

ROADWAY, WATER, AND WASTEWATER IMPACT FEE UPDATE

ROADWAY

WATER

WASTEWATER

FRISCO

FRISCO

Roadway, Water, and Wastewater Impact Fee Update

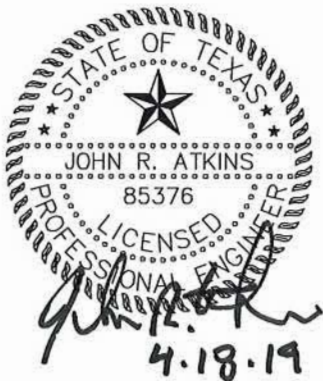
Prepared for:

City of Frisco, Texas



Prepared by:

Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
817.335.6511
Firm Registration No. F-928



January 2019

© Kimley-Horn and Associates, Inc., 2019
061123039



Land Use Assumptions for Impact Fees (2018-2028)

Prepared for:

City of Frisco, Texas



Prepared by:

Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
817.335.6511
Firm Registration No. F-928

January 2019

© Kimley-Horn and Associates, Inc., 2019
061123039



TABLE OF CONTENTS

Table of Contents.....	i
1.1 Introduction	3
1.2 Methodology	5
A. Overview.....	5
B. Impact Fee Service Areas	7
C. Summary.....	12

List of Exhibits

1.1	Citywide Land Use Map	6
1.2	Roadway Service Area	7
1.3	Water Service Area	8
1.4	Wastewater Service Areas	9

List of Tables

1.1	Population and Employment Projections for the Roadway Service Areas	10
-----	---	----

1.1 INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure Texas cities must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 to define an Impact Fee as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development.”

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Accordingly, the City of Frisco has initiated a review of its Land Use Assumptions, Capital Improvements Plan, and Impact Fees. The City has retained Kimley-Horn and Associates, Inc., to provide professional services for the update of their Land Use Assumptions. These Land Use Assumptions, which include both population and employment projections, form the basis for the development of the impact fee Capital Improvements Plans for water, wastewater, and roadway facilities.

In order to assess an impact fee, Land Use Assumptions must be developed to provide the basis for population and employment growth projections within a political subdivision. As defined by Chapter 395 of the Texas Local Government Code, these assumptions include a description of changes in land uses, densities, intensities, and population in the service area. In addition, these assumptions are useful in assisting the City of Frisco in determining the need and timing of capital improvements to serve future development.

In accordance with Chapter 395, information from the following sources was compiled: the City's Comprehensive Plan, Existing Zoning Ordinances, and Future Land Use Plan, and consultation with City staff.

The components of the Land Use Assumptions include the following:

- Methodology – An overview of the general methodology used to generate the land use assumptions;
- Impact Fee Service Areas – Explanation of the division of Frisco into service areas for roadway facilities; and
- Land Use Assumptions Summary – a synopsis of the land use assumptions.

The population and employment estimates and projections were all compiled in accordance with the following categories:

Units: Number of dwelling units, both single-and multi-family.

Employment: Square feet of building area based on three (3) different classifications. Each classification has unique trip making characteristics.

Retail: Land use activities which provide for the retail sale of goods that primarily serve households and the location choice is oriented toward the household sector, such as grocery stores and restaurants.

Service: Land use activities which provide personal and professional services such as government and other professional administrative offices.

Basic: Land use activities that produce goods and services such as those that export outside of the local economy, such as manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses.

The above categories are used in the development of the assumptions for impact fees, however, expanded classifications used in the assessment of impact fees are found in the Roadway's Land Use / Vehicle-Mile Equivalency Table.

1.2 METHODOLOGY

A. OVERVIEW

The population and employment growth projections formulated in this report were done using reasonable and generally accepted planning principles. The following factors were considered in developing these projections:

- City of Frisco 2014 Roadway Impact Fee Update
- North Central Texas Council of Governments (NCTCOG)
- City of Frisco Comprehensive Plan
- City of Frisco Population by Sub basins
- City of Frisco staff

The residential and non-residential growth projections formulated in this report were performed using reasonable and generally accepted planning principles. The following was the process used to develop the land use assumptions:

Step 1: Determine Population for 2018 and 2028

Population estimates by sub basins for 2015, 2020, 2030 and Build Out were provided by Freese & Nichols. Population per service area per years 2020 and 2030 were determined by estimating a percentage share of each sub basin population in each service area. The 2018 population used in the land use assumptions was provided by the City. The annual growth between the current 2018 population and the forecasted 2020 population by Freese & Nichols was calculated and used to forecast the 2028 population from the 2030 population by Freese & Nichols.

Step 2: Determine Land Use Employment from NCTCOG Data

The data provided originally created a negative growth for Retail Land Use in Service Area A and Service Land Use in Service Area C between years 2015 and 2035. Therefore, the data for 2015 was adjusted to be the lower of the original data from 2015 and 2035. The difference between the adjusted 2015 and 2035 NCTCOG demographics (Households, Population, Basic, Retail and Service) was used to determine a ratio of land use growth per person which can be applied to the population that was found in Step 1 to determine Land Use Employment for 2018 and 2028.

Step 3: Determine Land Use Assumptions for 2018 and 2028

The ratio of land use growth per person determined in Step 2 was multiplied by the population determined in Step 1 to determine the residential and employment assumptions for 2018 and 2028. Afterwards, the employment assumptions (Basic, Retail and Service) were converted to nonresidential square footage.

Step 4: Determine 10-Year Growth Projections

The difference between the land use assumptions for years 2018 and 2028 determined in Step 3 rounded to the nearest 100,000 are the 10-year growth projections used in the roadway impact fee development. The growth projections were based on the City's Future Land Use Plan shown in Exhibit 1.1.

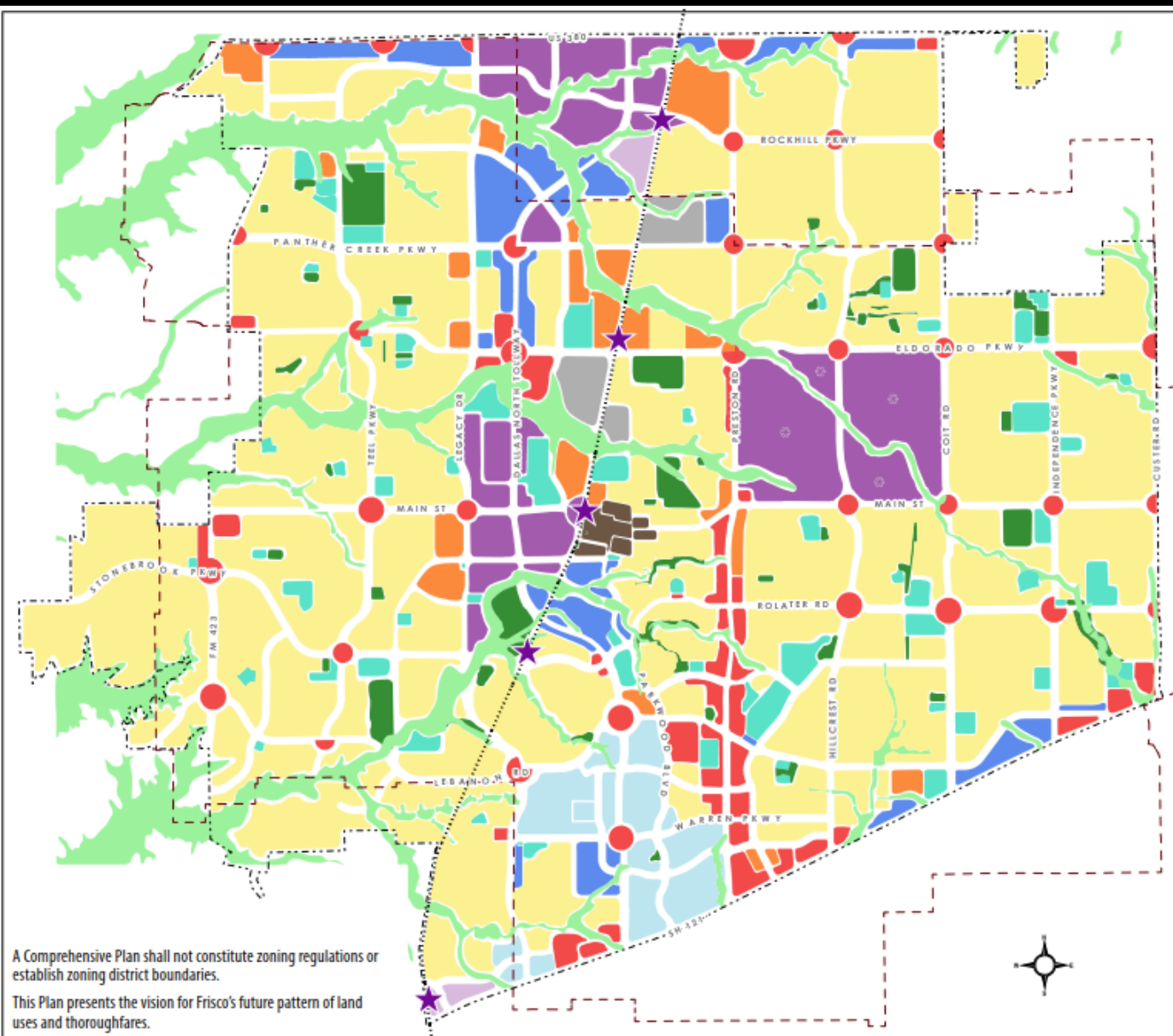
B. IMPACT FEE SERVICE AREAS

Roadway Service Areas

The geographic boundaries of the four (4) impact fee service areas for roadway facilities are shown in Exhibit 1.2. The roadway service areas cover the entire corporate boundary of the City of Frisco. Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” Main Street and the BNSF Railroad serve as the dividing lines between the four areas. In cases where a service area boundary follows the City Limits, only those portions of the transportation facility within the City Limits are included in the service area. The service areas in the 2018 Roadway Impact Fee Study are consistent with those in the previous Roadway Impact Fee Study, with only slight modifications necessary in order to include annexations occurring since the previous study.

Water and Wastewater Service Areas

The geographic boundary of the proposed impact fee service areas for water and wastewater facilities is shown in Exhibit 1.3 and Exhibit 1.4, respectively. The water and wastewater impact fee service areas include the ultimate City limits the City is providing or will be providing service.



Legend:

- Suburban Neighborhood
- Town Center
- Mixed-Use Neighborhood
- TOD
- Urban Center
- Suburban Regional Activity Center
- Commercial Node
- Business Park
- Industrial Park
- Public / Semi-Public
- Park
- Floodplain
- ★ Future Rail Station
- ✱ Capped per Development Agreement

NOTE: Public and Semi-Public uses include civic and institutional uses, such as schools, police and fire stations, libraries, etc. Areas shown are those known at the time of analysis for this update.

NOTE: Parks and open spaces are intended to be developed throughout the city, and may be part of any land use. Areas shown are those known at the time of analysis for this update.

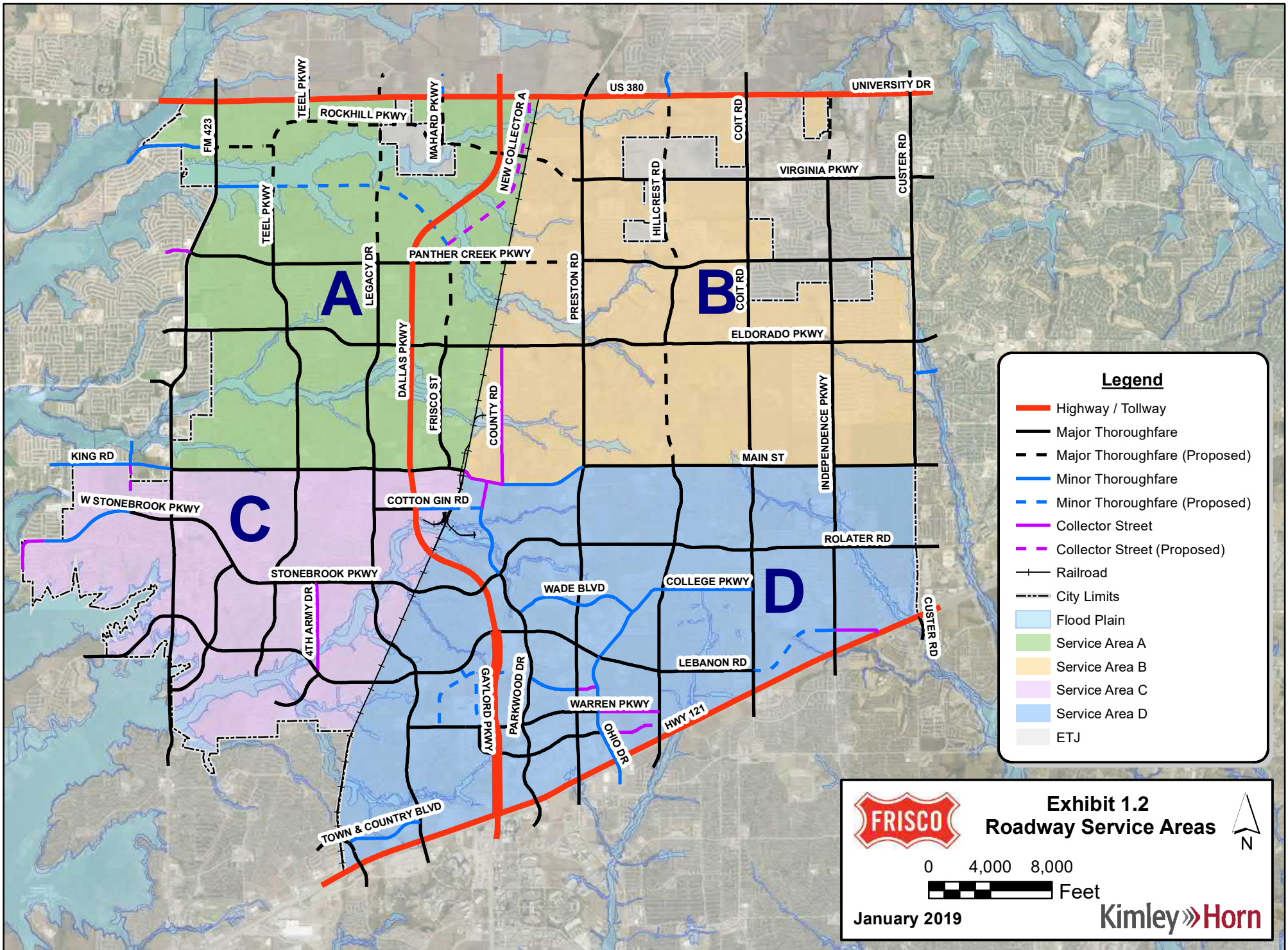


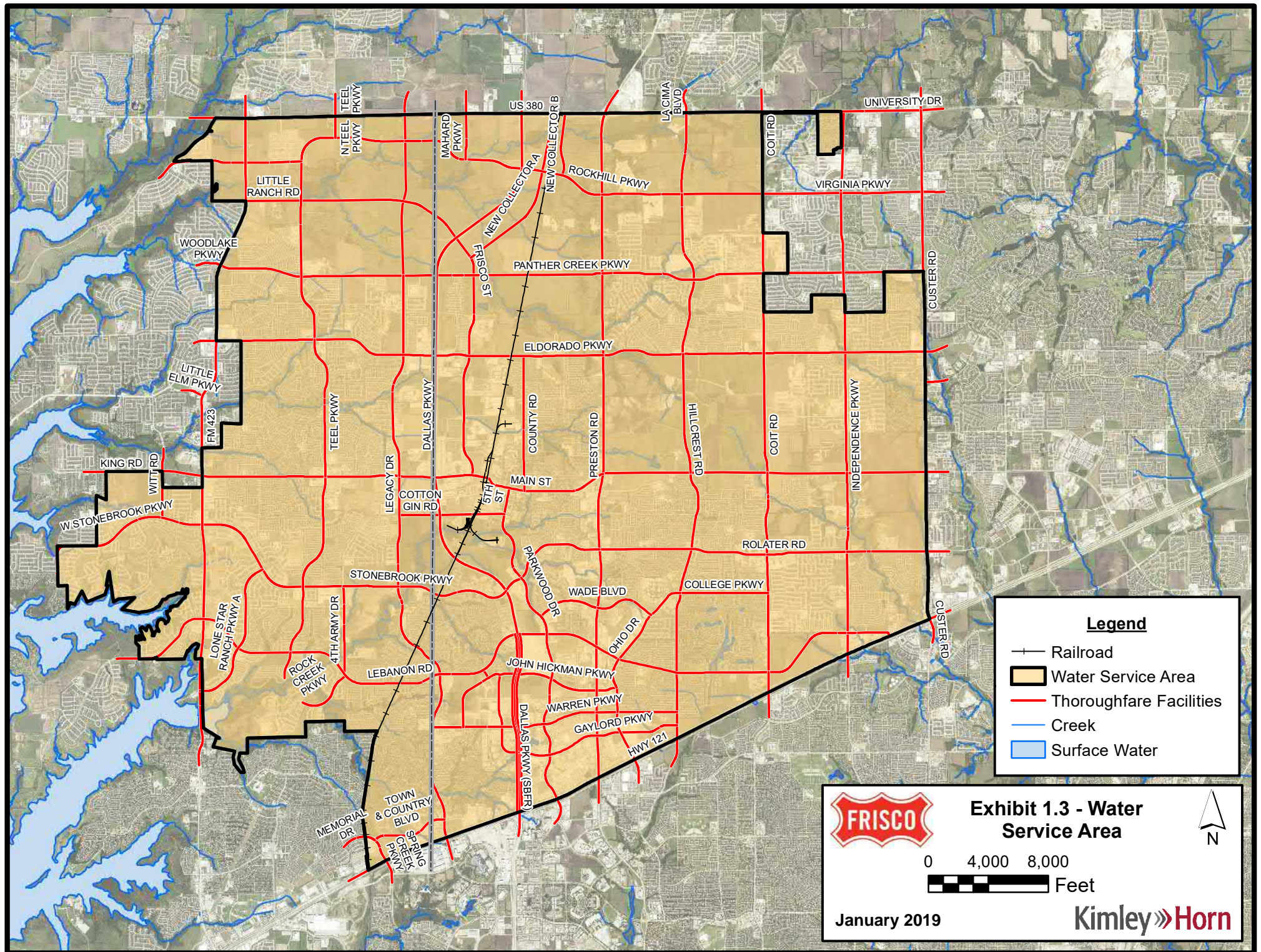
Exhibit 1.1 - 2015 Future Land Use Plan

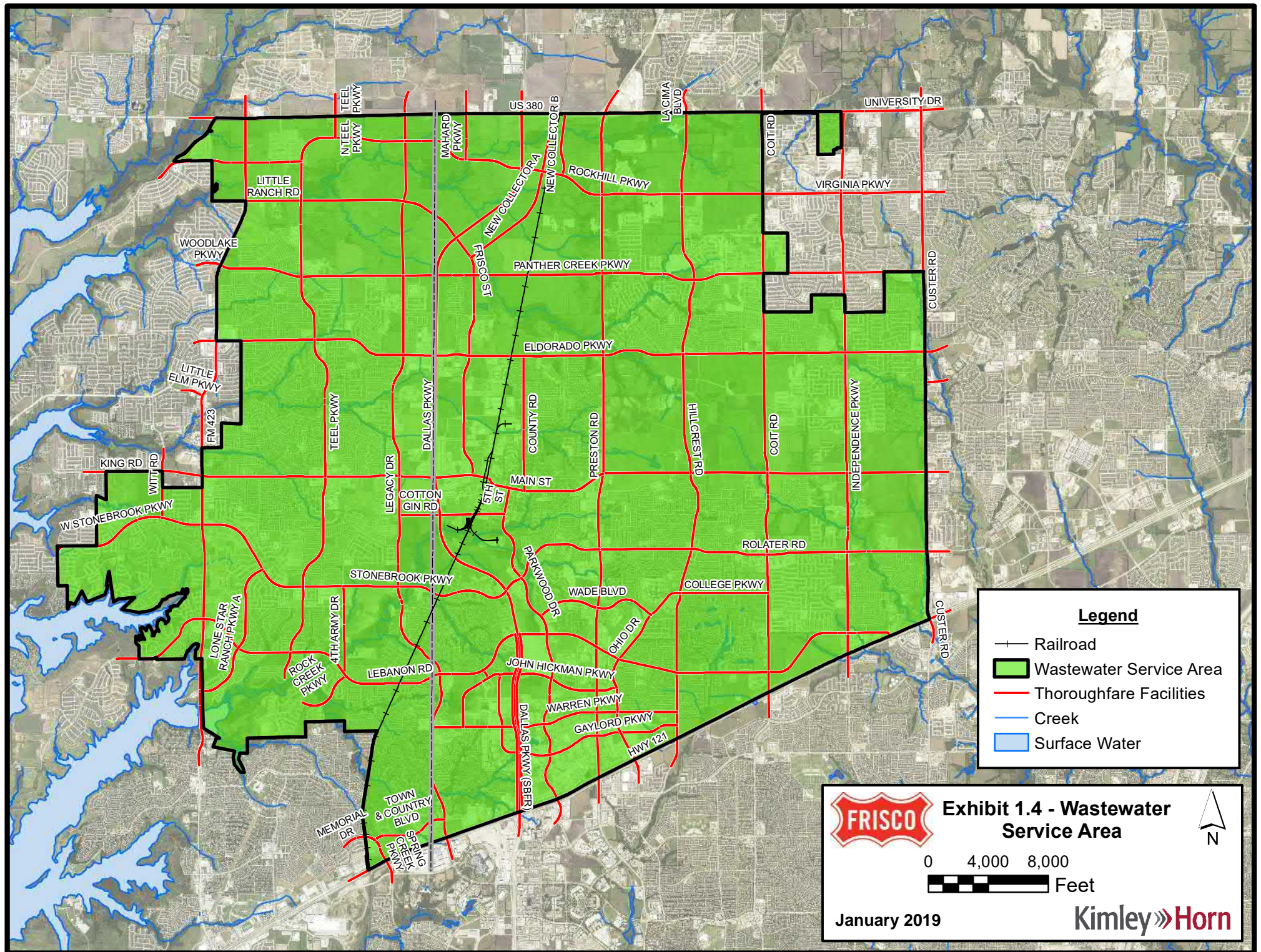
*(Future Land Use Plan from the
City of Frisco 2015 Comprehensive Plan)*

January 2019

Kimley»Horn







C. SUMMARY

Table 1.1 presents the land use assumptions that were utilized in the impact fee development. This table represents the anticipated 10-year growth for population and employment.

Table 1.1 Population and Employment Projections
10-Year Growth

Service Area	Year	Population	Units	Employment (Square Feet)			
				Basic	Service	Retail	Total
A	10-Year Growth	11,079	4,354	1,400,000	900,000	800,000	3,100,000
B	10-Year Growth	13,606	4,852	500,000	900,000	500,000	1,900,000
C	10-Year Growth	4,652	1,704	100,000	400,000	300,000	800,000
D	10-Year Growth	14,294	5,184	100,000	3,200,000	2,100,000	5,400,000
Total	10-Year Growth	43,631	16,094	2,100,000	5,400,000	3,700,000	11,200,000

2018-2028 Roadway Impact Fee Update

Prepared for:

City of Frisco, Texas



Prepared by:

Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
817.335.6511
Firm Registration No. F-928

January 2019

© Kimley-Horn and Associates, Inc., 2019
061123039



TABLE OF CONTENTS

Table of Contents	i
2.1 Executive Summary	1
2.2 Introduction	3
2.3 Land Use Assumptions.....	4
A. Summary.....	4
B. Roadway Impact Fee Service Areas.....	4
C. Capital Improvements Plan	6
2.4 Methodology For Roadway Impact Fees	13
A. Service Areas	13
B. Service Units	13
C. Cost Per Service Unit	15
D. Cost of the CIP	15
E. Summary of Transportation Impact Fee CIP Costs.....	18
F. Service Unit Calculation	24
2.5 Impact Fee Calculation	28
A. Maximum Assessable Impact Fee Per Service Unit.....	28
B. Plan For Awarding the Roadway Impact Fee Credit.....	31
C. Maximum Assessable Impact Fee Determination.....	33
D. Service Unit Demand Per Unit of Development.....	37
2.6 Sample Calculations.....	42
2.7 Conclusion.....	44

Appendices	45
A. Conceptual Level Project Cost Projections	
B. CIP Service Units of Supply	
C. Existing Roadway Facilities Inventory	
D. Plan For Awarding the Roadway Impact Fee Credit Summary	
E. Plan For Awarding the Roadway Impact Fee Credit Supporting Exhibits	

List of Exhibits

2.1	Roadway Service Areas	5
2.2A	Capital Improvements Plan for Roadway Impact Fees – Service Area A	9
2.2B	Capital Improvements Plan for Roadway Impact Fees – Service Area B	10
2.2C	Capital Improvements Plan for Roadway Impact Fees – Service Area C	11
2.2D	Capital Improvements Plan for Roadway Impact Fees – Service Area D	12

List of Tables

2.1	Residential and Non-Residential Land Use Assumption Growth Projections	4
2.2A	10-Year Capital Improvements Plan for Service Area A	7
2.2B	10-Year Capital Improvements Plan for Service Area B	7
2.2C	10-Year Capital Improvements Plan for Service Area C	8
2.2D	10-Year Capital Improvements Plan for Service Area D	8
2.3A	Level of Use for Proposed Facilities	14
2.3B	Level of Use for Existing Facilities	14
2.4A	10-Year Capital Improvements Plan with Conceptual Level Cost Opinions – Service Area A	20
2.4B	10-Year Capital Improvements Plan with Conceptual Level Cost Opinions – Service Area B	21
2.4C	10-Year Capital Improvements Plan with Conceptual Level Cost Opinions – Service Area C	22
2.4D	10-Year Capital Improvements Plan with Conceptual Level Cost Opinions – Service Area D	23
2.5	Transportation Demand Factor Calculations	26
2.6	Ten Year Growth Projections	27
2.7	Maximum Assessable Roadway Impact Fee Computation	28
2.8	Maximum Assessable Roadway Impact Fee	36
2.9	Land Use/Vehicle-Mile Equivalency Table (LUVMET)	38
2.10	Land Use/Vehicle-Mile Equivalency Table (LUVMET)	39
2.11	Land Use Descriptions	40
2.12	Land Use Descriptions	41

2.1 EXECUTIVE SUMMARY

The 2018 Roadway Impact Fee Update is an update of the previously adopted 2014 Roadway Impact Fee Update.

This study was performed to identify the fee per unit of new development necessary to fund transportation improvements to increase capacity on arterial and collector roadways that serve the overall transportation system in accordance with the enabling legislation, Chapter 395 of the Texas Local Government Code. Transportation system analysis is an important tool for facilitating orderly growth of the transportation system and for providing adequate facilities within the City of Frisco. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

The City of Frisco is divided into four (4) service areas. These service areas cover the entire corporate boundary of the City of Frisco. Each service area is an individual study area. For each service area, the funds collected must be spent on projects identified in the Roadway Impact Fee Capital Improvement Program (CIP) for that specific service area.

Roadway improvements necessary to serve the 10-year (2018-2028) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The projected recoverable cost to construct the infrastructure needed through 2028 by service area is:

SERVICE AREA:	A	B	C	D
RECOVERABLE COST OF CIP AND FINANCING	\$46,879,394	\$24,918,990	\$9,605,320	\$35,507,131

The impact fee law defines a service unit as follows: "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."

Therefore, the City of Frisco defines a *service unit* as the number of vehicle-miles of travel during the afternoon peak-hour. For each type of development, the City of Frisco utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET) to determine the number of service units.

Based on the City's 10-year growth projections, the associated demand (consumption) values for each service area are as follows in terms of vehicle-miles:

SERVICE AREA:	A	B	C	D
TOTAL VEHICLE-MILES OF NEW DEMAND OVER YEAR TEN YEARS	37,383	34,843	13,452	62,324

Based on the additional service units and the recoverable capital improvements plans, the City may assess a maximum roadway impact fee per vehicle-mile (Recoverable Cost of CIP / Total Growth) of:

SERVICE AREA:	A	B	C	D
MAX ASSESSABLE FEE PER SERVICE UNIT	\$1,254	\$715	\$714	\$570

2.2 INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure Texas cities must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001 to define an Impact Fee as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of Roadway improvements or facility expansions necessitated by and attributable to the new development.”

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. The last City of Frisco Roadway Impact Fee Update (2010-2011 Roadway Impact Fee Update) was completed on May 20, 2014. The City has retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2018 Roadway Impact Fee Study. This report includes details of the impact fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the CIP, and the refinement of the Land Use Equivalency Table.

This report introduces and references two of the basic inputs to the Roadway Impact Fee: the Land Use Assumptions and the Capital Improvements Plan (CIP). Information from these two components is used extensively in the remainder of the report. This report consists of a detailed discussion of the methodology for the computation of impact fees. This discussion - Methodology for Roadway Impact Fees and Impact Fee Calculation addresses each of the components of the computation and modifications required for the study. The components include:

- Service Areas
- Service Units
- Cost Per Service Unit
- Cost of the CIP
- Service Unit Calculation
- Maximum Assessable Impact Fee Per Service Unit
- Service Unit Demand Per Unit of Development

The report also includes a section concerning the Plan for Awarding the Roadway Impact Fee Credit. In the case of Roadway Impact Fees, this involves the calculation of the applicable credit required by law to offset the City's use of ad valorem taxes to help fund the Impact Fee CIP. This plan, prepared by NewGen Strategies & Solutions, and upon which we relied, details the maximum assessable impact fee per service unit the City of Frisco may apply under Chapter 395 of the Texas Local Government Code.

2.3 LAND USE ASSUMPTIONS

A. SUMMARY

The methodology for land use assumptions is presented in Section 1: *Land Use Assumptions for Impact Fees*

Table 2.1 presents the land use assumptions that were utilized in the roadway impact fee development.

This table illustrates the growth that is projected for the City of Frisco from 2018 – 2028.

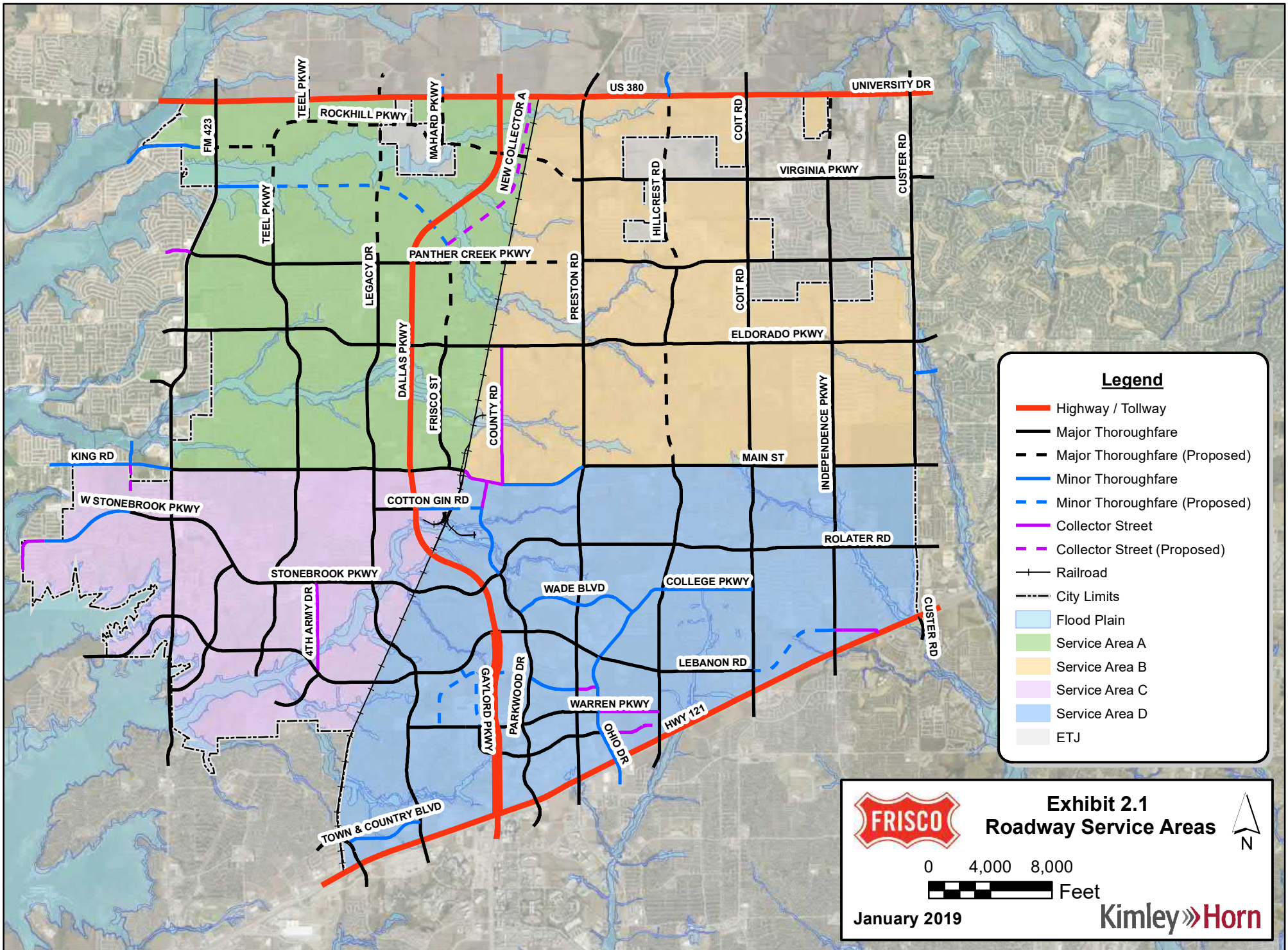
Table 2.1 Residential and Employment 10-Year Projections

Service Area	Year	Population	Units	Employment (Square Feet)			
				Basic	Service	Retail	Total
A	10-Year Growth	11,079	4,354	1,400,000	900,000	800,000	3,100,000
B	10-Year Growth	13,606	4,852	500,000	900,000	500,000	1,900,000
C	10-Year Growth	4,652	1,704	100,000	400,000	300,000	800,000
D	10-Year Growth	14,294	5,184	100,000	3,200,000	2,100,000	5,400,000
Total	10-Year Growth	43,631	16,094	2,100,000	5,400,000	3,700,000	11,200,000

B. ROADWAY IMPACT FEE SERVICE AREAS

The geographic boundary of the proposed impact fee service areas for roadway facilities is shown in Exhibit 2.1. The roadway service areas cover the entire corporate boundary of the City of Frisco.

Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” Main Street and the BNSF Railroad serve as the dividing lines between the four areas. In cases where a service area boundary follows the City Limits, only those portions of the transportation facility within the City Limits are included in the service area. The service areas in the 2018 Roadway Impact Fee Study are consistent with those in the previous Roadway Impact Fee Study, with only slight modifications necessary in order to include annexations occurring since the previous study.



C. CAPITAL IMPROVEMENTS PLAN

The City has identified the City-funded transportation projects needed to accommodate the projected growth within the City. The Capital Improvements Plan (CIP) for Roadway Impact Fees is made up of:

- Previous – Previously completed projects with excess capacity available to serve growth
- Recent – Recently completed projects with excess capacity available to serve growth
- Widening – Existing roadways not currently built to the City's Master Thoroughfare Plan (MTP) classification, not including median projects
- Median – Existing four-lane divided roadways with adequate median widths to accommodate additional lanes to be built out as a six-lane divided major thoroughfare
- New – All remaining projects needed to complete the MTP

The CIP includes collector, minor thoroughfare and major thoroughfare roadway facilities. All the roadway facilities identified are part of the currently adopted Master Thoroughfare Plan.

The proposed CIP is listed in Table 2.2A (Service Area A), Table 2.2B (Service Area B), Table 2.2C (Service Area C) and Table 2.2D (Service Area D) and mapped in Exhibit 2.2A (Service Area A), Exhibit 2.2B (Service Area B), Exhibit 2.2C (Service Area C) and Exhibit 2.2D (Service Area D). The table shows the length of each project as well as the facility's classification. The CIP was developed in conjunction with input from City of Frisco staff and represents projects that will be needed to accommodate the growth projected in the Land Use Assumptions section of this report. Note, the CIP is not in a prioritized order.

Table 2.2A 10-Year Capital Improvement Plan for Service Area A

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
A	A-1	4D (1/2)	Rockhill Pkwy (1)	2,270' W of FM 423 to 895' W of FM 423	0.26	100%
	A-2	6D (2/3)	Rockhill Pkwy (2)	FM 423 to 705' E of Teel Pkwy	0.57	100%
	A-3	6D (1/3)	Rockhill Pkwy (3)	705' E of Teel Pkwy to Teel Pkwy	0.13	100%
	A-4	6D	Rockhill Pkwy (4)	Rockhill Pkwy to Legacy Dr (Future)	1.50	100%
	A-5	6D	Rockhill Pkwy (5)	Legacy Dr to 1025' E of Legacy Dr	0.19	50%
	A-6	6D (Previous)	Rockhill Pkwy (6)	Mahard Pkwy to DNT	0.72	100%
	A-7	6D (Previous)	Rockhill Pkwy (7)	DNT to BNSF Railroad	0.33	100%
	A-8	6D (1/3)	Panther Creek Pkwy (1)	FM 423 to 485' W of King George Ln	2.96	100%
	A-9	6D (1/3)	Panther Creek Pkwy (2)	485' W of King George Ln to 150' E of King George Ln	0.12	100%
	A-10	6D	Panther Creek Pkwy (3)	150' E of King George Ln to BNSF Railroad	0.82	100%
	A-11	6D (Previous)	Eldorado Pkwy (2)	DNT to BNSF Railroad	0.96	100%
	A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	2.95	50%
	A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	0.66	50%
	A-14	6D (2/3)	Teel Pkwy (1)	Rockhill Pkwy to 1515' S of Little Ranch Rd	0.78	100%
	A-15	6D (1/3)	Teel Pkwy (2)	1515' S of Little Ranch Rd to Eldorado Pkwy	1.52	100%
	A-16	6D (1/3)	Teel Pkwy (3)	Eldorado Pkwy to Main St	1.70	100%
	A-17	6D	N Teel Pkwy	US 380 to 1435' S of US 380	0.27	100%
	A-18	6D	Legacy Dr (1)	US 380 to Panther Creek Pkwy	2.04	100%
	A-19	6D (1/3)	Legacy Dr (2)	Panther Creek Pkwy to Main St	2.51	100%
	A-20	6D	Mahard Pkwy (1)	US 380 to 1705' S of US 380	0.32	100%
	A-21	6D	Mahard Pkwy (2)	1705' S of US 380 to Rockhill Pkwy	0.18	50%
	A-22	4D	Frisco St (1)	Teel Pkwy to Panther Creek Pkwy	2.68	100%
	A-23	6D	Frisco St (2)	Cobb Hill Dr to Panther Creek Pkwy	0.51	100%
	A-24	6D (1/3)	Frisco St (3)	Eldorado Pkwy to Main St	1.55	100%
	A-25	4D	Little Ranch Rd	FM 423 to Teel Pkwy	0.70	100%
	A-26	2U	New Collector A	Frisco St to US 380	2.22	100%

Table 2.2B 10-Year Capital Improvement Plan for Service Area B

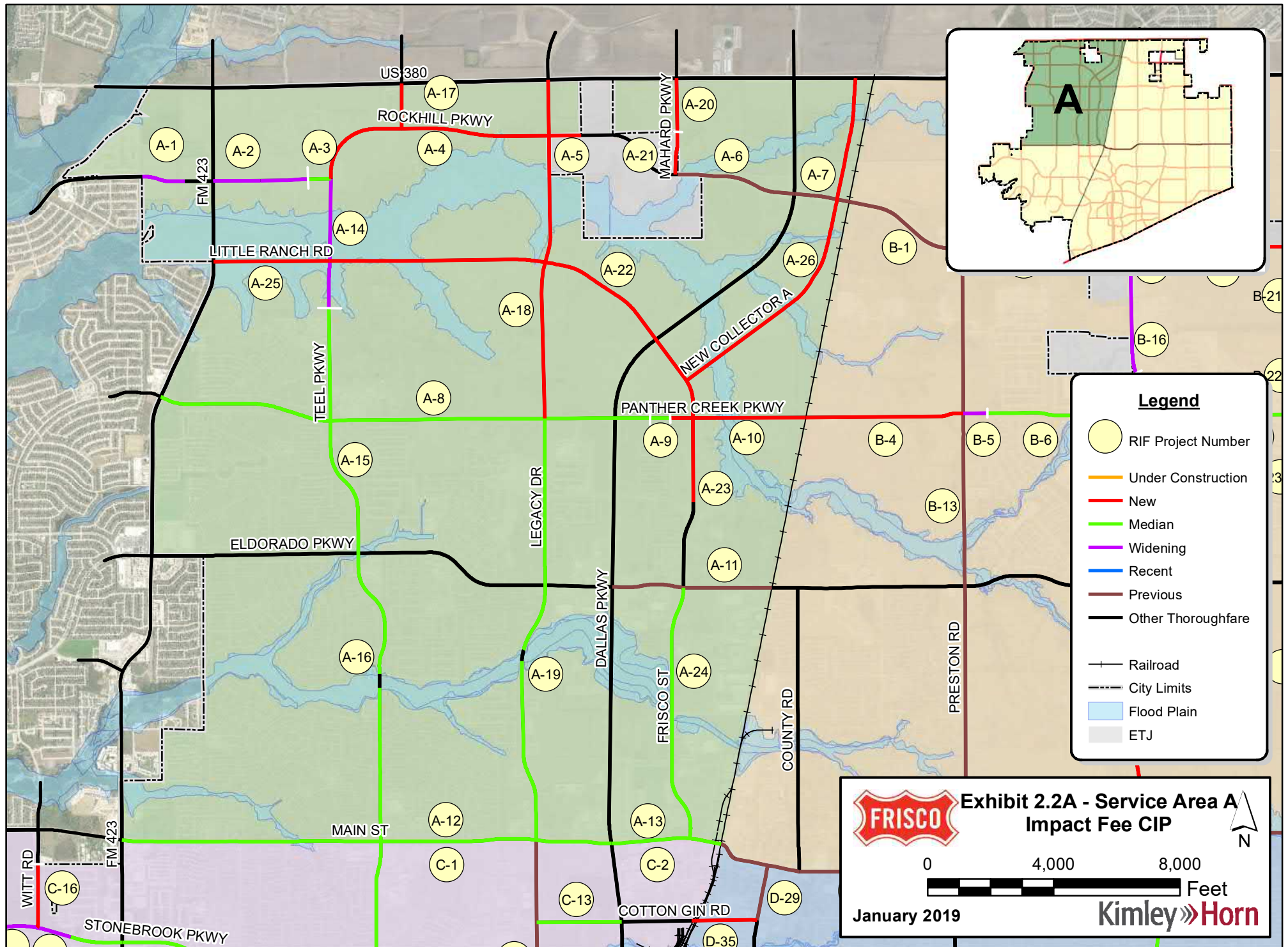
Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
B	B-1	6D (Previous)	Rockhill Pkwy (8)	BNSF Railroad to Preston Rd	0.76	100%
	B-2	6D	Rockhill Pkwy (9)	Preston Rd to 4,035' E. of Preston Rd	0.76	100%
	B-3	6D	Rockhill Pkwy (10)	Hillcrest Rd to Coit Rd	1.02	50%
	B-4	6D	Panther Creek Pkwy (4)	BNSF Railroad to Preston Rd	0.95	100%
	B-5	6D (2/3)	Panther Creek Pkwy (5)	Preston Rd to 765' E of Preston Rd	0.14	100%
	B-6	6D (1/3)	Panther Creek Pkwy (6)	765' E of Preston Rd to Herschel Dr	0.60	100%
	B-7	6D (2/3)	Panther Creek Pkwy (8)	Herschel Dr to Alameda Dr	0.71	100%
	B-8	6D (1/3)	Panther Creek Pkwy (9)	Alameda Dr to Coit Rd	0.60	100%
	B-9	6D (1/3)	Panther Creek Pkwy (10)	Coit Rd to 1645' E of Coit Rd	0.31	50%
	B-10	6D (1/2)	Panther Creek Pkwy (11)	Memory Ln to Custer Rd	0.50	100%
	B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	1.58	50%
	B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	50%
	B-13	6D (Previous)	Preston Rd (1) [SH 289]	US 380 to Main St	4.56	100%
	B-14	6D	Hillcrest Rd (1)	US 380 to 2,685' S of US 380	0.51	100%
	B-15	6D	Hillcrest Rd (2)	Rockhill Pkwy To 775' S of Rockhill Pkwy	0.15	50%
	B-16	6D (2/3)	Hillcrest Rd (3)	775' S of Rockhill Pkwy to 4,015' S of Rockhill Pkwy	0.61	50%
	B-17	6D (1/3)	Hillcrest Rd (4)	4,015' S of Rockhill Pkwy to Panther Creek Pkwy	0.36	100%
	B-18	6D (1/3)	Hillcrest Rd (5)	Panther Creek Pkwy to Eldorado Pkwy	0.96	100%
	B-19	6D	Hillcrest Rd (6)	Eldorado Pkwy to Main St	1.51	100%
	B-20	6D (1/2)	Coit Rd (1)	US 380 to 2,900' S of Prestwick Hollow Dr	0.88	100%
	B-21	6D (1/3)	Coit Rd (2)	Rockhill Pkwy to 2,590' S of Rockhill Pkwy	0.49	50%
	B-22	6D (1/3)	Coit Rd (3)	2,590' S of Rockhill Pkwy to Panther Creek Pkwy	0.52	100%
	B-23	6D (1/3)	Coit Rd (4)	Panther Creek Pkwy to Buckeye Dr	0.48	50%
	B-24	6D (1/3)	Coit Rd (5)	Buckeye Dr to Main St	2.09	100%
	B-25	6D (1/3)	Independence Pkwy (1)	Nixon Dr to Main St	2.25	100%

