



City of Frisco, Texas

WWW.CI.FRISCO.TX.US

THE FRISCO MILLENNIUM PLAN:

*A Comprehensive Guide to
Growth and Development*

7 March 2000

CASE No. Z2000-12

Prepared by:

Pierce Goodwin Alexander & Linville (Dallas, Texas)

Bob Hughey (Dallas, Texas)

John Roark, PE (Dallas, Texas)



ACKNOWLEDGEMENTS

CITY COUNCIL

Kathy Seei, Mayor
Jim Robel, Mayor Pro-Tem
Barbara Carpenter, Councilmember
Gary Downey, Councilmember
Steve Nichols, Councilmember
Tracie Reveal, Councilmember

Brett Carson, former Councilmember

PLANNING & ZONING COMMISSION

Baxter Brinkmann, P&Z Chair
Jon Ferguson, Commissioner
Julie Fort, Commissioner
Stephen Hulsey, Commissioner
Fred Lusk, Commissioner
Buddy Minett, Commissioner
Michael Osuna, Commissioner

Bill Spears, former Commissioner

COMPREHENSIVE PLAN ADVISORY COMMITTEE

Pete Hosp, Chair
Van Nichols, Co-Chair
Frank Abbott, PE
Audie Adkins
Cecil Barry
Baxter Brinkmann
Alan Chaillet
Larry Eagan
Brett Flagg
Jim Gandy
John Hamilton
William Hayes
Stephen Hulsey

Robert Jackson
Rod Kelly, PE
David Lenz
Clark Lund
Michael Osuna
Jeanne Patterson
Isabel Sem
Ray Smith
Richard Wilkinson

Linda Feld, former member
Vivian McCallum, former member
Tom Palmer, former member
Bill Spears, former member

CITY STAFF

George Purefoy, City Manager
Ron Patterson, Assistant City Manager
Mack Borchardt, Fire Chief
Jonette Ellis, Planning Technician
Frank Jaromin, City Engineer
John Lettelleir, AICP, Director of Planning
Judy McCoy, Library Director
Nan Parker, City Secretary
Todd Renshaw, Police Chief
Rick Wieland, Director of Parks
Jeffrey D. Witt, Planner II

CONSULTANT TEAM

The PGAL Planning Group:
Joseph A. Pobiner, AICP, Project Director
Guymon Phillips, PE, Principal
Yonas Belaine, Planning Support
Pat Payton, Planning Support

Specialty Consultants
Bob Hughey – Growth Management
John Roark, PE – Transportation



CONTENTS

CHAPTER 1 – THE MILLENNIUM PLAN

Welcome to the Frisco Millennium Plan	1
The Project	1
Planning Area Context	2
History	3
Population Growth.....	4
<i>Historical Growth</i>	
<i>Projected Population Growth</i>	
Public Involvement	6

CHAPTER 2 – GOALS

The Goal Setting Process	9
Stakeholder Interviews	9
CPAC/Public Input Process	11
Community Identity Goals and Objectives	12
Residential Neighborhood Goals and Objectives	13
Apartment Goals and Objectives	15
Retail Development Goals and Objectives	16
Industrial Development Goals and Objectives	18
Corporate Development Goals and Objectives	19
Downtown Goals and Objectives	20
Open Space and Park Goals and Objectives	21
Community Facility Goals and Objectives	22
Thoroughfare Goals and Objectives	23
Airport Goals and Objectives	24
Significant Corridor Goals and Objectives	25

CHAPTER 3 – EXISTING CONDITIONS

Suitability Analysis	31
Floodplains and Wetlands.....	32
<i>Overall Assessment</i>	
Slopes	34
<i>Overall Assessment</i>	
Soils	36
<i>Overall Assessment</i>	
Sensitive Habitats	38
<i>Overall Assessment</i>	
Existing Development.....	40
<i>Overall Assessment</i>	
Composite Suitability Analysis.....	44
Composite Suitability Analysis Conclusions	46



CONTENTS

(continued)

Chapter 3 – Existing Conditions (continued)

Other Environmental Influences	47
<i>Air Quality</i>	
<i>Domestic Runoff Pollution</i>	
<i>Solid Waste Management</i>	
<i>Heat and Temperature Inversions</i>	
<i>Preservation of Cultural Resources</i>	
<i>Community Protection/“Defensible Space”</i>	
<i>Overall Assessment of Other Environmental Influences</i>	
Chapter 3 Bibliography	51

CHAPTER 4 – ALTERNATE SCENARIOS

The Scenario Development Process	53
Inspirations	55
“Savannah” Alternative	56
<i>Potentials of the “Savannah” Alternative</i>	
<i>Advantages</i>	
<i>Drawbacks</i>	
“Columbus” Alternative	60
<i>Potentials of the “Columbus” Alternative</i>	
<i>Advantages</i>	
<i>Drawbacks</i>	
“Portland” Alternative	64
<i>Potentials of the “Portland” Alternative</i>	
<i>Advantages</i>	
<i>Drawbacks</i>	
Public Reaction and Comment	68
<i>“Savannah” Alternative Comments</i>	
<i>“Columbus” Alternative Comments</i>	
<i>“Portland” Alternative Comments</i>	
<i>Overall Assessment</i>	

CHAPTER 5 – THE LAND USE PLAN

Introduction	73
The Land Use Plan	74
Single-Family Residential	80
Multifamily Residential	82
Retail	84
Office	86
Technology	87
Industrial and Utilities	88
Public and Semi-Public Uses	89



CONTENTS

(continued)

Chapter 5 – The Land Use Plan (continued)

Parks and Open Space	92
<i>Regional Parks</i>	
<i>Private Parks</i>	
<i>Passive Open Space</i>	
<i>Wildlife Preservation</i>	
<i>Park Guidelines</i>	
<i>Implementation and Funding Strategies</i>	
<i>Interpretation of Open Space Boundaries</i>	
Rights-of-Way and Easements	98
Mixed-Use Development	99
Land Use Plan Summary	100

CHAPTER 6 – THE THOROUGHFARE PLAN

Introduction	101
The Thoroughfare Plan	102
<i>Flexibility</i>	
Tollways and Highways	110
<i>US Highway 380</i>	
<i>State Highway 121</i>	
<i>Dallas North Tollway</i>	
Major Thoroughfares	116
<i>North/South Major Thoroughfares</i>	
<i>East/West Major Thoroughfares</i>	
Minor Thoroughfares	121
Collector Streets	123
Residential Streets	125
Other Aspects of Thoroughfares	127
<i>Landscaping</i>	
<i>Sidewalks</i>	
<i>Railroad Grade Separations</i>	
<i>Highway Grade Separations</i>	
<i>Intersections and Traffic Management</i>	
<i>Traffic Calming</i>	
<i>Signage and Street Furniture</i>	
Thoroughfare Plan Summary	131

CHAPTER 7 – GUIDING PRINCIPLES

Introduction	133
Implementation	133
<i>Land Use Definition Updates</i>	
<i>Proactive Partnering for the Future</i>	
Holding Capacity Calculation	136
The North Dallas Jetport	137



C O N T E N T S

(continued)

Chapter 7 – Guiding Principles (continued)

Affordable Housing	138
Transit Opportunities	140
Thoroughfare Opportunities	140
Residential Trends	141
Mixed-Use Development	145
Historic Preservation	146
Retail Trends	146
<i>E-Commerce</i>	
<i>“Super-Convenience Stores”</i>	
<i>Village-Style Development</i>	
<i>Off-Street Parking Standards</i>	
<i>New Retail Market Study</i>	
Office Trends	150
<i>Alternative Officing</i>	
<i>Global “E-Business”</i>	
<i>Conference Facilities and Hotels</i>	
Industrial Trends	151
<i>Information-Based Economy</i>	
<i>Global “E-Business”</i>	
The “Wired City”	152
<i>Internet Access/Wiring</i>	
<i>Cellular Tower Screening</i>	
<i>Future Telecommunications Technologies</i>	
Urban Design	155
Guiding Principles Summary	156

CHAPTER 8 – PLAN SUMMARY

Plan Highlights	161
Minor Plan Updates	163
Major Plan Updates	163
Future Technologies	163
Closing Remarks	164

GLOSSARY OF TERMS

Glossary	167
----------------	-----



CONTENTS

(continued)

FIGURES

Chapter 1 – The Millennium Plan

Figure 1-1 Vicinity Map	2
-------------------------------	---

Chapter 2 – Goals

(no figures)

Chapter 3 – Existing Conditions

Figure 3-1 Floodplains and Wetlands	33
Figure 3-2 Slopes	35
Figure 3-3 Soils	37
Figure 3-4 Sensitive Habitats	39
Figure 3-5 Existing Development	41
Figure 3-6 Composite Suitability	45

Chapter 4 – Alternate Scenarios

Figure 4-1 “Savannah” Alternative	57
Figure 4-2 “Columbus” Alternative	61
Figure 4-3 “Portland” Alternative	65

Chapter 5 – The Land Use Plan

Figure 5-1 The Frisco Land Use Plan	75
Figure 5-2 Frisco Land Use Plan (Northeast Quadrant)	76
Figure 5-3 Frisco Land Use Plan (Southeast Quadrant)	77
Figure 5-4 Frisco Land Use Plan (Southwest Quadrant)	78
Figure 5-5 Frisco Land Use Plan (Northwest Quadrant)	79

Chapter 6 – The Thoroughfare Plan

Figure 6-1 The Frisco Thoroughfare Plan	103
Figure 6-2 Frisco Thoroughfare Plan (Northeast Quadrant)	104
Figure 6-3 Frisco Thoroughfare Plan (Southeast Quadrant)	105
Figure 6-4 Frisco Thoroughfare Plan (Southwest Quadrant)	106
Figure 6-5 Frisco Thoroughfare Plan (Northwest Quadrant)	107
Figure 6-6 Suggested Tollway Ramp Locations (SH 121 to Stonebrook Parkway)	113
Figure 6-7 Suggested Tollway Ramp Locations (Stonebrook Parkway to El Dorado Parkway)	114
Figure 6-8 Suggested Tollway Ramp Locations (El Dorado Parkway to US Highway 380)	115
Figure 6-9 Major Thoroughfare Cross-Section	116
Figure 6-10 Minor Thoroughfare Cross-Section	121
Figure 6-11 Collector Street Cross-Section	123
Figure 6-12 Collector Street Layouts	124

Chapter 7 – Guiding Principles

(no figures)

Chapter 8 – Plan Summary

(no figures)



CONTENTS

(continued)

TABLES

Chapter 1 – The Millennium Plan

Table 1-1	Population Projections	5
-----------	------------------------------	---

Chapter 2 – Goals

(no tables)

Chapter 3 – Existing Conditions

Table 3-1	Existing Development	40
-----------	----------------------------	----

Chapter 4 – Alternate Scenarios

Table 4-1	“Savannah” Alternative Land Uses	56
Table 4-2	“Columbus” Alternative Land Uses	60
Table 4-3	“Portland” Alternative Land Uses	64

Chapter 5 – The Land Use Plan

Table 5-1	Land Use Plan Detail by Development Type	74
Table 5-2	Residential Densities	81
Table 5-3	Recommended Park Standards	93
Table 5-4	Comparison of Area Land Use Percentages by Community	100

Chapter 6 – The Thoroughfare Plan

Table 6-1	Roadways by Functional Classification	102
Table 6-2	General Design Specifications by Functional Classification	109
Table 6-3	Recommended Grade-Separated Interchanges	128
Table 6-4	Thoroughfare Plan Summary	131

Chapter 7 – Guiding Principles

Table 7-1	Holding Capacity Calculation	136
-----------	------------------------------------	-----

Chapter 8 – Plan Summary

(no tables)



CONTENTS

(continued)

PHOTOGRAPHIC CREDITS

Front Cover

All images by the PGAL Planning Group

Chapter 1 – The Millennium Plan

(no photographs)

Chapter 2 – Goals

Workshop photo by the PGAL Planning Group 10

Chapter 3 – Existing Conditions

Creek photo by the PGAL Planning Group 32

Topography photo by the PGAL Planning Group 34

Soils photo courtesy of the National Park Service 36

Wildlife photo courtesy of the US Fish & Wildlife Service 38

Home photo by the PGAL Planning Group 40

Construction photo by the PGAL Planning Group 44

Chapter 4 – Alternate Scenarios

Savannah photo courtesy of the Carolina Morning News 56

Columbus photo courtesy of the Bettman Archive 60

Portland photo courtesy of Newlands & Company 64

Chapter 5 – The Land Use Plan

Home photo by the PGAL Planning Group 80

Apartment photo by the PGAL Planning Group 82

Retail photo by the PGAL Planning Group 84

Office photo by the PGAL Planning Group 86

Technology photo by the PGAL Planning Group 87

Industrial photo by the PGAL Planning Group 88

Public photo by the PGAL Planning Group 89

Park photo by the PGAL Planning Group 92

Chapter 6 – The Thoroughfare Plan

Tollway photo by the PGAL Planning Group 110

Major thoroughfare photo by the PGAL Planning Group 116

Minor thoroughfare photo by the PGAL Planning Group 121

Collector street photo by the PGAL Planning Group 123

Residential street photo by the PGAL Planning Group 125

Chapter 7 – Guiding Principles

(no photographs)

Chapter 8 – Plan Summary

(no photographs)

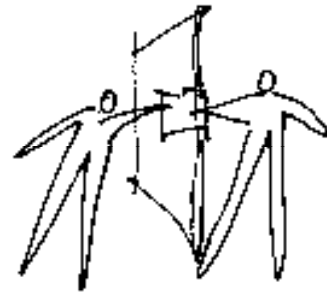


City of Frisco, Texas

CHAPTER 1

THE MILLENNIUM

PLAN



Welcome

The City of Frisco, Texas has adopted the *Frisco Millennium Plan* as a statement of where the City envisions itself in the future (adopted 7 March 2000, Case No. Z2000-12). This *Plan* revises and updates the previous Frisco Comprehensive Plan (adopted 1991).

This is one of the most important policy documents any community can develop. It assists community leaders in evaluating future proposed developments to determine if they share the City's goals for the future. It also helps the City project service needs to support future growth, including new roads, water lines, sewer lines, public safety facilities, parks, and other important services.

It is important to draw a distinction between the *Frisco Millennium Plan* and the City's Zoning Ordinance. Where the *Frisco Millennium Plan* projects future land use patterns and roadways, the Zoning Ordinance (and Zoning District Map) outlines specific uses, building requirements, and other stipulations to develop in Frisco. Texas law requires communities with zoning to have a plan that is compatible, but not necessarily identical. This allows the *Plan* to have the necessary flexibility to evolve and change as a community grows. In general, think of the *Frisco Millennium Plan* as a guide to future growth, whereas the Zoning Ordinance is the tool that implements that guide.

The Project

In order to assist in the development of the new *Plan*, the City of Frisco retained the services of a consulting team in early 1999. The consultants worked closely with City staff, City Council, the Planning & Zoning Commissioners, and the citizens of Frisco to develop the *Plan*. A special task force – the Comprehensive Plan Advisory Committee (CPAC) – was named to work closely with the consultants and City staff throughout this process.

The project consisted of three basic components:

In general, think of the Frisco Millennium Plan as a guide to future growth, whereas the Zoning Ordinance is the tool that implements that guide.



- **Goals and Objectives**

The goals and objectives are the basis for the future *Plan*. These goals and objectives are developed through an extensive one-on-one interview process with key community leaders, residents, business interests, and other important stakeholders. The draft goals and objectives are further refined through discussions held by CPAC and through community workshops.

- **Future Land Uses**

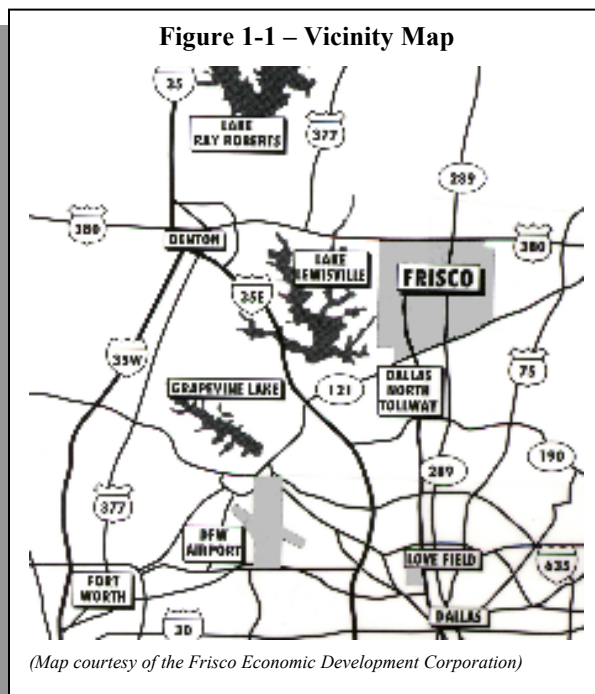
Based upon the goals and objectives, the consultant performs an opportunities and constraints analysis to determine the physical characteristics influencing or impacting future development. A series of potential “scenarios” are developed which present alternate possibilities for future growth. Through an iterative process, the scenarios are evaluated and refined to form a combined “hybrid” which represents the desired development pattern. It is that “hybrid” that is further polished into the future land use plan. Land uses such as residential (single-family, duplex, and multifamily), retail and commercial, office, industrial, open space and parks, and public uses are identified.

- **Future Thoroughfares**

In a similar fashion, the future roadway network is developed to support the desired development pattern. Land uses and thoroughfares are most successful when planned for concurrently. The future thoroughfare network includes new roadways and improvements to selected existing roadways.

Planning Area Context

Frisco is located approximately 20 miles north of downtown Dallas and is bisected between Collin and Denton Counties. It is surrounded by the communities of Plano (south), McKinney and Allen (east), Little Elm and The Colony (west), and Prosper (north). Frisco is on the eastern tip of Lake Lewisville and sits on generally level ground bisected by the Preston Ridge (running generally north to south through the center of Frisco). Figure 1-1 (left) shows a general vicinity map for the City in relationship to the Dallas/Fort Worth Metroplex.



The City has experienced tremendous growth during the 1990s. This growth is the result of many factors, including the extension of the Dallas North Tollway, the City’s proximity to the Legacy Business Park and the general healthy North Texas economy. Frisco has a very large area in which to grow – a little more than 70 square miles. For the purposes of this project, the planning area was generally considered to be SH 121 (south), FM 423 (west), US Highway 380 (north), and Custer Road (east). A small portion of the City limits are also located west of FM 423 to Lake Lewisville. (The portions of the study area that are within the incorporated limits of The Colony and McKinney are not within Frisco’s jurisdiction and are not part of the *Plan*.)

History

Frisco's history has been well-documented in such various sources as the City's own web page, the previous Comprehensive Plan (1991), and most recently in the Historic Downtown Master Plan (1998). The following historical summary is an amalgamation of these sources.

Frisco's beginnings date back to the early 1800s as the North Texas region was being settled. The Shawnee Trail, established in 1838 by the Republic of Texas, provided access for pioneers from Austin to the Red River. Travelers along the Shawnee Trail (generally where Preston Road is today) included immigrants moving south into Texas and cattle drives moving north.

Towns were established along the Shawnee Trail to serve these pioneers and settlers and to establish communities along an important trade route. The thriving cattle town of *Lebanon* (now a part of Frisco) served as an assembly point for the cattle drives. The settlement of Dallas some 25 miles to the south began in 1841 by John Neely Bryan.

By 1849, railroads came to the area and effectively resulted in the development of Frisco. The Pacific Railroad Company of Missouri was granted a charter to build a rail line from St. Louis to the western boundary of Missouri. By 1869, the rail line that would become part of the Frisco line was being completed in Texas. By 1902, the rail line was completed from Denison to Carrollton through the center of what is now Frisco (the line had become a part of the Saint Louis & San Francisco railroad and became known as "Frisco").

Railroads required watering holes about every 20 to 30 miles. Since water was not as available on the higher ground along Preston Ridge, the Frisco Railroad looked 4 miles west to lower ground. There they dug *Frisco Lake* on Stewart Creek to provide water for the engines.

What would eventually become Frisco was land owned by the Blackland town site company (a subsidiary of the Frisco Railroad). The property was subdivided into lots and sold to potential settlers at an auction held in mid-February of 1902. The auction was advertised up and down the rail lines as far away as Chicago, St. Louis, and Kansas City. The sale also attracted residents and merchants from surrounding communities that had no rail access.

Businesses and residents began moving to Frisco from *Little Elm* (to the west) and from *Lebanon*, which was experiencing fewer and fewer cattle drives. With the decline of *Lebanon*, some of the houses were physically moved from Preston Road to what is now downtown Frisco. (The *T.J. Campbell* home was rolled on logs and pulled into Frisco where it now stands as a historical monument at the corner of Main and Fifth Streets. It is now home to *Randy's Steak House*.)

Frisco was first known as *Emerson* – named for Francis Emerson who owned the farm where the town site was located. The postal service refused the application for the town of Emerson because it was too similar to another existing town's name ("Emberson"). When an existing post office called *Eurida* was transferred to the new town site from a community only two miles to the northwest, it continued to operate under the name *Eurida*.



By 1904, residents selected the name *Frisco City* for their town in honor of the rail line. It was soon shortened to Frisco and the Post Office Department approved the new name.

Frisco thrived as a trade center for the surrounding farming community. By March 1908, Frisco was incorporated as a city and citizens elected their first municipal government (a mayor, four alderman, an alderman-at-large, and a town marshal). Dr. I.S. Rogers, the town's first physician, served as mayor the first three years of the City's incorporated life – today, Rogers Elementary School is named in his honor.

Land that once produced wheat, cotton, corn and feed, is now spawning new homes, residents, businesses, churches, schools, offices and parks. Water for the area that was once provided by wells is now provided by the North Texas Municipal Water District (up to 29 million gallons of water per day). Frisco currently uses less than one-third of this allocated water supply.

As a major travel mode, wagon trains have been surpassed by automobiles and trucks. Frisco is fortunate to have a toll road and major State and Federal highways. These roads and Frisco's own local streets are being widened and extended. The once-small village of Frisco has become an important edge community in the Dallas region.

Population Growth

Historical Growth

Frisco's first census (1910) showed a population of 332 residents. By 1920, the population more than doubled when the City reached 733 residents. Through the next three census counts, the City's population remained relatively stable. Growth skyrocketed in the 1960 count when the population surged to 1,184 (a growth of 60%). Slow but steady growth continued, bringing the total to 3,499 in 1980 and 6,138 in 1990. Since 1990, Frisco's population grew an incredible 327% to an estimated 26,200 people (North Central Texas Council of Governments, 1999 population estimate).

Projected Population Growth

The North Central Texas Council of Governments (NCTCOG) regularly publishes population summaries and projections for the region. In NCTCOG's "1999 Population Estimates", Frisco was cited as the fastest growing community. NCTCOG cites many of the communities along the SH 121 corridor as among the fastest-growing areas in the region, including Frisco, Allen, McKinney, Lewisville, Coppell, Flower Mound, Southlake, and Corinth.

At roughly the same time, the US Census Bureau released the list of most rapidly growing US cities. Frisco was ranked as the second-fastest growing community in the nation (of cities in the 10,000 to 50,000 population range).

Projecting future population for Frisco is directly dependent on the density of development that is achieved.



Chapter 1

While there are multiple methods to project population (cohort-survival, land holding capacity, etc.), *there is no known method that will accurately predict future population*. Community growth is as much a factor of economic development, political issues, development patterns in adjacent communities, regional travel-times, etc. The *Frisco Millennium Plan* will therefore consider a range of population growth potentials.

Frisco's recent growth period yielded a 327% growth rate from 1990 to 1999, or an annual average growth rate of 36%. With only a small portion of its area developed, Frisco has much more room to grow. A range of low, medium, and high annual growth rates are projected for Frisco in this *Plan*.

Table 1-1 – Population Projections

<i>Year</i>	<i>Census Count</i>	<i>Projections</i>		
		<i>Low</i>	<i>Medium</i>	<i>High</i>
1940	670	---	---	---
1950	736	---	---	---
1960	1,184	---	---	---
1970	1,845	---	---	---
1980	3,499	---	---	---
1990	6,138	---	---	---
1999 (estimate)	---	26,200	26,200	26,200
2000	---	28,000	29,000	30,000
2005	---	45,000	65,000	70,000
2010	---	100,000	125,000	150,000
2015	---	147,000	187,500	230,000
2020	---	200,000	250,000	300,000

To the extent that annual population growth can be monitored, it may be necessary to revise these projections every few years as Frisco grows. If actual experienced growth rates are above or below the projected ranges, the twenty-year population may be re-projected using the most recent data available.

The population that Frisco reaches will ultimately depend upon the City's ability to serve it with adequate infrastructure and other municipal services. Other fast-growing communities have been forced to curtail development temporarily while the infrastructure capacity "catches up". This is **not** a desirable scenario for the City.

While the *Frisco Millennium Plan* projects a 2020 population of 200,000 to 300,000 persons, it is imperative that the projection be consistently updated. No one can guarantee the precision of a twenty-year population projection, so it is advised that the City regularly maintain a 5 and 10-year population projection based upon the most current data available.



Public Involvement

Any plan of this nature has its roots in the community. The *Frisco Millennium Plan* influences the lives of current and future residents and businesses. The planning process must make all reasonable efforts to inform the community and invite their participation. The *Plan* involved the public in numerous ways:

- **Communitywide Mailing**

As the project was beginning, the City distributed postcard notices to every property owner of record within the City and the extraterritorial jurisdiction (ETJ) – over 10,500 notices in all. Addresses were compiled from tax appraisal records. Notices included contact information to receive additional details regarding the *Plan*.

- **Electronic Newsletter**

City staff maintained an e-mail database of several hundred names. Once every two weeks (or as needed), an e-mail newsletter was distributed to the recipients to provide project updates and information. The electronic newsletter was one of the most cost-effective means of disseminating information quickly and efficiently.

- **Stakeholder Interviews**

Prior to performing any physical planning, the consultants and City staff met with approximately 40 individuals in one-on-one and small group interviews. These stakeholders represented a variety of interests in Frisco, including elected and appointed officials, residents, business leaders, other governmental representatives (County, school district, etc.), utility companies, churches, developers, and other similar interests.

- **Comprehensive Plan Advisory Committee (CPAC)**

As previously mentioned, the CPAC was convened to work with City staff and the consultants in the development of the *Frisco Millennium Plan*. CPAC consisted of approximately 23 members representing residents, businesses, non-profit agencies, and other interested stakeholders. CPAC also had two representatives of the P&Z Commission in order to maintain good communication with the Commission. CPAC meetings were conducted on a monthly basis throughout the project and were open to the general public, and was also videotaped for cablecast on the local public-access channel (tapes were also available for loan from the City Library).

- **Community Workshops**

At key intervals, community workshops were convened in various locales throughout the City. These workshops were more in the nature of an interactive charrette, not a public hearing. The intent was to show progress and gather general input so that the community could view the *Frisco Millennium Plan* being created in front of them. These workshops were also videotaped for cablecast and loan.

- **Council/P&Z Updates**

The consultants made periodic briefing presentations to the City Council and the P&Z Commission as part of their regular agenda. This was for the purpose of keeping elected and appointed officials up-to-date regarding the *Frisco Millennium Plan* and to solicit their input before interim/final decisions were required.



- **Internet Distribution**

As a part of the City of Frisco's web site, information regarding the *Frisco Millennium Plan* was continually updated and posted through the process. Questions and comments were taken via e-mail from the website (with those names being added to the e-mail database for the electronic newsletter). Internet "distribution" of project information eliminated traditional publication costs associated with color or black-and-white copying and postage.

- **Newspaper Articles**

The City staff and consultants contributed articles to various local newspapers including the locally-produced *Frisco Style* magazine and *Frisco Enterprise* newspaper, the *Dallas Morning News*, and the *Dallas Business Journal*, among other publications.

- **Posted Notices**

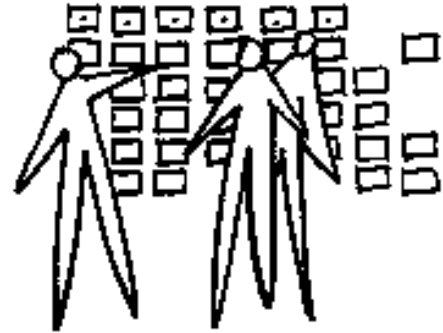
During the project, notices were distributed and posted throughout the community in both English and Spanish. Notices were posted at City buildings, distributed electronically, and were posted in area churches and houses of worship.

During the course of the study, over 110 meetings, interviews, workshops, and presentations were conducted, involving over 3,000 participants. City staff also sent out thousands of electronic newsletters to several hundred recipients. Over 10,500 postcard notices were also distributed to all owners of Frisco property. These notices were distributed in the immediate area, with some being sent across the country and internationally. In addition, the latest versions of the Draft Plan were posted on the City's Web page for viewing and were also e-mailed to all interested individuals.



CHAPTER 2

GOALS



The Goal Setting Process

Before a physical land plan and thoroughfare network can be projected, the City must determine its goals. Goals are qualitative statements regarding the City's vision for its own future. In some cases, goal statements may be very broad. Other goal statements may be more focused on a particular component or aspect of the City.

Supporting the goal statements are objectives. These are typically more quantifiable statements that indicate how a particular goal will be achieved or implemented. Both goals and objectives are included in this Chapter.

There are a variety of means to gather public input for the development of project goals. The City opted to utilize the dual method of one-on-one stakeholder interviews and development of draft goals and objectives through CPAC.

Stakeholder Interviews

In late March and early April 1999, a series of interviews were conducted with key stakeholders in Frisco. Most of these were one-on-one interviews conducted by the consultants and City staff. In some cases, small group sessions (4 to 5 individuals) were also conducted. The City identified 60 individuals to be interviewed and 40 invited stakeholders actually took part.

To encourage an uninhibited flow of information, stakeholders were interviewed with the stipulation that individual comments or observations would not be attributed to a particular individual. The stakeholders interviewed represented the following interests:

- Elected and appointed officials (Council and P&Z Commissioners)
- Homeowners and residents
- Business owners
- Developers and land owners
- Frisco Economic Development Corporation
- Key City staff and Department directors
- Non-profit organizations (churches, Heritage Foundation, etc.)
- Education (school district, Collin County Community College)
- Collin County
- Newspaper
- Utility providers

Goals are qualitative statements regarding the City's vision for its own future.



(Photo by the PGAL Planning Group)

Even with a diverse set of interests represented in the stakeholder group, several common themes emerged through the interviews (summarized in no order of priority):

- **Quality of Future Growth and Sense of Identity**

There is a strong desire for Frisco to have a high-quality community as it develops. Stakeholders were adamant in their desire to be distinctive from the surrounding communities.

- **Downtown Preservation and Development**

Frisco has successfully maintained a historic downtown that has experienced several periods of redevelopment. At the time of this project, the buildings on the block that houses several City departments were being rehabilitated and renovated.

Stakeholders recognized the importance of Downtown as a link to Frisco's heritage, but also that the Downtown is in need of repair and reinvestment.

- **Diversity of Residential Developments**

Much of Frisco's recent growth has been in the residential sector. Stakeholders voiced a desire to have a variety of housing types for existing and future residents. A variety of housing allows a wide range of income levels to live in Frisco. This is important to expanding existing businesses (and attracting new ones) in order to provide local housing options for all levels of employees,

- **Apartment Location and Density**

Much of Frisco's current apartment zoning was granted in the 1980s and 1990s in a different real estate climate. Today, stakeholders are concerned about the location and size of apartment developments and do not want to repeat the mistakes of the past encountered by other communities. At the same time, developers who have this zoning on their property do not want to be financially impacted by a change in zoning.

- **Thoroughfares and Traffic Patterns**

At present, Frisco is experiencing traffic congestion due to the ongoing Preston Road construction and the rapid residential growth experienced since 1990. New thoroughfares are being built, but north/south traffic is relatively restricted to a few roadways, but only FM 423, Preston Road, and Custer Road currently provide complete north/south connections. Similarly, east/west traffic movements are restricted to US Highway 380, FM 720, and SH 121.

- **Open Space Preservation**

Stakeholders understand the need to preserve land for parks, trails, and passive outdoor enjoyment. Areas for preservation should be identified as part of the planning process, not developed because they are marginal or "left-over" parcels.

- **North Dallas Jetport**

There was no consensus regarding the North Dallas Jetport, but almost all stakeholders agreed that some resolution must be reached on this issue. The site needs to be developed, either as an airport as currently designed, or as another type of use.

- **Growth Management**
Stakeholders expressed the desire for Frisco to take an active role in its future growth, rather than simply reacting to it.
- **Image of the City**
There is a desire to use major entry points and corridors such as SH 121 and the Tollway as opportunities to exhibit Frisco's image. Developments such as the new mall, Frisco Bridges, and the Westin Hotel were detailed as desirable development models.
- **Community Facilities**
As the City grows, it will need to provide additional community facilities. These will include additional fire stations (placed within required response-time radii), a municipal complex, new City library, a new police and criminal justice center, and other facilities which are currently not within Frisco (museum, convention center, etc.). Community facilities also impact on the ability to maintain Frisco as a safe and secure community.
- **Create a Cohesive Community**
As Frisco grows, there is a desire to not create an "East Frisco" versus "West Frisco" atmosphere. The City should be cohesive, with equal access to all amenities regardless of location within the City.

Overall, the key items discussed by the stakeholders involved apartments, traffic, Downtown, the City's image, and the airport.

CPAC/Public Input Process

Before developing a set of draft goals and objectives, the consultants conducted a "brainstorming" session with CPAC at their May 1999 meeting. As a result of that effort, twelve goal "themes" were defined:

- Community identity
- Residential neighborhoods
- Apartments
- Retail development
- Industrial development
- Corporate development
- Downtown
- Open space and parks
- Community facilities
- Thoroughfares
- Airport
- Significant corridors

The consultants developed a series of draft goals and objectives based on these goal "themes". CPAC reviewed and revised these during their June and July 1999 meetings. Public input was encouraged at all CPAC meetings, and a separate community workshop was conducted on 22 July 1999 to gather additional input. CPAC finalized their comments at their August 1999 meeting and forwarded the draft goals and objectives to the P&Z Commission and the City Council for review and adoption.



After additional modifications, City Council approved the goals and objectives on 7 September 1999. The approved goals and objectives are presented in this Chapter.

Community Identity Goals and Objectives

It is important that Frisco preserve and enhance its image while it continues to grow. The following goals and associated objectives further these interests.

Goal #CI-1 – Quality of Life

Frisco should maintain an image as a community that provides a high quality of life.

Objective CI-1.1 (Low-scale development)

Development should generally be low-scale (1 to 2 stories) with the exception of major corridors such as the Dallas North Tollway, Preston Road, SH 121, and US Highway 380.

Objective CI-1.2 (Gateways)

“Identity” gateway treatments should be established at entry points to the City, including SH 121, Preston Road, Dallas North Tollway, US Highway 380, FM 423, Custer Road/FM 2478, FM 720, Hillcrest Road, Independence Parkway, Legacy Drive, and Coit Road.

Goal #CI-2 – Image

The image of Frisco should be that of a unique “town”, as opposed to a typical city or suburb.

Objective CI-2.1 (Village centers)

Frisco should encourage the development of multiple town/village centers to serve development generally within a 1-mile radius.

Objective CI-2.2 (Diverse neighborhoods)

Frisco should encourage neighborhoods to contain a mix of residential types and appropriate supporting non-residential uses.

Objective CI-2.3 (Open space)

Open space should be preserved for recreation, enjoyment, visual aesthetics, and as a reminder of the City’s agricultural heritage.

Objective CI-2.4 (Connected neighborhoods)

Neighborhoods should be linked together by various physical connections including streets, pathways, sidewalks, creek corridors, and greenbelts.

Goal #CI-3 – Size

Frisco should grow to an approximate population of 200,000 to 300,000 persons when fully developed. Growth should follow market trends, but full development should not occur before 2020.

Objective CI-3.1 (Monitoring)

Annual growth rates should be monitored.

Objective CI-3.2 (Incremental population)

Appropriate incremental population growth estimates should be projected for 2005 (65,000 persons), 2010 (125,000 persons), 2015 (187,500 persons), and 2020 (250,000 persons).

Objective CI-3.3 (Orderly development)

If the City’s growth rate exceeds the population projections, the City should apply appropriate means to assure the orderly development of the City.

Residential Neighborhood Goals and Objectives

One of the key features of Frisco's development will be is residential neighborhoods. The following goals and objectives are designed to promote the value, safety, security, and cohesiveness of existing and future neighborhoods.

Objective R-1.1 (Fire protection)

As the City grows, Frisco should develop fire substations to serve neighborhoods within a 1½ mile radius or appropriate response time as suggested by ISO guidelines.

Objective R-1.2 (Neighborhood protection)

The City of Frisco should implement the *Frisco Millennium Plan* to protect existing and future neighborhoods.

Objective R-1.3 (Public safety)

The City should maintain an adequate number of police officers and firefighters based on population levels and appropriate service level equations.

Goal #R-1 – Safety & Security

Frisco should take all appropriate measures to promote the safety, security, and cohesiveness of neighborhoods.

Objective R- 2.1 (Plan implementation)

The City should implement the *Frisco Millennium Plan* and the *Frisco Park Plan* so as to ensure that linkages are promoted as development occurs.

Objective R-2.2 (Floodplains)

New development should not reclaim land within the 100-year floodplain. Whenever appropriate, the City may consider future reclamation proposals if they are appropriate for Frisco and if they do not increase downstream runoff.

Objective R-2.3 (Creeks)

New development near creeks should leave them as natural amenities, rather than channelizing them. Whenever appropriate, the City may consider future creek developments if appropriately mitigated and designed.

Objective R-2.4 (Sidewalks)

Sidewalks, following a meandering alignment where possible and appropriate, should be included in all thoroughfare cross-section designs.

Objective R-2.5 (Linkages between neighborhoods)

Whenever appropriate, future residential subdivisions should encourage pedestrian and vehicular linkages with adjacent existing and future subdivisions.

Goal #R-2 – Connections

Neighborhoods should be linked together by a series of pedestrian and bicycle pathways, using existing and proposed streets, creek corridors, floodplains, and existing and future parks.



Goal #R-3 – Diversity

Neighborhoods should include a mixture of residential types and supporting non-residential uses, including schools, parks, community facilities, and small neighborhood-oriented centers.

Objective R-3.1 (Diverse housing types)

Neighborhoods may include residential homes of varying densities, from large-lot estate homes to small zero-lot-line homes. This mixture may also include appropriately sized and designed apartment developments.

Objective R-3.2 (Neighborhood center)

Neighborhoods should include a “neighborhood center” which generally serves a 1-mile radius area, or within a 5 to 10-minute walking radius.

Objective R-3.3 (Uses in neighborhood centers)

“Neighborhood centers” should include a variety of non-residential uses, including but not limited to parks, schools, churches, fire stations, community centers, etc. Retail is an optional component in a “neighborhood center”, but is not required. If included, retail uses should not exceed a total of 25,000 leasable square feet. A “neighborhood center” should not exceed 30 acres in size and in most cases should be less than 30 acres.

Objective R-3.4 (Access)

“Neighborhood centers” should be served by at least one collector street or minor arterial. “Neighborhood centers” should not be located on a principal arterial, highway, or tollway.

Goal #R-4 – Transitions

Transitions should be made between various residential and non-residential uses which protect and enhance residential neighborhoods.

Objective R- 4.1 (Buffers between different uses)

Whenever feasible, transitions between residential and non-residential uses should be accommodated through landscape buffers, setbacks, or hike and bike trails. In most cases, thoroughfares should be avoided as transitions unless they are specifically designed to act in this manner.

Objective R-4.2 (Buffers between residential uses)

Whenever feasible, if two adjacent residential densities vary significantly, a landscape buffer should be required between the two. The landscape buffer may also be part of a linear park, greenbelt, hike and bike trail, or creekway corridor. In most cases, thoroughfares should be avoided as transitions unless they are specifically designed to act in this manner.

Goal #R-5 – Planned Developments

The “planned development” (PD) designation should be used for the purpose of master planning new developments, rather than being used to obtain variances and waivers from development requirements.

Objective R-5.1 (Size)

Future developments should be a minimum of 25 acres in order to be eligible for the “planned development” designation. “Planned development” status is to be requested by a developer at the time of zoning, platting, or re-platting.

Objective R-5.2 (Time)

If “planned development” designation is granted to any future development and if no activity occurs for a period of 3 years on the site, the zoning could revert back to the previous zoning designation if approved by the P&Z Commission and City Council.

Apartment Goals and Objectives

The City of Frisco recognizes the need for all housing types and affordability levels, including leased residential (apartments, duplexes, etc.). To ensure that these developments are appropriately served by thoroughfares and utilities, the following goals and objectives have been established.

Objective A-1.1 (Siting)

On any intersection, apartment developments should occupy no more than two corners, ideally on opposing corners. Future apartment developments should only be located at major intersections (arterials and higher), not mid-block. Vertically-mixed developments (residential and non-residential uses within the same structure) should be allowed to occupy up to 100% of such intersections.

(Note: As part of the adoption process, City Council revised this goal to allow no more than one apartment development at each major intersection.)

Objective A-1.2 (Size)

The City of Frisco should require that any single apartment development not exceed 350 apartments or 20 acres, whichever is greater.

Objective A-1.3 (Open space)

Future apartment developments should include 25% of the development as open space.

Objective A-1.4 (Height)

Future apartment developments should not exceed three stories in height. Three story apartment buildings are to be located in the site's interior, buffered by 2-story buildings which are oriented to a public street and towards residentially-zoned and/or residentially-developed property.

Goal #A-1 – Vertically-Mixed Apartments

Where appropriate, apartment residential should be allowed on the second and third stories of a development, with retail, commercial, or office uses on the ground level.

Objective A-2.1 (Orientation)

Where vertically-mixed developments are allowed (residential and non-residential in the same structure), they are to front directly onto collector streets, or minor/principal arterials. Vertically-mixed developments should not be on interior neighborhood streets.

Objective A-2.2 (Setback and parking)

Vertically-mixed developments should be built with no front-yard setback and all parking provided to the rear and side of the structure.

Objective A-2.3 (Non-residential mix)

Vertically-mixed developments are to be composed of at least 30% of the leasable area to non-residential uses.

Goal #A-2 – Location

Future apartment developments should be decentralized and distributed as equitably as possible throughout Frisco.



Goal #A-3 – Design

Apartments should be more cohesively integrated into surrounding neighborhoods.

Objective A-3.1 (Context)

Apartment developments should be designed in conjunction with surrounding architecture and context. Two-story apartment buildings should be oriented closer to the street, with resident parking provided to the side or rear of buildings. Berms, landscaping, and street trees should be used to buffer these structures at the street edge.

Objective A-3.2 (Buffering)

Apartment developments should be built without perimeter fences or gates. Buffering between neighboring adjacent residential uses should be accommodated with open space, parking, landscaping, or side/rear yard setbacks.

Objective A-3.3 (Access)

Apartment developments are to be served by a collector street or a minor/principal arterial. Apartment developments should not be located in neighborhood interiors and should not be served by residential streets.

Objective A-3.4 (Pedestrian access)

Apartment developments should accommodate all planned pedestrian and bicycle paths. These linkages should connect with adjacent neighborhoods.

Objective A-3.5 (Garage apartments)

Garage apartments should be allowed as part of a single-family residence on a limited basis. No more than one garage apartment should be allowed per home and each garage apartment should not exceed 1,000 square feet in area. Additional off-street parking would be required to accommodate the garage apartment.

Objective A-3.6 (Design guidelines)

City staff in conjunction with citizens and apartment developers should develop a set of design and architectural guidelines for the review and approval of all future apartment developments.

Retail Development Goals and Objectives

As Frisco grows, it will need to provide retail goods and services for local residents and other businesses. As the region and surrounding area also grows, there will be opportunities to target retail markets outside the City limits. The following goals and objectives are design with this in mind.

Goal #RD-1 – Retail Types

Frisco should have a range of retail development sizes.

Objective RD-1.1 (Regional)

“Major retail” developments (greater than 100,000 leasable square feet, or greater than 25 acres) should be limited to principal arterials.



Objective RD-1.2 (Local)

“Local retail” developments (between 25,001 to 99,999 leasable square feet, or between 10 to 25 acres) should be limited to minor arterials. “Local retail” developments should be developed at major intersections (no mid-block development) and occupy no more than two corners of the intersection. If part of a mixed-use development, “local retail” developments may be as large as 50 acres and may occupy more than two corners.

Objective RD-1.3 (Downtown)

Retail development in the Downtown district should be guided by a specific set of design guidelines intended to enhance and promote the historic nature of Downtown Frisco.

Objective RD-2.1 (Parking)

All retail developments should comply with the parking requirements as specified by the City of Frisco.

Objective RD-2.2 (Adjacent connections)

All retail developments should be designed to allow direct access (vehicular, pedestrian, and bicycle) from residential developments adjacent to the retail site.

Goal #RD-2 – Accessibility

Retail developments should be accessible by a variety of modes.

Objective RD-3.1 (Design review)

The architectural design of all retail developments should be subject to review and approval by the City of Frisco. Standard “franchise architecture” should be discouraged in favor of designs which reflect the character the City.

