



9 | TRANSPORTATION/MOBILITY

Transportation Principles

- PRINCIPLE 1:** Maximize the capacity of the current transportation system by making improvements within the existing right-of-way where possible.
- PRINCIPLE 2:** Create aesthetically pleasing roadways with features appropriate to the adjacent land use and the roadway type.
- PRINCIPLE 3:** Construct new roadways so that they respect the natural environment.
- PRINCIPLE 4:** Make transportation mode choices, including a viable transit system, available to Frisco citizens to help reduce vehicular trips on city streets where it is economically feasible.
- PRINCIPLE 5:** Integrate land uses with the transportation system where possible.
- PRINCIPLE 6:** Increase the interconnection of roads and trails as feasible.
- PRINCIPLE 7:** Design local neighborhood streets for safe, low speeds.
- PRINCIPLE 8:** Continue to employ Transportation System Management (TSM) strategies to maintain and/or improve mobility.
- PRINCIPLE 9:** Employ Transportation Demand Management (TDM) techniques to reduce traffic demand.
- PRINCIPLE 10:** Continue to work with outside agencies to promote transportation improvements.

Introduction

The purpose of a city's transportation system is to provide the safe and efficient movement of people and goods within a comprehensive network of streets that complement the surrounding land uses. In addition to handling current and future congestion, a city's transportation systems should be both livable and sustainable. Creating a livable transportation environment means providing an area that is more people-centric than automobile-centric, (*see also Chapter 3, Place Making & Resiliency and Appendix A8, Transportation/Mobility*). Creating a sustainable transportation environment refers to ensuring that the system remains effective over time and minimizes adverse environmental impacts, (*see also Appendix A7, Ecology & Natural Resources*).

To ensure that Frisco's transportation system meets these livability and sustainability ideals as the system is expanded, a number of challenges must be addressed. The City will continue to attract residents and businesses and the cities in the surrounding cities will continue to grow as well, particularly those to the north, which will increase the volume of traffic that regularly travels to and through Frisco.

- The transportation needs of residents, commuters and visitors must be served at the same time that increasing numbers of commercial, industrial and residential developments must be accommodated.
- Fossil fuel depletion and the energy crisis must be considered not only as they affect transportation choices, but also for their impacts on personal finances and the City's economic bottom line. Energy costs will become increasingly important in determining the design of transportation systems.
- The Dallas-Fort Worth region failed the Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS), resulting in the region being classified as a "non-attainment" zone. As an incentive to reach NAAQS, the federal government mandated that the Dallas-Fort Worth region comply by the year 2010 in order to be eligible to receive federal funding for transportation improvements. The area was threatened with severe sanctions for non-compliance, including the potential loss of hundreds of millions in federal transportation dollars. In response, the City of Frisco is partnering with other municipalities in the region, Denton and Collin Counties and the North Central Texas Council of Government to develop strategies for improving air quality.

All of these challenges point to the need for a system that is less focused on the automobile and more attuned to developing and promoting alternative modes of transportation as viable options for mobility, (*see also Chapter 10, Implementation and Appendix A8, Transportation/Mobility*).

The Future Land Use Plan and the growth it is expected to create establish the foundation for the Transportation Strategy, (*see also Chapter 4, Land Use*). This section evaluates existing mobility conditions and projected traffic congestion, establishing the basis for re-evaluating the City's transportation investments. These principles promote the City Council's adopted Infrastructure, Public Health and Safety and Sustainable City Strategic Focus Area goals. Discussions with the Council, the CPAC and the community have provided additional insight into the issues that should be at the forefront of the Transportation Strategy from their perspectives, (*see also, Appendix A1, Strategic Focus Areas*).

Existing Transportation/ Mobility System

Street Hierarchy and Functional Classification

Frisco has an extensive roadway network serving a variety of land uses. The network is laid out so that the major thoroughfares form a conventional grid pattern. In many instances, trips between residences and local stores require passing through one or more major intersections.

The total system is made up of a variety of roadway classifications ranging from major thoroughfares, which serve high-volume, higher-speed traffic, to local and collector streets that provide access to neighborhoods and commercial areas. Frisco has several major regional roadways and/or highways that pass through the City or along its boundaries. The Dallas North Tollway and Preston Road pass through the central part of the City and extend beyond the city limits to the north and south. US Highway 380 forms the City's northern border and State Highway 121/Sam Rayburn Tollway forms the southern border, both providing regional connections to the east and west.

The hierarchy of streets, based on the function of the roadways, is described below.