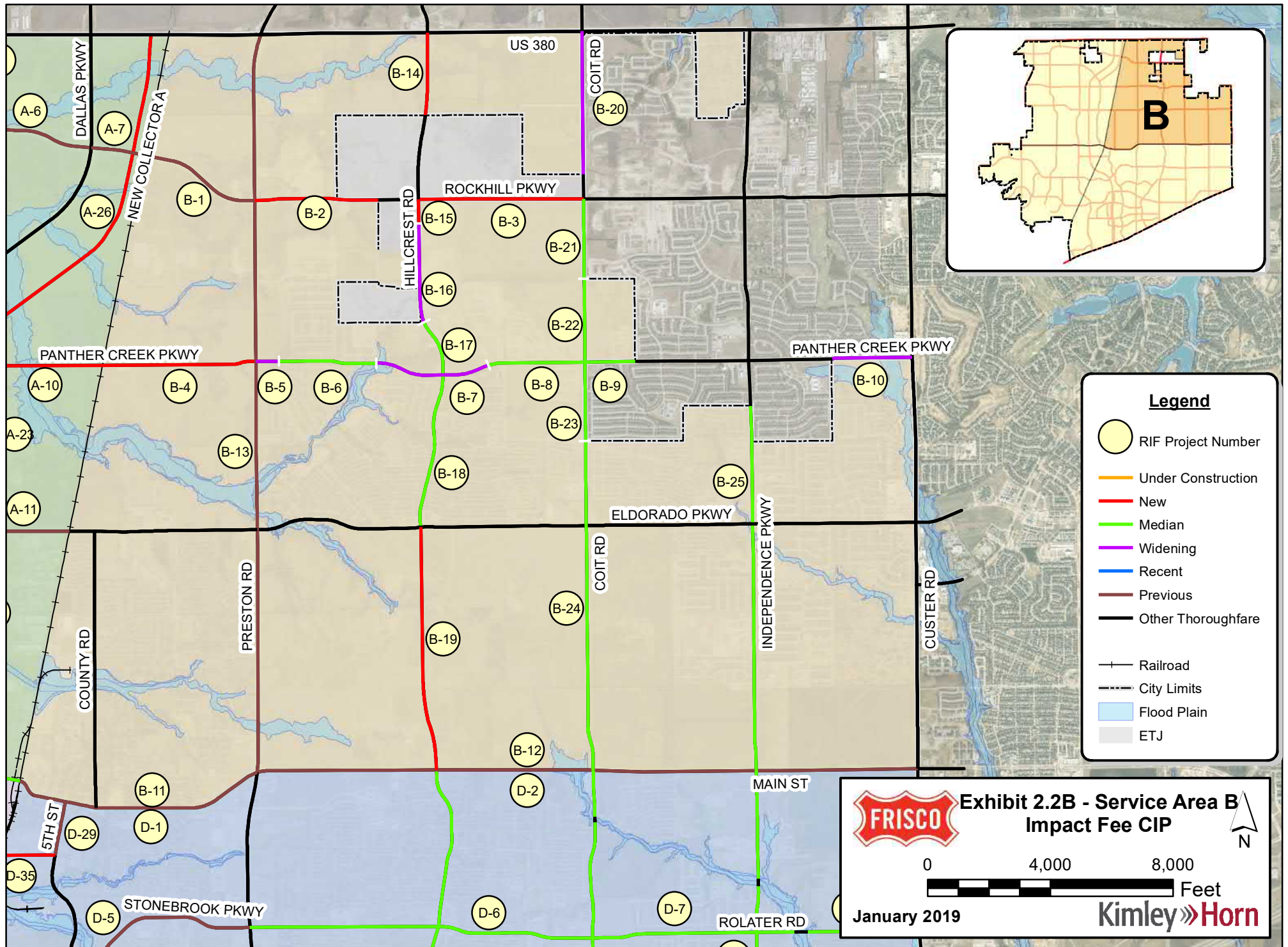
Table 2.2C 10-Year Capital Improvement Plan for Service Area C

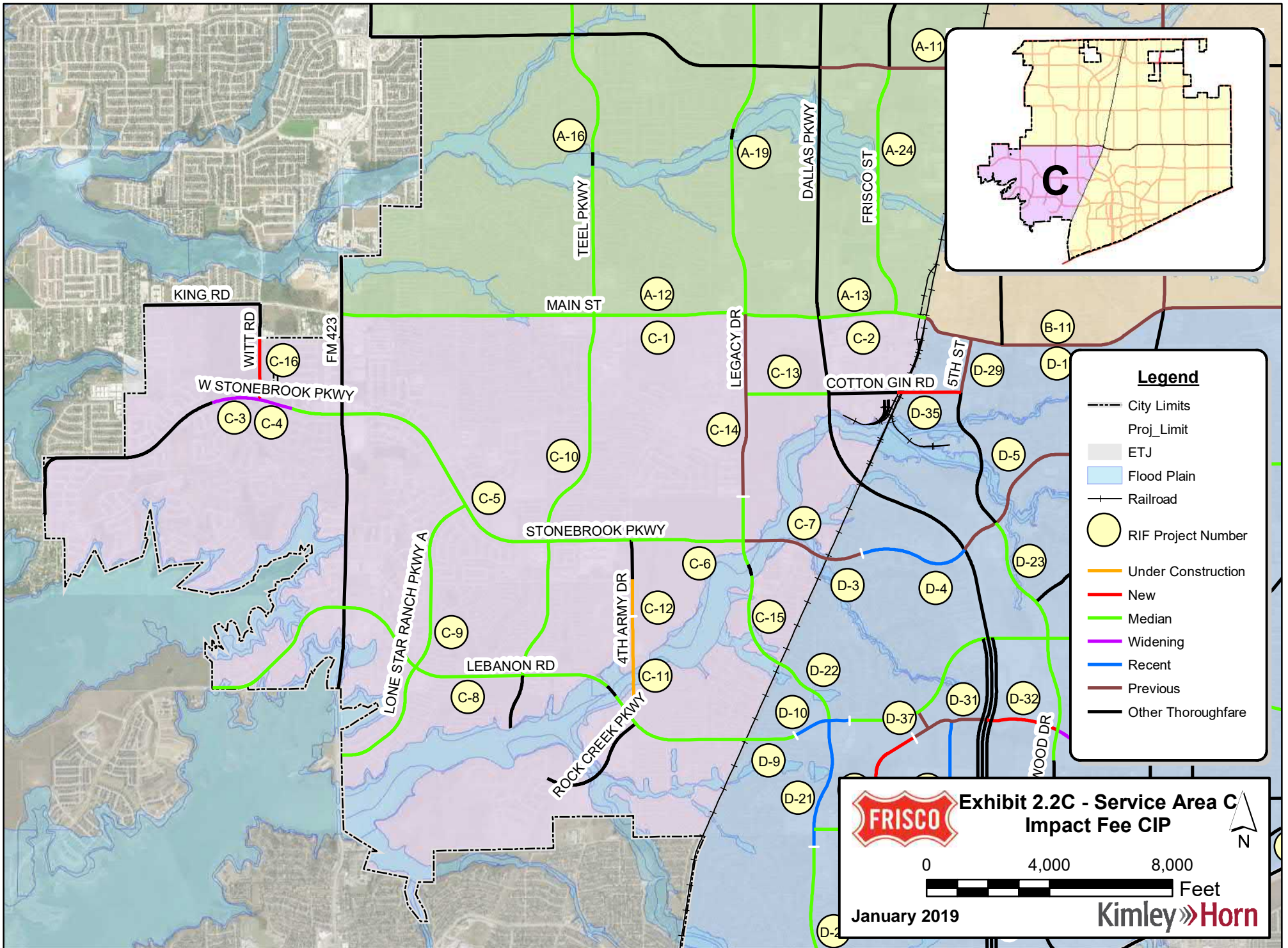
Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
C	A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	2.95	50%
	A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	0.66	50%
	C-3	4D (1/2)	Stonebrook Pkwy (3)	1,525' W of Witt Rd to Witt Rd	0.29	100%
	C-4	6D (2/3)	Stonebrook Pkwy (4)	Witt Rd to Frisco Lakes Dr	0.21	100%
	C-5	6D (1/3)	Stonebrook Pkwy (5)	Frisco Lakes Dr to 4th Army Dr	2.47	100%
	C-6	6D (1/3)	Stonebrook Pkwy (6)	4th Army Dr to Legacy Dr	0.70	100%
	C-7	6D (Previous)	Stonebrook Pkwy (7)	Legacy Dr to BNSF Railroad	0.54	100%
	C-8	6D (1/3)	Lebanon Rd (1)	1100' W of Pine Ln to BNSF Railroad	3.23	100%
	C-9	6D (1/3)	Lone Star Ranch Pkwy	Stonebrook Pkwy to FM 423	1.91	100%
	C-10	6D (1/3)	Teel Pkwy (3)	Main St to Lebanon Rd	2.35	100%
	C-11	2U (Previous)	4th Army Memorial Rd (1)	Lebanon Rd to 1,200' S of Timber Ridge Dr	0.63	100%
	C-12	2U (Previous)	4th Army Memorial Rd (2)	1,200' S of Timber Ridge Dr to Timber Ridge Dr	0.23	100%
	C-13	6D (1/3)	Cottin Gin Rd (1)	Legacy Dr to DNT	0.51	100%
	C-14	6D (Previous)	Legacy Dr (3)	Main St to Citation Ct	1.13	100%
	C-15	6D (1/3)	Legacy Dr (4)	Citation Ct to BNSF RR	1.04	100%
	C-16	2U	Witt Rd (1)	Stonebrook Pkwy to Witt Rd	0.38	100%

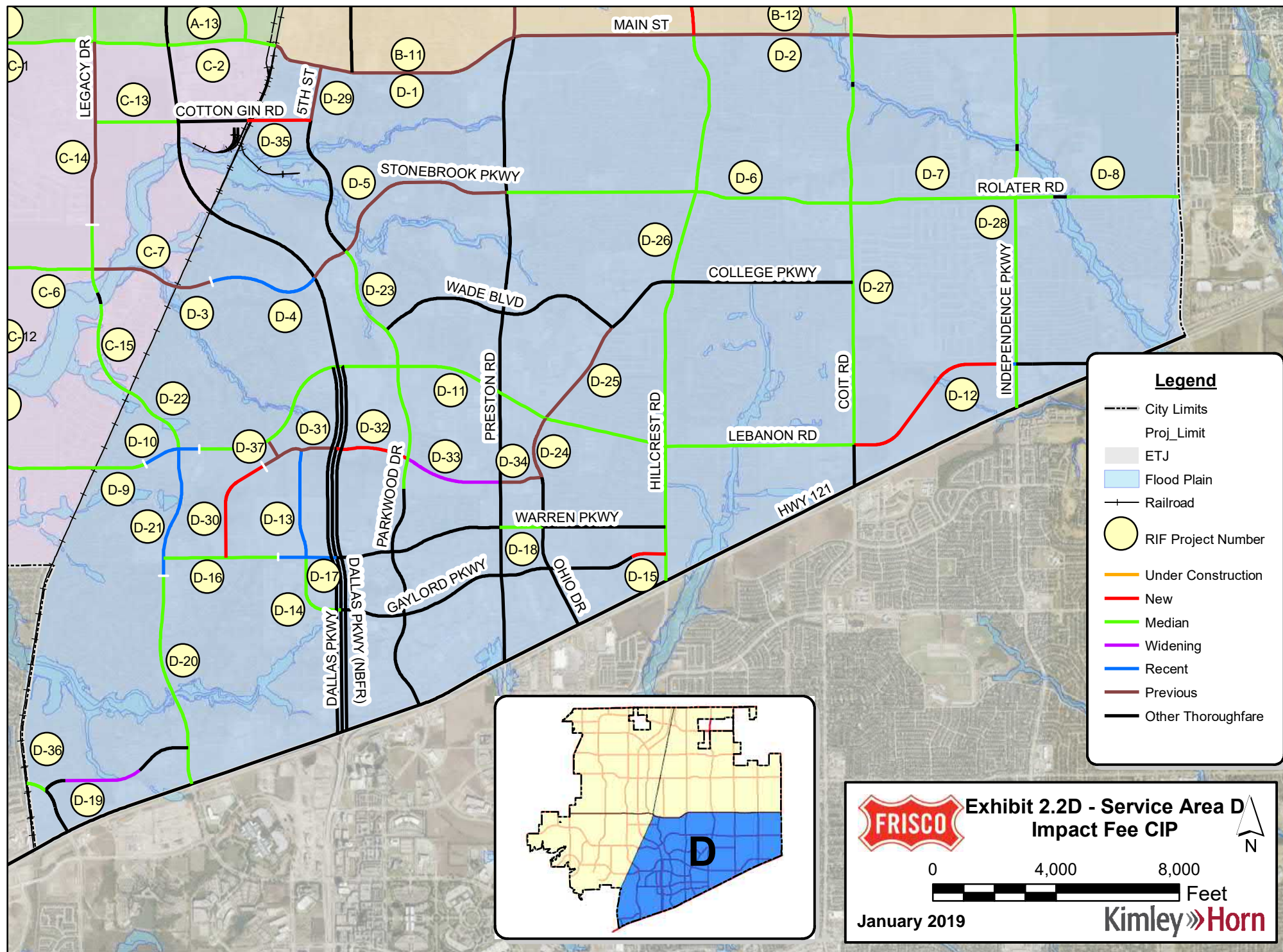
Table 2.2D 10-Year Capital Improvement Plan for Service Area D

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
D	B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	1.58	50%
	B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	50%
	D-3	6D (Previous)	Stonebrook Pkwy (8)	BNSF Railroad to Longhorn Trl	0.22	100%
	D-4	6D (Recent)	Stonebrook Pkwy (9)	Longhorn Trl to DNT	0.68	100%
	D-5	6D (Previous)	Stonebrook Pkwy (10)	DNT to Preston Rd	1.49	100%
	D-6	6D (1/3)	Rolater Rd (1)	Preston Rd to Coit Rd	2.12	100%
	D-7	6D (1/3)	Rolater Rd (2)	Coit Rd to Independence Pkwy	1.02	100%
	D-8	6D (1/3)	Rolater Rd (3)	Independence Pkwy to Custer Rd	0.92	100%
	D-9	6D (1/3)	Lebanon Rd (2)	BNSF Railroad to Todd Dr	0.31	100%
	D-10	6D (Recent)	Lebanon Rd (3)	Todd Dr to 680' E of Legacy Dr	0.36	100%
	D-11	6D (1/3)	Lebanon Rd (4)	680' E of Legacy Dr to Coit Rd	4.36	100%
	D-12	4D	Lebanon Rd (5)	Coit Rd to Independence Pkwy	1.10	100%
	D-13	4D (Recent)	Gaylord Pkwy (1)	Warren Pkwy to John Hickman Pkwy	0.66	100%
	D-14	6D (1/3)	Gaylord Pkwy (2)	Warren Pkwy to DNT	0.49	100%
	D-15	2U	Gaylord Pkwy (4)	1100' W of Hillcrest Rd to Hillcrest Rd	0.21	100%
	D-16	6D (1/3)	Warren Pkwy (1)	Legacy Dr to Internet Blvd	0.70	100%
	D-17	6D (Recent)	Warren Pkwy (2)	Internet Blvd to DNT	0.36	100%
	D-18	6D (1/3)	Warren Pkwy (3)	Preston Rd to Ohio Dr.	0.27	100%
	D-19	4D (1/2)	Town & Country Blvd	Suffolk Ln to 335' W of Bell Stonebriar	0.47	100%
	D-20	6D (1/3)	Legacy Dr (5)	SH 121 to 600' S of Warren Pkwy	1.32	100%
	D-21	6D (Recent)	Legacy Dr (6)	600' S of Warren Pkwy to Lebanon Rd	0.80	100%
	D-22	6D (1/3)	Legacy Dr (7)	Lebanon Rd to BNSF Railroad	0.49	100%
	D-23	6D (1/3)	Parkwood Dr (1)	Stonebrook Pkwy to 2,050' N of Warren Pkwy	1.58	100%
	D-24	4D (Previous)	Ohio Dr (1)	John Hickman Pkwy to Lebanon Rd	0.39	100%
	D-25	4D (Previous)	Ohio Dr (2)	Lebanon Rd to Wade Blvd	0.70	100%
	D-26	6D (1/3)	Hillcrest Rd (6)	Main St to SH 121	3.42	100%
	D-27	6D (1/3)	Coit Rd (9)	Main St to Lebanon Rd	2.50	100%
	D-28	6D (1/3)	Independence Pkwy (6)	Main St to SH 121	2.25	100%
	D-29	2U (Previous)	5th St	Eubanks St to Main St	0.34	100%
	D-30	4D	John Hickman Pkwy (1)	Warren Pkwy to 555' W of Frisco Grn	0.68	100%
	D-31	4D (Previous)	John Hickman Pkwy (2)	555' W of Frisco Grn to DNT	0.48	100%
	D-32	4D	John Hickman Pkwy (3)	DNT to Parkwood Dr	0.45	100%
	D-33	4D (1/2)	John Hickman Pkwy (4)	Parkwood Dr to Preston Rd	0.61	100%
	D-34	2U (Previous)	John Hickman Pkwy (5)	Preston Rd to Ohio Dr	0.26	100%
	D-35	4D	Cottin Gin Rd (2)	BNSF Railroad to 5th St	0.39	100%
	D-36	6D (1/3)	Memorial Dr	BNSF Railroad to Town & Country Blvd	0.13	100%
	D-37	4D (Previous)	Frisco Grn	John Hickman Pkwy to Lebanon Rd	0.12	100%









2.4 METHODOLOGY FOR ROADWAY IMPACT FEES

A. SERVICE AREAS

The four (4) service areas used in the 2018 Roadway Impact Fee Study are shown in the previously referenced Exhibit 1. These service areas cover the entire corporate boundary of the City of Frisco. Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” The service areas in the 2018 Roadway Impact Fee Study are consistent with those in the previous Roadway Impact Fee Studies with slight modifications to include annexations since the previous study.

B. SERVICE UNITS

The “service unit” is a measure of consumption or use of the roadway facilities by new development. In other words, it is the unit of measure used to quantify supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile. On the supply side, this is a lane-mile of an arterial street. On the demand side, this is a vehicle-trip of one-mile in length. The application of this unit as an estimate of either supply or demand is based on travel during the afternoon peak hour of traffic. This time period is commonly used as the basis for transportation planning and the estimation of trips created by new development.

Another aspect of the service unit is the service volume that is provided (supplied) by a lane-mile of roadway facility. This number, also referred to as capacity, is a function of the facility type, facility configuration, number of lanes, and level of service.

The hourly service volumes used in the Roadway Impact Fee Study are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG). Table 3A and 3B shows the service volumes as a function of the facility type.

Table 2.3A Level of Use for Proposed Facilities (used in Appendix B – CIP Units of Supply)

Facility Classification	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
6D – Major Arterial	Divided	750
4D – Minor Arterial	Divided	650
3U-FR – Three Lane Frontage Road	Undivided	525
2U–Collector	Undivided	475

Table 2.3B Level of Use for Existing Facilities (used in Appendix C – Existing Facilities Inventory)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
2U-R	Rural Cross-Section (i.e. gravel, dirt, etc.)	150
2U-H	Two lane undivided – Arterial Type	750
2U	Two lane undivided	475
3U	Three lane undivided (TWLTL)	525
3U-H	Three lane undivided (TWLTL) – Arterial Type	750
4U	Four lane undivided (TWLTL)	525
4D	Four lane divided	650
5U	Five lane undivided (TWLTL)	625
6D	Six lane divided	750

C. COST PER SERVICE UNIT

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the roadway impact fee, this is the cost for each vehicle-mile of travel. This cost per service unit is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel at a level of service corresponding to the City's standards. The cost per service unit is calculated for each service area based on a specific list of projects within that service area.

The second component of the cost per service unit is the number of service units in each service area. This number is the measure of the growth in transportation demand that is projected to occur in the ten-year period.

D. COST OF THE CIP

The costs that may be included in the cost per service unit are all of the implementation costs for the Roadway Impact Fee Study, as well as project costs for thoroughfare system elements within the Capital Improvements Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "...including and limited to the:

1. Construction contract price;
2. Surveying and engineering fees;
3. Land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
4. Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the Capital Improvement Plan who is not an employee of the political subdivision."

The engineer's opinion of the probable costs of the projects in the CIP is based, in part, on the calculation of a unit cost of construction. This means that a cost per linear foot of roadway is calculated based on an average price for the various components of roadway construction. This allows the probable cost to be determined by the type of facility being constructed, the number of lanes, and the length of the project. The costs for location-specific items such as bridges, highway ramps, drainage structures, and any other special components are added to each project as appropriate. In addition, based upon discussions with City of Frisco staff, State, County, and developer driven projects in which the City has contributed a portion of the total project cost have been included in the CIP as lump sum costs. The costing methodology used in the 2018 Roadway Impact Fee Study was consistent with the methodology used in the 2010-2011 and 2014 Roadway Impact Fee Update.

The following is a detailed description of the costing worksheet/methodology for the CIP.

1. Overview of Capital Impact Fee CIP Costing Worksheets

For each project a specific costing worksheet was developed (see Appendix A). Each worksheet contained the following four (4) main components:

- Project Information,
- Construction Pay Items,
- Construction Component Allowances, and
- Summary of Costs and Allowances

City of Frisco 2018 Roadway Impact Fee Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 3/8/2018

Project Information

Project Information:

Name:Rockhill Pkwy (1)

Limits:2,270' W of FM 423 to 895' W of FM 423

Impact Fee Class:4D (1/2)

Ultimate Class:Minor Thoroughfare

Length (lf):1,375

Service Area(s):A

This project consists of the construction of the northern two lanes of a four-lane divided minor thoroughfare.

Construction Pay Items

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	2,139	cy	\$ 8.00	\$ 17,111
205	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,278	sy	\$ 5.00	\$ 21,389
305	8" Concrete Pavement w/ 6" Curb	4,125	sy	\$ 46.00	\$ 189,750
405	4" Topsoil	10,083	sy	\$ 4.50	\$ 45,375
Paving Construction Cost Subtotal: \$					273,625

Major Construction Component Allowances**:

Item Description	Notes	Allowance	Item Cost
√ Prep ROW	Construction Phase Traffic Control	8%	\$ 21,890
√ Traffic Control		3%	\$ 8,209
√ Pavement Markings/Markers	Standard Internal System	4%	\$ 10,945
√ Roadway Drainage		25%	\$ 68,406
Special Drainage Structures		\$0	\$ -
√ Water	Minor Adjustments	5%	\$ 13,681
√ Sewer	Minor Adjustments	2%	\$ 5,473
√ Establish Turf / Erosion Control		6%	\$ 16,418
Other:		\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal: \$ 145,021
Paving and Allowance Subtotal: \$			418,646
Construction Contingency: 15%			\$ 62,797
Construction Cost TOTAL: \$			482,000

Summary of Costs

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 482,000
Engineering/Survey/Testing:		20%	\$ 96,400
Mobilization		6%	\$ 28,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL: \$			607,000

Project Information

In order to correctly estimate the cost of a roadway project, several attributes are first identified:

- Project Number – Identifies which Service Area the project is in with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects. For example, Project A-10 is in Service Area A and is the 10th project on the list.
- Name – A unique identifier for each project. In some cases, abbreviations are used for the project name.
- Limits – Represents the beginning and ending location for each project.
- Impact Fee Class – The costing class to be used in the analysis. The impact fee class provides the width for the various elements in the roadway. The construction costs are variable, based on the MTP classification of the roadway. Additional classifications are utilized in cases where a portion of the facility currently exists and the road is only to be widened, or where the road is planned to be widened to an interim configuration. The following notations are used for these projects:
 - “(1/2)” for facilities where half the facility still needs to be constructed,
 - “(1/3)” for existing four lane arterial facilities where two additional median lanes are needed to complete their ultimate six lane configuration, and
 - “(2/3)” for existing two lane arterial facilities where four additional lanes are needed to complete their ultimate six lane configuration.
- Ultimate Class – The functional classification on the City's MTP
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Service Area(s) – Represents the service areas where the project is located. In some cases, the project is located partially in the ETJ or other cities.
- Description – Used to describe the project type assumed in the costing such as a widening or reconstruction.

2. Construction Pay Items

A typical roadway project consists of a number of costs, including the following: planning, survey, design engineering, permitting, right-of-way acquisition, and construction and inspection. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified

approach was used for developing the conceptual level project costs. The pay items used in the 2018 Roadway Impact Fee CIP are as follows:

- Unclassified Street Excavation,
- Lime Stabilization,
- Concrete Pavement, and
- Topsoil.

3. Construction Component Allowances

A percentage of the paving construction cost is allotted for various major construction component allowances, as appropriate. These allowances include preparation of right-of-way, traffic control, pavement markings and signage, roadway drainage, minor water and sewer adjustments, and establish turf/erosion control. These allowance percentages are also based on historical data.

In addition, lump sum dollar allowances are provided for special drainage structures. The paving and allowance subtotal is given a fifteen percent (15%) contingency.

4. Summary of Cost and Allowances

To determine the total Impact Fee Project Cost, twenty percent (20%) of the construction cost total is added for engineering, surveying and testing and an additional six (6%) for mobilization. No ROW acquisition costs were included.

The Impact Fee Project Cost Total is then the Construction Cost Total plus engineering, surveying and testing and mobilization.

The construction costs are variable based on the proposed Master Thoroughfare Plan classification of the roadway. Additional classifications are utilized in cases where a portion of the facility currently exists. The following indications are used for these projects: (1/2) for facilities where half the facility still needs to be constructed; (1/3) for future six-lane divided facilities where only the two lanes will be constructed; and (2/3) for facilities where four lanes will be constructed to complete a six-lane facility.

E. SUMMARY OF TRANSPORTATION IMPACT FEE CIP COSTS

Table 2.4A (Service Area A), Table 2.4B (Service Area B), Table 2.4C (Service Area C) and Table 2.4D (Service Area D) are the CIP project lists for each service area with conceptual level project cost projections. Individual project cost worksheets can be seen in Appendix A. It should be noted that these tables reflect only conceptual-level opinions or assumptions regarding the portions of future project costs that are potentially recoverable through impact fees. Actual project costs are likely to change with time

and are dependent on market and economic conditions that cannot be predicted. The Roadway Impact Fee CIP establishes the list of projects for which Impact Fees may be utilized. Projects not included in the Roadway Impact Fee CIP are not eligible to receive impact fee funding. This is different from a City's construction CIP, which provides a broad list of capital projects for which the City is committed to building. The cost projections utilized in this study should not be utilized for the City's building program or construction CIP.

Table 2.4A 10-Year CIP with Conceptual Level Cost Opinions - Service Area A

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
A	A-1	4D (1/2)	Rockhill Pkwy (1)	2,270' W of FM 423 to 895' W of FM 423	0.26	100%	\$ 607,000	\$ 607,000
	A-2	6D (2/3)	Rockhill Pkwy (2)	FM 423 to 705' E of Teel Pkwy	0.57	100%	\$ 2,293,000	\$ 2,293,000
	A-3	6D (1/3)	Rockhill Pkwy (3)	705' E of Teel Pkwy to Teel Pkwy	0.13	100%	\$ 221,000	\$ 221,000
	A-4	6D	Rockhill Pkwy (4)	Rockhill Pkwy to Legacy Dr (Future)	1.50	100%	\$ 9,010,000	\$ 9,010,000
	A-5	6D	Rockhill Pkwy (5)	Legacy Dr to 1025' E of Legacy Dr	0.19	50%	\$ 1,120,000	\$ 560,000
	A-6	6D (Previous)	Rockhill Pkwy (6)	Mahard Pkwy to DNT	0.72	100%	\$ 4,183,028	\$ 4,183,028
	A-7	6D (Previous)	Rockhill Pkwy (7)	DNT to BNSF Railroad	0.33	100%	\$ 2,451,813	\$ 2,451,813
	A-8	6D (1/3)	Panther Creek Pkwy (1)	FM 423 to 485' W of King George Ln	2.96	100%	\$ 10,758,000	\$ 10,758,000
	A-9	6D (1/3)	Panther Creek Pkwy (2)	485' W of King George Ln to 150' E of King George Ln	0.12	100%	\$ 199,000	\$ 199,000
	A-10	6D	Panther Creek Pkwy (3)	150' E of King George Ln to BNSF Railroad	0.82	100%	\$ 9,051,000	\$ 9,051,000
	A-11	6D (Previous)	Eldorado Pkwy (2)	DNT to BNSF Railroad	0.96	100%	\$ 2,773,434	\$ 2,773,434
	A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	2.95	50%	\$ 17,453,784	\$ 8,726,892
	A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	0.66	50%	\$ 3,567,000	\$ 1,783,500
	A-14	6D (2/3)	Teel Pkwy (1)	Rockhill Pkwy to 1515' S of Little Ranch Rd	0.78	100%	\$ 9,603,000	\$ 9,603,000
	A-15	6D (1/3)	Teel Pkwy (2)	1515' S of Little Ranch Rd to Eldorado Pkwy	1.52	100%	\$ 4,143,000	\$ 4,143,000
	A-16	6D (1/3)	Teel Pkwy (3)	Eldorado Pkwy to Main St	1.70	100%	\$ 4,700,000	\$ 4,700,000
	A-17	6D	N Teel Pkwy	US 380 to 1435' S of US 380	0.27	100%	\$ 1,600,000	\$ 1,600,000
	A-18	6D	Legacy Dr (1)	US 380 to Panther Creek Pkwy	2.04	100%	\$ 16,493,000	\$ 16,493,000
	A-19	6D (1/3)	Legacy Dr (2)	Panther Creek Pkwy to Main St	2.51	100%	\$ 9,941,000	\$ 9,941,000
	A-20	6D	Mahard Pkwy (1)	US 380 to 1705' S of US 380	0.32	100%	\$ 1,999,000	\$ 1,999,000
	A-21	6D	Mahard Pkwy (2)	1705' S of US 380 to Rockhill Pkwy	0.18	50%	\$ 1,076,000	\$ 538,000
	A-22	4D	Frisco St (1)	Teel Pkwy to Panther Creek Pkwy	2.68	100%	\$ 12,649,000	\$ 12,649,000
	A-23	6D	Frisco St (2)	Cobb Hill Dr to Panther Creek Pkwy	0.51	100%	\$ 2,923,000	\$ 2,923,000
	A-24	6D (1/3)	Frisco St (3)	Eldorado Pkwy to Main St	1.55	100%	\$ 7,378,000	\$ 7,378,000
	A-25	4D	Little Ranch Rd	FM 423 to Teel Pkwy	0.70	100%	\$ 5,058,000	\$ 5,058,000
	A-26	2U	New Collector A	Frisco St to US 380	2.22	100%	\$ 6,174,000	\$ 6,174,000
Service Area Project Cost Subtotal								\$ 135,816,667
2018 Roadway Impact Fee Study Cost Per Service Area								\$ 11,450
Total Cost in SERVICE AREA A								\$ 135,828,117

Notes:

- The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
- The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.
- The project cost total within each Service Area may differ from the total shown in the Summary sheets provided to the City due to some projects that are split between multiple service areas.

Table 2.4B 10-Year CIP with Conceptual Level Cost Opinions - Service Area B

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
B	B-1	6D (Previous)	Rockhill Pkwy (8)	BNSF Railroad to Preston Rd	0.76	100%	\$ 5,609,135	\$ 5,609,135
	B-2	6D	Rockhill Pkwy (9)	Preston Rd to 4,035' E. of Preston Rd	0.76	100%	\$ 1,606,000	\$ 1,606,000
	B-3	6D	Rockhill Pkwy (10)	Hillcrest Rd to Coit Rd	1.02	50%	\$ 2,143,000	\$ 1,071,500
	B-4	6D	Panther Creek Pkwy (4)	BNSF Railroad to Preston Rd	0.95	100%	\$ 5,589,000	\$ 5,589,000
	B-5	6D (2/3)	Panther Creek Pkwy (5)	Preston Rd to 765' E of Preston Rd	0.14	100%	\$ 580,000	\$ 580,000
	B-6	6D (1/3)	Panther Creek Pkwy (6)	765' E of Preston Rd to Herschel Dr	0.6	100%	\$ 990,000	\$ 990,000
	B-7	6D (2/3)	Panther Creek Pkwy (8)	Herschel Dr to Alameda Dr	0.71	100%	\$ 3,214,000	\$ 3,214,000
	B-8	6D (1/3)	Panther Creek Pkwy (9)	Alameda Dr to Coit Rd	0.6	100%	\$ 1,714,000	\$ 1,714,000
	B-9	6D (1/3)	Panther Creek Pkwy (10)	Coit Rd to 1645' E of Coit Rd	0.31	50%	\$ 1,702,118	\$ 851,059
	B-10	6D (1/2)	Panther Creek Pkwy (11)	Memory Ln to Custer Rd	0.5	100%	\$ 1,493,000	\$ 1,493,000
	B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	1.58	50%	\$ 7,070,719	\$ 3,535,360
	B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	50%	\$ 1,151,114	\$ 575,557
	B-13	6D (Previous)	Preston Rd (1) [SH 289]	US 380 to Main St	4.56	100%	\$ 6,453,426	\$ 6,453,426
	B-14	6D	Hillcrest Rd (1)	US 380 to 2,685' S of US 380	0.51	100%	\$ 2,935,000	\$ 2,935,000
	B-15	6D	Hillcrest Rd (2)	Rockhill Pkwy To 775' S of Rockhill Pkwy	0.15	50%	\$ 848,000	\$ 424,000
	B-16	6D (2/3)	Hillcrest Rd (3)	775' S of Rockhill Pkwy to 4,015' S of Rockhill Pkwy	0.61	50%	\$ 2,452,000	\$ 1,226,000
	B-17	6D (1/3)	Hillcrest Rd (4)	4,015' S of Rockhill Pkwy to Panther Creek Pkwy	0.36	100%	\$ 587,000	\$ 587,000
	B-18	6D (1/3)	Hillcrest Rd (5)	Panther Creek Pkwy to Eldorado Pkwy	0.96	100%	\$ 1,579,000	\$ 1,579,000
	B-19	6D	Hillcrest Rd (6)	Eldorado Pkwy to Main St	1.51	100%	\$ 8,691,000	\$ 8,691,000
	B-20	6D (1/2)	Coit Rd (1)	US 380 to 2,900' S of Prestwick Hollow Dr	0.88	100%	\$ 4,478,087	\$ 4,478,087
	B-21	6D (1/3)	Coit Rd (2)	Rockhill Pkwy to 2,590' S of Rockhill Pkwy	0.49	50%	\$ 2,511,000	\$ 1,255,500
	B-22	6D (1/3)	Coit Rd (3)	2,590' S of Rockhill Pkwy to Panther Creek Pkwy	0.52	100%	\$ 3,855,000	\$ 3,855,000
	B-23	6D (1/3)	Coit Rd (4)	Panther Creek Pkwy to Buckeye Dr	0.48	50%	\$ 1,300,000	\$ 650,000
	B-24	6D (1/3)	Coit Rd (5)	Buckeye Dr to Main St	2.09	100%	\$ 3,449,000	\$ 3,449,000
	B-25	6D (1/3)	Independence Pkwy (1)	Nixon Dr to Main St	2.25	100%	\$ 9,497,000	\$ 9,497,000
	Service Area Project Cost Subtotal							\$ 71,908,624
	2018 Roadway Impact Fee Study Cost Per Service Area							\$ 11,450
	Total Cost in SERVICE AREA B							\$ 71,920,074

Notes:

- The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
- The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.
- The project cost total within each Service Area may differ from the total shown in the Summary sheets provided to the City due to some projects that are split between multiple service areas.

Table 2.4C 10-Year CIP with Conceptual Level Cost Opinions - Service Area C

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
C	A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	2.95	50%	\$ 17,453,784	\$ 8,726,892
	A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	0.66	50%	\$ 3,567,000	\$ 1,783,500
	C-3	4D (1/2)	Stonebrook Pkwy (3)	1,525' W of Witt Rd to Witt Rd	0.29	100%	\$ 680,000	\$ 680,000
	C-4	6D (2/3)	Stonebrook Pkwy (4)	Witt Rd to Frisco Lakes Dr	0.21	100%	\$ 837,000	\$ 837,000
	C-5	6D (1/3)	Stonebrook Pkwy (5)	Frisco Lakes Dr to 4th Army Dr	2.47	100%	\$ 6,356,000	\$ 6,356,000
	C-6	6D (1/3)	Stonebrook Pkwy (6)	4th Army Dr to Legacy Dr	0.7	100%	\$ 1,150,000	\$ 1,150,000
	C-7	6D (Previous)	Stonebrook Pkwy (7)	Legacy Dr to BNSF Railroad	0.54	100%	\$ 412,851	\$ 412,851
	C-8	6D (1/3)	Lebanon Rd (1)	1100' W of Pine Ln to BNSF Railroad	3.23	100%	\$ 12,731,000	\$ 12,731,000
	C-9	6D (1/3)	Lone Star Ranch Pkwy	Stonebrook Pkwy to FM 423	1.91	100%	\$ 3,145,000	\$ 3,145,000
	C-10	6D (1/3)	Teel Pkwy (3)	Main St to Lebanon Rd	2.35	100%	\$ 6,719,000	\$ 6,719,000
	C-11	2U (Previous)	4th Army Memorial Rd (1)	Lebanon Rd to 1,200' S of Timber Ridge Dr	0.63	100%	\$ 2,218,644	\$ 2,218,644
	C-12	2U (Previous)	4th Army Memorial Rd (2)	1,200' S of Timber Ridge Dr to Timber Ridge Dr	0.23	100%	\$ 3,405,050	\$ 3,405,050
	C-13	6D (1/3)	Cottin Gin Rd (1)	Legacy Dr to DNT	0.51	100%	\$ 842,000	\$ 842,000
	C-14	6D (Previous)	Legacy Dr (3)	Main St to Citation Ct	1.13	100%	\$ 2,171,065	\$ 2,171,065
	C-15	6D (1/3)	Legacy Dr (4)	Citation Ct to BNSF RR	1.04	100%	\$ 3,881,000	\$ 3,881,000
	C-16	2U	Witt Rd (1)	Stonebrook Pkwy to Witt Rd	0.38	100%	\$ 881,000	\$ 881,000
Service Area Project Cost Subtotal							\$	55,940,002
2018 Roadway Impact Fee Study Cost Per Service Area							\$	11,450
Total Cost in SERVICE AREA C							\$	55,951,452

Notes:

- The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
- The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.
- The project cost total within each Service Area may differ from the total shown in the Summary sheets provided to the City due to some projects that are split between multiple service areas.

Table 2.4D 10-Year CIP with Conceptual Level Cost Opinions - Service Area D

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
D	B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	1.58	50%	\$ 7,070,719	\$ 3,535,360
	B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	50%	\$ 1,151,114	\$ 575,557
	D-3	6D (Previous)	Stonebrook Pkwy (8)	BNSF Railroad to Longhorn Trl	0.22	100%	\$ 165,865	\$ 165,865
	D-4	6D (Recent)	Stonebrook Pkwy (9)	Longhorn Trl to DNT	0.68	100%	\$ 654,575	\$ 654,575
	D-5	6D (Previous)	Stonebrook Pkwy (10)	DNT to Preston Rd	1.49	100%	\$ 3,484,754	\$ 3,484,754
	D-6	6D (1/3)	Rotater Rd (1)	Preston Rd to Coit Rd	2.12	100%	\$ 3,500,000	\$ 3,500,000
	D-7	6D (1/3)	Rotater Rd (2)	Coit Rd to Independence Pkwy	1.02	100%	\$ 5,289,000	\$ 5,289,000
	D-8	6D (1/3)	Rotater Rd (3)	Independence Pkwy to Custer Rd	0.92	100%	\$ 2,616,000	\$ 2,616,000
	D-9	6D (1/3)	Lebanon Rd (2)	BNSF Railroad to Todd Dr	0.31	100%	\$ 2,784,000	\$ 2,784,000
	D-10	6D (Recent)	Lebanon Rd (3)	Todd Dr to 680' E of Legacy Dr	0.36	100%	\$ 764,563	\$ 764,563
	D-11	6D (1/3)	Lebanon Rd (4)	680' E of Legacy Dr to Coit Rd	4.36	100%	\$ 7,192,000	\$ 7,192,000
	D-12	4D	Lebanon Rd (5)	Coit Rd to Independence Pkwy	1.1	100%	\$ 4,462,000	\$ 4,462,000
	D-13	4D (Recent)	Gaylord Pkwy (1)	Warren Pkwy to John Hickman Pkwy	0.66	100%	\$ 1,024,960	\$ 1,024,960
	D-14	6D (1/3)	Gaylord Pkwy (2)	Warren Pkwy to DNT	0.49	100%	\$ 806,000	\$ 806,000
	D-15	2U	Gaylord Pkwy (4)	1100' W of Hillcrest Rd to Hillcrest Rd	0.21	100%	\$ 239,000	\$ 239,000
	D-16	6D (1/3)	Warren Pkwy (1)	Legacy Dr to Internet Blvd	0.7	100%	\$ 1,162,000	\$ 1,162,000
	D-17	6D (Recent)	Warren Pkwy (2)	Internet Blvd to DNT	0.36	100%	\$ 1,164,162	\$ 1,164,162
	D-18	6D (1/3)	Warren Pkwy (3)	Preston Rd to Ohio Dr.	0.27	100%	\$ 441,000	\$ 441,000
	D-19	4D (1/2)	Town & Country Blvd	Suffolk Ln to 335' W of Bell Stonebriar	0.47	100%	\$ 3,689,117	\$ 3,689,117
	D-20	6D (1/3)	Legacy Dr (5)	SH 121 to 600' S of Warren Pkwy	1.32	100%	\$ 2,508,000	\$ 2,508,000
	D-21	6D (Recent)	Legacy Dr (6)	600' S of Warren Pkwy to Lebanon Rd	0.8	100%	\$ 1,709,750	\$ 1,709,750
	D-22	6D (1/3)	Legacy Dr (7)	Lebanon Rd to BNSF Railroad	0.49	100%	\$ 815,000	\$ 815,000
	D-23	6D (1/3)	Parkwood Dr (1)	Stonebrook Pkwy to 2.050' N of Warren Pkwy	1.58	100%	\$ 4,190,000	\$ 4,190,000
	D-24	4D (Previous)	Ohio Dr (1)	John Hickman Pkwy to Lebanon Rd	0.39	100%	\$ 465,626	\$ 465,626
	D-25	4D (Previous)	Ohio Dr (2)	Lebanon Rd to Wade Blvd	0.7	100%	\$ 1,586,789	\$ 1,586,789
	D-26	6D (1/3)	Hillcrest Rd (6)	Main St to SH 121	3.42	100%	\$ 5,630,000	\$ 5,630,000
	D-27	6D (1/3)	Coit Rd (9)	Main St to Lebanon Rd	2.5	100%	\$ 11,900,000	\$ 11,900,000
	D-28	6D (1/3)	Independence Pkwy (6)	Main St to SH 121	2.25	100%	\$ 6,548,000	\$ 6,548,000
	D-29	2U (Previous)	5th St	Eubanks St to Main St	0.34	100%	\$ 1,451,794	\$ 1,451,794
	D-30	4D	John Hickman Pkwy (1)	Warren Pkwy to 555' W of Frisco Grm	0.68	100%	\$ 2,756,000	\$ 2,756,000
	D-31	4D (Previous)	John Hickman Pkwy (2)	555' W of Frisco Grm to DNT	0.48	100%	\$ 1,561,306	\$ 1,561,306
	D-32	4D	John Hickman Pkwy (3)	DNT to Parkwood Dr	0.45	100%	\$ 1,819,000	\$ 1,819,000
	D-33	4D (1/2)	John Hickman Pkwy (4)	Parkwood Dr to Preston Rd	0.61	100%	\$ 1,410,000	\$ 1,410,000
	D-34	2U (Previous)	John Hickman Pkwy (5)	Preston Rd to Ohio Dr	0.26	100%	\$ 669,516	\$ 669,516
	D-35	4D	Cottin Gin Rd (2)	BNSF Railroad to 5th St	0.39	100%	\$ 1,596,000	\$ 1,596,000
	D-36	6D (1/3)	Memorial Dr	BNSF Railroad to Town & Country Blvd	0.13	100%	\$ 207,000	\$ 207,000
	D-37	4D (Previous)	Frisco Grm	John Hickman Pkwy to Lebanon Rd	0.12	100%	\$ 308,599	\$ 308,599
Service Area Project Cost Subtotal								\$ 90,682,293
2018 Roadway Impact Fee Study Cost Per Service Area								\$ 11,450
Total Cost in SERVICE AREA D								\$ 90,693,743

Notes:

- The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
- The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.
- The project cost total within each Service Area may differ from the total shown in the Summary sheets provided to the City due to some projects that are split between multiple service areas.

F. SERVICE UNIT CALCULATION

The basic service unit for the computation of Frisco's roadway impact fees is the vehicle-mile of travel during the afternoon peak-hour. To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service area for the ten-year period.

The growth in vehicle-miles from 2018 to 2028 is based upon projected changes in residential and non-residential growth for the period. In order to determine this growth, baseline estimates of population, basic square feet, service square feet, and retail square feet for 2018 were made along with projections for each of these demographic statistics through 2028.

The residential and non-residential statistics in the Land Use Assumptions provide the "independent variables" that are used to calculate the existing (2018) and projected (2028) transportation service units used to establish the roadway impact fee maximum rates within each service area. The roadway demand service units (vehicle-miles) for each service area are the sum of the vehicle-miles "generated" by each category of land use in the service area.

For the purpose of impact fees, all developed and developable land is categorized as either residential or non-residential. For residential land uses, the existing and projected population is converted to dwelling units. The number of dwelling units in each service area is multiplied by a *transportation demand factor* (discussed in more detail below) to compute the vehicle-miles of travel that occur during the afternoon peak hour. This factor indicates the average amount of demand created by the residential land uses in the service area.

For non-residential land uses, the process is similar. The Land Use Assumptions section of this report provides existing and projected number of building square footages for three (3) categories of employment – basic, service, and retail. These categories correspond to an aggregation of other specific land use categories based on the NAICS (North American Industrial Classification System).

Building square footage is the most common independent variable for the estimation of non-residential trips in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition*. This characteristic is more appropriate than the number of employees because building square footage is tied more closely to trip generation and is known at the time of application for any development or development modification that would require the assessment of an impact fee.