Objective RD-3.2 (Overlay districts)

Major non-residential corridors – Preston Road, SH 121, the Dallas North Tollway, US Highway 380, etc. – should have special overlay districts coordinating the development of each corridor in concert with the *Frisco Millennium Plan*.

Objective RD-3.3 (Open space)

Retail developments in excess of 25,000 leasable square feet should include 25% of the site dedicated to open space and landscaping.

Objective RD-3.4 (Siting)

Retail developments in excess of 25,000 leasable square feet should be oriented closer to the street with parking lot areas being provided in smaller clusters located at the front, side, and rear of the building. Limited head-in parking should be provided in the retail development’s “front yards” and it should be screened by landscaping.

Objective RD-3.5 (Design guidelines)

City staff in conjunction with citizens and retail developers should develop a set of design and architectural guidelines for the review and approval of all future retail developments. Whenever feasible, future retail developments should avoid traditional “linear retail/strip center” designs in favor of courts, plazas, articulated buildings, and other similar layouts. Concept plans for future retail developments should be reviewed by City staff for appropriateness of design.

Goal #RD-3 – Design

Retail developments should reflect the context and architectural character of Frisco.



Objective RD-3.6 (Views)

View and vista corridors should be preserved and maintained. Future retail developments should not obstruct views of significant natural features such as creekway corridors, mature tree stands, etc., and should take advantage of views and vistas for garden office, outdoor dining, plazas, and other similar designs.

Industrial Development Goals and Objectives

Creating a diverse employment base contributes to Frisco's ability to sustain itself in the future, both economically and as a full-service community. The development of new appropriate industrial uses – as well as the retention and enhancement of existing industries – is another key component in the City's future. The following goals and objectives address Frisco's industrial development.

Goal #I-1 – Industrial Growth

Frisco should encourage appropriate industrial development within the City limits.

Objective I-1.1 (Types)

All future industrial developments should be appropriate for the City of Frisco. Preferred development should include high-tech, telecommunications, research & development, warehousing/show-rooms/distribution, and other similar clean industries.

Objective I-1.2 (Access and locations)

Industrial developments should take advantage of access along the Burlington Northern/Santa Fe rail line and truck access along US Highway 380. Corridors that are important to the City's image – the Dallas North Tollway, SH 121, and Preston Road for example – may include industrial developments but these will be subject to additional design requirements to assure that the visual integrity of the corridor is maintained.

Goal #I-2 – Industrial Growth

Industrial developments in Frisco should respect the City's context and character.

Objective I-2.1 (Pedestrian access)

Industrial developments should accommodate proposed pedestrian and bicycle pathways.

Objective I-2.2 (Location)

Industrial developments should be located so that they are accessible by principal arterials. No industrial-oriented traffic should be allowed on minor arterials, collector streets, or residential streets which serve residential areas.

Objective I-2.3 (Building materials)

Industrial developments should be concrete, tilt-wall, masonry, brick, CMU, or other similar material.

Objective I-2.4 (Supporting uses)

Industrial areas may include supporting office, commercial, and retail uses; however, no residential developments should be allowed within an industrial zone.

Objective I-2.5 (Design guidelines)

City staff in conjunction with citizens and industrial developers should develop a set of design and architectural guidelines for the review and approval of all future industrial developments.

Corporate Development Goals and Objectives

Corporate and office development will also contribute to Frisco's economy and tax base. It is ideally located in close proximity to other corporate developments and has excellent regional access via several major highways. The following details Frisco's goals and objectives regarding corporate office development.

Objective CD-1.1 (Location)

Future significant office/corporate developments are to be encouraged along the Dallas North Tollway and SH 121. Other office locations may be appropriate on Preston Road and US Highway 380 and should be considered as proposals are submitted.

Goal #CD-1 – Office Growth

Frisco should encourage appropriate low density, campus-style office/corporate development within the City limits.

Objective CD-1.2 (Pedestrian access)

Office/corporate developments should accommodate proposed pedestrian and bicycle pathways.

Objective CD-1.3 (Thoroughfare access)

Office/corporate developments should be located so that they are accessible by minor and principal arterials. No office-oriented traffic should be allowed on collector streets or residential streets.

Objective CD-1.4 (Building materials)

Office/corporate developments should be masonry, concrete, brick, tilt-wall, CMU, or other similar material.

Objective CD-1.5 (Supporting uses)

Office/corporate areas may include supporting commercial and retail uses; however, no residential developments should be allowed within an office/corporate zone.

Objective CD-1.6 (Parking)

Whenever possible, parking for office/corporate uses should be buffered by landscaping or decentralized into smaller parking clusters which are linked by open space and landscaping.

Objective CD-1.7 (Design guidelines)

City staff in conjunction with citizens and office developers should develop a set of design and architectural guidelines for the review and approval of all future office/corporate developments.

Objective CD-2.1 (Available housing)

In order to provide for employees of existing and future businesses (office, retail, industrial, etc.), a range of housing types for all income levels should be available within the City of Frisco.

Objective CD-2.2 (Supporting uses)

Office/corporate campuses should be served by nearby parks, retail, restaurants, services, and other supporting uses.

Goal #CD-2 – Supporting Uses

Frisco should provide the supporting land uses necessary to attract, maintain, and promote office/corporate development.

Objective CD-2.3 (Curricular coordination)

The City of Frisco should work in coordination with the Collin County Community College to develop programs which serve the needs of existing and future employers.



Downtown Goals and Objectives

One of Frisco's most unique features is its Historic Downtown. Many period buildings have been maintained and restored over the decades and this area has become the most visible connection with the City's past. The following goals and objectives promote the continued restoration and development of Downtown Frisco.

Goal #D-1 – Downtown Development

Frisco should promote the development of its Historic Downtown.

Objective D-1.1 (City Hall)

The future municipal complex (City Hall, police, central library, etc.) should be maintained in the Historic Downtown district.

Objective D-1.2 (Image and emphasis)

The image and emphasis of the Historic Downtown district should be extended to the Dallas North Tollway to the west and to Preston Road to the east. The Historic Downtown district should also be extended to McKinney Road to the north and Hickory Street to the south.

Objective D-1.3 (Diverse uses)

The Historic Downtown district should include a variety of uses including residential, second-level residential above retail, retail, office, restaurants, cultural facilities (museums, theaters, etc.), and parks.

Objective D-1.4 (Design guidelines)

City staff in conjunction with citizens and the Downtown Merchants Association should develop a set of design and architectural guidelines for the review and approval of all future downtown developments and renovations.

Goal #D-2 – Downtown Plan

The City of Frisco should continue to implement the Historic Downtown plan.

Objective D-2.1 (Design)

Future development should comply with the design requirements of the Historic Downtown plan.

Objective D-2.2 (Residential redevelopment)

Residential redevelopment of older homes should be encouraged provided it is within the design parameters of the Historic Downtown plan, and that it preserves and protects residential neighborhoods.

Objective D-2.3 (Vacant land)

Underutilized or vacant parcels should be developed to create a cohesive downtown core.

Objective D-2.4 (FM 720/Main Street)

FM 720/Main Street should remain a two-way, two-lane street through Historic Downtown.

Objective D-2.5 (Parking)

Designated parking areas should be located so individual buildings will not be required to provide off-street parking on-site.

Open Space and Park Goals and Objectives

The following goals and objectives promote the integration of park and open space uses in the *Frisco Millennium Plan*.

Objective OS-1.1 (Identification of future parks)

As part of the *Frisco Park Plan*, recreational uses should be identified in the *Frisco Millennium Plan*, including active and passive parks.

Objective OS-1.2 (Community parks)

Large community parks (100 acres or more) should be identified in general locations and be preserved for future development as parkland.

Objective OS-1.3 (Natural corridors)

Significant natural corridors should be identified for preservation and protection.

Objective OS-1.4 (Park visibility)

Whenever feasible, park and open space areas should be visible from adjacent streets, regardless of functional classification.

Objective OS-1.5 (Useful land)

Park and open space lands should be on usable, accessible land, not “left-over” or unusable parcels.

Objective OS-1.6 (Stormwater management)

City staff should develop a *Storm Water Management Plan* to protect against inundation from stormwater runoff. Open space easements and corridors for preservation should be defined and located as part of this *Plan*.

Goal #OS-1 – Open Space Preservation

Frisco should preserve open space for recreation and aesthetic uses.

Objective OS-2.1 (Schools)

The City of Frisco should work with the various Independent School Districts to co-develop neighborhood parks with elementary, middle, junior high, and high schools.

Objective OS-2.2 (Fire stations)

The City of Frisco should coordinate park siting and development with the location of projected fire substations.

Objective OS-2.3 (Other developments)

The City of Frisco should consider park co-development with other types of developments, including churches, post offices, small retail centers, and community centers.

Goal #OS-2 – Co-Development

Whenever feasible, parks should be developed in conjunction with other community facilities.

Objective OS-3.1 (Neighborhood connections)

Parks should be sited to create and enhance linkages between neighborhoods.

Objective OS-3.2 (Natural parks)

Parks may be natural/native areas with no structures or playing fields.

Objective OS-3.2 (Public safety)

Parks should be designed in such a way as to enhance public safety through visibility, lighting, and landscaping.

Goal #OS-3 – Connectivity

Parks should be sited as to connect with pedestrian pathways, bicycle trails, and creekway corridors.



Community Facility Goals and Objectives

In addition to new development, the City will require various community-oriented facilities, as expressed by the following goals and objectives.

Goal #CF-1 – Community Facilities

The City of Frisco should promote a variety of community facilities.

Objective CF-1.1 (City Hall)

The City of Frisco should develop a municipal complex located within the Historic Downtown district to include a new City Hall and a police/justice center. In conjunction with the municipal complex, other facilities may also include a new central City library, a community center for all ages, convention center, and/or cultural facilities (museum, performing arts center, etc.).

Objective CF-1.2 (Fire substations)

The City of Frisco should develop fire substations to serve neighborhoods within a 1½ mile radius or appropriate response time as suggested by ISO guidelines.

Objective CF-1.3 (Neighborhood centers)

“Neighborhood centers” should be limited to neighborhood interiors and be served by at least one collector street (or higher). “Neighborhood center” developments should be oriented to the street (no setback) and provide limited parking to the rear and side of the building (70% of standard parking requirement is recommended to encourage walking and cycling). “Neighborhood centers” may include a variety of uses (parks, schools, churches, fire stations, community centers, etc.), with retail uses being optional but not required. If included, retail uses not exceed a total of 25,000 leasable square feet in any single “neighborhood center”.

Goal #CF-2 – Other Facilities

The City of Frisco should encourage other community facilities to be developed by others.

Objective CF-2.1 (Convention center)

At some point in the future, a convention center may be considered appropriate to serve Frisco’s residents and businesses, as well as businesses in surrounding communities.

Objective CF-2.2 (Hospitals)

The City of Frisco should work with hospital developers to locate an appropriate number of full-service hospitals within the City. These should include trauma centers/emergent services, in-patient/out-patient facilities, medical office buildings/clinics, and parking facilities. Hospitals and medical facilities should be located for convenient and rapid access and should be limited to sites served by minor/principal arterials or highways.

Objective CF-2.3 (Houses of worship)

The City of Frisco should welcome the development of churches, synagogues, and houses of worship. Religious facilities that attract large congregations or have many associated buildings on-site should be located in appropriate areas so as to minimize impacts on adjacent neighborhoods.

Objective CF-2.4 (Superdrome)

Appropriate developments that capitalize upon the Superdrome should be considered, including sports centers, sports technology businesses, sports medicine clinics, training facilities, and other like uses.

Objective CF-2.5 (2012 Olympics)

The City of Frisco should coordinate with the City of Dallas regarding the 2012 Olympic Games bid to provide a venue for cycling events at the Superdome.

Objective CF-2.6 (University)

The City of Frisco should encourage the development of a four-year college or university.

Thoroughfare Goals and Objectives

In order for future development to be served, new roadways will be required. These new roadways should not minimize the potential for traffic congestion and should act as a framework that gives the City “form”. The following goals and objectives have been developed with this in mind.

Objective T-1.1 (Functional classification)

The City of Frisco should develop a functional classification system for the design of residential streets, collector streets, and minor and principal arterials. Highway design should be at the specifications of the Texas Department of Transportation (SH 121, FM 423, FM 720, SH 289/Preston Road, FM 2478, and US Highway 380), and the North Texas Tollway Authority (the Dallas North Tollway).

Goal #T-1 – Access Network

The City of Frisco should provide a variety of roadway classifications to serve local and through traffic (motorized, bicycle, and pedestrian).

Objective T-1.2 (Cut-through traffic)

The *Thoroughfare Plan* – a component of the *Frisco Millennium Plan* – should promote a street network that minimizes cut-through traffic in residential neighborhoods.

Objective T-1.3 (Design)

The *Thoroughfare Plan* should include aesthetic and visual elements such as landscaping, streetscaping, meandering sidewalks, and other similar features.

Objective T-2.1 (Coordinated traffic signals)

Signalized intersections along major corridors should be inter-linked by computer to promote improved traffic flow.

Objective T-2.2 (Dedicated turning lanes)

At principal intersections, dual left-turn and right-turn lanes should be considered where feasible.

Objective T-2.3 (Deceleration lanes)

At driveway access points for large developments, deceleration lanes should be considered where feasible.

Objective T-2.4 (Access between parking lots)

Parking lots of adjacent retail developments should allow access between properties without the need for traffic to enter the major fronting roadway.

Objective T-2.5 (Turning lanes)

Separate, distinct turning lanes should be of an appropriate length to accommodate turning traffic.

Goal #T-2 – Traffic Management

The City of Frisco should develop a network of thoroughfares that promotes the safe circulation and management of traffic within and throughout the City.



Objective T-2.6 (Loading docks)

Loading dock facilities should be sited to accommodate truck traffic safely and efficiently, and be screened from public view. Loading facilities should not be visible from any adjacent residential area.

Goal #T-3 – Structure & Form

The City of Frisco should develop a network of thoroughfares that provides a structural framework for the City and provides cohesiveness and linkage.

Objective T-3.1 (Gateways)

Opportunities for “identity” gateway treatments should be established at significant entry points into the City.

Objective T-3.2 (Benches and lighting)

Street furniture, including lighting and signage, should be coordinated to provide a distinctive image for the City.

Objective T-3.3 (Intersections)

Collector streets should intersect at approximate right-angles with minor/principal arterials and highways/frontage roads. Offset, jogged, or oblique angled intersections should not be permitted.

Objective T-3.4 (Traffic impact analysis)

City staff should develop a *Thoroughfare Standards Ordinance* that also specifies when a Traffic Impact Analysis may be required.

Airport Goals and Objectives

An important planning-related issue Frisco will decide in this process is how the North Dallas Jetport is integrated into the *Frisco Millennium Plan*. The planning process will determine how facility will be addressed; therefore the following goal and objectives have been developed.

Goal #AP-1 – Airport

The City of Frisco should consider various options for the North Dallas Jetport.

Objective AP-1.1 (Airport at present site)

In the process of developing alternatives for the *Land Use Plan*, the potential for developing the North Dallas Jetport as a full-service industrial airport at its present site should be studied.

Objective AP-1.2 (Airport at another site)

In the process of developing alternatives for the *Land Use Plan*, the potential for developing the North Dallas Jetport as a full-service industrial airport elsewhere in Frisco should be studied. (If relocated, the *Plan* should consider the potential for developing the existing site as a non-airport use.)

Objective AP-1.3 (Develop present site as non-airport use)

In the process of developing alternatives for the *Land Use Plan*, the potential for developing the North Dallas Jetport as an alternate non-airport use at its present site should be studied.

Significant Corridor Goals and Objectives

In addition to individual land developments, Frisco has several major corridors that are important to the City. The following goals and objectives recognize these important corridors and propose various approaches for their development.

Objective SC-1.1 (Character)

The character of the Preston Road Corridor should be predominantly retail, but will also allow for the development of office and limited residential. Future industrial, if developed on the Preston Road Corridor, should be subject to the design requirements of the *Preston Road Overlay District*.

Goal #SC-1 – Preston Road

Preston Road (SH 121 to US Highway 380) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-1.2 (Safety)

Traffic management and circulation along the Preston Road Corridor should emphasize safety and convenience.

Objective SC-1.3 (Driveways)

Driveway access points along the Preston Road Corridor should be controlled as to reduce traffic circulation problems. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the Preston Road Corridor, in conjunction with any requirements from the Texas Department of Transportation.

Objective SC-1.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along the Preston Road Corridor.

Objective SC-1.5 (Overlay district)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff, all appropriate boards and commissions, and the requirements of the *Preston Road Overlay District*.

Objective SC-1.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the Preston Road Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-1.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail centers from the rear and side.

Objective SC-2.1 (Character)

The character of the SH 121 Corridor should be office and retail. Limited multifamily residential may be appropriate along portions of the SH 121 corridor, but future industrial is not anticipated.

Goal #SC-2 – SH 121

State Highway 121 (from The Colony to Custer Road) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-2.2 (Safety)

Traffic management and circulation along the SH 121 Corridor should emphasize safety and convenience.



Objective SC-2.3 (Driveways)

Driveway access points along the SH 121 Corridor are controlled by the requirements of the Texas Department of Transportation. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the SH 121 Corridor, in conjunction with any requirements from the Texas Department of Transportation.

Objective SC-2.4 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Objective SC-2.5 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the SH 121 Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-2.6 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail centers from the rear and side.

Goal #SC-3 – Dallas North Tollway

The Dallas North Tollway (SH 121 to US Highway 380) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-3.1 (Character)

The character of the Dallas North Tollway Corridor should be predominantly office, but will also allow for the development of supporting retail and limited residential developments. Future apartment or industrial, if developed on the Dallas North Tollway Corridor, should be subject to review of the City of Frisco.

Objective SC-3.2 (Safety)

Traffic management and circulation along the Dallas North Tollway Corridor should emphasize safety and convenience.

Objective SC-3.3 (Driveways)

Driveway access points along the Dallas North Tollway are controlled by the requirements of the North Texas Tollway Authority. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the Dallas North Tollway, in conjunction with any requirements from the North Texas Tollway Authority.

Objective SC-3.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along the frontage roads of the Dallas North Tollway.

Objective SC-3.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Objective SC-3.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the Dallas North Tollway Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-3.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.



Objective SC-4.1 (Character)

The character of the US Highway 380 Corridor should be predominantly warehouse/distribution and industrial, but will also allow for the development of supporting office and retail developments.

Objective SC-4.2 (Safety)

Traffic management and circulation along the US Highway 380 Corridor should emphasize safety and convenience.

Objective SC-4.3 (Driveways)

Driveway access points along the US Highway 380 Corridor are controlled by the requirements of the Texas Department of Transportation. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the US Highway 380 Corridor, in conjunction with any requirements from the Texas Department of Transportation.

Objective SC-4.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided along the US Highway 380 Corridor.

Objective SC-4.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Objective SC-4.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the US Highway 380 Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-4.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.

Goal #SC-4 – US Highway 380

US Highway 380 (FM 423 to Custer Road) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-5.1 (Character)

The character of the FM 720/Main Street Corridor should be split between the Historic Downtown district (Dallas North Tollway to Preston Road) and the remaining portions. The Historic Downtown district segment should be two-lanes, with the remaining segments being either four or six lanes. The character of the Historic Downtown district segment should be in conjunction with the Historic Downtown plan, while the character of the remaining segments should be predominantly residential with some supporting retail and office.

Objective SC-5.2 (Safety)

Traffic management and circulation along the FM 720/Main Street Corridor should emphasize safety and convenience.

Objective SC-5.3 (Driveways)

Driveway access points along the FM 720/Main Street Corridor are controlled by the requirements of the Texas Department of Transportation and the City of Frisco. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the FM 720/Main Street Corridor, in conjunction with any requirements from the Texas Department of Transportation.

Goal #SC-5 – FM 720/Main Street

FM 720/Main Street (FM 423 to Custer Road) is considered to be a significant corridor important to the image and economy of the City of Frisco.



Objective SC-5.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along the FM 720/Main Street Corridor.

Objective SC-5.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff, all appropriate boards and commissions, and in conjunction with the Downtown Plan.

Objective SC-5.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the FM 720/Main Street Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-5.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.

Goal #SC-6 – Custer Road

Custer Road (SH 121 to US Highway 380) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-6.1 (Character)

The character of the Custer Road Corridor should be predominantly residential, with some limited supporting retail and community facility developments. One or more “neighborhood centers” may be developed adjacent to Custer Road. No industrial developments should be allowed along the Custer Road Corridor.

Objective SC-6.2 (Safety)

Traffic management and circulation along the Custer Road Corridor should emphasize safety and convenience.

Objective SC-6.3 (Driveways)

Driveway access points along the Custer Road Corridor are controlled by the requirements of the City of Frisco. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the Custer Road Corridor.

Objective SC-6.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along the Custer Road Corridor.

Objective SC-6.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Objective SC-6.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the Custer Road Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-6.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.

Objective SC-7.1 (Character)

The character of the FM 423 Corridor should be predominantly residential, with supporting retail and office developments, usually located at intersections.

Objective SC-7.2 (Safety)

Traffic management and circulation along the FM 423 Corridor should emphasize safety and convenience.

Objective SC-7.3 (Driveways)

Driveway access points along the FM 423 Corridor are controlled by the requirements of the Texas Department of Transportation and the City of Frisco. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along the FM 423 Corridor, in conjunction with any requirements from the Texas Department of Transportation.

Objective SC-7.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along FM 423 Corridor.

Objective SC-7.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Objective SC-7.6 (Underground utilities)

Utilities such as electrical and telecommunications should be located underground along the FM 423 Corridor. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-7.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.

Goal #SC-7 – FM 423

FM 423 (from The Colony to US Highway 380) is considered to be a significant corridor important to the image and economy of the City of Frisco.

Objective SC-8.1 (Burlington Northern/Santa Fe)

The City of Frisco should consider development opportunities which capitalize upon the Burlington Northern/Santa Fe Railroad line, including the appropriateness of transit-oriented development and industrial uses.

Objective SC-8.2 (Safety)

Traffic management and circulation along significant corridors should emphasize safety and convenience.

Objective SC-8.3 (Driveways)

Driveway access points along significant corridors should be controlled by the City of Frisco. The City should develop a *Driveway Spacing Ordinance* that specifies driveway spacing guidelines along significant corridors.

Objective SC-8.4 (Supporting facilities)

Landscaped, meandering sidewalks, street trees, and coordinated street signage should be provided by the City of Frisco along these corridors.

Objective SC-8.5 (Design review)

Signage and architectural style should be subject to approval of City Council based on recommendations from City staff and all appropriate boards and commissions.

Goal #SC-8 – Other Corridors

Additional corridors should also be identified as being important to the image and economy of the City of Frisco.



Objective SC-8.6 (Underground utilities)

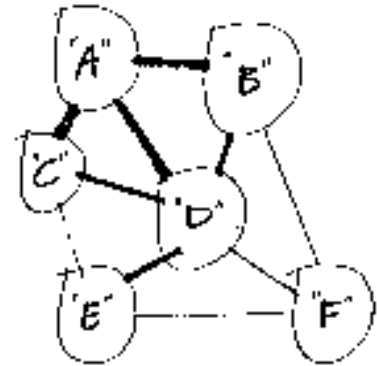
Utilities such as electrical and telecommunications should be located underground along these corridors. If underground burial is not feasible, utilities should be located in a rear easement.

Objective SC-8.7 (Adjacent access)

Adjacent residential neighborhoods should have direct access to retail and office centers from the rear and side.

CHAPTER 3

EXISTING CONDITIONS



Suitability Analysis

In the process of projecting future development for the City of Frisco, a key step is an analysis of the conditions that influence development. Both natural and man-made conditions can impact development potential to varying degrees. Some influences are subtle, some enhance development, and others greatly increase the cost of construction.

The suitability analysis defines areas where conditions are favorable for, or a constraint to, development potential. This analysis identifies three conditions:

- **Suitable**
These are areas that have little or no natural or man-made constraints to growth. Suitable areas are generally in level topography with good soils and no sensitive environmental conditions. Any area that is already developed is judged to be suitable for development.
- **Moderately Suitable**
These are areas that have some natural or man-made constraints to growth, but not serious enough to be an impediment. Moderately suitable areas have some topographic features that can limit the size of a development, or other conditions that may result in a moderate increase in the cost of construction.
- **Unsuitable**
These are areas that have many significant natural and/or man-made constraints to growth. Development is possible in these areas, but not recommended. Unsuitable areas tend to have excessive slopes, poor soils, may be frequently flooded, or are environmentally sensitive. Site improvements to overcome these conditions may be too expensive to be warranted.

For the purposes of this project, five areas of developmental influence were analyzed:

- Floodplains and wetlands
- Slopes
- Soils
- Sensitive habitats
- Existing development

The analyses presented in this Chapter are the work of both the PGAL Team and of an environmental consultant (Geo-Marine, Inc.) retained under a separate contract by the City of Frisco.

The suitability analysis defines areas where conditions are favorable for, or a constraint to, development potential.



Floodplains and Wetlands



(Photo by the PGAL Planning Group)

One of the most significant influences for development is the location of water and areas that are frequently flooded. Water features such as lakes, ponds, rivers, creeks and streams are amenities that add visual impact and beauty to a development. Special attention needs to be given to these natural biotic functions when developing.

The inventory of floodplains and wetlands presented in this document was conducted by Geo-Marine, Inc. (GMI), an environmental consultant retained independently by the City to perform an environmental study of the area. Assessments were made based on FEMA (Federal Emergency Management Agency) floodplain maps and National Wetland Inventory (NWI) maps, not on-site delineations.

The 100-year floodplains as defined by FEMA were identified for the various creeks and tributaries in Frisco, including Rowlett Creek and West Rowlett Creek, Panther Creek, Stewart Creek, Parvon Branch, and Cottonwood Branch. For planning purposes, 100-year floodplains associated with the above creeks were considered to be “Unsuitable” for development. Reclamation of floodplain land for future development may be considered on a case-by-case basis – for the purpose of this analysis, however, 100-year floodplain areas shall be considered for preservation rather than development. Future development in these areas should conduct an environmental study to determine the exact location of the floodplain areas and any impact reclamation may have. As the FEMA maps are updated, these areas should be reanalyzed to display the most recent data regarding floodplains in Frisco.

The US Fish and Wildlife Service prepares the National Wetland Inventory to identify areas with a high potential for wetland habitats. The NWI is not an exact location, but a guide to areas that may exhibit wetland conditions. In Frisco, most of the surface water features are stock tanks and other agriculture-related uses. Relocation of wetlands for future development may be considered on a case-by-case basis – for the purpose of this analysis, all identified wetland areas shall be considered as unsuitable for development. Future development may need to conduct environmental analyses to determine the exact wetland location of and impacts on native wetlands and floodplains.

Future development may need to conduct an environmental analysis to determine the exact location of and impacts on native wetlands and floodplains.

Overall Assessment

In Frisco, 100-year floodplains present little constraint to development. There are also few large wetland areas that are impediments to development. It is projected that as land become more developed, there will be increasing pressure to reclaim floodplain land and to relocate wetlands. These proposals should be considered as they are submitted, but Frisco is encouraged to preserve floodplains and wetlands as open and natural areas. The floodplain and wetland suitability analysis is presented in Figure 3-1.

Figure 3-1 – Floodplains and Wetlands





Slopes



(Photo by the PGAL Planning Group)

Like much of North Texas, Frisco exhibits a level to gently-rolling terrain. Part of the physiographic region referred to as the “Blackland Prairie”, this terrain is desirable for both agricultural uses and urbanization.

Using topographic maps, the slope analysis presented in this document was prepared by GMI and was based on slope ranges as suggested by the PGAL Team.

Frisco’s topography varies from 500 feet MSL (mean sea level) on the City’s western edge near Lake Lewisville, to over 800 feet MSL along the Preston Ridge (Preston Road at FM 720/Main Street). The following topographic influences are noted:

- **Suitable Slopes (0% to 5%)**

These represent level slopes that pose no restriction to development. Most of Frisco is within this category. In these areas, there are no constraints to buildings (large or small footprint), roads, or infrastructure.

- **Moderately Suitable Slopes (greater than 5% and less than 10%)**

Slopes in this range begin to influence development, mainly through the size of buildings that can be constructed – higher slopes make it more difficult to construct large footprint buildings. Slopes in this range are usually found along the Preston Ridge, a topographic feature located in the central portion of Frisco and generally running from southwest to northeast. Development in these areas can be accommodated, but there is a potential for additional site grading to contain certain development types (such larger retail, corporate offices, and industrial uses).

- **Unsuitable Slopes (10% and above)**

Development becomes more difficult in this slope range. Road construction is more difficult and tends to restrict truck traffic. Utilities and infrastructure have higher per-linear-foot construction costs due to the higher slopes. And sites for buildings tend to be restricted to smaller structures (such as homes). Slopes in this range are usually found in the floodplain areas and are often associated with creekbanks. Because of the potential for development constraints, these areas are generally considered to be unsuitable for development.

Overall Assessment

Slopes in Frisco do not appear to pose a notable constraint to growth and development. Moderately suitable slopes along the Preston Ridge have attracted much of the recent development in the City. Since there are coincident with identified floodplains, unsuitable slopes (10% and above) by themselves are not a significant obstacle. Most of the City has a very level terrain with no meaningful slope-related constraints. The slope analysis is presented in Figure 3-2.

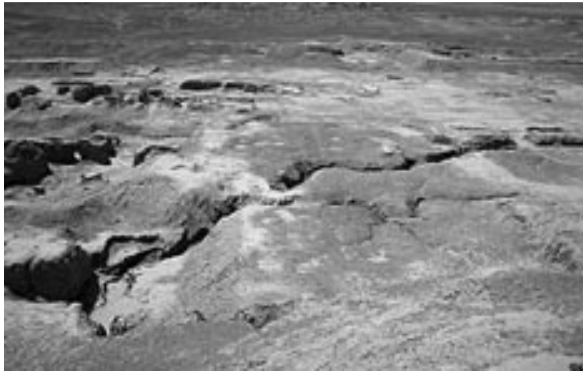
Most of the City has a very level terrain with no meaningful slope-related constraints.

Figure 3-2 – Slopes





Soils



(Photo courtesy of the National Park Service)

Soils in North Texas are generally clayey expansive soils that are often considered undesirable for development. Over the years, cities, engineers, and developers have learned to design within these soil restrictions to successfully build roads, infrastructure, and communities. Site engineering costs, therefore, are approximately uniform where these soils are found.

Utilizing data from the US Department of Agriculture's Natural Resource Conservation Service (formerly the Soil Conservation Service), GMI identified soil classifications within Frisco that might impact growth and development. Those soils with multiple significant restrictions were identified as unsuitable for development:

- **Suitable Soils**

Most of Frisco's soils (Capability Class I through IV) are considered to be suitable for development. These soils have restrictions that can be overcome through appropriate site engineering practices. Soils classified as Prime Farmland exhibit the ideal conditions for agricultural uses, but are also considered desirable for development. Development patterns in the region and within Frisco have already demonstrated this tendency. Prime Farmland soils are therefore considered as suitable for development.

- **Unsuitable Soils**

In isolated areas, soils in Frisco are classified as Capability Class V (or higher), indicating the presence of multiple restrictions – including erosion, severe slopes, frequently flooded soils, corrosiveness, excessive shrink-swell, or shallow depth to rock. Capability Class V (and higher) soils include Eddy gravelly clay loam, Ferris-Heiden clay, Ferris-Houston clay, Ovan clay, Stephen-Eddy complex, Trinity clay, and Vertel clay¹, and are generally found in floodplain areas. Constraints associated with these soils are difficult and expensive to resolve through site engineering. Because of the potential for costly site development, these soils are considered to be generally unsuitable for development.

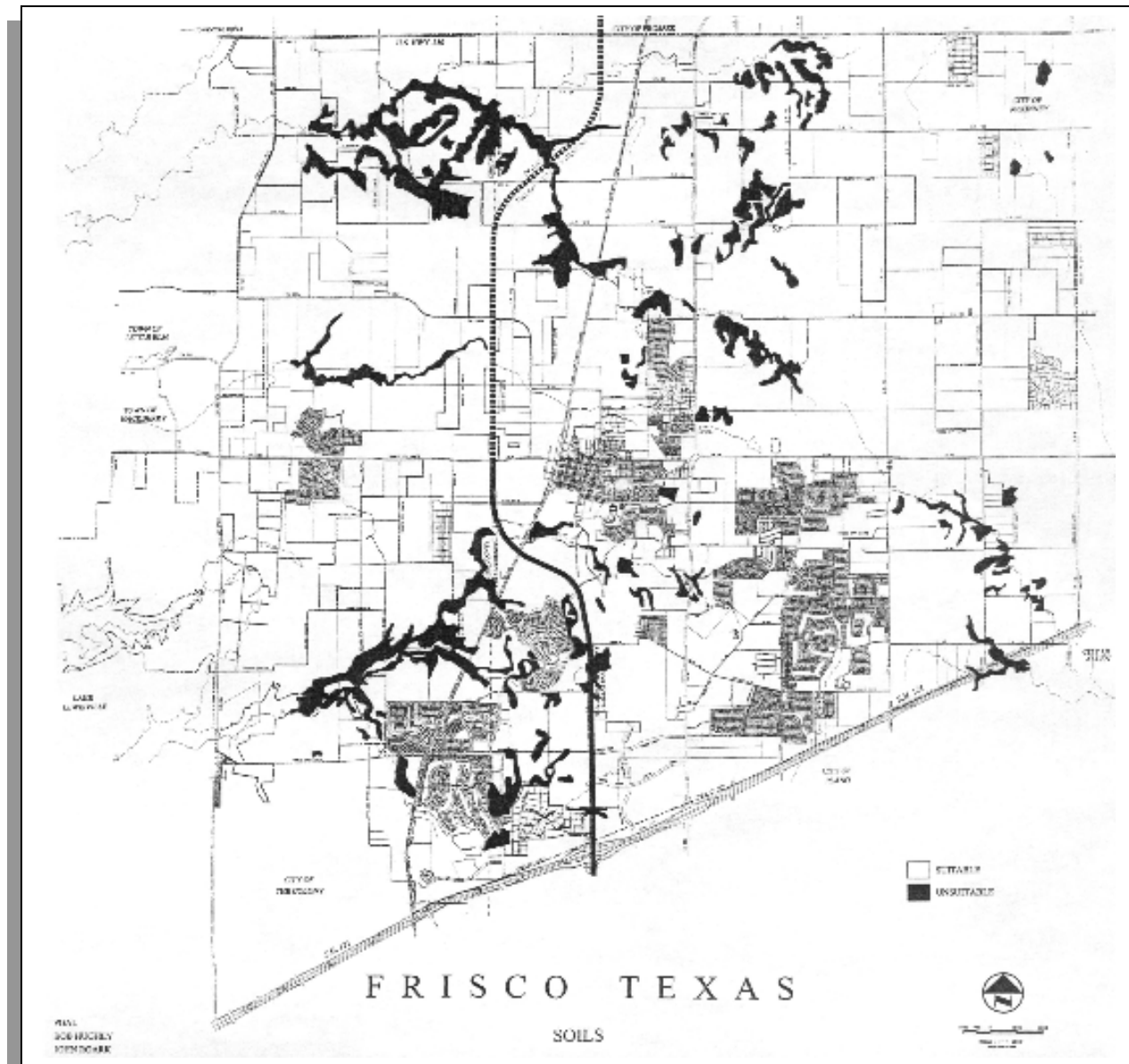
Overall Assessment

Soils in Frisco do not generally pose a significant constraint to growth. Only Capability Class V (and higher) soils are of concern – and most Class V soils are coincident with identified floodplains. Other soils in Frisco are not considered to pose any significant obstacles to growth and development.

It should also be noted that this analysis was based on the general soils information as available from the Natural Resource Conservation Service. Site-specific locations of soils that may be more suitable or less suitable may only be determined through soil testing. All future developments should conduct soil testing to determine the actual conditions specific to each site. The soil analysis is presented in Figure 3-3.

Over the years, cities, engineers, and developers have learned to design within these soil restrictions to successfully build roads, infrastructure, and communities.

Figure 3-3 – Soils





Sensitive Habitats



(Photo courtesy of the US Fish & Wildlife Service)

Development in harmony with natural areas and sensitive habitats can create some of the most desirable living conditions. Not only do these areas provide an important environmental function, they also tend to be visually pleasurable and contain many varieties of mature vegetation.

Under a separate contract with the City of Frisco, GMI conducted field surveys and utilized data from the Collin County Open Space Plan (1996) and the Texas Parks & Wildlife Department to determine the general location of sensitive and unique habitats.

At present, the State of Texas does not enforce habitat protection regulations. The Federal government generally identifies two habitat types for protection:

- **Declared critical habitats for threatened or endangered species**

No such declared habitats have been identified within Frisco); and,

- **Habitats used for nesting by birds in the Migratory Bird Treaty Act**

The MBTA (Migratory Bird Treaty Act) identifies the several species of birds that nest within Frisco, including egrets, herons, hawks, vultures, waterfowl, and numerous songbirds.

It is prudent to identify sensitive habitats prior to development in order to minimize or prevent incompatible land uses from harming these areas. (Frisco is not significantly impacted by sensitive habitats.) Two conditions in this analysis are noted:

- **Suitable for Development**

Any area of Frisco not identified as a sensitive habitat is considered as suitable for development

- **Unsuitable for Development**

Those areas identified as sensitive habitats should be restricted from development. As noted in Frisco, these areas tend to be located in association with mature vegetation and water features. Areas associated with sugarberry (*celtis laevigata*) and elms (*ulmus*) are commonly found in floodplains and drainage areas. These plant communities tend to provide shelter for nesting birds identified in the MBTA.² To preserve environmentally-sensitive areas, these areas are considered unsuitable for development.

It is prudent to identify sensitive habitat prior to development in order to minimize or prevent incompatible land uses from harming these areas.

Overall Assessment

Sensitive habitats also have mature trees and vegetation nearby and provide desirable visual vistas. These are usually also associated with wetlands or floodplains. Not only are these areas unsuitable for development, visual “corridors” should be maintained so that they may be enjoyed by all. The analysis of sensitive habitats is presented in Figure 3-4.

Figure 3-4 – Sensitive Habitats





Existing Development



(Photo by the PGAL Planning Group)

The *Plan* for the future of Frisco must take into account existing development patterns. The PGAL Team conducted a field survey in July 1999 to locate and categorize all existing land uses.

In surveying the study area, seven different land use types were identified (see Figure 3-5 – Existing Development). Of the total 45,830 acres that comprise the study area, approximately 9,027 acres (19.7%) have been developed. ***Any area that has already been developed is automatically considered to be suitable for development.***

Table 3-1 (below) details the existing development inventory.

Table 3-1 – Existing Development

<i>Use</i>		<i>Acres</i>	<i>Sq. Miles</i>	<i>Percent</i>
<i>Developed Areas</i>	Single-Family Residential	5,506	8.6	12.0%
	Multifamily Residential	370	0.6	0.8%
	Retail and Commercial	1,692	2.6	3.7%
	Office	407	0.6	0.9%
	Industrial and Utilities	756	1.2	1.6%
	Public and Semi-Public	296	0.5	0.7%
	<i>Total – Developed Areas</i>	9,027	14.1	19.7%
<i>Undeveloped Areas</i>	Parks and Open Space	923	1.4	2.0%
	Rights-of-Way and Easements	1,854	2.9	4.0%
	Agricultural and Undeveloped Area	34,026	53.2	74.3%
	<i>Total – Undeveloped Areas</i>	36,803	57.5	80.3%
<i>TOTAL</i>	<i>STUDY AREA</i>	45,830	71.6	100.0%

- **Single-Family Residential Developments** (*yellow*)

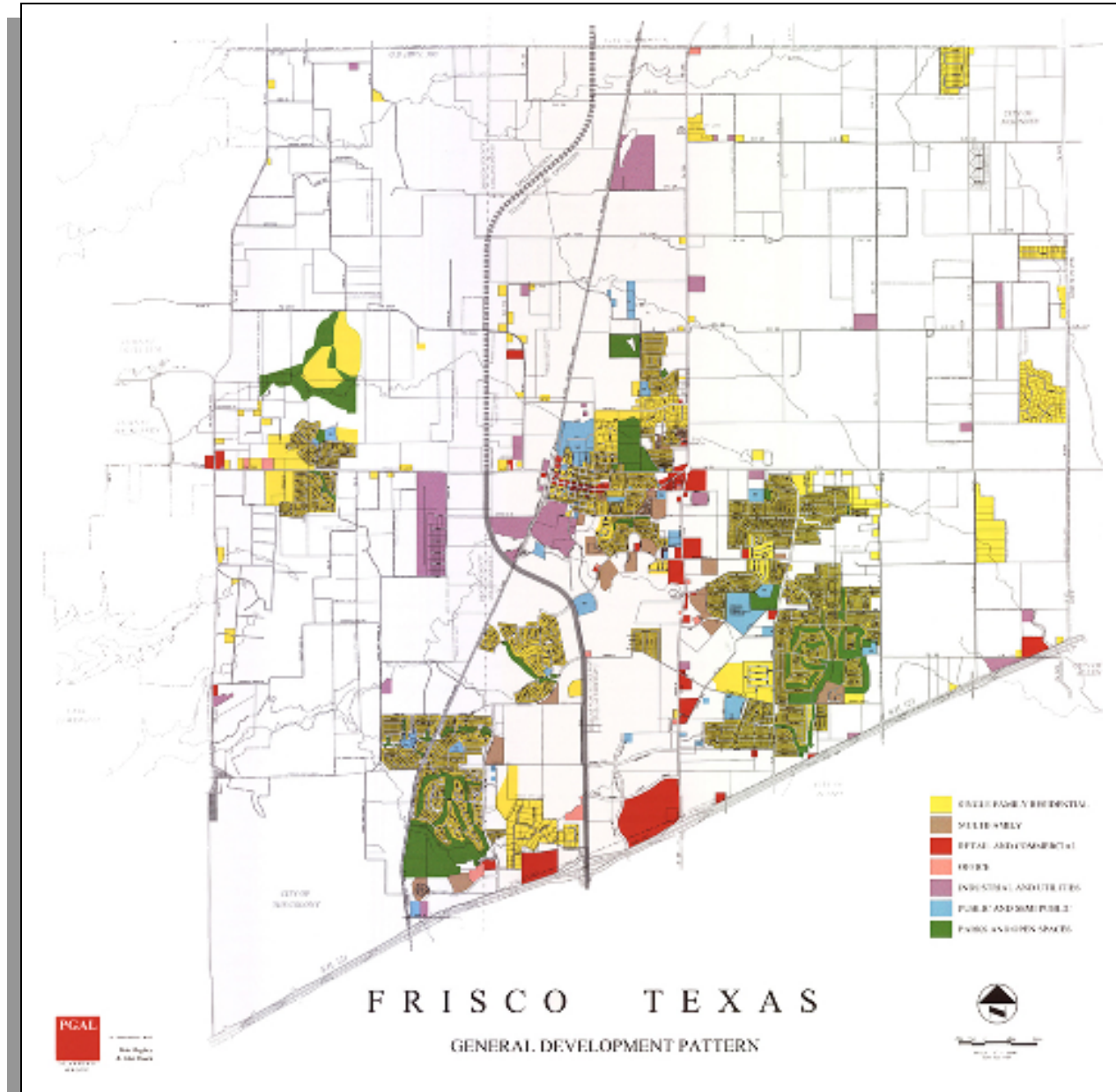
Single-family homes are the principal land use in Frisco, accounting for approximately 5,506 acres. Single-family residential developments vary from large lot single home areas (multi-acre), to upper-income developments, to entry-level subdivisions. Single-family residential developments occur throughout Frisco, but are currently concentrated near FM 720/Main Street (downtown), between Coit and Preston Roads, and southwest of the Dallas North Tollway.

- **Multifamily Residential Developments** (*tan*)

Multifamily includes any residential development with attached units, including apartments, triplex/quadplex homes, townhomes, attached garden homes, or assisted living developments. Multifamily developments comprise approximately 370 acres of the study area and are generally located adjacent to single-family areas.

Of the total 45,830 acres that comprise the study area, approximately 9,027 acres (19.7%) have been developed.

Figure 3-5 – Existing Development



- **Retail and Commercial Developments** (red)

Retail and commercial uses include stores, restaurants, service businesses (banks, salons, etc.), and business-to-business companies. Some offices may also be located in retail or commercial developments, but the overall uses are non-office. Retail and commercial uses comprise approximately 1,692 acres and are generally currently located along Preston Road, FM 720/Main Street (downtown), and SH 121.



- **Office Developments** (*pink*)

Office uses include multi-tenant lease spaces and single-occupant buildings. There are no large concentrations of office development in Frisco at the present time – approximately 407 acres so far. Office uses are currently found on FM 720/Main Street (downtown), Preston Road, Wade Boulevard, and the Dallas North Tollway.

- **Industrial Developments and Utilities** (*lavender*)

Frisco has several pockets of industrial uses – there are approximately 756 acres of industrial area at present. Industrial uses include manufacturing, assembly, outdoor storage, warehousing, and other similar uses. These are currently located north and south of downtown and along the Dallas North Tollway. Utility installations (electric substations, antennae arrays, phone switches, power plants, etc.) are scattered throughout the study area.