- **Highway and Tollway.** Limited access roadway designed for high-speed, long-distance travel and large traffic volumes; tollways and highways are typically the jurisdiction of regional, state and federal agencies rather than municipalities.
- **Major thoroughfare.** Relatively high-speed, long-distance surface street designed to move large volumes of traffic across an urbanized area and to provide access to a highway and/or tollway.
- **Minor thoroughfare.** Medium-speed, moderate-capacity surface street designed primarily for the movement of traffic to and from residential areas, places of employment, retail centers and entertainment venues.
- **Collector (Residential and Commercial).** Relatively low-speed, low-volume street used for neighborhood and commercial circulation and access to private property; collects traffic from local streets for distribution to the thoroughfare system.
- **Local.** Low-speed, low-volume roadway primarily providing access directly to residences; often characterized by multiple driveways and on-street parking.

Roadway sections for each of the roadway classifications above are included in Section 2 of the City of Frisco's *Engineering Standards*, (see also Appendix A8, *Transportation/Mobility*).

Existing Mobility Network

Presently, the only transit services available to Frisco residents are provided by TAPS Public Transit. TAPS is an on-demand, curb-to-curb service provider serving both the Collin County and the Denton County portions of Frisco; however, TAPS is not a full-service, fixed-route public transit system. Service is generally available between 6:00 a.m. to 5:30 p.m. on weekdays and advance reservations are required. Fares vary by destination and monthly passes

are available at a reduced rate with additional discounts for disabled persons and seniors.

TAPS offers limited service for Frisco residents between certain locations in McKinney and the Parker Road DART station in Plano (eight departures each weekday) and to and from Dallas Fort Worth International Airport and Love Field in Dallas from a Park & Ride lot in McKinney. Airport service is available four times each day and requires 72 hours' notice.

TAPS is also the contract provider for approved non-emergency medical transport for Medicaid recipients, Children with Special Health Care Needs (CSHCN) and Transportation for Indigent Cancer Patients Program (TICP) members. Service is available Monday through Friday from 8:00 a.m. to 5:00 p.m.; rides must be booked the day before.

The western portion of the City is in Denton County. Frisco is a member city of the Denton County Transit Authority, but DCTA does not currently provide service in Frisco.

Existing Mobility

The City of Frisco has experienced tremendous growth over the past 15 years. Developing and maintaining a transportation system that can accommodate growth of this magnitude in a relatively short period of time is a major challenge. In order to stay on top of the situation, the City must remain vigilant in financing and building new roads, (see also Chapter 8, *Infrastructure*).

This section examines the current roadway system and the mobility implications of the 2015 Comprehensive Plan. To evaluate the effectiveness of the City's current policies, it is necessary to understand how the existing transportation system is functioning. The information below compares the current roadway transportation system with the mobility that would be provided with the completion of the improvements recommended in the

2015 Comprehensive Plan. The comparison provides a benchmark for evaluating the proposed 2015 Comprehensive Plan and redirecting transportation policies and planning efforts as necessary to ensure that an efficient transportation system is built and maintained.

Three primary indicators measure the mobility of the transportation network:

- Vehicle Miles Traveled (VMT);
- Vehicle Hours of Delay (VHD); and
- Vehicle Hours Traveled (VHT).

These measures are developed with the use of TransCAD modeling. TransCAD utilizes a specially designed Geographic Information System (GIS) to analyze transportation systems under a variety of different scenarios, including an evaluation of the current demand on the transportation network in the year 2014 and the projected demand in the year 2035, assuming the transportation improvements called for in the 2006 Comprehensive Plan are completed. The following table presents the latest modeling:

Indicators	2015 FLUP
Total VMT	6,119,600
Total VHT	120,350
Total Delay	22,700

Observations about Mobility in the City

The transportation indicators above reveal that the existing transportation system is experiencing high amounts of delay and subsequent congestion. With additional people and jobs, the roadway network will be challenged to meet the future transportation needs of the City. Currently, Frisco is heavily dependent upon automobiles as the primary mode of transportation. The results of the traffic model showed that additional travel lanes alone will not

correct the anticipated challenge of congestion. The widening of the roadways is necessary to avoid gridlock, but other techniques such as mixing uses to shorten trip lengths, incorporating regional rail and adding more hike and bike facilities will be necessary.

Several of the policies from the 2006 plan have been carried forward in this 2015 update to help guide the development of the City’s future transportation vision and to meet the Council’s *Strategic Focus Area* goals.