The existing and projected land use assumptions for the dwelling units and the square footage of basic, service, and retail land uses provide the basis for the projected increase in vehicle-miles of travel. As noted earlier, a *transportation demand factor* is applied to these values and then summed to calculate the total peak hour vehicle-miles of demand for each service area.

The *transportation demand factors* are aggregate rates derived from two sources – the *ITE Trip Generation Manual, 10th Edition* and the National Household Travel Survey (NHTS) performed by the Federal Highway Administration (FHWA). The *ITE Trip Generation Manual, 10th Edition* provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. For example, a stop at a nearby supermarket on the way home from work does not create a new trip onto the roadway network. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail rate to avoid double counting trips.

The next component of the *transportation demand factor* accounts for the length of each trip. The average trip length for each category is based on the National Household Travel Survey (NHTS).

$$TDF = T * (1 - P_b) * L_{\max}$$

$$\text{where... } L_{\max} = \min(L * OD \text{ or } SA_L)$$

The computation of the *transportation demand factor* is detailed in the following equation:

Variables:

- TDF = Transportation Demand Factor,
- T = Trip Rate (peak hour trips / unit),
- P_b = Pass-By Discount (% of trips),
- L_{max} = Maximum Trip Length (miles),
- L = Average Trip Length (miles),
- OD = Origin-Destination Reduction (50%), and
- SA_L = Max Service Area Trip Length (see Table 5)

For land uses which are characterized by longer average trip lengths (primarily residential uses), the maximum trip length (SA_L) has been limited to six (6) miles based on the maximum trip length within each service area. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles, and the service areas within Frisco are closely approximated with a six (6) mile distance.

The adjustment made to the average trip length statistic in the computation of the maximum trip length is the origin-destination reduction. This adjustment is made because the roadway impact fee is charged to both the origin and destination end of the trip. For example, impact fee methodology will account for a

trip from home to work within Frisco to both residential and non-residential land uses. To avoid counting these trips as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use, and the total trip is only counted once. This methodology is consistent with that used in the National Household Travel Survey.

Table 2.5 shows the derivation of the *Transportation Demand Factor* for the residential land uses and the three (3) non-residential land use categories. The values utilized for all variables shown in the *transportation demand factor* equation are also shown in the table.

Table 2.5 Transportation Demand Factor Calculations

Variable	Residential	Basic	Service	Retail
T	0.99	0.63	1.15	3.81
P _b	0%	0%	0%	34%
L	9.79	10.02	14.65	5.60
L _{max} *	4.90	5.01	6.00	2.80
TDF	4.85	3.16	6.90	7.04

* L_{max} is less than 6 miles for residential, basic and retail land uses; therefore, this lower trip length is used for calculating the TDF for these land uses.

The application of the demographic projections and the *transportation demand factors* are presented in the 10-Year Growth Projections in Table 2.6. This table shows the total vehicle miles by service area for the years 2018 and 2028. These estimates and projections lead to the Vehicle Miles of Travel for both 2018 and 2028. The ultimate vehicle-mile carrying capacity of each service area is also shown.

Table 2.6 10-Year Growth Projections

10-Year Growth between 2018 and 2028

SERVICE AREA	RESIDENTIAL VEHICLE-MILES			SQUARE FEET ⁴			TRANS. DEMAND FACTOR ⁵				NON-RESIDENTIAL VEHICLE-MILES ⁹				TOTAL VEHICLE MILES ¹⁰
	DWELLING UNITS ¹	TDF ²	VEHICLE MILES ³	BASIC	SERVICE	RETAIL	BASIC ⁶	SERVICE ⁷	RETAIL ⁸		BASIC	SERVICE	RETAIL	TOTAL	
A	4,354	0.99					0.63	1.15	3.81						
		4.85			1,400,000	900,000	800,000	3.16	6.90	7.04	4,424	6,210	5,633	16,267	37,383
B	4,852	4.85	23,532	500,000	900,000	500,000	3.16	6.90	7.04		1,580	6,210	3,520	11,310	34,843
C	1,704	4.85	8,264	100,000	400,000	300,000	3.16	6.90	7.04		316	2,760	2,112	5,188	13,452
D	5,184	4.85	25,142	100,000	3,200,000	2,100,000	3.16	6.90	7.04		316	22,080	14,786	37,182	62,324
Totals		16,094	78,056	2,100,000	5,400,000	3,700,000					6,636	37,260	26,051	69,947	148,003

VEHICLE-MILES OF INCREASE¹¹ (2018 - 2028)

SERVICE AREA	VEH-MILES
A	37,383
B	34,843
C	13,452
D	62,324
Total	148,003

Notes:

- ¹ From Land Use Assumptions, Section 2.1
- ² Transportation Demand Factor for each Service Area (from LUVIMET) using Single Family Detached Housing land use and trip generation rate
- ³ Calculated by multiplying TDF by the number of dwelling units
- ⁴ From Land Use Assumptions, Section 2.1
- ⁵ Trip generation rate and Transportation Demand Factors from LUVIMET for each land use
- ⁶ 'Basic' corresponds to General Light Industrial land use and trip generation rate
- ⁷ 'Service' corresponds to General Office land use and trip generation rate
- ⁸ 'Retail' corresponds to Shopping Center land use and trip generation rate
- ⁹ Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
- ¹⁰ Residential plus non-residential vehicle-mile totals for each Service Area
- ¹¹ Total Vehicle-Miles (2010) subtracted from Total Vehicle-Miles (2020)

2.5 IMPACT FEE CALCULATION

A. MAXIMUM ASSESSABLE IMPACT FEE PER SERVICE UNIT

This section presents the maximum assessable impact fee rate calculated for each service area. The maximum assessable impact fee is the sum of the eligible Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. Table 2.7 illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation.

Table 2.7 Maximum Assessable Roadway Impact Fee Computation

Line	Title	Description
1	<i>Total Vehicle-Miles of Capacity Added by the CIP</i>	The total number of vehicle-miles added to the service area based on the capacity, length, and number of lanes in each project (from Appendix B – CIP Service Units of Supply)

Each project identified in the Impact Fee CIP will add a certain amount of capacity to the City's roadway network based on its length and classification. This line displays the total amount added within each service area.

2	<i>Total Vehicle-Miles of Existing Demand</i>	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from Appendix B – CIP Service Units of Supply)
---	---	---

A number of facilities identified in the Impact Fee CIP have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently be used by existing traffic.

3	<i>Total Vehicle-Miles of Existing Deficiencies</i>	Number of vehicle-miles of travel that are not accommodated by the existing roadway system (from Appendix C – Existing Roadway Facilities Inventory)
---	---	--

In order to ensure that existing deficiencies on the City's roadway network are not recoverable through impact fees, this line is based on the entire roadway network within the service area. Any roadway within the service area that is deficient – even those not identified on the Impact Fee CIP – will have these additional trips removed from the calculation.

4	<i>Net Amount of Vehicle-Miles of Capacity Added</i>	A measurement of the amount of vehicle-miles added by the CIP that will not be utilized by existing demand (Line 1 – Line 2 – Line 3)
---	--	---

This calculation identifies the portion of the CIP (in vehicle-miles) that may be recoverable through the collection of impact fees.

5	<i>Total Cost of the CIP within the Service Area</i>	The total cost of the roadway projects within each service area (from Table 2.4A – 2.4D): 10-Year Roadway Improvements Plan with Conceptual Level Cost Opinions)
---	--	--

This line simply identifies the total cost of all the roadway projects identified in each service area.

6	<i>Cost of Net Capacity Supplied</i>	The total CIP cost (Line 5) prorated by the ratio of Net Capacity Added (Line 4) to Total Capacity Added (Line 1) [(Line 4 / Line 1) * (Line 5)]
---	--------------------------------------	--

Using the ratio of vehicle-miles added by the Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the Impact Fee CIP is reduced to the amount available for future growth (i.e. excluding existing usage and deficiencies).

7	<i>Cost to Meet Existing Needs and Usage</i>	The difference between the Total Cost of the CIP (Line 5) and the Cost of the Net Capacity supplied (Line 6) (Line 5 – Line 6)
---	--	--

This line is provided for information purposes only – it is to present the portion of the total cost of the Impact Fee CIP that is required to meet existing demand.

8	<i>Total Vehicle-Miles of New Demand over Ten Years</i>	Based upon the growth projection provided in the Land Use Assumptions, an estimate of the number of new vehicle-miles within the service area over the next ten years (from Table 2.6)
---	---	--

This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next ten years.

9	<i>Percent of Capacity Added Attributable to New Growth</i>	The result of dividing Total Vehicle-Miles of New Demand (Line 8) by the Net Amount of Capacity Added (Line 4), limited to 100% (Line 10). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
10	<i>Chapter 395 Check</i>	

In order to ensure that the vehicle-miles added by the Impact Fee CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Impact Fee CIP cost is reduced accordingly.

11	<i>Cost of Impact Fee CIP Added Attributable to New Growth</i>	The result of multiplying the Cost of Net Capacity Added (Line 6) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 9).
----	--	--

The value is the total Impact Fee CIP project costs (excluding financial costs) that may need to be recovered through impact fees. This line is determined considering the limitations to impact fees required by the Texas legislature.

12	<i>Pre-Credit Maximum Fee Per Service Unit without Financing</i>	Found by dividing the Cost of the CIP by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 11 / Line 8).
----	--	---

This value is the total pre-credit maximum fee per service unit prior to a credit for the portion of ad valorem tax generated by new service units during the program period that is used for the payment of improvements that are included in the capital improvements plan that may be recovered through impact fees. This does not include financing costs.

B. PLAN FOR AWARDING THE ROADWAY IMPACT FEE CREDIT

Chapter 395 of the Texas Local Government Code requires the Capital Improvements Plan for Roadway Impact Fees to contain specific enumeration of a plan for awarding the impact fee credit. Section 395.014 of the Code requires:

- (A) "a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or
- (B) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan..."

The plan is summarized, as prepared by NewGen Strategies & Solutions in Appendix D, Plan for Awarding the Roadway Impact Fee Credit. The plan for awarding the Roadway Impact Fee Credit was determined for all four service areas to account for the current existing fund balance. The following table summarizes the portions of Table 7 that utilize this credit calculation.

Line	Title	Description
13	<i>Financing Costs</i>	(from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
14	<i>Interest Earnings</i>	(from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
15	<i>Existing Impact Fee Fund Balance</i>	The available non-allocated roadway impact fees in each Service Area as of August 2018 – from Appendix D.
16	<i>Cost of the CIP and Financing Attributable to New Growth</i>	The sum of the Cost of Capacity Added Attributable to New Growth, Financing Costs, and Interest Earnings (Line 11 + Line 13 + Line 14 + Line 15)
17	<i>Pre-Credit Maximum Fee Per Service Unit</i>	Found by dividing the Cost of the CIP and Financing Attributable to New Growth (Line 16) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8) (Line 16 / Line 8)
18	<i>Credit for Ad Valorem Taxes</i>	A credit for the portion of ad valorem taxes projected to be generated by the new service units, as per Section 395.014 of the Local Government Code (from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
19	<i>Recoverable Cost of CIP and Financing</i>	The difference between the Cost of the CIP and Financing Attributable to New Growth (Line 16) and the Credit for Ad Valorem Taxes (Line 18) (Line 16 + Line 18)
20	<i>Maximum Assessable Fee Per Service Unit</i>	Found by dividing the Recoverable Cost of the CIP and Financing (Line 18) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8) (Line 19 / Line 8)

C. MAXIMUM ASSESSABLE IMPACT FEE DETERMINATION

The impact fee determination method employed by NewGen Strategies and Solutions, LLC is developed through a financial based model, which fully recognizes the requirements of Chapter 395, including the recognition of cash and/or debt financing, interest earnings, fund balances, and applicable credits associated with the use of ad valorem taxes. In developing the components of the financial model several assumptions must be made, including the following:

- Financing
 - Method of financing (i.e. cash or debt financing)
 - The level of financing (e.g. 100% debt)
 - Cost of financing
 - Debt repayment structure
- Timing and Level of Expenditures and Revenues
- Interest Earnings
- Annual Vehicle Mile Growth
- Portion of Ad Valorem Tax Revenue Used to Fund Impact Fee Roadway Improvements

The assumptions employed in the maximum assessable impact fee determination provide a reasonable basis for forecasting; however, it must be emphasized that these assumptions may not necessarily reflect actual future conditions. To address this, Chapter 395 requires the monitoring of impact fees through the Impact Fee Advisory Committee, and allows for the option to update or revise impact fees to reflect the actual implementation of the impact fee program.

Once the cost of capacity added that is attributable to growth (Table 2.8 - line 11) is determined, it must then be decided how the cost will be financed: cash and/or debt. For any previously funded projects, whether partially funded or in full, actual costs of capital have been included. Based on discussions with City staff, unless specific funding has already been determined, it is assumed that the City will debt finance 100% of the future project costs. For debt financing, the cost of financing is based on the City's Financial Advisor's estimates of future debt costs for bonds issued with 20-year terms, as shown in Appendix E. Debt service payments for each future debt issue are assumed to remain constant over the issue's term.

Currently, the exact timing and annual level of cash capital expenditures over the forecast period is indeterminate; therefore, it is assumed that capital expenditures will occur in equal amounts over the 10-year program period. It is also assumed that for debt-financed capital projects, the City will expend debt

proceeds over a 3-year timeframe. For the calculation of the maximum assessable impact fee, debt is assumed to be issued in equal amounts for each year. In order to recognize the full amount of debt to be issued for the cost of capacity added that is attributable to growth during the 10-year period, a portion of years 8, 9, and 10 are assumed to be spent in the final 3 years.

Because debt is issued over 20-year terms and impact fees developed herein are to be charged over a 10-year period, sufficient fund balance must be generated to meet the future debt service obligations. A portion of existing fund balance was assigned to each service area as a potential source for the current Impact Fee CIP. After consultation with City staff, the amount of fund balance assigned was determined to be equal to the percent of capacity added attributable to growth as shown in the Max Fee Table (Table 8 - line 9). Because of the generation of the fund balance, excess monies will be available for interest earnings.

Chapter 395 states that interest earnings are funds of the impact fee account and are to be held to the same restrictions as impact fee revenues. Therefore, in order to recognize that interest earnings are used to fund transportation improvements, interest earnings are credited against the costs recoverable through impact fees. It should be noted that Chapter 395 does not require the upfront recognition of interest earnings in the impact fee determination; however, in an effort to acknowledge the time value of the impact fee payers' monies, interest earnings have been credited. Interest is assumed to be earned at an annual rate of 1.24% based on the City's annual return on money market funds as of February 2018.

As with the timing and level of the capital expenditures over the 10-year forecast, the timing and annual level of vehicle mile growth over the 10-year program period is indeterminate at the present time. As such, it is assumed that vehicle mile growth will be consistent over the 10-year forecast.

Chapter 395 requires a plan for awarding either a credit for the portion of ad valorem tax and/or utility service revenues generated by new vehicle miles during the program period that are used for payment of improvements that are included in the Roadway Impact Fee CIP. As an alternative, a credit equal to 50% of the total cost of implementing the Roadway Impact Fee CIP may be used. The City has elected to pursue the determination of a credit for the portion of ad valorem tax revenues generated by new vehicle miles during the program period that are used for payment of improvements that are included in the Roadway Impact Fee CIP. It should be noted that the credit is not a determination to recognize the total ad valorem tax revenue generated by new vehicle miles, but is only a credit for the portion of ad valorem tax revenue that is used for payment of improvements that are included in the Roadway Impact Fee CIP. Theoretically, the credit determination could be zero (\$0) if the City does not utilize any of the new vehicle mile ad valorem tax revenue to fund improvements that are included in the Roadway Impact Fee CIP. However, to be conservative and recognize potential cash flow issues that can occur with the funding of major capital improvement projects, it is assumed that the debt-funded projects (100% of the improvement costs included

in the Roadway Impact Fee CIP but not otherwise funded) could potentially be funded by ad valorem tax revenue.

Since payments made through ad valorem tax revenue will consist of not only the revenue generated by new vehicle miles in the defined service area, but also existing property owners throughout the City, the portion attributable to the new vehicle miles in the defined service area must be isolated, as illustrated in the credit calculation in Appendix E.

Table 2.8 Maximum Assessable Roadway Impact Fee

SERVICE AREA:		A	B	C	D
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE CIP (FROM CIP UNITS OF SUPPLY, APPENDIX B)	107,423	102,089	73,460	143,789
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM CIP UNITS OF SUPPLY, APPENDIX B)	17,017	20,692	22,250	37,188
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING FACILITIES INVENTORY, APPENDIX C)	1,578	87	1,530	2,122
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	88,828	81,310	49,680	104,479
5	TOTAL COST OF THE CIP WITHIN SERVICE AREA (FROM TABLE 2.4A - 2.4D)	\$ 135,828,117	\$ 71,920,074	\$ 55,951,452	\$ 90,693,743
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	\$ 112,316,291	\$ 57,281,712	\$ 37,839,531	\$ 65,899,154
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	\$ 23,511,826	\$ 14,638,362	\$ 18,111,921	\$ 24,794,589
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM TABLE 2.6 and Land Use Assumptions)	37,383	34,843	13,452	62,324
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	42.0%	42.8%	27.0%	59.6%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	42.0%	42.8%	27.0%	59.6%
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	\$ 47,172,842	\$ 24,516,573	\$ 10,216,673	\$ 39,275,896
12	PRE-CREDIT MAX FEE PER SERVICE UNIT (\$ PER VEH-MI) WITHOUT FINANCING COSTS (LINE 11 / LINE 8)	\$ 1,262	\$ 704	\$ 759	\$ 630
13	FINANCING COSTS (FROM APPENDIX D)	\$ 7,602,381	\$ 4,550,420	\$ 1,855,633	\$ 6,622,679
14	INTEREST EARNINGS (FROM APPENDIX D)	\$ (5,137,936)	\$ (2,500,588)	\$ (1,017,891)	\$ (4,363,825)
15	EXISTING FUND BALANCE (FROM APPENDIX D)	\$ (1,974,000)	\$ (1,241,200)	\$ (1,377,000)	\$ (4,946,800)
16	COST OF CIP AND FINANCING ATTRIBUTABLE TO GROWTH (LINE 11 + LINE 13 + LINE 14 + LINE 15)	\$ 47,663,287	\$ 25,325,204	\$ 9,677,415	\$ 36,587,950
17	PRE-CREDIT MAX FEE PER SERVICE UNIT (\$ PER VEH-MI) (LINE 16 / LINE 8)	\$ 1,275	\$ 727	\$ 719	\$ 587
18	CREDIT FOR AD VALOREM TAXES (FROM APPENDIX D)	\$ (783,893)	\$ (406,214)	\$ (72,095)	\$ (1,080,819)
19	RECOVERABLE COST OF CIP AND FINANCING (LINE 16 + LINE 18)	\$ 46,879,394	\$ 24,918,990	\$ 9,605,320	\$ 35,507,131
20	MAX ASSESSABLE FEE PER SERVICE UNIT (\$ PER VEH-MI) (LINE 19 / LINE 8)	\$ 1,254	\$ 715	\$ 714	\$ 570

D. SERVICE UNIT DEMAND PER UNIT OF DEVELOPMENT

The roadway impact fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the City utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in Table 2.9. This table lists the predominant land uses that may occur within the City of Frisco. Table 2.10 provides a description for these land uses. For each land use, the development unit that defines the development's magnitude with respect to transportation demand is shown. Although every possible use cannot be anticipated, the majority of local uses are found in this table. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use is a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the afternoon peak hour by each land use per development unit. The next column, if applicable to the land use, presents the number of trips to and from certain land uses reduced by pass-by trips, as previously discussed.

The source of the trip generation and pass-by statistics is the *ITE Trip Generation Manual, 10th Edition*, the latest edition of the definitive source for trip generation data. This manual utilizes trip generation studies for a variety of land uses throughout the United States, and is the standard used by traffic engineers and transportation planners for traffic impact analysis, site design, and transportation planning. However, for land uses not contained within the 10th Edition of the *ITE Trip Generation Manual*, an alternative service unit demand could be calculated by completing a trip generation study based on the procedure identified in the *ITE Trip Generation Handbook*.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The adjusted trip length values are based on the NHTS. The other adjustment to trip length is the 50% origin-destination reduction to avoid double counting of trips. At this stage, another important aspect of the state law is applied – the limit on transportation service unit demand. If the adjusted trip length is above the maximum trip length within the service area, the maximum trip length used for calculation is reduced to the corresponding value. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the *Transportation Demand Factor*, is used in the impact fee estimate to compute the number of service units attributed to each land use category. The number of service units is multiplied by the impact fee rate (established by City ordinance) in order to determine the impact fee for a development.

Table 2.9 Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev Unit
PORT AND TERMINAL											
Truck Terminal	030	1,000 SF GFA	1.87			1.87	10.02	50%	5.01	5.01	9.37
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.63			0.63	10.02	50%	5.01	5.01	3.16
Industrial Park	130	1,000 SF GFA	0.40			0.40	10.02	50%	5.01	5.01	2.00
Warehousing	150	1,000 SF GFA	0.19			0.19	10.02	50%	5.01	5.01	0.95
Mini-Warehouse	151	1,000 SF GFA	0.17			0.17	10.02	50%	5.01	5.01	0.85
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	0.99			0.99	9.79	50%	4.90	4.90	4.85
Townhomes	220	Dwelling Unit	0.56			0.56	9.79	50%	4.90	4.90	2.74
Multi-family Housing (Low-Rise)	220	Dwelling Unit	0.56			0.56	9.79	50%	4.90	4.90	2.74
Multi-family Housing (Mid-Rise)	221	Dwelling Unit	0.44			0.44	9.79	50%	4.90	4.90	2.15
Multi-family Housing (High-Rise)	222	Dwelling Unit	0.36			0.36	9.79	50%	4.90	4.90	1.76
Mid-Rise Residential with 1st Floor Commercial	231	Dwelling Unit	0.36			0.36	9.79	50%	4.90	4.90	1.76
Mobile Home Park / Manufactured Housing	240	Dwelling Unit	0.46			0.46	9.79	50%	4.90	4.90	2.25
Senior Adult Housing-Detached	251	Dwelling Unit	0.30			0.30	9.79	50%	4.90	4.90	1.47
Senior Adult Housing-Attached	252	Dwelling Unit	0.26			0.26	9.79	50%	4.90	4.90	1.27
Assisted Living	254	Beds	0.26			0.26	9.79	50%	4.90	4.90	1.27
LODGING											
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	1.93
Motel / Other Lodging Facilities	320	Room	0.38			0.38	6.43	50%	3.22	3.22	1.22
RECREATIONAL											
Golf Course	430	Acre	0.28			0.28	7.86	50%	3.93	3.93	1.10
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	1.30
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	4.91
Multiplex Movie Theater	445	Screens	13.73			13.73	15.77	50%	7.89	6.00	82.38
Ice Skating Rink	465	1,000 SF GFA	1.33			1.33	7.86	50%	3.93	3.93	5.23
Racquet / Tennis Club	491	Court	3.82			3.82	7.86	50%	3.93	3.93	15.01
Recreational Community Center	495	1,000 SF GFA	2.31			2.31	7.86	50%	3.93	3.93	9.08
INSTITUTIONAL											
Church	560	1,000 SF GFA	0.49			0.49	8.31	50%	4.16	4.16	2.04
Day Care Center	565	1,000 SF GFA	11.12	44%	B	6.23	3.49	50%	1.75	1.75	10.87
Primary/Middle School (1-8)	522	Students	0.17			0.17	3.49	50%	1.75	1.75	0.30
High School	530	Students	0.14			0.14	3.49	50%	1.75	1.75	0.24
Junior / Community College	540	Students	0.11			0.11	10.44	50%	5.22	5.22	0.57
University / College	550	Students	0.15			0.15	10.44	50%	5.22	5.22	0.78
MEDICAL											
Clinic	630	1,000 SF GFA	3.28			3.28	9.85	50%	4.93	4.93	16.15
Hospital	610	1,000 SF GFA	0.97			0.97	9.85	50%	4.93	4.93	4.78
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	3.53	30%	B	2.47	9.85	50%	4.93	4.93	12.16

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (September 2017)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table 2.10 Land Use / Vehicle-Mile Equivalency Table (LUVMET) Cont

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev Unit
OFFICE											
Corporate Headquarters Building	714	1,000 SF GFA	0.60			0.60	14.65	50%	7.33	6.00	3.60
General Office Building	710	1,000 SF GFA	1.15			1.15	14.65	50%	7.33	6.00	6.90
Medical-Dental Office Building	720	1,000 SF GFA	3.46			3.46	9.85	50%	4.93	4.93	17.04
Single Tenant Office Building	715	1,000 SF GFA	1.71			1.71	14.65	50%	7.33	6.00	10.26
Office Park	750	1,000 SF GFA	1.07			1.07	14.65	50%	7.33	6.00	6.42
COMMERCIAL											
Automobile Related											
Automobile Care Center	942	1,000 SF GFA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	4.15
Automobile Parts Sales	843	1,000 SF GFA	4.91	43%	A	2.80	4.45	50%	2.23	2.23	6.23
Gasoline/Service Station	944	Vehicle Fueling Position	14.03	42%	A	8.14	1.20	50%	0.60	0.60	4.88
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.99	56%	B	6.16	1.20	50%	0.60	0.60	3.69
New Car Sales	840	1,000 SF GFA	2.43	20%	B	1.94	5.60	50%	2.80	2.80	5.44
Quick Lubrication Vehicle Shop	941	Servicing Positions	4.85	40%	B	2.91	4.45	50%	2.23	2.23	6.47
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Tire Store	848	1,000 SF GFA	3.98	28%	A	2.87	4.45	50%	2.23	2.23	6.38
Dining											
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.67	50%	A	16.34	5.64	50%	2.82	2.82	46.06
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	28.34	50%	B	14.17	5.64	50%	2.82	2.82	39.96
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.77	43%	A	5.57	5.64	50%	2.82	2.82	15.70
Quality Restaurant	931	1,000 SF GFA	7.80	44%	A	4.37	5.64	50%	2.82	2.82	12.32
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	43.38	70%	A	13.01	5.64	50%	2.82	2.82	36.70
Other Retail											
Free-Standing Discount Store	815	1,000 SF GFA	4.83	30%	C	3.38	5.60	50%	2.80	2.80	9.47
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	13.60
Home Improvement Superstore	862	1,000 SF GFA	2.33	42%	A	1.35	5.60	50%	2.80	2.80	3.78
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.51	53%	A	4.00	5.60	50%	2.80	2.80	11.20
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	10.29	49%	A	5.25	5.60	50%	2.80	2.80	14.69
Shopping Center	820	1,000 SF GFA	3.81	34%	A	2.51	5.60	50%	2.80	2.80	7.04
Supermarket	850	1,000 SF GFA	9.24	36%	A	5.91	5.60	50%	2.80	2.80	16.56
Toy/Children's Superstore	864	1,000 SF GFA	5.00	30%	B	3.50	5.60	50%	2.80	2.80	9.80
Department Store	875	1,000 SF GFA	1.95	30%	B	1.37	5.60	50%	2.80	2.80	3.82
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	16.19
Drive-In Bank	912	Drive-in Lanes	27.15	35%	A	17.65	4.45	50%	2.23	2.23	39.27
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	6.41	50%	3.21	3.21	3.25

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (September 2017)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table 2.11 Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description	Development Unit
PORT AND TERMINAL			
Truck Terminal	030	Point of good transfer between trucks or between trucks and rail	1,000 SF GFA
INDUSTRIAL			
General Light Industrial	110	Emphasis on activities other than manufacturing; typically employing fewer than 500 workers	1,000 SF GFA
Industrial Park	130	Area containing a number of industries or related facilities	1,000 SF GFA
Warehousing	150	Devoted to storage of materials but may have included office and maintenance areas	1,000 SF GFA
Mini-Warehouse	151	Facilities with a number of units rented to others for the storage of goods	1,000 SF GFA
RESIDENTIAL			
Single-Family Detached Housing	210	Single-family detached homes on individual lots	Dwelling Unit
Townhomes	220	Single-family attached homes on individual lots	
Multi-family Housing (Low-Rise)	220	At least 3 rental dwelling units and one or two levels (floors) per building	Dwelling Unit
Multi-family Housing (Mid-Rise)	221	At least 3 rental dwelling units and between three and ten levels (floors) per building	Dwelling Unit
Multi-family Housing (High-Rise)	222	At least 3 rental dwelling units and more than ten levels (floors) per building	Dwelling Unit
Mid-Rise Residential with 1st Floor Commercial	231	1st-floor commercial are mixed-use multifamily housing buildings that have between three and 10 levels (floors) and include retail space on the first level	
Mobile Home Park / Manufactured Housing	240	Typically installed on permanent foundations; may have community facilities (e.g. swimming pools, laundry)	Dwelling Unit
Senior Adult Housing-Detached	251	Consists of detached independent living developments that include amenities such as golf courses and swimming pools	Dwelling Unit
Senior Adult Housing-Attached	252	Consists of attached independent living developments that include limited social or recreation services	Dwelling Unit
Assisted Living	254	Residential settings that provide either routine general protective oversight or assistance with activities	Beds
LODGING			
Hotel	310	Lodging facilities that typically have on-site restaurants, lounges, meeting and/or banquet rooms, or other retail shops and services	Room
Motel / Other Lodging Facilities	320	Lodging facilities that may have small on-site restaurant or buffet area but little or no meeting space	Room
RECREATIONAL			
Golf Course	430	May include municipal courses and private country clubs; may have driving ranges, pro shops, and restaurant/banquet facilities	Acre
Miniature Golf Course	431	One or more individual putting courses; category should not be used when part of a larger entertainment center(with batting cages, video game centers, etc)	Hole
Golf Driving Range	432	Facilities with driving tees for practice; may provide individual or group lessons; may have prop shop and/or refreshment facilities	Tee
Multiplex Movie Theater	445	Movie theater with audience seating, minimum of ten screens, lobby, and refreshment area.	Screens
Ice Skating Rink	465	Rinks for ice skating and related sports; may contain spectator areas and refreshment facilities	1,000 SF GFA
Racquet / Tennis Club	491	Indoor or outdoor facilities specifically designed for playing tennis	Court
Recreational Community Center	495	Category includes racquet clubs, health/fitness clubs, can include facilities such as YMCA's	1,000 SF GFA
INSTITUTIONAL			
Church	560	Churches and houses of worship	1,000 SF GFA
Day Care Center	565	Generally includes facilities for care of pre-school aged children, generally includes classrooms, offices, eating areas, and playgrounds	1,000 SF GFA
Primary/Middle School (1-8)	522	Serves students who have not yet entered high school	Students
High School	530	Serves students who have completed middle or junior high school	Students
Junior / Community College	540	Two-year junior, community or technical colleges	Students
University / College	550	Four-year universities or colleges that may or may not offer graduate programs	Students
MEDICAL			
Clinic	630	Facilities with limited diagnostic and outpatient care	1,000 SF GFA
Hospital	610	Medical and surgical facilities with overnight accommodations	1,000 SF GFA
Nursing Home	620	Rest and convalescent homes with residents who do little or no driving	Beds
Animal Hospital/Veterinary Clinic	640	Rest and convalescent homes with residents who do little or no driving	1,000 SF GFA

Table 2.12 Land Use Descriptions Cont

Land Use Category	ITE Land Use Code	Land Use Description	Development Unit
OFFICE			
Corporate Headquarters Building	714	Office building housing corporate headquarters of a single company or organization	1,000 SF GFA
General Office Building	710	Office buildings which house multiple tenants	1,000 SF GFA
Medical-Dental Office Building	720	Multi-tenant building with offices for physicians and/or dentists	1,000 SF GFA
Single Tenant Office Building	715	Single tenant office buildings other than corporate headquarters	1,000 SF GFA
Office Park	750	Office buildings (typically low-rise) in a campus setting and served by a common roadway system	1,000 SF GFA
COMMERCIAL			
Automobile Related			
Automobile Care Center	942	Automobile repair and servicing including stereo installations and upholstery	1,000 SF GFA
Automobile Parts Sales	843	Retail sale of auto parts but no on-site vehicle repair	1,000 SF GFA
Gasoline/Service Station	944	Gasoline sales without convenience store or car wash; may include repair	Vehicle Fueling Position
Gasoline/Service Station w/ Conv Market	945	Gasoline sales with convenience store where the primary business is gasoline sales	Vehicle Fueling Position
New Car Sales	840	New car dealerships, typically with automobile servicing, part sales, and used car sales	1,000 SF GFA
Quick Lubrication Vehicle Shop	941	Primary business is to perform oil changes and fluid/filter changes with other repair services not provided	Servicing Positions
Self-Service Car Wash	947	Has stalls for driver to park and wash the vehicle	Stall
Tire Store	848	Primary business is sales and installation of tires; usually do not have large storage or warehouse area	1,000 SF GFA
Dining			
Fast Food Restaurant with Drive-Thru Window	934	High-turnover fast food restaurant for carry-out and eat-in customers with a drive-thru window	1,000 SF GFA
Fast Food Restaurant without Drive-Thru Window	933	High-turnover fast food restaurant for carry-out and eat-in customers, but without a drive-thru window	1,000 SF GFA
High Turnover (Sit-Down) Restaurant	932	Restaurants with turnover rates less than one hour; typically includes moderately-priced chain restaurants	1,000 SF GFA
Quality Restaurant	931	Restaurants with turnover rates of one hour or longer; typically require reservations	1,000 SF GFA
Coffee/Donut Shop with Drive-Thru Window	937	Coffee and Donut restaurants with drive-through windows, hold long store hours and have limited indoor seating	1,000 SF GFA
Other Retail			
Free-Standing Discount Store	815	Category includes free-standing stores with off-street parking; typically offer a variety of products and services with long store hours	1,000 SF GFA
Nursery (Garden Center)	817	Building with a yard of planting or landscape stock; may have office, storage, shipping or greenhouse facilities	1,000 SF GFA
Home Improvement Superstore	862	Warehouse-type facilities offering a large variety of products and services including lumber, tool, paint, lighting, and fixtures, among other items.	1,000 SF GFA
Pharmacy/Drugstore w/o Drive-Thru Window	880	Facilities that primarily sell prescription and non-prescription drugs without a drive-through window	1,000 SF GFA
Pharmacy/Drugstore w/ Drive-Thru Window	881	Facilities that primarily sell prescription and non-prescription drugs with a drive-through window	1,000 SF GFA
Shopping Center	820	Integrated group of commercial establishments; planning, owned, and managed as a unit	1,000 SF GFA
Supermarket	850	Primary business is sale of groceries, food, and household cleaning items; may include photo, pharmacy, video rental, and/or ATM	1,000 SF GFA
Toy/Children's Superstore	864	Businesses specializing in child-oriented merchandise	1,000 SF GFA
Department Store	875	Free-standing stores that specialize in the sale of apparel, footwear, bedding, home products, jewelry, etc.	1,000 SF GFA
SERVICES			
Walk-In Bank	911	Banks with their own parking lots, no drive-in lanes but contain non-drive-through ATMs	1,000 SF GFA
Drive-In Bank	912	Banking facilities to conduct financial transactions from the vehicle; also usually a part of a walk-in bank	Drive-in Lanes
Hair Salon	918	Facilities that specialize in cosmetic and beauty services including hair cutting and styling	1,000 SF GLA

2.6 SAMPLE CALCULATIONS

The following section details four (4) examples of maximum assessable roadway impact fee calculations.

Example 1 - Development Type - One (1) Unit of Single-Family Housing in Service Area A

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 9 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.85
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 8, Line 20 [Maximum Assessable Fee Per Service Unit]</i> Service Area A: \$1,254
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.85 * \$1,254 Maximum Assessable Impact Fee = \$6,081.90

Example 2 - Development Type – 125 KSF Home Improvement Superstore in Service Area B

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 9 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 125,000 square feet of Home Improvement Superstore Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.78
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 8, Line 20 [Maximum Assessable Fee Per Service Unit]</i> Service Area B: \$715
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 125 * 3.78 * \$715 Maximum Assessable Impact Fee = \$337,837.50

Example 3 - Development Type – 50 KSF Warehouse in Service Area C

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 2.9 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 50,000 square feet of Warehouse Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 0.95
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 2.8, Line 20 [Maximum Assessable Fee Per Service Unit]</i> Service Area C: \$714
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 50 * 0.95 * \$714 Maximum Assessable Impact Fee = \$33,915.00

Example 4 - Development Type – 300 Room Hotel in Service Area D

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 2.9 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 300 Room Hotel Development Unit: 1 Room Veh-Mi Per Development Unit: 1.93
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 2.8, Line 20 [Maximum Assessable Fee Per Service Unit]</i> Service Area D: \$570
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 300 * 1.93 * \$570 Maximum Assessable Impact Fee = \$330,030

2.7 CONCLUSION

The City of Frisco has established a process to implement the assessment and collection of roadway impact fees through the adoption of an impact fee ordinance that is consistent with Chapter 395 of the Texas Local Government Code.

This report establishes the maximum allowable roadway impact fee that could be assessed by the City of Frisco within each of the four (4) service areas. The maximum assessable calculated in this report are as follows (from Table 2.8):

SERVICE AREA:	A	B	C	D
MAX ASSESSABLE FEE PER SERVICE UNIT	\$1,254	\$715	\$714	\$570

This document serves as a guide to the assessment of roadway impact fees pertaining to future development and the City's need for roadway improvements to accommodate that growth. Following the public hearing process, the City Council may establish an amount to be assessed (if any) up to the maximum established within this report and update the Roadway Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this analysis are appropriate and consistent with Chapter 395 of the Texas Local Government Code. Furthermore, the Land Use Assumptions and the proposed Capital Improvements Plan are appropriately incorporated into the process.

APPENDICES

- A. CONCEPTUAL LEVEL PROJECT COST PROJECTIONS
- B. CIP SERVICE UNITS OF SUPPLY
- C. EXISTING ROADWAY FACILITIES INVENTORY
- D. PLAN FOR AWARDING THE ROADWAY IMPACT FEE CREDIT SUMMARY
- E. PLAN FOR AWARDING THE ROADWAY IMPACT FEE CREDIT SUPPORTING EXHIBITS

APPENDIX A

CONCEPTUAL LEVEL PROJECT COST PROJECTIONS

City of Frisco - 2018 Roadway Impact Fee

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area A

#	Class	Project	Limits	Status	Project Cost
A-1	4D (1/2)	Rockhill Pkwy (1)	2,270' W of FM 423 to 895' W of FM 423	Widening	\$ 607,000
A-2	6D (2/3)	Rockhill Pkwy (2)	FM 423 to 705' E of Teel Pkwy	Widening	\$ 2,293,000
A-3	6D (1/3)	Rockhill Pkwy (3)	705' E of Teel Pkwy to Teel Pkwy	Median	\$ 221,000
A-4	6D	Rockhill Pkwy (4)	Rockhill Pkwy to Legacy Dr (Future)	New	\$ 9,010,000
A-5	6D	Rockhill Pkwy (5)	Legacy Dr to 1025' E of Legacy Dr	New	\$ 1,120,000
A-6	6D (Previous)	Rockhill Pkwy (6)	Mahard Pkwy to DNT	Previous	\$ 4,183,028
A-7	6D (Previous)	Rockhill Pkwy (7)	DNT to BNSF Railroad	Previous	\$ 2,451,813
A-8	6D (1/3)	Panther Creek Pkwy (1)	FM 423 to 485' W of King George Ln	Median	\$ 10,758,000
A-9	6D (1/3)	Panther Creek Pkwy (2)	485' W of King George Ln to 150' E of King George Ln	Median	\$ 199,000
A-10	6D	Panther Creek Pkwy (3)	150' E of King George Ln to BNSF Railroad	New	\$ 9,051,000
A-11	6D (Previous)	Eldorado Pkwy (2)	DNT to BNSF Railroad	Previous	\$ 2,773,434
A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	Median	\$ 17,453,784
A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	Median	\$ 3,567,000
A-14	6D (2/3)	Teel Pkwy (1)	Rockhill Pkwy to 1515' S of Little Ranch Rd	Widening	\$ 9,603,000
A-15	6D (1/3)	Teel Pkwy (2)	1515' S of Little Ranch Rd to Eldorado Pkwy	Median	\$ 4,143,000
A-16	6D (1/3)	Teel Pkwy (3)	Eldorado Pkwy to Main St	Median	\$ 4,700,000
A-17	6D	N Teel Pkwy	US 380 to 1435' S of US 380	Widening	\$ 1,600,000
A-18	6D	Legacy Dr (1)	US 380 to Panther Creek Pkwy	New	\$ 16,493,000
A-19	6D (1/3)	Legacy Dr (2)	Panther Creek Pkwy to Main St	Median	\$ 9,941,000
A-20	6D	Mahard Pkwy (1)	US 380 to 1705' S of US 380	Widening	\$ 1,999,000
A-21	6D	Mahard Pkwy (2)	1705' S of US 380 to Rockhill Pkwy	Widening	\$ 1,076,000
A-22	4D	Frisco St (1)	Teel Pkwy to Panther Creek Pkwy	New	\$ 12,649,000
A-23	6D	Frisco St (2)	Cobb Hill Dr to Panther Creek Pkwy	New	\$ 2,923,000
A-24	6D (1/3)	Frisco St (3)	Eldorado Pkwy to Main St	Median	\$ 7,378,000
A-25	4D	Little Ranch Rd	FM 423 to Teel Pkwy	Widening	\$ 5,058,000
A-26	2U	New Collector A	Frisco St to US 380	New	\$ 6,174,000

TOTAL \$ 147,425,059

*Total may be higher than presented in Table 2.4 (10-Year CIP with Conceptual Level Cost Opinions) because the cost of some projects are shared between service areas.

