, which should be completed in 2007.

Alliance Airport is a public airport that serves the needs of industrial, business and general aviation users rather than commercial airlines. It is owned by the City of Fort Worth and operated by privately held Alliance Air Services. In the spring of 2001, Alliance Airport began a runway extension project. In order to complete the runway extension, it required the relocation of the BNSF railroad, FM 156 and Eagle Parkway. The project will provide a platform for cargo-laden aircraft to conduct international flight operations from Alliance Airport to destinations around the world. Cargo operators based at Alliance will be able to serve a global market that will enhance potential revenue for the City of Fort Worth and promote the future development of the Fort Worth Airport System. To accommodate anticipated airline cargo activity, Alliance Airport, working with the City and Hillwood Development, constructed a cargo apron and connecting taxiways on the southwest corner of the airport. Hillwood also constructed a 99,000 square foot cargo facility adjacent to the apron. Other projects currently underway at Alliance are a noise compatibility study, the rehabilitation of the northeast taxiway, the replacement of wind cones, and installation of airfield guidance signs.

Meacham Airport was constructed in May 1925 and has undergone many changes since its opening. Meacham Airport is currently in the final phases of noise mitigation funded by the FAA in which 124 parcels of land were purchased. TxDOT is funding upgrades to the runway at Meacham Airport with an anticipated completion date of fall 2008. Meacham Airport was designated as a foreign trade zone in April 2002. Foreign trade zones are designed to increase the use of American labor and increase investment in the United States by allowing activity to occur in the U.S. prior to the application of U.S. Customs laws, thereby equalizing the treatment of the activity with similar activities occurring overseas.

Spinks Airport was developed in 1988 in the southern part of Fort Worth. Spinks Airport has become increasingly more important for economic development in the southern part of the city. Construction of a permanent control tower at Spinks Airport was completed in November 2006. The airport is now eligible to receive FAA funding for staff costs through the Contract Tower Program. TxDOT has funded a project for a taxiway and also road repair which is currently underway. The City's three general aviation airports are further described below.

Alliance Airport

- Located 15 miles north of Downtown Fort Worth
- One 9,600' x 150' runway
- One 8,200' x 150' Visual Flight Rule (VFR) runway
- On-site crash, fire, and rescue facilities operated 24 hours a day
- 24-hour FAA-operated control tower
- Aircraft operation: 300/day

Alliance Airport



The Alliance Airport is the newest addition (1989) to the City of Fort Worth aviation system. It is the first industrial airport in this region, a concept that has proven effective for economic development. Industries are attracted by the convenience of easy access to air transportation, and new subdivisions are being developed to serve the large number of employees working in the Alliance area. (Source: Aviation Department, 2007.)

Meacham Airport



Spinks Airport



The City has adopted master plans for Meacham and Spinks Airports. (Source: Aviation Department, 2007.)

- 700 acres inside boundaries

Meacham Airport

- Located 5 miles north of Downtown Fort Worth
- One 7,501' x 150' runway
- One 4,006' x 75' runway
- One 3,677' x 100' runway
- City owned and operated
- On-site crash, fire, and rescue facilities operated 24 hours a day
- FAA Air Traffic Control Tower
- Aircraft operation: 205/day
- 745 acres inside boundaries
- Automated Flight Service Station operated 24 hours a day
- Instrument landing system

Spinks Airport

- Located 15 miles south of Downtown Fort Worth
- One 6,002' x 100' runway, which can be extended to 7,200 feet
- One 4,000' x 60' turf runway
- City-owned and operated Air Traffic Control Tower
- Aircraft operation: 280/day
- 822 acres inside boundaries
- Instrument landing system
- Automated weather
- GPS approaches

Heliports

The helicopter can provide a wide variety of important services to any community that integrates this aircraft into its local transportation system. The State of Texas has a total of 445 heliports in use, with 327 sites in non-hospital use, and 118 sites used by emergency medical facilities. Fort Worth has 16 heliports in use, with public heliport sites located at Alliance Airport, Meacham International Airport, and Spinks Airport. Hospitals with existing heliports in Fort Worth include All Saints Episcopal/Cityview, Columbia Plaza Medical Center, and Harris Methodist Hospital.