- The concepts of maximizing the capacity of the current street system, partnering with outside agencies to fund and construct transportation improvements and designing transportation improvements to correspond to the adjacent land use support the Council’s Infrastructure, Sustainable City and Long-Term Financial Health goals.
- Reducing the number of vehicle trips by interconnecting City streets as opportunities arise and encouraging the use of various mode of travel will minimizing vehicle trips which will help to reduce traffic congestion and vehicle emissions and responding to the Infrastructure and Sustainable City Strategic Focus Areas.
- Creating aesthetically pleasing transportation facilities and taking advantage of the natural environment in the design of streets and trails will make Frisco a healthier, more livable place, consistent with the Council’s Public Health and Public Safety, Infrastructure, Leisure and Culture and Sustainable City goals.

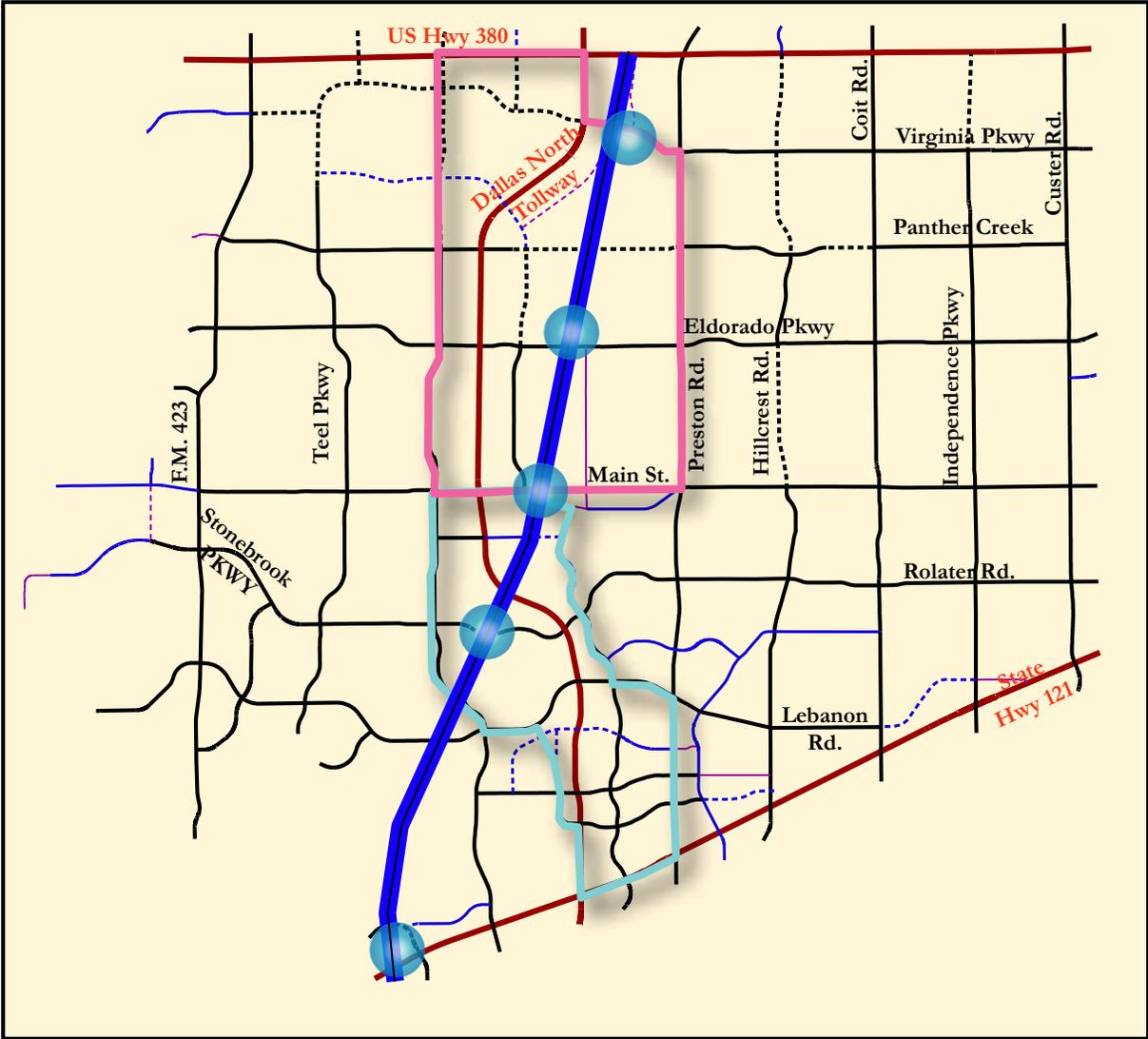


Figure 9-1: Transit Circulator Plan 2015

Legend	
North Transit Circulator	— (Pink line)
South Transit Circulator	— (Light blue line)
Future Transit Route	— (Blue line)
Future Transit Stops	● (Blue circle)
Highway / Tollway	— (Red line)
Major Thoroughfare	— (Black line)
Major Thoroughfare (Proposed)	— (Dotted black line)
Minor Thoroughfare	— (Blue line)
Minor Thoroughfare (Proposed)	— (Dotted blue line)
Major Collector Street	— (Purple line)
Major Collector Street (Proposed)	— (Dotted purple line)