- **Public and Semi-Public Uses** (*blue*)

Not all development in Frisco is “profit” driven. Many areas of publicly-developed uses or those that serve non-profit organizations can be found throughout Frisco (comprising some 296 acres). Many of these are schools associated with the Frisco Independent School District (FISD). Elementary schools tend to be located within residential neighborhoods. The Middle School is located in the old downtown area, and Frisco High School is located at the southeast corner of the Dallas North Tollway and Stonebrook Parkway. Other public and semi-public uses in Frisco are associated with the City (City Hall, fire stations, etc.), the Collin County Community College Preston Ridge Campus (between Preston and Hillcrest Roads), and various churches distributed throughout the City.

- **Parks and Open Space Areas** (*green*)

Frisco’s network of parks and open spaces is still being developed. Much of the approximately 923 acres associated with this use is included in two golf courses (Stonebriar Country Club and Plantation Country Club). The largest City parks are associated with the Superdome and with Warren Park. Other parks are distributed throughout the City, usually within or adjacent to residential neighborhoods.

- **Rights-of-Way and Easements** (*no color*)

Roadways, rights-of-way, and easements are part of every community. They represent land dedicated to uses for access and infrastructure. In Frisco, it is estimated that these uses currently comprise about 15% of the developed area. That equates to 1,854 acres, or 4% of the total study area at present.

- **Agricultural and Undeveloped Areas** (*white*)

The largest current use in Frisco – approximately 34,026 acres – remains in agricultural production or is undeveloped land. Some of this area is currently within the Frisco extraterritorial jurisdiction (ETJ) – areas that may eventually become part of the City at some future date. Some of this area has also been evaluated as being unsuitable for future development and may remain as open space or undeveloped acreage. These agricultural and undeveloped areas represent the “envelope” into which Frisco may grow.



Overall Assessment

Frisco has developed a little less than 20% of the total study area. Single-family residential developments are projected to be the dominant land use, but other land use types will increase as well. To what extent these uses develop depends upon the amount of suitable land for development and the land use plan which is adopted as a result of this project.



Composite Suitability Analysis



(Photo by the PGAL Planning Group)

The relative suitability (or unsuitability) of an area to accommodate future development is dependent on its natural and/or man-made constraints. In Frisco, most of the study area has little or no constraint to development. Any constraints that might be present are natural and environmental.

The result of the suitability analyses described earlier in this Chapter (floodplains/wetlands, slopes, soils, and sensitive habitats) affect the “developability” of Frisco to varying degrees. In some instances, the presence of minor natural restrictions does not significantly restrict growth potential. In other cases, there are severe restrictions that must be accounted for. (There are no known man-made constraints to development in the

study area.)

Overall, three varying degrees of suitability have been identified and mapped for Frisco:

- **Suitable**

Most of Frisco is classified as being “Suitable” for development. These consist of agricultural/undeveloped areas with low slope (0% to 5%) and no other natural constraints. Areas that are also already developed are automatically considered suitable for development.

- **Moderately Suitable**

A small portion of Frisco has been classified as being “Moderately Suitable” for development. This includes agricultural/undeveloped areas with a moderate slope (5% to 10%) – usually near the Preston Ridge – and no other natural environmental restrictions. These areas are suitable for most all types of development, except for larger-footprint buildings.

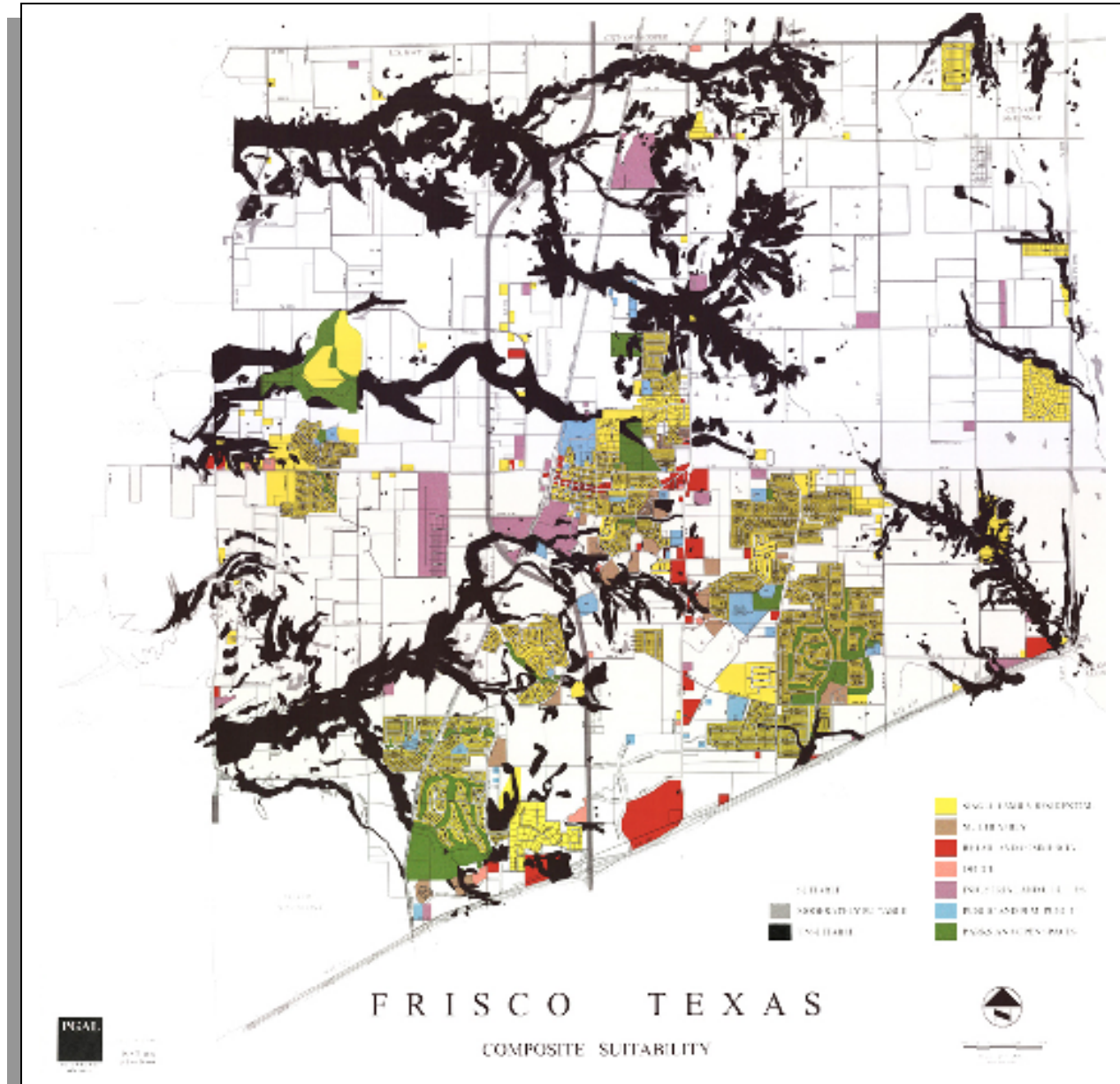
- **Unsuitable**

The portion of Frisco classified as “Unsuitable” for development has multiple environmental restrictions, all generally occurring within or near the 100-year floodplain or a wetland. These areas are subject to frequent flooding (floodplains and wetlands), have high slopes (10% and higher), poor soils (Capability Class V and higher), and sensitive habitats. While any one of these constraints may be overcome with a significant amount of site engineering, the presence of multiple constraints may make these sites too difficult or too expensive to develop. For the purposes of this planning project, these areas are deemed unsuitable for future development.

The composite suitability map is presented in Figure 3-6.

In Frisco, most of the study area has little or no constraint to development.

Figure 3-6 – Composite Suitability





Composite Suitability Analysis Conclusions

Development restrictions in Frisco tend to be associated with floodplains and wetlands. This is not simply because of the potential for flooding – although this is one important consideration. Other environmentally-significant factors also tend to be located in these areas. The presence of poor soils, high slopes, and sensitive habitats in the floodplains and wetlands combine to create areas with multiple natural constraints to growth.

The preservation of these “Unsuitable” areas as open space is appropriate planning practice for several reasons:

- **Frisco has Abundant Available Land**

With over 71 square miles, Frisco has yet to develop a majority of its land areas. The preservation of a small portion of environmentally-sensitive land will not remove large amount of “undeveloped land” from future development. It may also result in slightly higher land values for those areas classified as suitable and moderately suitable.

- **Frisco Should Protect the Natural Environment**

The fragile balance between nature and development can be maintained if important habitats and open space areas are preserved. It also helps to enhance quality of life and create an enjoyable place to live if there are ample areas of open space that can be enjoyed by all.

- **Open Space Should Be Identified and Preserved**

Communities should identify open space preservation areas before future growth and development occurs. It is easier and less costly to preserve these areas for public enjoyment, environmental protection, and flood protection, rather than to buy them back after the fact.

- **Non-Roadway Linkages Reduce Traffic Volumes and Promote Safety**

Natural corridors such as those identified as “Unsuitable” provide linkage opportunities via hike and bike trails and linear parks. These are opportunities that can only be capitalized upon before development overtakes them.

- **Economical Development Costs are Promoted**

By avoiding expensive reclamation and infrastructure construction costs, development may be accomplished more economically. This applies both to initial installation and to on-going maintenance costs. It is ultimately more efficient to build where the land is appropriate for development

The presence of poor soils, high slopes, and sensitive habitats in the floodplains and wetlands combine to create areas with multiple natural constraints to growth.

It should be noted that even though areas have been delineated as “Moderately Suitable” or “Unsuitable”, these might be developed if future developers are willing to absorb the cost of site preparation to overcome natural constraints. If this occurs, the City should require these developers to submit an environmental study that assesses the consequences of altering conditions such as floodplains, sensitive habitats, slopes, and other natural elements.

In conclusion, the composite suitability analysis identifies the “envelope” into which Frisco will grow in the future. This analysis serves as a basis for developing alternative growth and development scenarios (Chapter 4). These scenarios will be the potential concepts for the physical attributes of the Land Use and Thoroughfare Plans.

Other Environmental Influences

The environmental considerations analyzed in this Chapter – floodplains, wetlands, slopes, soils, sensitive habitats, and existing development – are part of the overall environmental factors that influence the City of Frisco and the North Texas region. Other concerns have the potential to influence the form and function of future developments. While these are not part of this particular *Plan*, they should be taken into account as conditions warrant.

Air Quality

To reduce air pollution and improve ambient air quality, the Federal government established the National Ambient Air Quality Standards (NAAQS) in 1977 (amended in 1990). Among other factors, the NAAQS established target levels for vehicular air quality, principally

- **Hydrocarbons (Ozone)**

Ozone (O₃) is not a direct byproduct from vehicles – it is created as hydrocarbons evaporate from engines and fuel tanks and mix with heat and sunlight. Ozone problems are exacerbated by warm temperatures and calm winds – two typical conditions experienced during North Texas summers.

- **Carbon Monoxide**

Carbon monoxide (CO) is a function of traffic congestion and tends to be a “spot” problem. Improving traffic flow and decreasing the number of older vehicles operating on the roadways helps to reduce CO problems.

- **Particulate Matter**

Particulate matter (PM) is measured based on its size (usually between 2.5 and 10 microns). PM pollution may include diesel exhaust, industrial fumes, dust, and other pollutants as defined by the USEPA.

The Dallas/Fort Worth region has failed to meet the required air quality levels and is currently classified as a “non-attainment” area according to Federal air quality standards. Although vehicular emission testing is now required in Dallas, Tarrant, Collin and Denton counties, the region remains in non-attainment status. Increases in population and traffic, combined with summertime temperature inversions, have aggravated the air quality problem. To comprehensively address air quality issues, fundamental developmental and lifestyle changes are needed, including

- The reduction of the number of vehicles on the road through increased transit and ridesharing programs.
- The shortening of vehicle trip-lengths by reducing driving distances between destinations. This would involve more compact land use developments that bring residential, employment, retail, and recreation areas closer together.
- The reduction of dependency on vehicles through increased use of other travel modes, principally bicycle and pedestrian.
- The encouragement of telecommuting, alternative officing, and flex-time to reduce peak-hour congestion.
- The encouragement of the construction of energy-efficient homes, offices, stores, and industrial buildings.



These and other similar approaches will influence the character and locational decisions of new development.

Domestic Runoff Pollution

Some of the most significant water quality issues are those associated with stormwater runoff in residential areas. The use of fertilizers, herbicides, pesticides, insecticides, and household chemicals can severely damage the quality of local water sources. Some procedures to address these issues include

- Design residential subdivisions to minimize residential runoff into creeks and floodplains.
- Install storm drainage systems to contain and direct as much of the stormwater runoff as possible.
- Encourage organic alternatives to traditional household chemicals.
- Allow increased application of xeriscaping and native plantings that require little or no chemical applications.

Solid Waste Management

Like most communities, Frisco offers municipal recycling programs to reduce the amount of solid waste transported to conventional landfills. As Frisco continues to grow, its solid waste output will tend to increase more rapidly. The City of Frisco should maintain and enhance its curbside recycling program to encourage maximum participation. The City should also comprehensively seek ways to reduce the generation of solid waste.

Heat and Temperature Inversions

Most urbanizing and edge communities experience an increase in ambient heat, due mostly to the amount of paved surfaces. Pavement absorbs the daytime heat and retains it through the evening hours. During the summer months, this phenomenon can easily send the temperature-humidity index beyond the 100-degree mark. When these pockets of warmed air are not dissipated overnight, they can contribute to temperature (or thermal) inversions. These inversions are one of the conditions that trap and contain air pollution. There are various means to reduce these pockets of “heat islands”:

- By increasing the proportion of open space on individual lots, the amount of paved surfaces can be reduced. This is a function of the floor-area ratio (FAR) of the lot and the house. It also helps to reduce stormwater runoff through the increase in permeable surfaces. Increased landscaped areas also help to reduce heat and improve air quality.
- Fewer and narrower roadways and smaller parking lots will reduce the absorption and retention of heat. This works best when combined with a program of reducing dependency on cars and trucks through transit and alternative modes.



Chapter 3

- Preservation of treed areas and water features encourages cooling by shading and evapo-transpiration, significantly reducing ambient air temperature. Commercial misting systems achieve the same effect in applications such as restaurants and plazas. Communities in Arizona have used such systems to cool public spaces and parks.
- In some cities (Phoenix, Chicago, and Los Angeles, for example), rooftop gardens have helped to reduce microclimate temperatures through landscaping and container gardens. Rooftop gardens can only be used with terraces or flat-roofed structures. If the need arises, Frisco might consider allowing rooftop gardens on certain structures as a method to combat heat.

Preservation of Cultural Resources

Development is sometimes a balance of preservation of existing uses and structures versus growth and economic development. These need not be mutually-exclusive goals:

- Redevelopment and reinvestment in older areas takes advantage of existing utility and infrastructure systems. It can also breath new life into older buildings. Frisco's Historic Downtown district has many fine examples of this approach.
- Identification and preservation of culturally-significant areas preserves the character and "soul" of a community. Churches, cemeteries, landmarks, historic trails, and other culturally-important icons should be identified for protection and enhancement.

Museums, "living heritage" exhibits, the designation of historic neighborhoods, events/street festivals, etc. instill a sense of pride and community in an area, especially as it rapidly develops.

Community Protection/"Defensible Space"

The creation and preservation of a safe community is also a type of environmental consideration. Communities can preserve their integrity without the need for gates or other physical barriers.

The defining source for this concept – *Defensible Space: Crime Prevention Through Urban Design* (1972) – was authored by Oscar Newman while Director of the Institute of Planning and Housing at New York University. Newman refers to defensible space as:

".....a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends." ³

While many of Newman's concepts have direct application to building and site design, these same basic concepts are applied in a communitywide approach known as CPTED – Community Protection Through Environmental Design. CPTED and "defensible space" espouse the same basic philosophy – create areas that, by their design, minimize the potential for illegal activity.



Frisco should evolve as a friendly, secure community without sacrificing quality of life. This may be accomplished in several ways

- Opportunities for more visibility on sidewalks and roadways (“eyes on the street”) will enhance the community’s aesthetics while making it uncomfortable for those with criminal intent.
- There is a fine line between good accessibility and neighborhoods that are easy targets for criminal activity because of their proximity to highways and interchanges. Future neighborhoods should be designed so that “outsiders” may be more easily identified and observed.
- Parks, schools, community centers, and other public gathering places should avoid landscape design that obscures the views of windows, doors, and other points of entry. These areas should also be appropriately illuminated at night.
- Activities such as neighborhood watches and block parties should be encouraged so residents can become acquainted with each other. This promotes more cohesive neighborhoods where residents are more aware when something is occurring that is unusual
- Areas like downtown should encourage second-level residential development so there is a 24-hour population. This creates a vital neighborhood where activity is informally monitored by customers, employees, and residents.

There are additional CPTED/defensible space approaches that could be considered for further integration into Frisco’s future development. City staff and developers should work cooperatively to encourage these future designs.

Overall Assessment of Other Environmental Influences

Communities designed, developed, and maintained in harmony with their surroundings are more than just pleasant places to be. They are safer, cleaner, healthier, more efficient, and less costly to maintain. In the influential book *Design With Nature* (1967), noted environmental designer/planner Ian McHarg advocated the theory that community planning should be performed in context with the surrounding environment. Communities designed with nature – not around it or against it – are more effective, efficient, safe, and generally more attractive. In McHarg’s own words:

“The world is abundant, we require only a deference born of understanding to fulfill man’s promise. Man is that uniquely conscious creature who can perceive and express. He must become the steward of the biosphere. To do this he must design with nature.” ⁴

After six decades of growth and prosperity, Americans have learned the value of planning and building environmentally-aware communities. We have also learned how to accomplish this without sacrificing comfort, convenience, quality, or style. Many new communities of the 1990s have followed this approach rather than the “traditional suburban model” experienced during the 1950s through 1980s.



Chapter 3

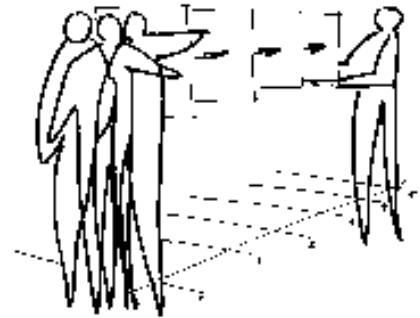
As the City of Frisco enters the next millennium, this environmental ethic should be the basic foundation for all planning and growth-related decisions.

Chapter 3 Bibliography

1. Geo-Marine, Inc. *Environmental Attributes Analysis for the City of Frisco in Support of the Comprehensive Master Plan*. Plano, Texas: Geo-Marine, Inc., 1999, page 9.
2. Ibid, page 12.
3. Newman, Oscar. *Defensible Space: Crime Prevention Through Urban Design*. New York: Macmillan Publishing Company, Inc., 1972, page 3.
4. McHarg, Ian L. *Design With Nature*. New York: John Wiley & Sons, Inc., reissued 1992, page 5.



CHAPTER 4 ALTERNATE SCENARIOS



The Scenario Development Process

As part of this project, the City of Frisco identified its desired goals and objectives for its future development (Chapter 2). The existing natural and man-made conditions were also analyzed to determine the relative opportunities and constraints regarding future development (Chapter 3). That analysis resulted in the generation of a “composite suitability map” displaying those areas most appropriate for development.

Using this information, three “Alternatives” were developed to explore various concepts and development scenarios and test their appropriateness for the City of Frisco. The development of Alternatives was intended as an exercise to encourage a creative approach to the City’s future potential. In the form they were developed and presented, Alternatives were only to encourage this thought-process, not to be interpreted as “plans”. Several basic assumptions of Alternatives included:

- **Concepts**

Each Alternative is a “pure” concept and therefore is not expected to be 100% applicable to Frisco. Each Alternative will spur discussion and thoughts about the future of Frisco, possibly in ways not previously considered. The outcome of this process will be a merger of the most positive aspects of each Alternative, creating a “hybrid” Alternative. This “hybrid” will be further refined over the coming months into the Draft Land Use and Thoroughfare Plan. This is analogous to the development of “concept cars” by automobile manufacturers. The concepts test new design and engineering ideas, but the “concept cars” themselves are not intended for production. Their design and engineering ideas, however, are often incorporated into production models.

- **Residential Community**

A key basic assumption is that the principal land use in Frisco will be single-family residential. Frisco will have numerous types of residential and non-residential development, but it is, first and foremost, a residential community. Offices, retail centers, industries, recreation uses, and other compatible developments are appropriate components of the City.

- **Existing Development**

Areas of Frisco that are already developed were exempt from the opportunities and constraints analysis. So too, these areas will not be “re-planned”. In the development of Alternatives and the subsequent Land Use Plan, the first consideration will be given to developed areas as they exist.

The development of Alternatives was intended as an exercise to encourage a creative approach to the City’s future potential.



- **Existing Roadways**

Each Alternative will present existing major roadways as they exist today. These major roadways include SH 121, Preston Road, the Dallas North Tollway (existing alignment and future extension), Lebanon Parkway, and other major arterial roadways.

- **Environmental Protection**

In Chapter 3, portions of the study area were identified for preservation as open space – either for the development of parks with active recreation (ballfields, athletic facilities, etc.), or for natural “passive” enjoyment (trails, wildlife habitats, etc.). These identified open space areas have multiple natural constraints that may be difficult or impossible to overcome. However, this study also recognizes the nature of environmental analysis and, in limited cases, areas identified for open space preservation might be developable. These preserved open space areas should also serve as a “trigger” for the requirement of subsequent studies and analyses should a development be proposed which is not in harmony with the Plan. If those studies present sufficient documentation that development will not be detrimental to the City or the environment, then the Plan may be altered to allow development to occur. The integrity of the environment or the Plan is not compromised in this fashion – the Plan simply serves as a guide to ensure that future development is accommodated but not at the sacrifice of the environment.

- **Corridor Development**

Alternatives presume that major corridors will have general development patterns based upon different land uses. For instance, the Dallas North Tollway corridor will be predominantly office, while SH 121 and Preston Road will be predominantly retail and residential, and US Highway 380 will be predominantly industrial. Other compatible uses may also be found along these corridors.

- **Airport Alternatives**

During this study, supporters of and opponents to the North Dallas Jetport both have voiced their interests and concerns. The goals and objectives were crafted to present three potential ways the airport is addressed by the Alternatives – an aviation use where it is now, an aviation use elsewhere in the City, or the redevelopment of the airport as another use. The Alternatives will make no preference for one approach over another.



Inspirations

This study took an innovative approach to the development of the Alternatives. Since no priority or preference was to be implied with the Alternatives, a numerical or alphabetical naming convention was avoided. Even using colors as names might imply a preference. Using the goals and objectives (Chapter 2), other American communities were considered as models or “inspirations” for the future of Frisco. Communities that have been ranked high on “livability” surveys were considered as desirable candidates. And while each Alternative is named after a single American community, many of the inspirations can be found in other communities.

**“Savannah” Alternative***(Photo courtesy of the Carolina Morning News)*

Designed in 1732 by Englishman James Oglethorpe, Savannah was one of the first planned cities in the nation. One of the United States’ most unique cities, the City of Savannah has many desirable attributes to be emulated. The most obvious of these is a modified grid street pattern that includes public squares within neighborhoods. In Savannah, this is accomplished by a series of 22 public parks within the city center, which originally served as centers of commerce, protection, and support to the surrounding residential areas. For the better part of the twentieth century, these squares have been both public parks and landmarks commemorating the City’s historical past. (Savannah has the largest historical district in the United States with over 2,000 historic structures in a 2 square mile area.) While Frisco and Savannah have different historical experiences, there are several opportunities to emulate Savannah’s emphasis on city form and neighborhood planning:

- The “Savannah” Alternative proposes “neighborhood centers” in or near the core of residential areas. These “centers” generally include an elementary school, fire station, neighborhood park, and/or a community center. Limited retail may also be included, but is not necessary.
- Public gathering places – “collar parks” – are proposed at the intersection of major arterials, serving to define the area and buffer retail and multifamily uses from adjacent single-family residential areas.
- Frisco’s Historic Downtown district is extended west from its current location to FM 720/Main Street at Dallas North Tollway.
- The proposed “modified grid” pattern of arterial streets serves as a good identifier for both existing and future neighborhoods.

Figure 4-1 shows the “Savannah” Alternative and its accompanying land use breakdown is presented in Table 4-1 (calculations based on conceptual bubble diagrams for general planning purposes only).

Table 4-1 – “Savannah” Alternative Land Uses

<i>Land Use</i>	<i>Type</i>	<i>Acres</i>	<i>Sq. Mi.</i>	<i>Percent</i>
Developed Area	Single-Family Residential	14,487	22.6	31.6%
	Multifamily Residential	1,170	1.8	2.6%
	Retail/Commercial	3,050	4.8	6.7%
	Office	3,135	4.9	6.8%
	Industrial/Utilities	3,542	5.5	7.7%
	Public/Semi-Public	1,066	1.7	2.3%
	Subtotal	26,450	41.3	57.7%
Undeveloped Area	Parks	1,430	2.2	3.1%
	Rights-of-Way/Easements	11,450	17.9	25.0%
	Preserved Open Space	6,500	10.2	14.2%
	Subtotal	19,380	30.3	42.3%
TOTAL		45,830	71.6	100.0%

One of the United States’ most unique cities, the City of Savannah, Georgia has many desirable attributes to be emulated. The most obvious of these is a modified grid street pattern that includes public squares within neighborhoods.



- *Multifamily Residential* – The 1,170 acres of multifamily residential uses would develop at approximately 20 DU's per acre. Each multifamily dwelling unit would have approximately 2 residents. Of the total future 220,600 persons, approximately 21% (46,800 persons) would be in multifamily units.
- **Retail and Commercial Development**
Based on the “Savannah” Alternative, approximately 6.7% of the study area (3,050 acres) would be developed as retail and commercial uses. Presuming an average floor-area ratio (FAR) of 0.25, approximately 33.2 million square feet of retail and commercial space would be available throughout the City.
- **Office and Corporate Development**
Based on the “Savannah” Alternative, approximately 6.8% of the study area (3,133 acres) would be developed as office or corporate uses. Presuming an average FAR of 0.45 (presuming the average office building is two-stories), approximately 61.5 million square feet of office space would be available in Frisco.
- **Industrial and Utility Development**
Based on the “Savannah” Alternative, approximately 7.7% of the study area (3,542 acres) would be developed as industrial and utility uses. Presuming an average FAR of 0.25 and discounting for approximately 20% of that area being utility installations (few or no employees), approximately 30.8 million square feet of industrial space would be available in Frisco.

Advantages

When applied to Frisco, the “Savannah” Alternative has some advantages that are desirable as the City develops, including:

- The grid street system proposed in the “Savannah” Alternative provides for the efficient design and installation of the infrastructure system (water, wastewater, drainage, electrical, telecommunications, etc.). It also provides easy and convenient access for emergency vehicles (police and fire), as well as service and delivery vehicles.
- The “Savannah” Alternative locates various types of public gathering places in close proximity to residential neighborhoods, including “neighborhood centers” and “collar parks”.
- There are increased opportunities for industrial development in Frisco, especially along the US Highway 380 corridor, and within proximity of the airport.
- The modified grid street pattern improves Frisco’s east/west and north/south access.
- The “Savannah” Alternative provides for a larger downtown area by extending development west of the Burlington Northern/Santa Fe railroad tracks to the intersection of FM 720/Main Street and the Dallas North Tollway.



Drawbacks

Naturally, the “Savannah” Alternative also has some inherent attributes that are not compatible with the City of Frisco:

- The “Savannah” Alternative does not completely address the existing residential land use incompatibilities in the vicinity of the airport.
- Although a grid street network is efficient for infrastructure and emergency and service access, it also tends to encourage cut-through traffic, especially crosstown traffic that has no local destination.
- The “Savannah” Alternative proposes creekside development mostly for single-family residential uses. This limits opportunities for compatible non-residential development along creek corridors, especially office and retail potential.
- The “Savannah” Alternative proposes a grid street network that serves predominantly single-family residential uses surrounding a downtown core. This pattern is not particularly unique and is very similar to other area cities (Plano, Rowlett, Grapevine, and Coppell, for example). If Frisco wants to create a more unique community identity, this pattern will not promote that goal.

**“Columbus” Alternative***(Photo courtesy of the Bettman Archive)*

Columbus, Ohio – home to one of the largest universities in the country (Ohio State University) and the capitol of Ohio – has been consistently ranked as one of the United States’ most livable cities because of its affordability, diverse economy, park system, and sense of community. Columbus is most often described as a “big small town” and has maintained this feeling even though the metropolitan population is over 1 million persons. Its neighborhoods are diverse and strong, with many second and third-generation residents. The City is often used as a test-market for new products because it typifies American community values. In the face of expanding development, Columbus has successfully preserved a series of ravines that traverse the City. These ravines have been left as public open

spaces, with some limited development of distinctive homes. The City’s strong downtown is home to both new and restored developments and is well-served by the “Inner Loop” – a series of highways that serve to define the boundaries of downtown. The “Outer Loop” provides circular access to all corners of the City. This loop highway system is also a common feature in other American cities including Dallas, Fort Worth, San Antonio, Houston, Indianapolis, Cincinnati, and Atlanta, to name a few.

- The “Columbus” Alternative also proposes “neighborhood centers” in or near the core of residential areas., and the extension of the downtown district to FM 720/Main Street at Dallas North Tollway.
- A dual loop road system is proposed to define Frisco’s core and to provide circular access within the city limits.
- Open spaces are preserved as natural corridors that link neighborhoods. Major arterials parallel these corridors instead of crossing them.

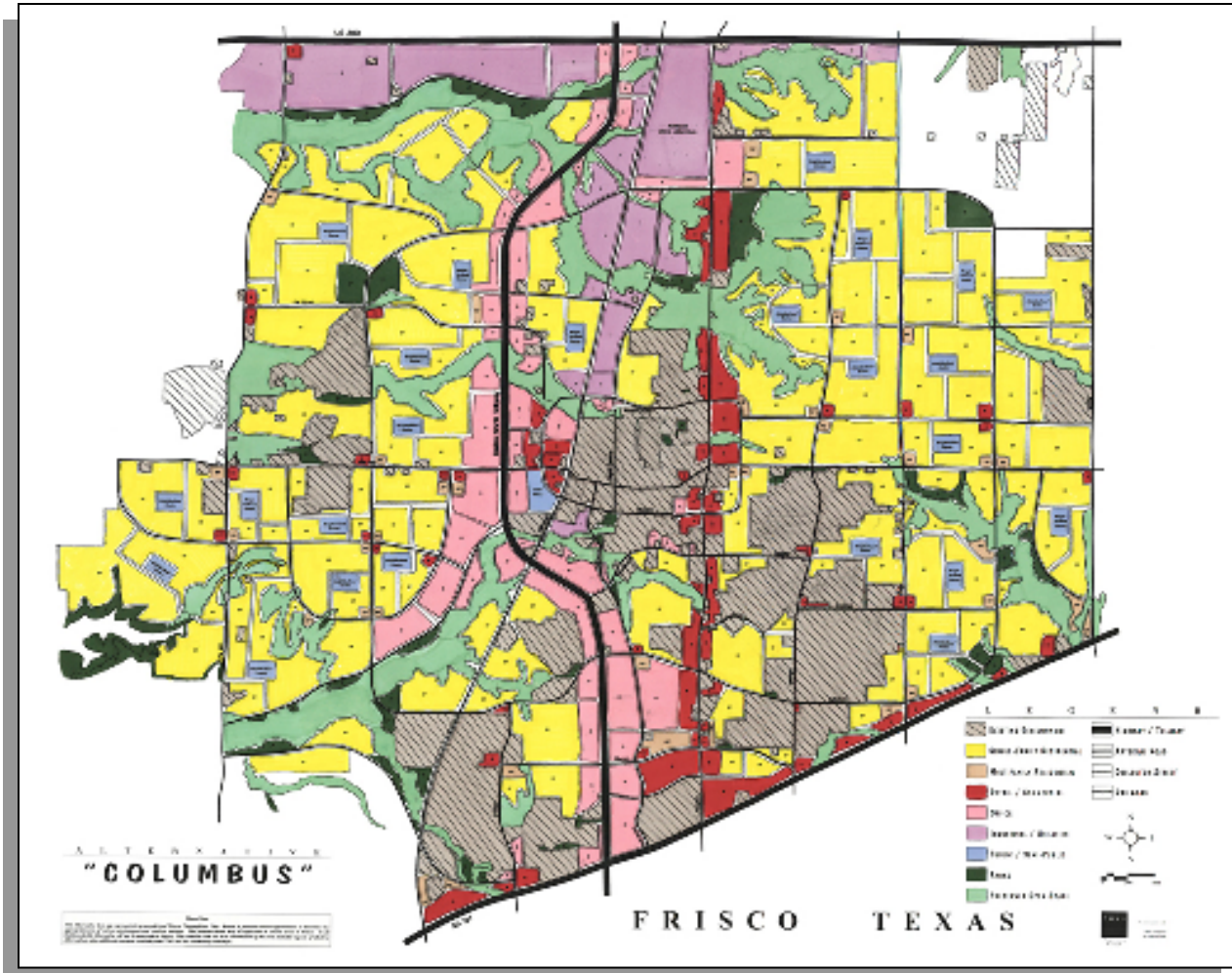
Figure 4-2 shows the “Columbus” Alternative and its accompanying land use breakdown is presented in Table 4-2 (calculations based on conceptual bubble diagrams for general planning purposes only).

Table 4-2 – “Columbus” Alternative Land Uses

<i>Land Use</i>	<i>Type</i>	<i>Acres</i>	<i>Sq. Mi.</i>	<i>Percent</i>
Developed Area	Single-Family Residential	15,810	24.7	34.5%
	Multifamily Residential	1,150	1.8	2.5%
	Retail/Commercial	3,370	5.3	7.4%
	Office	3,850	6.0	8.4%
	Industrial/Utilities	3,060	4.8	6.7%
	Public/Semi-Public	1,080	1.7	2.4%
	Subtotal	28,320	44.3	61.8%
Undeveloped Area	Parks	1,850	2.9	4.0%
	Rights-of-Way/Easements	9,210	14.4	20.1%
	Preserved Open Space	6,450	10.1	14.1%
	Subtotal	17,510	27.3	38.2%
TOTAL		45,830	71.6	100.0%

Columbus is most often described as a “big small town” and has maintained this feeling even though the metropolitan population is over 1 million persons.

Figure 4-2 – “Columbus” Alternative



Potentials of the “Columbus” Alternative

- **Residential Development**

If the “Columbus” Alternative were developed as shown in Figure 4-2, approximately 37% of the study area (16,960 acres) would be devoted to residential uses. This would generate an approximate population of 235,700 persons, based on the following planning density assumptions (similar to existing densities):

- *Single-Family Residential* – The 15,810 acres of single-family residential uses would develop at approximately 4 DU’s per acre. Each single-family home would have approximately 3 residents. Of the total future 235,700 persons, approximately 80% (189,700 persons) would be in single-family homes.



- *Multifamily Residential* – The 1,150 acres of multifamily residential uses would develop at approximately 20 DU's per acre. Each multifamily dwelling unit would have approximately 2 residents. Of the total future 235,700 persons, approximately 20% (46,000 persons) would be in multifamily units.
- **Retail and Commercial Development**
Based on the “Columbus” Alternative, approximately 7.4% of the study area (3,370 acres) would be developed as retail and commercial uses. Presuming an average FAR of 0.25, approximately 36.7 million square feet of retail and commercial space would be available throughout the City.
- **Office and Corporate Development**
Based on the “Columbus” Alternative, approximately 8.4% of the study area (3,850 acres) would be developed as office or corporate uses. Presuming an average FAR of 0.45 (presuming the average office building is two-stories), approximately 75.5 million square feet of office space would be available in Frisco.
- **Industrial and Utility Development**
Based on the “Columbus” Alternative, approximately 6.7% of the study area (3,060 acres) would be developed as industrial and utility uses. Presuming an average FAR of 0.25 and discounting for approximately 20% of that area being utility installations (few or no employees), approximately 33.3 million square feet of industrial space would be available in Frisco.

Advantages

When applied to Frisco, the “Columbus” Alternative has some advantages that are desirable as the City develops, including:

- The outer loop roadway would help to deflect cross-town cut-through traffic. It would also allow interior circulation within Frisco without the need for using the major fringe roadways.
- The inner loop roadway serves to define “Central Frisco” and create a larger development potential for the downtown area.
- The potential for a larger airport is relocated to the northern edge of Frisco and takes advantage of multimodal opportunities from the railroad, US Highway 380, Preston Road, and the nearby Dallas North Tollway.
- Open space corridors are preserved as urban design amenities to be used and enjoyed by the public, as opposed to be fenced in as private open space for adjacent landowners). This also increases the amount of available parkland (passive and active.)
- The “Columbus” Alternative provides for a larger downtown area by extending development west of the Burlington Northern/Santa Fe railroad tracks to the intersection of FM 720/Main Street and the Dallas North Tollway.



Drawbacks

Naturally, the “Columbus” Alternative also has some inherent attributes that are not compatible with the City of Frisco:

- Relocation of the airport is not easily accomplished and may be quite expensive. While the future of the TXU (formerly TU Electric) power plant is not yet known, the facility would have to be removed in order for an airport to be feasible.
- The City of Frisco currently does not have a very large capture rate for retail, office, and industrial uses. While these rates continually change, the large amounts of developable square footage indicate both a great potential and a long absorption period for these uses.
- The “Columbus” Alternative proposes a street pattern that varies significantly from the previous Plan. This may be a drawback for those developers operating under the presumptions of the previous Plan.
- The loop roadways proposed in the “Columbus” Alternative do not integrate well with existing residential patterns, such as the residential areas along Meadow Hill Road.
- As with “Savannah”, the “Columbus” Alternative proposes a grid street network that serves predominantly single-family residential uses surrounding a downtown core. This pattern is not particularly unique and is very similar to other area cities (Plano, Rowlett, Grapevine, and Coppell, for example). If Frisco wants to create a more unique community identity, this pattern will not promote that goal.



“Portland” Alternative



(Photo courtesy of Newlands & Company)

The local joke in Portland (Oregon) is that visitors should enjoy themselves, but not tell anyone else about how wonderful Portland is. The fact that Portland consistently ranks as one of the most desirable places to live is not an accident. Portland has been proactively planning its urban form for decades. The introduction of its light rail system in the mid-1970s was one of the first such systems for a mid-sized American city, thus proving the concept. Portland’s well-documented “urban growth boundary” was created, not in response to urban issues, but rather to preserve important active agricultural production on the edge of the City. The urban growth boundary has been very successful in fostering redevelopment to the point that Portland has almost no vacant land left in its core. The City is now considering expanding the boundary by one mile in order to accommodate ongoing growth pressures. Portland’s active downtown and well-established neighborhoods have become models for other American communities. And aspects of its light rail system have been copied by many other cities, including San Diego, Dallas, and Atlanta. Aspects of the “Portland” Alternative include:

- The “Portland” Alternative shows the potential for several transit stops along the Burlington Northern/Santa Fe railroad line. These locations have the potential for transit-oriented developments (TOD’s) within an approximate 1,500-foot radius of the transit station
- There is a potential for slightly denser single-family residential patterns closer to the City’s core, as well as close to the transit stops. Lower-density single-family residential would be located on the fringe of the City.
- As with the other Alternatives, “Portland” proposes neighborhood centers in or near the core of residential areas., and the extension of the downtown district to FM 720/Main Street at Dallas North Tollway.

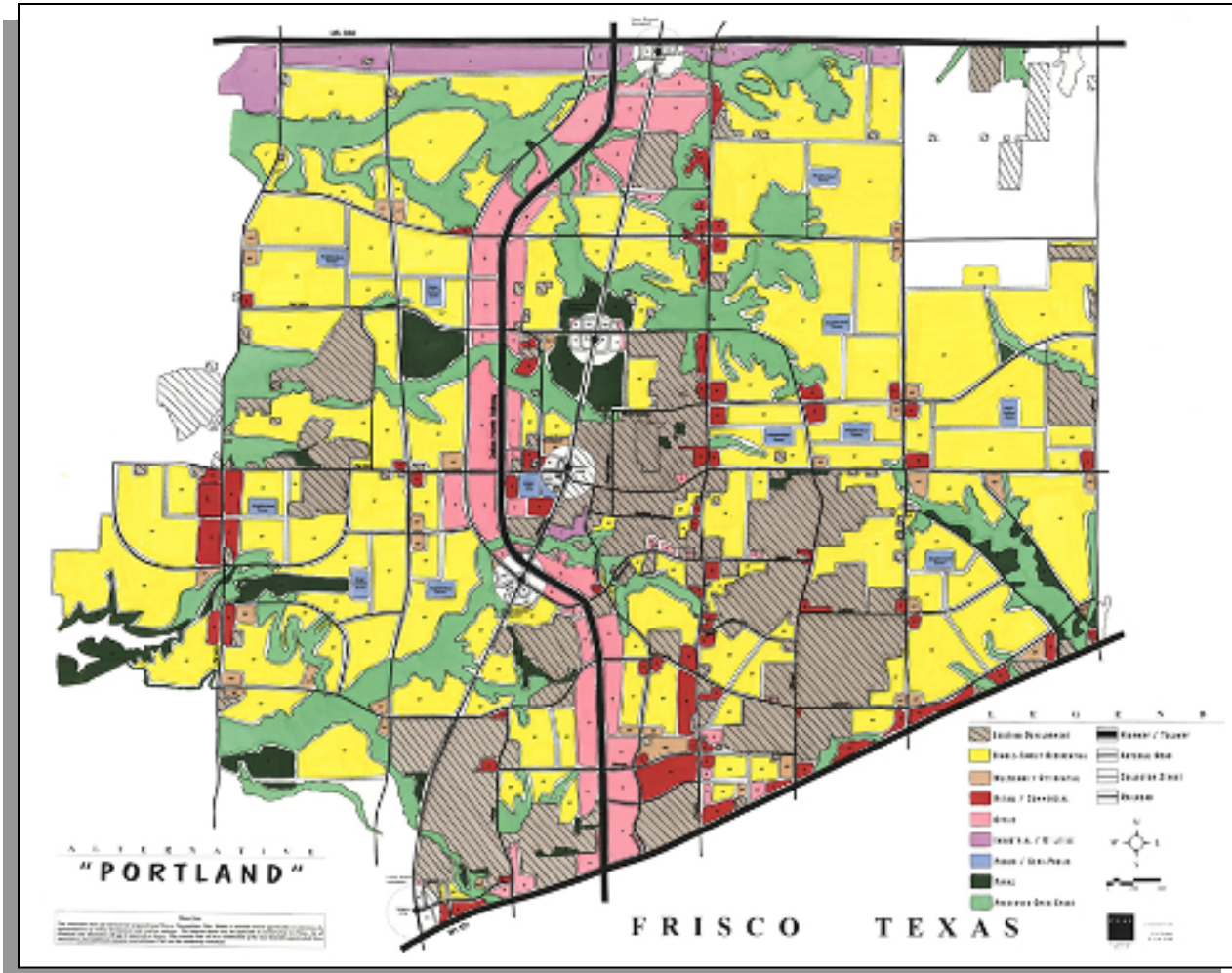
Figure 4-3 shows the “Portland” Alternative and its accompanying land use breakdown is presented in Table 4-3 (calculations based on conceptual bubble diagrams for general planning purposes only).

Table 4-3 – “Portland” Alternative Land Uses

Land Use	Type	Acres	Sq. Mi.	Percent
Developed Area	Single-Family Residential	19,131	29.9	41.7%
	Multifamily Residential	1,190	1.9	2.6%
	Retail/Commercial	2,590	4.0	5.7%
	Office	4,020	6.3	8.8%
	Industrial/Utilities	1,674	2.6	3.7%
	Public/Semi-Public	670	1.0	1.5%
	Subtotal	29,275	45.7	63.9%
Undeveloped Area	Parks	2,035	3.2	4.4%
	Rights-of-Way/Easements	8,020	12.5	17.5%
	Preserved Open Space	6,500	10.2	14.2%
	Subtotal	16,555	25.9	36.1%
TOTAL		45,830	71.6	100.0%

The fact that Portland consistently ranks as one of the most desirable places to live is not an accident. Portland has been proactively planning its urban form for decades.

Figure 4-3 – “Portland” Alternative



Potentials of the “Portland” Alternative

- **Residential Development**

If the “Portland” Alternative were developed as shown in Figure 4-3, approximately 44% of the study area (20,321 acres) would be devoted to residential uses. This would generate an approximate population of 277,200 persons, based on the following planning density assumptions (similar to existing densities):

- *Single-Family Residential* – The 19,131 acres of single-family residential uses would develop at approximately 4 DU’s per acre (overall average). Each single-family home would have approximately 3 residents. Of the total future 277,200 persons, approximately 83% (229,600 persons) would be in single-family homes.