GOALS AND OBJECTIVES

Improve mobility and air quality by providing a multi-modal transportation system.

- Develop a Mobility and Air Quality (MAQ) Plan. Complete the MAQ Plan in 2008.
- Complete pedestrian curb ramp improvement program study in 2008.
- Adopt and implement the Context Sensitive Solutions policy in 2008.
- Work with The T to create Station Area Plans as part of the Southwest-to-Northeast Rail Corridor Draft Environmental Impact Statement and Preliminary Engineering to identify potential locations for transit-oriented development in 2008.
- Complete the bicycle transportation plan in 2008.

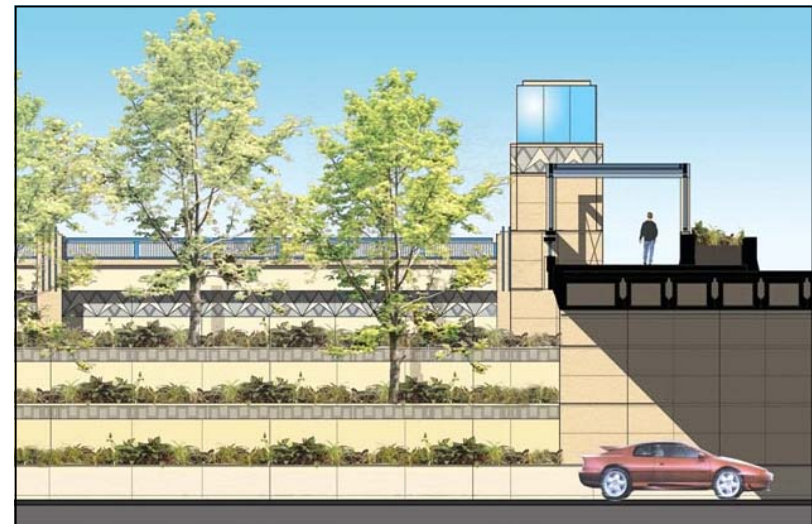
Develop a safe, efficient, and economically sound transportation system.

Bridge and Roadway Improvements



Improvements to the roadway system are just one part of the City's efforts to enhance its transportation infrastructure. The improvements to the Park Hill Bridge in southwest Fort Worth are an example of how historical details such as decorative light fixtures and railings can add to the aesthetic quality of the City's infrastructure and surrounding neighborhoods. (Source: Transportation and Public Works Department, 2007.)

SH 121T: Conceptual Toll Plaza



This conceptual illustration of the preferred walls and railing on proposed SH 121T, Southwest Parkway tollway, reflects the commitment to create a road in a "park-like" environment. The road is planned to traverse the southwest part of Fort Worth. (Source: Transportation and Public Works Department, 2007.)

- Periodically review safety, operation, and construction activities that impact the efficient movement of all modes of transportation.
- Evaluate traffic and pedestrian safety near shopping, schools, and other pedestrian-oriented areas on a continuous basis.
- Identify capital improvement projects and possible construction funding sources on an annual basis for inclusion in future capital improvement programs.

Improve and expand transportation options for low-income residents.

- Continue to collaborate with The T to identify areas with concentrations of low-income persons and high unemployment rates where car and vanpools would be feasible in 2008.

Lessen the transportation system's impacts on air quality, the environment, and neighborhood quality of life.

- Continue to implement transportation control measures that reduce vehicle use, change traffic flow, and reduce congestion conditions.
- Continue to conduct corridor studies to evaluate pedestrian and vehicle movements and their impacts on retail, residential, and historic areas.

Improve transportation coordination with area transportation agencies.

- Coordinate with TxDOT on State projects within the city's boundary.
- Coordinate with the NCTCOG's Metropolitan Planning Organization.
- Coordinate with other City departments on transportation projects.
- Coordinate with Independent School Districts on new school locations and needs.
- Provide staff support to the City's new Regional Transportation Coordinator.

POLICIES AND STRATEGIES

The City of Fort Worth uses the following policies and strategies to provide for a multimodal transportation system that supports economic growth and improved air quality.