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-1
Name:	Rockhill Pkwy (1)	This project consists of the construction of the northern two lanes of a four-lane divided minor thoroughfare.		
Limits:	2,270' W of FM 423 to 895' W of FM 423			
Impact Fee Class:	4D (1/2)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	1,375			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	2,139	cy	\$ 8.00	\$ 17,111
205	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,278	sy	\$ 5.00	\$ 21,389
305	8" Concrete Pavement w/ 6" Curb	4,125	sy	\$ 46.00	\$ 189,750
405	4" Topsoil	10,083	sy	\$ 4.50	\$ 45,375
Paving Construction Cost Subtotal:					\$ 273,625
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	21,890
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	8,209
✓	Pavement Markings/Markers		4%	\$	10,945
✓	Roadway Drainage	Standard Internal System	25%	\$	68,406
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	13,681
✓	Sewer	Minor Adjustments	2%	\$	5,473
✓	Establish Turf / Erosion Control		6%	\$	16,418
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	145,021
Paving and Allowance Subtotal:				\$	418,646
Construction Contingency:				15%	\$ 62,797
Construction Cost TOTAL:				\$	482,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 482,000
Engineering/Survey/Testing:		20%	\$ 96,400
Mobilization		6%	\$ 28,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 607,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-2
Name:	Rockhill Pkwy (2)	This project consists of the widening of a two-lane concrete roadway to a six-lane divided major thoroughfare.		
Limits:	FM 423 to 705' E of Teel Pkwy			
Impact Fee Class:	6D (2/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,030			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	9,427	cy	\$ 8.00	\$ 75,413
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	18,180	sy	\$ 5.00	\$ 90,900
308	8" Concrete Pavement w/ 6" Curb	17,675	sy	\$ 46.00	\$ 813,050
408	4" Topsoil	12,120	sy	\$ 4.50	\$ 54,540
Paving Construction Cost Subtotal:					\$ 1,033,903
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	82,712
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	31,017
✓	Pavement Markings/Markers		4%	\$	41,356
✓	Roadway Drainage	Standard Internal System	25%	\$	258,476
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	51,695
✓	Sewer	Minor Adjustments	2%	\$	20,678
✓	Establish Turf / Erosion Control		6%	\$	62,034
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	547,969
Paving and Allowance Subtotal:				\$	1,581,872
Construction Contingency:				15%	\$ 237,281
Construction Cost TOTAL:				\$	1,820,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,820,000
Engineering/Survey/Testing:		20%	\$ 364,000
Mobilization		6%	\$ 109,200
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,293,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-3	
Name:	Rockhill Pkwy (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.			
Limits:	705' E of Teel Pkwy to Teel Pkwy				
Impact Fee Class:	6D (1/3)				
Ultimate Class:	Major Thoroughfare				
Length (lf):	705				
Service Area(s):	A				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	1,097	cy	\$ 8.00	\$ 8,773
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	2,193	sy	\$ 5.00	\$ 10,967
307	8" Concrete Pavement w/ 6" Curb	2,115	sy	\$ 46.00	\$ 97,290
407	4" Topsoil	1,880	sy	\$ 4.50	\$ 8,460
Paving Construction Cost Subtotal:					\$ 125,490
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW		8%	\$	10,039
√	Traffic Control	Construction Phase Traffic Control	3%	\$	3,765
√	Pavement Markings/Markers		4%	\$	5,020
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
√	Establish Turf / Erosion Control		6%	\$	7,529
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	26,353
Paving and Allowance Subtotal:				\$	151,843
Construction Contingency:				15%	\$ 22,776
Construction Cost TOTAL:				\$	175,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 175,000
Engineering/Survey/Testing:		20%	\$ 35,000
Mobilization		6%	\$ 10,500
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 221,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-4
Name:	Rockhill Pkwy (4)	This project consists of the construction of a new six-lane divided major thoroughfare.		
Limits:	Rockhill Pkwy to Legacy Dr (Future)			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	7,915			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	35,178	cy	\$ 8.00	\$ 281,422
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	70,356	sy	\$ 5.00	\$ 351,778
304	8" Concrete Pavement w/ 6" Curb	68,597	sy	\$ 46.00	\$ 3,155,447
404	4" Topsoil	42,213	sy	\$ 4.50	\$ 189,960

Paving Construction Cost Subtotal: \$ 3,978,607

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 318,289
✓ Traffic Control	None Anticipated	0%	\$ -
✓ Pavement Markings/Markers		4%	\$ 159,144
✓ Roadway Drainage	Standard Internal System	25%	\$ 994,652
✓ Special Drainage Structures	Minor Flood Plain Crossing	\$250,000	\$ 250,000
✓ Water	Minor Adjustments	5%	\$ 198,930
✓ Sewer	Minor Adjustments	2%	\$ 79,572
✓ Establish Turf / Erosion Control		6%	\$ 238,716
Other:		\$0	\$ -

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 2,239,303

Paving and Allowance Subtotal: \$ 6,217,910

Construction Contingency: 15% \$ 932,687

Construction Cost TOTAL: \$ 7,151,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,151,000
Engineering/Survey/Testing:		20%	\$ 1,430,200
Mobilization		6%	\$ 429,060
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 9,010,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-5
Name:	Rockhill Pkwy (5)	This project consists of the construction of a new six-lane divided major thoroughfare.		
Limits:	Legacy Dr to 1025' E of Legacy Dr			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,025			
Service Area(s):	A, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	4,556	cy	\$ 8.00	\$ 36,444
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	9,111	sy	\$ 5.00	\$ 45,556
304	8" Concrete Pavement w/ 6" Curb	8,883	sy	\$ 46.00	\$ 408,633
404	4" Topsoil	5,467	sy	\$ 4.50	\$ 24,600
Paving Construction Cost Subtotal:					\$ 515,233
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	41,219
	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Markers		4%	\$	20,609
✓	Roadway Drainage	Standard Internal System	25%	\$	128,808
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	25,762
✓	Sewer	Minor Adjustments	2%	\$	10,305
✓	Establish Turf / Erosion Control		6%	\$	30,914
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	257,617
Paving and Allowance Subtotal:				\$	772,850
Construction Contingency:				15%	\$ 115,928
Construction Cost TOTAL:				\$	889,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 889,000
Engineering/Survey/Testing:		20%	\$ 177,800
Mobilization		6%	\$ 53,340
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,120,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-6
Name:	Rockhill Pkwy (6)	This completed project consisted of the construction of a six-lane divided major thoroughfare. The City's actual contribution was \$4,183,028		
Limits:	Mahard Pkwy to DNT			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,795			
Service Area(s):	A			
Impact Fee Project Cost Summary				
Item Description		Notes:	Allowance	Item Cost
Construction:		Based on actual City contribution Muni 09115		\$ 4,183,028
City Contribution to Construction Cost:				
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:				\$ 4,183,028

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	A-7
Name:	Rockhill Pkwy (7)	This completed project consisted of the construction of a six-lane divided major thoroughfare. The City's actual contribution was \$2,451,813.		
Limits:	DNT to BNSF Railroad			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,755			
Service Area(s):	A			
Impact Fee Project Cost Summary				
Item Description		Notes:	Allowance	Item Cost
Construction:		Based on actual City contribution Muni 08126		\$ 2,451,813
City Contribution to Construction Cost:				
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	2,451,813

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-8
Name:	Panther Creek Pkwy (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$5,873,770 (CIP 05-0019) to the construction of the existing four-lane facility.		
Limits:	FM 423 to 485' W of King George Ln			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	15,645			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	24,337	cy	\$ 8.00	\$ 194,693
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	48,673	sy	\$ 5.00	\$ 243,367
307	8" Concrete Pavement w/ 6" Curb	46,935	sy	\$ 46.00	\$ 2,159,010
407	4" Topsoil	41,720	sy	\$ 4.50	\$ 187,740
Paving Construction Cost Subtotal:					\$ 2,784,810
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	222,785
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	83,544
✓	Pavement Markings/Markers		4%	\$	111,392
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	167,089
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 584,810	
				Paving and Allowance Subtotal:	\$ 3,369,620
				Construction Contingency:	15% \$ 505,443
				Construction Cost TOTAL:	\$ 3,876,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,876,000
Engineering/Survey/Testing:		20%	\$ 775,200
Mobilization		6%	\$ 232,560
Previous City contribution	CIP 05-0019 / Muni 07127		\$ 5,873,770
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 10,758,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-9
Name:	Panther Creek Pkwy (2)			This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.
Limits:	485' W of King George Ln to 150' E of King George Ln			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	635			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	988	cy	\$ 8.00	\$ 7,902
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	1,976	sy	\$ 5.00	\$ 9,878
307	8" Concrete Pavement w/ 6" Curb	1,905	sy	\$ 46.00	\$ 87,630
407	4" Topsoil	1,693	sy	\$ 4.50	\$ 7,620
Paving Construction Cost Subtotal:					\$ 113,030
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	9,042	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	3,391	
✓ Pavement Markings/Markers		4%	\$	4,521	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	6,782	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	23,736
Paving and Allowance Subtotal:				\$	136,766
Construction Contingency:				15%	\$ 20,515
Construction Cost TOTAL:				\$	158,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 158,000
Engineering/Survey/Testing:		20%	\$ 31,600
Mobilization		6%	\$ 9,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 199,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-10
Name:	Panther Creek Pkwy (3)	This project consists of the construction of a new six lane divided major thoroughfare.		
Limits:	150' E of King George Ln to BNSF Railroad			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,305			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	19,133	cy	\$ 8.00	\$ 153,067
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	38,267	sy	\$ 5.00	\$ 191,333
304	8" Concrete Pavement w/ 6" Curb	37,310	sy	\$ 46.00	\$ 1,716,260
404	4" Topsoil	22,960	sy	\$ 4.50	\$ 103,320

Paving Construction Cost Subtotal: \$ 2,163,980

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 173,118
✓ Traffic Control	None Anticipated	0%	\$ -
✓ Pavement Markings/Markers		4%	\$ 86,559
✓ Roadway Drainage	Standard Internal System	25%	\$ 540,995
✓ Special Drainage Structures	Major Drainage Crossings	\$500,000	\$ 500,000
✓ Water	Minor Adjustments	5%	\$ 108,199
✓ Sewer	Minor Adjustments	2%	\$ 43,280
✓ Establish Turf / Erosion Control		6%	\$ 129,839
✓ Other:	RR Bridge - Half in Service Area A	\$2,500,000	\$ 2,500,000

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 4,081,990

Paving and Allowance Subtotal: \$ 6,245,970

Construction Contingency: 15% \$ 936,896

Construction Cost TOTAL: \$ 7,183,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,183,000
Engineering/Survey/Testing:		20%	\$ 1,436,600
Mobilization		6%	\$ 430,980
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 9,051,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	A-11
Name:	Eldorado Pkwy (2)	This completed project consisted of the construction of a six-lane divided major thoroughfare. The City's actual contribution was \$5,687,690.		
Limits:	DNT to BNSF Railroad			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,075			
Service Area(s):	A			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	CIP 05-0012 / Muni 07131, 00105, 02155	46%	\$	3,899,847
Collin County Contribution		46%	\$	(931,960)
Developer Contribution		46%	\$	(194,453)
Previous City contribution				-
ROW/Easement Acquisition:		0%		-
Impact Fee Project Cost TOTAL:			\$	2,773,434

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-12, C-1
Name:	Main St (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City's actual anticipated contribution is \$17,453,784.		
Limits:	FM 423 to DNT			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	15,550			
Service Area(s):	A,C			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	Muni 09124	-	\$ 17,453,784	
Engineering/Survey/Testing:				
Mobilization				
Previous City contribution				
Other				
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -	
Impact Fee Project Cost TOTAL:			\$ 17,453,784	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-13, C-2
Name:	Main St (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$2,470,806 (CIP 04-0004) to the construction of the existing four-lane facility.		
Limits:	DNT to BNSF Railroad			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,510			
Service Area(s):	A,C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,460	cy	\$ 8.00	\$ 43,680
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	10,920	sy	\$ 5.00	\$ 54,600
307	8" Concrete Pavement w/ 6" Curb	10,530	sy	\$ 46.00	\$ 484,380
407	4" Topsoil	9,360	sy	\$ 4.50	\$ 42,120
Paving Construction Cost Subtotal:					\$ 624,780
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	49,982
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	18,743
✓	Pavement Markings/Markers		4%	\$	24,991
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	37,487
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	131,204
Paving and Allowance Subtotal:				\$	755,984
Construction Contingency:				15%	\$ 113,398
Construction Cost TOTAL:				\$	870,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 870,000
Engineering/Survey/Testing:		20%	\$ 174,000
Mobilization		6%	\$ 52,200
Previous City contribution	CIP 04-0004 / Muni 01102		\$ 2,470,806
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,567,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-14
Name:	Teel Pkwy (1)	This project consists of the widening of a two-lane concrete roadway to a six-lane divided major thoroughfare. The City contributed \$3,949,695 to the existing two-lane facility.		
Limits:	Rockhill Pkwy to 1515' S of Little Ranch Rd			
Impact Fee Class:	6D (2/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,120			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	12,818	cy	\$ 8.00	\$ 102,542
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	24,720	sy	\$ 5.00	\$ 123,600
308	8" Concrete Pavement w/ 6" Curb	24,033	sy	\$ 46.00	\$ 1,105,533
408	4" Topsoil	16,480	sy	\$ 4.50	\$ 74,160
Paving Construction Cost Subtotal:					\$ 1,405,836
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	112,467
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	42,175
✓	Pavement Markings/Markers		4%	\$	56,233
✓	Roadway Drainage	Standard Internal System	25%	\$	351,459
✓	Special Drainage Structures	Major Flood Plain Crossing	\$1,750,000	\$	1,750,000
✓	Water	Minor Adjustments	5%	\$	70,292
✓	Sewer	Minor Adjustments	2%	\$	28,117
✓	Establish Turf / Erosion Control		6%	\$	84,350
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	2,495,093
Paving and Allowance Subtotal:				\$	3,900,928
Construction Contingency:				15%	\$ 585,139
Construction Cost TOTAL:				\$	4,487,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,487,000
Engineering/Survey/Testing:		20%	\$ 897,400
Mobilization		6%	\$ 269,220
Previous City contribution	Muni 14146		\$ 3,949,695
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 9,603,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-15
Name:	Teel Pkwy (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$1,638,060 (CIP 09-0009) to the existing four-lane facility.		
Limits:	1515' S of Little Ranch Rd to Eldorado Pkwy			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	8,025			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	12,483	cy	\$ 8.00	\$ 99,867
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	24,967	sy	\$ 5.00	\$ 124,833
307	8" Concrete Pavement w/ 6" Curb	24,075	sy	\$ 46.00	\$ 1,107,450
407	4" Topsoil	21,400	sy	\$ 4.50	\$ 96,300
Paving Construction Cost Subtotal:					\$ 1,428,450
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	114,276
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	42,854
✓	Pavement Markings/Markers		4%	\$	57,138
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	85,707
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 299,975	
				Paving and Allowance Subtotal:	\$ 1,728,425
				Construction Contingency:	15% \$ 259,264
				Construction Cost TOTAL:	\$ 1,988,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,988,000
Engineering/Survey/Testing:		20%	\$ 397,600
Mobilization		6%	\$ 119,280
Previous City contribution	CIP 09-0009 / Muni 08140, 09117		\$ 1,638,060
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 4,143,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-16
Name:	Teel Pkwy (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore 440 feet of median cost has been removed. The City contributed \$1,900,555 (CIP 07-0057, 04-0051 & 03-0122) to the construction of the existing four-lane facility.		
Limits:	Eldorado Pkwy to Main St			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	8,970			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	13,953	cy	\$ 8.00	\$ 111,627
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	27,907	sy	\$ 5.00	\$ 139,533
307	8" Concrete Pavement w/ 6" Curb	26,910	sy	\$ 46.00	\$ 1,237,860
407	4" Topsoil	23,920	sy	\$ 4.50	\$ 107,640
Paving Construction Cost Subtotal:					\$ 1,596,660
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	127,733	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	47,900	
✓ Pavement Markings/Markers		4%	\$	63,866	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	95,800	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	335,299
Paving and Allowance Subtotal:				\$	1,931,959
Construction Contingency:				15%	\$ 289,794
Construction Cost TOTAL:				\$	2,222,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,222,000
Engineering/Survey/Testing:		20%	\$ 444,400
Mobilization		6%	\$ 133,320
Previous City contribution	CIP 07-0057, 04-0051, 03-0122 / Muni 05117, 03119		\$ 1,900,555
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 4,700,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-17	
Name:	N Teel Pkwy		This project consists of the reconstruction of a two-lane gravel facility into a six-lane divided major thoroughfare.		
Limits:	US 380 to 1435' S of US 380				
Impact Fee Class:	6D				
Ultimate Class:	Major Thoroughfare				
Length (lf):	1,435				
Service Area(s):	A				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	6,378	cy	\$ 8.00	\$ 51,022
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	12,756	sy	\$ 5.00	\$ 63,778
304	8" Concrete Pavement w/ 6" Curb	12,437	sy	\$ 46.00	\$ 572,087
404	4" Topsoil	7,653	sy	\$ 4.50	\$ 34,440
Paving Construction Cost Subtotal:					\$ 721,327
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW		8%	\$	57,706
√	Traffic Control	Construction Phase Traffic Control	3%	\$	21,640
√	Pavement Markings/Markers		4%	\$	28,853
√	Roadway Drainage	Standard Internal System	25%	\$	180,332
	Special Drainage Structures	None Anticipated	\$0	\$	-
√	Water	Minor Adjustments	5%	\$	36,066
√	Sewer	Minor Adjustments	2%	\$	14,427
√	Establish Turf / Erosion Control		6%	\$	43,280
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 382,303	
Paving and Allowance Subtotal:				\$	1,103,630
Construction Contingency:				15%	\$ 165,544
Construction Cost TOTAL:				\$	1,270,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,270,000
Engineering/Survey/Testing:		20%	\$ 254,000
Mobilization		6%	\$ 76,200
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,600,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-18
Name:	Legacy Dr (1)	This project consists of the construction of a new six lane divided major thoroughfare.		
Limits:	US 380 to Panther Creek Pkwy			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	10,785			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	47,933	cy	\$ 8.00	\$ 383,467
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	95,867	sy	\$ 5.00	\$ 479,333
304	8" Concrete Pavement w/ 6" Curb	93,470	sy	\$ 46.00	\$ 4,299,620
404	4" Topsoil	57,520	sy	\$ 4.50	\$ 258,840

Paving Construction Cost Subtotal: \$ 5,421,260

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 433,701
✓ Traffic Control	None Anticipated	0%	\$ -
✓ Pavement Markings/Markers		4%	\$ 216,850
✓ Roadway Drainage	Standard Internal System	25%	\$ 1,355,315
✓ Special Drainage Structures	Major Flood Plain Crossing	\$3,250,000	\$ 3,250,000
✓ Water	Minor Adjustments	5%	\$ 271,063
✓ Sewer	Minor Adjustments	2%	\$ 108,425
✓ Establish Turf / Erosion Control		6%	\$ 325,276
Other:		\$0	\$ -

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 5,960,630

Paving and Allowance Subtotal: \$ 11,381,890

Construction Contingency: 15% \$ 1,707,284

Construction Cost TOTAL: \$ 13,090,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 13,090,000
Engineering/Survey/Testing:		20%	\$ 2,618,000
Mobilization		6%	\$ 785,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 16,493,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. A-19
Name:	Legacy Dr (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore 360 feet of median cost has been removed. The City contributed \$5,943,603 (CIP 03-0124) to the construction of the existing four-lane facility.	
Limits:	Panther Creek Pkwy to Main St		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	13,235		
Service Area(s):	A		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	20,588	cy	\$ 8.00	\$ 164,702
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	41,176	sy	\$ 5.00	\$ 205,878
307	8" Concrete Pavement w/ 6" Curb	39,705	sy	\$ 46.00	\$ 1,826,430
407	4" Topsoil	35,293	sy	\$ 4.50	\$ 158,820
Paving Construction Cost Subtotal:					\$ 2,355,830
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	188,466
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	70,675
✓	Pavement Markings/Markers		4%	\$	94,233
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	141,350
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 494,724	
				Paving and Allowance Subtotal:	\$ 2,850,554
				Construction Contingency:	15% \$ 427,583
				Construction Cost TOTAL:	\$ 3,279,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,279,000
Engineering/Survey/Testing:		20%	\$ 655,800
Mobilization		6%	\$ 196,740
Previous City contribution	CIP 03-0124 / Muni 04104		\$ 5,809,620
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 9,941,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-20
Name:	Mahard Pkwy (1)	This project consists of the reconstruction of a two-lane gravel facility into a six-lane divided major thoroughfare.		
Limits:	US 380 to 1705' S of US 380			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,705			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	7,578	cy	\$ 8.00	\$ 60,622
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	15,156	sy	\$ 5.00	\$ 75,778
304	8" Concrete Pavement w/ 6" Curb	14,777	sy	\$ 46.00	\$ 679,727
404	4" Topsoil	9,093	sy	\$ 4.50	\$ 40,920

Paving Construction Cost Subtotal: \$ 857,047

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 68,564
✓ Traffic Control	Construction Phase Traffic Control	3%	\$ 25,711
✓ Pavement Markings/Markers		4%	\$ 34,282
✓ Roadway Drainage	Standard Internal System	25%	\$ 214,262
Special Drainage Structures	None Anticipated	\$0	\$ -
✓ Water	Minor Adjustments	5%	\$ 42,852
✓ Sewer	Minor Adjustments	2%	\$ 17,141
✓ Establish Turf / Erosion Control		6%	\$ 51,423
Other:		\$0	\$ -

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 454,235

Paving and Allowance Subtotal: \$ 1,311,281

Construction Contingency: 15% \$ 196,692

Construction Cost TOTAL: \$ 1,508,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,508,000
Engineering/Survey/Testing:	Muni 13136		\$ 400,284
Mobilization		6%	\$ 90,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,999,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-21
Name:	Mahard Pkwy (2)	This project consists of the reconstruction of a two-lane gravel facility into a six-lane divided major thoroughfare.		
Limits:	1705' S of US 380 to Rockhill Pkwy			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	965			
Service Area(s):	A,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	4,289	cy	\$ 8.00	\$ 34,311
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,578	sy	\$ 5.00	\$ 42,889
304	8" Concrete Pavement w/ 6" Curb	8,363	sy	\$ 46.00	\$ 384,713
404	4" Topsoil	5,147	sy	\$ 4.50	\$ 23,160
Paving Construction Cost Subtotal:					\$ 485,073
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	38,806
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	14,552
✓	Pavement Markings/Markers		4%	\$	19,403
✓	Roadway Drainage	Standard Internal System	25%	\$	121,268
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	24,254
✓	Sewer	Minor Adjustments	2%	\$	9,701
✓	Establish Turf / Erosion Control		6%	\$	29,104
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	257,089
Paving and Allowance Subtotal:				\$	742,162
Construction Contingency:				15%	\$ 111,324
Construction Cost TOTAL:				\$	854,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 854,000
Engineering/Survey/Testing:		20%	\$ 170,800
Mobilization		6%	\$ 51,240
Previous City contribution	Muni 13136		
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,076,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-22
Name:	Frisco St (1)	This project consists of the construction of a new four-lane divided minor thoroughfare.		
Limits:	Teel Pkwy to Panther Creek Pkwy			
Impact Fee Class:	4D			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	14,125			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	43,944	cy	\$ 8.00	\$ 351,556
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	87,889	sy	\$ 5.00	\$ 439,444
302	8" Concrete Pavement w/ 6" Curb	84,750	sy	\$ 46.00	\$ 3,898,500
402	4" Topsoil	65,917	sy	\$ 4.50	\$ 296,625
Paving Construction Cost Subtotal:					\$ 4,986,125
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	398,890	
✓ Traffic Control	None Anticipated	0%	\$	-	
✓ Pavement Markings/Markers		4%	\$	199,445	
✓ Roadway Drainage	Standard Internal System	25%	\$	1,246,531	
✓ Special Drainage Structures	Flood Plain Crossing	\$1,250,000	\$	1,250,000	
✓ Water	Minor Adjustments	5%	\$	249,306	
✓ Sewer	Minor Adjustments	2%	\$	99,723	
✓ Establish Turf / Erosion Control		6%	\$	299,168	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	3,743,063
Paving and Allowance Subtotal:				\$	8,729,188
Construction Contingency:				15%	\$ 1,309,378
Construction Cost TOTAL:				\$	10,039,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 10,039,000
Engineering/Survey/Testing:		20%	\$ 2,007,800
Mobilization		6%	\$ 602,340
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 12,649,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-23	
Name:	Frisco St (2)	This project consists of the construction of a new six-lane divided major thoroughfare.			
Limits:	Cobb Hill Dr to Panther Creek Pkwy				
Impact Fee Class:	6D				
Ultimate Class:	Major Thoroughfare				
Length (lf):	2,675				
Service Area(s):	A				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	11,889	cy	\$ 8.00	\$ 95,111
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	23,778	sy	\$ 5.00	\$ 118,889
304	8" Concrete Pavement w/ 6" Curb	23,183	sy	\$ 46.00	\$ 1,066,433
404	4" Topsoil	14,267	sy	\$ 4.50	\$ 64,200
Paving Construction Cost Subtotal:					\$ 1,344,633
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW	None Anticipated	8%	\$	107,571
	Traffic Control		0%	\$	-
√	Pavement Markings/Markers	Standard Internal System	4%	\$	53,785
√	Roadway Drainage		25%	\$	336,158
	Special Drainage Structures		\$0	\$	-
√	Water	Minor Adjustments	5%	\$	67,232
√	Sewer	Minor Adjustments	2%	\$	26,893
√	Establish Turf / Erosion Control		6%	\$	80,678
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 672,317	
Paving and Allowance Subtotal:				\$	2,016,950
Construction Contingency:				15%	\$ 302,543
Construction Cost TOTAL:				\$	2,320,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,320,000
Engineering/Survey/Testing:		20%	\$ 464,000
Mobilization		6%	\$ 139,200
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,923,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. A-24
Name:	Frisco St (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$4,829,066 (CIP 03-0091) to the construction of the existing four-lane facility.	
Limits:	Eldorado Pkwy to Main St		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	8,165		
Service Area(s):	A		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	12,701	cy	\$ 8.00	\$ 101,609
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	25,402	sy	\$ 5.00	\$ 127,011
307	8" Concrete Pavement w/ 6" Curb	24,495	sy	\$ 46.00	\$ 1,126,770
407	4" Topsoil	21,773	sy	\$ 4.50	\$ 97,980
Paving Construction Cost Subtotal:					\$ 1,453,370
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	116,270
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	43,601
✓	Pavement Markings/Markers		4%	\$	58,135
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	87,202
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 305,208	
				Paving and Allowance Subtotal:	\$ 1,758,578
				Construction Contingency:	\$ 263,787
				Construction Cost TOTAL:	\$ 2,023,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,023,000
Engineering/Survey/Testing:		20%	\$ 404,600
Mobilization		6%	\$ 121,380
Previous City contribution	CIP 03-0091 / Muni 03125		\$ 4,829,066
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 7,378,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	A-25
Name:	Little Ranch Rd	This project consists of the reconstruction of a two-lane roadway into a four lane divided minor thoroughfare.		
Limits:	FM 423 to Teel Pkwy			
Impact Fee Class:	4D			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	3,685			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	11,464	cy	\$ 8.00	\$ 91,716
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	22,929	sy	\$ 5.00	\$ 114,644
302	8" Concrete Pavement w/ 6" Curb	22,110	sy	\$ 46.00	\$ 1,017,060
402	4" Topsoil	17,197	sy	\$ 4.50	\$ 77,385
Paving Construction Cost Subtotal:					\$ 1,300,805
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	104,064	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	39,024	
✓ Pavement Markings/Markers		4%	\$	52,032	
✓ Roadway Drainage	Standard Internal System	25%	\$	325,201	
✓ Special Drainage Structures	Major Flood Plain Crossing	\$1,500,000	\$	1,500,000	
✓ Water	Minor Adjustments	5%	\$	65,040	
✓ Sewer	Minor Adjustments	2%	\$	26,016	
✓ Establish Turf / Erosion Control		6%	\$	78,048	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal		Allowance Subtotal:	\$	2,189,427	
Paving and Allowance Subtotal:			\$	3,490,232	
Construction Contingency:			15%	\$	523,535
Construction Cost TOTAL:			\$	4,014,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,014,000
Engineering/Survey/Testing:		20%	\$ 802,800
Mobilization		6%	\$ 240,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 5,058,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-26
Name:	New Collector A	This project consists of the construction of a new two lane undivided collector street.		
Limits:	Frisco St to US 380			
Impact Fee Class:	2U			
Ultimate Class:	Collector Street			
Length (lf):	11,740			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	26,089	cy	\$ 8.00	\$ 208,711
201	12" Lime Stabilized Subgrade @ 100 lbs/sy	52,178	sy	\$ 5.00	\$ 260,889
301	7" Concrete Pavement w/ 6" Curb	50,873	sy	\$ 34.00	\$ 1,729,693
401	4" Topsoil	31,307	sy	\$ 4.50	\$ 140,880
Paving Construction Cost Subtotal:					\$ 2,340,173
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW	None Anticipated	8%	\$	187,214
	Traffic Control		0%	\$	-
✓	Pavement Markings/Markers	Standard Internal System	4%	\$	93,607
✓	Roadway Drainage		25%	\$	585,043
✓	Special Drainage Structures	Three Flood Plain Crossings	\$750,000	\$	750,000
✓	Water	Minor Adjustments	5%	\$	117,009
✓	Sewer	Minor Adjustments	2%	\$	46,803
✓	Establish Turf / Erosion Control		6%	\$	140,410
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,920,087
Paving and Allowance Subtotal:				\$	4,260,260
Construction Contingency:				15%	\$ 639,039
Construction Cost TOTAL:				\$	4,900,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,900,000
Engineering/Survey/Testing:		20%	\$ 980,000
Mobilization		6%	\$ 294,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 6,174,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco - 2018 Roadway Impact Fee
 Capital Improvement Plan for Roadway Impact Fees
 Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area B

#	Class	Project	Limits	Status	Project Cost
B-1	6D (Previous)	Rockhill Pkwy (8)	BNSF Railroad to Preston Rd	Previous	\$ 5,609,135
B-2	6D	Rockhill Pkwy (9)	Preston Rd to 4,035' E. of Preston Rd	Widening	\$ 1,606,000
B-3	6D	Rockhill Pkwy (10)	Hillcrest Rd to Coit Rd	Widening	\$ 2,143,000
B-4	6D	Panther Creek Pkwy (4)	BNSF Railroad to Preston Rd	Widening	\$ 5,589,000
B-5	6D (2/3)	Panther Creek Pkwy (5)	Preston Rd to 765' E of Preston Rd	Widening	\$ 580,000
B-6	6D (1/3)	Panther Creek Pkwy (6)	765' E of Preston Rd to Herschel Dr	Median	\$ 990,000
B-7	6D (2/3)	Panther Creek Pkwy (8)	Herschel Dr to Alameda Dr	Widening	\$ 3,214,000
B-8	6D (1/3)	Panther Creek Pkwy (9)	Alameda Dr to Coit Rd	Median	\$ 1,714,000
B-9	6D (1/3)	Panther Creek Pkwy (10)	Coit Rd to 1645' E of Coit Rd	Median	\$ 1,702,118
B-10	6D (1/2)	Panther Creek Pkwy (11)	Memory Ln to Custer Rd	Widening	\$ 1,493,000
B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	Previous	\$ 7,070,719
B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	Previous	\$ 1,151,114
B-13	6D (Previous)	Preston Rd (1) [SH 289]	US 380 to Main St	Previous	\$ 6,453,426
B-14	6D	Hillcrest Rd (1)	US 380 to 2,685' S of US 380	New	\$ 2,935,000
B-15	6D	Hillcrest Rd (2)	Rockhill Pkwy To 775' S of Rockhill Pkwy	New	\$ 848,000
B-16	6D (2/3)	Hillcrest Rd (3)	775' S of Rockhill Pkwy to 4,015' S of Rockhill Pkwy	Widening	\$ 2,452,000
B-17	6D (1/3)	Hillcrest Rd (4)	4,015' S of Rockhill Pkwy to Panther Creek Pkwy	Median	\$ 587,000
B-18	6D (1/3)	Hillcrest Rd (5)	Panther Creek Pkwy to Eldorado Pkwy	Median	\$ 1,579,000
B-19	6D	Hillcrest Rd (6)	Eldorado Pkwy to Main St	New	\$ 8,691,000
B-20	6D (1/2)	Coit Rd (1)	US 380 to 2,900' S of Prestwick Hollow Dr	Widening	\$ 4,478,087
B-21	6D (1/3)	Coit Rd (2)	Rockhill Pkwy to 2,590' S of Rockhill Pkwy	Median	\$ 2,511,000
B-22	6D (1/3)	Coit Rd (3)	2,590' S of Rockhill Pkwy to Panther Creek Pkwy	Median	\$ 3,855,000
B-23	6D (1/3)	Coit Rd (4)	Panther Creek Pkwy to Buckeye Dr	Median	\$ 1,300,000
B-24	6D (1/3)	Coit Rd (5)	Buckeye Dr to Main St	Median	\$ 3,449,000
B-25	6D (1/3)	Independence Pkwy (1)	Nixon Dr to Main St	Median	\$ 9,497,000
TOTAL					\$ 81,497,599

*Total may be higher than presented in Table 2.4 (10-Year CIP with Conceptual Level Cost Opinions) because the cost of some projects are shared between service areas.

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-1
Name:	Rockhill Pkwy (8)	This completed project consisted of the construction of a six-lane divided major thoroughfare. The City's actual contribution was \$4,942,270.		
Limits:	BNSF Railroad to Preston Rd			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,015			
Service Area(s):	B			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction	Based on actual cost provided by City	-	\$ 5,609,135	
Engineering/Survey/Testing	Muni 08126			
Previous City Contribution				
TxDOT Contribution				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 5,609,135	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-2
Name:	Rockhill Pkwy (9)	This project consists of the reconstruction of the existing pavement to a six-lane divided major thoroughfare.		
Limits:	Preston Rd to 4,035' E. of Preston Rd			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,035			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	17,933	cy	\$ 8.00	\$ 143,467
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	35,867	sy	\$ 5.00	\$ 179,333
304	8" Concrete Pavement w/ 6" Curb	34,970	sy	\$ 46.00	\$ 1,608,620
404	4" Topsoil	21,520	sy	\$ 4.50	\$ 96,840
Paving Construction Cost Subtotal:					\$ 2,028,260
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	162,261
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	60,848
✓	Pavement Markings/Markers		4%	\$	81,130
✓	Roadway Drainage	Standard Internal System	25%	\$	507,065
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	101,413
✓	Sewer	Minor Adjustments	2%	\$	40,565
✓	Establish Turf / Erosion Control		6%	\$	121,696
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,074,978
Paving and Allowance Subtotal:				\$	3,103,238
Construction Contingency:				15%	\$ 465,486
Construction Cost TOTAL:				\$	3,569,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,569,000
Engineering/Survey/Testing:		20%	\$ 713,800
Mobilization		6%	\$ 214,140
Previous City contribution			
Other	Non City Contribution		\$ (2,891,322)
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,606,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-3
Name:	Rockhill Pkwy (10)	This project consists of the reconstruction of the existing pavement to a six-lane divided major thoroughfare.		
Limits:	Hillcrest Rd to Coit Rd			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,385			
Service Area(s):	B, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	23,933	cy	\$ 8.00	\$ 191,467
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	47,867	sy	\$ 5.00	\$ 239,333
304	8" Concrete Pavement w/ 6" Curb	46,670	sy	\$ 46.00	\$ 2,146,820
404	4" Topsoil	28,720	sy	\$ 4.50	\$ 129,240
Paving Construction Cost Subtotal:					\$ 2,706,860
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	216,549
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	81,206
✓	Pavement Markings/Markers		4%	\$	108,274
✓	Roadway Drainage	Standard Internal System	25%	\$	676,715
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	135,343
✓	Sewer	Minor Adjustments	2%	\$	54,137
✓	Establish Turf / Erosion Control		6%	\$	162,412
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,434,636
Paving and Allowance Subtotal:				\$	4,141,496
Construction Contingency:				15%	\$ 621,224
Construction Cost TOTAL:				\$	4,763,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,763,000
Engineering/Survey/Testing:		20%	\$ 952,600
Mobilization		6%	\$ 285,780
Previous City contribution	Muni 16109		
Other	Non City Contribution		\$ (3,858,678)
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,143,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-4
Name:	Panther Creek Pkwy (4)	This project consists of the reconstruction of the existing pavement to a six-lane divided major thoroughfare.		
Limits:	BNSF Railroad to Preston Rd			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,015			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	22,289	cy	\$ 8.00	\$ 178,311
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	44,578	sy	\$ 5.00	\$ 222,889
304	8" Concrete Pavement w/ 6" Curb	43,463	sy	\$ 46.00	\$ 1,999,313
404	4" Topsoil	26,747	sy	\$ 4.50	\$ 120,360
Paving Construction Cost Subtotal:					\$ 2,520,873
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	201,670
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	75,626
✓	Pavement Markings/Markers		4%	\$	100,835
✓	Roadway Drainage	Standard Internal System	25%	\$	630,218
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	126,044
✓	Sewer	Minor Adjustments	2%	\$	50,417
✓	Establish Turf / Erosion Control		6%	\$	151,252
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,336,063
Paving and Allowance Subtotal:				\$	3,856,936
Construction Contingency:				15%	\$ 578,540
Construction Cost TOTAL:				\$	4,436,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,436,000
Engineering/Survey/Testing:		20%	\$ 887,200
Mobilization		6%	\$ 266,160
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 5,589,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-5
Name:	Panther Creek Pkwy (5)	This project consists of the construction of the remaining one eastbound lane and three westbound lanes to complete the six-lane divided major thoroughfare.		
Limits:	Preston Rd to 765' E of Preston Rd			
Impact Fee Class:	6D (2/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	765			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	2,380	cy	\$ 8.00	\$ 19,040
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,590	sy	\$ 5.00	\$ 22,950
308	8" Concrete Pavement w/ 6" Curb	4,463	sy	\$ 46.00	\$ 205,275
408	4" Topsoil	3,060	sy	\$ 4.50	\$ 13,770
Paving Construction Cost Subtotal:					\$ 261,035
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	20,883
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	7,831
✓	Pavement Markings/Markers		4%	\$	10,441
✓	Roadway Drainage	Standard Internal System	25%	\$	65,259
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	13,052
✓	Sewer	Minor Adjustments	2%	\$	5,221
✓	Establish Turf / Erosion Control		6%	\$	15,662
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	138,349
Paving and Allowance Subtotal:				\$	399,384
Construction Contingency:				15%	\$ 59,908
Construction Cost TOTAL:				\$	460,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 460,000
Engineering/Survey/Testing:		20%	\$ 92,000
Mobilization		6%	\$ 27,600
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 580,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-6
Name:	Panther Creek Pkwy (6)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	765' E of Preston Rd to Herschel Dr			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,170			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,931	cy	\$ 8.00	\$ 39,449
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	9,862	sy	\$ 5.00	\$ 49,311
307	8" Concrete Pavement w/ 6" Curb	9,510	sy	\$ 46.00	\$ 437,460
407	4" Topsoil	8,453	sy	\$ 4.50	\$ 38,040

Paving Construction Cost Subtotal: \$ 564,260

Major Construction Component Allowances**:			
Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 45,141
✓ Traffic Control	Construction Phase Traffic Control	3%	\$ 16,928
✓ Pavement Markings/Markers		4%	\$ 22,570
Roadway Drainage	None Anticipated	0%	\$ -
Special Drainage Structures	None Anticipated	\$0	\$ -
Water	None Anticipated	0%	\$ -
Sewer	None Anticipated	0%	\$ -
✓ Establish Turf / Erosion Control		6%	\$ 33,856
Other:		\$0	\$ -

Allowances based on % of Paving Construction Cost Subtotal **Allowance Subtotal: \$ 118,495

Paving and Allowance Subtotal:	\$ 682,755
Construction Contingency: 15%	\$ 102,413
Construction Cost TOTAL:	\$ 786,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 786,000
Engineering/Survey/Testing:		20%	\$ 157,200
Mobilization		6%	\$ 47,160
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 990,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-7
Name:	Panther Creek Pkwy (8)	This project consists of the construction of the remaining one eastbound lane and three westbound lanes to complete the six-lane divided major thoroughfare.		
Limits:	Herschel Dr to Alameda Dr			
Impact Fee Class:	6D (2/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,770			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	11,729	cy	\$ 8.00	\$ 93,831
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	22,620	sy	\$ 5.00	\$ 113,100
308	8" Concrete Pavement w/ 6" Curb	21,992	sy	\$ 46.00	\$ 1,011,617
408	4" Topsoil	15,080	sy	\$ 4.50	\$ 67,860

Paving Construction Cost Subtotal: \$ 1,286,408

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 102,913
✓ Traffic Control	Construction Phase Traffic Control	3%	\$ 38,592
✓ Pavement Markings/Markers		4%	\$ 51,456
✓ Roadway Drainage	Standard Internal System	25%	\$ 321,602
✓ Special Drainage Structures	Minor Flood Plain Crossing	\$250,000	\$ 250,000
✓ Water	Minor Adjustments	5%	\$ 64,320
✓ Sewer	Minor Adjustments	2%	\$ 25,728
✓ Establish Turf / Erosion Control		6%	\$ 77,184
Other:		\$0	\$ -

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 931,796

Paving and Allowance Subtotal: \$ 2,218,204

Construction Contingency: 15% \$ 332,731

Construction Cost TOTAL: \$ 2,551,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,551,000
Engineering/Survey/Testing:		20%	\$ 510,200
Mobilization		6%	\$ 153,060
Previous City contribution	Muni 16110		
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,214,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-8
Name:	Panther Creek Pkwy (9)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$727,458 to the construction of the existing four-lane facility.		
Limits:	Alameda Dr to Coit Rd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,160			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,916	cy	\$ 8.00	\$ 39,324
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	9,831	sy	\$ 5.00	\$ 49,156
307	8" Concrete Pavement w/ 6" Curb	9,480	sy	\$ 46.00	\$ 436,080
407	4" Topsoil	8,427	sy	\$ 4.50	\$ 37,920

Paving Construction Cost Subtotal: \$ 562,480

Major Construction Component Allowances:**

Item Description	Notes	Allowance	Item Cost
✓ Prep ROW		8%	\$ 44,998
✓ Traffic Control	Construction Phase Traffic Control	3%	\$ 16,874
✓ Pavement Markings/Markers		4%	\$ 22,499
Roadway Drainage	None Anticipated	0%	\$ -
Special Drainage Structures	None Anticipated	\$0	\$ -
Water	None Anticipated	0%	\$ -
Sewer	None Anticipated	0%	\$ -
✓ Establish Turf / Erosion Control		6%	\$ 33,749
Other:		\$0	\$ -

**Allowances based on % of Paving Construction Cost Subtotal

Allowance Subtotal: \$ 118,121

Paving and Allowance Subtotal: \$ 680,601

Construction Contingency: 15% \$ 102,090

Construction Cost TOTAL: \$ 783,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 783,000
Engineering/Survey/Testing:		20%	\$ 156,600
Mobilization		6%	\$ 46,980
Previous City contribution	Muni 12105		\$ 727,458
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -

Impact Fee Project Cost TOTAL: \$ 1,714,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-9
Name:	Panther Creek Pkwy (10)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City's actual anticipated contribution is \$1,702,118.		
Limits:	Coit Rd to 1645' E of Coit Rd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,645			
Service Area(s):	B, McKinney			
Roadway Construction Cost Projection				
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	Muni 14132	-	\$ 1,702,118	
Engineering/Survey/Testing:				
Mobilization				
Previous City contribution				
Other				
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -	
Impact Fee Project Cost TOTAL:			\$ 1,702,118	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-10
Name:	Panther Creek Pkwy (11)	This project consists of the construction of the remaining one westbound lane and three eastbound lanes to complete the six-lane divided major thoroughfare. Based on the existing city limits, the northern half is not included in the impact fee CIP. Note the costing only includes the three eastbound lanes.		
Limits:	Memory Ln to Custer Rd			
Impact Fee Class:	6D (1/2)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	2,615			
Service Area(s):	B, McKinney			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	5,811	cy	\$ 8.00	\$ 46,489
209	12" Lime Stabilized Subgrade @ 100 lbs/sy	11,622	sy	\$ 5.00	\$ 58,111
309	8" Concrete Pavement w/ 6" Curb	11,332	sy	\$ 46.00	\$ 521,257
409	4" Topsoil	10,460	sy	\$ 4.50	\$ 47,070
Paving Construction Cost Subtotal:					\$ 672,927
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	53,834
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	20,188
✓	Pavement Markings/Markers		4%	\$	26,917
✓	Roadway Drainage	Standard Internal System	25%	\$	168,232
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	33,646
✓	Sewer	Minor Adjustments	2%	\$	13,459
✓	Establish Turf / Erosion Control		6%	\$	40,376
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	356,651
Paving and Allowance Subtotal:				\$	1,029,578
Construction Contingency:				15%	\$ 154,437
Construction Cost TOTAL:				\$	1,185,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,185,000
Engineering/Survey/Testing:		20%	\$ 237,000
Mobilization		6%	\$ 71,100
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,493,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-11, D-1
Name:	Main St (3)	This completed project consisted of the upgrade of Main St. to a four-lane/five-lane minor thoroughfare. The City's contribution to construction costs was \$7,070,719 (CIP 03-0073).		
Limits:	BNSF Railroad to Preston Rd			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	8,325			
Service Area(s):	B, D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0073 / Muni 03102	-	\$ 7,070,719	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 7,070,719	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-12, D-2
Name:	Main St (4) [FM 3537]	This project consists of the City's contribution to the TxDOT reconstruction of an existing two-lane section to a six-lane divided major thoroughfare. The City's contribution was \$1,151,114 (CIP 03-0108).		
Limits:	Preston Rd to Custer Rd			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	21,545			
Service Area(s):	B, D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0108 / Muni 01103	-	\$ 1,151,114	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 1,151,114	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-13
Name:	Preston Rd (1) [SH 289]	This project consists of the City's contribution to the TxDOT reconstruction of an existing two-lane section to a six-lane divided arterial. The City's contribution was \$6,453,426.		
Limits:	US 380 to Main St			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	24,055			
Service Area(s):	B			

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
City Contribution to Construction Cost:	CIP 05-0031 / Muni 04138	-	\$ 6,453,426
Engineering/Survey/Testing			
Developer Contribution			
Other			
ROW/Easement Acquisition:	ROW Acquisition for State Facility		
Impact Fee Project Cost TOTAL:			\$ 6,453,426

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-14	
Name:	Hillcrest Rd (1)	This project consists of the construction of a new six lane divided major thoroughfare.			
Limits:	US 380 to 2,685' S of US 380				
Impact Fee Class:	6D				
Ultimate Class:	Major Thoroughfare				
Length (lf):	2,685				
Service Area(s):	B				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	11,933	cy	\$ 8.00	\$ 95,467
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	23,867	sy	\$ 5.00	\$ 119,333
304	8" Concrete Pavement w/ 6" Curb	23,270	sy	\$ 46.00	\$ 1,070,420
404	4" Topsoil	14,320	sy	\$ 4.50	\$ 64,440
Paving Construction Cost Subtotal:					\$ 1,349,660
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW	None Anticipated	8%	\$	107,973
	Traffic Control		0%	\$	-
√	Pavement Markings/Markers	Standard Internal System	4%	\$	53,986
√	Roadway Drainage		25%	\$	337,415
	Special Drainage Structures		\$0	\$	-
√	Water	Minor Adjustments	5%	\$	67,483
√	Sewer	Minor Adjustments	2%	\$	26,993
√	Establish Turf / Erosion Control		6%	\$	80,980
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 674,830	
Paving and Allowance Subtotal:				\$	2,024,490
Construction Contingency:				15%	\$ 303,674
Construction Cost TOTAL:				\$	2,329,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,329,000
Engineering/Survey/Testing:		20%	\$ 465,800
Mobilization		6%	\$ 139,740
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,935,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-15
Name:	Hillcrest Rd (2)	This project consists of the construction of a new six lane divided major thoroughfare.		
Limits:	Rockhill Pkwy To 775' S of Rockhill Pkwy			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	775			
Service Area(s):	B, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	3,444	cy	\$ 8.00	\$ 27,556
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	6,889	sy	\$ 5.00	\$ 34,444
304	8" Concrete Pavement w/ 6" Curb	6,717	sy	\$ 46.00	\$ 308,967
404	4" Topsoil	4,133	sy	\$ 4.50	\$ 18,600
Paving Construction Cost Subtotal:					\$ 389,567
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	31,165	
✓ Traffic Control	None Anticipated	0%	\$	-	
✓ Pavement Markings/Markers		4%	\$	15,583	
✓ Roadway Drainage	Standard Internal System	25%	\$	97,392	
Special Drainage Structures	None Anticipated	\$0	\$	-	
✓ Water	Minor Adjustments	5%	\$	19,478	
✓ Sewer	Minor Adjustments	2%	\$	7,791	
✓ Establish Turf / Erosion Control		6%	\$	23,374	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	194,783
Paving and Allowance Subtotal:				\$	584,350
Construction Contingency:				15%	\$ 87,653
Construction Cost TOTAL:				\$	673,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 673,000
Engineering/Survey/Testing:		20%	\$ 134,600
Mobilization		6%	\$ 40,380
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 848,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-16
Name:	Hillcrest Rd (3)			
Limits:	775' S of Rockhill Pkwy to 4,015' S of Rockhill Pkwy			
Impact Fee Class:	6D (2/3)	This project consists of the construction of the remaining one northbound lane and three southbound lanes to complete the six-lane divided major thoroughfare.		
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,240			
Service Area(s):	B, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	10,080	cy	\$ 8.00	\$ 80,640
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	19,440	sy	\$ 5.00	\$ 97,200
308	8" Concrete Pavement w/ 6" Curb	18,900	sy	\$ 46.00	\$ 869,400
408	4" Topsoil	12,960	sy	\$ 4.50	\$ 58,320
Paving Construction Cost Subtotal:					\$ 1,105,560
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	88,445
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	33,167
✓	Pavement Markings/Markers		4%	\$	44,222
✓	Roadway Drainage	Standard Internal System	25%	\$	276,390
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	55,278
✓	Sewer	Minor Adjustments	2%	\$	22,111
✓	Establish Turf / Erosion Control		6%	\$	66,334
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	585,947
Paving and Allowance Subtotal:				\$	1,691,507
Construction Contingency:				15%	\$ 253,726
Construction Cost TOTAL:				\$	1,946,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,946,000
Engineering/Survey/Testing:		20%	\$ 389,200
Mobilization		6%	\$ 116,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,452,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. B-17
Name:	Hillcrest Rd (4)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.	
Limits:	4,015' S of Rockhill Pkwy to Panther Creek Pkwy		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	1,880		
Service Area(s):	B		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	2,924	cy	\$ 8.00	\$ 23,396
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	5,849	sy	\$ 5.00	\$ 29,244
307	8" Concrete Pavement w/ 6" Curb	5,640	sy	\$ 46.00	\$ 259,440
407	4" Topsoil	5,013	sy	\$ 4.50	\$ 22,560
Paving Construction Cost Subtotal:					\$ 334,640
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	26,771	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	10,039	
✓ Pavement Markings/Markers		4%	\$	13,386	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	20,078	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal		Allowance Subtotal:	\$	70,274	
Paving and Allowance Subtotal:			\$	404,914	
Construction Contingency:			15%	\$	60,737
Construction Cost TOTAL:			\$	466,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 466,000
Engineering/Survey/Testing:		20%	\$ 93,200
Mobilization		6%	\$ 27,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 587,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-18
Name:	Hillcrest Rd (5)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Panther Creek Pkwy to Eldorado Pkwy			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,055			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,863	cy	\$ 8.00	\$ 62,907
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	15,727	sy	\$ 5.00	\$ 78,633
307	8" Concrete Pavement w/ 6" Curb	15,165	sy	\$ 46.00	\$ 697,590
407	4" Topsoil	13,480	sy	\$ 4.50	\$ 60,660
Paving Construction Cost Subtotal:					\$ 899,790
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	71,983
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	26,994
✓	Pavement Markings/Markers		4%	\$	35,992
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	53,987
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	188,956
Paving and Allowance Subtotal:				\$	1,088,746
Construction Contingency:				15%	\$ 163,312
Construction Cost TOTAL:				\$	1,253,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,253,000
Engineering/Survey/Testing:		20%	\$ 250,600
Mobilization		6%	\$ 75,180
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,579,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-19
Name:	Hillcrest Rd (6)	This project consists of the construction of a new six-lane divided major thoroughfare.		
Limits:	Eldorado Pkwy to Main St			
Impact Fee Class:	6D			
Ultimate Class:	Major Thoroughfare			
Length (lf):	7,955			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	35,356	cy	\$ 8.00	\$ 282,844
204	12" Lime Stabilized Subgrade @ 100 lbs/sy	70,711	sy	\$ 5.00	\$ 353,556
304	8" Concrete Pavement w/ 6" Curb	68,943	sy	\$ 46.00	\$ 3,171,393
404	4" Topsoil	42,427	sy	\$ 4.50	\$ 190,920
Paving Construction Cost Subtotal:					\$ 3,998,713
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	319,897
	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Markers		4%	\$	159,949
✓	Roadway Drainage	Standard Internal System	25%	\$	999,678
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	199,936
✓	Sewer	Minor Adjustments	2%	\$	79,974
✓	Establish Turf / Erosion Control		6%	\$	239,923
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,999,357
Paving and Allowance Subtotal:				\$	5,998,070
Construction Contingency:				15%	\$ 899,711
Construction Cost TOTAL:				\$	6,898,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,898,000
Engineering/Survey/Testing:		20%	\$ 1,379,600
Mobilization		6%	\$ 413,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 8,691,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-20
Name:	Coit Rd (1)	This project consists of the construction to complete the six-lane divided major thoroughfare. The City is estimating to contribute \$4,478,087.		
Limits:	US 380 to 2,900' S of Prestwick Hollow Dr			
Impact Fee Class:	6D (1/2)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,665			
Service Area(s):	B, McKinney			