- *Multifamily Residential* – The 1,150 acres of multifamily residential uses would develop at approximately 20 DU's per acre. Each multifamily dwelling unit would have approximately 2 residents. Of the total future 277,200 persons, approximately 17% (47,600 persons) would be in multifamily units.
- **Retail and Commercial Development**
Based on the “Portland” Alternative, approximately 5.7% of the study area (2,590 acres) would be developed as retail and commercial uses. Presuming an average FAR of 0.25, approximately 28.2 million square feet of retail and commercial space would be available throughout the City.
- **Office and Corporate Development**
Based on the “Portland” Alternative, approximately 8.8% of the study area (4,020 acres) would be developed as office or corporate uses. Presuming an average FAR of 0.45 (presuming the average office building is two-stories), approximately 78.8 million square feet of office space would be available in Frisco.
- **Industrial and Utility Development**
Based on the “Portland” Alternative, approximately 3.7% of the study area (1,674 acres) would be developed as industrial and utility uses. Presuming an average FAR of 0.25 and discounting for approximately 20% of that area being utility installations (few or no employees), approximately 18.3 million square feet of industrial space would be available in Frisco.

Advantages

When applied to Frisco, the “Portland” Alternative has some advantages that are desirable as the City develops, including:

- The “Portland” Alternative proposes a truly unique land development pattern for the region – based on a radial light rail transit connection along the Burlington Northern/Santa Fe rail line. This development pattern can result in less traffic congestion and reduced vehicular air pollution.
- New types of development are possible in the “Portland” Alternative, including mixed-use neighborhoods, transit-oriented developments, and a downtown centered around a rail station and a new convention center.
- The “Portland” Alternative preserves Frisco heritage by promoting low-density development on the fringe of the community (Frisco started out as an agricultural community surrounding a rail-oriented town-site).
- The “Portland” Alternative preserves the largest amount of parkland for active and passive recreation uses
- As with the “Savannah” and “Columbus” Alternatives, “Portland” provides for a larger downtown area by extending development west of the Burlington Northern/Santa Fe railroad tracks to the intersection of FM 720/Main Street and the Dallas North Tollway.

***Drawbacks***

Naturally, the “Portland” Alternative also has some inherent attributes that are not compatible with the City of Frisco:

- While removal of the airport addresses concerns of surrounding residential neighborhoods, it is not easily accomplished since the airport is a currently existing land use. Removal of the airport could have some long-term detrimental economic impacts.
- There are no definite proposals or plans to utilize the Frisco portion of Burlington Northern/Santa Fe rail line for anything other than freight. A supporting transit haul system (buses) would likely be needed to supplement the light rail transit line. Frisco is not a member-city of the Dallas Area Rapid Transit Authority, so it is unclear what agency would be responsible for implementing light rail or any transit projects in Frisco.
- The low-density residential development on the fringe of the “Portland” Alternative would have fewer supporting uses, such as retail and neighborhood centers. The development pattern proposed by “Portland” yields the highest population projection (although still within the expectations of the goals and objectives stated in Chapter 2).
- The roadway network proposed by the “Portland” Alternative varies significantly from the previous Plan. This may be a drawback for those developers operating under the presumptions of the previous Plan.



Public Reaction and Comment

The three Alternatives were presented to the public in three different forums:

- **CPAC Workshop**

The three Alternatives were presented to the CPAC advisory group in September 1999 in a workshop session. CPAC spent approximately 3 hours studying and commenting on the Alternatives. The CPAC workshop was videotaped for broadcast on the City's cable-access channel, with the tape being available for loan at the City library.

- **Community Workshop**

Two weeks after the CPAC meeting, a community workshop was conducted at Frisco High School to present the three Alternatives to the public for review and comment. This workshop also lasted approximately 3 hours, during which time numerous comments were offered regarding the Alternatives. The community workshop was also videotaped for broadcast on the City's cable-access channel, with the tape being available for loan at the City library.

- **Internet**

The three Alternatives were posted on the City of Frisco Web page for worldwide viewing during the month of September 1999. The City's Web page receives thousands of "hits" and many of these were directed to the Alternatives.

"Savannah" Alternative Comments

On the whole, CPAC and community workshop comments were extremely positive regarding both the approach and the specific Alternatives presented. While 100% consensus regarding the Alternatives was not anticipated (nor desired), the following comments were received:

- **CPAC Comments on "Savannah"**

CPAC liked the grid street pattern and suggested that existing "commitments" to future roadway alignments (such as El Dorado) be identified before changing from the previous Plan. CPAC approved of supporting retail near residential areas and suggested that it might also be applicable in office and industrial areas. There was a split opinion regarding the airport – some felt that it should be further developed where it is while others felt that it still did not adequately address the incompatibility issues with currently-developed residential areas. CPAC also favored the expanded downtown area (in all three Alternatives).

- **Community Workshop Comments on "Savannah"**

The public approved of the open space and neighborhood center concepts along with the distribution of retail uses closer to residential areas. It was suggested that more multifamily developments might be located nearer industrial areas in order to meet the needs of future employees. The public liked a more even mix of office and industrial developments, especially as those "markets" begin to blur. The grid street pattern was also favorably reviewed. Opinions were equally split regarding the airport – some favored the removal of the facility while others saw an economic potential from having the airport develop further.



“Columbus” Alternative Comments

The two principal aspects of the “Columbus” Alternative – the loop roadways and the open space preservation – resulted in split opinions at both the CPAC and the community workshops:

- **CPAC Comments on “Columbus”**

CPAC generally did not see much merit in the outer loop roadway unless it could be shown that it did not impeded north/south or east/west access. The inner loop was an interesting idea, but CPAC was not sure if it was needed or feasible. While the airport relocation was an interesting idea, CPAC generally felt that it was not financially feasible. There were also some concerns that too much open space was being preserved and that landowners/developers would not be willing to dedicate that much land to open space uses.

- **Community Workshop Comments on “Columbus”**

The public was more accepting of the loop road concept than CPAC, although there were some concerns about the practicality of the inner loop roadway on Hickory and Meadow Hill (both existing residential streets). The public liked the “quality of life” issues associated with the “Columbus” Alternative – preservation of open space and the potential to deflect through-traffic. The development of an industrial district along US Highway 380 was also favorably received. As with CPAC, the public was skeptical about the feasibility of relocating the airport to the suggested site.

“Portland” Alternative Comments

Both CPAC and the public expressed the most favorable comments regarding the “Portland” Alternative. The idea of potential light rail transit generally appealed to both groups:

- **CPAC Comments on “Portland”**

CPAC was generally in favor of considering the potential for light rail transit stations, but voiced concerns over practical issues (coordination with existing freight operations, which agency would implement the system, etc.). CPAC suggested the need for a supplemental line-haul transit service (i.e. bus routes) to support any future fixed alignment transit system. CPAC also felt that the transit-oriented development around the potential transit stations was flexible enough to be applied to either the “Savannah” or “Columbus” Alternatives. Completely eliminating the airport was perceived as an unrealistic approach, since the airport is currently an existing use. The roadway network in “Portland” was seen as the least responsive to other requirements (such as integrating with the Collin County Thoroughfare Plan).



• **Community Workshop Comments on “Portland”**

The public was very interested in developing Frisco as a transit-oriented community. The idea of developing a new downtown and convention center with a transit station at its core was very appealing to many. It was felt that a transit-oriented Frisco would relate better to the region, while simultaneously positioning Frisco as one of the more unique communities in North Texas. The public split on the “no airport” approach – some applauded the idea while others felt it would be an economic loss. The concept of dispersed retail and lower residential densities were also favorably accepted. The public also liked the concept of a diverse industrial base for Frisco’s future.

Overall Assessment

In general, very positive comments were received on all three Alternatives. The public and CPAC approved of the approach of developing Alternatives inspired by other exemplary American communities.

The predominant preference was for a street network approximating the “Savannah” Alternative. This was most responsive to the needs of the Collin County Thoroughfare Plan in providing convenient and available cross-town access, both north/south and east/west.

However, there was also a mandate to include a transit component similar to the transit-oriented development sites presented in the “Portland” Alternative. CPAC’s advice of the need for surface transit system in conjunction with a potential light rail system works well with the grid roadway network proposed in “Savannah”.

While there was no majority consensus regarding the North Dallas Jetport, it was largely felt that the most prudent course of action was to show the facility in its present location. Relocation was not considered a viable option at this time due to financial considerations and the uncertain future of the power plant in that vicinity of the suggested relocation.

There was general consensus regarding other aspects of the Alternatives:

- Multifamily residential areas should be small and dispersed throughout the community.
- Lower density single-family residential is preferred on the fringe of the study area, with slightly higher density (average of 3 to 4 homes per acre) in the central portion of Frisco.
- Retail should be the predominant development type along Preston Road, but other uses should also be considered where appropriate, including offices and some limited residential development.
- Office should be the predominant development type along the Dallas North Tollway, but other uses should also be considered where appropriate, including retail, appropriate industrial, and some limited residential development.



Chapter 4

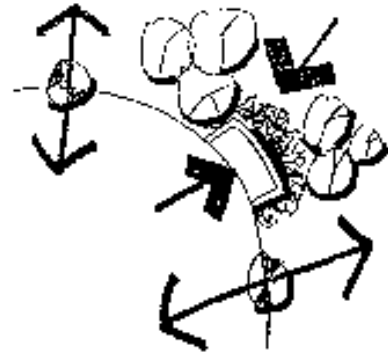
- Industrial should be the predominant development type along US Highway 380, but other uses should also be considered where appropriate, including offices and retail.
- There was a concern about widening FM 720/Main Street through the Historic Downtown district. It was generally acknowledged that a 6-lane divided arterial would be detrimental to the integrity of the downtown area. City staff and consultants recommended that the portion of FM 720/Main Street which travels through the Historic Downtown area (generally between the railroad tracks and County Road) should remain as a 2-lane roadway.
- Additional parkland needs to be shown in conjunction with the Frisco Park Master Plan.

The preserved open space areas were questioned by some landowners. The status of these areas needs to be determined as Frisco develops. It will be suggested in the implementation portion of this document how these areas may be best addressed.



CHAPTER 5

THE LAND USE PLAN



Introduction

The *Frisco Millennium Plan* is a merging of citywide visioning and goals (Chapter 2), physical conditions (Chapter 3), planning concepts (Chapter 4), and detailed land use and thoroughfare analysis (Chapters 5 and 6). It is also a result of extensive public review and comment. During the course of the study, over 110 meetings, interviews, workshops, and presentations were conducted, involving over 3,000 participants. City staff also sent out thousands of electronic newsletters to several hundred recipients. Over 10,500 postcard notices were also distributed to all owners of Frisco property. These notices were distributed in the immediate area, with some being sent across the country and internationally. In addition, the latest versions of the Draft Plan were posted on the City's Web page for viewing and were also e-mailed to all interested individuals.

The Alternate Scenario process (Chapter 4) indicated a general direction for the *Frisco Millennium Plan* based on concepts adapted for Frisco. During late 1999, the consultant team and City staff refined the Draft Plan based upon public comments and direction of CPAC. Meetings with several significant property owners were also conducted to coordinate the planning process with their anticipated development concepts.

The Land Use Plan is to be used as a general guide for future growth. **It is not a zoning ordinance nor does it alter any existing zoning.** The Plan will be used, however, in terms of land use when considering new zoning and zoning change requests. The patterns of development indicated in the *Frisco Millennium Plan* are intended to assist City staff, the Planning & Zoning Commission, and the City Council in assessing and considering future development proposals. The *Frisco Millennium Plan*, first and foremost, must be flexible to allow consideration of new development types and patterns not anticipated when the *Plan* was developed. And when the City opts to change the *Frisco Millennium Plan*, both Land Use and Thoroughfare components should be concurrently considered. (Subsequent changes to the Land Use and Thoroughfare components may also require adjustments to other City's policies, such as the Thoroughfare Impact fees.)

The *Frisco Millennium Plan* as described in the remaining Chapters in this document is a statement by the City of Frisco regarding its future. The City has the right and responsibility of self-determination and the *Frisco Millennium Plan* is the end-result of this effort. After a public hearing process, the *Frisco Millennium Plan* was unanimously adopted on 7 March 2000 (Case No. Z2000-12) – 48 weeks after the project was initiated.

The Land Use Plan is to be used as a general guide for future growth. It is not a zoning ordinance nor does it alter any existing zoning.



The Land Use Plan

The Land Use Plan has assessed the entire City of Frisco and its extraterritorial jurisdiction for the suitability of future development for the following land use types:

- Single-Family Residential
- Multifamily Residential
- Retail
- Office
- Technology
- Industrial and Utilities
- Public and Semi-Public Uses
- Parks and Open Space
- Rights-of-Way and Easements

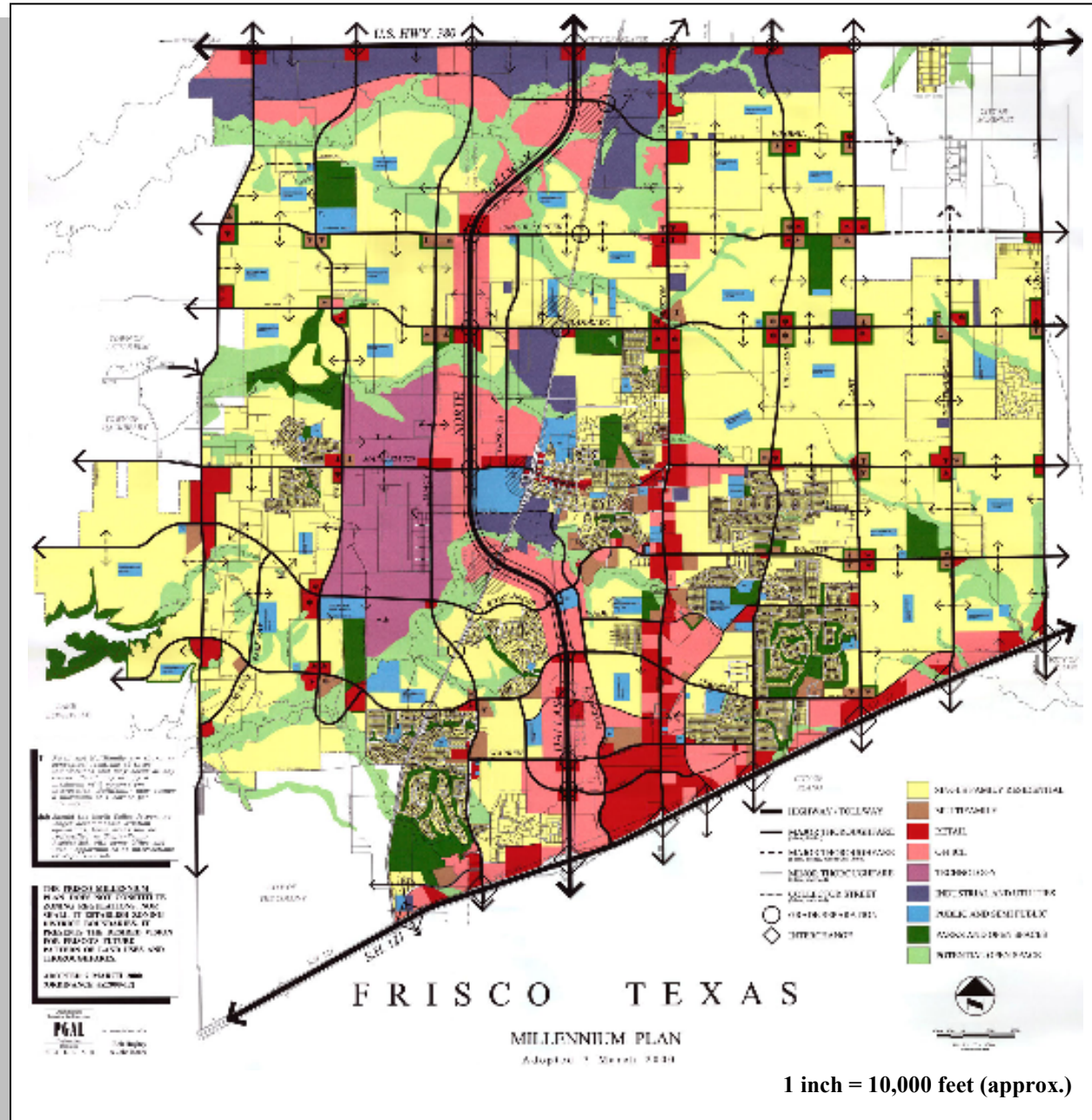
Table 5-1 (below) details the Land Use Plan by these individual development types. Figures 5-1 through and 5-5 (following pages) present the Land Use Plan map – both citywide and in quadrants.

Table 5-1 – Land Use Plan Detail by Development Type

Land Use		EXISTING *			FUTURE BUILD-OUT		
		Acres	Sq. Miles	Percent	Acres	Sq. Miles	Percent
Developed Areas	Single-Family Residential	5,506	8.6	12.0%	21,046	34.9	45.9%
	Multifamily Residential	370	0.6	0.8%	805	1.3	1.8%
	Retail	1,692	2.6	3.7%	2,350	3.7	5.1%
	Office	407	0.6	0.9%	4,360	6.8	9.5%
	Technology	0	0.0	0.0%	1,609	2.5	3.5%
	Industrial and Utilities	756	1.2	1.6%	2,154	3.4	4.7%
	Public and Semi-Public	296	0.5	0.7%	1,330	2.1	2.9%
	Total – Developed Areas	9,027	14.1	19.7%	33,654	52.6	73.4%
Undeveloped Areas	Parks and Open Space	923	1.4	2.0%	3,000	4.7	6.5%
	Rights-of-Way and Easements	1,854	2.9	4.0%	9,176	14.3	20.0%
	Agricultural and Undeveloped Area	34,026	53.2	74.3%	0	0.0	0.0%
	Total – Undeveloped Areas	36,803	57.5	80.3%	12,176	19.0	26.6%
TOTAL	STUDY AREA	45,830	71.6	100.0%	45,830	71.6	100.0%

(* – Existing land uses were surveyed as of July 1999.)

Figure 5-1 – The Frisco Land Use Plan



[illegible]

Figure 5-4 – Frisco Land Use Plan (Southwest Quadrant)

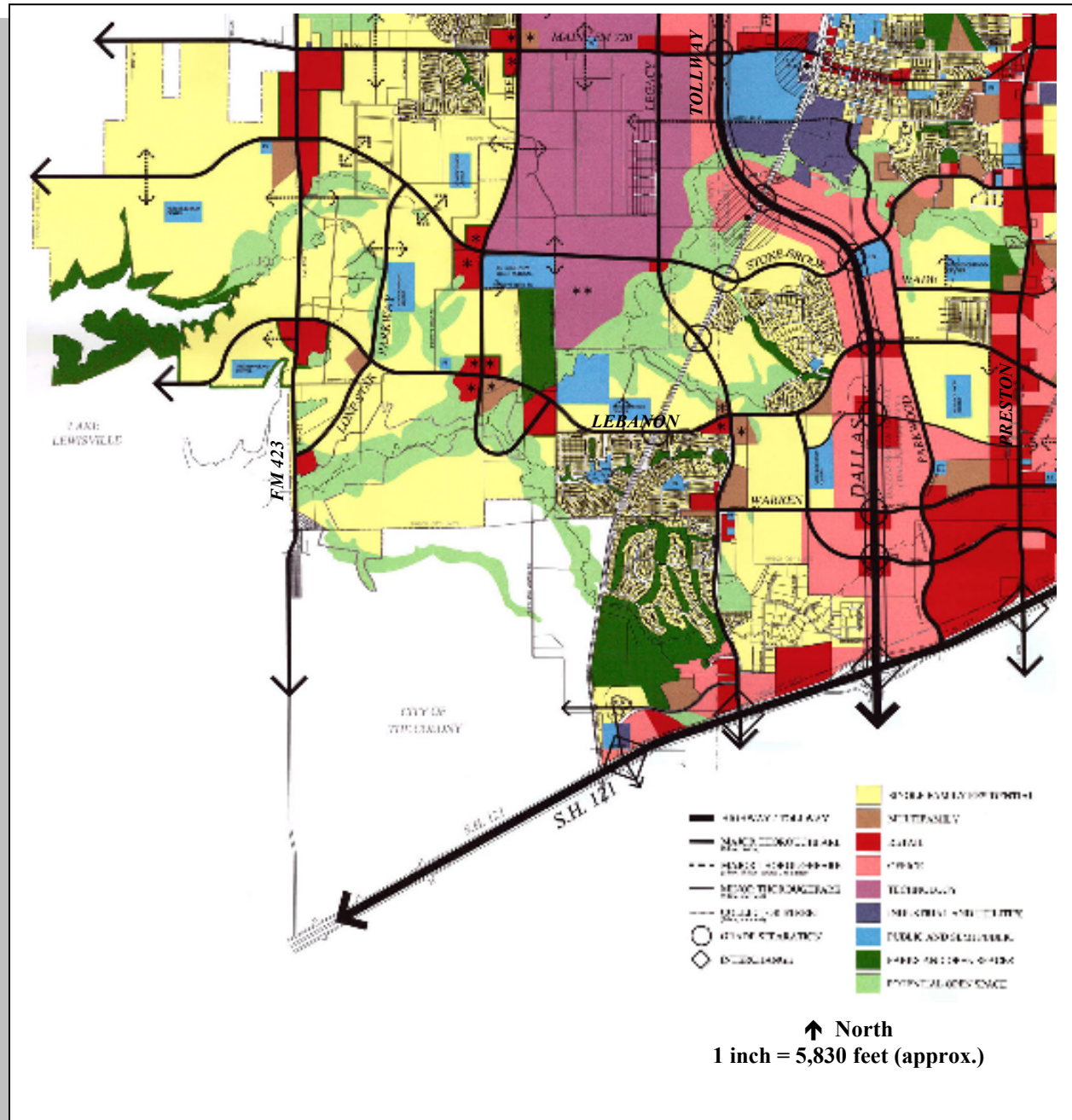
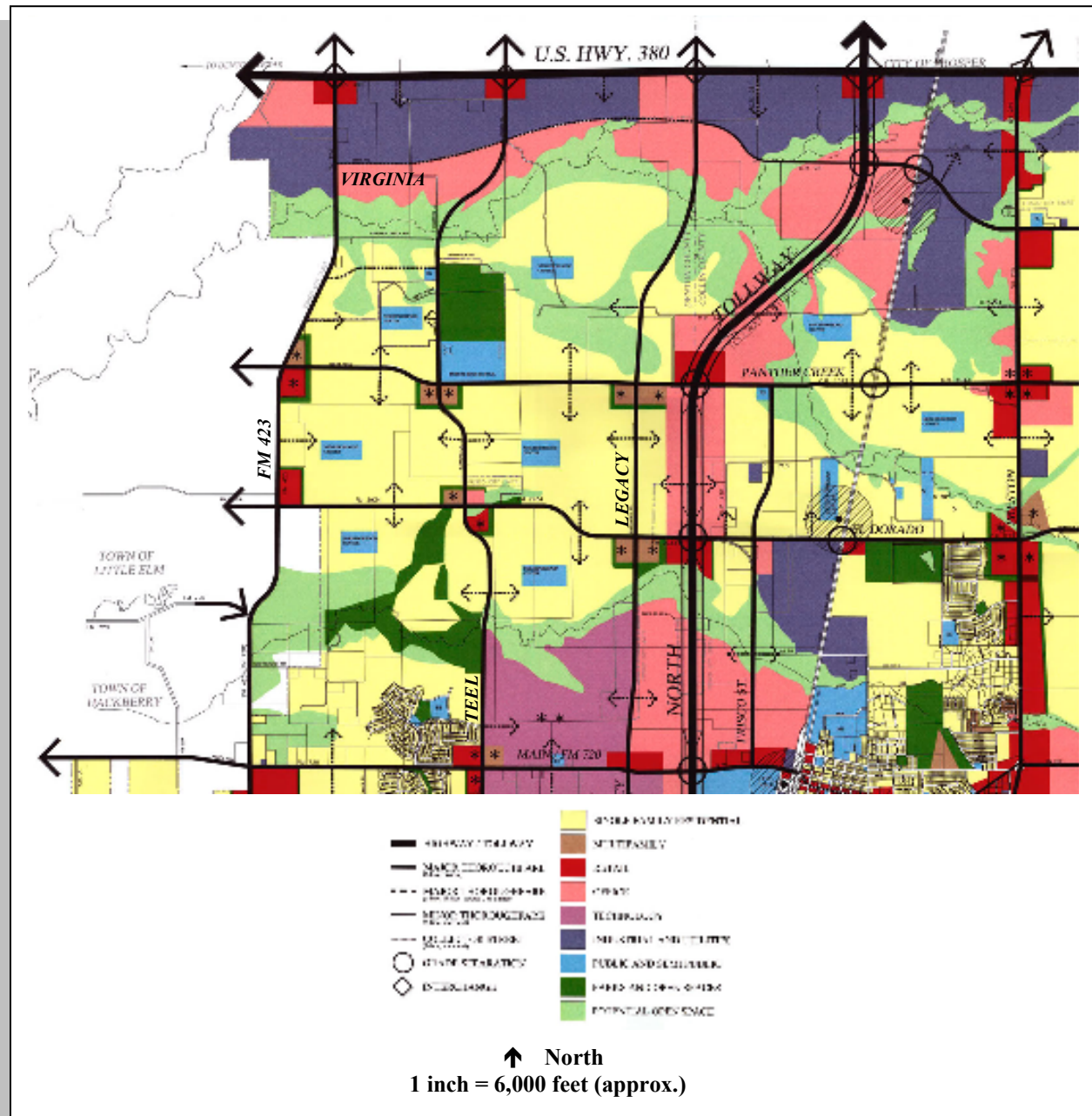


Figure 5-5 – Frisco Land Use Plan (Northwest Quadrant)





Single-Family Residential



(Photo by the PGAL Planning Group)

Map color: Light Yellow
Acres: 21,046 acres
Percent of City: 45.9%

Frisco is, and is anticipated to remain, a residential community. Historically, the City's strength has been a result of its cohesive neighborhoods. The *Frisco Millennium Plan* builds on that strength and has proposed new residential areas that create neighborhoods, not just "subdivisions".

Single-family residential neighborhoods are defined by natural features (such as creeks and floodplains) and man-made features (such as roadways and railroads). Neighborhoods will vary in size, but should be in the 160 to 200 acre range in size. This promotes ease of walking within the neighborhood – a 5 to 10-minute

walking distance – without requiring pedestrians to cross major roadways.

New Single-Family Residential developments should be setback from Frisco's major highways. The City currently has a policy of requiring a 1,200-foot setback for all residential uses along SH 121 and US Highway 380. Along the Dallas North Tollway, Single-Family Residential may be developed in the future, but should be no closer than 300 feet to the Tollway's parallel frontage roads (and generally north of Cotton Gin Road). If part of a mixed-use development, residential uses may be located closer to the Tollway. Such plans would be reviewed by the City on a case-by-case basis.

The *Frisco Millennium Plan* was also designed to minimize situations where Single-Family Residential developments would abut Multifamily Residential, or large non-residential developments. While it is impossible to completely eliminate these situations, they can be designed to integrate with the residential character of the neighborhood. Whenever possible and appropriate, Multifamily Residential developments should be integrated with surrounding Single-Family Residential areas.

The current Frisco Zoning Ordinance establishes eight types of detached Single-Family Residential zoning districts:

- | | |
|---|----------------------------|
| • RE (Residential Estate District) | maximum 0.66 DU's per acre |
| • SF-1 (Single-Family Residential District 1) | maximum 1.79 DU's per acre |
| • SF-2 (Single-Family Residential District 2) | maximum 2.29 DU's per acre |
| • SF-3 (Single-Family Residential District 3) | maximum 2.87 DU's per acre |
| • SF-4 (Single-Family Residential District 4) | maximum 3.38 DU's per acre |
| • SF-5 (Single-Family Residential District 5) | maximum 4.11 DU's per acre |
| • SF-6 (Single-Family Residential District 6) | maximum 5.75 DU's per acre |
| • PH (Patio Home District) | maximum 4.89 DU's per acre |

As far as the *Frisco Millennium Plan* is concerned, any of these eight zoning districts would be applicable in a Single-Family Residential land use designation. The most specific impact on the City will be the ultimate development density that is realized. (Population and land holding capacity is addressed in Chapter 7 of this document.)

Residential Density

Density is typically a development factor controlled by a zoning ordinance. The *Frisco Millennium Plan* has not recommended densities as part of the Land Use Plan, but recognizes that density is an issue that the City will have to address. Table 5-2 suggests which existing Frisco zoning districts should be characterized as “Low,” “Medium,” or “High” density.

Table 5-2 – Residential Densities

<i>Zoning District</i>	<i>District Name</i>	<i>Low Density</i>	<i>Medium Density</i>	<i>High Density</i>
A	Agricultural	●		
RE	Residential Estate	●		
SF-1	Single-Family 1	●		
SF-2	Single-Family 2	●		
SF-3	Single-Family 3	●		
SF-4	Single-Family 4		●	
SF-5	Single-Family 5		●	
SF-6 *	Single-Family 6		●	
PH	Patio Home		●	
2F	Duplex (Two-Family)		●	
TH	Townhome			●
MF-1	Multifamily 1			●
MF-2	Multifamily 2			●

(*Note – SF-6 is designated for use only in the “old donation” section of the City of Frisco.)

The City desires the following locational criteria to apply to various residential density types:

- **Low Density**

Low density residential developments should be located within the interior of a neighborhood and generally away from major thoroughfares. This will protect low density areas from higher traffic volumes.

- **Medium Density**

Because they generate more traffic volumes, medium density developments should be located closer to major thoroughfares and not in the center of a neighborhood.

- **High Density**

High density residential developments should be located only at the intersections of major thoroughfares so as to not attract high traffic volume through a neighborhood’s interior.



Multifamily Residential



(Photo by the PGAL Planning Group)

Map color: Light Brown
Acres: 805 acres
Percent of City: 1.8%

Frisco has had a multifamily apartment component for a long time. As the City has grown rapidly over the past decade, so too has apartment development. Apartments serve a vital function in Frisco:

- Apartments provide housing for residents that cannot afford home ownership;
- Apartments provide an option for residents that are frequently relocated by their employers;
- Apartments provide a no-maintenance housing options for retirees; and,
- Apartments provide starter housing options for young professionals.

In the past, apartments used to be just another part of the neighborhood. Sometime in the early 1970s, developers started building “apartment communities” – larger self-contained apartment complexes that were generally gated and separated from the surrounding neighborhood. In other parts of the country, apartment developments are returning to the way they used to be designed. The *Frisco Millennium Plan* proposes this as well. The following design and location parameters apply to Multifamily development:

- Apartments should integrate with the neighborhood and be a part of it;
- Apartment developments should generally be a maximum of 20 acres or 350 units, whichever is greater;
- Apartment developments should be located at major thoroughfare intersections, not between intersections (mid-block);
- Apartment developments should **not** be located within 2,000 feet of any other multifamily zoning district (not applied to two apartment developments located at the same intersection);
- Apartment developments should **not** occupy more than 1 corner of a major intersection. Apartments, however, may be located on all corners only if designed and constructed as part of a Mixed-Use Development; and,
- The City encourages the horizontal and vertical mixing of rental units with other land uses (Mixed-Use Development).

Assisted living developments are also considered to be a type of Multifamily Residential use. While these uses are not specifically located on the *Frisco Millennium Plan*, they may follow the following guidelines:

- Assisted living developments may be built as part of a church complex;
- Assisted living developments may be part of Neighborhood Centers;
- If possible, assisted living developments should be located next to or near parks;



Chapter 5

- Assisted living developments may be adjacent to day care centers;
- Assisted living developments should be served by a Collector Street; and,
- Assisted living developments should be integrated with the surrounding neighborhood.

The current Frisco Zoning Ordinance establishes four types of attached Multifamily Residential zoning districts:

- | | |
|--|----------------------------|
| • TH (Townhome District) | maximum 9.77 DU's per acre |
| • 2F (Two-Family Residential District) | maximum 7.19 DU's per acre |
| • MF-1 (Multiple Family District 1) | maximum 18 DU's per acre |
| • MF-2 (Multiple Family District 2) | maximum 23 DU's per acre |

As far as the *Frisco Millennium Plan* is concerned, any of these 4 zoning districts would be applicable in a Multifamily Residential land use designation. These uses would fall mostly in the “High” density designation, with the exception of the 2F District (see Table 5-2, page 83).

While the *Frisco Millennium Plan* proposes future locations for Multifamily Residential development, the specific impact on the City will be the ultimate development density and pattern that is realized. (Population and land holding capacity is addressed in Chapter 7 of this document.)



Retail



(Photo by the PGAL Planning Group)

Map color: Red
Acres: 2,250 acres
Percent of City: 5.1%

Retail development has been a hallmark of North Texas for more than three decades. The North Texas region continues to be one of the most active retail areas in the nation. Frisco is beginning to experience new retail development, not the least of which will be the new Stonebriar Centre shopping mall (scheduled to open August 2000), containing 6 anchor department stores, more than 150 stores and a 24-screen cinema.

While Retail uses are vital to the health and economy of a city, they can also attract unwanted traffic, noise, and pollution. Therefore, the *Frisco Millennium Plan* has recommended new locations for retail uses that are on or close to intersections of major thoroughfares. This eliminates mid-block left-turn movements that slow traffic movements and create accident potentials.

Where Single-Family Residential uses back up to Retail areas, rear access from the residential neighborhood will be required to encourage better access. Again, this is not a new concept – it is in place today at shopping centers at Preston/Royal and Preston/Forest in Dallas.

The current Frisco Zoning Ordinance establishes five types of retail zoning districts:

- NS (Neighborhood Service District)
- R (Retail District)
- C-1 (Commercial District #1)
- C-2 (Commercial District #2)
- H (Highway District)

Any of these above zoning districts would be applicable in a Retail land use designation. The “H” District would also be appropriate along SH 121, the Dallas North Tollway, and US Highway 380. Uses allowed under “commercial” zoning districts should generally be located along SH 121, US Highway 380, the Dallas North Tollway, FM 423 and Preston Road.

In general, Retail uses should be a maximum of 30 acres at any major thoroughfare intersection. These 30 acres may be located entirely on one corner or divided on two corners (with a minimum of 15 acres on each corner). As with Multifamily Residential development, when Retail is part of a Mixed-Use Development, all corners of an intersection may contain Retail uses.



The *Frisco Millennium Plan* also recognizes that there are different types of Retail developments that will serve the City's existing and future population. While there are many different terms for various Retail types, the *Frisco Millennium Plan* suggest the following four types:

- **Neighborhood Retail**

These are smaller retail developments that serve a population within about a 1-mile radius. These developments are generally located at intersections of thoroughfares and should be easily accessible by car, bicycle, and by foot.

- **Local Retail**

Local Retail serves populations within a 2-mile radius and are usually comprised of a major anchor tenant (such as a grocery store) and multiple inline lease spaces. In Frisco, Local Retail developments will be located at major thoroughfares, including Preston Road, the Dallas North Tollway, FM 423, etc.

- **Regional Retail**

Regional Retail serves a larger population radius – generally about 5 miles. These developments may have multiple anchor tenants along with many pad sites developed on the fringe of the center – Stonebriar Centre is the most applicable local example in Frisco. Regional Retail uses will be located primarily along SH 121 and US Highway 380.

- **“Super” Retail**

“Super” Retail draws customers from a very large radius – 10 miles or more. These uses are generally quite unique and serve as a specific destination. “Super” Retail uses are often very large (1.5 million square feet or larger) and are part of a Mixed-Use Development (retail, office, hotel, entertainment, etc.). When “Super” Retail developments seek to locate within Frisco, they should be located along SH 121, US Highway 380, or the Dallas North Tollway.

The Dallas/Fort Worth region, has exhibited the tendency to overbuild Retail uses. Consider the example of the area of North Dallas between LBJ Freeway and Beltline Road. One of the region's first major shopping centers was the 90-acre Prestonwood Town Center.

A few years after its opening, the competing Valley View Center opened just one mile south and created both competition and incredible traffic. In 1985, the Galleria opened about a mile away from these two malls and saturated the retail market. Prestonwood eventually could not compete and is now being redeveloped. The City of Plano has also experienced the overbuilding of retail. As a result, many areas previously zoned retail were never developed because of market saturation and vacancies in existing retail centers. (The previous *Frisco Comprehensive Plan* noted the oversupply of Retail zoning east of Preston Road.).

The City of Frisco welcomes all appropriate retail developments that serve both the resident population and those living in the region. However, the City does not wish to encourage the overbuilding of retail uses. Therefore, the *Frisco Millennium Plan* presents a conservative and realistic approach to Retail development, and is intended to remain flexible to consider future new Retail developments as proposed.

Chapter 7 of this document will address additional aspects of Retail uses, including projected square footages, parking standards, and emerging trends in retail development.



Office



(Photo by the PGAL Planning Group)

Map color: Pink
 Acres: 4,360 acres
 Percent of City: 9.5%

Several business publications, including *Fortune* magazine, have identified the Dallas/Fort Worth region as the nation's best area for new job creation and business development. Frisco is now at the threshold of experiencing increased office development as the Metroplex continues to grow to the north.

The *Frisco Millennium Plan* proposes a significant percentage of new office development be concentrated along the Dallas North Tollway corridor. This area is

appropriate for office development because of its regional access, its visibility, and the fact that it is relatively undeveloped at the present time. Office development is also appropriate in smaller concentrations along SH 121 and US Highway 380. There may also be a demand for additional office developments along the Preston Road Corridor.

The current Frisco Zoning Ordinance establishes three types of specific Office zoning districts, including "O-1" (Office District #1), "O-2" (Office District #2), and "C-O" (Corporate Office District. The "O-1" District generally serves a smaller market area than "O-2", and serves as a good buffer to nearby residential uses because of its limited building heights and lower intensity of uses. Since the Frisco Zoning Ordinance treats office uses in a cumulative (Euclidean) fashion, office developments are also allowed in other zoning districts, including:

- R (Retail District)
- OT (Original Town District)
- H (Highway District)
- C-1 (Commercial District #1)
- C-2 (Commercial District #2)
- I (Industrial District)
- IT (Information Technology District)

As far as the *Frisco Millennium Plan* is concerned, uses developed in the Office district include office ("O-1" and "O-2" Districts), corporate office ("CO" District), commercial ("C-1" District), and information technology ("IT" District), where appropriate. Other uses may be developed as supporting uses in the other six districts noted above. Major corridors may also include:

- **Dallas North Tollway**
Office uses may also include "C-1" (excluding automotive uses and mini-warehouses), "O-2", "C-O", and "IT" districts, with Retail being located at major intersections.
- **SH 121**
Office uses may also include "H", "O-2", "C-O", and "IT" districts, with Retail being located at major intersections.
- **US Highway 380**
Office uses may also include "C-O", "O-2", "IT", and "I" districts, with Retail being located at major intersections.

Chapter 7 of this document will address additional aspects of Office uses, including projected square footages, parking standards, and emerging trends in office development.

Technology

Map color: Lavender
Acres: 1,609 acres
Percent of City: 3.5%

Advances in telecommunications and computer technology have resulted in fundamental changes to everyday life, from the way we work to the way we shop. In Alvin Toffler's *The Third Wave* (1980), a follow-up book to *Future Shock*, he predicted the changing of the world's economy from an industrial-base to an information-base. And while there are still viable agricultural and industrial businesses, the most rapid business growth is currently in information technology. Richardson and Plano have benefited from the proliferation of telecommunications and information-based "industries". Growth in that sector continues to expand with corporations such as Nokia, Ericsson, Nortel, Intel, EDS, and others.



(Photo by the PGAL Planning Group)

Based upon the current Frisco Zoning Ordinance, Technology developments may be located in four districts:

- O-1 (Office District 1)
- O-2 (Office District 2)
- CO (Corporate Office District)
- IT (Information Technology District)

In these four districts, it may also be appropriate to allow development of compatible supporting uses, such as Retail as an incidental use.

Frisco has identified an area near the North Dallas Tollway as an ideal candidate for developing a campus-like setting for multiple Technology companies. That area is also currently occupied by the North Dallas Jetport. Should that specific parcel not be available, Technology development may also be accommodated along the Dallas North Tollway corridor, as well as along US Highway 380. (Chapter 7 addresses the current and future uses for the Jetport land.)

Chapter 7 of this document will address additional aspects of Technology uses, including projected square footages, parking standards, and emerging trends in the technology market.



Industrial and Utilities



(Photo by the PGAL Planning Group)

Map color: Slate Blue
Acres: 2,154 acres
Percent of City: 4.7%

Most communities have varying degrees of industrial development, depending on the regional market and the proximity of supporting systems (railroads, ports, highways, etc.). There are several opportunities for industrial development that should be capitalized upon.

The *Frisco Millennium Plan* identifies the US Highway 380 corridor as the main industrial development area. This portion of Frisco is served by two major highways – the Dallas North Tollway (connecting to major highways

throughout the region) and US Highway 380 (a major trucking route through North Texas). The area is also served by the Burlington Northern/Santa Fe Railroad (midway between Preston Road and the Dallas North Tollway). Another key Industrial area surrounds the existing North Dallas Jetport (see Chapter 7 for a more extensive discussion of this area). Industrial uses in Frisco may not be “heavy” or “smokestack” businesses. Rather, they will likely be “flex” developments – large floor-plate tilt-wall buildings that house warehousing, administrative, distribution, light manufacturing, and/or assembly functions all under one roof. “Flex” developments tend to favor businesses seeking to consolidate various functions in one location. These developments may be found in Coppell, Fort Worth, Dallas, and other areas in the region.

The current Frisco Zoning Ordinance establishes four types of zoning districts where Industrial development may be located:

- I (Industrial District)
- O-2 (Office District 2)
- CO (Corporate Office District)
- IT (Information Technology)

As far as the *Frisco Millennium Plan* is concerned, Industrial uses should be the prime use in the “I” district and should be generally located along US Highway 380 and within proximity to the Burlington Northern/Santa Fe Railroad line.

As a part of this designation, utilities are also included. “Utilities” include all private providers, including telecommunications, electrical, natural gas, and others. (Utility service provided by the City of Frisco is designated as a “Public Use”.) Most private Utility installations are small and unobtrusive. Although some others – such as electrical relays, antenna arrays, and pump stations – can pose aesthetic challenges to some neighborhoods. Utilities are necessary to serve Frisco’s growing population, but utility locations should be screened with landscaping (consisting of shrubs and trees) in such a manner that they do not impose upon the surrounding area.

Chapter 7 of this document will address additional aspects of Industrial uses, including projected square footages, parking standards, and emerging trends in industrial development.

Public and Semi-Public Uses

Map color: Sky Blue
 Acres: 1,330 acres
 Percent of City: 2.9%

A community requires uses to support quality of life concerns – health, safety, education, spiritual fulfillment, etc. “Public” uses are generally tax-funded and operate as non-profit agencies. “Semi-public” are privately funded and serve similar functions. The *Frisco Millennium Plan* identifies the following Public and Semi-Public Uses:

- **Municipal Uses**

The City of Frisco is anticipating consolidating its “city hall” functions at a central location south of FM 720/Main Street and east of the Dallas North Tollway. This new development will have the character of a “town center” and include other supporting uses, including restaurants, theaters, stores, and some residential opportunities. Other municipal uses around the City include water towers, water and wastewater treatment plants, public works facilities, fire stations, and other similar uses.

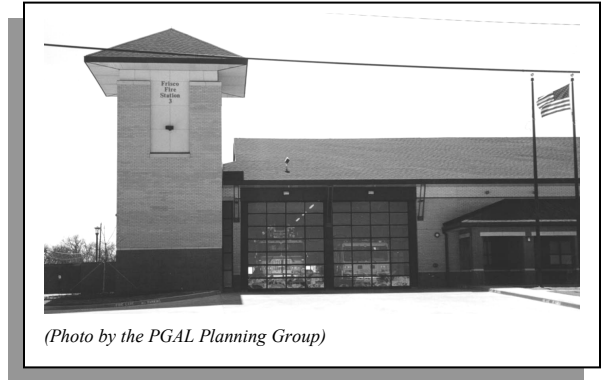
- **Schools**

The City of Frisco is served by three independent school districts – Frisco ISD, Lewisville ISD, and Prosper ISD. Elementary schools should be centrally located within a residential neighborhood to prevent the crossing of major roadways to access the school. (Whenever possible, elementary schools should also be part of a “Neighborhood Center”, described below). Elementary schools should be accessible from at least one Collector Street (not from a Major or Minor Thoroughfare), which ideally connect to the neighborhood’s peripheral thoroughfare (within approximately 1,200 feet of the elementary school). Middle and High Schools tend to have a larger student population and need to be located along Major and Minor Thoroughfares. Whenever possible, schools should be co-developed with city parks adjacent to the site. This minimizes the overall dedication of tax-exempt land, creates a synergy between the school and the recreation use, and provides an opportunity to share parking facilities. Additionally, all ISDs in Frisco are encouraged to build schools that adequately address student populations and to minimize the use of portable classrooms.

- **Churches**

Churches, synagogues, and other houses of worship are a necessary cultural asset in every community. Since the Frisco Zoning Ordinance allows these uses in any district, the *Frisco Millennium Plan* does not attempt to identify future locations. It is suggested that larger congregations and “campuses” (multiple buildings with uses) be located where traffic and circulation will be accommodated. Other suggested parameters include:

- Churches should be located along Major and Minor Thoroughfares;
- Churches should have direct access from a median opening;
- Parking areas should be screened with landscaping or berms;
- Churches should not be located at residential subdivision entrances; and,
- Churches in Frisco are encouraged to build adequate space to minimize the use of portable classrooms/buildings.