Policies

- Evaluate the impacts of land use and platting decisions on the overall transportation system, and the impacts of transportation decisions on land use.
- Use the existing Community Facilities Agreement (CFA) program to develop transportation facilities in conjunction with new private development. The CFA is a contract between the developer and the City for improvements which will eventually be dedicated to the public and maintained by the City. The CFA may include streets, streetlights, street name signs, storm drains, water, sewer, and park facilities.
- Support and encourage appropriate mixed-use zoning and mixed-use development in designated growth centers and urban villages.
- Preserve and maintain the existing street infrastructure.
- Promote sustainable development patterns that include greater density at appropriate locations, mixed-use development, public transit, park and ride facilities, and access management (e.g., encouraging shared driveways and

Construction Site Safety



One of the City's primary goals is to develop a safe, efficient, and economically sound transportation system. Construction site safety and efficiency are critical in achieving this goal.

(Source: Transportation and Public Works Department, 2007.)

limiting the number of curb cuts) to reduce vehicle trips.

- Protect residential and historic areas from the impacts of traffic.
- Encourage appropriate development through the planning and implementation of a multimodal transportation system.
- Routinely incorporate the needs of pedestrians and bicyclists when planning and designing transportation projects.
- Emphasize public transportation, bicycle, and pedestrian improvements in designated growth centers and urban villages.
- Integrate the City's airport system as part of the overall transportation system.

Strategies

- Identify and promote potential locations for the expansion of rail transit.
- Identify and promote potential locations for transit-oriented development, especially in designated growth centers and urban villages.
- Facilitate travel between growth centers and urban villages through thoroughfare improvements and public transportation opportunities.
- Participate with The T and NCTCOG on passenger rail and bicycle route studies.
- Continue to work with The T to expand and integrate public transit into the City's transportation system.
- Ensure collaboration among City departments, The T, and the community to address issues concerning coordination among the various transportation modes.
- Promote park-and-ride facilities to encourage the use of public transit.
- Incorporate the various modes of transportation into corridor studies to determine possible alternatives. Studies are to focus on congestion, safety issues, and level of service analysis.
- Seek input from other entities, including schools, cities, counties, The T, NCTCOG, and TxDOT when making land use and transportation decisions.
- Continue to coordinate with NCTCOG to use the travel forecasting model.
- Implement the Intelligent Transportation System Plan for Fort Worth, in coordination with TxDOT, NCTCOG, The T, and other Metroplex cities.
- Establish links for pedestrians to cross natural barriers, such as rivers and creeks, and man-made obstacles, such as railroads and highways.
- Encourage linkages between neighborhoods and integrate land uses to decrease vehicle miles traveled.
- Provide access for pedestrians from residential areas to shopping, parks, and public buildings.
- Promote and participate in local and regional activities that encourage bicycling and walking as a means of transportation.
- Foster roadway designs that decrease noise and improve air quality along major arterials. Modify existing guidelines for traffic impact and assessment studies to allow more flexibility for the different sizes of new developments.
- Include landscaping plans in corridor projects.
- Continue a regular program for counting traffic.
- Establish a tracking program for roadway safety issues.
- Inventory and evaluate truck routes within the city to ensure efficient movement of goods to growth centers and other destinations.

Neighborhood Traffic Management Program



The Neighborhood Traffic Management Program provides assistance for residents living on residential streets experiencing high traffic speeds and volumes. (Source: Transportation and Public Works Department, 2007.)

Pedestrians at Sundance Square



Facilities that encourage pedestrian movement include continuous sidewalks with crosswalks, landscaping, and lighting. Sundance Square in Downtown Fort Worth has created an environment that encourages walking. (Source: Transportation and Public Works Department, 2007.)

- Develop an appropriate strategy to address the maintenance of public alleys.
- Support airport operations that are currently bringing in revenue.

PROGRAMS AND PROJECTS

The following programs and projects assist the City in developing and maintaining a safe, efficient, and sound transportation system.