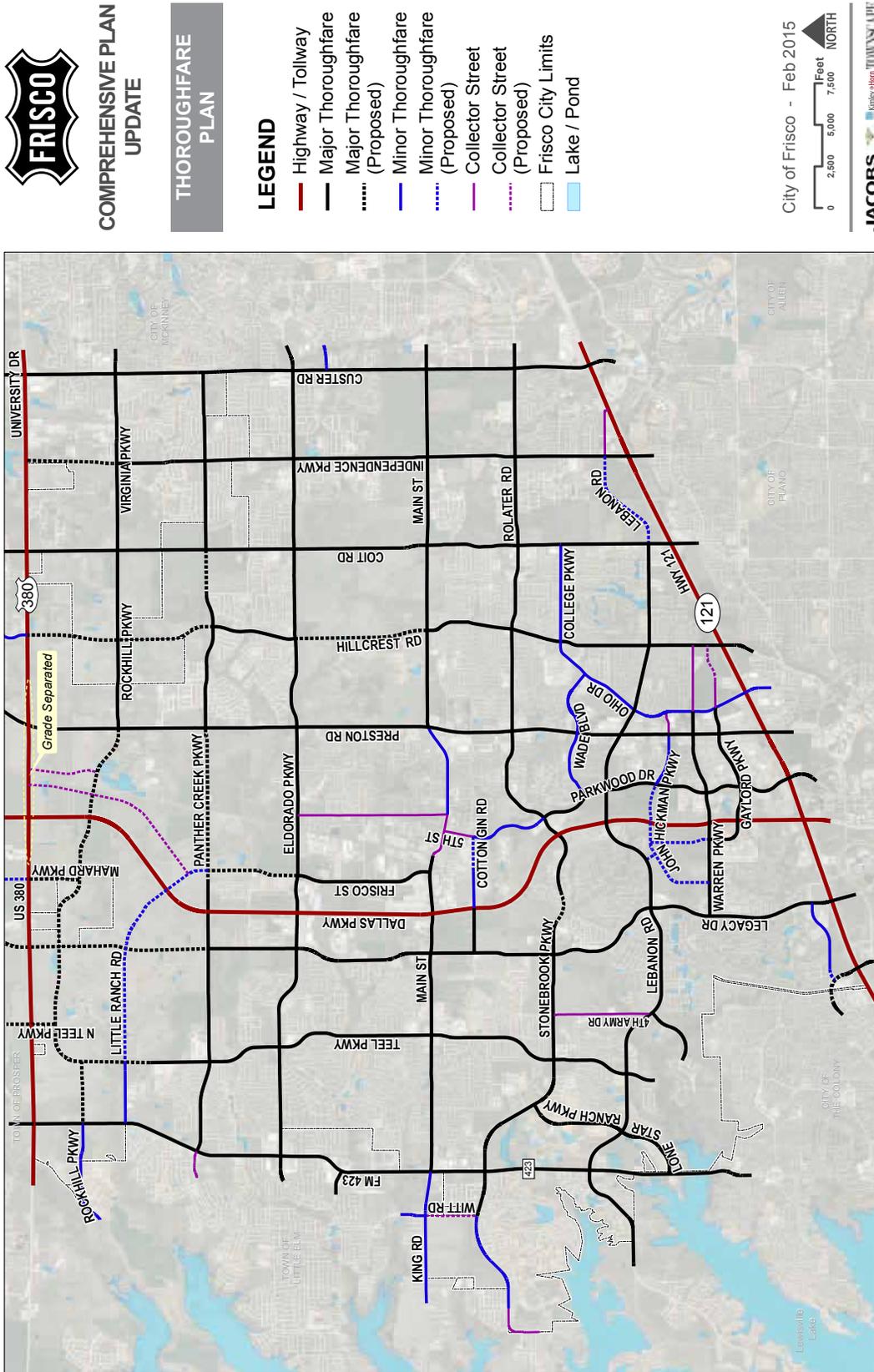


Figure 9-2: Frisco Thoroughfare Plan