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:	Muni 09141	-	\$ 4,478,087
Engineering/Survey/Testing:			
Mobilization			
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 4,478,087

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. B-21
Name:	Coit Rd (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$1,702,118 to the previously constructed facility.	
Limits:	Rockhill Pkwy to 2,590' S of Rockhill Pkwy		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	2,590		
Service Area(s):	B, McKinney		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,029	cy	\$ 8.00	\$ 32,231
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,058	sy	\$ 5.00	\$ 40,289
307	8" Concrete Pavement w/ 6" Curb	7,770	sy	\$ 46.00	\$ 357,420
407	4" Topsoil	6,907	sy	\$ 4.50	\$ 31,080
Paving Construction Cost Subtotal:					\$ 461,020
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	36,882
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	13,831
✓	Pavement Markings/Markers		4%	\$	18,441
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	27,661
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	96,814
Paving and Allowance Subtotal:				\$	557,834
Construction Contingency:				15%	\$ 83,675
Construction Cost TOTAL:				\$	642,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 642,000
Engineering/Survey/Testing:		20%	\$ 128,400
Mobilization		6%	\$ 38,520
Previous City contribution	Muni 14132		\$ 1,702,118
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,511,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-22
Name:	Coit Rd (3)			
Limits:	2,590' S of Rockhill Pkwy to Panther Creek Pkwy			
Impact Fee Class:	6D (1/3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$3,004,992 to the previously constructed facility.		
Ultimate Class:	Major Thoroughfare			
Length (lf):	2,725			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,239	cy	\$ 8.00	\$ 33,911
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,478	sy	\$ 5.00	\$ 42,389
307	8" Concrete Pavement w/ 6" Curb	8,175	sy	\$ 46.00	\$ 376,050
407	4" Topsoil	7,267	sy	\$ 4.50	\$ 32,700
Paving Construction Cost Subtotal:					\$ 485,050
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	38,804
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	14,552
✓	Pavement Markings/Markers		4%	\$	19,402
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	29,103
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 101,861	
				Paving and Allowance Subtotal:	\$ 586,911
				Construction Contingency:	15% \$ 88,037
				Construction Cost TOTAL:	\$ 675,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 675,000
Engineering/Survey/Testing:		20%	\$ 135,000
Mobilization		6%	\$ 40,500
Previous City contribution	Muni 09119		\$ 3,004,992
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,855,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. B-23
Name:	Coit Rd (4)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$3,004,992 to the previously constructed facility.	
Limits:	Panther Creek Pkwy to Buckeye Dr		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	2,555		
Service Area(s):	B, McKinney		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	3,974	cy	\$ 8.00	\$ 31,796
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	7,949	sy	\$ 5.00	\$ 39,744
307	8" Concrete Pavement w/ 6" Curb	7,665	sy	\$ 46.00	\$ 352,590
407	4" Topsoil	6,813	sy	\$ 4.50	\$ 30,660
Paving Construction Cost Subtotal:					\$ 454,790
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	36,383
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	13,644
✓	Pavement Markings/Markers		4%	\$	18,192
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	27,287
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	95,506
Paving and Allowance Subtotal:				\$	550,296
Construction Contingency:				15%	\$ 82,544
Construction Cost TOTAL:				\$	633,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 633,000
Engineering/Survey/Testing:		20%	\$ 126,600
Mobilization		6%	\$ 37,980
Previous City contribution	Muni 12104		\$ 502,767
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,300,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-24
Name:	Coit Rd (5)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$502,767 to the previously constructed facility.		
Limits:	Buckeye Dr to Main St			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	11,050			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	17,189	cy	\$ 8.00	\$ 137,511
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	34,378	sy	\$ 5.00	\$ 171,889
307	8" Concrete Pavement w/ 6" Curb	33,150	sy	\$ 46.00	\$ 1,524,900
407	4" Topsoil	29,467	sy	\$ 4.50	\$ 132,600
Paving Construction Cost Subtotal:					\$ 1,966,900
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	157,352
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	59,007
✓	Pavement Markings/Markers		4%	\$	78,676
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	118,014
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	413,049
Paving and Allowance Subtotal:				\$	2,379,949
Construction Contingency:				15%	\$ 356,992
Construction Cost TOTAL:				\$	2,737,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,737,000
Engineering/Survey/Testing:		20%	\$ 547,400
Mobilization		6%	\$ 164,220
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,449,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	B-25
Name:	Independence Pkwy (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$5,786,541 (CIP 04-0024) to the construction of the original two-lane facility from Eldorado Pkwy to Main St.		
Limits:	Nixon Dr to Main St			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	11,890			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	18,496	cy	\$ 8.00	\$ 147,964
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	36,991	sy	\$ 5.00	\$ 184,956
307	8" Concrete Pavement w/ 6" Curb	35,670	sy	\$ 46.00	\$ 1,640,820
407	4" Topsoil	31,707	sy	\$ 4.50	\$ 142,680
Paving Construction Cost Subtotal:					\$ 2,116,420
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	169,314
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	63,493
✓	Pavement Markings/Markers		4%	\$	84,657
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	126,985
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	444,448
Paving and Allowance Subtotal:				\$	2,560,868
Construction Contingency:				15%	\$ 384,130
Construction Cost TOTAL:				\$	2,945,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,945,000
Engineering/Survey/Testing:		20%	\$ 589,000
Mobilization		6%	\$ 176,700
Previous City contribution	CIP 04-0024 / Muni 04119, 05125, 09118		\$ 5,786,541
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 9,497,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco - 2018 Roadway Impact Fee

Capital Improvement Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area C

#	Class	Project	Limits	Status	Project Cost
A-12, C-1	6D (1/3)	Main St (1)	FM 423 to DNT	Median	\$ 17,453,784
A-13, C-2	6D (1/3)	Main St (2)	DNT to BNSF Railroad	Median	\$ 3,567,000
C-3	4D (1/2)	Stonebrook Pkwy (3)	1,525' W of Witt Rd to Witt Rd	Widening	\$ 680,000
C-4	6D (2/3)	Stonebrook Pkwy (4)	Witt Rd to Frisco Lakes Dr	Widening	\$ 837,000
C-5	6D (1/3)	Stonebrook Pkwy (5)	Frisco Lakes Dr to 4th Army Dr	Median	\$ 6,356,000
C-6	6D (1/3)	Stonebrook Pkwy (6)	4th Army Dr to Legacy Dr	Median	\$ 1,150,000
C-7	6D (Previous)	Stonebrook Pkwy (7)	Legacy Dr to BNSF Railroad	Previous	\$ 412,851
C-8	6D (1/3)	Lebanon Rd (1)	1100' W of Pine Ln to BNSF Railroad	Median	\$ 12,731,000
C-9	6D (1/3)	Lone Star Ranch Pkwy	Stonebrook Pkwy to FM 423	Median	\$ 3,145,000
C-10	6D (1/3)	Teel Pkwy (3)	Main St to Lebanon Rd	Median	\$ 6,719,000
C-11	2U (Previous)	4th Army Memorial Rd (1)	Lebanon Rd to 1,200' S of Timber Ridge Dr	Previous	\$ 2,218,644
C-12	2U (Previous)	4th Army Memorial Rd (2)	1,200' S of Timber Ridge Dr to Timber Ridge Dr	Previous	\$ 3,405,050
C-13	6D (1/3)	Cottin Gin Rd (1)	Legacy Dr to DNT	Median	\$ 842,000
C-14	6D (Previous)	Legacy Dr (3)	Main St to Citation Ct	Previous	\$ 2,171,065
C-15	6D (1/3)	Legacy Dr (4)	Citation Ct to BNSF RR	Median	\$ 3,881,000
C-16	2U	Witt Rd (1)	Stonebrook Pkwy to Witt Rd	New	\$ 881,000

TOTAL \$ 66,450,394

*Total may be higher than presented in Table 2.4 (10-Year CIP with Conceptual Level Cost Opinions) because the cost of some projects are shared between service areas.

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-12, C-1
Name:	Main St (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City's actual anticipated contribution is \$17,453,784.		
Limits:	FM 423 to DNT			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	15,550			
Service Area(s):	A,C			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	Muni 09124	-	\$ 17,453,784	
Engineering/Survey/Testing:				
Mobilization				
Previous City contribution				
Other				
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -	
Impact Fee Project Cost TOTAL:			\$ 17,453,784	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	A-13, C-2
Name:	Main St (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$2,470,806 (CIP 04-0004) to the construction of the existing four-lane facility.		
Limits:	DNT to BNSF Railroad			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,510			
Service Area(s):	A,C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,460	cy	\$ 8.00	\$ 43,680
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	10,920	sy	\$ 5.00	\$ 54,600
307	8" Concrete Pavement w/ 6" Curb	10,530	sy	\$ 46.00	\$ 484,380
407	4" Topsoil	9,360	sy	\$ 4.50	\$ 42,120
Paving Construction Cost Subtotal:					\$ 624,780
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	49,982
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	18,743
✓	Pavement Markings/Markers		4%	\$	24,991
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	37,487
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	131,204
Paving and Allowance Subtotal:				\$	755,984
Construction Contingency:				15%	\$ 113,398
Construction Cost TOTAL:				\$	870,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 870,000
Engineering/Survey/Testing:		20%	\$ 174,000
Mobilization		6%	\$ 52,200
Previous City contribution	CIP 04-0004 / Muni 01102		\$ 2,470,806
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,567,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-3
Name:	Stonebrook Pkwy (3)	This project consists of the construction of the remaining two lanes to complete the four-lane divided minor thoroughfare.		
Limits:	1,525' W of Witt Rd to Witt Rd			
Impact Fee Class:	4D (1/2)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	1,540			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	2,396	cy	\$ 8.00	\$ 19,164
205	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,791	sy	\$ 5.00	\$ 23,956
305	8" Concrete Pavement w/ 6" Curb	4,620	sy	\$ 46.00	\$ 212,520
405	4" Topsoil	11,293	sy	\$ 4.50	\$ 50,820
Paving Construction Cost Subtotal:					\$ 306,460
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	24,517
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	9,194
✓	Pavement Markings/Markers		4%	\$	12,258
✓	Roadway Drainage	Standard Internal System	25%	\$	76,615
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	15,323
✓	Sewer	Minor Adjustments	2%	\$	6,129
✓	Establish Turf / Erosion Control		6%	\$	18,388
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	162,424
Paving and Allowance Subtotal:				\$	468,884
Construction Contingency:				15%	\$ 70,333
Construction Cost TOTAL:				\$	540,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 540,000
Engineering/Survey/Testing:		20%	\$ 108,000
Mobilization		6%	\$ 32,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 680,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-4
Name:	Stonebrook Pkwy (4)	This project consists of the construction of the remaining one eastbound lane and three westbound lanes to complete the six-lane divided major thoroughfare.		
Limits:	Witt Rd to Frisco Lakes Dr			
Impact Fee Class:	6D (2/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,105			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	3,438	cy	\$ 8.00	\$ 27,502
208	12" Lime Stabilized Subgrade @ 100 lbs/sy	6,630	sy	\$ 5.00	\$ 33,150
308	8" Concrete Pavement w/ 6" Curb	6,446	sy	\$ 46.00	\$ 296,508
408	4" Topsoil	4,420	sy	\$ 4.50	\$ 19,890
Paving Construction Cost Subtotal:					\$ 377,051
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	30,164
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	11,312
✓	Pavement Markings/Markers		4%	\$	15,082
✓	Roadway Drainage	Standard Internal System	25%	\$	94,263
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	18,853
✓	Sewer	Minor Adjustments	2%	\$	7,541
✓	Establish Turf / Erosion Control		6%	\$	22,623
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	199,837
Paving and Allowance Subtotal:				\$	576,887
Construction Contingency:				15%	\$ 86,533
Construction Cost TOTAL:				\$	664,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 664,000
Engineering/Survey/Testing:		20%	\$ 132,800
Mobilization		6%	\$ 39,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 837,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-5
Name:	Stonebrook Pkwy (5)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$2,277,001 (CIP 09-0014) to the existing four-lane facility.		
Limits:	Frisco Lakes Dr to 4th Army Dr			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	13,065			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	20,323	cy	\$ 8.00	\$ 162,587
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	40,647	sy	\$ 5.00	\$ 203,233
307	8" Concrete Pavement w/ 6" Curb	39,195	sy	\$ 46.00	\$ 1,802,970
407	4" Topsoil	34,840	sy	\$ 4.50	\$ 156,780
Paving Construction Cost Subtotal:					\$ 2,325,570
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	186,046	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	69,767	
✓ Pavement Markings/Markers		4%	\$	93,023	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	139,534	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	488,370
Paving and Allowance Subtotal:				\$	2,813,940
Construction Contingency:				15%	\$ 422,091
Construction Cost TOTAL:				\$	3,237,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,237,000
Engineering/Survey/Testing:		20%	\$ 647,400
Mobilization		6%	\$ 194,220
Previous City contribution	CIP 09-0014 / Muni 09122		\$ 2,277,001
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 6,356,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-6
Name:	Stonebrook Pkwy (6)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	4th Army Dr to Legacy Dr			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,685			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,732	cy	\$ 8.00	\$ 45,858
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	11,464	sy	\$ 5.00	\$ 57,322
307	8" Concrete Pavement w/ 6" Curb	11,055	sy	\$ 46.00	\$ 508,530
407	4" Topsoil	9,827	sy	\$ 4.50	\$ 44,220
Paving Construction Cost Subtotal:					\$ 655,930
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	52,474
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	19,678
✓	Pavement Markings/Markers		4%	\$	26,237
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	39,356
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	137,745
Paving and Allowance Subtotal:				\$	793,675
Construction Contingency:				15%	\$ 119,051
Construction Cost TOTAL:				\$	913,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 913,000
Engineering/Survey/Testing:		20%	\$ 182,600
Mobilization		6%	\$ 54,780
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,150,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	C-7
Name:	Stonebrook Pkwy (7)	This completed project consists of the construction of a new six-lane divided arterial facility, including an allowance for the BNSF RR underpass. The City's actual contribution was \$578,716 from Legacy to Longhorn Trail. Therefore \$312.851 (71%) was included for this project.		
Limits:	Legacy Dr to BNSF Railroad			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	2,850			
Service Area(s):	C			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Actual cost: Legacy to Fighting Eagles Engineering/Survey/Testing Other ROW/Easement Acquisition:	CIP 05-0030 / Muni 06132		\$ 412,851	
Impact Fee Project Cost TOTAL:			\$ 412,851	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-8
Name:	Lebanon Rd (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore, 430 feet of median cost has been removed. The City contributed \$7,404,902 (CIP 05-0057) to the construction of the existing four-lane facility.		
Limits:	1100' W of Pine Ln to BNSF Railroad			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	17,065			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	26,546	cy	\$ 8.00	\$ 212,364
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	53,091	sy	\$ 5.00	\$ 265,456
307	8" Concrete Pavement w/ 6" Curb	51,195	sy	\$ 46.00	\$ 2,354,970
407	4" Topsoil	45,507	sy	\$ 4.50	\$ 204,780
Paving Construction Cost Subtotal:					\$ 3,037,570
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	243,006	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	91,127	
✓ Pavement Markings/Markers		4%	\$	121,503	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	182,254	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	637,890
			Paving and Allowance Subtotal:	\$	3,675,460
			Construction Contingency:	15%	\$ 551,319
			Construction Cost TOTAL:	\$	4,227,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,227,000
Engineering/Survey/Testing:		20%	\$ 845,400
Mobilization		6%	\$ 253,620
Previous City contribution	CIP 05-0057 / Muni 06116, 14136		\$ 7,404,902
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 12,731,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-9
Name:	Lone Star Ranch Pkwy	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Stonebrook Pkwy to FM 423			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	10,075			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	15,672	cy	\$ 8.00	\$ 125,378
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	31,344	sy	\$ 5.00	\$ 156,722
307	8" Concrete Pavement w/ 6" Curb	30,225	sy	\$ 46.00	\$ 1,390,350
407	4" Topsoil	26,867	sy	\$ 4.50	\$ 120,900
Paving Construction Cost Subtotal:					\$ 1,793,350
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	143,468
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	53,801
✓	Pavement Markings/Markers		4%	\$	71,734
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	107,601
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	376,604
Paving and Allowance Subtotal:				\$	2,169,954
Construction Contingency:				15%	\$ 325,493
Construction Cost TOTAL:				\$	2,496,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,496,000
Engineering/Survey/Testing:		20%	\$ 499,200
Mobilization		6%	\$ 149,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,145,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. C-10
Name:	Teel Pkwy (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$2,843,440 (CIP 03-0123) to the construction of the existing four-lane facility.	
Limits:	Main St to Lebanon Rd		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	12,415		
Service Area(s):	C		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	19,312	cy	\$ 8.00	\$ 154,498
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	38,624	sy	\$ 5.00	\$ 193,122
307	8" Concrete Pavement w/ 6" Curb	37,245	sy	\$ 46.00	\$ 1,713,270
407	4" Topsoil	33,107	sy	\$ 4.50	\$ 148,980
Paving Construction Cost Subtotal:					\$ 2,209,870
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	176,790	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	66,296	
✓ Pavement Markings/Markers		4%	\$	88,395	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	132,592	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	464,073
Paving and Allowance Subtotal:				\$	2,673,943
Construction Contingency:				15%	\$ 401,091
Construction Cost TOTAL:				\$	3,076,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,076,000
Engineering/Survey/Testing:		20%	\$ 615,200
Mobilization		6%	\$ 184,560
Previous City contribution	CIP 03-0123 / Muni 03126		\$ 2,843,440
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 6,719,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	C-11
Name:	4th Army Memorial Rd (1)		This completed project consisted of the construction of a two-lane collector street. The City's actual contribution was \$2,218,644	
Limits:	Lebanon Rd to 1,200' S of Timber Ridge Dr			
Impact Fee Class:	2U (Previous)			
Ultimate Class:	Collector Street			
Length (lf):	3,315			
Service Area(s):	C			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 11115	-	\$ 2,218,644	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 2,218,644	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	C-12
Name:	4th Army Memorial Rd (2)		This completed project consisted of the construction of a two-lane collector street. The City's actual contribution was \$3,405,050	
Limits:	1,200' S of Timber Ridge Dr to Timber Ridge Dr			
Impact Fee Class:	2U (Previous)			
Ultimate Class:	Collector Street			
Length (lf):	1,200			
Service Area(s):	C			
Impact Fee Project Cost Summary				
Item Description		Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		Actual cost provided by City / Muni 16101	-	\$ 3,405,050
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	3,405,050

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. C-13
Name:	Cottin Gin Rd (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.	
Limits:	Legacy Dr to DNT		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	2,695		
Service Area(s):	C		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,192	cy	\$ 8.00	\$ 33,538
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,384	sy	\$ 5.00	\$ 41,922
307	8" Concrete Pavement w/ 6" Curb	8,085	sy	\$ 46.00	\$ 371,910
407	4" Topsoil	7,187	sy	\$ 4.50	\$ 32,340
Paving Construction Cost Subtotal:					\$ 479,710
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	38,377
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	14,391
✓	Pavement Markings/Markers		4%	\$	19,188
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	28,783
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	100,739
Paving and Allowance Subtotal:				\$	580,449
Construction Contingency:				15%	\$ 87,067
Construction Cost TOTAL:				\$	668,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 668,000
Engineering/Survey/Testing:		20%	\$ 133,600
Mobilization		6%	\$ 40,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 842,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	C-14
Name:	Legacy Dr (3)	This completed project consisted of the construction of northbound three lanes to complete the six-lane divided major thoroughfare. The City contributed \$2,171,065 (CIP 05-0032) to the construction of this facility.		
Limits:	Main St to Citation Ct			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,950			
Service Area(s):	C			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 06141	-	\$ 2,171,065	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 2,171,065	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. C-15
Name:	Legacy Dr (4)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore, 380 feet of median cost has been removed. The City contributed \$2,171,065 (CIP 03-0110) to the construction of the existing four-lane facility from Jetport to Chippewa.	
Limits:	Citation Ct to BNSF RR		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	5,475		
Service Area(s):	C		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	8,517	cy	\$ 8.00	\$ 68,133
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	17,033	sy	\$ 5.00	\$ 85,167
307	8" Concrete Pavement w/ 6" Curb	16,425	sy	\$ 46.00	\$ 755,550
407	4" Topsoil	14,600	sy	\$ 4.50	\$ 65,700
Paving Construction Cost Subtotal:					\$ 974,550
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	77,964
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	29,237
✓	Pavement Markings/Markers		4%	\$	38,982
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	58,473
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	204,656
Paving and Allowance Subtotal:				\$	1,179,206
Construction Contingency:				15%	\$ 176,881
Construction Cost TOTAL:				\$	1,357,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,357,000
Engineering/Survey/Testing:		20%	\$ 271,400
Mobilization		6%	\$ 81,420
Previous City contribution	CIP 03-0110 / Muni 01104		\$ 2,171,065
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,881,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	C-16
Name:	Witt Rd (1)	This project consists of the construction of a new two lane undivided collector street.		
Limits:	Stonebrook Pkwy to Witt Rd			
Impact Fee Class:	2U			
Ultimate Class:	Collector Street			
Length (lf):	2,030			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	4,511	cy	\$ 8.00	\$ 36,089
201	12" Lime Stabilized Subgrade @ 100 lbs/sy	9,022	sy	\$ 5.00	\$ 45,111
301	7" Concrete Pavement w/ 6" Curb	8,797	sy	\$ 34.00	\$ 299,087
401	4" Topsoil	5,413	sy	\$ 4.50	\$ 24,360
Paving Construction Cost Subtotal:					\$ 404,647
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	32,372	
✓ Traffic Control	None Anticipated	0%	\$	-	
✓ Pavement Markings/Markers		4%	\$	16,186	
✓ Roadway Drainage	Standard Internal System	25%	\$	101,162	
✓ Special Drainage Structures	None Anticipated	\$0	\$	-	
✓ Water	Minor Adjustments	5%	\$	20,232	
✓ Sewer	Minor Adjustments	2%	\$	8,093	
✓ Establish Turf / Erosion Control		6%	\$	24,279	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	202,323
Paving and Allowance Subtotal:				\$	606,970
Construction Contingency:				15%	\$ 91,046
Construction Cost TOTAL:				\$	699,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 699,000
Engineering/Survey/Testing:		20%	\$ 139,800
Mobilization		6%	\$ 41,940
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 881,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco - 2018 Roadway Impact Fee

Capital Improvement Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area D

#	Class	Project	Limits	Status	Project Cost
B-11, D-1	4D (Previous)	Main St (3)	BNSF Railroad to Preston Rd	Previous	\$ 7,070,719
B-12, D-2	6D (Previous)	Main St (4) [FM 3537]	Preston Rd to Custer Rd	Previous	\$ 1,151,114
D-3	6D (Previous)	Stonebrook Pkwy (8)	BNSF Railroad to Longhorn Trl	Previous	\$ 165,865
D-4	6D (Recent)	Stonebrook Pkwy (9)	Longhorn Trl to DNT	Previous	\$ 654,575
D-5	6D (Previous)	Stonebrook Pkwy (10)	DNT to Preston Rd	Previous	\$ 3,484,754
D-6	6D (1/3)	Rolater Rd (1)	Preston Rd to Coit Rd	Median	\$ 3,500,000
D-7	6D (1/3)	Rolater Rd (2)	Coit Rd to Independence Pkwy	Median	\$ 5,289,000
D-8	6D (1/3)	Rolater Rd (3)	Independence Pkwy to Custer Rd	Median	\$ 2,616,000
D-9	6D (1/3)	Lebanon Rd (2)	BNSF Railroad to Todd Dr	Median	\$ 2,784,000
D-10	6D (Recent)	Lebanon Rd (3)	Todd Dr to 680' E of Legacy Dr	Previous	\$ 764,563
D-11	6D (1/3)	Lebanon Rd (4)	680' E of Legacy Dr to Coit Rd	Median	\$ 7,192,000
D-12	4D	Lebanon Rd (5)	Coit Rd to Independence Pkwy	New	\$ 4,462,000
D-13	4D (Recent)	Gaylord Pkwy (1)	Warren Pkwy to John Hickman Pkwy	Previous	\$ 1,024,960
D-14	6D (1/3)	Gaylord Pkwy (2)	Warren Pkwy to DNT	Median	\$ 806,000
D-15	2U	Gaylord Pkwy (4)	1100' W of Hillcrest Rd to Hillcrest Rd	New	\$ 239,000
D-16	6D (1/3)	Warren Pkwy (1)	Legacy Dr to Internet Blvd	Median	\$ 1,162,000
D-17	6D (Recent)	Warren Pkwy (2)	Internet Blvd to DNT	Previous	\$ 1,164,162
D-18	6D (1/3)	Warren Pkwy (3)	Preston Rd to Ohio Dr.	Median	\$ 441,000
D-19	4D (1/2)	Town & Country Blvd	Suffolk Ln to 335' W of Bell Stonebriar	Widening	\$ 3,689,117
D-20	6D (1/3)	Legacy Dr (5)	SH 121 to 600' S of Warren Pkwy	Median	\$ 2,508,000
D-21	6D (Recent)	Legacy Dr (6)	600' S of Warren Pkwy to Lebanon Rd	Previous	\$ 1,709,750
D-22	6D (1/3)	Legacy Dr (7)	Lebanon Rd to BNSF Railroad	Median	\$ 815,000
D-23	6D (1/3)	Parkwood Dr (1)	Stonebrook Pkwy to 2,050' N of Warren Pkwy	Median	\$ 4,190,000
D-24	4D (Previous)	Ohio Dr (1)	John Hickman Pkwy to Lebanon Rd	Previous	\$ 465,626
D-25	4D (Previous)	Ohio Dr (2)	Lebanon Rd to Wade Blvd	Previous	\$ 1,586,789
D-26	6D (1/3)	Hillcrest Rd (6)	Main St to SH 121	Median	\$ 5,630,000
D-27	6D (1/3)	Coit Rd (9)	Main St to Lebanon Rd	Median	\$ 11,900,000
D-28	6D (1/3)	Independence Pkwy (6)	Main St to SH 121	Median	\$ 6,548,000
D-29	2U (Previous)	5th St	Eubanks St to Main St	Previous	\$ 1,451,794
D-30	4D	John Hickman Pkwy (1)	Warren Pkwy to 555' W of Frisco Grn	New	\$ 2,756,000
D-31	4D (Previous)	John Hickman Pkwy (2)	555' W of Frisco Grn to DNT	Previous	\$ 1,561,306
D-32	4D	John Hickman Pkwy (3)	DNT to Parkwood Dr	New	\$ 1,819,000
D-33	4D (1/2)	John Hickman Pkwy (4)	Parkwood Dr to Preston Rd	Widening	\$ 1,410,000
D-34	2U (Previous)	John Hickman Pkwy (5)	Preston Rd to Ohio Dr	Previous	\$ 669,516
D-35	4D	Cottin Gin Rd (2)	BNSF Railroad to 5th St	New	\$ 1,596,000
D-36	6D (1/3)	Memorial Dr	BNSF Railroad to Town & Country Blvd	Median	\$ 207,000
D-37	4D (Previous)	Frisco Grn	John Hickman Pkwy to Lebanon Rd	Previous	\$ 308,599

TOTAL \$ 94,793,209

*Total may be higher than presented in Table 2.4 (10-Year CIP with Conceptual Level Cost Opinions) because the cost of some projects are shared between service areas.

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-11, D-1
Name:	Main St (3)	This completed project consisted of the upgrade of Main St. to a four-lane/five-lane minor thoroughfare. The City's contribution to construction costs was \$7,070,719 (CIP 03-0073).		
Limits:	BNSF Railroad to Preston Rd			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	8,325			
Service Area(s):	B, D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0073 / Muni 03102	-	\$ 7,070,719	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 7,070,719	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	B-12, D-2
Name:	Main St (4) [FM 3537]	This project consists of the City's contribution to the TxDOT reconstruction of an existing two-lane section to a six-lane divided major thoroughfare. The City's contribution was \$1,151,114 (CIP 03-0108).		
Limits:	Preston Rd to Custer Rd			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	21,545			
Service Area(s):	B, D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0108 / Muni 01103	-	\$ 1,151,114	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 1,151,114	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-3
Name:	Stonebrook Pkwy (8)	This project consists of the construction of a new six-lane divided major thoroughfare, including an allowance for the BNSF RR underpass. The City's actual contribution was \$578,716 from Legacy to Longhorn Trail. Therefore \$165,865 (29%) was included for this project.		
Limits:	BNSF Railroad to Longhorn Trl			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,145			
Service Area(s):	D			

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
City Contribution to Construction Cost:	CIP 10-0024 / Muni 06132, 11132)		\$ 165,865
Engineering/Survey/Testing			
NCTCOG			
Previous City Contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included		
Impact Fee Project Cost TOTAL:			\$ 165,865

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-4
Name:	Stonebrook Pkwy (9)	This completed project consisted of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City's actual contribution was \$654,575.		
Limits:	Longhorn Trl to DNT			
Impact Fee Class:	6D (Recent)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,605			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 14137	-	\$ 654,575	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 654,575	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-5
Name:	Stonebrook Pkwy (10)	This completed project consisted of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City's actual contribution was \$3,484,754.		
Limits:	DNT to Preston Rd			
Impact Fee Class:	6D (Previous)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	7,885			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 08125		\$	3,484,754
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	3,484,754

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-6
Name:	Rolater Rd (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Preston Rd to Coit Rd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	11,215			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	17,446	cy	\$ 8.00	\$ 139,564
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	34,891	sy	\$ 5.00	\$ 174,456
307	8" Concrete Pavement w/ 6" Curb	33,645	sy	\$ 46.00	\$ 1,547,670
407	4" Topsoil	29,907	sy	\$ 4.50	\$ 134,580
Paving Construction Cost Subtotal:					\$ 1,996,270
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$		159,702
✓ Traffic Control	Construction Phase Traffic Control	3%	\$		59,888
✓ Pavement Markings/Markers		4%	\$		79,851
Roadway Drainage	None Anticipated	0%	\$		-
Special Drainage Structures	None Anticipated	\$0	\$		-
Water	None Anticipated	0%	\$		-
Sewer	None Anticipated	0%	\$		-
✓ Establish Turf / Erosion Control		6%	\$		119,776
Other:		\$0	\$		-
**Allowances based on % of Paving Construction Cost Subtotal		Allowance Subtotal:	\$		419,217
Paving and Allowance Subtotal:			\$		2,415,487
Construction Contingency:			15%	\$	362,323
Construction Cost TOTAL:			\$		2,778,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,778,000
Engineering/Survey/Testing:		20%	\$ 555,600
Mobilization		6%	\$ 166,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 3,500,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-7
Name:	Rolater Rd (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City contributed \$3,616,050 (CIP 05-0018) to the construction of the existing four-lane facility.		
Limits:	Coit Rd to Independence Pkwy			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,360			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	8,338	cy	\$ 8.00	\$ 66,702
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	16,676	sy	\$ 5.00	\$ 83,378
307	8" Concrete Pavement w/ 6" Curb	16,080	sy	\$ 46.00	\$ 739,680
407	4" Topsoil	14,293	sy	\$ 4.50	\$ 64,320
Paving Construction Cost Subtotal:					\$ 954,080
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
✓	Prep ROW	Construction Phase Traffic Control		8%	\$ 76,326
✓	Traffic Control			3%	\$ 28,622
✓	Pavement Markings/Markers			4%	\$ 38,163
	Roadway Drainage		None Anticipated	0%	\$ -
	Special Drainage Structures		None Anticipated	\$0	\$ -
	Water		None Anticipated	0%	\$ -
	Sewer		None Anticipated	0%	\$ -
✓	Establish Turf / Erosion Control			6%	\$ 57,245
	Other:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 200,357
Paving and Allowance Subtotal:					\$ 1,154,437
Construction Contingency: 15%					\$ 173,166
Construction Cost TOTAL:					\$ 1,328,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,328,000
Engineering/Survey/Testing:		20%	\$ 265,600
Mobilization		6%	\$ 79,680
Previous City contribution	CIP 05-0018 / Muni 06121		\$ 3,616,050
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 5,289,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-8
Name:	Rolater Rd (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore 435 feet of median cost has been removed. The City contributed \$1,093,003 (CIP 05-00521) to the construction of the existing four-lane facility.		
Limits:	Independence Pkwy to Custer Rd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,880			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,591	cy	\$ 8.00	\$ 60,729
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	15,182	sy	\$ 5.00	\$ 75,911
307	8" Concrete Pavement w/ 6" Curb	14,640	sy	\$ 46.00	\$ 673,440
407	4" Topsoil	13,013	sy	\$ 4.50	\$ 58,560
Paving Construction Cost Subtotal:					\$ 868,640
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	69,491
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	26,059
✓	Pavement Markings/Markers		4%	\$	34,746
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	52,118
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	182,414
Paving and Allowance Subtotal:				\$	1,051,054
Construction Contingency:				15%	\$ 157,658
Construction Cost TOTAL:				\$	1,209,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,209,000
Engineering/Survey/Testing:		20%	\$ 241,800
Mobilization		6%	\$ 72,540
Previous City contribution	CIP 05-00521 / Muni 07118		\$ 1,093,003
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,616,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-9
Name:	Lebanon Rd (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The actual city contribution is estimated to be \$2,783,682		
Limits:	BNSF Railroad to Todd Dr			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,630			
Service Area(s):	D			
Roadway Construction Cost Projection				
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	Muni 14136	-	\$	2,783,682
Engineering/Survey/Testing:				
Mobilization				
Previous City contribution				
Other				
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$	-
Impact Fee Project Cost TOTAL:			\$	2,784,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-10
Name:	Lebanon Rd (3)	This completed project consisted of the construction of the median lanes to complete the six-lane divided major thoroughfare. The total City contribution to this project and D-21 was \$2,474,313. \$764,563 (30.9%) has been allocated to this portion of the project.		
Limits:	Todd Dr to 680' E of Legacy Dr			
Impact Fee Class:	6D (Recent)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,895			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	\$2,474,313 (Muni 08122)	30.9%	\$ 764,563	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 764,563	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-11
Name:	Lebanon Rd (4)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	680' E of Legacy Dr to Coit Rd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	23,045			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	35,848	cy	\$ 8.00	\$ 286,782
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	71,696	sy	\$ 5.00	\$ 358,478
307	8" Concrete Pavement w/ 6" Curb	69,135	sy	\$ 46.00	\$ 3,180,210
407	4" Topsoil	61,453	sy	\$ 4.50	\$ 276,540
Paving Construction Cost Subtotal:					\$ 4,102,010
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	328,161
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	123,060
✓	Pavement Markings/Markers		4%	\$	164,080
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	246,121
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	861,422
Paving and Allowance Subtotal:				\$	4,963,432
Construction Contingency:				15%	\$ 744,515
Construction Cost TOTAL:				\$	5,708,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 5,708,000
Engineering/Survey/Testing:		20%	\$ 1,141,600
Mobilization		6%	\$ 342,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 7,192,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-12	
Name:	Lebanon Rd (5)	This project consists of the construction of a new four lane divided minor thoroughfare.			
Limits:	Coit Rd to Independence Pkwy				
Impact Fee Class:	4D				
Ultimate Class:	Minor Thoroughfare				
Length (lf):	5,815				
Service Area(s):	D				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	18,091	cy	\$ 8.00	\$ 144,729
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	36,182	sy	\$ 5.00	\$ 180,911
302	8" Concrete Pavement w/ 6" Curb	34,890	sy	\$ 46.00	\$ 1,604,940
402	4" Topsoil	27,137	sy	\$ 4.50	\$ 122,115
Paving Construction Cost Subtotal:					\$ 2,052,695
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW	None Anticipated	8%	\$	164,216
	Traffic Control		0%	\$	-
√	Pavement Markings/Markers	Standard Internal System	4%	\$	82,108
√	Roadway Drainage		25%	\$	513,174
	Special Drainage Structures	None Anticipated	\$0	\$	-
√	Water	Minor Adjustments	5%	\$	102,635
√	Sewer	Minor Adjustments	2%	\$	41,054
√	Establish Turf / Erosion Control		6%	\$	123,162
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 1,026,348	
Paving and Allowance Subtotal:				\$	3,079,043
Construction Contingency:				15%	\$ 461,856
Construction Cost TOTAL:				\$	3,541,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,541,000
Engineering/Survey/Testing:		20%	\$ 708,200
Mobilization		6%	\$ 212,460
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 4,462,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-13
Name:	Gaylord Pkwy (1)	This completed project consisted of the construction of a four-lane divided minor thoroughfare. The City's actual contribution was \$1,024,960.		
Limits:	Warren Pkwy to John Hickman Pkwy			
Impact Fee Class:	4D (Recent)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	3,510			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description		Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		Actual cost provided by City / Muni 14133	-	\$ 1,024,960
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	1,024,960

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-14
Name:	Gaylord Pkwy (2)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Warren Pkwy to DNT			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	2,580			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,013	cy	\$ 8.00	\$ 32,107
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,027	sy	\$ 5.00	\$ 40,133
307	8" Concrete Pavement w/ 6" Curb	7,740	sy	\$ 46.00	\$ 356,040
407	4" Topsoil	6,880	sy	\$ 4.50	\$ 30,960
Paving Construction Cost Subtotal:					\$ 459,240
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	36,739	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	13,777	
✓ Pavement Markings/Markers		4%	\$	18,370	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	27,554	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal		Allowance Subtotal:	\$	96,440	
Paving and Allowance Subtotal:			\$	555,680	
Construction Contingency:			15%	\$	83,352
Construction Cost TOTAL:			\$	640,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 640,000
Engineering/Survey/Testing:		20%	\$ 128,000
Mobilization		6%	\$ 38,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 806,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-15
Name:	Gaylord Pkwy (4)	This project consists of the construction of a new two lane undivided collector street. The City is required by development agreement to pay for half of this project, while developers construct/pay for the remaining for impact fee credits.		
Limits:	1100' W of Hillcrest Rd to Hillcrest Rd			
Impact Fee Class:	2U			
Ultimate Class:	Collector Street			
Length (lf):	1,100			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	2,444	cy	\$ 8.00	\$ 19,556
201	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,889	sy	\$ 5.00	\$ 24,444
301	7" Concrete Pavement w/ 6" Curb	4,767	sy	\$ 34.00	\$ 162,067
401	4" Topsoil	2,933	sy	\$ 4.50	\$ 13,200
Paving Construction Cost Subtotal:					\$ 219,267
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	17,541	
Traffic Control	None Anticipated	0%	\$	-	
✓ Pavement Markings/Markers		4%	\$	8,771	
✓ Roadway Drainage	Standard Internal System	25%	\$	54,817	
Special Drainage Structures	None Anticipated	\$0	\$	-	
✓ Water	Minor Adjustments	5%	\$	10,963	
✓ Sewer	Minor Adjustments	2%	\$	4,385	
✓ Establish Turf / Erosion Control		6%	\$	13,156	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:		
			\$ 109,633		
			Paving and Allowance Subtotal:		
			\$ 328,900		
			Construction Contingency: 15%		
			\$ 49,335		
			Construction Cost TOTAL:		
			\$ 379,000		

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 379,000
Engineering/Survey/Testing:		20%	\$ 75,800
Mobilization		6%	\$ 22,740
Previous City contribution			
Other	Developer Contribution		\$ (238,770)
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 239,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-16
Name:	Warren Pkwy (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Legacy Dr to Internet Blvd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	3,720			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,787	cy	\$ 8.00	\$ 46,293
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	11,573	sy	\$ 5.00	\$ 57,867
307	8" Concrete Pavement w/ 6" Curb	11,160	sy	\$ 46.00	\$ 513,360
407	4" Topsoil	9,920	sy	\$ 4.50	\$ 44,640
Paving Construction Cost Subtotal:					\$ 662,160
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	52,973
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	19,865
✓	Pavement Markings/Markers		4%	\$	26,486
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	39,730
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	139,054
Paving and Allowance Subtotal:				\$	801,214
Construction Contingency:				15%	\$ 120,182
Construction Cost TOTAL:				\$	922,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 922,000
Engineering/Survey/Testing:		20%	\$ 184,400
Mobilization		6%	\$ 55,320
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,162,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-17
Name:	Warren Pkwy (2)	This completed project consisted of the construction of the median lanes to complete the six-lane divided minor arterial. The City's actual contribution was \$1,164,162.		
Limits:	Internet Blvd to DNT			
Impact Fee Class:	6D (Recent)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,890			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 03122	-	\$ 1,164,162	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 1,164,162	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-18
Name:	Warren Pkwy (3)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Preston Rd to Ohio Dr.			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	1,410			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	2,193	cy	\$ 8.00	\$ 17,547
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	4,387	sy	\$ 5.00	\$ 21,933
307	8" Concrete Pavement w/ 6" Curb	4,230	sy	\$ 46.00	\$ 194,580
407	4" Topsoil	3,760	sy	\$ 4.50	\$ 16,920
Paving Construction Cost Subtotal:					\$ 250,980
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	20,078
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	7,529
✓	Pavement Markings/Markers		4%	\$	10,039
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	15,059
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	52,706
Paving and Allowance Subtotal:				\$	303,686
Construction Contingency:				15%	\$ 45,553
Construction Cost TOTAL:				\$	350,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 350,000
Engineering/Survey/Testing:		20%	\$ 70,000
Mobilization		6%	\$ 21,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 441,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 1/2/2019

Project Information:		Description:	Project No.	D-19
Name:	Town & Country Blvd	This project consists of the construction of an additional two lanes to complete the four-lane minor thoroughfare. The City's actual contribution was \$3,689,117.		
Limits:	Suffolk Ln to 335' W of Bell Stonebriar			
Impact Fee Class:	4D (1/2)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	2,490			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
Construction:	Muni 16111	-	\$	3,689,117
Engineering/Survey/Testing:			\$	-
Mobilization			\$	-
Previous City contribution				
Other				
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$	-
Impact Fee Project Cost TOTAL:			\$	3,689,117

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-20
Name:	Legacy Dr (5)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City previously contributed \$339,941 (CIP 03-0128) to Legacy Dr. from Stonebriar Pkwy. to Warren Pkwy.		
Limits:	SH 121 to 600' S of Warren Pkwy			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	6,945			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	10,803	cy	\$ 8.00	\$ 86,427
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	21,607	sy	\$ 5.00	\$ 108,033
307	8" Concrete Pavement w/ 6" Curb	20,835	sy	\$ 46.00	\$ 958,410
407	4" Topsoil	18,520	sy	\$ 4.50	\$ 83,340
Paving Construction Cost Subtotal:					\$ 1,236,210
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW	Construction Phase Traffic Control	8%	\$	98,897	
✓ Traffic Control		3%	\$	37,086	
✓ Pavement Markings/Markers		4%	\$	49,448	
Roadway Drainage		0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	74,173	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal		Allowance Subtotal:	\$	259,604	
Paving and Allowance Subtotal:			\$	1,495,814	
Construction Contingency:			15%	\$	224,372
Construction Cost TOTAL:			\$	1,721,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,721,000
Engineering/Survey/Testing:		20%	\$ 344,200
Mobilization		6%	\$ 103,260
Previous City contribution	CIP 03-0128 / Muni 03123		\$ 339,941
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,508,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-21
Name:	Legacy Dr (6)	This completed project consisted of the construction of the median lanes to complete the six-lane divided major thoroughfare. The total City contribution to this project and D-11 was \$2,474,313. \$1,709,750 (69.1%) has been allocated to this portion of the project.		
Limits:	600' S of Warren Pkwy to Lebanon Rd			
Impact Fee Class:	6D (Recent)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,235			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	\$2,474,313 (Muni 08122)	69.1%	\$	1,709,750
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	1,709,750