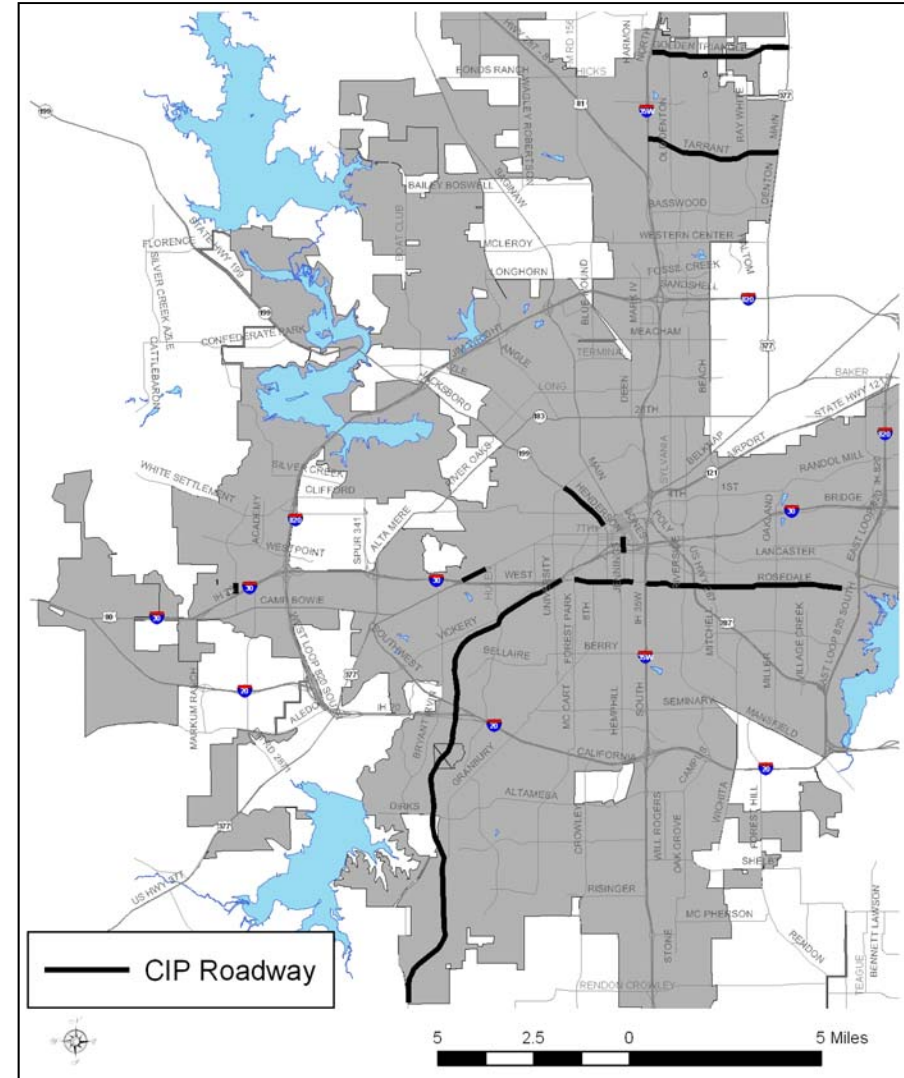
Programs

- The Safe Pathways Program works to determine appropriate locations for sidewalks. Primary school routes and streets with pedestrian traffic, like parks and shopping areas, are identified as important locations for sidewalks. Neighborhood groups and school officials determine walking routes to schools in neighborhoods, and funds are allocated for replacing deteriorated sidewalks. Where sidewalks do not exist or where there are breaks in the sidewalk system, citizens can pay 25 percent of the cost of sidewalk construction, while the City pays for 75 percent.
- The School Safety Program coordinates the installation of traffic control devices within the vicinity of schools. School district administrators and parents assist in identifying and designating safe school routes for students. Traffic control devices, including school speed limit zone signs and flashing lights, school crossing signs, and advance warning signs, alert traffic to school areas.
- The Neighborhood Traffic Management Program (NTMP) provides traffic calming devices on residential streets that experience high traffic speeds and volumes. An individual or neighborhood association may participate in this program. The NTMP looks at traffic issues in the entire neighborhood and not just particular streets and intersections. City staff work with residents to identify and resolve traffic issues within the neighborhood. A variety of traffic calming and traffic control devices, including speed humps, may be considered.
- The Annual Street Maintenance program assists in the maintenance of all city streets, including asphalt, concrete, and brick surfaces. Streets that are maintained through the program are selected each year based on citizen's requests and staff evaluation of conditions. Some streets outside the city limits are also maintained through jointly funded interlocal agreements between the City and county.
- The Street Management Program coordinates and manages all aspects of street construction, closures, and uses that affect vehicular and/or pedestrian traffic flow. This includes review of traffic control plans for street and sidewalk closures due to special events, construction, and utility work. The program aims to keep city streets and sidewalks open for public use to the extent possible.