- **Neighborhood Centers**

The *Frisco Millennium Plan* has identified 26 conceptual locations for Neighborhood Centers – actual locations will be established as the area is developed. Neighborhood Centers provide an opportunity to consolidate multiple uses on a single site 20 to 30 acres in size. Neighborhood Centers may include:

- Elementary schools;
- Parks;
- Day care centers;
- Fire stations;
- Assisted living centers, or
- Other similar uses.

Very limited retail may also be included in a Neighborhood Center, but should not be larger than 25,000 square feet and should provide few parking spaces in favor of pedestrian and bicycle access. Neighborhood centers should be accessible by at least one Collector Street and serve a neighborhood area within a 5 to 10-minute walking distance.

- **Hospitals**

At present, Frisco has no local hospital within the city limits. That will quickly change as the City continues to grow. In fact, it is anticipated that at full build-out, Frisco may require 3 to 4 hospitals. In many ways, hospital developments are similar to offices – they require large floor-plate buildings (usually multistory); have large parking areas; require convenient access especially for emergency vehicles; and are often surrounded by complementary development (clinics, medical office buildings, etc.). While the *Frisco Millennium Plan* does not specifically identify hospital locations, it is suggested that they be limited to major corridors such as the Dallas North Tollway, Preston Road, El Dorado Parkway, and other similar thoroughfares.

- **Day Care Centers**

With most households containing two working parents, the need for child day care has increased dramatically in the past two decades. Some larger businesses provide on-site day care as an employee benefit. Corporate business parks may include the development of a privately-run day care center marketed to employees. Other day care centers tend to locate near residential neighborhoods for convenience to commuters. The *Frisco Millennium Plan* suggests that day care centers may be included in retail developments, corporate office campuses, Neighborhood Centers, and in neighborhood-oriented retail areas. Other suggested parameters include:

- Day care centers should be located along Major and Minor Thoroughfares, or as part of Neighborhood Centers (on a Collector Street or higher);
- Day care centers should have direct access from a median opening;
- The architectural character of day care centers should be compatible with surrounding residential uses;
- Parking areas should be screened with landscaping or berms; and,
- Day care centers should not be located at residential subdivision entrances.

Day care center sites may be replatted as Single-Family residential if the day care use is discontinued.



- **College and Universities**

Presently, Frisco has one college – the Preston Ridge campus of the Collin County Community College. As the area continues to grow, there may be an opportunity to attract branch campuses of other institutions, including Texas A&M, University of Texas, Southern Methodist University, Texas Christian University, the University of North Texas, etc. The *Frisco Millennium Plan* does not anticipate where or when this may occur, but should be flexible enough to include a future campus as the need arises. Trade and vocational schools may also elect to locate in Frisco and should be accommodated in Office, Technology, and Industrial and Utility areas.

- **Other Public Uses**

The *Frisco Millennium Plan* does not identify the location of other public and semi-public uses, but should consider these on a case-by-case basis. These other uses may include:

- Cemeteries;
- Federal, State and County facilities;
- Non-profitable charitable organizations; and,
- Sports stadia and arenas.



Parks and Open Space



(Photo by the PGAL Planning Group)

Map color: Dark Green
Acres: 3,000 acres
Percent of City: 6.5%

Many of America's great communities emphasize parks and open space as an integral part of their Comprehensive Plans. Cities with celebrated park systems – Austin (Texas), Pasadena (California), Boston (Massachusetts), Cleveland (Ohio), and Kansas City (Missouri) – have all intentionally set aside specific areas for park developments.

The City of Frisco has previously adopted the *Parks, Recreation, and Open Space Master Plan* (January 1998). The *Frisco Millennium Plan* does not attempt to update or replace this recent work, rather it integrates many of the results of the *Parks, Recreation, and Open Space Master Plan* as a vital land use type.

The *Frisco Millennium Plan* identifies both existing and proposed parks within the study area. The need for regional parks (200 acres or more each) has not been identified as a need in Frisco at this time. However, if the City desires to develop such a park, consideration of areas for purchase should be identified as early as possible. At full build-out, it is projected that Frisco may generate sufficient demand to warrant 2 regional parks.

Hike and bike trails are also included in the previously adopted *Parks, Recreation, and Open Space Master Plan*. These generally take advantage of creek corridors and floodplain areas. The *Frisco Millennium Plan* also encourages the development of these trails. Further, it recommends that discontinuous trails be connected to provide a citywide trail system that is accessible to all residents.

The process of projecting future park and open space needs is driven by two key factors:

- **Population**

Accepted park standards from organizations such as the National Recreation and Park Association (NRPA) help determine the appropriate number and size of parks based upon population levels.

- **Location**

Park siting is dependent on such factors as visibility, security, and accessibility. Key parcels should be identified well in advance in order to preserve them for future park use. Sites along creeks, rivers, floodplains, along gently rolling terrain, and heavily treed areas are often the most desirable for parks. Parks which contain many active recreational uses should be located on flat terrain for ball fields and other improvements. Care must be taken in siting parks that attract pedestrians and cyclists so that the crossing of major roadways is eliminated or minimized.

The *Parks, Recreation, and Open Space Master Plan* also used the NRPA standards as a guideline for future park and recreation needs. Table 5-3 presents suggested performance standards for future park needs.

Table 5-3 – Recommended Park Standards

Park Type	Description	Area Served	Average Park Size	Ratio
<i>Mini-Park</i>	Serves a small area and may include playgrounds, picnic areas, and seating. Many school and church playgrounds serve in this capacity.	Less than ¼ mile from a neighborhood	2,500 square feet to 1 acre	0.25 to 0.5 acres per 1,000 persons
<i>Neighborhood Park</i>	Serves a larger population and may include more intense recreational activities including field games, court games, and swimming pools.	One neighborhood (¼ to ½ mile radius)	5 to 10 acres	1.25 to 1.5 acres per 1,000 persons
<i>Community Park</i>	Serves multiple neighborhoods and provides many of the same facilities as neighborhood parks, and may include additional fields and facilities.	Several neighborhoods (½ to 3 mile radius)	30 to 50 acres	5 to 8 acres per 1,000 persons
<i>Sports Complex</i>	Facilities for desired uses, usually designed for team sports.	1 hour driving time	25 acres min. (40 to 80 acres optimal)	Variable
<i>Special Use Areas</i>	Varies depending on specific use desired.	No standard	Variable	Variable
<i>Greenways and Linear Parks</i>	Sufficient width to protect natural resources and provide maximum use.	No standard	Variable	Variable
<i>Natural Resource Areas</i>	Resource availability and opportunity.	Variable	Variable	Variable
<i>School Park</i>	Park depends on school size and function.	Variable	Variable	Variable
Overall Average	<i>The NRPA recommended average range of parks for a community.</i>			<i>6.5 to 10.0 acres per 1,000 persons</i>

Sources: *Park, Recreation, Open Space and Greenway Guidelines* (National Recreation and Park Association, 1995) and the *Parks, Recreation, and Open Space Master Plan* (City of Frisco, January 1998).

Using the NRPA range as a guide, the City of Frisco should provide between 1,950 and 3,000 acres of parkland and open space (based on a population holding capacity of approximately 300,000 persons – see Chapter 7). The *Frisco Millennium Plan* identifies a total of 3,000 acres for recreation use

- Active recreation use1,350 acres
- Potential open space862 acres
- Parks associated with Neighborhood Centers.....260 acres
- Acreage for future Regional Parks528 acres

Total Park Acreage in the Frisco Millennium Plan..... 3,000 acres



It should be noted that the “potential open space” areas have environmental or natural conditions that may constrain development to some degree. The *Frisco Millennium Plan* does **not** preclude the potential for development in these areas (through reclamation or other means). While the City should encourage the preservation of these areas for open space, development that is “open space oriented” and which takes advantage of proximity to these natural areas may also be accommodated. Chapter 7 discusses these potentials in further detail.

Regional Parks

One of the areas the City has considered is the need for a Regional Park. This type of park serves a large area and is typically 200 acres or more. While presenting various versions of the Draft Plan, it was clear from public comments that the residents of Frisco desire additional areas be identified for future park development. The City’s park and recreation staff has suggested that this desire for additional parkland be balanced against the City’s financial ability to purchase, operate, and maintain this acreage. As the City grows, it should continually review its park plan to determine the need for new future parks not yet anticipated.

It is the recommendation of the *Frisco Millennium Plan* that the City consider the purchase of sites for a future Regional Parks, based on the population growth, demographic breakdown, and future needs of the City. The *Frisco Millennium Plan* does not include preferred sites for these parks – rather, it is suggested that a separate study be conducted to determine the appropriate size and location for each such park.

Private Parks

In Frisco, some developments have provided privately-funded parks – “amenity centers” – for use by residents of those particular subdivisions. The City welcomes the development of amenity centers but it is suggested that these be centrally located to the neighborhood, not on the edge or near the entrance of the development.

Passive Open Space

Areas identified as “Parks” or “Potential Open Space” need not necessarily be devoted to active recreation (field sports, athletic facilities, etc.). The preservation of open space is an important component in any Plan.

Frisco residents require areas of the City to remain undeveloped. These areas become a welcome respite from urban and suburban life. Passive open space areas need not be manicured lawns – quite the opposite, they should be as close to natural areas as possible. This is beneficial for the environment, for storm drainage, and for enjoyment of the natural features in Frisco.

Areas identified as “Parks” or “Potential Open Space” on the *Frisco Millennium Plan* may be candidates for passive open space areas. These areas may also be either publicly or privately-owned.

Wildlife Preservation

It is the responsibility of the City and of every resident, business-owner, and developer in Frisco to preserve, protect, and enhance the City’s natural environment.

The preservation of animal and plant life and their habitats is an important component to the area’s ecology. A city without birds, flowers, butterflies, etc., is not a desirable environment in which to live. The City of Frisco can help preserve and protect wildlife areas by identifying critical habitats such as wetlands, certain types of vegetation, and floodplains. These areas may be preserved as passive open space parks, natural/interpretive centers, heritage centers, etc.

Park Guidelines

The following guidelines are also suggested in the *Frisco Millennium Plan*:

- **Parks and Schools**
Parks should be located adjacent to schools to encourage sharing of facilities (such as parking). Whenever possible, parks and schools should be co-developed.
- **Floodplains**
Parks for active recreation uses should be located substantially outside of the 100-year floodplain.
- **Open Space System**
Parks should be located in and adjacent to the open space system to promote connections with the trail network and promote pedestrian/bicycle access.
- **Topography**
Parks should not be located on severely sloping topography – however, this type of topography should also be preserved for passive enjoyment. Existing trees and other scenic elements should be preserved.
- **Public Safety**
Parks should be designed to allow for maximum visibility into the site from surrounding residential streets.
- **Access**
Parks should be accessible from multiple directions to facilitate access from surrounding neighborhoods.
- **Neighborhood Parks**
Neighborhood parks should be centrally located within neighborhoods to serve the greatest number of users. They should also be located so users are not required to cross major roadways to access the park.



- **Community Parks**

Community parks located within residential neighborhoods should be developed in a manner that protects residences from light, noise, and traffic. Community parks should be easily accessible by pedestrians and cyclists.

Implementation and Funding Strategies

During the course of developing the *Frisco Millennium Plan*, questions were raised regarding the funding of future park improvements. The following funding and implementation strategies are available to the City of Frisco:

- **Park Dedication**

At the time developments are platted, the City may opt to require developers to dedicate parkland as identified in the *Park Master Plan* or the *Frisco Millennium Plan*. Parkland provided in this manner is at no cost to the City. The City needs to ensure that the land is provided where it is most needed and that it does not consist of “left-over” or unusable parcels. The City currently has an existing ordinance (Ordinance No. 93-04-04) which governs park dedications.

- **Escrow (“Cash in Lieu of Land”)**

At the time developments are platted, the City may opt to require developers to make a cash payment as determined by the City instead of land dedication. This approach gives the City a certain amount of flexibility in assembling parcels and developing parks. However, regulations require the City to use the cash payment within a specified period of time and within a specific geographic area (a “park zone”). The City currently has an existing ordinance (Ordinance No. 93-04-04) which governs park escrows.

- **Co-Development**

Many cities have found success with co-developing parks with schools and churches. Park co-development is a more efficient way to provide parks, with the potential to share some facilities (such as parking). The City of Frisco currently practices park co-development and should continue to do so as appropriate.

- **Property Purchase**

The City may elect to purchase a parcel of land to meet its park and open space demands. This allows the City to acquire a specific piece of land, but requires a cash outlay to do so. The City of Frisco currently purchases land for park development and should continue to do so as appropriate. The half-cent sales tax from the Community Development Corporation may also be used for land acquisition.

- **Gifts and Endowments**

On occasion, a local resident may endow the City with land for public use. Although free, sometimes a particular site may not be in accordance with the *Park Master Plan*. Deed restrictions requiring specific uses in order for the City to own and use the land are also often imposed.

- **Conservation Easements**

As a means of preserving open space, an easement may be designated when future development occurs. Conservation easements may be dedicated to the City or to a non-profit agency.



- **Federal and State Funding**

State and Federal agencies – including the Texas Parks and Wildlife Department and the US Army Corps of Engineers – offer various park development funding programs. Funding from these sources is highly competitive and additional requirements are usually specified to qualify for State and Federal funding.

- **Public/Private Partnerships**

Cities can work jointly with non-profit or for-profit private interests to jointly develop new parks. Partnering may result in additional requirements (operational restrictions, user fees, insurance liabilities, etc.) imposed by the private partner(s).

Additional research will be required to determine which implementation and funding strategy is appropriate for Frisco.

Interpretation of Open Space Boundaries

The Open Space identified in the *Frisco Millennium Plan* was derived from the previously-mentioned environmental study and shows a **general boundary** for potential open space areas. The specific boundary shall be determined at the time of development when development plans and more detailed information are submitted to the City. It is anticipated that these boundaries may be redefined, reduced or eliminated when developed.

The reflection of potential open space is **not** to be construed as a requirement for landowners to dedicate these open space areas as shown on the *Frisco Millennium Plan*. Rather, the purpose is to make the developer aware of these potentially sensitive areas that could be incorporated into the development as an amenity.



Rights-of-Way and Easements

Map color: n/a
Acres: 9,176 acres
Percent of City: 20.0%

In any community, a certain amount of the area must be set aside for roadways and utility easements:

- **Rights-of-Way**

With the exception of some private streets and interior roadways for business parks, shopping centers, and gated residential communities, every street in the City of Frisco is on publicly dedicated right-of-way. Chapter 6 (The Thoroughfare Plan) outlines the specific rights-of-way associated with the various functional classifications of roadways within the City. The City is encouraged to promote that future roadways be within in public rights-of-way in order to maintain road quality, have convenient access to utility lines, and to provide a continuous roadway network.

- **Easements**

Easements are also necessary to provide utilities throughout the City. Some easements are restricted, such as those associated with major drainage facilities or high-voltage electric towers. Other easements may be coincident with alleys behind properties for the purpose of accessing various utility and telecommunications lines. Other easements may be in rear or front yards with few restrictions on the property owner. (Usually these restrictions include no permanent structures, a minimum of landscaping, and the allowance of access at any time by the utility provider.) Almost every property in Frisco has some type of easement associated with it.

In Frisco, the area dedicated to rights-of-way and easements is calculated to be 20% of the City. This is within the expected range for an average suburban community (15% to 25% is a typical range). As the City continues to grow and construct more roadways and provide more utilities, the percentage of land dedicated to rights-of-way and easements will also increase.

Since rights-of-way and easements contain the necessary services that make land development possible, these should be viewed as assets, not a restriction to growth and development.

Mixed-Use Development

While not specifically located on the *Frisco Millennium Plan*, it is the City's desire to encourage and accommodate all appropriate mixed-use developments within the City.

Mixed-Use Developments are a response to the desire to develop synergistic land uses in close proximity to one another. In some instances, these have been developed as "neo-traditional" or "new urbanism" developments. The basic desire is to encourage a more connected development that promotes pedestrian circulation, a master planned environment, and a "sense of place".

While Mixed-Use Developments may take many forms, the City wishes to promote the following parameters:

- **Vertical Mixing**

The term "mixed-use" can refer to either the horizontal or vertical combining of varying land uses within a single development. In appropriate applications, the City wishes to promote the vertical mixing of land uses – for instance, a structure that would contain retail on the ground level, with offices and/or apartments on the second and third levels. This creates an integrated development that serves multiple markets simultaneously. Mixed-Use Developments should contain a residential component, but in order to be considered truly "mixed", residential uses should not exceed two-thirds of any structure or of the entire development.

- **Flexibility of Density**

A great benefit of Mixed-Use Developments is their integration of open space and recreation uses as an important component. To promote the preservation of open space, the City desires to work with individual developers to allow a massing of appropriately increased density in one portion of the development in order to preserve and protect open spaces.

- **Access and Circulation**

Mixed-Use Developments should always be located along Major Thoroughfares, and at the intersections of two Major Thoroughfares whenever possible. There should be direct access to the development from median openings.

- **Complete Development**

In other areas, Mixed-Use Developments have been phased in, usually as horizontally-mixed developments. The hazard in this approach has been that subsequent phases were not developed as initially planned. To avoid such a condition, the City should only allow Mixed-Use Developments if developed completely, not phased-in over time. Larger-scale projects (16 acres or larger) may be phased-in over time, subject to review by the City.

Additional parameters overseeing Mixed-Use Developments may be developed by City staff as the need arises.



Land Use Plan Summary

The land uses projected for the City of Frisco are within reasonable ranges for suburban communities in the North Texas region. Table 5-4 compare Frisco's future land use percentages with other comparable area communities.

Table 5-4 – Comparison of Area Land Use Percentages by Community

<i>Land Use Type</i>	<i>Frisco</i>	<i>Comprehensive Plan Land Use Percentages by Community</i>				
		<i>Coppell</i>	<i>Flower Mound</i>	<i>McKinney</i>	<i>Plano</i>	<i>Rowlett</i>
Single-Family Residential	45.9%	30.2%	56.5%	9.7%	52.3%	51.0%
Multifamily Residential	1.8%	1.3%	0.9%	1.5%	4.8%	0.7%
Retail	5.1%	5.1%	1.2%	1.9%	4.6%	6.0%
Office	9.5%	3.1%	0.3%	0.2%	4.2%	5.2%
Industrial	4.7%	21.3%	1.1%	2.6%	8.1%	1.6%
Public/Semi-Public	2.9%	6.6%	2.3%	10.2%	0.2%	3.7%
Parks and Open Space	6.5%	7.2%	2.8%	3.5%	*	4.0%
Rights-of-Way and Easements	20.0%	12.9%	15.1%	13.4%	*	16.1%

(* - percentage not available)

Since each community has different attributes and opportunities, the land use percentages naturally vary. However, Frisco is generally within similar percentage ranges as other communities in the region.

As stated in the beginning of this Chapter, the Land Use Plan component of the *Frisco Millennium Plan* is a general guide for future growth. It utilizes the most recent information available to project desirable land patterns based upon input from citizens, land owners, business interests, City officials and staff, and the consultants. The Plan is a consensus statement of how the City should develop.

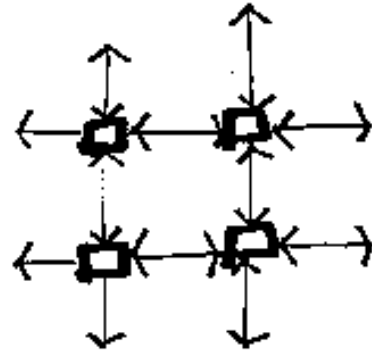
Having said this, the *Frisco Millennium Plan* in general and Land Use Plan component in particular should be flexible to accommodate new information and new development proposals, without violating the basic tenets of the Plan.

For instance, in Chapter 3 several conditions were analyzed on a citywide basis regarding the relative opportunities and constraints associated with development. For example, a property owner may provide detailed data and information that demonstrates site-specific conditions that favor development. The City should add that information to the *Frisco Millennium Plan* and consider the development plans accordingly. Another foreseeable condition would be the introduction of a new type of development that was not predicted by the *Frisco Millennium Plan*. This is a common occurrence as residential and non-residential developments continue to evolve and transform. By all means, the *Frisco Millennium Plan* should consider these new development types as they are appropriate for the City. If appropriate, the *Plan* should be updated accordingly.

In summary, the Land Use Plan component of the *Frisco Millennium Plan* has endeavored to balance the needs of present residents and businesses with the potential for future growth and development. Chapter 7 will include suggested guiding principles to assist the City in implementing the *Plan* and becoming an active participant in the City's future growth and development.

CHAPTER 6

THE THOROUGHFARE PLAN



Introduction

The Alternate Scenario process (Chapter 4) was not confined to land uses. In the process of developing the *Plan*, several ideas and concepts were tested with respect to roadways and thoroughfares. Some of these ideas were well-received, others were not. Those that were deemed inappropriate were not pursued any further.

During late 1999, the consultant team and City staff continued to simultaneously refine the Draft Land Use and Draft Thoroughfare Plans based upon public comments and direction of CPAC. Meetings with several significant property owners were also conducted to coordinate the planning process with their anticipated development concepts and access needs.

As with the Land Use Plan, the Thoroughfare Plan is also a general guide for future growth – in this case, the future roadway network. The patterns of development indicated in the *Frisco Millennium Plan* are intended to assist City staff, the Planning & Zoning Commission, and the City Council in assessing and considering future development proposals and roadway alignments. The Thoroughfare Plan is also flexible to allow consideration of new roadway alignments and patterns not anticipated when the *Plan* was developed. And when the City opts to change the *Frisco Millennium Plan*, both Land Use and Thoroughfare components should be concurrently considered.

The Thoroughfare Plan component of the *Frisco Millennium Plan* is described in this Chapter. The concepts and proposals included in this *Plan* utilize the best available information, but as stated above, the *Plan* must be flexible enough to accommodate new development concepts as Frisco grows and matures.

In the process of developing the Plan, several ideas and concepts were tested with respect to roadways and thoroughfares.



The Thoroughfare Plan

In the process of developing a new land pattern for the City of Frisco, the Thoroughfare Plan was developed to provide safe, convenient, and efficient access to, from, and within the City of Frisco and its extraterritorial jurisdiction. Special care was also taken to maximize roadway connections with adjacent communities. Table 6-1 details the roadways by functional classification. Figures 6-1 through 6-5 (following pages) present the Thoroughfare Plan maps.

Table 6-1 – Roadways by Functional Classification

<i>Functional Classification</i>	<i>Roadway</i>	<i>From</i>	<i>To</i>	<i>Approximate Length</i>	
<i>Tollways and Highways</i>	Dallas North Tollway	SH 121	US Highway 380	51,000 LF	(9.7 miles)
	SH 121	East City Limit	West City Limit	40,500 LF	(7.7 miles)
	US Highway 380	East City Limit	West City Limit	42,000 LF	(8.0 miles)
	<i>Total Tollways and Highways</i>			<i>133,500 LF</i>	<i>(25.3 miles)</i>
<i>Major Thoroughfares (North/South)</i>	Custer Road	SH 121	Panther Creek	23,700 LF	(4.5 miles)
	Independence Road	SH 121	North City Limit	24,000 LF	(4.5 miles)
	Coit Road	SH 121	US Highway 380	37,500 LF	(7.1 miles)
	Hillcrest Road	SH 121	US Highway 380	42,700 LF	(8.1 miles)
	Preston Road	SH 121	US Highway 380	44,700 LF	(8.5 miles)
	Parkwood Boulevard	SH 121	Cotton Gin Road	20,700 LF	(3.9 miles)
	Frisco Street	FM 720/Main Street	Panther Creek Pkwy.	13,500 LF	(2.6 miles)
	Legacy Drive	SH 121	US Highway 380	49,500 LF	(9.4 miles)
	Teel Boulevard	Lebanon Road	US Highway 380	43,500 LF	(8.2 miles)
	FM 423	South City Limit	US Highway 380	41,700 LF	(7.9 miles)
	Lone Star Parkway	FM 423	Stonebrook Parkway	10,800 LF	(2.0 miles)
	Gaylord Parkway	Ohio Drive	Lebanon Road	15,000 LF	(2.8 miles)
	Warren Parkway	Hillcrest Road	Legacy Drive	16,200 LF	(3.1 miles)
	Lebanon Road	Coit Road	West City Limit	46,500 LF	(8.8 miles)
<i>(East/West)</i>	Wade Boulevard	Preston Road	Parkwood Boulevard	4,800 LF	(0.9 miles)
	Rolater/Stonebrook	East City Limit	West City Limit	61,500 LF	(11.6 miles)
	FM 720/Main Street	East City Limit	Preston Road	19,500 LF	(3.7 miles)
	FM 720/Main Street	BN/SF Railroad	West City Limit	21,000 LF	(4.0 miles)
	El Dorado Parkway	East City Limit	West City Limit	48,000 LF	(9.1 miles)
	Panther Creek Parkway	East City Limit	West City Limit	38,700 LF	(7.3 miles)
	Virginia Parkway	Coit Road	Dallas North Tollway	16,500 LF	(3.1 miles)
	<i>Total Major Thoroughfares</i>			<i>640,000 LF</i>	<i>(121.1 miles)</i>
<i>Minor Thoroughfares</i>	Gaylord Parkway	Ohio Drive	Hillcrest Road	3,000 LF	(0.6 miles)
	Lebanon Road	Coit Road	Independence Road	6,000 LF	(1.1 miles)
	Wade Boulevard	Preston Road	Ohio Drive	4,300 LF	(0.8 miles)
	Ohio Drive	Hillcrest Road	SH 121	13,200 LF	(2.5 miles)
	College Parkway	Hillcrest Road	Coit Road	6,000 LF	(1.1 miles)
	FM 720/Main Street	N/S County Road	Preston Road	5,700 LF	(1.1 miles)
	Virginia Parkway	Dallas North Tollway	Legacy Drive	6,000 LF	(1.1 miles)
	Spring Creek Parkway	New Minor T'fare	SH 121	1,600 LF	(0.3 miles)
	Town & Country Boulevard	Legacy Drive	West City Limit	5,700 LF	(1.1 miles)
	New Minor Thoroughfare	Preston Road	Gaylord Parkway	8,700 LF	(1.6 miles)
	<i>Total Minor Thoroughfares</i>			<i>60,200 LF</i>	<i>(11.4 miles)</i>
<i>Collector Streets *</i>	Cotton Gin Road	Parkwood Boulevard	Legacy Road	6,300 LF	(1.2 miles)
	FM 720/Main Street	N/S County Road	Railroad Tracks	3,000 LF	(0.6 miles)
	Virginia Parkway	Legacy Drive	FM 423	12,600 LF	(2.4 miles)
	<i>Total Collector Streets</i>			<i>21,900 LF</i>	<i>(4.2 miles)</i>
<i>TOTAL</i>				<i>855,600 LF</i>	<i>(162.0 miles)</i>

* With the exception of these three Collector Streets, the remaining Collectors are at the discretion of the individual developers. Locations of Residential Streets are not part of the Thoroughfare Plan.

Figure 6-1 – The Frisco Thoroughfare Plan

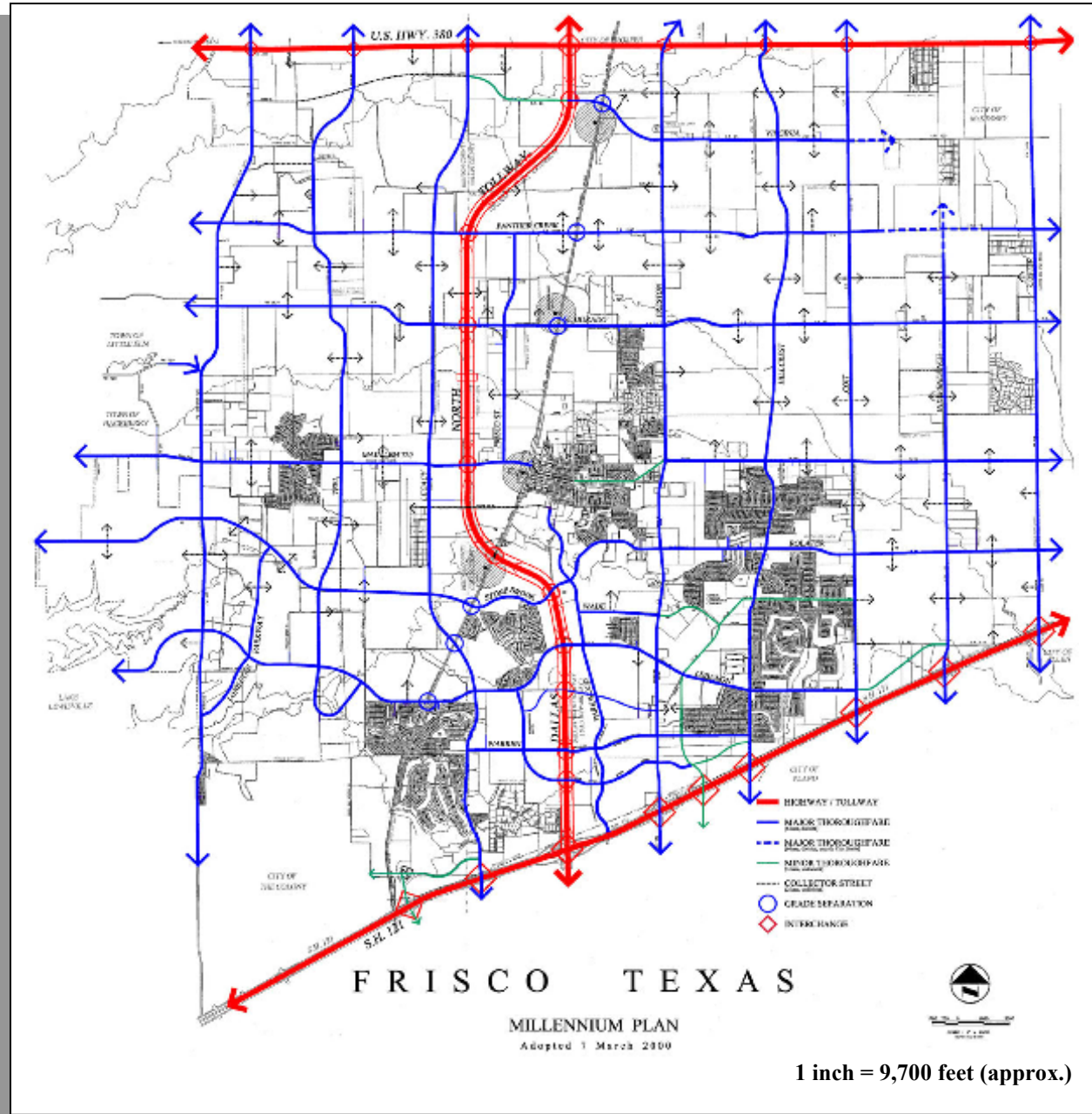


Figure 6-2 – Frisco Thoroughfare Plan (Northeast Quadrant)

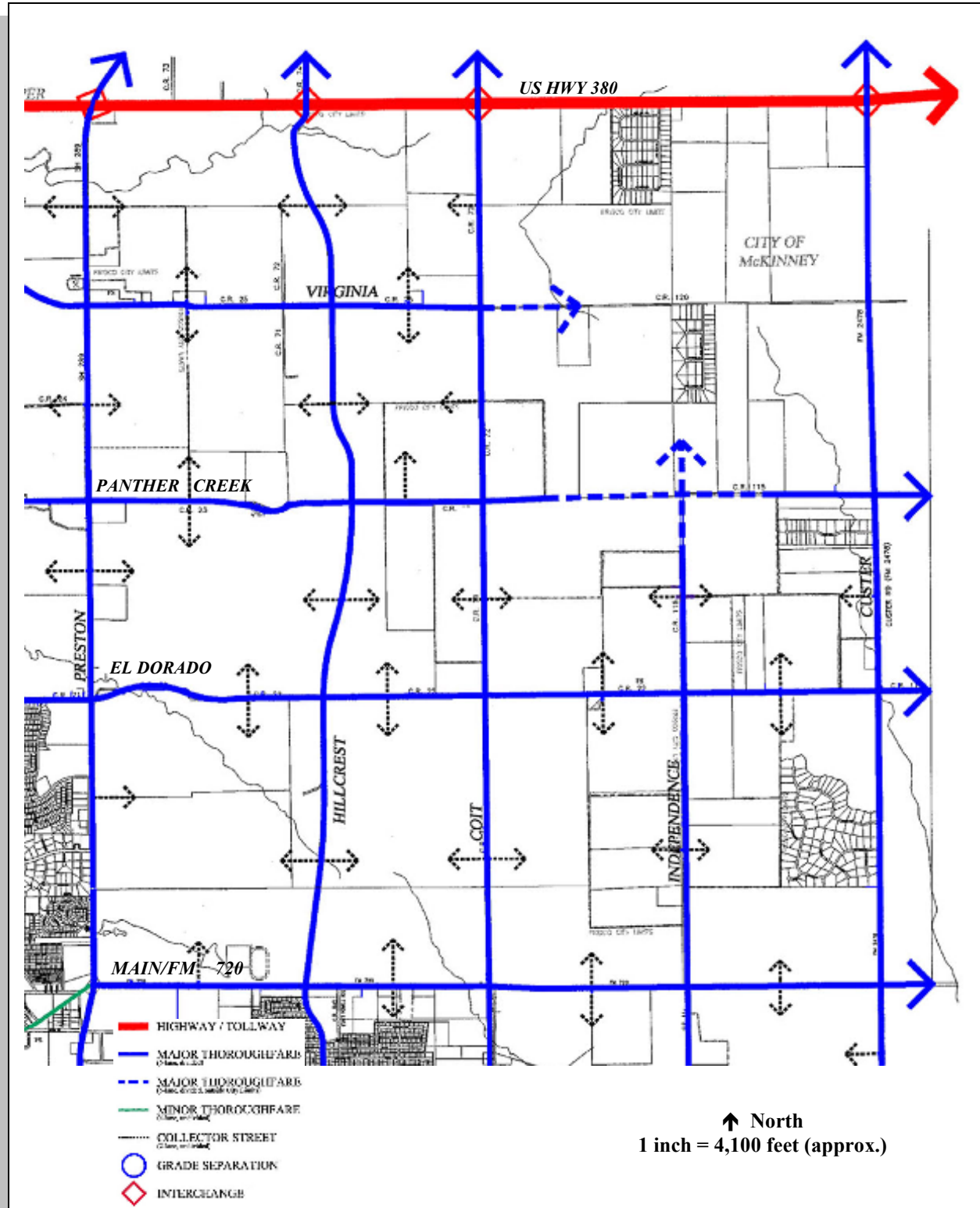


Figure 6-3 – Frisco Thoroughfare Plan (Southeast Quadrant)

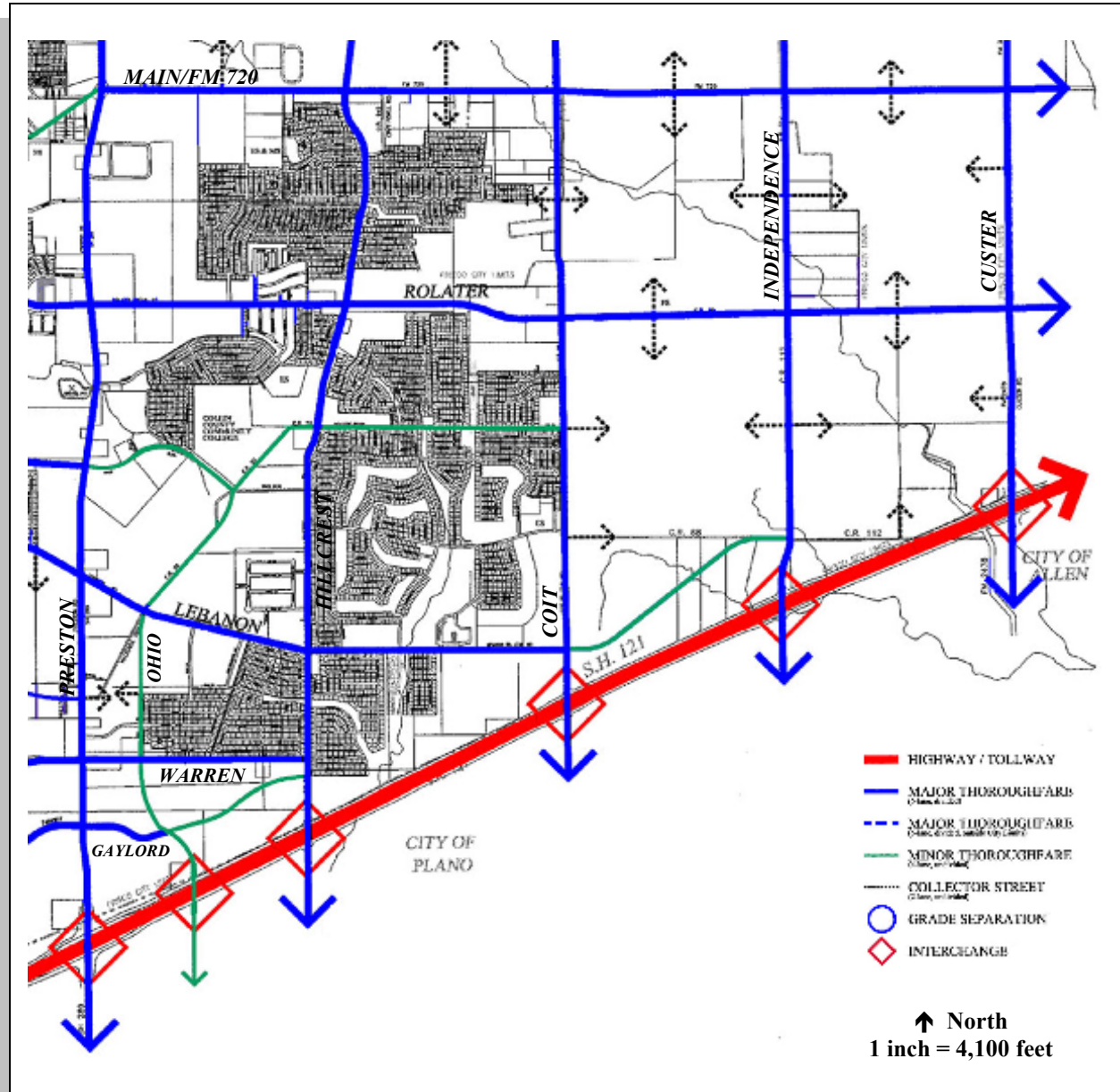


Figure 6-4 – Frisco Thoroughfare Plan (Southwest Quadrant)

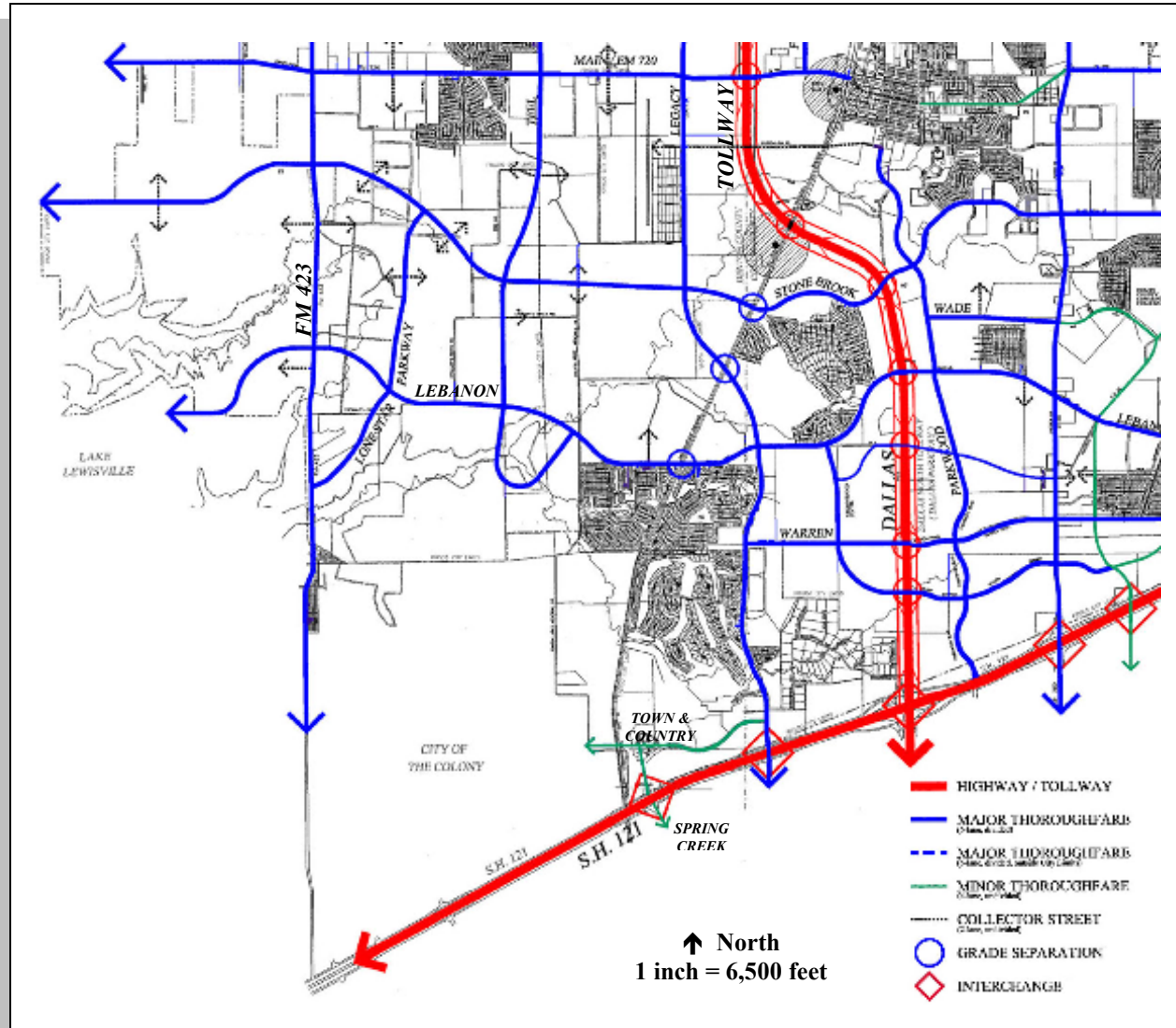
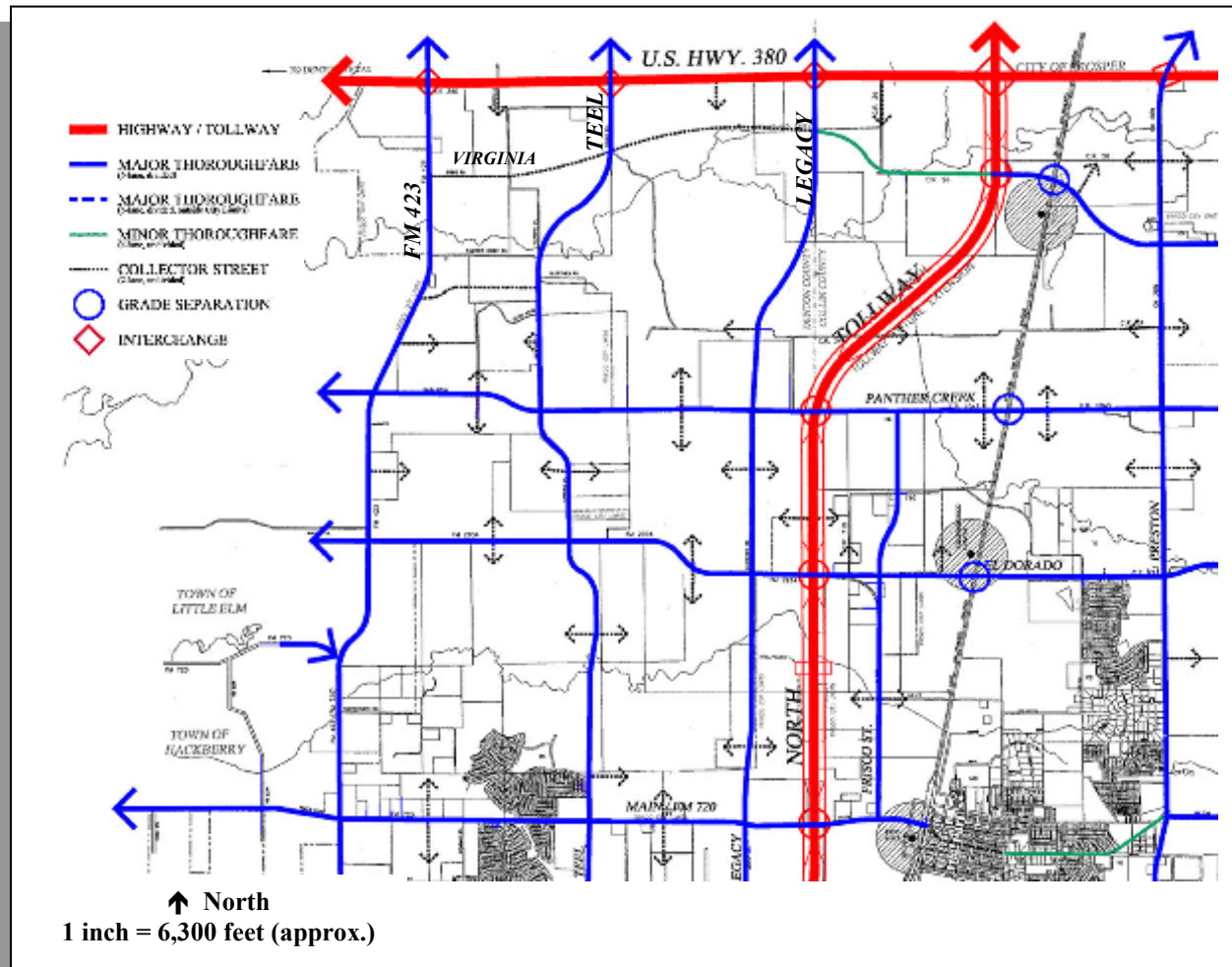


Figure 6-5 – Frisco Thoroughfare Plan (Northwest Quadrant)



Functional classifications are designed to reflect the function of each roadway within the overall thoroughfare network. The functional classifications describe each roadway's purpose and reflect a set of characteristics common to all roadways within each classification. Functions range from providing mobility for through-traffic and major traffic flows, to providing access to specific properties. Characteristics unique to each classification include degree of continuity, general capacity, and traffic management. Functional classifications are hierarchical in nature and include the following:

- **Tollways and Highways**

These are the largest classification of roadway in the Thoroughfare Plan. They are intended to carry large volumes of traffic, usually on controlled-access roadways. They are intended to convey vehicles for longer distances (city-to-city, regionally, and beyond). Tollways and highways are the jurisdiction of regional, State, and Federal agencies.