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-22
Name:	Legacy Dr (7)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Lebanon Rd to BNSF Railroad			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	2,610			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,060	cy	\$ 8.00	\$ 32,480
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	8,120	sy	\$ 5.00	\$ 40,600
307	8" Concrete Pavement w/ 6" Curb	7,830	sy	\$ 46.00	\$ 360,180
407	4" Topsoil	6,960	sy	\$ 4.50	\$ 31,320
Paving Construction Cost Subtotal:					\$ 464,580
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	37,166
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	13,937
✓	Pavement Markings/Markers		4%	\$	18,583
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	27,875
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	97,562
Paving and Allowance Subtotal:				\$	562,142
Construction Contingency:				15%	\$ 84,321
Construction Cost TOTAL:				\$	647,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 647,000
Engineering/Survey/Testing:		20%	\$ 129,400
Mobilization		6%	\$ 38,820
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 815,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. D-23
Name:	Parkwood Dr (1)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. The City previously contributed \$1,586,789 (CIP 06-0024) to the construction of the existing southbound two-lanes from Lebanon Rd. to 2,050' N. of Warren Pkwy.	
Limits:	Stonebrook Pkwy to 2,050' N of Warren Pkwy		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	8,340		
Service Area(s):	D		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	12,973	cy	\$ 8.00	\$ 103,787
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	25,947	sy	\$ 5.00	\$ 129,733
307	8" Concrete Pavement w/ 6" Curb	25,020	sy	\$ 46.00	\$ 1,150,920
407	4" Topsoil	22,240	sy	\$ 4.50	\$ 100,080
Paving Construction Cost Subtotal:					\$ 1,484,520
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	118,762
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	44,536
✓	Pavement Markings/Markers		4%	\$	59,381
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	89,071
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 311,749	
Paving and Allowance Subtotal:				\$	1,796,269
Construction Contingency:				15%	\$ 269,440
Construction Cost TOTAL:				\$	2,066,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,066,000
Engineering/Survey/Testing:		20%	\$ 413,200
Mobilization		6%	\$ 123,960
Previous City contribution	CIP 06-0024 / Muni 02161		\$ 1,586,789
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 4,190,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-24
Name:	Ohio Dr (1)	This completed project consisted of the widening of Ohio Dr to a four-lane minor thoroughfare. The City's contribution to construction costs was \$465,626 (CIP 03-0057).		
Limits:	John Hickman Pkwy to Lebanon Rd			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	2,045			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0057 / Muni 03128	-	\$	465,626
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	465,626

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-25
Name:	Ohio Dr (2)	This completed project consisted of the upgrade of Ohio Dr to a four-lane minor thoroughfare. The City's contribution to the project costs was \$1,586,789 (CIP 03-0129).		
Limits:	Lebanon Rd to Wade Blvd			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	3,685			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	CIP 03-0129 / Muni 02161	-	\$	1,504,002
Engineering/Survey/Testing			\$	82,787
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	1,586,789

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-26
Name:	Hillcrest Rd (6)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	Main St to SH 121			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	18,035			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	28,054	cy	\$ 8.00	\$ 224,436
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	56,109	sy	\$ 5.00	\$ 280,544
307	8" Concrete Pavement w/ 6" Curb	54,105	sy	\$ 46.00	\$ 2,488,830
407	4" Topsoil	48,093	sy	\$ 4.50	\$ 216,420
Paving Construction Cost Subtotal:					\$ 3,210,230
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW		8%	\$	256,818	
✓ Traffic Control	Construction Phase Traffic Control	3%	\$	96,307	
✓ Pavement Markings/Markers		4%	\$	128,409	
Roadway Drainage	None Anticipated	0%	\$	-	
Special Drainage Structures	None Anticipated	\$0	\$	-	
Water	None Anticipated	0%	\$	-	
Sewer	None Anticipated	0%	\$	-	
✓ Establish Turf / Erosion Control		6%	\$	192,614	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	674,148
Paving and Allowance Subtotal:				\$	3,884,378
Construction Contingency:				15%	\$ 582,657
Construction Cost TOTAL:				\$	4,468,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,468,000
Engineering/Survey/Testing:		20%	\$ 893,600
Mobilization		6%	\$ 268,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 5,630,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. D-27
Name:	Coit Rd (9)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore 170 feet of median cost has been removed. The City previously contributed \$7,784,782 (CIP 05-0009) to the construction of the existing facility.	
Limits:	Main St to Lebanon Rd		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	13,185		
Service Area(s):	D		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	20,510	cy	\$ 8.00	\$ 164,080
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	41,020	sy	\$ 5.00	\$ 205,100
307	8" Concrete Pavement w/ 6" Curb	39,555	sy	\$ 46.00	\$ 1,819,530
407	4" Topsoil	35,160	sy	\$ 4.50	\$ 158,220
Paving Construction Cost Subtotal:					\$ 2,346,930
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
✓	Prep ROW	Construction Phase Traffic Control		8%	\$ 187,754
✓	Traffic Control			3%	\$ 70,408
✓	Pavement Markings/Markers			4%	\$ 93,877
	Roadway Drainage		None Anticipated	0%	\$ -
	Special Drainage Structures		None Anticipated	\$0	\$ -
	Water		None Anticipated	0%	\$ -
	Sewer		None Anticipated	0%	\$ -
✓	Establish Turf / Erosion Control			6%	\$ 140,816
	Other:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 492,855
Paving and Allowance Subtotal:					\$ 2,839,785
Construction Contingency:					15% \$ 425,968
Construction Cost TOTAL:					\$ 3,266,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,266,000
Engineering/Survey/Testing:		20%	\$ 653,200
Mobilization		6%	\$ 195,960
Previous City contribution	CIP 05-0009 / Muni 05124, 02156		\$ 7,784,782
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 11,900,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. D-28
Name:	Independence Pkwy (6)	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare. Note the bridge crossing is completely built; therefore 230 feet of median cost has been removed. The City previously contributed \$2,844,451 (CIP 05-0013) to the construction of the existing facility.	
Limits:	Main St to SH 121		
Impact Fee Class:	6D (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	11,865		
Service Area(s):	D		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	18,457	cy	\$ 8.00	\$ 147,653
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	36,913	sy	\$ 5.00	\$ 184,567
307	8" Concrete Pavement w/ 6" Curb	35,595	sy	\$ 46.00	\$ 1,637,370
407	4" Topsoil	31,640	sy	\$ 4.50	\$ 142,380
Paving Construction Cost Subtotal:					\$ 2,111,970
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	168,958
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	63,359
✓	Pavement Markings/Markers		4%	\$	84,479
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	126,718
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	443,514
Paving and Allowance Subtotal:				\$	2,555,484
Construction Contingency:				15%	\$ 383,323
Construction Cost TOTAL:				\$	2,939,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,939,000
Engineering/Survey/Testing:		20%	\$ 587,800
Mobilization		6%	\$ 176,340
Previous City contribution	CIP 05-0013 / Muni 05159		\$2,844,451
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 6,548,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.
 The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-29
Name:	5th St	This completed project consisted of the construction of a two-lane undivided collector street. The City's actual contribution was \$1,451,794.		
Limits:	Eubanks St to Main St			
Impact Fee Class:	2U (Previous)			
Ultimate Class:	Collector Street			
Length (lf):	1,780			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 11101	-	\$	1,451,794
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	1,451,794

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-30
Name:	John Hickman Pkwy (1)	This project consists of the construction of a new four lane divided minor thoroughfare.		
Limits:	Warren Pkwy to 555' W of Frisco Grn			
Impact Fee Class:	4D			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	3,590			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	11,169	cy	\$ 8.00	\$ 89,351
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	22,338	sy	\$ 5.00	\$ 111,689
302	8" Concrete Pavement w/ 6" Curb	21,540	sy	\$ 46.00	\$ 990,840
402	4" Topsoil	16,753	sy	\$ 4.50	\$ 75,390
Paving Construction Cost Subtotal:					\$ 1,267,270
Major Construction Component Allowances**:					
Item Description	Notes	Allowance	Item Cost		
✓ Prep ROW	None Anticipated	8%	\$	101,382	
✓ Traffic Control		0%	\$	-	
✓ Pavement Markings/Markers	Standard Internal System	4%	\$	50,691	
✓ Roadway Drainage		25%	\$	316,818	
Special Drainage Structures	None Anticipated	\$0	\$	-	
✓ Water	Minor Adjustments	5%	\$	63,364	
✓ Sewer	Minor Adjustments	2%	\$	25,345	
✓ Establish Turf / Erosion Control		6%	\$	76,036	
Other:		\$0	\$	-	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	633,635
Paving and Allowance Subtotal:				\$	1,900,905
Construction Contingency:				15%	\$ 285,136
Construction Cost TOTAL:				\$	2,187,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,187,000
Engineering/Survey/Testing:		20%	\$ 437,400
Mobilization		6%	\$ 131,220
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,756,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-31
Name:	John Hickman Pkwy (2)	This completed project consisted of the construction of a four-lane divided minor thoroughfare. The City's actual contribution was \$1,561,306		
Limits:	555' W of Frisco Grn to DNT			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	2,535			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 14135	-	\$ 1,561,306	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 1,561,306	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-32	
Name:	John Hickman Pkwy (3)	This project consists of the construction of a new four lane divided minor thoroughfare.			
Limits:	DNT to Parkwood Dr				
Impact Fee Class:	4D				
Ultimate Class:	Minor Thoroughfare				
Length (lf):	2,370				
Service Area(s):	D				
Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,373	cy	\$ 8.00	\$ 58,987
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	14,747	sy	\$ 5.00	\$ 73,733
302	8" Concrete Pavement w/ 6" Curb	14,220	sy	\$ 46.00	\$ 654,120
402	4" Topsoil	11,060	sy	\$ 4.50	\$ 49,770
Paving Construction Cost Subtotal:					\$ 836,610
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
√	Prep ROW	None Anticipated	8%	\$	66,929
	Traffic Control		0%	\$	-
√	Pavement Markings/Markers	Standard Internal System	4%	\$	33,464
√	Roadway Drainage		25%	\$	209,153
	Special Drainage Structures		\$0	\$	-
√	Water	Minor Adjustments	5%	\$	41,831
√	Sewer	Minor Adjustments	2%	\$	16,732
√	Establish Turf / Erosion Control		6%	\$	50,197
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 418,305	
Paving and Allowance Subtotal:				\$	1,254,915
Construction Contingency:				15%	\$ 188,237
Construction Cost TOTAL:				\$	1,444,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,444,000
Engineering/Survey/Testing:		20%	\$ 288,800
Mobilization		6%	\$ 86,640
Previous City contribution	Muni 14134		
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,819,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No. D-33
Name:	John Hickman Pkwy (4)	This project consists of the construction of the remaining two lanes to complete the four-lane minor thoroughfare.	
Limits:	Parkwood Dr to Preston Rd		
Impact Fee Class:	4D (1/2)		
Ultimate Class:	Minor Thoroughfare		
Length (lf):	3,195		
Service Area(s):	D		

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	4,970	cy	\$ 8.00	\$ 39,760
205	12" Lime Stabilized Subgrade @ 100 lbs/sy	9,940	sy	\$ 5.00	\$ 49,700
305	8" Concrete Pavement w/ 6" Curb	9,585	sy	\$ 46.00	\$ 440,910
405	4" Topsoil	23,430	sy	\$ 4.50	\$ 105,435
Paving Construction Cost Subtotal:					\$ 635,805
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	50,864
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	19,074
✓	Pavement Markings/Markers		4%	\$	25,432
✓	Roadway Drainage	Standard Internal System	25%	\$	158,951
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	31,790
✓	Sewer	Minor Adjustments	2%	\$	12,716
✓	Establish Turf / Erosion Control		6%	\$	38,148
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	336,977
Paving and Allowance Subtotal:				\$	972,782
Construction Contingency:				15%	\$ 145,917
Construction Cost TOTAL:				\$	1,119,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,119,000
Engineering/Survey/Testing:		20%	\$ 223,800
Mobilization		6%	\$ 67,140
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,410,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-34
Name:	John Hickman Pkwy (5)	This completed project consisted of the construction of a two-lane undivided collector street. The City's actual contribution was \$669,516.		
Limits:	Preston Rd to Ohio Dr			
Impact Fee Class:	2U (Previous)			
Ultimate Class:	Collector Street			
Length (lf):	1,365			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description	Notes:	Allowance	Item Cost	
City Contribution to Construction Cost:	Actual cost provided by City / Muni 12109	-	\$ 669,516	
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$ 669,516	

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-35
Name:	Cottin Gin Rd (2)	This project consists of the construction of a new four lane divided minor thoroughfare.		
Limits:	BNSF Railroad to 5th St			
Impact Fee Class:	4D			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	2,080			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	6,471	cy	\$ 8.00	\$ 51,769
202	12" Lime Stabilized Subgrade @ 100 lbs/sy	12,942	sy	\$ 5.00	\$ 64,711
302	8" Concrete Pavement w/ 6" Curb	12,480	sy	\$ 46.00	\$ 574,080
402	4" Topsoil	9,707	sy	\$ 4.50	\$ 43,680
Paving Construction Cost Subtotal:					\$ 734,240
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	58,739
	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Markers		4%	\$	29,370
✓	Roadway Drainage	Standard Internal System	25%	\$	183,560
	Special Drainage Structures	None Anticipated	\$0	\$	-
✓	Water	Minor Adjustments	5%	\$	36,712
✓	Sewer	Minor Adjustments	2%	\$	14,685
✓	Establish Turf / Erosion Control		6%	\$	44,054
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	367,120
Paving and Allowance Subtotal:				\$	1,101,360
Construction Contingency:				15%	\$ 165,204
Construction Cost TOTAL:				\$	1,267,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,267,000
Engineering/Survey/Testing:		20%	\$ 253,400
Mobilization		6%	\$ 76,020
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,596,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 1/2/2019

Project Information:		Description:	Project No.	D-36
Name:	Memorial Dr	This project consists of the construction of the median lanes to complete the six-lane divided major thoroughfare.		
Limits:	BNSF Railroad to Town & Country Blvd			
Impact Fee Class:	6D (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	660			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	1,027	cy	\$ 8.00	\$ 8,213
207	12" Lime Stabilized Subgrade @ 100 lbs/sy	2,053	sy	\$ 5.00	\$ 10,267
307	8" Concrete Pavement w/ 6" Curb	1,980	sy	\$ 46.00	\$ 91,080
407	4" Topsoil	1,760	sy	\$ 4.50	\$ 7,920
Paving Construction Cost Subtotal:					\$ 117,480
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Prep ROW		8%	\$	9,398
✓	Traffic Control	Construction Phase Traffic Control	3%	\$	3,524
✓	Pavement Markings/Markers		4%	\$	4,699
	Roadway Drainage	None Anticipated	0%	\$	-
	Special Drainage Structures	None Anticipated	\$0	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Establish Turf / Erosion Control		6%	\$	7,049
	Other:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	24,671
Paving and Allowance Subtotal:				\$	142,151
Construction Contingency:				15%	\$ 21,323
Construction Cost TOTAL:				\$	164,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 164,000
Engineering/Survey/Testing:		20%	\$ 32,800
Mobilization		6%	\$ 9,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 207,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

City of Frisco
2018 Roadway Impact Fee
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated:

1/2/2019

Project Information:		Description:	Project No.	D-37
Name:	Frisco Grn	This completed project consisted of the construction of a four-lane divided minor thoroughfare. The City's contribution was \$308,599.		
Limits:	John Hickman Pkwy to Lebanon Rd			
Impact Fee Class:	4D (Previous)			
Ultimate Class:	Minor Thoroughfare			
Length (lf):	635			
Service Area(s):	D			
Impact Fee Project Cost Summary				
Item Description		Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		Actual cost provided by City / Muni 14156		\$ 308,599
Engineering/Survey/Testing				
Other				
ROW/Easement Acquisition:				
Impact Fee Project Cost TOTAL:			\$	308,599

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Frisco.

The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.

APPENDIX B

CIP SERVICE UNITS OF SUPPLY

City of Frisco - 2018 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area A

1/2/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
A-1	Rockhill Pkwy (1)	2,270' W of FM 423 to 895' W of FM 423	0.26	4	4D (1/2)	0	100%	650	676	0	676	\$ 607,000	\$ 607,000
A-2	Rockhill Pkwy (2)	FM 423 to 705' E of Teel Pkwy	0.57	6	6D (2/3)	4	100%	750	2,565	2	2,563	\$ 2,293,000	\$ 2,293,000
A-3	Rockhill Pkwy (3)	705' E of Teel Pkwy to Teel Pkwy	0.13	6	6D (1/3)	4	100%	750	585	1	584	\$ 221,000	\$ 221,000
A-4	Rockhill Pkwy (4)	Rockhill Pkwy to Legacy Dr (Future)	1.50	6	6D	New	100%	750	6,750	0	6,750	\$ 9,010,000	\$ 9,010,000
A-5	Rockhill Pkwy (5)	Legacy Dr to 1025' E of Legacy Dr	0.19	6	6D	New	50%	750	428	0	428	\$ 1,120,000	\$ 560,000
A-6	Rockhill Pkwy (6)	Mahard Pkwy to DNT	0.72	6	6D (Previous)	0	100%	750	3,240	0	3,240	\$ 4,183,028	\$ 4,183,028
A-7	Rockhill Pkwy (7)	DNT to BNSF Railroad	0.33	6	6D (Previous)	583	100%	750	1,485	192	1,293	\$ 2,451,813	\$ 2,451,813
A-8	Panther Creek Pkwy (1)	FM 423 to 485' W of King George Ln	2.96	6	6D (1/3)	1,258	100%	750	13,320	3,724	9,596	\$ 10,758,000	\$ 10,758,000
A-9	Panther Creek Pkwy (2)	485' W of King George Ln to 150' E of King George Ln	0.12	6	6D (1/3)	62	100%	750	540	7	533	\$ 199,000	\$ 199,000
A-10	Panther Creek Pkwy (3)	150' E of King George Ln to BNSF Railroad	0.82	6	6D	New	100%	750	3,690	0	3,690	\$ 9,051,000	\$ 9,051,000
A-11	Eldorado Pkwy (2)	DNT to BNSF Railroad	0.96	6	6D (Previous)	2,274	100%	750	4,320	2,183	2,137	\$ 2,773,434	\$ 2,773,434
A-12, C-1	Main St (1)	FM 423 to DNT	2.95	6	6D (1/3)	3,637	50%	750	6,638	5,365	1,273	\$ 17,453,784	\$ 8,726,892
A-13, C-2	Main St (2)	DNT to BNSF Railroad	0.66	6	6D (1/3)	2,102	50%	750	1,485	694	791	\$ 3,567,000	\$ 1,783,500
A-14	Teel Pkwy (1)	Rockhill Pkwy to 1515' S of Little Ranch Rd	0.78	6	6D (2/3)	133	100%	750	3,510	104	3,406	\$ 9,603,000	\$ 9,603,000
A-15	Teel Pkwy (2)	1515' S of Little Ranch Rd to Eldorado Pkwy	1.52	6	6D (1/3)	536	100%	750	6,840	815	6,025	\$ 4,143,000	\$ 4,143,000
A-16	Teel Pkwy (3)	Eldorado Pkwy to Main St	1.70	6	6D (1/3)	1,141	100%	750	7,650	1,940	5,710	\$ 4,700,000	\$ 4,700,000
A-17	N Teel Pkwy	US 380 to 1435' S of US 380	0.27	6	6D	569	100%	750	1,215	154	1,061	\$ 1,600,000	\$ 1,600,000
A-18	Legacy Dr (1)	US 380 to Panther Creek Pkwy	2.04	6	6D	New	100%	750	9,180	0	9,180	\$ 16,493,000	\$ 16,493,000
A-19	Legacy Dr (2)	Panther Creek Pkwy to Main St	2.51	6	6D (1/3)	303	100%	750	11,295	761	10,534	\$ 9,941,000	\$ 9,941,000
A-20	Mahard Pkwy (1)	US 380 to 1705' S of US 380	0.32	6	6D	0	100%	750	1,440	0	1,440	\$ 1,999,000	\$ 1,999,000
A-21	Mahard Pkwy (2)	1705' S of US 380 to Rockhill Pkwy	0.18	6	6D	0	50%	750	405	0	405	\$ 1,076,000	\$ 538,000
A-22	Frisco St (1)	Teel Pkwy to Panther Creek Pkwy	2.68	4	4D	New	100%	650	6,968	0	6,968	\$ 12,649,000	\$ 12,649,000
A-23	Frisco St (2)	Cobb Hill Dr to Panther Creek Pkwy	0.51	6	6D	New	100%	750	2,295	0	2,295	\$ 2,923,000	\$ 2,923,000
A-24	Frisco St (3)	Eldorado Pkwy to Main St	1.55	6	6D (1/3)	695	100%	750	6,975	1,077	5,898	\$ 7,378,000	\$ 7,378,000
A-25	Little Ranch Rd	FM 423 to Teel Pkwy	0.70	4	4D	0	100%	650	1,820	0	1,820	\$ 5,058,000	\$ 5,058,000
A-26	New Collector A	Frisco St to US 380	2.22	2	2U	New	100%	475	2,109	0	2,109	\$ 6,174,000	\$ 6,174,000
SUBTOTAL									107,423	17,017	90,406	\$ 147,425,059	\$ 135,816,667
2018 Roadway Impact Fee Study Cost Per Service Area												\$	11,450
TOTAL COST IN SERVICE AREA A												\$	135,828,117

City of Frisco - 2018 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area B

1/8/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
B-1	Rockhill Pkwy (8)	BNSF Railroad to Preston Rd	0.76	6	6D (Previous)	583	100%	750	3,420	443	2,977	\$ 5,609,135	\$ 5,609,135
B-2	Rockhill Pkwy (9)	Preston Rd to 4,035' E. of Preston Rd	0.76	6	6D	410	100%	750	3,420	312	3,108	\$ 1,606,000	\$ 1,606,000
B-3	Rockhill Pkwy (10)	Hillcrest Rd to Coit Rd	1.02	6	6D	410	50%	750	2,295	209	2,086	\$ 2,143,000	\$ 1,071,500
B-4	Panther Creek Pkwy (4)	BNSF Railroad to Preston Rd	0.95	6	6D	10	100%	750	4,275	10	4,266	\$ 5,589,000	\$ 5,589,000
B-5	Panther Creek Pkwy (5)	Preston Rd to 765' E of Preston Rd	0.14	6	6D (2/3)	306	100%	750	630	43	587	\$ 580,000	\$ 580,000
B-6	Panther Creek Pkwy (6)	765' E of Preston Rd to Herschel Dr	0.60	6	6D (1/3)	306	100%	750	2,700	184	2,516	\$ 990,000	\$ 990,000
B-7	Panther Creek Pkwy (8)	Herschel Dr to Alameda Dr	0.71	6	6D (2/3)	176	100%	750	3,195	125	3,070	\$ 3,214,000	\$ 3,214,000
B-8	Panther Creek Pkwy (9)	Alameda Dr to Coit Rd	0.60	6	6D (1/3)	176	100%	750	2,700	106	2,594	\$ 1,714,000	\$ 1,714,000
B-9	Panther Creek Pkwy (10)	Coit Rd to 1645' E of Coit Rd	0.31	6	6D (1/3)	369	50%	750	698	57	640	\$ 1,702,118	\$ 851,059
B-10	Panther Creek Pkwy (11)	Memory Ln to Custer Rd	0.50	6	6D (1/2)	818	100%	750	2,250	409	1,841	\$ 1,493,000	\$ 1,493,000
B-11, D-1	Main St (3)	BNSF Railroad to Preston Rd	1.58	4	4D (Previous)	1,473	50%	650	2,054	1,164	890	\$ 7,070,719	\$ 3,535,360
B-12, D-2	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	6	6D (Previous)	958	50%	750	9,180	1,954	7,226	\$ 1,151,114	\$ 575,557
B-13	Preston Rd (1) [SH 289]	US 380 to Main St	4.56	6	6D (Previous)	2,354	100%	750	20,520	10,734	9,786	\$ 6,453,426	\$ 6,453,426
B-14	Hillcrest Rd (1)	US 380 to 2,685' S of US 380	0.51	6	6D	New	100%	750	2,295	0	2,295	\$ 2,935,000	\$ 2,935,000
B-15	Hillcrest Rd (2)	Rockhill Pkwy To 775' S of Rockhill Pkwy	0.15	6	6D	New	50%	750	338	0	338	\$ 848,000	\$ 424,000
B-16	Hillcrest Rd (3)	775' S of Rockhill Pkwy to 4,015' S of Rockhill Pkwy	0.61	6	6D (2/3)	49	50%	750	1,373	15	1,358	\$ 2,452,000	\$ 1,226,000
B-17	Hillcrest Rd (4)	4,015' S of Rockhill Pkwy to Panther Creek Pkwy	0.36	6	6D (1/3)	49	100%	750	1,620	18	1,602	\$ 587,000	\$ 587,000
B-18	Hillcrest Rd (5)	Panther Creek Pkwy to Eldorado Pkwy	0.96	6	6D (1/3)	517	100%	750	4,320	496	3,824	\$ 1,579,000	\$ 1,579,000
B-19	Hillcrest Rd (6)	Eldorado Pkwy to Main St	1.51	6	6D	New	100%	750	6,795	0	6,795	\$ 8,691,000	\$ 8,691,000
B-20	Coit Rd (1)	US 380 to 2,900' S of Prestwick Hollow Dr	0.88	6	6D (1/2)	437	100%	750	3,960	385	3,575	\$ 4,478,087	\$ 4,478,087
B-21	Coit Rd (2)	Rockhill Pkwy to 2,590' S of Rockhill Pkwy	0.49	6	6D (1/3)	36	50%	750	1,103	9	1,094	\$ 2,511,000	\$ 1,255,500
B-22	Coit Rd (3)	2,590' S of Rockhill Pkwy to Panther Creek Pkwy	0.52	6	6D (1/3)	36	100%	750	2,340	19	2,321	\$ 3,855,000	\$ 3,855,000
B-23	Coit Rd (4)	Panther Creek Pkwy to Buckeye Dr	0.48	6	6D (1/3)	553	50%	750	1,080	133	947	\$ 1,300,000	\$ 650,000
B-24	Coit Rd (5)	Buckeye Dr to Main St	2.09	6	6D (1/3)	553	100%	750	9,405	1,156	8,249	\$ 3,449,000	\$ 3,449,000
B-25	Independence Pkwy (1)	Nixon Dr to Main St	2.25	6	6D (1/3)	1,206	100%	750	10,125	2,714	7,412	\$ 9,497,000	\$ 9,497,000
SUBTOTAL									102,089	20,692	81,397	\$ 81,497,599	\$ 71,908,624
2018 Roadway Impact Fee Study Cost Per Service Area												\$	11,450
TOTAL COST IN SERVICE AREA B												\$	71,920,074

City of Frisco - 2018 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area C

1/2/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
A-12, C-1	Main St (1)	FM 423 to DNT	2.95	6	6D (1/3)	3,637	50%	750	6,638	5,365	1,273	\$ 17,453,784	\$ 8,726,892
A-13, C-2	Main St (2)	DNT to BNSF Railroad	0.66	6	6D (1/3)	2,102	50%	750	1,485	694	791	\$ 3,567,000	\$ 1,783,500
C-3	Stonebrook Pkwy (3)	1,525' W of Witt Rd to Witt Rd	0.29	4	4D (1/2)	797	100%	650	754	231	523	\$ 680,000	\$ 680,000
C-4	Stonebrook Pkwy (4)	Witt Rd to Frisco Lakes Dr	0.21	6	6D (2/3)	797	100%	750	945	167	778	\$ 837,000	\$ 837,000
C-5	Stonebrook Pkwy (5)	Frisco Lakes Dr to 4th Army Dr	2.47	6	6D (1/3)	654	100%	750	11,115	1,615	9,500	\$ 6,356,000	\$ 6,356,000
C-6	Stonebrook Pkwy (6)	4th Army Dr to Legacy Dr	0.70	6	6D (1/3)	1,798	100%	750	3,150	1,259	1,891	\$ 1,150,000	\$ 1,150,000
C-7	Stonebrook Pkwy (7)	Legacy Dr to BNSF Railroad	0.54	6	6D (Previous)	1,269	100%	750	2,430	685	1,745	\$ 412,851	\$ 412,851
C-8	Lebanon Rd (1)	1100' W of Pine Ln to BNSF Railroad	3.23	6	6D (1/3)	1,946	100%	750	14,535	6,286	8,249	\$ 12,731,000	\$ 12,731,000
C-9	Lone Star Ranch Pkwy	Stonebrook Pkwy to FM 423	1.91	6	6D (1/3)	55	100%	750	8,595	105	8,490	\$ 3,145,000	\$ 3,145,000
C-10	Teel Pkwy (3)	Main St to Lebanon Rd	2.35	6	6D (1/3)	927	100%	750	10,575	2,178	8,397	\$ 6,719,000	\$ 6,719,000
C-11	4th Army Memorial Rd (1)	Lebanon Rd to 1,200' S of Timber Ridge Dr	0.63	2	2U (Previous)	92	100%	475	599	58	541	\$ 2,218,644	\$ 2,218,644
C-12	4th Army Memorial Rd (2)	1,200' S of Timber Ridge Dr to Timber Ridge Dr	0.23	2	2U (Previous)	92	100%	475	219	21	197	\$ 3,405,050	\$ 3,405,050
C-13	Cottin Gin Rd (1)	Legacy Dr to DNT	0.51	6	6D (1/3)	348	100%	750	2,295	177	2,118	\$ 842,000	\$ 842,000
C-14	Legacy Dr (3)	Main St to Citation Ct	1.13	6	6D (Previous)	1,342	100%	750	5,085	1,516	3,569	\$ 2,171,065	\$ 2,171,065
C-15	Legacy Dr (4)	Citation Ct to BNSF RR	1.04	6	6D (1/3)	1,819	100%	750	4,680	1,892	2,788	\$ 3,881,000	\$ 3,881,000
C-16	Witt Rd (1)	Stonebrook Pkwy to Witt Rd	0.38	2	2U	New	100%	475	361	0	361	\$ 881,000	\$ 881,000
SUBTOTAL									73,460	22,250	51,210	\$ 66,450,394	\$ 55,940,002
2018 Roadway Impact Fee Study Cost Per Service Area												\$	11,450
TOTAL COST IN SERVICE AREA C												\$	55,951,452

City of Frisco - 2018 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area D

1/2/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
B-11, D-1	Main St (3)	BNSF Railroad to Preston Rd	1.58	4	4D (Previous)	1,473	50%	650	2,054	1,164	890	\$ 7,070,719	\$ 3,535,360
B-12, D-2	Main St (4) [FM 3537]	Preston Rd to Custer Rd	4.08	6	6D (Previous)	958	50%	750	9,180	1,954	7,226	\$ 1,151,114	\$ 575,557
D-3	Stonebrook Pkwy (8)	BNSF Railroad to Longhorn Trl	0.22	6	6D (Previous)	1,269	100%	750	990	279	711	\$ 165,865	\$ 165,865
D-4	Stonebrook Pkwy (9)	Longhorn Trl to DNT	0.68	6	6D (Recent)	1,269	100%	750	3,060	863	2,197	\$ 654,575	\$ 654,575
D-5	Stonebrook Pkwy (10)	DNT to Preston Rd	1.49	6	6D (Previous)	1,371	100%	750	6,705	2,043	4,662	\$ 3,484,754	\$ 3,484,754
D-6	Rotater Rd (1)	Preston Rd to Coit Rd	2.12	6	6D (1/3)	1,278	100%	750	9,540	2,709	6,831	\$ 3,500,000	\$ 3,500,000
D-7	Rotater Rd (2)	Coit Rd to Independence Pkwy	1.02	6	6D (1/3)	708	100%	750	4,590	722	3,868	\$ 5,289,000	\$ 5,289,000
D-8	Rotater Rd (3)	Independence Pkwy to Custer Rd	0.92	6	6D (1/3)	585	100%	750	4,140	538	3,602	\$ 2,616,000	\$ 2,616,000
D-9	Lebanon Rd (2)	BNSF Railroad to Todd Dr	0.31	6	6D (1/3)	1,946	100%	750	1,395	603	792	\$ 2,784,000	\$ 2,784,000
D-10	Lebanon Rd (3)	Todd Dr to 680' E of Legacy Dr	0.36	6	6D (Recent)	1,946	100%	750	1,620	701	919	\$ 764,563	\$ 764,563
D-11	Lebanon Rd (4)	680' E of Legacy Dr to Coit Rd	4.36	6	6D (1/3)	961	100%	750	19,620	4,190	15,430	\$ 7,192,000	\$ 7,192,000
D-12	Lebanon Rd (5)	Coit Rd to Independence Pkwy	1.10	4	4D	New	100%	650	2,860	0	2,860	\$ 4,462,000	\$ 4,462,000
D-13	Gaylord Pkwy (1)	Warren Pkwy to John Hickman Pkwy	0.66	4	4D (Recent)	104	100%	650	1,716	69	1,647	\$ 1,024,960	\$ 1,024,960
D-14	Gaylord Pkwy (2)	Warren Pkwy to DNT	0.49	6	6D (1/3)	481	100%	750	2,205	236	1,969	\$ 806,000	\$ 806,000
D-15	Gaylord Pkwy (4)	1100' W of Hillcrest Rd to Hillcrest Rd	0.21	2	2U	New	100%	475	200	0	200	\$ 239,000	\$ 239,000
D-16	Warren Pkwy (1)	Legacy Dr to Internet Blvd	0.70	6	6D (1/3)	1,717	100%	750	3,150	1,202	1,948	\$ 1,162,000	\$ 1,162,000
D-17	Warren Pkwy (2)	Internet Blvd to DNT	0.36	6	6D (Recent)	1,717	100%	750	1,620	618	1,002	\$ 1,164,162	\$ 1,164,162
D-18	Warren Pkwy (3)	Preston Rd to Ohio Dr.	0.27	6	6D (1/3)	550	100%	750	1,215	149	1,067	\$ 441,000	\$ 441,000
D-19	Town & Country Blvd	Suffolk Ln to 335' W of Bell Stonebriar	0.47	4	4D (1/2)	417	100%	650	1,222	196	1,026	\$ 3,689,117	\$ 3,689,117
D-20	Legacy Dr (5)	SH 121 to 600' S of Warren Pkwy	1.32	6	6D (1/3)	3,017	100%	750	5,940	3,982	1,958	\$ 2,508,000	\$ 2,508,000
D-21	Legacy Dr (6)	600' S of Warren Pkwy to Lebanon Rd	0.80	6	6D (Recent)	3,134	100%	750	3,600	2,507	1,093	\$ 1,709,750	\$ 1,709,750
D-22	Legacy Dr (7)	Lebanon Rd to BNSF Railroad	0.49	6	6D (1/3)	1,819	100%	750	2,205	891	1,314	\$ 815,000	\$ 815,000
D-23	Parkwood Dr (1)	Stonebrook Pkwy to 2,050' N of Warren Pkwy	1.58	6	6D (1/3)	860	100%	750	7,110	1,359	5,751	\$ 4,190,000	\$ 4,190,000
D-24	Ohio Dr (1)	John Hickman Pkwy to Lebanon Rd	0.39	4	4D (Previous)	901	100%	650	1,014	351	663	\$ 465,626	\$ 465,626
D-25	Ohio Dr (2)	Lebanon Rd to Wade Blvd	0.70	4	4D (Previous)	797	100%	650	1,820	558	1,262	\$ 1,586,789	\$ 1,586,789
D-26	Hillcrest Rd (6)	Main St to SH 121	3.42	6	6D (1/3)	926	100%	750	15,390	3,167	12,223	\$ 5,630,000	\$ 5,630,000
D-27	Coit Rd (9)	Main St to Lebanon Rd	2.50	6	6D (1/3)	884	100%	750	11,250	2,210	9,040	\$ 11,900,000	\$ 11,900,000
D-28	Independence Pkwy (6)	Main St to SH 121	2.25	6	6D (1/3)	1,531	100%	750	10,125	3,445	6,680	\$ 6,548,000	\$ 6,548,000
D-29	5th St	Eubanks St to Main St	0.34	2	2U (Previous)	514	100%	475	323	175	148	\$ 1,451,794	\$ 1,451,794
D-30	John Hickman Pkwy (1)	Warren Pkwy to 555' W of Frisco Grn	0.68	4	4D	New	100%	650	1,768	0	1,768	\$ 2,756,000	\$ 2,756,000
D-31	John Hickman Pkwy (2)	555' W of Frisco Grn to DNT	0.48	4	4D (Previous)	210	100%	650	1,248	101	1,147	\$ 1,561,306	\$ 1,561,306
D-32	John Hickman Pkwy (3)	DNT to Parkwood Dr	0.45	4	4D	New	100%	650	1,170	0	1,170	\$ 1,819,000	\$ 1,819,000
D-33	John Hickman Pkwy (4)	Parkwood Dr to Preston Rd	0.61	4	4D (1/2)	109	100%	650	1,586	66	1,520	\$ 1,410,000	\$ 1,410,000
D-34	John Hickman Pkwy (5)	Preston Rd to Ohio Dr	0.26	2	2U (Previous)	58	100%	475	247	15	232	\$ 669,516	\$ 669,516
D-35	Cottin Gin Rd (2)	BNSF Railroad to 5th St	0.39	4	4D	New	100%	650	1,014	0	1,014	\$ 1,596,000	\$ 1,596,000
D-36	Memorial Dr	BNSF Railroad to Town & Country Blvd	0.13	6	6D (1/3)	789	100%	750	585	103	482	\$ 207,000	\$ 207,000
D-37	Frisco Grn	John Hickman Pkwy to Lebanon Rd	0.12	4	4D (Previous)	188	100%	650	312	23	289	\$ 308,599	\$ 308,599
SUBTOTAL									143,789	37,188	106,600	\$ 94,793,209	\$ 90,682,293
2018 Roadway Impact Fee Study Cost Per Service Area												\$ 11,450	
TOTAL COST IN SERVICE AREA D												\$ 90,693,743	

APPENDIX C

EXISTING FACILITIES INVENTORY

City of Frisco - 2018 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

1/2/2019

Service Area A

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		TYPE	PM PEAK HOUR VOL		COUNTS YEAR	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
US 380	Dove Creek Rd	BNSF Railroad	22990	4.35	2	2	5U	1424	1325	2017	50%	625	625	2,719	2,719	3,097	2,882			378	163
Rockhill Pkwy.	W City Limits	2,270' W of FM 423	1425	0.27	1	1	2U	0	0	2016	50%	475	475	64	64	0	0	64	64		
Rockhill Pkwy (1)	2,270' W of FM 423	895' W of FM 423	1375	0.26	1	1	2U	0	0	2016	100%	475	475	124	124	0	0	124	124		
Rockhill Pkwy	895' W of FM 423	FM 423	895	0.17	2	2	4D	0	0	2016	100%	650	650	221	221	0	0	221	221		
Rockhill Pkwy (2)	FM 423	Good Hope Rd	3030	0.57	1	1	2U	3	1	2014	100%	475	475	271	271	2	1	269	270		
Rockhill Pkwy (3)	Good Hope Rd	Teel Pkwy	705	0.13	2	2	4D	3	1	2014	100%	650	650	169	169	0	0	169	169		
Rockhill Pkwy (4)	Rockhill Pkwy	Legacy Dr. (Future)	7915	1.50	0	0	NEW	0	0	NEW											
Rockhill Pkwy (5)	Legacy Dr	1010' E of Legacy Dr	1025	0.19	0	0	NEW	0	0	NEW											
Rockhill Pkwy (6)	Mahard Pkwy	DNT	3795	0.72	3	3	6D	0	0	2018	100%	750	750	1,620	1,620	0	0	1,620	1,620		
Rockhill Pkwy (7)	DNT	BNSF Railroad	1755	0.33	3	3	6D	287	296	2016	100%	750	750	743	743	95	98	648	645		
Panther Creek Pkwy (1)	FM 423	450' W of King George Ln	15645	2.96	2	2	4D	635	623	2015	100%	650	650	3,848	3,848	1,880	1,844	1,968	2,004		
Panther Creek Pkwy (2)	450' W of King George Ln	125' E of King George Ln	635	0.12	2	2	4D	32	30	2015	100%	650	650	156	156	4	4	152	152		
Panther Creek Pkwy (3)	125' E of King George Ln	BNSF Railroad	4305	0.82	0	0	NEW	0	0	NEW											
Eldorado Pkwy (2)	DNT	BNSF Railroad	5075	0.96	3	3	6D	1108	1166	2017	100%	750	750	2,160	2,160	1,064	1,119	1,096	1,041		
Main St (1)	FM 423	DNT	15550	2.95	2	2	4D	1856	1781	2016	50%	650	650	1,918	1,918	2,738	2,627			820	709
Main St (2)	DNT	BNSF Railroad	3510	0.66	2	2	4D	1030	1072	2015	50%	650	650	429	429	340	354	89	75		
FM 423	US 380	Little Ranch Rd	5510	1.04	3	3	6D	667	571	2017	100%	750	750	2,340	2,340	694	594	1,646	1,746		
FM 423	Little Ranch Rd	Eldorado Pkwy	9730	1.84	3	3	6D	692	746	2017	50%	750	750	2,070	2,070	637	686	1,433	1,384		
FM 423	655' S of Martin Way	Main St	1870	0.35	3	3	6D	736	736	2017	50%	750	750	394	394	129	129	265	265		
Teel Pkwy (1)	Rockhill Pkwy	750' S of Frisco St	4120	0.78	1	1	2U	67	66	2017	100%	475	475	371	371	52	51	318	319		
Teel Pkwy (2)	750' S of Frisco St	Eldorado Pkwy	8025	1.52	2	2	4D	282	254	2017	100%	650	650	1,976	1,976	429	386	1,547	1,590		
Teel Pkwy (3)	Eldorado Pkwy	Main St	8970	1.70	2	2	4D	568	573	2017	100%	650	650	2,210	2,210	968	974	1,244	1,236		
N Teel Pkwy	US 380	Hawkins Ln	1435	0.27	1	1	2U-R	329	240	2018	100%	150	150	41	41	89	65			48	24
Legacy Dr (1)	US 380	Panther Creek Pkwy	10785	2.04	0	0	NEW	0	0	NEW											
Legacy Dr (2)	Panther Creek Pkwy	Main St	13235	2.51	2	2	4D	164	139	2016	100%	650	650	3,263	3,263	412	349	2,851	2,914		
Mahard Pkwy (1)	US 380	2,100' S of US 380	1705	0.32	1	1	2U-R	0	0	2018	100%	150	150	48	48	0	0	48	48		
Mahard Pkwy (2)	2,100' S of US 380	Rockhill Pkwy	965	0.18	1	1	2U-R	0	0	2018	50%	150	150	14	14	0	0	14	14		
Frisco St (1)			14125	2.68	0	0	NEW	0	0	NEW											
Frisco St (2)			2675	0.51	0	0	NEW	0	0	NEW											
Frisco St	Cobb Hill Dr	Eldorado Pkwy	2760	0.52	3	3	6D	31	40	2017	100%	750	750	1,170	1,170	16	21	1,154	1,149		
Frisco St (3)	Eldorado Pkwy	Main St	8165	1.55	2	2	4D	303	392	2017	100%	650	650	2,015	2,015	470	608	1,545	1,407		
Little Ranch Rd	FM 423	Teel Pkwy	3685	0.70	1	1	2U-R	0	0	2016	100%	150	150	105	105	0	0	105	105		
New Collector A	US 380	Frisco St	11740	2.22	0	0	NEW	0	0	NEW											
SUBTOTAL			162,975	30.87										11,657	11,657	6,121	6,046	6,356	6,321	868	709
														23,315	12,168			12,676		1,578	

City of Frisco - 2018 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area B