Projects

- The City is currently a partner with the North Texas Tollway Authority (NTTA) and the Texas Department of Transportation (TxDOT) in the development of SH 121T, the Southwest Parkway. This tollway will eventually traverse from I-30 at Forest Park Boulevard through the southwest part of Fort Worth to U.S. Highway 67 in Cleburne. Major improvements to interchanges at I-30 and at I-20/SH 183 will be a part of this project as well. The parkway is scheduled to be completed in 2011.

Selected Roadway Capital Improvement Projects



The Proposed Capital Improvements table in Appendix D describes a variety of transportation projects. Roadway projects include street improvements and bridge projects. Other projects listed in the table (but not mapped) include intelligent transportation systems, bicycle improvements, and aviation, rail, and sidewalk projects. (Sources: Transportation and Public Works Department, Planning and Development Department, 2007.)

- As part of the Communication Master Plan the City will install cable modems and radio systems into several hundred ITS devices citywide. This will allow the ITS devices to be managed from the City's Traffic Management Center downtown. This effort should be complete by March 2008.
- A number of Major Transportation Corridor Studies (MTCS) are underway in the region. A MTCS must identify all reasonable alternative strategies for addressing transportation demand, congestion, or other issues in a corridor. Active studies in the Fort Worth area include: the I-30 MTCS from Oakland Blvd to the Dallas County Line, the I-820 Southeast MTCS from Meadowbrook Drive to I-20 and on US 287 from I-820 to Reed Street, the I-820 East MTCS from SH 121 to Randol Mill Road, the I-35W MTCS from Northside Drive to I-820, SH 121/ SH 183 MTCS from IH 820 to SH 161, the SH 121 (Johnson County) MTCS from FM 1187 to US 67, and the I-820 Northeast MTCS from I-35W to SH 26. The TxDOT-Fort Worth District is the lead agency for these studies. The Texas Transportation Commission now requires mobility projects in any phase of development or construction on the state highway system to be evaluated for their potential for development as toll roads. This includes new facilities and increased capacity projects such as adding additional main lanes or constructing new main lanes. As a result, the I-35W MTCS, I-30 MCTS, SH 121/SH 183 MTCS, and SH 121 (Johnson County) MTCS studies are currently being re-evaluated.
- The City of Fort Worth has initiated a Texas Motor Speedway (TMS) Area Master Plan to assess economic and environmental impacts of proposed developments in the area, and to recommend compatible land uses and infrastructure improvements to support future development surrounding TMS. A transportation study is being prepared in conjunction with the TMS master plan. The goal of the transportation study is to identify anticipated deficiencies in transportation infrastructure and services, and to guide planning for an efficient transportation system for the TMS area. The study will also look at the impact on the transportation system due to special events held at TMS. The study will take a multi-modal approach to transportation, including arterial roadways, bike/pedestrian paths, freeway managed lane access, and mass transit.
- Transportation Programming personnel are currently managing the development of a transportation impact fee policy. City Council consideration of the proposed policy is anticipated to occur in mid-2008. Transportation impact fees are charges assessed by local governments on new development projects. These charges are intended to recover the cost incurred by the government for the expansion of the transportation network necessary to serve demands generated by new development. Impact fees may not be used to remedy existing transportation deficiencies.

Capital Improvement Projects

Capital improvement projects identified for the next 20 years are listed in Appendix D and Appendix E, along with estimated costs, completion dates, and potential funding sources.

Major Transportation Corridors



Major Transportation Corridor Studies are currently underway for several areas of the city, including along I-35W (above). The studies will address transportation demand, congestion, and other issues. (Sources: Transportation and Public Works Department, Planning and Development Department, 2007.)