- **Major Thoroughfares**

Major Thoroughfares are the largest local roadways and carry vehicles within and through the City. Major Thoroughfares are intended to funnel traffic from Minor Thoroughfares and Collector Streets to Tollways and Highways, or to other Major Thoroughfares, and generally serve long trip-lengths. These roadways are multilane with a median, and usually are signalized at major intersections.

- **Minor Thoroughfares**

Minor Thoroughfares are slightly smaller than Major Thoroughfares and are intended to convey traffic from neighborhoods and Collector Streets to Major Thoroughfares, and generally serve moderate trip-lengths. These roadways are usually multilane, but with no center median. Minor Thoroughfares are also usually signalized at major intersections.

- **Collector Streets**

Collector Streets are intended to convey traffic to and from neighborhoods and to funnel that traffic into Minor or Major Thoroughfares. Trip-lengths are generally short. Collector Streets are 2-lane roadways with no center median. (Collector Streets which serve industrial areas may be 4-lane undivided to accommodate truck traffic.) Collector Streets may be signalized or controlled by stop signs at intersections.

- **Residential Streets**

Residential Streets provide local access, mostly to residential neighborhoods. They are intended for short trip-lengths at slower posted speeds. Residential Streets are 2-lane roadways with no center median. Traffic control is usually provided at warranted intersections.

Table 6-2 (following page) summarizes the general design specifications of the above functional classifications including Level of Service (LOS) – an indicator of the relative level of traffic congestion on a roadway. The various LOS types include:

- **LOS “A” and “B”**

The roadway has generally uncongested operations, with no intersection delays and a smooth traffic flow. All vehicles clear in a single cycle of a traffic signal. Any delays average from 6.5 to 19.5 seconds per vehicle.

- **LOS “C”**

Intersections have moderate delays and traffic progresses satisfactorily. The roadway has light congestion and there are occasional back-ups at critical approaches. Delays average from 19.5 to 32.5 seconds per vehicle.

- **LOS “D”**

There is little or no progression of traffic, with a high probability of being stopped at every traffic signal. There is significant congestion at critical approaches and vehicles are required to wait through more than one cycle of a traffic signal. Delays average from 32.5 to 52.0 seconds per vehicle.

- **LOS “E”**

There is heavy traffic flow, with delays of two or more signal cycles. Intersections may be blocked if the signal does not provide for protected turning movements. Delays average from 52.0 to 78.0 seconds per vehicle.

Table 6-2 – General Design Specifications by Functional Classification

<i>Specification</i>	<i>Functional Classification</i>				
	<i>Tollway/ Highway</i>	<i>Major Thoroughfare</i>	<i>Minor Thoroughfare</i>	<i>Collector Street</i>	<i>Residential Street</i>
<i>Continuity</i>	Continuous	Continuous	Not continuous. Should not extend across Major Thoroughfares.	Not continuous. Should not extend across Major Thoroughfares.	None
<i>Approximate Roadway Spacing</i>	4 miles	0.5 to 1.5 miles	0.5 to 1.5 miles	0.25 to 0.5 miles	2 to 4 lot lengths
<i>Direct Land Access</i>	None	Restricted – some Movements may be prohibited. Number and spacing of driveways controlled.)	May be limited to major traffic generators. Number and spacing of driveways controlled.	Safety controls. Limited regulation.	Safety control only
<i>Minimum Intersection Spacing</i>	1 mile	0.25 miles	0.25 miles	300 feet	300 feet
<i>Volume Range (vehicles per day)</i>	45,000 to 100,000 vpd	10,000 to 45,000 vpd	10,000 to 30,000 vpd	2,000 to 10,000 vpd	200 to 1,000 vpd
<i>Speed Limit</i>	55 to 70 MPH	35 to 55 MPH	30 to 45 MPH	30 to 40 MPH	20 to 30 MPH
<i>Level of Service (LOS)</i>	LOS “D” to “E”	LOS “C” to “E”	LOS “C” to “E”	LOS “B” to “C”	LOS “A” to “B”
<i>On-Street Parking Permitted</i>	None	None	None	Limited	Permitted

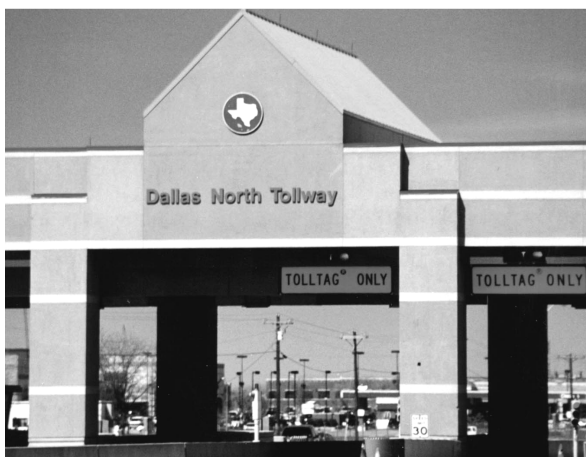
- **LOS “F”**

LOS “F” is the worst possible traffic condition. There is unstable traffic flow with very heavy congestion. Traffic moves, but in forced flow conditions. It may require three or more signal cycles to clear a signalized intersection. LOS “F” results in a breakdown of stop-and-go traffic. Delays exceed 78.0 seconds per vehicle.

Flexibility

The Thoroughfare Plan component of the *Frisco Millennium Plan* should be flexible and be reviewed on a regular basis to incorporate changes in local conditions. It is **not** intended to precisely locate and size all future roadways in the area. It is a guide that will indicate the appropriate combination of roadway capacity and property access needed to provide for a balance between public mobility and neighborhood integrity. In developed portions of Frisco, the Thoroughfare Plan provides guidance for upgrading and/or protecting the integrity and character of existing neighborhoods and roadways.

The process of developing the Thoroughfare Plan requires the consideration of elements that impact travel demands, movement and access requirements, and physical constraints to roadway construction. The first consideration in developing this Plan is the Land Use Plan (Chapter 5). Both existing and projected land uses determine the area’s thoroughfare needs. Special efforts were also taken to assure the integrity of residential neighborhoods and to protect them from unwanted and incompatible vehicular traffic. Movement and access functions must also be balanced in consideration of this protection factor.



(Photo by the PGAL Planning Group)

Tollways and Highways

Total: 133,500 LF
(25.3 miles)

Frisco is fortunate to have two major regional highways and a significant tollway providing access to and through the City – US Highway 380, State Highway (SH) 121, and the Dallas North Tollway. These roadways are the jurisdiction of the Texas Department of Transportation (TxDOT, for US Highway 380 and SH 121) and the North Texas Tollway Authority (NTTA, for the Dallas North Tollway). While the City of Frisco does not have the authority to regulate design specifications such as right-of-way width and numbers of lanes, the City does have some input regarding how TxDOT and NTTA design future improvements to these facilities. The following thoroughfares are included in

the functional classification.

US Highway 380 (42,000 LF)

This roadway extends from the City's eastern to western corporate limits along the northern edge of Frisco. It passes through both Denton and Collin Counties. There is no frontage road and the number of travel lanes varies from 2 lanes (in Denton County) to 4 lanes with a center turn-lane (in Collin County). Major intersections are currently at FM 423, Preston Road and Custer Road and are generally controlled by stop signs on the smaller roadways. There is very limited direct driveway access from US Highway 380. The Thoroughfare Plan suggests the following for US Highway 380:

- **Expansion**

As the region continues to grow, there will be an increasing east-west traffic demand, especially to access Frisco from other fast-growing cities including Denton and McKinney. Therefore, TxDOT is encouraged to begin planning for improvement of US Highway 380 to at least 6 lanes, with enough right-of-way to accommodate 8 lanes in the future. In the short-term, US Highway 380 should be upgraded to 4 lanes in Denton County to be consistent with the Collin County segment.

- **Continuous Frontage Road**

Working with TxDOT, the City should recommend the inclusion of a continuous frontage road when US Highway 380 is designed for expansion.

- **Grade-Separated Interchanges**

The future US Highway 380 should be planned to accommodate grade-separated interchanges at the following roadways (the Preston Road/US Highway 380 intersection is currently grade-separated):

- | | |
|------------------------|------------------|
| - FM 423 | - Hillcrest Road |
| - Teel Boulevard | - Coit Road |
| - Legacy Drive | - Custer Road |
| - Dallas North Tollway | |



The City of Frisco should request that TxDOT officially designate US Highway 380 as a freeway with controlled access and interchanges as noted in the *Frisco Millennium Plan*, with future right-of-way defined as necessary to prevent encroachment and to encourage acquisition as soon as possible.

State Highway 121 (40,500 LF)

SH 121 is one of the few radial highways in North Texas, providing access between McKinney and DFW International Airport (and beyond). Communities along the SH 121 Corridor include the fastest-growing cities in the region, including Grapevine, Flower Mound, Coppell, Lewisville, Plano, Frisco, Allen, and McKinney. SH 121 is a 4-lane divided highway throughout Frisco, with access controlled by traffic signals at major intersections. There is very limited direct driveway access along the highway.

SH 121 is currently under the jurisdiction of TxDOT, but there has been speculation that it might become a tollroad in the future to fund future improvements. This would shift its control to NTTA. Regardless of which agency controls the roadway, the Thoroughfare Plan suggests the following improvements for SH 121:

- **Expansion**

SH 121 is already experiencing increased traffic and significant delays, especially between Frisco and DFW International Airport. The main lanes of SH 121 should be given high-priority for construction. With the roadway being wide enough to accommodate 8 travel lanes, even if the initial construction phase is only 4 or 6 lanes.

- **Continuous Frontage Road**

In order to improve access to both sides of SH 121, the highway should include a continuous frontage road.

- **Grade-Separated Interchanges**

The future SH 121 should be planned to accommodate grade-separated interchanges at the following roadways:

- | | |
|---------------------|------------------------|
| - Custer Road | - Preston Road |
| - Independence Road | - Dallas North Tollway |
| - Hillcrest Drive | - Legacy Drive |
| - Ohio Drive | |

In conjunction with these suggested grade-separated intersections, additional right-of-way should be secured to assure that development does not encroach upon these areas.

Dallas North Tollway (51,000 LF)

The Dallas North Tollway is the area's most successful example of a toll-controlled facility. It currently provides access from Downtown Dallas to FM 720/Main Street in Frisco (although the main lanes have not yet been constructed north of SH 121). The Dallas North Tollway is one of the key reasons Frisco has been able to grow as rapidly as it has during the past decade. The Dallas North Tollway provides a continuous frontage road in Frisco – from SH 121 to FM 720/Main Street.



There is very limited direct driveway access to the frontage road. (The NTTA reimburses the County for the cost of frontage roads built prior to the construction of the main lanes.) The Thoroughfare Plan suggests the following improvements for the Dallas North Tollway:

- **Expansion**

The main lanes of the Dallas North Tollway should be constructed as quickly as possible, at least between SH 121 and FM 720/Main Street. The remaining portion of the Tollway (to US Highway 380) should have the frontage roads constructed, with the main lanes being built as needed.

- **Grade-Separated Interchanges**

The future Dallas North Tollway should be planned to accommodate grade-separated interchanges at the following roadways:

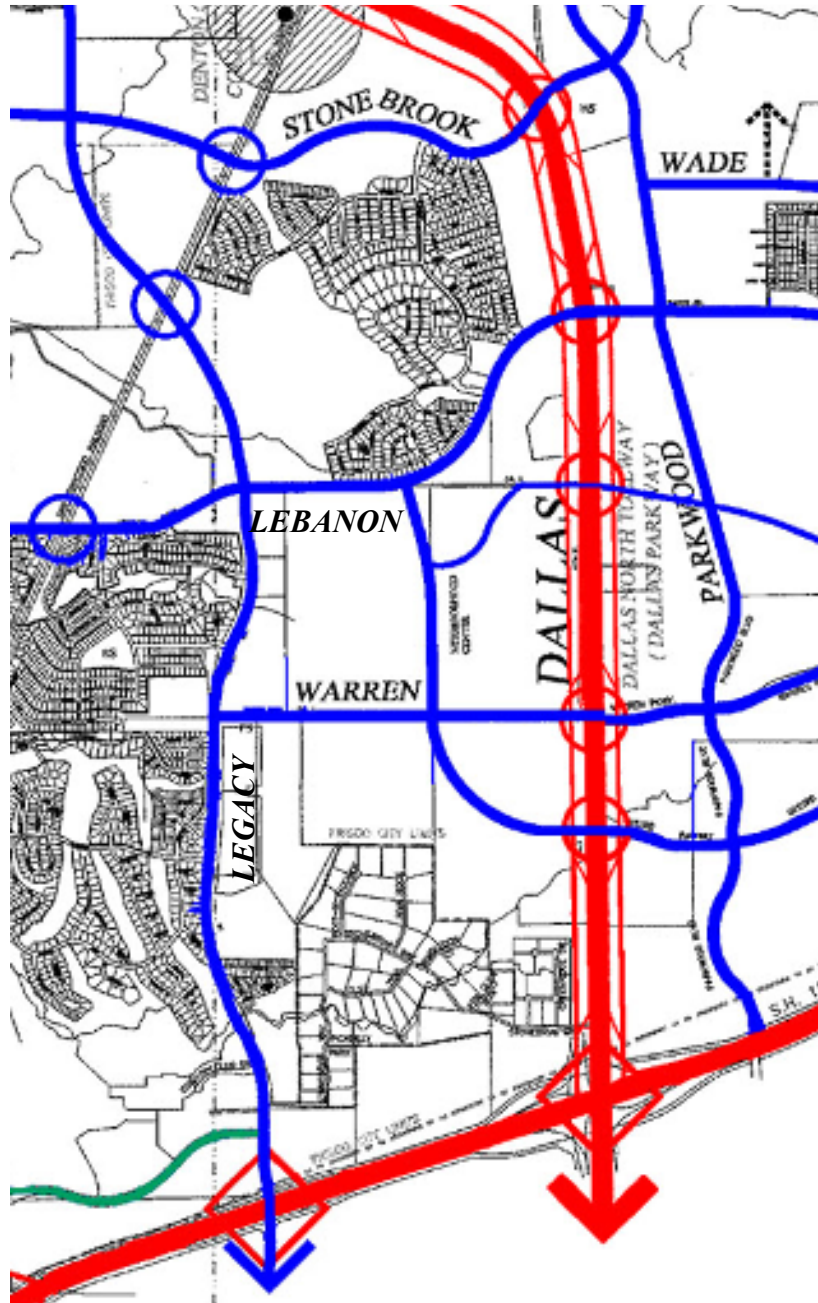
- | | |
|-----------------------------------|-------------------------|
| - SH 121 | - Cotton Gin Road |
| - Gaylord Parkway | - FM 720/Main Street |
| - Warren Parkway | - El Dorado Parkway |
| - New Minor Thoroughfare | - Panther Creek Parkway |
| - Stonebrook Parkway | - Virginia Parkway |
| - Burlington Northern/Santa Fe RR | - US Highway 380 |

All of these grade-separations should also include a “Texas U-Turn” to allow unobstructed left U-turning movements. In conjunction with these suggested grade-separate intersections, additional right-of-way should be secured to assure that development does not encroach upon these areas.

- **Ramp Configurations**

While the NTTA has done an excellent job of identifying future exit and entrance ramp locations, they have not had the benefit of locating these ramps in consideration of the *Frisco Millennium Plan*. Therefore, exit and entrance ramp locations are suggested to maintain traffic flow and to minimize congestion on frontage roads at signalized intersections. Figures 6-6 through 6-8 indicate the general locations of these ramps. The City should work with the NTTA to locate these ramps in conjunction with the *Frisco Millennium Plan*.

Figure 6-6 – Suggested Tollway Ramp Locations
(SH 121 to Stonebrook Parkway)

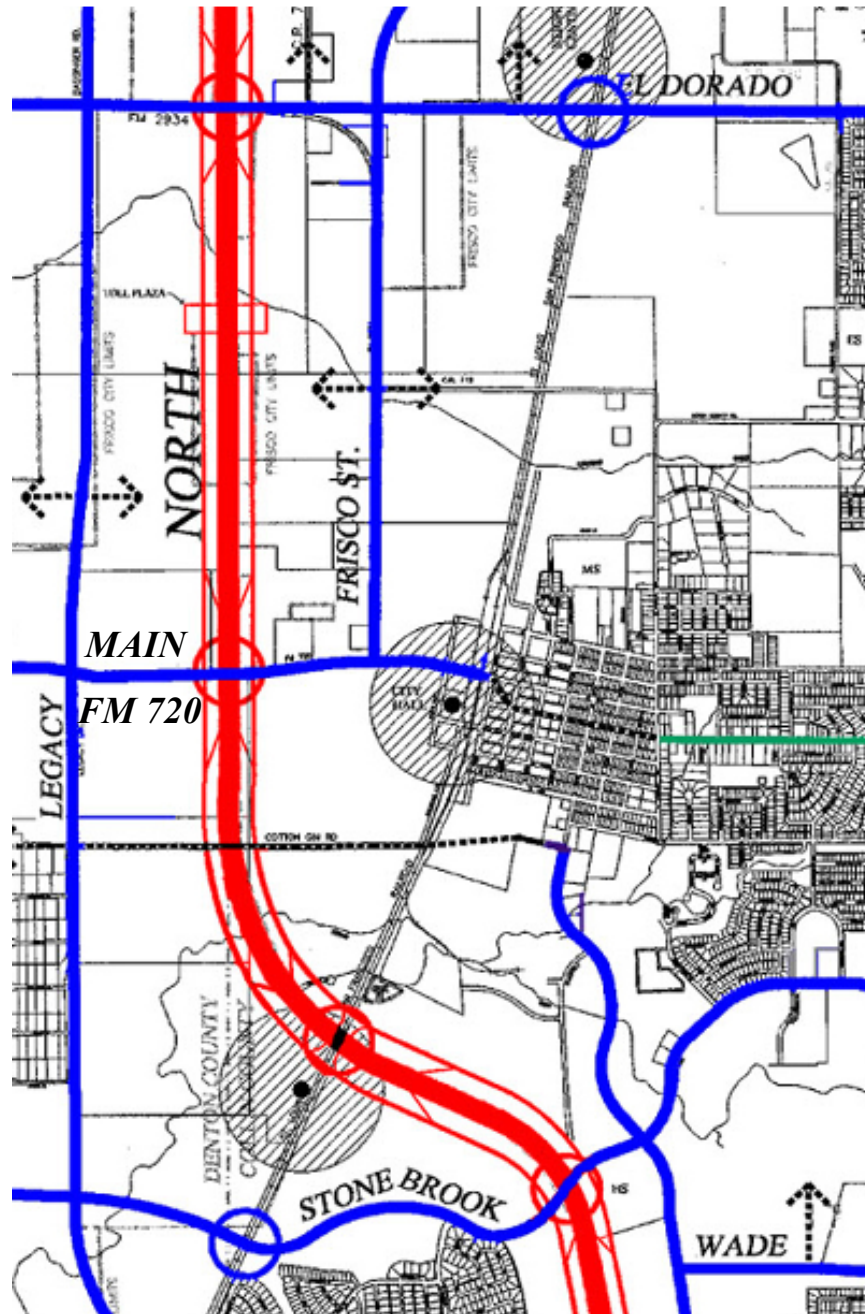


↑ North

1 inch = 3,000 feet (approx.)

(Note: "Texas U-Turns" are to be included along the Tollway frontage road at all grade-separated interchanges and at the Burlington Northern/Santa Fe Railroad crossing.)

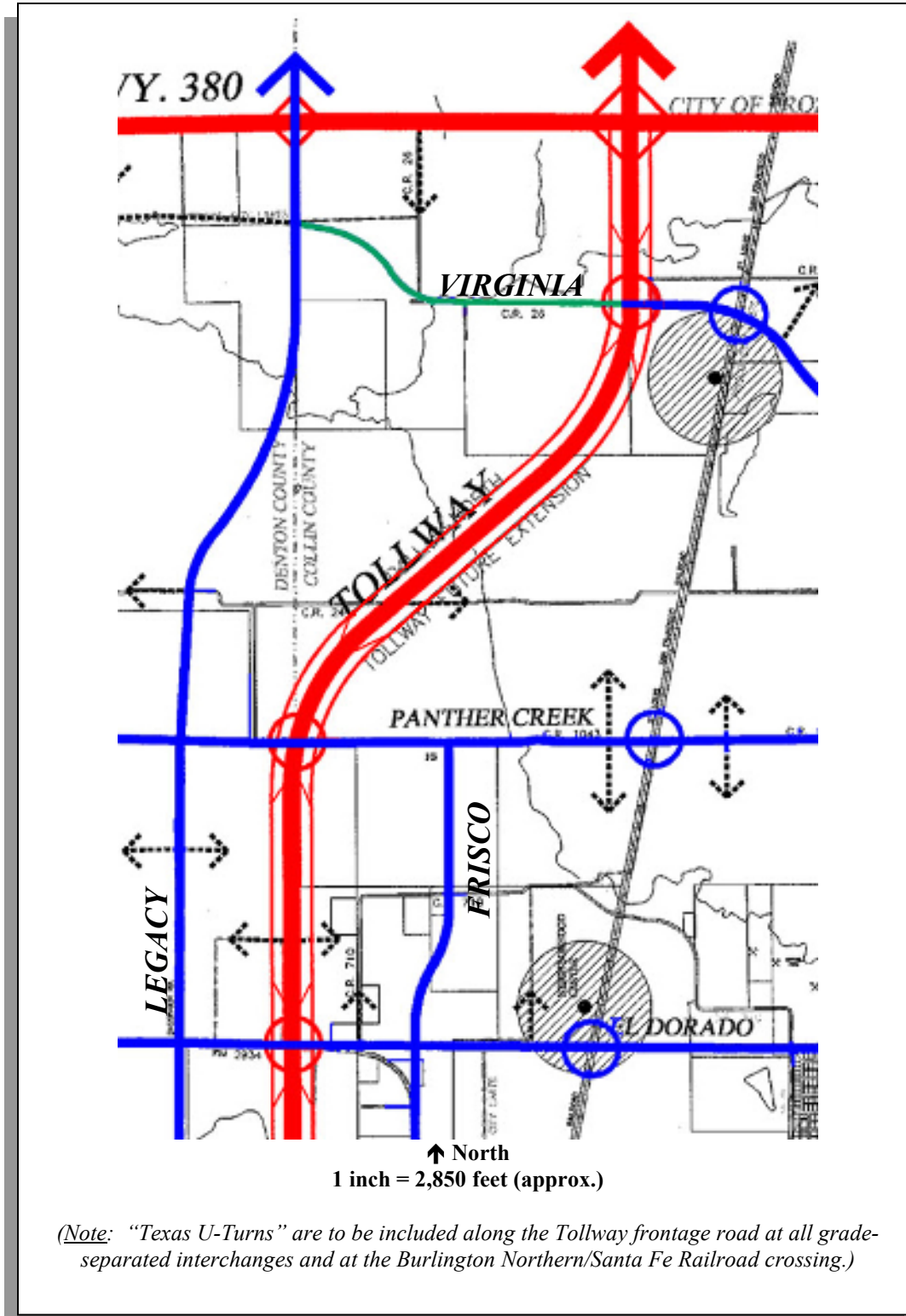
**Figure 6-7 – Suggested Tollway Ramp Locations
(Stonebrook Parkway to El Dorado Parkway)**



↑ North
1 inch = 2,800 feet (approx.)

(Note: "Texas U-Turns" are to be included along the Tollway frontage road at all grade-separated interchanges and at the Burlington Northern/Santa Fe Railroad crossing.)

Figure 6-8 – Suggested Tollway Ramp Locations
(El Dorado Parkway to US Highway 380)





(Photo by the PGAL Planning Group)

Major Thoroughfares

Total: 640,000 LF
(121.1 miles)

Major Thoroughfares comprise the largest amount of linear footage in the Thoroughfare Plan. This is to be expected, as they generally serve an east/west and north/south cross-town function. Major Thoroughfares are also designed to link up with other thoroughfares from the surrounding cities, including Allen, Little Elm, McKinney, Plano, Prosper, and The Colony. Major

Thoroughfares are intended to have the following characteristics:

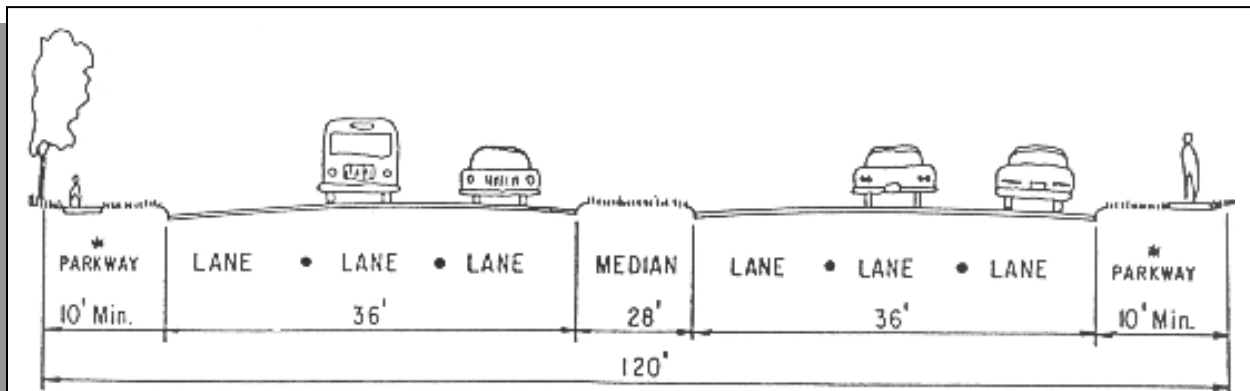
- *Right-of-way width:* 120 feet
- *Pavement width:* 72 feet
- *Number of travel lanes:* 6 lanes
- *Center median:* Yes
- *On-street parking:* No

Major Thoroughfares should also include continuous sidewalks (on both sides of the roadway) and have landscaping in the median and along the street edge. Mid-block median cuts should be located to serve intersecting streets.

At the intersection of two Major Thoroughfares, additional right-of-way should be acquired to allow the intersection to accommodate a future dedicated dual left-turn and dual right-turn/deceleration lane on each Major Thoroughfare. The need for these dedicated dual turn lanes may not be present when the roadway is built, but reservation of the right-of-way will ensure there is adequate space to install these improvements as traffic warrants.

The City has separately contracted with an engineering consultant to develop a set of thoroughfare design standards. For the purpose of this Plan, Figure 6-9 details a typical suggested cross-section for Major Thoroughfares.

Figure 6-9 – Major Thoroughfare Cross-Section



(Source: City of Frisco, Texas)

North/South Major Thoroughfares

The following ten roadways are proposed to provide generally north/south access as Major Thoroughfares:

- **Custer Road (SH 121 to Panther Creek) – 23,700 LF**
Aligned along the City's eastern edge with McKinney, Custer Road provides continuous travel between SH 121 and US Highway 380. Major intersections are anticipated with SH 121 (grade-separated), Rolater, FM 720, El Dorado, Panther Creek, and US Highway 380 (grade-separated). Gateway treatments and landscaping are also recommended at these locations.
- **Independence Road (SH 121 to North City Limit) – 24,000 LF**
Independence Road provides continuous travel between SH 121 and the City's border with McKinney (at the intersection with Panther Creek). Major intersections are anticipated with SH 121 (grade-separated), Rolater, FM 720, and El Dorado, with a minor intersection at Lebanon. Gateway treatments and landscaping are recommended at the SH 121 and Panther Creek locations.
- **Coit Road (SH 121 to US Highway 380) – 37,500 LF**
Coit Road provides continuous travel between SH 121 and US Highway 380. Major intersections are anticipated with SH 121 (grade-separated), Lebanon, Rolater, FM 720, El Dorado, Panther Creek, Virginia, and US Highway 380 (grade-separated), with a minor intersection at College. Gateway treatments and landscaping are recommended at the SH 121 and US Highway 380 locations.
- **Hillcrest Road (SH 121 to US Highway 380) – 42,700 LF**
Hillcrest Road provides continuous travel between SH 121 and US Highway 380. Major intersections are anticipated with SH 121 (grade-separated), Lebanon, Rolater, FM 720, El Dorado, Panther Creek, Virginia, and US Highway 380 (grade-separated), with minor intersections and Gaylord, Wade, and College. Gateway treatments and landscaping are recommended at the SH 121 and US Highway 380 locations.
- **Preston Road (SH 121 to US Highway 380) – 44,700 LF**
Preston Road (SH 289) provides continuous travel between SH 121 and US Highway 380. Preston Road is also one of the most significant north/south roadways in the Dallas region, connecting Highland Park with Frisco and beyond. Major intersections are anticipated with SH 121 (grade-separated), Gaylord, Warren, Lebanon, Wade, Stonebrook, FM 720/Main Street, El Dorado, Panther Creek, Virginia, and US Highway 380 (grade-separated). A minor intersection may occur at a new Minor Thoroughfare located between Lebanon and Warren. Gateway treatments and landscaping are recommended at the SH 121 and US Highway 380 locations. It is also recommended that continuous acceleration/deceleration lanes be included on Preston Road between SH 121 and Gaylord to accommodate the significant amount of retail development currently planned. The City is currently developing a separate *Preston Road Overlay District* to address urban design issues along this corridor.



- **Parkwood Boulevard (SH 121 to Cotton Gin Road) – 20,700 LF**
Parkwood Boulevard provides continuous access parallel to the Dallas North Tollway. Major intersections are anticipated with SH 121, Gaylord, Warren, Lebanon, Wade, and Rolater/Stonebrook. A minor intersection may occur at a new Minor Thoroughfare located between Lebanon and Warren. Gateway treatments and landscaping are recommended at the SH 121.
- **Frisco Street (FM 720/Main Street to Panther Creek) – 13,500 LF**
Frisco Street provides continuous travel from FM 720/Main Street to Panther Creek Parkway, paralleling the Dallas North Tollway. Major intersections are anticipated with FM 720/Main Street, El Dorado, and Panther Creek.
- **Legacy Drive (SH 121 to US Highway 380) – 49,500 LF**
Legacy Drive provides continuous travel through the entire length of Frisco. Major intersections are anticipated with SH 121 (grade-separated), Warren, Lebanon, Stonebrook, FM 720, El Dorado, Panther Creek, Virginia, and US Highway 380 (grade-separated). It is also recommended that the intersection with the Burlington Northern/Santa Fe Railroad be grade-separated. Gateway treatments and landscaping are recommended at the SH 121 and US Highway 380 locations.
- **Teel Boulevard (Lebanon Road to US Highway 380) – 43,500 LF**
Legacy Drive provides continuous travel from Lebanon Road to US Highway 380. Major intersections are anticipated with Lebanon (two locations), Stonebrook, FM 720, El Dorado, Panther Creek, US Highway 380 (grade-separated). Gateway treatments and landscaping are recommended at the SH 121 location.
- **FM 423 (South City Limit to US Highway 380) – 41,700 LF**
Aligned along the City's western edge, FM 423 provides continuous travel between The Colony and US Highway 380. Major intersections are anticipated with Lebanon, Stonebrook, FM 720, El Dorado, Panther Creek, and US Highway 380 (grade-separated). Gateway treatments and landscaping are recommended at the southern edge of FM 423 and at US Highway 380.
- **Lone Star Parkway (FM 423 to Stonebrook Parkway) – 10,800 LF**
Near the City's western edge, Lone Star Parkway provides continuous travel between FM 423 and Stonebrook Parkway. Major intersections are anticipated with FM 423, Lebanon, and Stonebrook. Gateway treatments and landscaping are recommended at the intersection with FM 423.

East/West Major Thoroughfares

The following nine roadways are proposed to provide generally east/west access as Major Thoroughfares:

- **Gaylord Parkway (Ohio Drive to Lebanon Road) – 15,000 LF**
Part of the Frisco Bridges development, Gaylord Parkway provides continuous travel from Ohio Drive to Lebanon Road. Major intersections are anticipated with Lebanon, Warren, the Dallas North Tollway, Parkwood, Preston, and Ohio. East of Ohio, Gaylord transitions down to a Minor Thoroughfare that terminates at Hillcrest.



- **Warren Parkway (Hillcrest Drive to Legacy Drive)** – 16,200 LF
Part of the Frisco Bridges development, Warren Parkway provides continuous travel from Hillcrest Drive to Legacy Drive. Major intersections are anticipated with Legacy, Gaylord, the Dallas North Tollway, Parkwood, Preston, and Hillcrest, with a minor intersection at Ohio.
- **Lebanon Road (Coit Road to West City Limit)** – 46,500 LF
Lebanon Road provides continuous travel from Coit Road to the western edge of Frisco. Major intersections are anticipated with FM 423, Teel (two locations), Legacy, Gaylord, the Dallas North Tollway, Parkwood, Preston, Hillcrest, and Coit, with a minor intersection at Ohio. East of Coit Road, Lebanon transitions down to a Minor Thoroughfare that terminates at Independence. A grade-separation is suggested at the Burlington Northern/Santa Fe Railroad. Gateway treatments and landscaping are recommended at the FM 423 intersection.
- **Wade Boulevard (Preston Road to Parkwood Boulevard)** – 4,800 LF
Wade Boulevard provides continuous travel between Preston Road and Parkwood Boulevard. Major intersections are anticipated with Parkwood Boulevard and Preston Road. East of Preston Road, Wade transitions down to a Minor Thoroughfare that terminates at Ohio.
- **Rolater/Stonebrook (East City Limit to West City Limit)** – 61,500 LF
This facility spans the width of Frisco. The roadway is named Rolater on the eastside of Frisco, and Stonebrook and the westside. Major intersections are anticipated with Custer, Independence, Coit, Hillcrest, Preston, Parkwood, the Dallas North Tollway, Legacy, Teel, and FM 423. A grade-separation is suggested at the Burlington Northern/Santa Fe Railroad. Gateway treatments and landscaping are recommended at the Custer Road and FM 423 intersections.
- **FM 720/Main Street (East City Limit to Preston Road)** – 19,500 LF
As a Major Thoroughfare, FM 720 provides continuous travel between the City's eastern border (at Custer Road) and to Preston. (Between Preston Road and the Burlington Northern/Santa Fe Railroad, FM 720/Main Street transitions down to a smaller functional classification.) Major intersections are anticipated with Custer, Independence, Coit, Hillcrest, and Preston. A gateway treatment and landscaping is recommended at the Custer Road intersection.
- **FM 720/Main Street (BN/SF Railroad to West City Limit)** – 21,000 LF
As a Major Thoroughfare, FM 720 provides continuous travel between the Burlington Northern/Santa Fe Railroad and the City's western border. (Between Preston Road and the Burlington Northern/Santa Fe Railroad, FM 720/Main Street transitions down to a smaller functional classification.) Major intersections are anticipated with Frisco Street, the Dallas North Tollway, Legacy, Teel, and FM 423. A gateway treatment and landscaping is recommended at the FM 423 intersection.



- **El Dorado Parkway (East City Limit to West City Limit) – 48,000 LF**
This facility spans the width of Frisco – from Custer Road to FM 423. El Dorado also provides significant east/west access through the City of McKinney (east of Frisco). Major intersections are anticipated with Custer, Independence, Coit, Hillcrest, Preston, Frisco Street, the Dallas North Tollway, Legacy, Teel, and FM 423. A grade-separation is suggested at the Burlington Northern/Santa Fe Railroad. Gateway treatments and landscaping are recommended at the Custer Road and FM 423 intersections.
- **Panther Creek Parkway (East to West City Limit) – 38,700 LF**
This facility spans the width of Frisco – from Custer Road to FM 423. Panther Creek also provides significant east/west access through the City of McKinney (east of Frisco). Major intersections are anticipated with Custer, Independence, Coit, Hillcrest, Preston, Frisco Street, the Dallas North Tollway, Legacy, Teel, and FM 423. A grade-separation is suggested at the Burlington Northern/Santa Fe Railroad. Gateway treatments and landscaping are recommended at the Custer Road and FM 423 intersections.
- **Virginia Parkway (East City Limit to West City Limit) – 16,500 LF**
This roadway also spans the width of Frisco, but transitions to a smaller functional classification west of the Dallas North Tollway. Major intersections are anticipated with Coit, Hillcrest, Preston, and the Dallas North Tollway. A grade-separation is suggested at the Burlington Northern/Santa Fe Railroad. A gateway treatment and landscaping is recommended at the Coit Road intersection.

Minor Thoroughfares

Total: 60,200 LF
(120.0 miles)

Minor Thoroughfares are intended to funnel traffic from Collector Streets to Major Thoroughfares, and Tollways and Highways. Minor Thoroughfares are intended to have the following characteristics:

- *Right-of-way width:* 65 feet
- *Pavement width:* 44 feet
- *Number of travel lanes:* 4 lanes
- *Center median:* No
- *On-street parking:* No

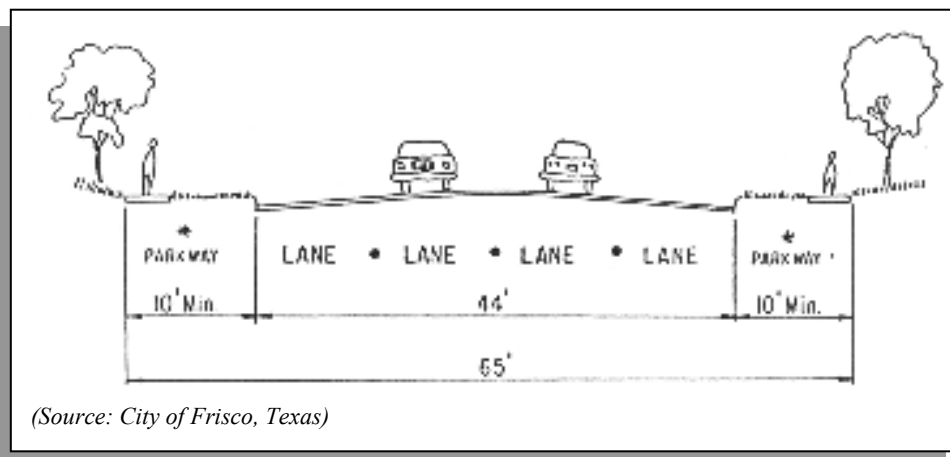


(Photo by the PGAL Planning Group)

Minor Thoroughfares should include continuous sidewalks (on both sides of the roadway) and have landscaping along the street edge. At the intersection of a Minor Thoroughfare with a Major Thoroughfare (or larger), additional right-of-way should be acquired to allow the intersection to accommodate a future dedicated single left-turn and single right-turn/deceleration lane on the Minor Thoroughfare. The need for these dedicated turn lanes may not be present when the roadway is built, but reservation of the right-of-way will ensure there is adequate space to install these improvements as traffic warrants.

The City has separately contracted with an engineering consultant to develop a set of thoroughfare design standards. For the purpose of this Plan, Figure 6-10 details a suggested typical cross-section for Minor Thoroughfares.

Figure 6-10 – Minor Thoroughfare Cross-Section



(Source: City of Frisco, Texas)



- **Gaylord Parkway (Ohio Drive to Hillcrest Road) – 3,000 LF**
East of the intersection with Ohio Drive, Gaylord transitions down to a Minor Thoroughfare that terminates at Hillcrest. Major intersections are anticipated with both Ohio and Hillcrest.
- **Lebanon Road (Coit Road to Independence Road) – 6,000 LF**
East of the intersection with Coit Road, Lebanon transitions down to a Minor Thoroughfare that terminates at Independence. Major intersections are anticipated with both Coit and Independence.
- **Wade Boulevard (Preston Road to Ohio Drive) – 4,300 LF**
East of the intersection with Preston Road, Wade transitions down to a Minor Thoroughfare that terminates at Ohio. Major intersections are anticipated with both Preston and Ohio.
- **Ohio Drive (Hillcrest Road to SH 121) – 13,200 LF**
Ohio Drive is a Minor Thoroughfare for its entire length within Frisco. Major intersections are anticipated at Hillcrest, Wade, Lebanon, Warren, Gaylord, and at SH 121. A limited gateway treatment and landscaping is recommended at the SH 121 intersection.
- **College Parkway (Hillcrest Road to Coit Road) – 6,000 LF**
College Parkway is a Minor Thoroughfare for its entire length within Frisco. Major intersections are anticipated at Hillcrest and Coit.
- **FM 720/Main Street (County Road to Preston Road) – 5,700 LF**
West of the Preston Road intersection, FM 720/Main Street transitions down to a Minor Thoroughfare to preserve the existing western edge of the town center and an established older residential neighborhood. The only anticipated major intersection is with Preston.
- **Virginia Parkway (Dallas North Tollway to Legacy Drive) – 6,000 LF**
West of the Tollway, Virginia Parkway becomes a Minor Thoroughfare. Major intersections are anticipated at the Dallas North Tollway and Legacy.
- **Spring Creek Pkwy. (New Minor Thoroughfare to SH 121) – 1,600 LF**
Spring Creek Parkway extended north from Plano across SH 121 and becomes a Minor Thoroughfare in Frisco, terminating at a New Minor Thoroughfare approximately 1,600 feet north of SH 121. Major intersections are anticipated at SH 121 (potentially grade-separated) and with the New Minor Thoroughfare. A limited gateway treatment and landscaping is recommended at the SH 121 intersection.
- **Town & Country Blvd. (Legacy Drive to West City Limit) – 5,700 LF**
Referenced above, this New Minor Thoroughfare extends west from Legacy toward The Colony. Major intersections are anticipated at Legacy and Spring Creek.
- **New Minor Thoroughfare (Preston Road to Gaylord Pkwy.) – 8,700 LF**
A New Minor Thoroughfare is proposed to connect Preston Road with Gaylord Parkway (approximately midway between Lebanon and Warren). Major intersections are anticipated at Preston, Parkwood, the Dallas North Tollway, and Gaylord.

Collector Streets

Total: 21,900 LF
(4.2 miles)

Collector Streets are intended to collect traffic from residential neighborhoods and low-density areas to roadways with increased capacity. Collector Streets are intended to have the following characteristics:

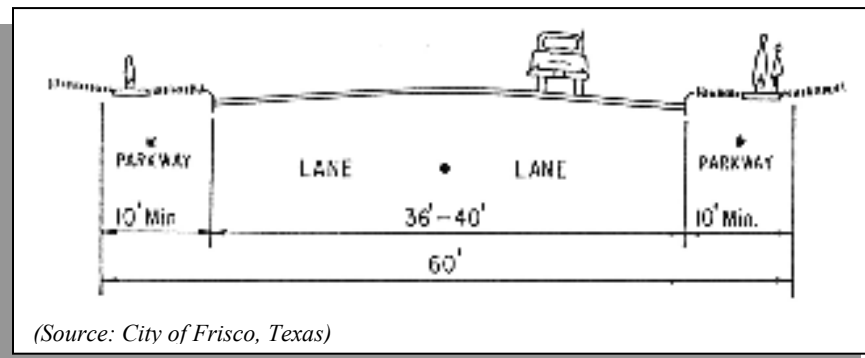
- *Right-of-way width:* 60 feet
- *Pavement width:* 36 to 40 feet
- *Number of travel lanes:* 2 lanes
- *Center median:* No
- *On-street parking:* Limited



(Photo by the PGAL Planning Group)

Collector Streets should include continuous sidewalks (on both sides of the roadway) and have landscaping along the street edge. The City has separately contracted with an engineering consultant to develop a set of thoroughfare design standards. For the purpose of this Plan, Figure 6-11 details a suggested typical cross-section for Collector Streets.