1/2/2019

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		TYPE	PM PEAK HOUR VOL		COUNTS YEAR	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
US 380	BNSF Railroad	2467' W of Preston Rd	5465	1.04	2	2	5U	1057	1417	2017	50%	625	625	650	650	550	737	100			87
US 380	2467' W of Preston Rd	E City Limits	13298	2.52	3	3	6D	1145	1322	2017	50%	750	750	2,835	2,835	1,443	1,666	1,392	1,169		
Rockhill Pkwy (8)	BNSF Railroad	Preston Rd	4015	0.76	3	3	6D	287	296	2016	100%	750	750	1,710	1,710	218	225	1,492	1,485		
Rockhill Pkwy (9)	Preston Rd	2,690' E of Preston Rd	4035	0.76	1	1	2U	193	217	2015	100%	475	475	361	361	147	165	214	196		
Rockhill Pkwy (10)	Hillcrest Rd	Coit Rd	5385	1.02	1	1	2U	193	217	2015	50%	475	475	242	242	98	111	144	132		
Panther Creek Pkwy (4)	BNSF Railroad	Preston Rd	5015	0.95	1	1	2U-R	4	6	2018	100%	150	150	143	143	4	6	139	137		
Panther Creek Pkwy (5)	Preston Rd	860' E of Preston Rd	765	0.14	1	1	2U	160	146	2015	100%	475	475	67	67	22	20	44	46		
Panther Creek Pkwy (6)	860' E of Preston Rd	Herschel Dr	3170	0.60	2	2	4D	160	146	2015	100%	650	650	780	780	96	88	684	692		
Panther Creek Pkwy (8)	365' W of Marbella Dr	Alameda Dr	3770	0.71	1	1	2U	88	88	2015	100%	475	475	337	337	62	62	275	275		
Panther Creek Pkwy (9)	Alameda Dr	Coit Rd	3160	0.60	2	2	4D	88	88	2015	100%	650	650	780	780	53	53	727	727		
Panther Creek Pkwy (10)	Coit Rd	1,645' E of Coit Rd	1645	0.31	2	2	4D	205	164	2015	50%	650	650	202	202	32	25	170	176		
Panther Creek Pkwy (11)	Memory Ln	Custer Rd	2615	0.50	1	1	2U	354	464	2018	100%	475	475	238	238	177	232	61	6		
Main St (3)	BNSF Railroad	Preston Rd	8325	1.58	2	2	4D	750	723	2016	50%	650	650	1,027	1,027	593	571	435	456		
Main St (4) [FM 3537]	Preston Rd	Custer Rd	21545	4.08	3	3	6D	516	442	2015	50%	750	750	4,590	4,590	1,053	902	3,537	3,688		
County Rd	Eldorado Pkwy	Meadow Hill Dr	4995	0.95	1	1	3U	152	123	2017	100%	525	525	499	499	144	117	354	382		
County Rd	Meadow Hill Dr	Main St	4015	0.76	1	1	2U	160	195	2017	100%	475	475	361	361	122	148	239	213		
Preston Rd (1) [SH 289]	US 380	Main St	24055	4.56	3	3	6D	1275	1079	2017	100%	750	750	10,260	10,260	5,814	4,920	4,446	5,340		
Hillcrest Rd (1)	US 380	2,700' S of US 380	2685	0.51	0	0	NEW	0	0	NEW	100%										
Hillcrest Rd (2)	Rockhill Pkwy	778' S of Rockhill Pkwy	775	0.15	0	0	NEW	0	0	NEW	50%										
Hillcrest Rd (3)	778' S of Rockhill Pkwy	3,255' S of Rockhill Pkwy	3240	0.61	1	1	2U	24	25	2017	50%	475	475	145	145	7	8	138	137		
Hillcrest Rd (4)	3,255' S of Rockhill Pkwy	Panther Creek Pkwy	1880	0.36	2	2	4D	24	25	2017	100%	650	650	468	468	9	9	459	459		
Hillcrest Rd (5)	Panther Creek Pkwy	Eldorado Pkwy	5055	0.96	2	2	4D	250	267	2017	100%	650	650	1,248	1,248	240	256	1,008	992		
Hillcrest Rd (6)	Eldorado Pkwy	Main St	7955	1.51	0	0	NEW	0	0	NEW	100%										
Coit Rd (1)	US 380	685' S of Prestwick Hollow Dr	4665	0.88	1	1	2U	223	214	2017	100%	475	475	418	418	196	188	222	230		
Coit Rd (2)	Rockhill Pkwy	2,600' S of Rockhill Pkwy	2590	0.49	2	2	4D	16	20	2016	50%	650	650	319	319	4	5	315	314		
Coit Rd (3)	2,600' S of Rockhill Pkwy	Panther Creek Pkwy	2725	0.52	2	2	4D	16	20	2016	100%	650	650	676	676	8	10	668	666		
Coit Rd (4)	Panther Creek Pkwy	Main St	2555	0.48	2	2	4D	269	284	2017	50%	650	650	312	312	65	68	247	244		
Independence Pkwy (1)	Nixon Dr	Main St	11890	2.25	2	2	4D	614	592	2015	100%	650	650	2,925	2,925	1,382	1,332	1,544	1,593		
#REF!	Rockhill Pkwy	US 380	#REF!	#REF!	0	0	NEW	0	0	NEW	#REF!										
Custer Rd	Westridge Blvd	Main St	13415	2.54	3	3	6D	2011	1773	2017	50%	750	750	2,858	2,858	2,554	2,252	304	606		
SUBTOTAL														28,106	28,106	10,545	9,522	19,357	20,359	0	87
														56,211	20,067			39,716			87

City of Frisco - 2018 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area C

1/2/2019

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		TYPE	PM PEAK HOUR VOL		COUNTS YEAR	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
King Rd	PR3411	Witt Rd	3780	0.72	1	1	2U	297	280	2015	0%	475	475	0	0	0	0				
Main St (1)	FM 423	DNT	15550	2.95	2	2	4D	1856	1781	2016	50%	650	650	1,918	1,918	2,738	2,627			820	709
Main St (2)	DNT	BNSF Railroad	3510	0.66	2	2	4D	1030	1072	2015	50%	650	650	429	429	340	354	89	75		
Stonebrook Pkwy	Hackberry Creek Park Rd	Mast Dr	3090	0.59	1	1	2U	228	339	2017	50%	475	475	140	140	67	100	73	40		
Stonebrook Pkwy	Mast Dr	Rose Ln	1175	0.22	2	2	4D	228	339	2017	50%	650	650	143	143	25	37	118	106		
Stonebrook Pkwy	Rose Ln	1,525' W of Witt Rd	3445	0.65	2	2	4D	401	396	2017	100%	650	650	845	845	261	257	584	588		
Stonebrook Pkwy (3)	1,525' W of Witt Rd	Witt Rd	1540	0.29	1	1	2U	401	396	2017	100%	475	475	138	138	116	115	21	23		
Stonebrook Pkwy (4)	Witt Rd	Frisco Lakes Dr	1105	0.21	1	1	2U	401	396	2017	100%	475	475	100	100	84	83	16	17		
Stonebrook Pkwy (5)	FM 423	4th Army	13065	2.47	2	2	4D	330	324	2017	100%	650	650	3,211	3,211	815	800	2,396	2,411		
Stonebrook Pkwy (6)	4th Army	Legacy Dr	3685	0.70	2	2	4D	855	943	2017	100%	650	650	910	910	598	660	312	250		
Stonebrook Pkwy (7)	Legacy Dr	BNSF Railroad	2850	0.54	3	3	6D	616	653	2016	100%	750	750	1,215	1,215	333	353	882	862		
Lebanon Rd (1)	FM 423	BNSF Railroad	17065	3.23	2	2	4D	957	989	2016	100%	650	650	4,199	4,199	3,091	3,194	1,108	1,005		
FM 423	Main St	Kruger Ln	12220	2.31	3	3	6D	1260	2044	2017	100%	750	750	5,198	5,198	2,911	4,722	2,287	476		
Lone Star Ranch Pkwy	Stonebrook Pkwy	Timber Ridge	10075	1.91	2	2	4D	27	28	2017	100%	650	650	2,483	2,483	52	53	2,431	2,430		
Teel Pkwy (3)	Main St	Lebanon Rd	12415	2.35	2	2	4D	478	449	2017	100%	650	650	3,055	3,055	1,123	1,055	1,932	2,000		
Teel Pkwy	Lebanon Rd	Carroway Dr	1785	0.34	2	2	4D	43	42	2017	100%	650	650	442	442	15	14	427	428		
Rock Creek Pkwy	Vanderbilt Ln	Lebanon Rd	3885	0.74	2	2	4D	116	116	2017	100%	650	650	962	962	86	86	876	876		
4th Army Memorial Rd (1)	Lebanon Rd	1,110' S of Timber Ridge Dr	3315	0.63	1	1	2U	44	48	2016	100%	475	475	299	299	28	30	272	269		
4th Army Memorial Rd (2)	1,110' S of Timber Ridge Dr	Timber Ridge Dr	1200	0.23	1	1	2U	44	48	2016	100%	475	475	109	109	10	11	99	98		
4th Army Dr	Timber Ridge Rd	Stonebrook Pkwy	1275	0.24	1	1	2U	44	48	2017	100%	475	475	114	114	11	12	103	102		
Cottin Gin Rd (1)	Legacy Dr	DNT	2695	0.51	2	2	4D	173	175	2017	100%	650	650	663	663	88	89	575	574		
Cottin Gin Rd	DNT	BNSF Railroad	2225	0.42	2	2	4D	173	175	2017	100%	650	650	546	546	73	74	473	473		
Legacy Dr (3)	Main St	Citation Ct	5950	1.13	3	3	6D	660	682	2016	100%	750	750	2,543	2,543	746	771	1,797	1,772		
Legacy Dr (4)	Citation Ct	BNSF Railroad	5475	1.04	2	2	4D	887	932	2016	100%	650	650	1,352	1,352	922	969	430	383		
Witt Rd (1)	Witt Rd	Stonebrook Pkwy	2030	0.38	0	0	NEW	0	0	NEW	100%					0	0				
Witt Rd (2)	Witt Rd	King Rd	1085	0.21	1	1	2U	0	0	2016	50%	475	475	50	50	0	0	50	50		
SUBTOTAL			131,710	24.95										31,063	31,063	14,532	16,467	17,351	15,305	820	709
														62,125	30,999			32,656		1,530	

City of Frisco - 2018 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

1/2/2019

Service Area D

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		TYPE	PM PEAK HOUR VOL		COUNTS YEAR	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Main St (3)	BNSF Railroad	Preston Rd	8325	1.58	2	2	4D	750	723	2016	50%	650	650	1,027	1,027	593	571	435	456		
Main St (4) [FM 3537]	Preston Rd	Custer Rd	21545	4.08	3	3	6D	516	442	2015	50%	750	750	4,590	4,590	1,053	902	3,537	3,688		
Stonebrook Pkwy (8)	BNSF Railroad	Longhorn Trl	1145	0.22	3	3	6D	616	653	2016	100%	750	750	495	495	136	144	359	351		
Stonebrook Pkwy (9)	Longhorn Trl	DNT	3605	0.68	3	3	6D	616	653	2016	100%	750	750	1,530	1,530	419	444	1,111	1,086		
Stonebrook Pkwy (10)	DNT	Preston Rd	7885	1.49	3	3	6D	650	721	2017	100%	750	750	3,353	3,353	969	1,074	2,384	2,278		
Rotater Rd (1)	Preston Rd	1,470' W of Coit Rd	11215	2.12	2	2	4D	638	640	2017	100%	650	650	2,756	2,756	1,353	1,357	1,403	1,399		
Rotater Rd (2)	Coit Rd	Independence Pkwy	5360	1.02	2	2	4D	367	341	2017	100%	650	650	1,326	1,326	374	348	952	978		
Rotater Rd (3)	Independence Pkwy	Custer Rd	4880	0.92	2	2	4D	297	288	2017	100%	650	650	1,196	1,196	273	265	923	931		
Wade Blvd	Parkwood Dr	Preston Rd	4220	0.80	2	2	4D	160	189	2015	100%	650	650	1,040	1,040	128	151	912	889		
Wade Blvd	Preston Rd	Autumnwood Dr	2620	0.50	2	2	4D	282	296	2015	100%	650	650	650	650	141	148	509	502		
Lebanon Rd (2)	BNSF Railroad	Todd Dr	1630	0.31	2	2	4D	957	989	2016	100%	650	650	403	403	297	307	106	96		
Lebanon Rd (3)	Todd Dr	678' E of Legacy Dr	1895	0.36	3	3	6D	957	989	2016	100%	750	750	810	810	345	356	465	454		
Lebanon Rd (4)	678' E of Legacy Dr	Coit Rd	23045	4.36	2	2	4D	490	471	2015	100%	650	650	5,668	5,668	2,136	2,054	3,532	3,614		
Lebanon Rd (5)	Coit Rd	Independence Pkwy	5815	1.10	0	0	NEW	0	0	NEW	100%										
Lebanon Rd	Independence Pkwy	Hwy 121	2945	0.56	1	1	2U	15	52	2015	100%	475	475	266	266	8	29	258	237		
Gaylord Pkwy (1)	Warren Pkwy	John Hickman Pkwy	3510	0.66	2	2	4D	49	55	2017	100%	650	650	858	858	32	36	826	822		
Gaylord Pkwy (2)	Warren Pkwy	DNT	2580	0.49	2	2	4D	271	210	2017	100%	650	650	637	637	133	103	504	534		
Gaylord Pkwy	Dallas Pkwy	Ohio Dr	7165	1.36	3	3	6D	826	961	2017	100%	750	750	3,060	3,060	1,123	1,307	1,937	1,753		
Gaylord Pkwy	Ohio Dr	1,817' E of Ohio Dr	1820	0.34	1	1	2U	25	23	2017	100%	475	475	162	162	9	8	153	154		
Gaylord Pkwy (4)	1,817' E of Ohio Dr	Hillcrest Rd	1100	0.21	0	0	NEW	0	0	NEW	100%										
Warren Pkwy (1)	Legacy Dr	Internet Blvd	3720	0.70	2	2	4D	855	862	2017	100%	650	650	910	910	599	603	312	307		
Warren Pkwy (2)	Internet Blvd	DNT	1890	0.36	3	3	6D	855	862	2017	100%	750	750	810	810	310	308	502	500		
Warren Pkwy	DNT	Preston Rd	5465	1.04	3	3	6D	646	673	2017	100%	750	750	2,340	2,340	672	700	1,668	1,640		
Warren Pkwy (3)	Preston Rd	Ohio Dr	1410	0.27	2	2	4D	283	267	2017	100%	650	650	351	351	76	72	275	279		
Warren Pkwy	Ohio Dr	Hillcrest Rd	3975	0.75	1	1	2U	188	188	2017	100%	475	475	356	356	141	141	215	215		
Town & Country Blvd.	Spring Creek Pkwy	Suffolk Ln	740	0.14	2	2	4D	232	185	2017	100%	650	650	182	182	32	26	150	156		
Town & Country Blvd	Suffolk Ln	397' W of Bell Stonebriar	2490	0.47	1	1	2U	232	185	2017	100%	475	475	223	223	109	87	114	136		
Town & Country Blvd.	397' W of Bell Stonebriar	Legacy Dr	1835	0.35	2	2	4D	232	185	2017	100%	650	650	455	455	81	65	374	390		
Legacy Dr (5)	SH 121	577' S of Warren Pkwy	6945	1.32	2	2	4D	1469	1548	2016	100%	650	650	1,716	1,716	1,939	2,043			223	327
Legacy Dr (6)	577' S of Warren Pkwy	Lebanon Rd	4235	0.80	3	3	6D	1594	1540	2016	100%	750	750	1,800	1,800	1,275	1,232	525	568		
Legacy Dr (7)	BNSF Railroad	Lebanon Rd	2610	0.49	2	2	4D	887	932	2016	100%	650	650	637	637	435	457	202	180		
Parkwood Blvd	Eubanks St	765' N of Stonebrook Pkwy	3955	0.75	1	1	2U	223	219	2017	100%	475	475	356	356	167	164	189	192		
Parkwood Blvd	765' N of Stonebrook Pkwy	Stonebrook Pkwy	765	0.14	2	2	4D	223	219	2017	100%	650	650	182	182	31	31	151	151		
Parkwood Dr (1)	Stonebrook Pkwy	2,050' N of Warren Pkwy	8340	1.58	2	2	4D	444	416	2017	100%	650	650	2,054	2,054	702	657	1,352	1,397		
Preston Rd	Main St	Hwy 121	20340	3.85	3	3	6D	2102	2062	2017	100%	750	750	8,663	8,663	8,093	7,939	570	724		
Ohio Dr	Hwy 121	Warren Pkwy	3445	0.65	3	3	6D	458	558	2017	100%	750	750	1,463	1,463	298	363	1,165	1,100		
Ohio Dr	Warren Pkwy	John Hickman Pkwy	1625	0.31	2	2	4D	452	449	2017	100%	650	650	403	403	140	139	263	264		
Ohio Dr (1)	John Hickman Pkwy	Lebanon Rd	2045	0.39	2	2	4D	452	449	2017	100%	650	650	507	507	176	175	331	332		
Ohio Dr (2)	Lebanon Rd	Wade Blvd	3685	0.70	2	2	4D	401	396	2017	100%	650	650	910	910	281	277	629	633		
College Pkwy	Hillcrest Rd	Coit Rd	5850	1.11	2	2	4D	301	2716	2017	100%	650	650	1,443	1,443	334	3,015	1,109		1,572	
Hillcrest Rd (6)	Main St	SH 121	18035	3.42	2	2	4D	467	459	2017	100%	650	650	4,446	4,446	1,597	1,570	2,849	2,876		
Coit Rd (9)	Main St	Lebanon Rd	13185	2.50	2	2	4D	444	440	2017	100%	650	650	3,250	3,250	1,110	1,100	2,140	2,150		
Coit Rd	Lebanon Rd	Hwy 121	1335	0.25	3	3	6D	888	1018	2017	100%	750	750	563	563	222	255	341	308		
Independence Pkwy (6)	Main St	Hwy 121	11865	2.25	2	2	4D	702	829	2015	100%	650	650	2,925	2,925	1,580	1,865	1,346	1,060		
5th St	Eubanks St	Main St	1780	0.34	1	1	2U	287	227	2017	100%	475	475	162	162	98	77	64	84		
John Hickman Pkwy (1)	Warren Pkwy	555' W of Frisco Grn	3590	0.68	0	0	NEW	0	0	NEW	100%										
John Hickman Pkwy (2)	555' W of Frisco Grn	Dallas Pkwy	2535	0.48	2	2	4D	92	118	2016	100%	650	650	624	624	44	57	580	567		
John Hickman Pkwy (3)	Dallas Pkwy	Parkwood Dr	2370	0.45	0	0	NEW	0	0	NEW	100%										
John Hickman Pkwy (4)	Parkwood Dr	Preston Rd	3195	0.61	1	1	2U	57	52	2017	100%	475	475	290	290	35	32	255	258		
John Hickman Pkwy (5)	Preston Rd	Ohio Dr	1365	0.26	1	1	2U	28	30	2017	100%	475	475	124	124	7	8	116	116		
Cottin Gin Rd (2)	BNSF Railroad	5th St	2080	0.39	0	0	NEW	0	0	NEW	100%										
Memorial Dr	BNSF Railroad	Town & Country Blvd	660	0.13	2	2	4D	364	425	2017	100%	650	650	169	169	47	55	122	114		
Spring Creek Pkwy	Hwy 121	Town & Country Blvd	1545	0.29	2	2	4D	448	343	2017	100%	650	650	377	377	130	99	247	278		
Frisco Grn	John Hickman Pkwy	Lebanon Rd	635	0.12	2	2	4D	58	130	2017	100%	650	650	156	156	7	16	149	140		
SUBTOTAL			271,845	51.49										68,671	68,671	30,286	33,232	38,609	37,338	223	1,899
														137,342	63,518	75,946		2,122			

APPENDIX D

PLAN FOR AWARDING THE ROADWAY IMPACT FEE CREDIT

SUMMARY

(AS PREPARED BY NEWGEN STRATEGIES & SOLUTIONS)

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area A

Recoverable Impact Fee CIP Costs	\$ 47,172,842	Table 2.13
Financing Cost	7,602,381	See Detail Below
Existing Fund Balance	(1,974,000)	Appendix E - page 1, Service Area A
Interest Earnings	(5,137,936)	Appendix E - page 4, Service Area A
Pre Credit Recoverable Cost for Impact Fee	\$ 47,663,287	Sum of Above
Credit for Ad Valorem Revenues	(783,893)	Appendix E - page 6, Service Area A
Maximum Recoverable Cost for Impact Fee	\$ 46,879,394	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 2.13 Maximum Assessable Roadway Impact Fee

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues

New Annual Debt Service	\$ 38,445,504	Appendix E - page 2, Service Area A
Existing Annual Debt Service	16,318,269	Appendix E - page 2, Service Area A
Principal Component (New and Existing Debt)	(47,161,392)	Appendix E - page 1, Service Area A
Financing Costs	<u>\$ 7,602,381</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Roadway Impact Fee Update were also included in prior Impact Fee Update. To avoid charging twice for the same project, the impact fee revenues collected but not yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E, Service Area A.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Appendix E, Service Area A.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Ad Valorem Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 6 of Appendix E, Service Area A.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.

This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area B

Recoverable Impact Fee CIP Costs	\$ 24,516,573	Table 2.13
Financing Cost	4,550,420	See Detail Below
Existing Fund Balance	(1,241,200)	Appendix E - page 1, Service Area B
Interest Earnings	(2,500,588)	Appendix E - page 4, Service Area B
Pre Credit Recoverable Cost for Impact Fee	\$ 25,325,204	Sum of Above
Credit for Ad Valorem Revenues	(406,214)	Appendix E - page 6, Service Area B
Maximum Recoverable Cost for Impact Fee	\$ 24,918,990	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 2.13 Maximum Assessable Roadway Impact Fee

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues

New Annual Debt Service	\$ 18,295,521	Appendix E - page 2, Service Area B
Existing Annual Debt Service	10,021,052	Appendix E - page 2, Service Area B
Principal Component (New and Existing Debt)	(23,766,153)	Appendix E - page 1, Service Area B
Financing Costs	<u>\$ 4,550,420</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Roadway Impact Fee Update were also included in prior Impact Fee Update. To avoid charging twice for the same project, the impact fee revenues collected but not yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E, Service Area B.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Appendix E, Service Area B.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Ad Valorem Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 6 of Appendix E, Service Area B.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.

This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area C

Recoverable Impact Fee CIP Costs	\$ 10,216,673	Table 2.13
Financing Cost	1,855,633	See Detail Below
Existing Fund Balance	(1,377,000)	Appendix E - page 1, Service Area C
Interest Earnings	(1,017,891)	Appendix E - page 4, Service Area C
Pre Credit Recoverable Cost for Impact Fee	\$ 9,677,415	Sum of Above
Credit for Ad Valorem Revenues	(72,095)	Appendix E - page 6, Service Area C
Maximum Recoverable Cost for Impact Fee	\$ 9,605,320	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 2.13 Maximum Assessable Roadway Impact Fee

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues

New Annual Debt Service	\$ 6,527,806	Appendix E - page 2, Service Area C
Existing Annual Debt Service	5,533,050	Appendix E - page 2, Service Area C
Principal Component (New and Existing Debt)	(10,205,223)	Appendix E - page 1, Service Area C
Financing Costs	<u>\$ 1,855,633</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Roadway Impact Fee Update were also included in prior Impact Fee Update. To avoid charging twice for the same project, the impact fee revenues collected but not yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E, Service Area C.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Appendix E, Service Area C.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Ad Valorem Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 6 of Appendix E, Service Area C.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.

This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area D

Recoverable Impact Fee CIP Costs	\$ 39,275,896	Table 2.13
Financing Cost	6,622,679	See Detail Below
Existing Fund Balance	(4,946,800)	Appendix E - page 1, Service Area D
Interest Earnings	(4,363,825)	Appendix E - page 4, Service Area D
Pre Credit Recoverable Cost for Impact Fee	\$ 36,587,950	Sum of Above
Credit for Ad Valorem Revenues	(1,080,819)	Appendix E - page 6, Service Area D
Maximum Recoverable Cost for Impact Fee	\$ 35,507,131	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 2.13 Maximum Assessable Roadway Impact Fee

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues

New Annual Debt Service	\$ 30,813,572	Appendix E - page 2, Service Area D
Existing Annual Debt Service	14,413,974	Appendix E - page 2, Service Area D
Principal Component (New and Existing Debt)	(38,604,867)	Appendix E - page 1, Service Area D
Financing Costs	<u>\$ 6,622,679</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Roadway Impact Fee Update were also included in prior Impact Fee Update. To avoid charging twice for the same project, the impact fee revenues collected but not yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E, Service Area D.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Appendix E, Service Area D.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Ad Valorem Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 6 of Appendix E, Service Area D.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.

This is the maximum cost that can be recovered through impact fees.

APPENDIX E

PLAN FOR AWARDING THE ROADWAY IMPACT FEE CREDIT
SUPPORTING EXHIBITS
(AS PREPARED BY NEWGEN STRATEGIES & SOLUTIONS)

City of Frisco - 2018 Roadway Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Service Area A

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	3,738
Existing Fund Balance ⁽³⁾	1,974,000
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 22,325,303
Non-debt Funded Project Cost ⁽⁵⁾	11,450
New Project Cost Funded Through New Debt ⁽⁶⁾	24,836,089
Total Recoverable Project Cost ⁽⁷⁾	\$ 47,172,842

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 2,483,609	3.50%	20
2	2,483,609	4.25%	20
3	2,483,609	4.75%	20
4	2,483,609	4.75%	20
5	2,483,609	4.75%	20
6	2,483,609	4.75%	20
7	2,483,609	4.75%	20
8	2,483,609	4.75%	20
9	2,483,609	4.75%	20
10	2,483,609	4.75%	20
Total	\$ 24,836,089		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 1,145
2	829,015
3	1,656,884
4	2,484,754
5	2,484,754
6	2,484,754
7	2,484,754
8	2,484,754
9	2,484,754
10	2,484,754
11	2,483,609
12	1,655,739
13	827,870
Total	\$ 24,847,539

- (1) Investment Portfolio Yield as of 02/28/2018
(2) Derived from Table 2.13 10-year Growth Projections
(3) Assignable balance provided by City Staff
(4) Per discussions with City Staff and City files
(5) This assumes 0% of new project costs funded through sources other than debt
(6) This assumes 100% of new project costs funded through new debt issues
(7) Table 2.14 Maximum Assessable Roadway Impact Fee
(8) Assumes new debt issued in equal annual amounts
(9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
(10) Assumes new debt proceeds expended over a 3-year timeframe.

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Service Area A

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 174,749	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 174,749
2	174,749	186,817	-	-	-	-	-	-	-	-	361,566
3	174,749	186,817	195,089	-	-	-	-	-	-	-	556,655
4	174,749	186,817	195,089	195,089	-	-	-	-	-	-	751,743
5	174,749	186,817	195,089	195,089	195,089	-	-	-	-	-	946,832
6	174,749	186,817	195,089	195,089	195,089	195,089	-	-	-	-	1,141,921
7	174,749	186,817	195,089	195,089	195,089	195,089	195,089	-	-	-	1,337,009
8	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	-	-	1,532,098
9	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	-	1,727,187
10	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
11	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
12	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
13	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
14	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
15	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
16	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
17	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
18	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
19	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
20	174,749	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,922,275
21	-	186,817	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,747,526
22	-	-	195,089	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,560,709
23	-	-	-	195,089	195,089	195,089	195,089	195,089	195,089	195,089	1,365,621
24	-	-	-	-	195,089	195,089	195,089	195,089	195,089	195,089	1,170,532
25	-	-	-	-	-	195,089	195,089	195,089	195,089	195,089	975,443
26	-	-	-	-	-	-	195,089	195,089	195,089	195,089	780,355
27	-	-	-	-	-	-	-	195,089	195,089	195,089	585,266
28	-	-	-	-	-	-	-	-	195,089	195,089	390,177
29	-	-	-	-	-	-	-	-	-	195,089	195,089
	\$ 3,494,988	\$ 3,736,333	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 3,901,773	\$ 38,445,504

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	\$ 174,749	\$ 1,145	\$ (2,483,609)	\$ 1,748,662	\$ (11,674)	\$ (570,727)
2	361,566	829,015	(2,483,609)	1,597,051	(23,633)	280,390
3	556,655	1,656,884	(2,483,609)	1,537,030	(37,666)	1,229,294
4	751,743	2,484,754	(2,483,609)	1,536,534	(54,562)	2,234,860
5	946,832	2,484,754	(2,483,609)	1,474,232	(71,733)	2,350,476
6	1,141,921	2,484,754	(2,483,609)	1,472,150	(92,394)	2,522,821
7	1,337,009	2,484,754	(2,483,609)	1,108,647	(100,258)	2,346,544
8	1,532,098	2,484,754	(2,483,609)	924,799	(114,437)	2,343,606
9	1,727,187	2,484,754	(2,483,609)	744,669	(128,775)	2,344,226
10	1,922,275	2,484,754	(2,483,609)	662,555	(148,762)	2,437,213
11	1,922,275	2,483,609	-	491,353	-	4,897,237
12	1,922,275	1,655,739	-	447,449	-	4,025,464
13	1,922,275	827,870	-	447,565	-	3,197,710
14	1,922,275	-	-	446,378	-	2,368,654
15	1,922,275	-	-	432,297	-	2,354,572
16	1,922,275	-	-	432,298	-	2,354,573
17	1,922,275	-	-	308,263	-	2,230,538
18	1,922,275	-	-	276,870	-	2,199,146
19	1,922,275	-	-	163,716	-	2,085,991
20	1,922,275	-	-	65,750	-	1,988,025
21	1,747,526	-	-	-	-	1,747,526
22	1,560,709	-	-	-	-	1,560,709
23	1,365,621	-	-	-	-	1,365,621
24	1,170,532	-	-	-	-	1,170,532
25	975,443	-	-	-	-	975,443
26	780,355	-	-	-	-	780,355
27	585,266	-	-	-	-	585,266
28	390,177	-	-	-	-	390,177
29	195,089	-	-	-	-	195,089
	\$ 38,445,504	\$ 24,847,539	\$ (24,836,089)	\$ 16,318,269	\$ (783,893)	\$ 53,991,330

(1) Appendix E - page 2 Section I, Service Area A

(2) Appendix E - page 1, Service Area A

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Appendix E - page 6, Service Area A

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Service Area A

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4200	1.0000	3,738	5,309	\$ (570,727)	\$ (810,453)
2	28	1.4027	1.0000	3,738	5,244	280,390	393,295
3	27	1.3855	1.0000	3,738	5,179	1,229,294	1,703,210
4	26	1.3686	1.0000	3,738	5,116	2,234,860	3,058,576
5	25	1.3518	1.0000	3,738	5,054	2,350,476	3,177,468
6	24	1.3353	1.0000	3,738	4,992	2,522,821	3,368,746
7	23	1.3190	1.0000	3,738	4,931	2,346,544	3,095,045
8	22	1.3029	1.0000	3,738	4,870	2,343,606	3,053,369
9	21	1.2869	1.0000	3,738	4,811	2,344,226	3,016,828
10	20	1.2712	1.0000	3,738	4,752	2,437,213	3,098,140
11	19	1.2556	1.0000	-	-	4,897,237	6,149,151
12	18	1.2403	1.0000	-	-	4,025,464	4,992,711
13	17	1.2251	1.0000	-	-	3,197,710	3,917,563
14	16	1.2101	1.0000	-	-	2,368,654	2,866,387
15	15	1.1953	1.0000	-	-	2,354,572	2,814,504
16	14	1.1807	1.0000	-	-	2,354,573	2,780,087
17	13	1.1663	1.0000	-	-	2,230,538	2,601,431
18	12	1.1520	1.0000	-	-	2,199,146	2,533,455
19	11	1.1379	1.0000	-	-	2,085,991	2,373,712
20	10	1.1240	1.0000	-	-	1,988,025	2,234,570
21	9	1.1103	1.0000	-	-	1,747,526	1,940,225
22	8	1.0967	1.0000	-	-	1,560,709	1,711,618
23	7	1.0833	1.0000	-	-	1,365,621	1,479,351
24	6	1.0700	1.0000	-	-	1,170,532	1,252,509
25	5	1.0569	1.0000	-	-	975,443	1,030,994
26	4	1.0440	1.0000	-	-	780,355	814,709
27	3	1.0313	1.0000	-	-	585,266	603,560
28	2	1.0186	1.0000	-	-	390,177	397,453
29	1	1.0062	1.0000	-	-	195,089	196,296
				<hr/>		50,257	\$ 65,844,510

Annual Interest Rate:	1.24%
Present Value of Initial Impact Fee Fund Balance	\$ 1,974,000
Total Escalated Expense for Entire Period	\$ 65,844,510
Less Future Value of Initial Impact Fee Fund Balance	2,820,397
Sub-Total	<hr/> \$ 63,024,113
Total Escalated Service Units	<hr/> 50,257
Impact Fee for Service Area A	\$ 1,254

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Service Area A

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,974,000
1	\$ 1,254	3,738	\$ 4,687,939	\$ (570,727)	\$ 5,258,666	56,989	7,289,655
2	1,254	3,738	4,687,939	280,390	4,407,549	117,529	11,814,733
3	1,254	3,738	4,687,939	1,229,294	3,458,645	167,675	15,441,054
4	1,254	3,738	4,687,939	2,234,860	2,453,079	206,345	18,100,478
5	1,254	3,738	4,687,939	2,350,476	2,337,463	238,553	20,676,494
6	1,254	3,738	4,687,939	2,522,821	2,165,118	269,377	23,110,989
7	1,254	3,738	4,687,939	2,346,544	2,341,396	300,607	25,752,992
8	1,254	3,738	4,687,939	2,343,606	2,344,334	333,333	28,430,659
9	1,254	3,738	4,687,939	2,344,226	2,343,714	366,479	31,140,852
10	1,254	3,738	4,687,939	2,437,213	2,250,727	399,456	33,791,034
11	-	-	-	4,897,237	(4,897,237)	388,019	29,281,817
12	-	-	-	4,025,464	(4,025,464)	337,591	25,593,944
13	-	-	-	3,197,710	(3,197,710)	297,059	22,693,293
14	-	-	-	2,368,654	(2,368,654)	266,281	20,590,920
15	-	-	-	2,354,572	(2,354,572)	240,341	18,476,689
16	-	-	-	2,354,573	(2,354,573)	214,167	16,336,282
17	-	-	-	2,230,538	(2,230,538)	188,436	14,294,180
18	-	-	-	2,199,146	(2,199,146)	163,349	12,258,384
19	-	-	-	2,085,991	(2,085,991)	138,847	10,311,240
20	-	-	-	1,988,025	(1,988,025)	115,347	8,438,561
21	-	-	-	1,747,526	(1,747,526)	93,652	6,784,688
22	-	-	-	1,560,709	(1,560,709)	74,334	5,298,312
23	-	-	-	1,365,621	(1,365,621)	57,140	3,989,832
24	-	-	-	1,170,532	(1,170,532)	42,149	2,861,448
25	-	-	-	975,443	(975,443)	29,387	1,915,392
26	-	-	-	780,355	(780,355)	18,882	1,153,920
27	-	-	-	585,266	(585,266)	10,663	579,316
28	-	-	-	390,177	(390,177)	4,757	193,896
29	-	-	-	195,089	(195,089)	1,193	-
			46,879,394	53,991,330		5,137,936	

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Service Area A

Impact Fee Project Name⁽¹⁾	Impact Fee Project No.⁽¹⁾	Cost In Service Area⁽¹⁾	Impact Fee Recoverable Cost⁽²⁾	Debt Funded⁽³⁾		Non-Debt Funded⁽³⁾	Impact Fee Recoverable Cost
				Existing⁽⁴⁾	Proposed		
Rockhill Pkwy (1)	A-1	\$ 607,000	\$ 210,777	\$ -	\$ 210,777	\$ -	\$ 210,777
Rockhill Pkwy (2)	A-2	2,293,000	796,228	-	796,228	-	796,228
Rockhill Pkwy (3)	A-3	221,000	76,741	-	76,741	-	76,741
Rockhill Pkwy (4)	A-4	9,010,000	3,128,660	-	3,128,660	-	3,128,660
Rockhill Pkwy (5)	A-5	560,000	194,456	-	194,456	-	194,456
Rockhill Pkwy (6)	A-6	4,183,028	1,452,527	1,452,527	-	-	1,452,527
Rockhill Pkwy (7)	A-7	2,451,813	851,375	851,375	-	-	851,375
Panther Creek Pkwy (1)	A-8	10,758,000	3,735,641	3,735,641	-	-	3,735,641
Panther Creek Pkwy (2)	A-9	199,000	69,101	-	69,101	-	69,101
Panther Creek Pkwy (3)	A-10	9,051,000	3,142,897	-	3,142,897	-	3,142,897
Eldorado Pkwy (2)	A-11	2,773,434	963,056	963,056	-	-	963,056
Main St (1)	A-12, C-1	8,726,892	3,030,352	3,030,352	-	-	3,030,352
Main St (2)	A-13, C-2	1,783,500	619,308	619,308	-	-	619,308
Teel Pkwy (1)	A-14	9,603,000	3,334,575	3,334,575	-	-	3,334,575
Teel Pkwy (2)	A-15	4,143,000	1,438,628	1,438,628	-	-	1,438,628
Teel Pkwy (3)	A-16	4,700,000	1,632,042	1,632,042	-	-	1,632,042
N Teel Pkwy	A-17	1,600,000	555,589	-	555,589	-	555,589
Legacy Dr (1)	A-18	16,493,000	5,727,079	-	5,727,079	-	5,727,079
Legacy Dr (2)	A-19	9,941,000	3,451,943	3,451,943	-	-	3,451,943
Mahard Pkwy (1)	A-20	1,999,000	694,139	138,996	555,143	-	694,139
Mahard Pkwy (2)	A-21	538,000	186,817	-	186,817	-	186,817
Frisco St (1)	A-22	12,649,000	4,392,277	-	4,392,277	-	4,392,277
Frisco St (2)	A-23	2,923,000	1,014,991	-	1,014,991	-	1,014,991
Frisco St (3)	A-24	7,378,000	2,561,959	1,676,860	885,100	-	2,561,959
Little Ranch Rd	A-25	5,058,000	1,756,355	-	1,756,355	-	1,756,355
New Collector A	A-26	6,174,000	2,143,879	-	2,143,879	-	2,143,879
Impact Fee Study		11,450	11,450	-	-	11,450	11,450
Total		\$ 135,828,117	\$ 47,172,842	\$ 22,325,303	\$ 24,836,089	\$ 11,450	\$ 47,172,842

(1) Table 2.8 10- Year Capital Improvement Plan with Conceptual Level Cost Opinions Service Area A

(2) Table 2.14 Maximum Assessable Roadway Impact Fee

(3) Per discussions with City Staff and City files

(4) Per discussions with City Staff only GO's were used

City of Frisco - 2018 Roadway Impact Fee Update
 Capital Improvement Plan for Impact Fees
 Credit Determination
 Service Area A

2018 Service Units ⁽¹⁾	612,169
Ten Year Growth in Service Units ⁽¹⁾	37,383
	<u>10 years</u>
Annual Growth in Service Units	3,738

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 1,923,412	\$ 1,958,617	\$ 2,093,685	\$ 2,288,277	\$ 2,421,064	\$ 2,614,070	\$ 2,445,656	\$ 2,456,897	\$ 2,471,856	\$ 2,584,830	\$ 23,258,364
Less: Impact Fees Applied to Debt Service ⁽³⁾	-	-	-	-	-	-	-	-	-	-	-
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 1,923,412	\$ 1,958,617	\$ 2,093,685	\$ 2,288,277	\$ 2,421,064	\$ 2,614,070	\$ 2,445,656	\$ 2,456,897	\$ 2,471,856	\$ 2,584,830	\$ 23,258,364
Vehicle Miles (All Service Areas)	615,907	619,646	623,384	627,122	630,861	634,599	638,337	642,075	645,814	649,552	
Total Debt Funded Projects Eligible for Impact Fees per Vehicle Mile	\$ 3.12	\$ 3.16	\$ 3.36	\$ 3.65	\$ 3.84	\$ 4.12	\$ 3.83	\$ 3.83	\$ 3.83	\$ 3.98	
Annual Growth in Service Units Service Area A (Cumulative)	3,738	7,477	11,215	14,953	18,692	22,430	26,168	29,906	33,645	37,383	
Annual Ad Valorem Revenue Generated by Vehicle Mile for Debt Funded Projects Eligible for Impact Fees	\$ 11,674	\$ 23,633	\$ 37,666	\$ 54,562	\$ 71,733	\$ 92,394	\$ 100,258	\$ 114,437	\$ 128,775	\$ 148,762	\$ 783,893
Credit Amount											\$ 783,893

(1) Derived from Table 2.13 10- Year Growth Projections

(2) Appendix E - page 2 Section II, Service Area A

(3) No impact fee revenue is assumed to be applied to debt service

City of Frisco - 2018 Roadway Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Service Area B

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	3,484
Existing Fund Balance ⁽³⁾	1,241,200
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 11,947,107
Non-debt Funded Project Cost ⁽⁵⁾	750,420
New Project Cost Funded Through New Debt ⁽⁶⁾	11,819,047
Total Recoverable Project Cost ⁽⁷⁾	\$ 24,516,573

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 1,181,905	3.50%	20
2	1,181,905	4.25%	20
3	1,181,905	4.75%	20
4	1,181,905	4.75%	20
5	1,181,905	4.75%	20
6	1,181,905	4.75%	20
7	1,181,905	4.75%	20
8	1,181,905	4.75%	20
9	1,181,905	4.75%	20
10	1,181,905	4.75%	20
Total	\$ 11,819,047		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 75,042
2	469,010
3	862,978
4	1,256,947
5	1,256,947
6	1,256,947
7	1,256,947
8	1,256,947
9	1,256,947
10	1,256,947
11	1,181,905
12	787,936
13	393,968
Total	\$ 12,569,466

- (1) Investment Portfolio Yield as of 02/28/2018
- (2) Derived from Table 2.13 10-year Growth Projections
- (3) Assignable balance provided by City Staff
- (4) Per discussions with City Staff and City files
- (5) This assumes 0% of new project costs funded through sources other than debt
- (6) This assumes 100% of new project costs funded through new debt issues
- (7) Table 2.14 Maximum Assessable Roadway Impact Fee
- (8) Assumes new debt issued in equal annual amounts
- (9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
- (10) Assumes new debt proceeds expended over a 3-year timeframe.
- Non-debt funded capital expenditures allocated in equal annual amounts

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Service Area B

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 83,160	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 83,160
2	83,160	88,903	-	-	-	-	-	-	-	-	172,063
3	83,160	88,903	92,839	-	-	-	-	-	-	-	264,902
4	83,160	88,903	92,839	92,839	-	-	-	-	-	-	357,741
5	83,160	88,903	92,839	92,839	92,839	-	-	-	-	-	450,580
6	83,160	88,903	92,839	92,839	92,839	92,839	-	-	-	-	543,419
7	83,160	88,903	92,839	92,839	92,839	92,839	92,839	-	-	-	636,259
8	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	-	-	729,098
9	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	-	821,937
10	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
11	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
12	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
13	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
14	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
15	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
16	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
17	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
18	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
19	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
20	83,160	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	914,776
21	-	88,903	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	831,616
22	-	-	92,839	92,839	92,839	92,839	92,839	92,839	92,839	92,839	742,713
23	-	-	-	92,839	92,839	92,839	92,839	92,839	92,839	92,839	649,874
24	-	-	-	-	92,839	92,839	92,839	92,839	92,839	92,839	557,035
25	-	-	-	-	-	92,839	92,839	92,839	92,839	92,839	464,196
26	-	-	-	-	-	-	92,839	92,839	92,839	92,839	371,357
27	-	-	-	-	-	-	-	92,839	92,839	92,839	278,517
28	-	-	-	-	-	-	-	-	92,839	92,839	185,678
29	-	-	-	-	-	-	-	-	-	92,839	92,839
	\$ 1,663,202	\$ 1,778,053	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 1,856,783	\$ 18,295,521

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	\$ 83,160	\$ 75,042	\$ (1,181,905)	\$ 1,002,317	\$ (6,143)	\$ (27,529)
2	172,063	469,010	(1,181,905)	952,482	(12,657)	398,994
3	264,902	862,978	(1,181,905)	897,401	(19,513)	823,863
4	357,741	1,256,947	(1,181,905)	897,120	(27,933)	1,301,970
5	450,580	1,256,947	(1,181,905)	862,696	(36,340)	1,351,978
6	543,419	1,256,947	(1,181,905)	861,878	(46,407)	1,433,933
7	636,259	1,256,947	(1,181,905)	770,904	(53,916)	1,428,289
8	729,098	1,256,947	(1,181,905)	758,949	(64,806)	1,498,283
9	821,937	1,256,947	(1,181,905)	554,800	(67,088)	1,384,691
10	914,776	1,256,947	(1,181,905)	411,287	(71,411)	1,329,694
11	914,776	1,181,905	-	303,059	-	2,399,739
12	914,776	787,936	-	272,904	-	1,975,616
13	914,776	393,968	-	273,041	-	1,581,785
14	914,776	-	-	272,186	-	1,186,962
15	914,776	-	-	269,003	-	1,183,779
16	914,776	-	-	268,884	-	1,183,660
17	914,776	-	-	185,995	-	1,100,771
18	914,776	-	-	138,808	-	1,053,584
19	914,776	-	-	67,338	-	982,114
20	914,776	-	-	-	-	914,776
21	831,616	-	-	-	-	831,616
22	742,713	-	-	-	-	742,713
23	649,874	-	-	-	-	649,874
24	557,035	-	-	-	-	557,035
25	464,196	-	-	-	-	464,196
26	371,357	-	-	-	-	371,357
27	278,517	-	-	-	-	278,517
28	185,678	-	-	-	-	185,678
29	92,839	-	-	-	-	92,839
	\$ 18,295,521	\$ 12,569,466	\$ (11,819,047)	\$ 10,021,052	\$ (406,214)	\$ 28,660,778

(1) Appendix E - page 2 Section I, Service Area B

(2) Appendix E - page 1, Service Area B

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Appendix E - page 6, Service Area B

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Service Area B

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4200	1.0000	3,484	4,948	\$ (27,529)	\$ (39,092)
2	28	1.4027	1.0000	3,484	4,887	398,994	559,657
3	27	1.3855	1.0000	3,484	4,828	823,863	1,141,478
4	26	1.3686	1.0000	3,484	4,769	1,301,970	1,781,845
5	25	1.3518	1.0000	3,484	4,710	1,351,978	1,827,659
6	24	1.3353	1.0000	3,484	4,653	1,433,933	1,914,743
7	23	1.3190	1.0000	3,484	4,596	1,428,289	1,883,884
8	22	1.3029	1.0000	3,484	4,540	1,498,283	1,952,039
9	21	1.2869	1.0000	3,484	4,484	1,384,691	1,781,985
10	20	1.2712	1.0000	3,484	4,429	1,329,694	1,690,282
11	19	1.2556	1.0000	-	-	2,399,739	3,013,201
12	18	1.2403	1.0000	-	-	1,975,616	2,450,322
13	17	1.2251	1.0000	-	-	1,581,785	1,937,869
14	16	1.2101	1.0000	-	-	1,186,962	1,436,383
15	15	1.1953	1.0000	-	-	1,183,779	1,415,013
16	14	1.1807	1.0000	-	-	1,183,660	1,397,569
17	13	1.1663	1.0000	-	-	1,100,771	1,283,807
18	12	1.1520	1.0000	-	-	1,053,584	1,213,747
19	11	1.1379	1.0000	-	-	982,114	1,117,577
20	10	1.1240	1.0000	-	-	914,776	1,028,222
21	9	1.1103	1.0000	-	-	831,616	923,318
22	8	1.0967	1.0000	-	-	742,713	814,528
23	7	1.0833	1.0000	-	-	649,874	703,997
24	6	1.0700	1.0000	-	-	557,035	596,047
25	5	1.0569	1.0000	-	-	464,196	490,632
26	4	1.0440	1.0000	-	-	371,357	387,705
27	3	1.0313	1.0000	-	-	278,517	287,223
28	2	1.0186	1.0000	-	-	185,678	189,141
29	1	1.0062	1.0000	-	-	92,839	93,414
					46,843		\$ 35,274,194