Figure 6-11 – Collector Street Cross-Section

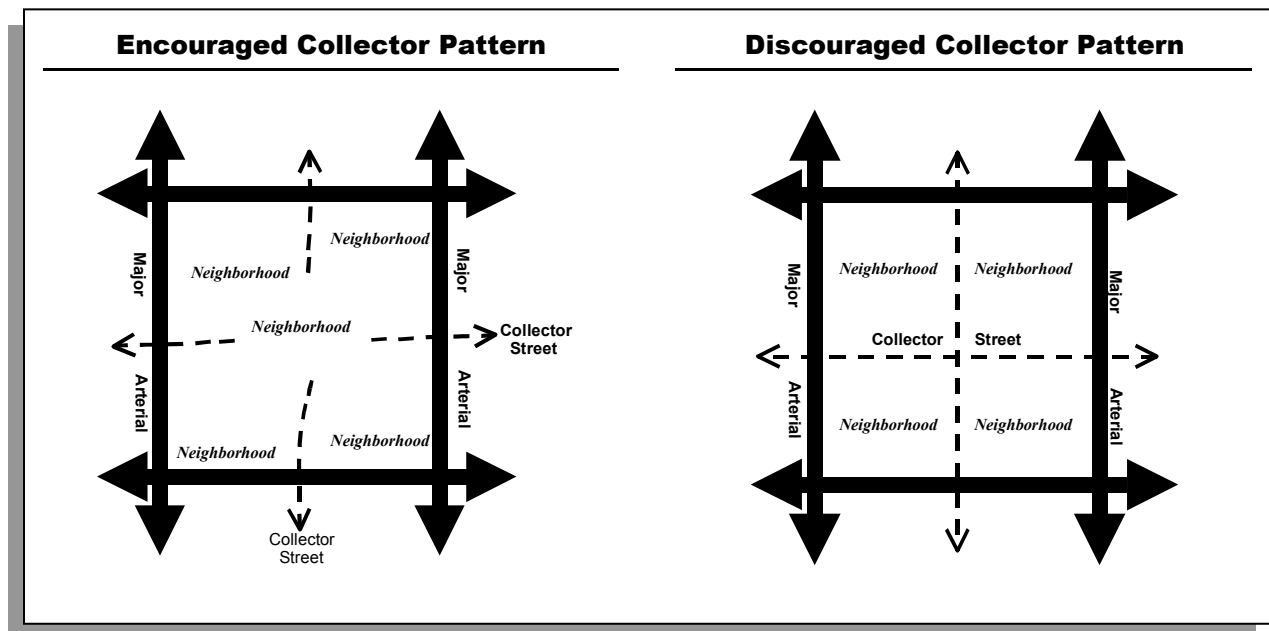


The Thoroughfare Plan generally does not identify proposed Collector Streets. The only exceptions are the following:

- **Cotton Gin Road (Parkwood Boulevard to Legacy Road)** – 6,300 LF
Cotton Gin Road will provide access between Parkwood Boulevard and the area currently designated as the North Dallas Jetport. Major intersections are anticipated with Parkwood, the Dallas North Tollway, and Legacy.
- **FM 720/Main Street (County Road to BN/SF Railroad)** – 3,000 LF
West of the Burlington Northern/Santa Fe Railroad, FM 720/Main Street transitions down to a Collector Street to preserve the existing historic downtown district. No major intersections are anticipated.
- **Virginia Parkway (Legacy Drive to FM 423)** – 12,600 LF
West of Legacy Drive, Virginia Parkway transitions down to a Collector Street intended to serve future industrial developments south of US Highway 380. It is possible that this particular roadway may carry industrial truck traffic and may need to be slightly larger than the “standard” Collector Street – perhaps an 80-foot right-of-way and 4 travel lanes. Major intersections are anticipated at Legacy, Teel, and FM 423.

The exact location of Collector Streets will be determined as individual developments are proposed. It is the philosophy of the City of Frisco that Collector Streets should not provide unabated cross-neighborhood access especially through residential areas. Collector Streets are not to be used as an alternative for Minor or Major Thoroughfares. Where Collector Streets intersect Minor and Major Thoroughfares, they should do so as a 4-way intersections, not staggered or jogged. Figure 6-12 shows examples of Collector Street configurations.

Figure 6-12 – Collector Streets Layouts



Where Collector Streets provide industrial access (such as parallel to US Highway 380), it is recommended that they be 4-lane undivided roadways. In these cases, the typical cross-section will be identical to a Minor Thoroughfare (44 feet of pavement on a 65-foot right-of-way).

It is also recommended that alleys not intersect with Collector Streets.

Residential Streets

The City of Frisco recognizes the need for flexibility when designing and laying out local or “Residential” streets. Therefore, there are no specific locations for these streets shown on the *Plan*. However, Residential Streets should conform to the following guidelines:

- **Intent of Residential Streets**

Residential Streets are intended to provide local access to residential neighborhoods. Travel speeds should be slow – between 20 and 30 MPH. Residential Streets are expected to accommodate mostly light vehicular traffic, combined with pedestrians and bicycles. However, Residential Streets are to be designed so that they may also accommodate emergency vehicles, delivery trucks, utility maintenance vehicles, and other support uses.



(Photo by the PGAL Planning Group)

- **Follow the Requirements of the Frisco Subdivision Regulations**

The City’s existing Subdivision Regulations Ordinance (Ordinance No. 94-08-19) sets specific guidelines for local “Residential” streets. These roadways should conform to the requirements established in the Subdivision Regulation Ordinance – specifically Section 7 (*General Requirements and Design Standards*).

- **Typical Cross-Section**

While Residential Streets may have some variation, they should have a 50-foot right-of-way, with 27 feet of pavement for rear-entry lots and 31 feet of pavement for front-entry lots. Residential Streets should be designed with curb-and-gutter and an enclosed storm drainage system. The City’s *Thoroughfare Standards Ordinance* provides detailed design criteria for Residential Streets.

- **Sidewalks**

All Residential Streets should have continuous sidewalks on both sides of the street. These sidewalks should conform to the design requirements as established by the City (Subdivision regulations Ordinance, Section 7, *General Requirements and Design Standards*). These sidewalks should not be exactly parallel to the curb, but rather be gently meandering.

- **On-Street Parking**

Residential Streets should be wide enough to accommodate on-street parking on either side.

- **Driveway/Alley Access**

Residential driveways may have direct access onto Residential Streets. In those cases where homes are designed with rear entry garages, alleys may intersect with Residential Streets.

- **No Direct Access to Highways**

To promote safety and smooth traffic flow, no new Residential Street should have direct access to a Tollway or Highway. Residential Streets may have direct access to another Residential Streets, and to a Collector Street, a Minor Thoroughfare, or a Major Thoroughfare.



- **No Business Access**

No business, office, retail or commercial development, industry, or other similar non-residential development shall be accessed from a Residential Street. The only exception to this should be the case where residential subdivisions abut a retail shopping center. In those instances, rear access to the retail center from the adjacent Residential Street is encouraged to provide direct vehicular/bicycle/pedestrian access without the need for travelling through a Major Thoroughfare intersection.

Other Aspects of Thoroughfares

Thoroughfares do more than just convey traffic. As an urban design element, they can greatly enhance the look and ambience of a community. The following additional aspects should also be taken into consideration when designing and developing thoroughfares.

Landscaping

The most pleasant driving experiences are created through roadways carefully designed with nature in mind. Street trees, median landscaping, and other treatments not only improve the look of a roadway, they also contribute to the environment through noise abatement and reduction of air pollution. Landscaping should be considered in all subsequent roadway Capital Improvement Projects. The following guidelines are recommended for thoroughfare landscaping:

- **Major Thoroughfares**

All Major Thoroughfares with a median should include landscaping within the median. Median landscaping may include a single row of street trees, with seasonal color understory. For median landscaping to be effective, the roadway should be designed with built-in irrigation in mind. Along the edge of the right-of-way, a row of street trees is suggested on each side will help give a “wall” to the roadway and give the illusion of making the road seem less imposing.

- **Minor Thoroughfares and Collector Streets**

Minor Thoroughfares and Collector Streets should have a similar landscape treatment as Major Thoroughfares, but without the median landscaping. Street trees on Collector Streets may be a single-row if the right-of-way is not wide enough to accommodate a double row with a sidewalk.

- **Residential Streets**

Residential Streets may have a similar landscape treatment as Collector Streets, but the trees should be planted at the time the subdivision is initially developed. Homeowners may augment landscaping within the public right-of-way, but should not obscure sidewalks, driveway visibility, or other similar design requirements.

Landscaping is most effective when there is a simple palette of materials. The City of Frisco prefers a variety of trees, but the variety should not exceed 45% of the total number and types of trees. The repetition of the same tree type will give Frisco a unity and singularity that defines it from its neighbors. While there are numerous trees from which to choose, it is suggested that the City opt for tree with a long life and that are hardy for this environment – such as live oaks or red oaks. Decorative flowering trees such as Bradford and ornamental pear trees are attractive, but tend to have a 10 to 15 year lifespan and would be expensive to replace on a citywide basis.

It is also suggested that landscaping materials include drought-resistant and native materials (xeriscaping).

***Sidewalks***

The City's Subdivision Regulations Ordinance (Ordinance No. 94-08-19) sets general guidelines for sidewalks (Section 7). The *Frisco Millennium Plan* recommends that every street have a sidewalk, preferably installed at the time of initial development. Sidewalks should parallel the roadway in a gently meandering fashion.

Sidewalks should not be installed directly behind the back-of-curb, but should be set back approximately 6 feet to accommodate landscaping and trees along the street edge. The sidewalks should be a minimum of 4 feet in width.

Railroad Grade Separations

The Burlington Northern/Santa Fe Railroad has the potential to create a barrier to traffic when trains block traffic on major crosstown thoroughfares. Therefore, it is recommended that the thoroughfares be grade-separated from the railroad to facilitate traffic flow. While grade separations may not initially be required on some roadways, the City should acquire the right-of-way necessary to preserve it for future use. Grade separations are anticipated where the Burlington Northern/Santa Fe line crosses the following 8 existing and future roadways:

- **Major Thoroughfares**
 Lebanon Road
 Legacy Drive
 Stonebrook Parkway
 El Dorado Parkway
 Panther Creek Parkway
 Virginia Parkway
- **Tollway/Highway**
 Dallas North Tollway
 US Highway 380

Highway Grade Separations

The three principal highways in Frisco – SH 121, US Highway 380, and the Dallas North Tollway – should have grade-separated interchanges at most major intersections. This will allow for a smoother traffic flow on both these major highways and the roadways that intersect them. While grade separations may not initially be required at all intersections at the present time, the necessary right-of-way should be preserved for future use. Table 6-3 lists the suggested grade-separated interchanges.

Table 6-3 – Recommended Grade-Separated Interchanges

<i>SH 121 (9 interchanges)</i>	<i>US Highway 380 (8 interchanges)</i>	<i>Dallas North Tollway (9 interchanges)</i>
Custer Road	Custer Road	Gaylord Parkway
Independence Road	Coit Road	Warren Parkway
Coit Road	Hillcrest Road	New Minor Thoroughfare
Hillcrest Road	Preston Road	Lebanon Road
Ohio Drive	Dallas North Tollway	Stonebrook Parkway
Preston Road	Legacy Drive	FM 720/Main Street
Dallas North Tollway	Teel Boulevard	El Dorado Parkway
Legacy Drive	FM 423	Panther Creek Parkway
Spring Creek Parkway		Virginia Parkway

Intersections and Traffic Management

Major Thoroughfares should be designed to include a dual left-turn lane and a dual deceleration/right-turn lane at all intersections with other Major Thoroughfares, and with Tollways and Highways. The 120-foot-wide right-of-way should be flared out at these intersections to accommodate these additional lanes. Even if the roadway is not initially constructed with these extra turning lanes, the additional right-of-way should be acquired to allow for the future inclusion of these lanes. It is anticipated that additional right-of-way will be needed at the following intersections:

- Preston Road & Lebanon Road
- Preston Road & FM 720/Main Street
- Preston Road & El Dorado Parkway
- Custer Road & Lebanon Road
- Custer Road & FM 720/Main Street
- Custer Road & El Dorado Parkway
- Legacy Drive & Lebanon Road
- Legacy Drive & FM 720/Main Street
- Legacy Drive & El Dorado Parkway
- All intersections with the Dallas North Tollway
- All intersections with SH 121
- All intersections with US Highway 380

Traffic signals along Major Thoroughfares should be computer-synchronized to facilitate traffic flow. For Major Thoroughfares that traverse densely populated areas (such as Hillcrest Road between FM 720/Main Street and SH 121), signal timing may be programmed in such a way as to encourage non-local traffic to use other parallel Major Thoroughfares (such as Preston Road).

As specified in the Goals and Objectives (Chapter 2), the City should develop a *Driveway Spacing Ordinance* to determine the appropriate spacing and location of driveway access points. This is especially critical at major intersections and along Major Thoroughfare corridors carrying larger volumes of traffic.

Traffic Calming

Traffic is that one phenomenon of community growth that impacts everyone. We all complain about it, yet we are all responsible for it in some small way. It is unrealistic to presume that Frisco will eliminate traffic through transit, bicycle lanes, and pedestrian sidewalks. It is also not reasonable to presume that every Frisco resident will telecommute and purchase everything online. While these alternatives have their place, they can reduce but not cure traffic problems.

Streets can be designed to “calm” traffic, usually slowing it down or progressing it along a major thoroughfare in a manageable fashion. It is often not necessary to narrow a roadway to slow traffic – appropriate landscaping treatments can give the visual impression of narrowing the roadway, thus slowing down traffic.



Another method is to gently curve the roadway, but still maintaining a modified grid pattern. These gently curving roadways need not be as circuitous as “traditional” suburban design, but can vary the visual distance enough to calm traffic. On-street parking also helps to slow traffic, especially along Residential Streets. All of these treatments are currently used in Europe, with the most well-known application being in the Netherlands.

Traffic calming also has benefits in enhancing air quality. Carbon monoxide (CO) pollution is a function of congestion. Where congestion can be abated, less CO pollution will be experienced. Congestion can be reduced through various congestion management strategies (CMS) including alternative travel modes (mass transit, ridesharing, carpooling, walking, cycling, etc.), flex-time, and telecommuting. Fewer vehicles on the road improve both CO pollution and hydrocarbon/ozone (O₃) emissions.

Signage and Street Furniture

Other items are usually installed as part of a roadway. The City of Frisco should develop a standard design for streetlights, traffic signals, street signs (not to be confused with business signs), and regulatory signage so that it gives a uniform look. Other street furniture – benches, trash receptacles, etc. – should also be included in this standard.

In the interest of the City’s visual integrity, non-premise signs should be limited to regional thoroughfares such as SH 121 and US Highway 380. Existing off-premise signs should be evaluated when the City revises its current *Sign Ordinance*.

Bicycle Routes

The City should further consider the designation of on-road bicycle routes with appropriate signage to accommodate bicycle traffic.

Thoroughfare Plan Summary

The thoroughfares projected for the City of Frisco will serve the future land uses as projected in Chapter 5. Table 6-4 summarizes the general functional classifications in the *Plan*.

Table 6-4 – Thoroughfare Plan Summary

<i>Functional Classification</i>	<i>Linear Feet</i>	<i>Miles</i>
Tollways and Highways	133,500 LF	25.3 miles
Major Thoroughfares	640,000 LF	121.1 miles
Minor Thoroughfares	60,200 LF	11.4 miles
Collector Streets	21,900 LF	4.2 miles
<i>Thoroughfare Plan</i>	<i>855,600 LF</i>	<i>162.0 miles</i>

The network of Major Thoroughfares will tend to define future residential neighborhoods and are generally spaced every 1 to 1½ miles. During this process, City and consultant representatives met with staff from surrounding communities to determine how these Major Thoroughfares aligned with their individual Thoroughfare Plans. The *Frisco Millennium Plan* provides connections with these Major Thoroughfares from all of the surrounding communities.

During this project, there was also coordination with the two primary agencies responsible for tollway and highway design and construction – TxDOT and the NTTA. Some questions are still unanswered because TxDOT and NTTA are still considering potential alternatives, such as whether or not SH 121 will be a tollway facility in the future. Like land planning, thoroughfare and transportation planning is not performed in a vacuum. The *Frisco Millennium Plan* strongly urges the ongoing discussion between the City, TxDOT, and NTTA regarding the future potential of existing (and future) tollways and highways that may impact Frisco. TxDOT should designate US Highway 380 as a controlled-access freeway as soon as possible. The City and NTTA should finalize the ramp configurations along the Dallas North Tollway as suggested by the *Frisco Millennium Plan*.

As with land uses, the location of thoroughfares in the *Frisco Millennium Plan* is general and conceptual – these are not centerline locations. It is anticipated that the alignment of thoroughfares identified on the *Plan* but not yet built will vary somewhat. The *Frisco Millennium Plan* should be flexible to accommodate new information and new development proposals.

Another foreseeable condition would be the introduction of a new roadway or mode of transportation not predicted by the *Frisco Millennium Plan*. For instance, if FM 720 became a tollway (west from the Dallas North Tollway across Lake Lewisville to IH-35E), it could have significant ramification to the traffic flow in Frisco.



Frisco is not currently a member-city of the Dallas Area Rapid Transit (DART) Authority. However, that has not precluded the *Frisco Millennium Plan* from proposing the potential for both light rail and surface transit in Frisco sometime in the future. As the Metroplex grows, there will be an increasing need for transit service, especially to fast-growing cities like Frisco which are on the fringe of the region.

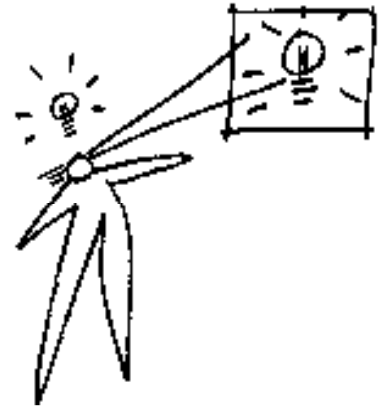
Whether as part of the current DART structure, part of a new regional transit agency, or part of an independent transit agency not yet established, Frisco will likely require transit service in the near future. Frisco's future transit services and facilities may include:

- Surface transit service (buses)
- Light rail transit service
- Park-and-ride lots
- Bus transfer stations
- High-occupancy vehicle (HOV) lanes on highways
- Ridesharing services
- Vanpooling services

The *Frisco Millennium Plan* should consider all new possibilities as they become known and update the *Plan* accordingly, as appropriate.

CHAPTER 7

GUIDING PRINCIPLES



Introduction

Up through Chapter 6, the *Frisco Millennium Plan* has projected the general future the City would like to achieve. In support of the *Frisco Millennium Plan*, more specific guiding principles are recommended in this Chapter. In addition to management of the *Plan*, several emerging trends are discussed which will have an impact on the future Frisco.

The City of Frisco needs to be aware of changes in the way communities are developed. Most of Frisco's development will be experienced in the 21st century. While it will still be recognizable, it will be different from the way communities developed in the post-World War II boom years.

This Chapter will include suggestions for further studies and guidelines. Some of these the City may be able to develop in-house, others they may seek outside professional assistance. These suggestions do not encumber the City to pursue them at any specific time. As the City continues to grow and mature, some of these suggestions may evolve with the City. Others may become obsolete as technology and/or development changes current conditions. As with land use and thoroughfares, the City should consider these suggestions as general guidelines that should be flexible enough to accommodate future needs.

Implementation

As the *Frisco Millennium Plan* was developed, there was an understandable confusion between planning and zoning. Simply stated, the *Frisco Millennium Plan* is an overall statement of what the City would like itself to be. This is a "top-down" approach that considers citywide conditions and patterns. Zoning, on the other hand, tends to be economically driven. It is a "bottom-up" approach that is pursued by individual landowners.

Throughout the process of developing the *Frisco Millennium Plan*, it was clearly stated at numerous meetings that the Plan would not change existing zoning. It is worthwhile to reiterate this point:



The Frisco Millennium Plan does not change any current zoning in the City of Frisco.



Most of Frisco's development will be experienced in the 21st century. While it will still be recognizable, it will be different from the way communities developed in the post-World War II boom years.



A comparison of existing zoning with the *Frisco Millennium Plan* revealed several findings:

- **The Frisco Millennium Plan is Consistent with Existing Development**

The *Frisco Millennium Plan* was specifically developed to honor most all existing development. With very few minor exceptions, all existing zoning for currently developed (or development under construction) was consistent with the *Frisco Millennium Plan*.

- **Portions of the Study Area are not Zoned**

The portions of the study area that are currently in the unincorporated County but within Frisco's extraterritorial jurisdiction (ETJ) are not zoned. The ETJ is the land area that the City may grow into in the future. As it develops and annexes these areas, they have two options – zone the land so that it is compatible with the *Frisco Millennium Plan*; or consider another type of zoning district which is compatible with future development plans. If the latter is selected, that would be a trigger to update the *Plan* accordingly.

- **Portions of the City are in Planned Development Zoning**

In the past, the City has approved approximately 150 “PD” (Planned Development) districts. Each “PD” district allows an individual combination of land uses based on the developers concept plan for the district. While some of these “PD” districts have been developed, many have not. In some cases, market conditions and economic influences now present were not in place at the time the “PD” was approved. Therefore, it may not be the current landowners intention to develop as the original “PD” district indicated.

The *Frisco Millennium Plan* cannot predict where and how many of these “PD” districts will be developed as-is or will be changed by the landowner. It is suggested that the City maintain an on-going dialog with the owners of the outstanding undeveloped “PD” districts. If a zoning change is requested by a landowner, the City and the landowner should work cooperatively to develop these areas. If this involves a modification to an existing “PD” district, the City should work proactively with the landowner to accomplish the modifications as quickly and as effectively as possible. The City should also be extremely judicious in the consideration and approval of any further “PD” districts. When “PD” districts are used, they should generally be used to achieve the following:

- “PD” districts should preserve topography, vegetation and/or open space;
- “PD” districts should carry out specific goals of the *Frisco Millennium Plan* or other special studies;
- “PD” districts should be used to provide flexible development standards when appropriate, not to reduce development standards;
- “PD” districts should **not** be used to side-step the Frisco Board of Adjustment for variance requests; and,
- “PD” districts should **not** be used to secure agreements between the applicant and nearby property owners to receive zoning approval.

Land Use Definition Updates

The Frisco Zoning Ordinance is composed of two parts – the Zoning District Map (which shows the geographic location of various zoning districts), and the Zoning Ordinance (which defines each district and includes additional requirements). City staff has cited the need for updating the land use definitions in the Zoning Ordinance.

For instance, in Section 8B of the Frisco Zoning Ordinance, there is a “Use Chart” which specifies various land uses by zoning district. Under “Office & Professional Uses”, the Ordinance differentiates between an architect’s office and an engineering office, even though they both can be located in the same types of zoning districts. Changing the Zoning Ordinance to reduce these types of redundancies will make it an easier document to apply. Additionally, new land uses will be developed in Frisco that do not currently apply to the land use definitions as shown in Section 8B.

It is a typical process after the adoption of a new Comprehensive Plan for a city to update its Zoning Ordinance in this fashion. It is recommended that City staff conduct a review of the Frisco Zoning Ordinance to determine the best means to eliminate areas of confusion.

Proactive Partnering for the Future

Throughout this project, it has been urged that the most effective role the City can have is as a “partner” in its future development. There are many examples of poor city planning where cities merely reacted to growth.

The *Frisco Millennium Plan* is but one component of a broader development policy the City of Frisco needs to further define. The following recommendations are included in the *Frisco Millennium Plan*:

- **Proactive**
The City should take a proactive stance regarding growth in Frisco. This should include meetings with property owners and developers at the earliest opportunity to work together to cooperatively work out concepts for future developments.
- **Flexible**
When a zoning change is requested by a landowner that is not in concert with the *Frisco Millennium Plan* and/or the Frisco Zoning Ordinance, the City and the landowner could entertain new development concepts that are reasonable for both the landowner and the City.

Simply stated, the City should welcome all appropriate developmental proposals, but find positive incentives for encouraging development to be consistent with the *Frisco Millennium Plan* (and its subsequent versions).



Holding Capacity Calculation

In Chapter 2 (Goals), a desired 20-year population projection of approximately 250,000 persons was discussed. Using the area calculations from the Land Use Plan portion of the *Frisco Millennium Plan*, the City's ability to contain population as well as square footage of office, retail, and industrial, may be calculated. The holding capacity calculation is based on the following presumptions:

- Average Single-Family Residential density is projected to be 4 dwelling units (DU) per acre with an average household size of 3 persons.
- Average Multifamily Residential density is projected to be 16 DU/acre with an average household size of 2.5 persons.
- Average floor-area ratio (FAR) for Retail development is projected to be 0.25 FAR.
- Average FAR for Office development is projected to be 0.45 FAR.
- Average FAR for Industrial and Technology development is projected to be 0.15 FAR for each. In "Industrial and Utilities", 90% of these uses are projected to be developed as Industrial uses (1,939 industrial acres).

Table 7-1 shows the holding capacity projections for the *Frisco Millennium Plan*. It is important to acknowledge that actual developed non-residential FAR's may differ from the averages indicated in Table 7-1. In some cases, market forces may also result in actual developments that vary from the projected land uses (such as retail uses being developed in office districts).

Table 7-1 – Holding Capacity Calculation

<i>Development Type</i>		<i>Area</i>	<i>DU/acres</i>	<i>Persons/DU</i>	<i>FAR</i>	<i>Projection</i>
<i>Residential</i>	Single-Family Residential	21,046 acres	4	3.0	---	252,552 persons
	Multifamily Residential	805 acres	16	2.5	---	32,200 persons
<i>Total Residential</i>		<i>21,851 acres</i>	<i>---</i>	<i>---</i>	<i>---</i>	<i>284,752 persons</i>
<i>Non-Residential</i>	Retail	2,350 acres	---	---	0.25	25,591,500 SF
	Office	4,360 acres	---	---	0.45	85,464,720 SF
	Technology	1,609 acres	---	---	0.45	31,539,618 SF
	Industrial	1,939 acres	---	---	0.15	12,669,426 SF
<i>Total Non-Residential</i>		<i>10,258 acres</i>	<i>---</i>	<i>---</i>	<i>---</i>	<i>155,265,264 SF</i>

The holding capacity projections indicate several trends:

- Since the residential holding capacity exceeds the 20-year population projection, Frisco is projected to reach build-out capacity after 2020.
- The residential holding capacity population is a function of average density and average household size. A change in either of these variables will change the holding capacity projection total.
- The amount of Retail holding capacity could contain over 16 Stonebriar Centre malls. This indicates a long absorption time for this market segment, likely well in excess of the 20-year horizon of the *Plan*.

- Similar large holding capacity projections for Office, Technology, and Industrial indicate a deep supply of land for these uses that will take longer than 20 years to be absorbed.

Holding capacity projections are merely the capacity that the land can contain as shown by the *Frisco Millennium Plan*. They are not to be perceived as targets to be achieved.

The North Dallas Jetport

As the *Frisco Millennium Plan* was developed, there was a certain degree of uncertainty regarding the North Dallas Jetport (a single-runway airport located immediately south of FM 720/Main Street approximately 2,200 feet west of the Dallas North Tollway). Owners and developers of the North Dallas Jetport indicated this facility is an asset to the community. Opponents were generally residents in neighborhoods to the north and south of the Jetport.

For many years, the North Dallas Jetport has been underdeveloped – no IFR (instrument approach) equipment, no fixed-base operators, no fueling capabilities, only one constructed building, etc. In the late 1990s, interest seemed to ramp up in creating a business aviation facility at the North Dallas Jetport. However, as the *Frisco Millennium Plan* was being considered for adoption, a new potential landowner had the Jetport under contract and was considering developing it as a non-aviation business park.

There is no clear direction for the North Dallas Jetport at this time. Therefore, the *Frisco Millennium Plan* has suggested two possible futures for this area:

- **The North Dallas Jetport Continues as an Aviation Facility**
If the North Dallas Jetport continues as an active airport, the land north of FM 720/Main Street to the floodplain (between Legacy and Teel) shall not be zoned or developed as any kind of residential. Similarly, the area immediately south of the Jetport – from Stonebrook Parkway to the floodplain – should not be zoned or developed as residential. Both areas are designated with a double asterisk on the *Plan* map. The City should consider replacing the Jetport with a business park development.
- **The North Dallas Jetport Changes to a Business Park**
If the Jetport is changed to a non-aviation business park, the areas described above may be developed as residential subdivisions, with retail and office uses suggested at intersections with Major Thoroughfares.



Affordable Housing

Public comment during the development of the *Plan* brought up a concern for the relative affordability of housing in Frisco. “Affordability” is a relative term. What is affordable for, say Highland Park, would be a different dollar amount than for Frisco. It is also dependent upon the economy and market for homes and mortgages. The City should pursue avenues for encouraging the development of housing that serves all income levels. It is not appropriate for a comprehensive plan to determine the location and amount of “affordable housing”. However, there are some ways the City may address these needs:

- **Density**

Areas of higher residential density should reduce the unit price per home, although demand and land value have the tendency to alter the price savings realized through increases in density. Density results in other impacts (traffic, less open space, etc.) that it might not be an appropriate means to address “affordable housing” in certain areas.

- **Apartments and Attached Single-Family Homes**

It is the impression of many Frisco residents that there is a tremendous increase in apartment construction in the City. While there is a regional increase in apartment construction, the demand for apartments is far exceeded by the number of units currently under construction. This pattern cannot continue. If there is a desire for more “affordable housing” in Frisco, there are other owner-occupied alternatives, such as rowhomes, townhomes, condominiums, etc. The City should review its own Zoning Ordinance to determine how these alternatives may be incorporated into the City. It should also be stated that the *Frisco Millennium Plan* recognizes the importance and need for apartments and encourages their development in appropriate proportions for the City.

- **Redevelopment**

As Frisco continues to grow, older areas may become appropriate for redevelopment. This is typically experienced as older residential units become dilapidated and are purchased in quantity for redevelopment by a single developer. The City should consider tax incentives to encourage redevelopment, especially in areas where structures are in poor condition. Current building standards should be applied to all redevelopment projects, combined with any appropriate architectural sensitivity (such as in the Historic Downtown district). The housing stock in the downtown area of Frisco needs to be redeveloped, and preserved as a residential use in order to provide opportunities for additional affordable housing.

- **Energy Efficiency and Alternative Building Technologies**

“Affordability” not only means being able to qualify for a mortgage, but to also be able to afford its maintenance and upkeep. A big part of that are the monthly utility expenses, especially during the hot Texas summer months. The City can encourage the use of energy efficient designs and building materials to reduce these costs. For instance:

- Changing the color of roofing material to a lighter color (instead of black or dark gray) reduces the interior temperature in the summer.
- When residential subdivisions are designed, there should be enough room between homes to allow air to circulate. Fences between lots that are made of “living landscape”, wrought iron, or wooden rail also encourage air circulation.



Chapter 7

- The popular residential architecture in North Texas – vaulted ceilings, mansard rooflines, and large voluminous spaces – are extremely expensive to heat and cool. The City should determine how to encourage more indigenous Texas architecture for residential applications – such as lower rooflines, clerestory windows, etc.
- Passive and active solar homes were popular in the 1970s but the cost of utility conversion and the relative inefficiency of photovoltaic (PV) cells made this technology unpopular. Today, PV technology has improved tremendously and may be applied to new residential and non-residential construction to perform simple functions, such as powering a hot water heater. The North Texas area has a high solar index in the summer months, so PV technology would have some appropriate applications here. The City should consider allowing PV panels for residential applications and protecting these homes from shadows from neighboring taller structures.
- Previously, “smart homes” (those controlled by a series of computers) were limited to the high-end of the residential market. Computer modules can now be installed at a reasonable price in existing homes. Pre-wiring new homes during construction brings the costs down even further. “Smart homes” can actively manage the major utility systems to reduce operational costs.
- Most commercial building are now constructed with steel framing and this technology is finding its way into residential applications. Steel framing is “environmentally-friendly” and usually uses recycled steel. It is easier to move walls during remodeling and helps to resist fire damage.
- Alternative building materials have been tested by organizations such as the Rocky Mountain Institute for residential applications. Materials including hay bale construction, rammed-earth walls, and shredded tire insulation look like standard masonry construction from the outside but are better insulators and are fire-resistant.
- New hybrid materials are being introduced to the residential market, including a composite wood product that is equal parts recycled plastic and wood fibers. These materials are fastened, cut, and painted like conventional wood, but have a longer life, are stronger than standard lumber, and are fire-resistant.
- New homes and structures are more water-efficient than those built just a few years ago. The City should encourage the use of such devices as low-flow toilets, rapid-volume hot water heaters, “gray water” irrigation systems, rain/freeze/wind sensors for irrigation systems, rainwater collection/enclosed cisterns, etc.

Initially, these technologies and approaches may not be any less costly than standard construction. However, as more and more homes are built in this fashion, the unit costs will decrease. Future advances in building technology should further increase the cost-savings for maintenance and upkeep.



Transit Opportunities

The *Frisco Millennium Plan* identified the potential for four light rail transit stations along the Burlington Northern/Santa Fe Railroad – south of Virginia Parkway, north of El Dorado Parkway, south of FM 720/Main Street, and between Stonebrook and the Dallas North Tollway. While this rail line is used primarily for freight, other cities use freight lines for transit applications through an operational agreement with the rail operator.

At this point, neither DART nor another transit entity have a Frisco light rail line on their “radar screens”, but DART has stated an interest in providing a rail connection to the Legacy Business Park (south of Frisco in Plano). It is conceivable that if Frisco’s population reaches projected levels, there will be a demand for a strong line-haul transit system in Frisco.

Light rail transit on the Burlington Northern/Santa Fe line is not a panacea. For such a mode to succeed, it would have to be supplemented by a bus-oriented transit system that feed passengers into the light-rail line. Frisco could easily incorporate a bus transit system into its future. It is likely that such a system would use smaller local buses (30 to 40-passengers), as opposed to larger 60-passenger buses. Again, Frisco is not a DART member-city and there is no current proposal for a locally-operated bus system. In lieu of DART or a regional agency serving Frisco with transit, other rapidly-growing area cities (namely Allen and McKinney) may determine the need for a “para-regional” transit service serving Collin/Denton/Dallas county area.

The *Frisco Millennium Plan* should not rule out the possibility of both bus and rail transit as it grows. Other facilities may also include park-and-ride lots, bus transfer stations, and “transit-oriented development” in the immediate vicinity of rail stations.

Thoroughfare Opportunities

As the City grows, thoroughfares will have to work much more efficiently. This will be due to the increasing financial cost of building new roadways and the increases in local traffic and population. The City should consider two new requirements:

- **Traffic Impact Analysis**

Many communities now require a TIA (Traffic Impact Analysis) study to be performed for developments of a certain size to determine the extent of traffic impacts upon the local network. A TIA is also a good measure to more accurately determine the necessary roadway improvement costs associated with development. The City should develop a *Traffic Impact Analysis Ordinance* that determines the requirements of a TIA study and the size of development types to trigger a TIA.

- **Thoroughfare Standards Ordinance**

Chapter 6 of the *Frisco Millennium Plan* identifies the various thoroughfare functional classifications and proposes some basic cross-sections. The City should further develop a *Thoroughfare Standards Ordinance* that defines the various thoroughfare cross-sections and associated engineering requirements.

Residential Trends

The main land use in Frisco is and will continue to be the single-family residential home. Yet, there have been many changes in the way homes are built and the functions they serve:

- **House and Lot Size**

In short, homes are getting larger.

At the 2000 National Homebuilders' Association convention, it was reported that the average size for a new home in 1999 was 2,185 square feet, compared to 1,500 square feet in 1970. The *Center for Population Growth* (Washington DC) notes the average new home built in the 1950s was a total area of 900 square feet. In the 1990s, the average new home in the US had a garage with an area of 900 square feet!

And even though the homes are getting larger, the size of the average new home lot is getting smaller. This represents a change in lifestyle – less time for house and yard maintenance but more desire to invest in the value of a new home. Frisco's has numerous good examples of new home construction where very affluent "high-end" homes are constructed close together on 8,000 to 10,000 square foot lots. This same trend is visible in Colleyville, Southlake, Highland Park, and just about every other residential community.

The implications of this phenomenon are that homes occupy a larger percentage of the lot. Permeable cover is decreased, allowing an increase in stormwater runoff. The City should determine an appropriate percentage of lot cover allowed for future developments to assure that stormwater drainage facilities are appropriately sized.

- **Gated Communities**

Over the past 20 years or so, there has been a steady increase in gated communities – subdivisions that allow restricted access (residents, visitors, domestic workers, etc.) and offer enhanced security. Gated communities first began in other parts of the nation as a response to local crime problems. However, many new gated communities are less about "security" and more about "exclusivity". The *Frisco Millennium Plan* does not debate the pros or cons of gated communities. Clearly, some of the nation's most "exclusive communities" are not gated. While there are studies that debate the security merits of gated communities, there is no doubt that they are very popular with both developers and homeowners. Rather, the *Frisco Millennium Plan* is interested in the following aspects of gated communities:



- The *Plan* does not identify potential locations of gated communities. The City should be judicious in the approval of gated developments so as not to create a City full of gated subdivisions.
- Gated communities should be located near the intersection of two Major Thoroughfares, generally on the edge of a neighborhood (not in the center). Gated communities should not impede the alignment or travel of any thoroughfare identified on the *Plan*.
- Gated communities should be designed in such a manner that the entry gate is at least 100 feet from the roadway, to accommodate stacking for entry traffic. Entries should also include a “bail-out” turning lane for vehicles that are denied access.
- Private streets should not interfere with internal neighborhood circulation, or with access to schools or parks.
- Private streets should conform with City standards for street design and construction. Should a gated community become a “public” area (non-gated), all streets would need to be the same design as other public streets. The City should consider developing approval criteria for the eventual conversion of private streets.
- Private streets in gated communities should be stubbed for future access from adjacent areas should the gated community become public.
- All new gated communities should have a “conversion” plan that accounts for the potential to become fully accessible in the future. The removal of the gates should only be done at the request on the homeowners association and in accordance with the “conversion” plan.
- The City should also consider standards for the conversion of standard subdivisions (“public”) to private gated communities. Conversion should be dependent upon 100% homeowner approval and would require replatting to convert public streets to private streets. The “converted gated community” would be required to conform with City standards for entryway design and configuration. “Converted gated communities” should not be located in the middle of a block and should never impede through access on other area streets.

- **Density Options**

Most of Frisco’s newer residential developments have been at a higher density than previously experienced. Zoning districts of “SF-4” to “PH” (3.38 to 4.89 DU’s per acre) are common. While density contributes to a slightly lower house price, it also increases population, student loads on schools, traffic, etc. The City has options regarding residential density:

- Current lot dimensions are usually rectangular, with the lot depth being greater than the lot width. The City could consider allowing lots to be “wide and shallow” so that density could be accommodated but would not be perceived from the street by narrow lots.
- The City should encourage a significant area of open space to be preserved by allowing higher densities on the developed portion of the subdivision. These should include large patches of undisturbed natural vegetation or restored prairie, connectivity between patches, natural vegetation along water courses, and a heterogeneous distribution of nature throughout the community. This is an open space policy that the City should consider only on a case-by-case basis.



- The City could consider developing new residential Zoning District types to address new home/lot ratios. It is suggested that 10 residential Zoning Districts are too many and that new districts should be considered which are more representative of the way subdivisions are currently developed. For instance, the City might consider having only one Multifamily Residential District in the future.

- **Buffers**

There are two conditions that are of concern as the City further develops:

- *Buffers between Residential and Non-Residential Uses* – Where residential neighborhoods abut non-residential developments, there needs to be an appropriate buffer or setback. It is recommended that the City develop a *Buffer Ordinance* to address the appropriate setbacks between residential and non-residential uses.
- *Buffers between Residential Developments of Varying Densities* – In some cases, residential zoning districts of significant different densities may also require a buffer or setback. As above, it is recommended that the City develop a *Buffer Ordinance* to address the appropriate setbacks between residential districts of varying densities.

Buffers are generally not required in a “neo-traditional” or “new urbanism” style development.

- **Transitions from Residential to Non-Residential Uses**

While it does not occur very frequently, there may be some cases where an area that is designated and/or developed as Residential may desire to transition to a Non-Residential use. If this is the case, the City should require the following:

- The area is physically appropriate for non-residential uses.
- The area is an extension of other non-residential zoning and is not separated from other non-residential zoning by a Major Thoroughfare (or larger).
- The rezoning will not create a situation where commercial traffic will negatively impact established and proposed future neighborhoods, schools, and/or parks.
- The rezoning will not leave any residual tracts of residentially-zoned property or an area designated for residential use by the *Frisco Millennium Plan*.
- The rezoning provides for an appropriate transition between non-residential and residential uses through separation by distance, screening, or land use.

- **Transitions from Non-Residential to Residential Uses**

Occasionally, there will be a case where existing areas that are designated and/or developed as Non-Residential may desire to transition to a Residential use. If this is the case, the City should require the following:

- The area is physically appropriate for residential uses.
- The area is an extension of a residential neighborhood shown on the *Frisco Millennium Plan* and is not separated from the neighborhood by a Major Thoroughfare (or larger).
- The rezoning will not create a situation where commercial traffic will negatively impact established and proposed future neighborhoods.



- Proposed non-residential development is not located in an area that encourages or requires access into or through existing or proposed Residential areas.
- The rezoning would not result in a shortage of land required for non-residential development.
- The rezoning would not diminish the land base considered prime for future economic expansion.
- The rezoning would not leave a residual tract of non-residentially-zoned property which would not conform to the *Frisco Millennium Plan* or which would negatively affect the proposed Residential use.
- The rezoning provides for an appropriate transition between residential and non-residential uses through separation by distance, screening, or land use (i.e., creek, 4-lane roadway, etc.).

- **Collar Parks**

The *Frisco Millennium Plan* has identified small greenbelts that serve as a transition between Retail or Multifamily developments and adjacent Single-Family Residential areas. These Collar Parks shall be privately developed and maintained and should include mostly passive uses (trails, picnic areas, etc.). Collar Parks will not be large enough to accommodate field sports (soccer, softball, baseball, etc.), but may include limited active recreation uses (basketball courts, tennis courts, etc.). The main purpose of Collar Parks is to provide distance between Single-Family Residential areas and Retail or Multifamily developments, and to provide for pedestrian and bicycle access that does not require crossing at a major roadway intersection.

- **Access to Retail Areas**

Where residential neighborhoods abut a retail development, rear access to the retail center from the neighborhood should be allowed. This is an old idea that can be found in many parts of the Metroplex, such as Preston and Forest in Dallas. Rear access allows local traffic to avoid driving on Major Thoroughfares and through major intersections to access nearby retail centers.

- **Home Officing/Telecommuting**

Home officing used to be limited to homeowners that operated a small professional practice from their home (such as photographers, architects, lawyers, etc.). Home offices generally do not employ anyone outside the home and do not attract customers or clients to the house. As technology has improved, home officing now includes employees that “telecommute” from their home on a regular basis. This may be on a limited or full-time basis. New home designs have recognized this trend and are now including “home offices” as part of the floor plan (either in the main house or as a part of a detached garage). The City should take this trend into consideration when it reviews design-oriented parameters such as lot coverage, house size, and off-street parking.



- **Extended Families**

In the United States, more and more families are opting to have an elderly relative live with them as opposed to having them in an assisted living environment. There are several sociological and economic reasons for this trend, but it follows a similar pattern experienced in Europe and the Pacific Rim. Suffice to say, home design will begin to reflect the need for a “granny loft” in addition to standard bedrooms and the home office mentioned above. This indicates a potential for even larger average home sizes, perhaps approaching an average of 2,500 square feet per home. If this phenomenon is experienced in Frisco, it will have the potential to increase overall population without increasing the home density. The City may need to consider increasing the off-street parking requirement for single-family homes to account for additional vehicles.

Mixed-Use Development

Mixed-use development is not a new idea – it is currently experienced in Frisco’s historic downtown area. It is the way communities typically developed up until the 1950s.

The *Frisco Millennium Plan* has encouraged mixed-use developments as a way of utilizing land more efficiently. Mixed-use may be accomplished by a vertical mixing of varying uses on the same development, or a “neo-traditional”/“new urbanism” development style (horizontally-mixed development may also be considered). The goals and objectives (Chapter 2) addressed this potential, and the *Plan* map indicates where Retail and Multifamily might be mixed. (Mixed-Use Development is also addressed in Chapter 5, page 101 of this document.)

For instance, the *Plan* would favor 4 corners of Retail only if it incorporated Multifamily, preferably on the upper levels of a Retail building. (If there were no mixed-uses, Retail would be limited to only 2 corners.)

Another type of mixed-use opportunity occurs in the immediate vicinity of the 4 light-rail transit stations. In these areas, there is the opportunity for “transit-oriented development” (TOD) – a development type that encourages a dense mix of residential and non-residential uses within a short walking distance from the rail station (typically a 1,500 foot radius). Should light-rail appear to be a reasonable opportunity, the City should ensure that the areas immediately surrounding the stations are reserved for TOD-style development.

Wherever Mixed-Use Development is considered, the City should consider the following questions:

- Is the Mixed-Use Development compatible with adjacent properties?
- What is the traffic impact on adjacent properties?
- What is the traffic impact on other City thoroughfares?
- Do the Mixed-Use Development’s architectural features tie the development together and are compatible with surrounding development?



It should also be noted that where Multifamily Residential and Retail uses are noted on the *Frisco Millennium Plan*, in most cases Single-Family Residential is also appropriate – either as part of a Mixed-Use Development or as an alternative to Multifamily or Retail.

In Mixed-Use Developments, the minimum Retail size is 15 acres, with no more than 30 acres total Retail development at any given intersection.

Historic Preservation

Although Frisco is perceived to be a new “boomtown”, it has been in existence as a community for over 100 years. The downtown area was the subject of a preservation and enhancement plan that was adopted by the City in 1998. However, downtown is but one district worth preserving:

- Frisco has significant cattle drive trails that should be identified and preserved for future enjoyment.
- The Frisco rail line is one of the principal reasons the City was founded. This alignment, while still serving a valuable transportation function, may be recognized and honored through future design of grade-separated facilities.
- Older homes (in the core of the City) and historic farmsteads (on the fringe of the City) should be encouraged to redevelop consistent with their heritage. The City should consider developing special building standards for these homes and structures that enhances their sense of history.
- The various creek corridors and floodplains have been an important environmental habitat, providing water and shelter for early settlers. These habitats now also provide a needed respite from urban development. The City should investigate methods to enhance their preservation and protection.

Retail Trends

The Dallas/Fort Worth Metroplex is known as an active retail region. Frisco is currently experiencing a surge in this market sector. The new Stonebriar Centre (Preston at SH 121) will add 1.6 million square feet of new retail, including over 150 stores, a 24-screen cinema, and dozens of pad sites. In the immediate vicinity are plans for new “big box” retail, including Lowe’s and a Super Target store. The *Frisco Millennium Plan* attempts to keep Retail developments at Major Thoroughfare intersections, but much of the “Southern Preston” development was already in the pipeline before the *Plan* was initiated. It is suggested that the concentration of nearly 2 million square feet in the immediate vicinity of SH 121 and Preston Road will quickly exceed the capacity of a 6-lane Major Thoroughfare. TxDOT should consider acquiring additional right-of-way to add additional travel lanes when the need arises (at least one additional lane in each direction).



E-Commerce

Stores in the next decade will not appear much different than what is experienced today. However, they will operate differently. The single biggest influential change in Retail has been the Internet. In 1999, Internet sales totaled nearly \$10 billion nationwide – double that of 1998. In fact, since 1996, Internet sales have been doubling every year. Admittedly, it will take a while for \$10 billion in Internet sales to affect the reported \$185 billion (1999) in store sales. As this new shopping style continues to evolve and mature it will change the way certain goods and services are delivered:

- Blockbuster Video – an icon in almost every community – has reorganized to anticipate delivery of entertainment software via non-store means (cable, satellite, modem, etc.). While its bricks-and-mortar outlets will not vanish, they already project that more sales will be delivered through non-store means.
- Modern grocery stores now average more than 60,000 square feet. At the same time, new grocery startups are providing the same products and quality that can be ordered online. Even the major grocery chains are “cannibalizing” their own store customer-base by offering similar services. The trend in the future will be to smaller grocery stores that keep a smaller inventory, mostly perishable items and produce.
- “Record stores” (an atavistic term, since the “record” is an obsolete technology) have been disappearing nationwide for the past few years. Smaller chains have been consolidating, but many CD’s and tapes are now purchased online. The advent of MP3 technology promises to eliminate the need for bricks-and-mortar locations almost entirely.
- Catalog sales – the traditional non-store sales source – have been steadily increasing for the past three decades. Almost anything a person needs can be purchased by a catalog.

If technology is the answer, why are we getting more and more stores? One response is that humans are social animals and still require a place to congregate, to see and be seen. Malls and stores have replaced our Main Streets as the pulse of the community. Retailers note that shoppers often need to touch, feel, smell, see, try on, or taste a product before purchasing (a phenomenon referred to by retailers as “petting”). One of the reasons for the popularity of “neo-traditional” developments is their orientation around shopping streets and people-gathering places.

One thing is for sure – there will be a new type of store that no one has yet anticipated. Malls and retail locations emphasize “shopper-tainment” – keeping customers in the store as long as possible by offering many different diversions, including movies, restaurants, hotels, etc.

The *Frisco Millennium Plan* understands that while more and more retail decisions will be made online and from a catalog, it will not replace the bricks-and-mortar experience. Some store may get slightly smaller as they rely on Internet sales from local distribution sites. This is already being seen in the difficulty that computer stores like CompUSA have experienced in competing with online retailers.



It is conceivable that there will be an increasing demand on local distribution and delivery needs and more and more local retailers offer online purchasing options to their customers. This may result in the need for more “mini-distribution” sites that are close to both retail areas and residential neighborhoods. Whatever its evolution, the City should track changes in the retail industry and be ready to adopt new guidelines for retail development.

“Super-Convenience Stores”

Gas stations have undergone an interesting evolution in the past few decades. Gone are most of the full-service stations with on-site service bays. About 20 years ago, the 7-11 chain was one of the first to merge convenience retail with gas sales. It succeeded and was shortly followed by gas/convenience store that also had a small fast-food restaurant. Today’s “super convenience store” sells gas, rents videos, washes cars, has a dry-cleaning drop-off/pick-up, and may include several fast-food franchises under one roof. These retail sites also tend to be 24-hour, 7-day operations. The City should consider how these “super convenience stores” should be distributed, including:

- The proximity and orientation to nearby residential neighborhoods.
- The location of noise-producing components, including car wash bays and drive-through menu boards.
- The location and lensing of on-site illumination.
- The location of dumpsters and other “back of the house” operations.
- The number of on-site parking spaces.
- The location and spacing of driveways and access points.

“Super convenience stores” will likely continue to evolve – witness the addition of gasoline sales at traditional grocery stores including Albertson’s and Tom Thumb. These two retail types may start to merge towards a middle-ground and become more and more alike.

Village-Style Developments

A popular development approach was promoted in the 1980s that mimicked old-style retail “streets” and “villages”. These neo-traditional designs were a throwback to a simpler time, one that usually did not involve vast amounts of parked cars.

“Village developments” are typically mixed-use developments, usually combining retail and office uses in either a vertical or horizontal configuration. One of the better known local examples of this trend is the Southlake Town Center (along FM 1709 in Southlake). Sometimes these villages can appear to be contrived, although older developments like Highland Park Village (Preston Road at Mockingbird Lane in Highland Park) have stood the test of time – that particular center was built in the late 1920s.



Over the last 2 to 3 years, Texas retail developers have gotten the notion that mixed-use retail centers are now good things. The City needs to develop a *Village Center Standards Ordinance* that addresses aspects such as architectural style, building materials, off-street parking, lighting, location, landscaping, access, height, appropriate mix of uses, etc.

Off-Street Parking Standards

Frisco will experience two conflicting influences – retail will be concentrated in a confined area at Preston and SH 121 while at the same time online retail will be playing an increasing role in purchase decisions. Both of these will affect the amount of off-street parking necessary to serve “bricks-and-mortar” store locations.

There are accepted standards for retail developments that vary by retail development type. More or less, off-street retail parking requirements average 1 space per every 200 square feet of leasable shopping area. When that ratio is too high, the result is a large parking lot that appears empty most of the year. When the ratio is too small, circulation and business suffer equally. The City should explore the potential for reducing off-street parking requirements for large retail centers, especially in light of E-commerce and its impact on store sales.

In some circles, there is a consideration that significantly reducing the off-street parking requirement will result in use of other modes (transit, pedestrian, etc.). Reducing off-street parking requirements usually works in a cohesive district (such as a downtown and shopping mall) where there can be a centralized parking area that encourages store-to-store walking.

New Retail Market Study

Just because the Dallas/Fort Worth Metroplex is an active retail market does not guarantee success of a new retailer or a new concept. In the past 10 years, there have been significant retail failures in North Texas – Venture, Pace, Food Lion, and Incredible Universe, among others. In some cases, these failures were due to a saturated marketplace. Others simply misunderstood how customers purchase certain goods.

But one common element for these failures was that they tended to leave behind a building that was difficult to quickly re-lease. As a result, communities today are still reeling from their effects. The Colony, for instance, finally found a use for their abandoned Food Lion store – it is now the city’s new City Hall and City Library. The City of Frisco has been fortunate to have avoided these recent failures. However, it can be safely stated that there are no guarantees that new retail types and outlets will succeed in the long-term.

The City shall require a *Retail Market Study* to be submitted for all retail and commercial zoning requests in order to address the potential for oversupply of Retail developments. This may include rezonings for retail uses that are currently zoned non-retail. It may also include new types and concepts for retail stores, as well as odd-sized stores (like Food Lion) with no specific “exit strategy” or adaptive reuse approach.



The *Retail Market Study* would have the following attributes:

- The *Retail Market Study* would **not** be required if the subject property is already zoned to allow retail development. It would only apply to new retail zoning requests;
- The *Retail Market Study* would **not** be required for any development along SH 121, US Highway 380, FM 423, the Dallas North Tollway, or along Preston Road (from El Dorado south to SH 121); and,
- The *Retail Market Study* would be prepared by an independent market consultant and would be paid for by the development proponent. The City of Frisco shall “pre-qualify” a group of candidate firms to prepare the *Study*. In order to assure complete objectivity, the selected consultant must have no financial or contractual interest in the property or with the developer.

In the actual preparation of the *Retail Market Study*, the following parameters should be included:

- The *Study* should define the market study area being analyzed and all retail properties in the study area with their building square footage areas;
- The total retail square footage that is part of the proposed development, including local, neighborhood, regional, and “super” retail types;
- The *Study* should use an FAR of 0.25 FAR for all undeveloped retail sites within the study area;
- The *Study* should identify the specific residential density (number of residential units) within the study area; and,
- In determining the appropriate amount of retail, the *Study* should use a ratio of 30 gross leasable square feet of retail per person as a target ratio for the study area.

Office Trends

Technology and real estate prices have resulted in new trends in office development. The average number of office square feet per employee has shrunk over the years – in some cases, employees have no permanent desk or workstation at their office.

Alternative Officing

This is a general term which refers to any office scenario that varies from the “traditional”. Alternative officing can include telecommuting, “hoteling” (reserving a workstation only when an employee needs to come into the office), and flexible work schedules. The result has been that employers can develop a smaller office space for the same number of workers. That has resulted in an increase of the number of off-street parking spaces needed to accommodate the modern office development – increasing roughly from the pervious 4 spaces per 1,000 square feet to 5 spaces per 1,000 square feet.



Employers are also now offering many more amenities as part of the office environment, including on-site day care, concierge services, on-site fitness centers, restaurants, dry cleaners, even massage therapists. Today's offices accommodate more than just business. Therefore, the City needs to investigate how these trends will impact off-street parking requirements, delivery and loading needs, and other similar functions.

Global "E-Business"

Business in the late 20th and early 21st centuries has experienced a global expansion. It is not uncommon for offices to literally run 24 hours a day in order to coordinate with branch offices in other time zones and continents. This has expanded the workday beyond the traditional "9 to 5". Offices may have employees on-site every hour of every day.

This, too, impacts how office developments work in a community context. Off-street parking requirements may need to be reconsidered in light of a 24/7 operation. Buffers between office and residential uses may need to be increased to account for the longer hours of operation.

The *Frisco Millennium Plan* identifies locations for future office development and notes these emerging trends. However, the City may wish to reconsider some office development requirements in light of these new paradigms.

Conference Facilities and Hotels

As Frisco grows, there will be an increasing need to provide conference facilities to support local businesses. To a certain degree, full-service hotels will fill this market demand. The City may also seek to develop multi-purpose facilities, such as a conference center, to attract corporations and conferences to Frisco. Numerous locations for such facilities abound throughout the City. However, should the City consider the development of a conference center, a desirable location would be along or near the Dallas North Tollway corridor.

In addition to traditional hotels and motels, the lodging market has seen the development of extended stay hotels. Originally targeted for business travelers, extended stay hotels are often as inexpensive as apartments and cater to long term lodging (weeks or months). Many cities have seen a proliferation of these relatively inexpensive motels in inappropriate locations. Before more extended stay hotels are developed in Frisco, the City should develop a policy regarding the development and location of these uses.

Industrial Trends

As with the Office and Retail markets, technology has made major changes in the American industrial market. Nationwide, the US economy is becoming less dependent upon domestic manufacturing. There will likely always be a demand for domestic manufacturing, but most of the "industries" in the US are now based on providing information.



Information-Based Economy

The largest and fastest growing industries are those that provide various types of information – telecommunications, software, entertainment, etc. Major corporations such as Microsoft, America Online, Motorola, Time Warner, AT&T, and others, provide varying degrees of information. (Traditional “smokestack” industries are becoming scarcer and tend to be located outside the US.) The City of Frisco has expressed a strong desire to attract these information-based businesses to the City, either as part of a Technology business park or to other Office and Industrial areas. It is recommended that that City work closely with the Frisco Economic Development Corporation to target and attract specific businesses/industries to fill this market niche.

“Industrial” development in Frisco will be more about information and telecommunications, and less about processing or assembly. But even with all these advances in technology, there will still be a need for warehousing, fabrication, and distribution (traditionally classified as industrial land uses). In fact, as there is more and more dependence on “e-commerce”, there will be an increasing need for regional and local warehousing and distribution. Chapter 5 discussed these new “flex” industrial developments – combining administrative, warehousing, distribution, fabrication and/or light assembly in a single structure. There is every indication that these “flex” developments will continue to develop. It is recommended that the City review its Zoning Ordinance to determine the applicability of the “I” district for “flex” development.

Global “E-Business”

As with offices, it is not uncommon for industries to run 24 hours a day in order to coordinate with locations in other time zones and continents. This has expanded the workday beyond the traditional “9 to 5”, with employees working in shifts every hour of every day.

Like 24/7 offices, industries that operate at all hours fit into a community in a different manner. Off-street parking requirements may need to be reconsidered and buffers between residential uses may need to be increased to account for the longer hours of operation. The City should review its industrial development requirements to account for longer operational hours.

The “Wired City”

Technology has always influenced the shape of neighborhoods, communities, and cities. Centralized utilities and electrical power contributed to the development of large cities. The automobile has shaped the world’s development patterns for nearly 100 years. Now, advances in information technology hold the promise to change the way people work, shop, and play.



However, most cities – including Frisco – do not have the “info-structure” in place to capitalize upon these advances in telecommunications. Palo Alto (California) is one such “wired city” that is taking advantage of technology to provide better services and convenience to its residents. It is no surprise that Palo Alto is also the home of Stanford University – the birthplace of major technology firms including Cisco Systems and Sun Microsystems.

There are two constants in technology – it is constantly changing and advancing; and as technology advances it tends to become more affordable. Therefore, there are some considerations the City should look at to take advantage of this technology.

Internet Access/Wiring

Regardless of the state-of-the-art of wireless connectivity, it always ultimately involves delivering data via a copper wire, twisted pair, or a fiber optic cable to a receiver (computer or television). While most offices and businesses are wired for data delivery, the City currently does not have any similar standards for residential applications. Residences with Internet access are connected through conventional or enhanced telephone lines, a cable modem, or a satellite uplink (a service known as “DirectPC”). Limitations in bandwidth in all of these methods have currently limited the scope of the Internet.

The City should consider a new wiring standard for residential structures to accommodate existing access technology. The wiring standard may be a modification of similar networking standards used by offices and businesses. For future technologies, the City might also consider the installation of an empty conduit (“ring and string”) to accommodate new cabling. It is always less expensive to pre-install these improvements during construction, rather than retrofitting after the fact. For the foreseeable future, wired connections will be the least expensive, most secure, and most efficient means of connecting to the Internet.

A progressive step would be for the City to also become the local Internet service provider (ISP). The City already provides water and sewer service to every occupied structure. Some other cities are also the local electric utility. It might be feasible to provide the local ISP connection in the same fashion. The principal drawback will likely be competition from other commercial ISP companies. The City may want to investigate the potential of being the local ISP connection in the future.

Cellular Tower Screening

For the better part of the last 10 years, cities nationwide have wrestled with the issue of locating cellular towers. As technology has advanced from analog cellular to digital PCS (personal communication systems), the need for cellular towers has steadily increased. As individual cells have gotten smaller to accommodate increasing demand, towers have multiplied.



The ultimate answer to this dilemma will be technological advances in personal communications. Satellite telephones currently exist, but are extremely expensive and have a relatively high per-minute connection charge. As this technology advances and becomes more accessible, prices will fall, just as they did with cellular telephones. Since satellite telephones need no ground-based towers, the tower issue will slowly diminish. However, it will likely take one to two decades for all existing analog and digital telephones to be replaced by satellite technology.

In the interim, the City should review its cellular tower location policy to allow placement of towers in areas where there are not visible (such as inside a church steeple) and co-placement with other utilities. Other “masking” treatments may also be considered as brought forth by the cellular tower industry.

Future Telecommunications Technologies

Technology’s mantra is “the only constant is change”. New technologies introduced today are quickly upstaged by the next generation. It is hard for companies and individuals, much less the City, to keep up. It is expected that technology will become more affordable and more portable. Wireless connectivity will improve, either via digital systems or satellite communications.

How does this affect Frisco?

- There will be a greater reliance on providing information in a digital realm. Items such as this *Frisco Millennium Plan*, the City’s Zoning Ordinance, and other policy documents can easily be made available as “read-only” documents in a digital format of some kind. This information could be available to anyone at anytime.
- Updating the *Frisco Millennium Plan* will become increasingly reliant on technological information – from GIS (geographic information system) data provided by the City to satellite digital imagery provided by private firms.
- Increased bandwidth will result in improved videoconferencing capabilities. The City will increase its ability to provide 1-to-1 communications through “virtual” Town Hall meetings and other similar forums.

Whatever the medium, the City should be open to new advances in technology that enhance its ability to deliver information and services to the residents of Frisco.

Urban Design

Many of these emerging trends have centered on technology. But an equally important aspect is the look and visual aesthetic of the City. There are several areas that the City should pursue after the *Frisco Millennium Plan* is adopted:

- **Corridor Studies**

Major roadway corridors are a key method that a community identity is established. The City has many existing and proposed principal corridors that will set the tone for the City's visual appeal. The City is currently developing a *Preston Road Overlay District* to address these issues along the Preston Road corridor. The City should consider similar corridor studies for other major corridors, including but not limited to SH 121, the Dallas North Tollway, and US Highway 380.

- **New Housing Styles**

The most popular housing styles are mimicking designs from 100 years past. Home designers have rediscovered the porch, for instance. These designs are more than nostalgic – they also serve an environmental purpose (deep-set porches shade windows from the summer sun and lower air conditioning expenses). The City should provide additional architectural guidelines that encourage these practices.

- **Illumination Standards**

Too much or too little light in a community can have the same undesirable effect. The City should develop an *Illumination Standards Ordinance* that determines the location, style, direction (lensing), and intensity of street lighting on residential and non-residential streets, as well as on-site lighting.

- **Urban Design Plan**

Upon completion and adoption of the *Frisco Millennium Plan*, the City may desire to address the urban design components of the community. Comprehensive plans often either have an urban design chapter, or include a follow-up study. The City should consider the development of an *Urban Design Plan* to address issues including the Town Center, major roadways, street furniture, signage, and other visual characteristics of the community.

- **Public Art**

A vital part of urban design, the placement and distribution of public art throughout the City enhances its visual character. The redevelopment of Central Expressway is a good example of how public art can improve even the most urbanized of corridors. As part of an overall *Urban Design Plan*, the City should identify locations for public art installations, such as major intersections along the Dallas North Tollway.



Guiding Principles Summary

Chapter 7 has presented numerous options for the City after the adoption of the Frisco Millennium Plan. These suggestions are summarized below.

Implementation

- The City should maintain an on-going dialog with the owners of the outstanding undeveloped “PD” districts to work cooperatively to develop these areas if a zoning change is requested by a landowner.
- The City should also be judicious in the consideration and approval of any further “PD” districts.
- The City should conduct a review of the Frisco Zoning Ordinance to determine the best means to eliminate areas of confusion, not to change existing zoning districts.
- The City should take a proactive stance regarding growth in Frisco. This should include meetings with property owners and developers at the earliest opportunity to work together to cooperatively work out concepts for future developments.
- If a zoning change is requested by a landowner that is not in concert with the *Frisco Millennium Plan* and/or the Frisco Zoning Ordinance, the City and the landowner should entertain new developments that are reasonable for both the landowner and the City.

The North Dallas Jetport

- If the North Dallas Jetport continues as an active airport, the land north of FM 720/Main Street to the floodplain (between Legacy and Teel) should not be zoned or developed as any kind of residential. Similarly, the area immediately south of the Jetport – from Stonebrook Parkway to the floodplain – should not be zoned or developed as residential. Both areas are designated with a double asterisk on the *Plan* map. The City should consider replacing the Jetport with a business park development.
- If the Jetport is changed to a non-aviation business park, the areas described above may be developed as residential subdivisions, with suggested at intersections with Major Thoroughfares.

Affordable Housing

- There desire for more “affordable housing” may be met with other owner-occupied alternatives, such as rowhomes, townhomes, condominiums, etc. The City should review its own Zoning Ordinance to determine how these alternatives may be incorporated into the City.
- The City should encourage the use of energy efficient designs and building materials to reduce housing costs.
- The City should determine how to encourage more indigenous Texas architecture for residential applications – such as lower rooflines, clerestory windows, etc.



Chapter 7

- The City should consider allowing solar (PV) panels for residential applications and protecting these homes from shadows from neighboring taller structures.
- The City should study how new and alternative building materials and technologies can be incorporated into the City to save energy, water, and encourage improved air quality.

Transit and Thoroughfares

- The *Frisco Millennium Plan* should not rule out the possibility of both bus and rail transit as it grows. Other facilities may also include park-and-ride lots, bus transfer stations, and “transit-oriented development” in the immediate vicinity of rail stations.
- The City should develop a *Traffic Impact Analysis Ordinance* that determines the requirements of a TIA study and the size of development types to trigger a TIA.
- The City should further develop a *Thoroughfare Standards Ordinance* that defines the various thoroughfare cross-sections and associated engineering requirements.

Residential

- The City should determine an appropriate percentage of lot cover allowed for future residential developments. The City will need to change its stormwater runoff equations to assure that stormwater drainage facilities are appropriately sized.
- The City should develop a policy on the general design and location of new gated residential communities.
- The City should consider allowing lots to be “wide and shallow” so that density could be accommodated but would not be perceived from the street by narrow lots.
- The City should consider preserving open space in a development by allowing higher densities on the developed portion.
- The City should consider developing new residential Zoning District types to address new home/lot ratios and which are more representative of the way subdivisions are currently developed.
- The City should develop a *Buffer Ordinance* to address the appropriate setbacks between residential and non-residential uses, and between residential districts of varying densities.
- The City should develop standards for the transitions of certain types of residential areas to non-residential uses, and for the transition of certain types of non-residential areas to residential uses.
- The City should encourage rear access from residential subdivisions to adjacent retail centers so local traffic may avoid driving on Major Thoroughfares and through major intersections.
- The City should take the home office/telecommuting trend into consideration when it reviews design-oriented parameters such as lot coverage, house size, and off-street parking.



- The City may need to consider increasing the off-street parking requirement for single-family homes to account for additional vehicles as a result of extended families.

Mixed-Use Development

- The City should encourage mixed-use development in accordance with the *Frisco Millennium Plan*.
- Should light-rail appear to be a reasonable opportunity, the City should ensure that the areas immediately surrounding the stations are reserved for transit-oriented development.

Historic Preservation

- The City should identify and preserve historic trails for future enjoyment.
- The City should recognize the historic importance of the Frisco rail line through future design of grade-separated facilities.
- The City should encourage the redevelopment of older homes and farmsteads and should consider developing special building standards for these homes and structures that enhances their sense of history.
- The City should investigate methods to enhance the preservation and protection of key environmental habitats, creek corridors, and floodplains.

Retail

- At Preston and SH 121, TxDOT should consider acquiring additional right-of-way to add additional travel lanes when the need arises (at least one additional lane in each direction).
- The City should track changes in the retail industry and be ready to adopt new guidelines for retail development.
- The City should consider how “super convenience stores” are located and designed.
- The City should develop a *Village Center Standards Ordinance* that addresses aspects such as off-street parking, lighting, location, landscaping, access, height, appropriate mix of uses, etc. These standards shall be developed with the assistance of residents and developers.
- The City should consider new impact of new technology on store sales and be prepared to alter the off-street parking requirement accordingly.

Office

- The City should investigate how new office trends will impact off-street parking requirements, delivery and loading needs, and other similar functions.



Chapter 7

- The City may wish to reconsider some office development requirements in light of emerging office trends.

Industrial

- The City should work closely with the Frisco Economic Development Corporation to target and attract specific businesses/industries.
- It is recommended that the City review its Zoning Ordinance to determine the applicability of the “I” district for “flex” development.
- The City should review its industrial development requirements to account for longer operational hours.

The “Wired City”

- The City should consider a new wiring standard for residential structures to accommodate existing access technology. The wiring standard may be a modification of similar networking standards used by offices and businesses. For future technologies, the City might also consider the installation of an empty conduit (“ring and string”) to accommodate new cabling.
- The City may wish to investigate the potential of being the local ISP connection in the future.
- The City should review its cellular tower location policy to allow placement of towers in areas where there are not visible (such as inside a church steeple). Other “masking” treatments may also be considered as brought forth by the cellular tower industry.
- The City should be open to new advances in technology that enhance its ability to deliver information and services to the residents of Frisco.

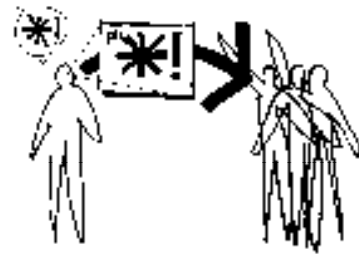
Urban Design

- The City should provide additional architectural guidelines that encourage improved energy efficiency.
- The City should develop an *Illumination Standards Ordinance* that determines the location, style, direction (lensing), and intensity of street lighting on residential and non-residential streets, and for on-site lighting.
- The City should consider the development of an *Urban Design Plan* to address issues including the Town Center, major roadways, street furniture, public art, signage, and other visual characteristics of the community.



CHAPTER 8

PLAN SUMMARY



“The easiest way to predict the future is to invent it.”

Xerox Corporation Palo Alto Research Center (1970)

From April 1999 to March 2000, the *Frisco Millennium Plan* was developed during an era of unprecedented growth in Frisco. The City gained national recognition as the second-fastest growing community in the US. Growth appears inevitable for Frisco – the City’s challenge is not to grow, but how it will grow and maintain and enhance the community’s quality of life.

Time and time again during the development of the *Frisco Millennium Plan*, it was stated that the *Plan* is not a static document. The *Plan* needs to be a dynamic and flexible tool that positions Frisco to be an active partner in its own future. The above quote from Xerox’s Palo Alto Research Center is appropriate for Frisco – the best futures do not happen by accident. Rather, they are actively pursued.

The City of Frisco – its homeowners, landowners, renters, businesses, churches, and other residents and employees – should be passionate about the development of the community. They should not just expect, but demand quality growth. The future involves everyone’s interest.

Plan Highlights

The *Frisco Millennium Plan* was developed in a logical sequence of tasks:

- A series of goals and objectives were developed (Chapter 2) based on extensive interviews and public participation. The Frisco City Council adopted those goals and objectives in September 1999.
- The existing conditions of the City (as of mid-1999) were analyzed to determine areas of developmental opportunities and constraints (Chapter 3). This analysis was performed to present an objective view regarding the City’s potential for future growth. It determined that there were relatively few *in situ* constraints to growth.

The Plan needs to be a dynamic and flexible tool that positions Frisco to be an active partner in its own future.



- A series of conceptual development scenarios were presented to test various concepts for future growth (Chapter 4). This process resulted in some “outside the box” thinking for Frisco’s future, involving such potentials as light-rail transit.
- From the draft scenarios, draft land use and thoroughfare plans were concurrently developed. The Land Use Plan component (Chapter 5) developed an extensive analysis for existing and future development. One of the key principles in the development of the new land use pattern was to ensure the preservation and protection of existing and future residential neighborhoods.
- Land is prohibited from developing without proper access. The Thoroughfare Plan component (Chapter 6) identified various roadway types to serve adjacent land uses, as well as convey traffic within and through the City.
- Recognizing that the *Frisco Millennium Plan* is more than land use and roadways, a series of guiding principles were proposed (Chapter 7) to present emerging developmental and societal trends and to determine what follow-up steps the City should undertake in the future.

The *Frisco Millennium Plan* promotes a balanced growth philosophy. While the City is projected to be mainly a residential area, it requires supporting non-residential uses, including retail, office, and industrial, to make Frisco a complete city:

- Retail is generally kept at Major Thoroughfare intersections, or along the Preston Road corridor (El Dorado to SH 121).
- Office is predominantly along the Dallas North Tollway corridor, with other developments scattered along major thoroughfares.
- Industrial is concentrated along US Highway 380 to promote improved truck access.
- Public and semi-public uses – including schools, churches, parks, and other similar uses – are placed close to residential areas to promote pedestrian access and minimize the need to cross major thoroughfares.
- Major Thoroughfares follow a general grid pattern, spaced approximately 1 to 1½ miles apart. These Major Thoroughfares help to define existing and future neighborhoods.
- The Plan does not attempt to determine the appropriate location of Collector and Residential Streets. Rather, certain performance standards are suggested to help developers in the future alignment of these roadways.
- This point cannot be emphasized enough – **the Frisco Millennium Plan does not change any existing zoning.** Owners of undeveloped tracts of land have been keenly interested in the development of the *Frisco Millennium Plan* with regards to their individual development concepts. Where the *Plan* and the development concepts are in concurrence, there are no outstanding issues. If a zoning change is requested by a landowner which is not consistent with the *Frisco Millennium Plan* and/or the Frisco Zoning Ordinance, the City and the landowner should entertain new development concepts that are reasonable for both the landowner and the City. This will involve a proactive and positive approach.

Minor Plan Updates

As a dynamic and flexible document, the *Frisco Millennium Plan* will be changing as necessary to reflect new developmental proposals and new trends in City growth.

There is no standard timetable for when updates to the *Frisco Millennium Plan* are necessary. City staff should use its own discretion regarding how often the *Plan* document and map are revised. The frequency of development will drive this need. Regardless of the timeframe involved, City staff should be capable of revising the *Frisco Millennium Plan* to reflect minor updates and changes.

Major Plan Updates

Plans have a certain lifespan, based on several factors – how fast the City grows, how often the *Plan* is revised, and if there are new development concepts not anticipated in the original *Plan*. As needed, the *Frisco Millennium Plan* will undoubtedly require a major revision. Based upon the degree of the update, this may also be accomplished by in-house staff. The City may also desire the assistance of professional planning consultants to prepare this update. Regardless of how it is accomplished, a major plan update should be less involved and less costly than a completely new *Plan*.

Keeping the *Frisco Millennium Plan* updated will ultimately save the City money, maintain the *Plan* as a valid growth tool, and enhance the City's role as an active participant in its own future.

Future Technologies

The *Frisco Millennium Plan* embraces technology as one of the key influences that will shape the future of the City. Technology will also change how the City plans and how it delivers information:

- **Geographic Information System**

GIS – a geographic information system – is essentially a relational database linked to an electronic map. It is an “open architecture” system that can be as simple or as complex as the user's desire. The City is currently developing their GIS base system. In the future, it is conceivable that the GIS data will be available online. Users will be able to find out detailed information about all tracts of land in the City, both developed and undeveloped. It is very likely that the next major update to the *Frisco Millennium Plan* will be done on a GIS map. Therefore, the electronic map delivered to the City as part of this project has been designed for use in a future GIS application.



- **Web-Based Comprehensive Plans**

Most community master plans – including the *Frisco Millennium Plan* – are developed using computer-based technology. This *Plan* was word-processed, scanned, electronically drawn, and digitally presented. Most of the *Plan* recommendations were posted on the City's Internet homepage. In future iterations, the *Frisco Millennium Plan* may have limited publication, favoring a Web-based document. The advantage is that a Web-based document may be updated quickly and inexpensively, and there are no costly publication expenses for books and maps. However, since computers are not a “universal appliance” at this time, it is anticipated that future iterations of the *Frisco Millennium Plan* will incorporate both traditional hard-copy publishing and Web-based availability.

- **Disk-Based Comprehensive Plans**

In the same method that a plan may be based on a community's Web site, plans may also be available for distribution on electronic disk. Disk technology continues to improve, with the current wide availability of recordable CD-ROM disks (650 MB capacity). In 2000, recordable DVD-ROM disks will be brought to the market with a capacity of approximately 6 GB. In the not-too-distant future, a higher-density DVD-ROM disk will be available with a 17 GB capacity. This will allow the inclusion of more detailed information, including video clips, photographs, digital visualizations, etc. In future iterations, the *Frisco Millennium Plan* may have a limited hardcopy publication, but also be available on some format of disk-based technology. Disk publication will also be much less expensive than paper documents, and can be a truly multimedia format.

- **Electronic Town Hall Meetings**

As video telecommunications technology continues to improve and come down in price, the City will be able to foster public input in a much more efficient manner. Public meetings will be able to be conducted at just about any time, and “attendance” can be from any appropriate terminal (computer or videophone) anywhere in the world. The *Frisco Millennium Plan* took the first few small steps in the process – every presentation and public meeting was videotaped and cablecast on the City's public access cable channel. Videotapes were also available for individual viewing on loan from the City. Information was distributed via a biweekly electronic newsletter, with each issue being sent to hundreds of recipients. As technology continues to improve, public involvement should be enhanced.

Closing Remarks

The process of developing the *Frisco Millennium Plan* was designed to be as open as possible. Draft information (goals and objectives, existing conditions, etc.) was extensively discussed by CPAC and in public meetings. The *Plan*, including concepts and draft versions, were literally created in front of the public. City staff and consultants met extensively with numerous property owners to discuss their specific ideas and comments.



Chapter 8

The *Frisco Millennium Plan* is one of the most broad-based, democratically-developed documents in the City's history. It balances the desires of specific property owners with the goals and visions of the City at-large. Anyone that believes otherwise chose to not take part in the nearly year-long open process.

It probably goes without saying, but the *Frisco Millennium Plan* is not a perfect document. It is a general guide to growth. It was never intended to be a detailed development plan for every square inch of land. It is intended to help City staff, the Planning & Zoning Commission, and the City Council in their respective decision-making processes regarding new developments.

The City should be ready to adjust the *Frisco Millennium Plan* as needed to adapt to new development types, new economic influences, and new challenges faced by the City as it matures.

The *Frisco Millennium Plan* could not have been developed without the tireless efforts of the Frisco City staff, the members of the Comprehensive Plan Advisory Committee, the Frisco Planning & Zoning Commissioners, and the Frisco City Council members. The names of these individuals appear on the "Acknowledgment" page at the beginning of this document. Every one of these individuals deserves the thanks of the citizens of Frisco for a job well-done.

This Chapter began with a quote from Xerox's Palo Alto Research Center (the facility where the original graphical-user interface – *Windows* – was developed). It now seems appropriate to close this Chapter and the *Frisco Millennium Plan* with a Latin term that may be applied to Frisco:

"Non in Cantus Futuri"

(not unmindful of the future)



GLOSSARY OF TERMS



A

Airport

A place where an aircraft can land and take off, usually equipped with hangars, facilities for refueling and repair and various accommodations for passengers.

Alley

A minor right-of-way, dedicated to public use, which affords a secondary means of vehicular access to the back or side of properties otherwise abutting a street, and which may be used for public utility purposes.

Alternative Officing

New types of office arrangements that make efficient use of space. Types of alternative officing include telecommuting, "hoteling", flexible work schedules, etc.

B

BN&SF

The Burlington Northern/Santa Fe railroad line that bisects Frisco from southwest to northeast.

C

Carbon Monoxide (CO)

Carbon monoxide is a chemical emitted from the operation of internal combustion engines. CO is a serious pollutant that affects air quality and is exacerbated by slow traffic movements and large traffic volumes.

City

The City of Frisco, Texas.



City Council

The governing body of the City of Frisco, Texas.

Collector Street

Collector Streets are intended to convey traffic to and from neighborhoods and to funnel that traffic into Minor or Major Thoroughfares. Trip-lengths are generally short. Collector Streets are 2-lane roadways with no center median. (Collector Streets which serve industrial areas may be 4-lane undivided to accommodate truck traffic.) Collector Streets may be signalized or controlled by stop signs at intersections.

Community Park

A community park serves multiple neighborhoods and provides many of the same facilities as neighborhood parks, and may include additional fields and facilities.

Comprehensive Plan

Graphic and textual form policies which govern the future development of the City and which consists of various components governing specific geographic areas and functions and services of the City.

Comprehensive Plan Advisory Committee (CPAC)

A task force established by the City to assist in the development of the *Frisco Millennium Plan*.

CPTED

Community Protection Through Environmental Design

D

DU

Dwelling unit.

Duplex (Two-Family) Residential

A detached dwelling designed to be occupied by two families living independently of each other.

E

Easement

A granting of one or more of the property rights by the property owner to and/or for the use by the public, a corporation or another person or entity.

EDC

The Economic Development Corporation of the City of Frisco, Texas.



Glossary of Terms

Extraterritorial Jurisdiction (ETJ)

An area of unincorporated County land immediately adjacent to an incorporated city in which the city may exercise certain development powers (subdivision regulations), but not zoning.

F

FISD

Frisco Independent School District

Floodplain

An area of land subject to inundation by a 100-year frequency flood, as shown on the floodplain map from the Federal Emergency Management Agency (FEMA).

Floor Area

The total square feet of floor space within the outside dimensions of a building including each floor level.

Floor Area Ratio (FAR)

The floor area of a main building or buildings on a lot, divided by the lot area.

G

Gateway

An entry design at major and minor entrances to the City, usually located along roadways.

GIS

Geographic Information System

"Gray" Water

Treated effluent sufficient for on-site irrigation, but not for drinking or other potable uses.

H

Highways

They are intended to carry large volumes of traffic, usually on controlled-access roadways. They are intended to convey vehicles for longer distances (city-to-city, regionally, and beyond). Highways are the jurisdiction of regional, State, and Federal agencies.



Hydrocarbons

Chemicals, when emitted from internal combustion engines, air conditioning units, and fuel tanks, which combine with oxygen to form ozone (O₃). O₃ is a serious pollutant which affects air quality and is exacerbated by warm temperatures and calm winds.

I

Industrial

Industrial uses include manufacturing, assembly, outdoor storage, warehousing, and other similar uses.

L

Level of Service (LOS)

Level of Service is an indicator of the relative level of traffic congestion on a roadway, ranked from "A" (best) to "F" (worst).

Light Rail Transit

A form of railroad that utilizes electrically powered rail cars, as opposed to self-contained diesel engines.

Local Retail

Local Retail serves populations within a 2-mile radius and are usually comprised of a major anchor tenant (such as a grocery store) and multiple inline lease spaces.

M

MBTA

Migratory Bird Treaty Act

Mini-Park

A mini-park serves a small area and may include playgrounds, picnic areas, and seating. Many school and church playgrounds serve in this capacity.

Mixed-Use Development (Horizontal)

Two or more diverse uses developed on the same site adjacent to one another within the same structure or within adjacent structures. Horizontally mixed-use developments may include any combination of office, retail, and residential uses.

Mixed-Use Development (Vertical)

Two or more diverse uses developed on the same site within the same structure, dispersed vertically within the structure. Vertically mixed-use developments may include any combination of office, retail, and residential uses.



Glossary of Terms

Multifamily Residential

Attached dwelling units designed to be occupied by three or more families living independently of one another, exclusive of boarding houses, hotels, or motels.

N

NAAQS

National Ambient Air Quality Standards

Neighborhood Center

Neighborhood Centers provide an opportunity to consolidate multiple uses on a single site 20 to 30 acres in size. Neighborhood Centers may include elementary schools, parks, day care centers, fire stations, assisted living centers, or other similar uses. Very limited retail may also be included in a Neighborhood Center, but should not be larger than 25,000 square feet and should provide few parking spaces in favor of pedestrian and bicycle access. Neighborhood centers should be accessible by at least one Collector Street and serve a neighborhood area within a 5 to 10-minute walking distance.

Neighborhood Park

A neighborhood park serves a larger population and may include more intense recreational activities including field games, court games, and swimming pools.

Neighborhood Retail

Neighborhood retail developments are smaller centers that serve a population within about a 1-mile radius. These developments are generally located at intersections of thoroughfares and should be easily accessible by car, bicycle, and by foot.

NCTCOG

North Central Texas Council of Governments

NRPA

National Recreation and Park Association

NTTA

North Texas Tollway Authority

NWI

National Wetland Inventory, as prepared by the United States Fish and Wildlife Service.

O

Office

Office uses include multi-tenant lease spaces and single-occupant buildings that house professional businesses.



Ozone

See "Hydrocarbons".

P

Parks and Open Space

Areas reserved for active and/or passive recreation, provided either by the City or by private development.

Particulate Matter (PM)

Particulate matter may include diesel exhaust, industrial fumes, dust, and other pollutants as defined by the United States Environmental Protection Agency. Particulate matter is measured based on its size (less than 10 microns in diameter).

Patio Home

See "Zero Lot Line"

Planned Development (PD)

Planned associations of uses developed as integral land use units such as industrial parks or industrial districts, offices, commercial or service centers, shopping centers, residential developments of multiple or mixed housing, including attached single family dwellings or any appropriate combination of uses which may be planned, developed or operated or integral land use units either by a single owner or a combination of owners.

Planning & Zoning Commission

A board, appointed by the City Council as an advisory body, authorized to recommend changes in the zoning and other planning functions as delegated by the City Council.

Public and Semi-Public Uses

Services provided by public agencies and non-profit organizations, including but not limited to the City, the Frisco Independent School District (FISD), churches and houses of worship, the Collin County Community College, etc.

Photovoltaic (PV) Cells

Cells which utilize sunlight to generate electricity.

R

Regional Retail

Regional Retail serves a larger population radius – generally about 5 miles. These developments may have multiple anchor tenants along with many pad sites developed on the fringe of the center – Stonebriar Centre is the most applicable local example in Frisco.



Glossary of Terms

Residential Street

Residential Streets provide local access, mostly to residential neighborhoods. They are intended for short trip-lengths at slower posted speeds. Residential Streets are 2-lane roadways with no center median. Traffic control is usually provided at warranted intersections.

Retail

Retail uses include stores, restaurants, service businesses (banks, salons, etc.), and business-to-business companies.

Right-of-Way (ROW)

Land provided for the purpose of vehicular access.

S

Sensitive Habitats

Habitats which are critical for threatened or endangered species, or those used for nesting by birds identified in the MBTA (Migratory Bird Treaty Act).

Single Family Residential

A detached dwelling unit designed to be occupied by not more than one family.

Slope

The percentage of rise or fall of land in its natural undisturbed state.

Sports Complex

Facilities usually designed for team sports.

Street

Any dedicated public thoroughfare which affords the principal means of access to abutting property.

Street, Intersection

Any street which joins another street at an angle, whether or not it crosses the other.

Street Median

The non-pavement or pavement area between the moving traffic lanes of a street.

"Super-Convenience Stores"

Retail stores locations with multiple services at the same location, usually including gasoline sales, food sales, one or more fast-food restaurants, video rental/sales, car wash, dry-cleaning drop-off/pick-up, etc. "Super-convenience stores" are usually 24-hour, 7-day operations.



"Super" Retail

"Super" Retail draws customers from a very large radius – 10 miles or more. These uses are generally quite unique and serve as a specific destination. "Super" Retail uses are often very large (1.5 million square feet or larger) and are part of a Mixed-Use Development (retail, office, hotel, entertainment, etc.).

T

Technology

Businesses which specialize in the research, development, and/or production of technically advance products (usually electronically or digitally based).

Thoroughfare, Major

Major Thoroughfares are the largest local roadways and carry vehicles within and through the City. Major Thoroughfares are intended to funnel traffic from Minor Thoroughfares and Collector Streets to Tollways and Highways, or to other Major Thoroughfares, and generally serve long trip-lengths. These roadways are multilane with a median, and usually are signalized at major intersections.

Thoroughfare, Minor

Minor Thoroughfares are slightly smaller than Major Thoroughfares and are intended to convey traffic from neighborhoods and Collector Streets to Major Thoroughfares, and generally serve moderate trip-lengths. These roadways are usually multilane, but with no center median. Minor Thoroughfares are also usually signalized at major intersections.

TIA

Traffic impact analysis.

Tollways

They are intended to carry large volumes of traffic, usually on controlled-access roadways. They are intended to convey vehicles for longer distances (city-to-city, regionally, and beyond). Tollways are the jurisdiction of the North Texas Tollway Authority. (See also "Highways".)

Topography

See "Slope".

TxDOT

Texas Department of Transportation

U

USEPA

United States Environmental Protection Agency



Glossary of Terms

Utilities

Services provided by public and private agencies that support development. Utility services include water, sanitary sewer, storm drainage, electrical, natural gas, electrical, telephone and telecommunications, and other similar services.

V

VPD

Vehicles per day.

W

Wetlands

Areas identified by the National Wetland Inventory (NWI) with a high potential for wetland habitats. The NWI is not an exact location, but a guide to areas that may exhibit wetland conditions.

X

Xeriscaping

Drought-resistant native plant materials and landscaping.

Z

Zero Lot Line Dwelling (Patio Home)

A lot which is designed in such a manner that the side yard and adjacent use easement make maximum use of available land area to preserve an open, yet private, use of the side yard, and permits construction of a detached single family dwelling with one side of such dwelling placed on the side property line.

Zoning Districts

The districts established in the Zoning Ordinance of the City.

Zoning District Map

The official map upon which the boundaries of the various Zoning Districts are drawn and which is an integral part of the Zoning Ordinance.