Annual Interest Rate: 1.24%

Present Value of Initial Impact Fee Fund Balance \$ 1,241,200

Total Escalated Expense for Entire Period \$ 35,274,194

Less Future Value of Initial Impact Fee Fund Balance 1,773,393

Sub-Total \$ 33,500,801

Total Escalated Service Units 46,843

Impact Fee for Service Area B \$ 715

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Service Area B

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,241,200
1	\$ 715	3,484	\$ 2,491,899	\$ (27,529)	\$ 2,519,428	30,961	3,791,589
2	715	3,484	2,491,899	398,994	2,092,905	59,895	5,944,389
3	715	3,484	2,491,899	823,863	1,668,036	83,917	7,696,342
4	715	3,484	2,491,899	1,301,970	1,189,929	102,646	8,988,917
5	715	3,484	2,491,899	1,351,978	1,139,921	118,339	10,247,177
6	715	3,484	2,491,899	1,433,933	1,057,966	133,409	11,438,552
7	715	3,484	2,491,899	1,428,289	1,063,610	148,193	12,650,356
8	715	3,484	2,491,899	1,498,283	993,616	162,762	13,806,733
9	715	3,484	2,491,899	1,384,691	1,107,208	177,781	15,091,722
10	715	3,484	2,491,899	1,329,694	1,162,205	194,030	16,447,957
11	-	-	-	2,399,739	(2,399,739)	188,771	14,236,989
12	-	-	-	1,975,616	(1,975,616)	164,025	12,425,397
13	-	-	-	1,581,785	(1,581,785)	144,035	10,987,647
14	-	-	-	1,186,962	(1,186,962)	128,680	9,929,365
15	-	-	-	1,183,779	(1,183,779)	115,598	8,861,184
16	-	-	-	1,183,660	(1,183,660)	102,375	7,779,899
17	-	-	-	1,100,771	(1,100,771)	89,501	6,768,629
18	-	-	-	1,053,584	(1,053,584)	77,274	5,792,319
19	-	-	-	982,114	(982,114)	65,630	4,875,835
20	-	-	-	914,776	(914,776)	54,700	4,015,759
21	-	-	-	831,616	(831,616)	44,567	3,228,710
22	-	-	-	742,713	(742,713)	35,374	2,521,371
23	-	-	-	649,874	(649,874)	27,192	1,898,689
24	-	-	-	557,035	(557,035)	20,058	1,361,712
25	-	-	-	464,196	(464,196)	13,985	911,500
26	-	-	-	371,357	(371,357)	8,986	549,129
27	-	-	-	278,517	(278,517)	5,074	275,686
28	-	-	-	185,678	(185,678)	2,264	92,272
29	-	-	-	92,839	(92,839)	568	-
			24,918,990	28,660,778		2,500,588	

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Service Area B

Impact Fee Project Name⁽¹⁾	Impact Fee Project No.⁽¹⁾	Cost In Service Area⁽¹⁾	Impact Fee Recoverable Cost⁽²⁾	Debt Funded⁽³⁾		Non-Debt Funded⁽³⁾	Impact Fee Recoverable Cost
				Existing⁽⁴⁾	Proposed		
Rockhill Pkwy (8)	B-1	\$ 5,609,135	\$ 1,911,489	\$ 1,911,489	\$ -	\$ -	\$ 1,911,489
Rockhill Pkwy (9)	B-2	1,606,000	547,295	434,188	-	113,107	547,295
Rockhill Pkwy (10)	B-3	1,071,500	365,147	-	365,147	-	365,147
Panther Creek Pkwy (4)	B-4	5,589,000	1,904,627	-	1,904,627	-	1,904,627
Panther Creek Pkwy (5)	B-5	580,000	197,653	197,653	-	-	197,653
Panther Creek Pkwy (6)	B-6	990,000	337,374	-	337,374	-	337,374
Panther Creek Pkwy (8)	B-7	3,214,000	1,095,271	-	1,095,271	-	1,095,271
Panther Creek Pkwy (9)	B-8	1,714,000	584,099	247,904	-	336,195	584,099
Panther Creek Pkwy (10)	B-9	851,059	290,025	290,025	-	-	290,025
Panther Creek Pkwy (11)	B-10	1,493,000	508,787	-	508,787	-	508,787
Main St (3)	B-11, D-1	3,535,360	1,204,785	1,204,785	-	-	1,204,785
Main St (4) [FM 3537]	B-12, D-2	575,557	196,139	196,139	-	-	196,139
Preston Rd (1) [SH 289]	B-13	6,453,426	2,199,208	2,199,208	-	-	2,199,208
Hillcrest Rd (1)	B-14	2,935,000	1,000,193	-	1,000,193	-	1,000,193
Hillcrest Rd (2)	B-15	424,000	144,491	144,491	-	-	144,491
Hillcrest Rd (3)	B-16	1,226,000	417,798	-	417,798	-	417,798
Hillcrest Rd (4)	B-17	587,000	200,039	-	200,039	-	200,039
Hillcrest Rd (5)	B-18	1,579,000	538,094	-	538,094	-	538,094
Hillcrest Rd (6)	B-19	8,691,000	2,961,731	-	2,961,731	-	2,961,731
Coit Rd (1)	B-20	4,478,087	1,526,049	1,526,049	-	-	1,526,049
Coit Rd (2)	B-21	1,255,500	427,851	427,851	-	-	427,851
Coit Rd (3)	B-22	3,855,000	1,313,712	1,024,045	-	289,667	1,313,712
Coit Rd (4)	B-23	650,000	221,508	171,334	50,174	-	221,508
Coit Rd (5)	B-24	3,449,000	1,175,355	-	1,175,355	-	1,175,355
Independence Pkwy (1)	B-25	9,497,000	3,236,401	1,971,946	1,264,455	-	3,236,401
Impact Fee Study		11,450	11,450	-	-	11,450	11,450
Total		\$ 71,920,074	\$ 24,516,573	\$ 11,947,107	\$ 11,819,047	\$ 750,420	\$ 24,516,573

(1) Table 2.8 10- Year Capital Improvement Plan with Conceptual Level Cost Opinions Service Area B

(2) Table 2.14 Maximum Assessable Roadway Impact Fee

(3) Per discussions with City Staff and City files

(4) Per discussion with City Staff only GO's were used

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Credit Determination
Service Area B

2018 Service Units ⁽¹⁾	612,169
Ten Year Growth in Service Units ⁽¹⁾	34,843
	<u>10 years</u>
Annual Growth in Service Units	3,484

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 1,085,477	\$ 1,124,545	\$ 1,162,303	\$ 1,254,861	\$ 1,313,276	\$ 1,405,297	\$ 1,407,163	\$ 1,488,047	\$ 1,376,737	\$ 1,326,063	\$ 12,943,770
Less: Impact Fees Applied to Debt Service ⁽³⁾	-	-	-	-	-	-	-	-	-	-	-
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 1,085,477	\$ 1,124,545	\$ 1,162,303	\$ 1,254,861	\$ 1,313,276	\$ 1,405,297	\$ 1,407,163	\$ 1,488,047	\$ 1,376,737	\$ 1,326,063	\$ 12,943,770
Vehicle Miles (All Service Areas)	615,653	619,138	622,622	626,106	629,591	633,075	636,559	640,043	643,528	647,012	
Total Debt Funded Projects Eligible for Impact Fees per Vehicle Mile	\$ 1.76	\$ 1.82	\$ 1.87	\$ 2.00	\$ 2.09	\$ 2.22	\$ 2.21	\$ 2.32	\$ 2.14	\$ 2.05	
Annual Growth in Service Units Service Area B (Cumulative)	3,484	6,969	10,453	13,937	17,422	20,906	24,390	27,874	31,359	34,843	
Annual Ad Valorem Revenue Generated by Vehicle Mile for Debt Funded Projects Eligible for Impact Fees	\$ 6,143	\$ 12,657	\$ 19,513	\$ 27,933	\$ 36,340	\$ 46,407	\$ 53,916	\$ 64,806	\$ 67,088	\$ 71,411	\$ 406,214
Credit Amount											\$ 406,214

(1) Derived from Table 2.13 10- Year Growth Projections
(2) Appendix E - page 2 Section II, Service Area B
(3) No impact fee revenue is assumed to be applied to debt service

City of Frisco - 2018 Roadway Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Service Area C

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	1,345
Existing Fund Balance ⁽³⁾	1,377,000
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 5,988,210
Non-debt Funded Project Cost ⁽⁵⁾	11,450
New Project Cost Funded Through New Debt ⁽⁶⁾	4,217,013
Total Recoverable Project Cost ⁽⁷⁾	\$ 10,216,673

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 421,701	3.50%	20
2	421,701	4.25%	20
3	421,701	4.75%	20
4	421,701	4.75%	20
5	421,701	4.75%	20
6	421,701	4.75%	20
7	421,701	4.75%	20
8	421,701	4.75%	20
9	421,701	4.75%	20
10	421,701	4.75%	20
Total	\$ 4,217,013		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 1,145
2	141,712
3	282,279
4	422,846
5	422,846
6	422,846
7	422,846
8	422,846
9	422,846
10	422,846
11	421,701
12	281,134
13	140,567
Total	\$ 4,228,463

- (1) Investment Portfolio Yield as of 02/28/2018
- (2) Derived from Table 2.13 10-year Growth Projections
- (3) Assignable balance provided by City Staff
- (4) Per discussions with City Staff and City files
- (5) This assumes 0% of new project costs funded through sources other than debt
- (6) This assumes 100% of new project costs funded through new debt issues
- (7) Table 2.14 Maximum Assessable Roadway Impact Fee
- (8) Assumes new debt issued in equal annual amounts
- (9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
- (10) Assumes new debt proceeds expended over a 3-year timeframe.

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Service Area C

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 29,671	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 29,671
2	29,671	31,720	-	-	-	-	-	-	-	-	61,392
3	29,671	31,720	33,125	-	-	-	-	-	-	-	94,516
4	29,671	31,720	33,125	33,125	-	-	-	-	-	-	127,641
5	29,671	31,720	33,125	33,125	33,125	-	-	-	-	-	160,766
6	29,671	31,720	33,125	33,125	33,125	33,125	-	-	-	-	193,891
7	29,671	31,720	33,125	33,125	33,125	33,125	33,125	-	-	-	227,016
8	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	-	-	260,141
9	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	-	293,265
10	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
11	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
12	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
13	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
14	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
15	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
16	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
17	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
18	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
19	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
20	29,671	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	326,390
21	-	31,720	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	296,719
22	-	-	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	264,999
23	-	-	-	33,125	33,125	33,125	33,125	33,125	33,125	33,125	231,874
24	-	-	-	-	33,125	33,125	33,125	33,125	33,125	33,125	198,749
25	-	-	-	-	-	33,125	33,125	33,125	33,125	33,125	165,624
26	-	-	-	-	-	-	33,125	33,125	33,125	33,125	132,499
27	-	-	-	-	-	-	-	33,125	33,125	33,125	99,374
28	-	-	-	-	-	-	-	-	33,125	33,125	66,250
29	-	-	-	-	-	-	-	-	-	33,125	33,125
	\$ 593,427	\$ 634,406	\$ 662,497	\$ 662,497	\$ 662,497	\$ 662,497	\$ 662,497	\$ 662,497	\$ 662,497	\$ 662,497	\$ 6,527,806

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	\$ 29,671	\$ 1,145	\$ (421,701)	\$ 486,704	\$ (1,132)	\$ 94,687
2	61,392	141,712	(421,701)	497,404	(2,445)	276,362
3	94,516	282,279	(421,701)	473,555	(3,720)	424,929
4	127,641	422,846	(421,701)	473,719	(5,240)	597,265
5	160,766	422,846	(421,701)	446,739	(6,602)	602,048
6	193,891	422,846	(421,701)	446,498	(8,333)	633,200
7	227,016	422,846	(421,701)	419,769	(9,798)	638,131
8	260,141	422,846	(421,701)	378,703	(11,037)	628,952
9	293,265	422,846	(421,701)	294,038	(11,390)	577,059
10	326,390	422,846	(421,701)	250,191	(12,398)	565,329
11	326,390	421,701	-	182,423	-	930,514
12	326,390	281,134	-	163,681	-	771,205
13	326,390	140,567	-	163,728	-	630,685
14	326,390	-	-	163,124	-	489,514
15	326,390	-	-	162,311	-	488,701
16	326,390	-	-	162,262	-	488,652
17	326,390	-	-	136,120	-	462,510
18	326,390	-	-	121,140	-	447,530
19	326,390	-	-	76,399	-	402,789
20	326,390	-	-	34,543	-	360,934
21	296,719	-	-	-	-	296,719
22	264,999	-	-	-	-	264,999
23	231,874	-	-	-	-	231,874
24	198,749	-	-	-	-	198,749
25	165,624	-	-	-	-	165,624
26	132,499	-	-	-	-	132,499
27	99,374	-	-	-	-	99,374
28	66,250	-	-	-	-	66,250
29	33,125	-	-	-	-	33,125
	\$ 6,527,806	\$ 4,228,463	\$ (4,217,013)	\$ 5,533,050	\$ (72,095)	\$ 12,000,211

(1) Appendix E - page 2 Section I, Service Area C

(2) Appendix E - page 1, Service Area C

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Appendix E - page 6, Service Area C

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Service Area C

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4200	1.0000	1,345	1,910	\$ 94,687	\$ 134,459
2	28	1.4027	1.0000	1,345	1,887	276,362	387,645
3	27	1.3855	1.0000	1,345	1,864	424,929	588,747
4	26	1.3686	1.0000	1,345	1,841	597,265	817,403
5	25	1.3518	1.0000	1,345	1,818	602,048	813,873
6	24	1.3353	1.0000	1,345	1,796	633,200	845,518
7	23	1.3190	1.0000	1,345	1,774	638,131	841,682
8	22	1.3029	1.0000	1,345	1,753	628,952	819,431
9	21	1.2869	1.0000	1,345	1,731	577,059	742,628
10	20	1.2712	1.0000	1,345	1,710	565,329	718,636
11	19	1.2556	1.0000	-	-	930,514	1,168,388
12	18	1.2403	1.0000	-	-	771,205	956,512
13	17	1.2251	1.0000	-	-	630,685	772,662
14	16	1.2101	1.0000	-	-	489,514	592,378
15	15	1.1953	1.0000	-	-	488,701	584,162
16	14	1.1807	1.0000	-	-	488,652	576,960
17	13	1.1663	1.0000	-	-	462,510	539,416
18	12	1.1520	1.0000	-	-	447,530	515,563
19	11	1.1379	1.0000	-	-	402,789	458,346
20	10	1.1240	1.0000	-	-	360,934	405,695
21	9	1.1103	1.0000	-	-	296,719	329,438
22	8	1.0967	1.0000	-	-	264,999	290,622
23	7	1.0833	1.0000	-	-	231,874	251,185
24	6	1.0700	1.0000	-	-	198,749	212,668
25	5	1.0569	1.0000	-	-	165,624	175,056
26	4	1.0440	1.0000	-	-	132,499	138,333
27	3	1.0313	1.0000	-	-	99,374	102,481
28	2	1.0186	1.0000	-	-	66,250	67,485
29	1	1.0062	1.0000	-	-	33,125	33,330
				<hr/>		18,085	\$ 14,880,700

Annual Interest Rate:	1.24%
Present Value of Initial Impact Fee Fund Balance	\$ 1,377,000
Total Escalated Expense for Entire Period	\$ 14,880,700
Less Future Value of Initial Impact Fee Fund Balance	1,967,420
Sub-Total	<hr/> \$ 12,913,280
Total Escalated Service Units	<hr/> 18,085
Impact Fee for Service Area C	\$ 714

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Service Area C

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,377,000
1	\$ 714	1,345	\$ 960,532	\$ 94,687	\$ 865,845	22,407	2,265,251
2	714	1,345	960,532	276,362	684,170	32,279	2,981,701
3	714	1,345	960,532	424,929	535,603	40,229	3,557,533
4	714	1,345	960,532	597,265	363,266	46,291	3,967,090
5	714	1,345	960,532	602,048	358,484	51,332	4,376,905
6	714	1,345	960,532	633,200	327,331	56,212	4,760,449
7	714	1,345	960,532	638,131	322,401	60,930	5,143,780
8	714	1,345	960,532	628,952	331,580	65,732	5,541,092
9	714	1,345	960,532	577,059	383,473	70,972	5,995,538
10	714	1,345	960,532	565,329	395,203	76,671	6,467,412
11	-	-	-	930,514	(930,514)	74,307	5,611,204
12	-	-	-	771,205	(771,205)	64,693	4,904,692
13	-	-	-	630,685	(630,685)	56,816	4,330,823
14	-	-	-	489,514	(489,514)	50,585	3,891,894
15	-	-	-	488,701	(488,701)	45,157	3,448,350
16	-	-	-	488,652	(488,652)	39,666	2,999,363
17	-	-	-	462,510	(462,510)	34,269	2,571,123
18	-	-	-	447,530	(447,530)	29,060	2,152,653
19	-	-	-	402,789	(402,789)	24,157	1,774,020
20	-	-	-	360,934	(360,934)	19,728	1,432,815
21	-	-	-	296,719	(296,719)	15,902	1,151,998
22	-	-	-	264,999	(264,999)	12,621	899,620
23	-	-	-	231,874	(231,874)	9,702	677,448
24	-	-	-	198,749	(198,749)	7,157	485,856
25	-	-	-	165,624	(165,624)	4,990	325,222
26	-	-	-	132,499	(132,499)	3,206	195,928
27	-	-	-	99,374	(99,374)	1,810	98,364
28	-	-	-	66,250	(66,250)	808	32,922
29	-	-	-	33,125	(33,125)	203	-
			9,605,320	12,000,211		1,017,891	

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Service Area C

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee</u>	<u>Cost In</u>	<u>Impact Fee</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt</u>	<u>Impact Fee</u>
	<u>Project No.⁽¹⁾</u>	<u>Service Area⁽¹⁾</u>	<u>Recoverable Cost⁽²⁾</u>	<u>Existing⁽⁴⁾</u>	<u>Proposed</u>	<u>Funded⁽³⁾</u>	<u>Recoverable Cost</u>
Main St (1)	A-13, C-1	\$ 8,726,892	\$ 1,592,061	\$ 1,592,061	\$ -	\$ -	\$ 1,592,061
Main St (2)	A-14, C-2	1,783,500	325,367	325,367	-	-	325,367
Stonebrook Pkwy (3)	C-3	680,000	124,053	-	124,053	-	124,053
Stonebrook Pkwy (4)	C-4	837,000	152,695	-	152,695	-	152,695
Stonebrook Pkwy (5)	C-5	6,356,000	1,159,535	415,397	744,138	-	1,159,535
Stonebrook Pkwy (6)	C-6	1,150,000	209,796	-	209,796	-	209,796
Stonebrook Pkwy (7)	C-7	412,851	75,317	75,317	-	-	75,317
Lebanon Rd (1)	C-8	12,731,000	2,322,536	1,350,888	971,648	-	2,322,536
Lone Star Ranch Pkwy	C-9	3,145,000	573,747	-	573,747	-	573,747
Teel Pkwy (3)	C-10	6,719,000	1,225,758	518,733	707,025	-	1,225,758
4th Army Memorial Rd (1)	C-11	2,218,644	404,751	404,751	-	-	404,751
4th Army Memorial Rd (2)	C-12	3,405,050	621,189	621,189	-	-	621,189
Cottin Gin Rd (1)	C-13	842,000	153,607	-	153,607	-	153,607
Legacy Dr (3)	C-14	2,171,065	396,071	396,071	-	-	396,071
Legacy Dr (4)	C-15	3,881,000	708,017	288,438	419,579	-	708,017
Witt Rd (1)	C-16	881,000	160,722	-	160,722	-	160,722
Impact Fee Study		11,450	11,450	-	-	11,450	11,450
Total		\$ 55,951,452	\$ 10,216,673	\$ 5,988,210	\$ 4,217,013	\$ 11,450	\$ 10,216,673

(1) Table 2.8 10- Year Capital Improvement Plan with Conceptual Level Cost Opinions Service Area C

(2) Table 2.14 Maximum Assessable Roadway Impact Fee

(3) Per discussions with City Staff and City files

(4) Per discussion with City Staff only GO's were included

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Credit Determination
Service Area C

2018 Service Units ⁽¹⁾	612,169
Ten Year Growth in Service Units ⁽¹⁾	13,452
	<u>10 years</u>
Annual Growth in Service Units	1,345

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 516,376	\$ 558,796	\$ 568,071	\$ 601,360	\$ 607,506	\$ 640,389	\$ 646,784	\$ 638,844	\$ 587,304	\$ 576,582	\$ 5,942,011
Less: Impact Fees Applied to Debt Service ⁽³⁾	-	-	-	-	-	-	-	-	-	-	-
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 516,376	\$ 558,796	\$ 568,071	\$ 601,360	\$ 607,506	\$ 640,389	\$ 646,784	\$ 638,844	\$ 587,304	\$ 576,582	\$ 5,942,011
Vehicle Miles (All Service Areas)	613,514	614,859	616,205	617,550	618,895	620,240	621,585	622,931	624,276	625,621	
Total Debt Funded Projects Eligible for Impact Fees per Vehicle Mile	\$ 0.84	\$ 0.91	\$ 0.92	\$ 0.97	\$ 0.98	\$ 1.03	\$ 1.04	\$ 1.03	\$ 0.94	\$ 0.92	
Annual Growth in Service Units Service Area C (Cumulative)	1,345	2,690	4,036	5,381	6,726	8,071	9,416	10,762	12,107	13,452	
Annual Ad Valorem Revenue Generated by Vehicle Mile for Debt Funded Projects Eligible for Impact Fees	\$ 1,132	\$ 2,445	\$ 3,720	\$ 5,240	\$ 6,602	\$ 8,333	\$ 9,798	\$ 11,037	\$ 11,390	\$ 12,398	\$ 72,095
Credit Amount											\$ 72,095

(1) Derived from Table 2.13 10- Year Growth Projections
(2) Appendix E - page 2 Section II, Service Area C
(3) No impact fee revenue is assumed to be applied to debt service

City of Frisco - 2018 Roadway Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Service Area D

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	6,232
Existing Fund Balance ⁽³⁾	4,946,800
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 18,699,064
Non-debt Funded Project Cost ⁽⁵⁾	671,029
New Project Cost Funded Through New Debt ⁽⁶⁾	19,905,803
Total Recoverable Project Cost ⁽⁷⁾	\$ 39,275,896

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 1,990,580	3.50%	20
2	1,990,580	4.25%	20
3	1,990,580	4.75%	20
4	1,990,580	4.75%	20
5	1,990,580	4.75%	20
6	1,990,580	4.75%	20
7	1,990,580	4.75%	20
8	1,990,580	4.75%	20
9	1,990,580	4.75%	20
10	1,990,580	4.75%	20
Total	\$ 19,905,803		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 67,103
2	730,630
3	1,394,156
4	2,057,683
5	2,057,683
6	2,057,683
7	2,057,683
8	2,057,683
9	2,057,683
10	2,057,683
11	1,990,580
12	1,327,054
13	663,527
Total	\$ 20,576,832

- (1) Investment Portfolio Yield as of 02/28/2018
- (2) Derived from Table 2.13 10-year Growth Projections
- (3) Assignable balance provided by City Staff
- (4) Per discussions with City Staff and City files
- (5) This assumes 0% of new project costs funded through sources other than debt
- (6) This assumes 100% of new project costs funded through new debt issues
- (7) Table 2.14 Maximum Assessable Roadway Impact Fee
- (8) Assumes new debt issued in equal annual amounts
- (9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
- (10) Assumes new debt proceeds expended over a 3-year timeframe.

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Service Area D

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 140,059	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 140,059
2	140,059	149,731	-	-	-	-	-	-	-	-	289,790
3	140,059	149,731	156,361	-	-	-	-	-	-	-	446,152
4	140,059	149,731	156,361	156,361	-	-	-	-	-	-	602,513
5	140,059	149,731	156,361	156,361	156,361	-	-	-	-	-	758,874
6	140,059	149,731	156,361	156,361	156,361	156,361	-	-	-	-	915,235
7	140,059	149,731	156,361	156,361	156,361	156,361	156,361	-	-	-	1,071,596
8	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	-	-	1,227,957
9	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	-	1,384,318
10	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
11	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
12	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
13	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
14	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
15	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
16	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
17	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
18	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
19	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
20	140,059	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,540,679
21	-	149,731	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,400,619
22	-	-	156,361	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,250,888
23	-	-	-	156,361	156,361	156,361	156,361	156,361	156,361	156,361	1,094,527
24	-	-	-	-	156,361	156,361	156,361	156,361	156,361	156,361	938,166
25	-	-	-	-	-	156,361	156,361	156,361	156,361	156,361	781,805
26	-	-	-	-	-	-	156,361	156,361	156,361	156,361	625,444
27	-	-	-	-	-	-	-	156,361	156,361	156,361	469,083
28	-	-	-	-	-	-	-	-	156,361	156,361	312,722
29	-	-	-	-	-	-	-	-	-	156,361	156,361
	\$ 2,801,187	\$ 2,994,622	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 3,127,220	\$ 30,813,572

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	\$ 140,059	\$ 67,103	\$ (1,990,580)	\$ 1,373,909	\$ (15,258)	\$ (424,767)
2	289,790	730,630	(1,990,580)	1,323,917	(32,202)	321,555
3	446,152	1,394,156	(1,990,580)	1,367,721	(53,758)	1,163,690
4	602,513	2,057,683	(1,990,580)	1,366,444	(77,045)	1,959,014
5	758,874	2,057,683	(1,990,580)	1,292,638	(99,372)	2,019,242
6	915,235	2,057,683	(1,990,580)	1,291,220	(127,022)	2,146,535
7	1,071,596	2,057,683	(1,990,580)	1,016,314	(138,898)	2,016,115
8	1,227,957	2,057,683	(1,990,580)	1,007,206	(168,336)	2,133,929
9	1,384,318	2,057,683	(1,990,580)	738,064	(178,146)	2,011,339
10	1,540,679	2,057,683	(1,990,580)	524,023	(190,781)	1,941,024
11	1,540,679	1,990,580	-	424,384	-	3,955,643
12	1,540,679	1,327,054	-	393,848	-	3,261,580
13	1,540,679	663,527	-	394,090	-	2,598,296
14	1,540,679	-	-	393,372	-	1,934,051
15	1,540,679	-	-	382,788	-	1,923,466
16	1,540,679	-	-	382,824	-	1,923,503
17	1,540,679	-	-	256,550	-	1,797,228
18	1,540,679	-	-	228,077	-	1,768,756
19	1,540,679	-	-	162,040	-	1,702,718
20	1,540,679	-	-	94,544	-	1,635,223
21	1,400,619	-	-	-	-	1,400,619
22	1,250,888	-	-	-	-	1,250,888
23	1,094,527	-	-	-	-	1,094,527
24	938,166	-	-	-	-	938,166
25	781,805	-	-	-	-	781,805
26	625,444	-	-	-	-	625,444
27	469,083	-	-	-	-	469,083
28	312,722	-	-	-	-	312,722
29	156,361	-	-	-	-	156,361
	\$ 30,813,572	\$ 20,576,832	\$ (19,905,803)	\$ 14,413,974	\$ (1,080,819)	\$ 44,817,756

(1) Appendix E - page 2 Section I, Service Area D

(2) Appendix E - page 1, Service Area D

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Appendix E - page 6, Service Area D

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Service Area D

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4200	1.0000	6,232	8,850	\$ (424,767)	\$ (603,185)
2	28	1.4027	1.0000	6,232	8,742	321,555	451,036
3	27	1.3855	1.0000	6,232	8,635	1,163,690	1,612,314
4	26	1.3686	1.0000	6,232	8,530	1,959,014	2,681,060
5	25	1.3518	1.0000	6,232	8,425	2,019,242	2,729,693
6	24	1.3353	1.0000	6,232	8,322	2,146,535	2,866,288
7	23	1.3190	1.0000	6,232	8,220	2,016,115	2,659,215
8	22	1.3029	1.0000	6,232	8,120	2,133,929	2,780,191
9	21	1.2869	1.0000	6,232	8,021	2,011,339	2,588,430
10	20	1.2712	1.0000	6,232	7,923	1,941,024	2,467,393
11	19	1.2556	1.0000	-	-	3,955,643	4,966,851
12	18	1.2403	1.0000	-	-	3,261,580	4,045,280
13	17	1.2251	1.0000	-	-	2,598,296	3,183,212
14	16	1.2101	1.0000	-	-	1,934,051	2,340,460
15	15	1.1953	1.0000	-	-	1,923,466	2,299,187
16	14	1.1807	1.0000	-	-	1,923,503	2,271,114
17	13	1.1663	1.0000	-	-	1,797,228	2,096,071
18	12	1.1520	1.0000	-	-	1,768,756	2,037,638
19	11	1.1379	1.0000	-	-	1,702,718	1,937,574
20	10	1.1240	1.0000	-	-	1,635,223	1,838,015
21	9	1.1103	1.0000	-	-	1,400,619	1,555,065
22	8	1.0967	1.0000	-	-	1,250,888	1,371,840
23	7	1.0833	1.0000	-	-	1,094,527	1,185,681
24	6	1.0700	1.0000	-	-	938,166	1,003,870
25	5	1.0569	1.0000	-	-	781,805	826,328
26	4	1.0440	1.0000	-	-	625,444	652,979
27	3	1.0313	1.0000	-	-	469,083	483,745
28	2	1.0186	1.0000	-	-	312,722	318,553
29	1	1.0062	1.0000	-	-	156,361	157,329
				<hr/>		83,788	<hr/>
							\$ 54,803,228

Annual Interest Rate: 1.24%

Present Value of Initial Impact Fee Fund Balance \$ 4,946,800

Total Escalated Expense for Entire Period \$ 54,803,228

Less Future Value of Initial Impact Fee Fund Balance 7,067,853

Sub-Total \$ 47,735,375

Total Escalated Service Units 83,788

Impact Fee for Service Area D \$ 570

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Service Area D

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 4,946,800
1	\$ 570	6,232	\$ 3,550,713	\$ (424,767)	\$ 3,975,480	85,850	9,008,130
2	570	6,232	3,550,713	321,555	3,229,158	131,509	12,368,797
3	570	6,232	3,550,713	1,163,690	2,387,023	167,901	14,923,722
4	570	6,232	3,550,713	1,959,014	1,591,699	194,608	16,710,029
5	570	6,232	3,550,713	2,019,242	1,531,471	216,350	18,457,850
6	570	6,232	3,550,713	2,146,535	1,404,178	237,200	20,099,228
7	570	6,232	3,550,713	2,016,115	1,534,599	258,328	21,892,154
8	570	6,232	3,550,713	2,133,929	1,416,784	279,795	23,588,732
9	570	6,232	3,550,713	2,011,339	1,539,374	301,557	25,429,664
10	570	6,232	3,550,713	1,941,024	1,609,689	324,783	27,364,137
11	-	-	-	3,955,643	(3,955,643)	314,283	23,722,776
12	-	-	-	3,261,580	(3,261,580)	273,499	20,734,694
13	-	-	-	2,598,296	(2,598,296)	240,612	18,377,011
14	-	-	-	1,934,051	(1,934,051)	215,536	16,658,495
15	-	-	-	1,923,466	(1,923,466)	194,326	14,929,355
16	-	-	-	1,923,503	(1,923,503)	172,919	13,178,771
17	-	-	-	1,797,228	(1,797,228)	152,028	11,533,571
18	-	-	-	1,768,756	(1,768,756)	131,837	9,896,653
19	-	-	-	1,702,718	(1,702,718)	111,981	8,305,915
20	-	-	-	1,635,223	(1,635,223)	92,705	6,763,397
21	-	-	-	1,400,619	(1,400,619)	75,061	5,437,839
22	-	-	-	1,250,888	(1,250,888)	59,577	4,246,529
23	-	-	-	1,094,527	(1,094,527)	45,797	3,197,798
24	-	-	-	938,166	(938,166)	33,781	2,293,414
25	-	-	-	781,805	(781,805)	23,553	1,535,162
26	-	-	-	625,444	(625,444)	15,134	924,852
27	-	-	-	469,083	(469,083)	8,546	464,315
28	-	-	-	312,722	(312,722)	3,812	155,405
29	-	-	-	156,361	(156,361)	956	-
			35,507,131	44,817,756		4,363,825	

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Service Area D

Impact Fee Project Name⁽¹⁾	Impact Fee Project No.⁽¹⁾	Cost In Service Area⁽¹⁾	Impact Fee Recoverable Cost⁽²⁾	Debt Funded⁽³⁾		Non-Debt Funded⁽³⁾	Impact Fee Recoverable Cost
				Existing⁽⁴⁾	Proposed		
Main St (3)	B-13, D-1	\$ 3,535,360	\$ 1,530,772	\$ 1,530,772	\$ -	\$ -	\$ 1,530,772
Main St (4) [FM 3537]	B-14, D-2	575,557	249,210	249,210	-	-	249,210
Stonebrook Pkwy (8)	D-3	165,865	71,818	71,818	-	-	71,818
Stonebrook Pkwy (9)	D-4	654,575	283,424	283,424	-	-	283,424
Stonebrook Pkwy (10)	D-5	3,484,754	1,508,861	1,508,861	-	-	1,508,861
Rolater Rd (1)	D-6	3,500,000	1,515,462	-	1,515,462	-	1,515,462
Rolater Rd (2)	D-7	5,289,000	2,290,079	1,565,710	724,369	-	2,290,079
Rolater Rd (3)	D-8	2,616,000	1,132,700	473,258	-	659,441	1,132,700
Lebanon Rd (2)	D-9	2,784,000	1,205,442	1,205,304	-	138	1,205,442
Lebanon Rd (3)	D-10	764,563	331,047	331,047	-	-	331,047
Lebanon Rd (4)	D-11	7,192,000	3,114,058	-	3,114,058	-	3,114,058
Lebanon Rd (5)	D-12	4,462,000	1,931,997	-	1,931,997	-	1,931,997
Gaylord Pkwy (1)	D-13	1,024,960	443,797	443,797	-	-	443,797
Gaylord Pkwy (2)	D-14	806,000	348,989	-	348,989	-	348,989
Gaylord Pkwy (4)	D-15	239,000	103,484	-	103,484	-	103,484
Warren Pkwy (1)	D-16	1,162,000	503,133	-	503,133	-	503,133
Warren Pkwy (2)	D-17	1,164,162	504,069	504,069	-	-	504,069
Warren Pkwy (3)	D-18	441,000	190,948	-	190,948	-	190,948
Town & Country Blvd	D-19	3,689,117	1,597,348	1,597,348	-	-	1,597,348
Legacy Dr (5)	D-20	2,508,000	1,085,937	147,191	938,746	-	1,085,937
Legacy Dr (6)	D-21	1,709,750	740,303	740,303	-	-	740,303
Legacy Dr (7)	D-22	815,000	352,886	-	352,886	-	352,886
Parkwood Dr (1)	D-23	4,190,000	1,814,224	687,062	1,127,162	-	1,814,224
Ohio Dr (1)	D-24	465,626	201,611	199,013	2,598	-	201,611
Ohio Dr (2)	D-25	1,586,789	687,062	687,062	-	-	687,062
Hillcrest Rd (6)	D-26	5,630,000	2,437,729	-	2,437,729	-	2,437,729
Coit Rd (9)	D-27	11,900,000	5,152,570	3,370,726	1,781,845	-	5,152,570
Independence Pkwy (6)	D-28	6,548,000	2,835,213	1,231,616	1,603,596	-	2,835,213
5th St	D-29	1,451,794	628,611	628,611	-	-	628,611
John Hickman Pkwy (1)	D-30	2,756,000	1,193,318	-	1,193,318	-	1,193,318
John Hickman Pkwy (2)	D-31	1,561,306	676,029	676,029	-	-	676,029
John Hickman Pkwy (3)	D-32	1,819,000	787,607	143,319	644,288	-	787,607
John Hickman Pkwy (4)	D-33	1,410,000	610,515	-	610,515	-	610,515
John Hickman Pkwy (5)	D-34	669,516	289,893	289,893	-	-	289,893
Cottin Gin Rd (2)	D-35	1,596,000	691,051	-	691,051	-	691,051
Memorial Dr	D-36	207,000	89,629	-	89,629	-	89,629
Frisco Grn	D-37	308,599	133,620	133,620	-	-	133,620
Impact Fee Study		11,450	11,450	-	-	11,450	11,450
Total		\$ 90,693,743	\$ 39,275,896	\$ 18,699,064	\$ 19,905,803	\$ 671,029	\$ 39,275,896

(1) Table 2.8 10- Year Capital Improvement Plan with Conceptual Level Cost Opinions Service Area D

(2) Table 2.14 Maximum Assessable Roadway Impact Fee

(3) Per discussions with City Staff and City files

(4) Per discussions with City Staff only GO's were used

City of Frisco - 2018 Roadway Impact Fee Update
Capital Improvement Plan for Impact Fees
Credit Determination
Service Area D

2018 Service Units ⁽¹⁾	612,169
Ten Year Growth in Service Units ⁽¹⁾	62,324
	<u>10 years</u>
Annual Growth in Service Units	6,232

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 1,513,968	\$ 1,613,708	\$ 1,813,872	\$ 1,968,957	\$ 2,051,512	\$ 2,206,455	\$ 2,087,910	\$ 2,235,163	\$ 2,122,382	\$ 2,064,702	\$ 19,678,627
Less: Impact Fees Applied to Debt Service ⁽³⁾	-	-	-	-	-	-	-	-	-	-	-
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 1,513,968	\$ 1,613,708	\$ 1,813,872	\$ 1,968,957	\$ 2,051,512	\$ 2,206,455	\$ 2,087,910	\$ 2,235,163	\$ 2,122,382	\$ 2,064,702	\$ 19,678,627
Vehicle Miles (All Service Areas)	618,401	624,634	630,866	637,099	643,331	649,563	655,796	662,028	668,261	674,493	
Total Debt Funded Projects Eligible for Impact Fees per Vehicle Mile	\$ 2.45	\$ 2.58	\$ 2.88	\$ 3.09	\$ 3.19	\$ 3.40	\$ 3.18	\$ 3.38	\$ 3.18	\$ 3.06	
Annual Growth in Service Units Service Area D (Cumulative)	6,232	12,465	18,697	24,930	31,162	37,394	43,627	49,859	56,092	62,324	
Annual Ad Valorem Revenue Generated by Vehicle Mile for Debt Funded Projects Eligible for Impact Fees	\$ 15,258	\$ 32,202	\$ 53,758	\$ 77,045	\$ 99,372	\$ 127,022	\$ 138,898	\$ 168,336	\$ 178,146	\$ 190,781	\$ 1,080,819
Credit Amount											\$ 1,080,819

(1) Derived from Table 2.13 10- Year Growth Projections

(2) Appendix E - page 2 Section II, Service Area D

(3) No impact fee revenue is assumed to be applied to debt service

2018-2028 Water Impact Fee Update

Prepared for:

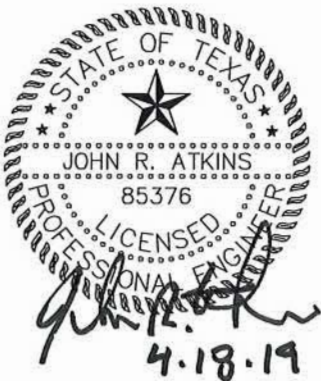
City of Frisco, Texas



Prepared by:

Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
817.335.6511
Firm Registration No. F-928

January 2019



© Kimley-Horn and Associates, Inc., 2019
061123039

TABLE OF CONTENTS

Table of Contents	i
3.1 Executive Summary	1
3.2 Introduction	3
A. Land Use Assumptions	4
B. Evaluation of the Water System Master Plan.....	4
C. Impact Fee Capital Improvements Plan.....	4
D. Impact Fee Analysis and Report.....	4
3.3 Design Criteria.....	5
A. Water Transmission Lines (12-inch and Larger)	5
B. Elevated Storage Tanks	5
C. Ground Storage Tanks	5
D. Pump Stations	5
3.4 Impact Fee Capital Improvements Plan	6
A. Project Descriptions	10
3.5 Water Impact Fee Calculation	22
Water Appendices	25

List of Exhibits

3.1	Water System Map.....	7
-----	-----------------------	---

List of Tables

3.1	Maximum Assessable Water Impact Fee for Commonly Used Meters.....	2
3.2	Water Impact Fee Capital Improvements Projected Cost and 10-Year Recoverable Cost.....	5
3.3	Service Unit Consumption Calculation.....	20
3.4	10-Year Additional Service Units Calculation.....	21
3.5	10-Year Recoverable Cost Breakdown.....	21
3.6	Service Unit Equivalency Table for Commonly Used Meters.....	22

3.1 EXECUTIVE SUMMARY

This study was performed to update the City of Frisco's Water System Impact Fees. Water system analysis and the *Water, Wastewater, and Reuse System Master Plan* are important tools for facilitating orderly growth of the water system and for providing adequate facilities that promote economic development in the City of Frisco. The implementation of Impact Fees is a way to shift a portion of the burden of paying for new facilities onto new development.

Elements of the water system, including storage facilities, pumping facilities, and the distribution network itself, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth of the City was provided by Freese & Nichols, Inc.

Water system improvements necessary to serve 10-year (2028) and ultimate system needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, the state's impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The remainder can be assessed as the planning window extends beyond 2028 and as the impact fees are updated in the future.

The impact fee law defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Frisco defines a *service unit* as unit of development that consumes the amount of water requiring a standard 1-inch meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 1-inch meter. The equivalency factor and associated impact fee by meter size is shown in Table 3.1.

Based on the City's 10-year growth projections and the associated demand (consumption) values, 23,659 additional service units will need water by the year 2028. Based on the additional service units and the recoverable capital improvements plans the City may assess a maximum of \$3,028 per service unit.

Table 3.1 Maximum Assessable Water Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Impact Fee
1" PD	25	1.0	\$3,028
2" PD	80	3.2	\$9,690
2" MACH 10	100	4.0	\$12,112
3" COMP	175	7.0	\$21,196
4" COMP	300	12.0	\$36,336
6" COMP	675	27.0	\$81,756

*PD=Positive Displacement Meter, TURB=Turbine Meter, COMP=Compound Meter, MACH 10=Mach 10 Solid State Ultrasonic Meter

**Operating capacities obtained from American Water Works Association (AWWA) C-700-15, C-701-15, and C-702-15

3.2 INTRODUCTION

The City of Frisco retained the services of Kimley-Horn and Associates, Inc., for the purpose of updating the impact fees for water system improvements required to serve new development. These fees were originally developed in 1999 and updated in 2005 and 2012 in accordance with Chapter 395 of the *Local Government Code* (impact fees).

The purpose of this report is to satisfy the requirements of the law and provide the City with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

- (a) *The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:*
- (1) *a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;*
 - (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
 - (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*

(7) *plan for awarding:*

- (A) *a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or*
- (B) *in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.*

The impact fee study includes information from the latest *Water, Wastewater, and Reuse System Master Plan* completed by Freese & Nichols, Inc. The impact fees are based on recommended capital improvements outlined in the *Water, Wastewater, and Reuse System Master Plan* and the population growth projections shown in the current *Land Use Assumptions Report*.

The study process was comprised of four tasks:

A. LAND USE ASSUMPTIONS

The development of land use assumptions included the following:

- Establishing impact fee service areas (SA) for water and wastewater;
- Collection/determination of population and employment data by SA; and
- Projection of the ten-year population and employment by SA.

A detailed discussion is outlined in the current *Land Use Assumptions Report*.

B. EVALUATION OF THE WATER SYSTEM MASTER PLAN

This task involved reviewing the *Water, Wastewater, and Reuse System Master Plan* and its growth projection compatibility with the *Land Use Assumptions Report*. The water demand projections were then used to determine the additional service units.

C. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved evaluation of the water capital improvements plan outlined in the master plan and discussion with City staff to identify projects that will be built in the 10-year planning window and meet the design criteria.

D. IMPACT FEE ANALYSIS AND REPORT

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

3.3 DESIGN CRITERIA

A. WATER TRANSMISSION LINES (12-INCH AND LARGER)

Water transmission lines shall be sized to maintain a minimum of 35 pounds per square inch (psi) throughout the system during peak hour demands conditions. In addition to this, the transmission lines shall be designed for a maximum pipeline velocity of 7.0 feet per second with a maximum friction loss of 7 feet per 1,000 feet of pipeline length.

B. ELEVATED STORAGE TANKS

The design criteria used to size elevated storage tank capacity is the capacity to provide adequate storage for peak hour demands plus emergency storage for fire protection. The required capacity for the peak hour demands is calculated as the storage volume to provide 30% of the peak hour demand for four (4) hours. The required capacity for emergency fire protection storage is calculated as the volume of water needed to meet a 1,500 gallons per minute (gpm) fire for a four (4) hour time period.

In addition to these criteria, the City must also meet the TCEQ elevated storage capacity requirements of 100 gallons per connection. The above recommended design criteria (to provide storage for peak hour demands plus fire protection) is this most restrictive criteria and therefore recommended for use in sizing future elevated storage facilities.

C. GROUND STORAGE TANKS

The design criteria recommended to size ground storage tank capacity within each pressure plane is to provide adequate storage volume to meet 8 hours of maximum day summer demand.

In addition to these criteria, the City must also meet TCEQ ground storage capacity requirements of 200 gallons per connection. The above recommended criterion (for 8 hours of storage capacity) is the most restrictive criteria and will be used here to size recommended storage capacity.

D. PUMP STATIONS

The design criteria recommended for pump station capacity is providing a firm pumping capacity to meet 70% of peak hour demands. The firm pumping capacity is defined as the available total pumping capacity with the largest pump out of service.

3.4 IMPACT FEE CAPITAL IMPROVEMENTS PLAN

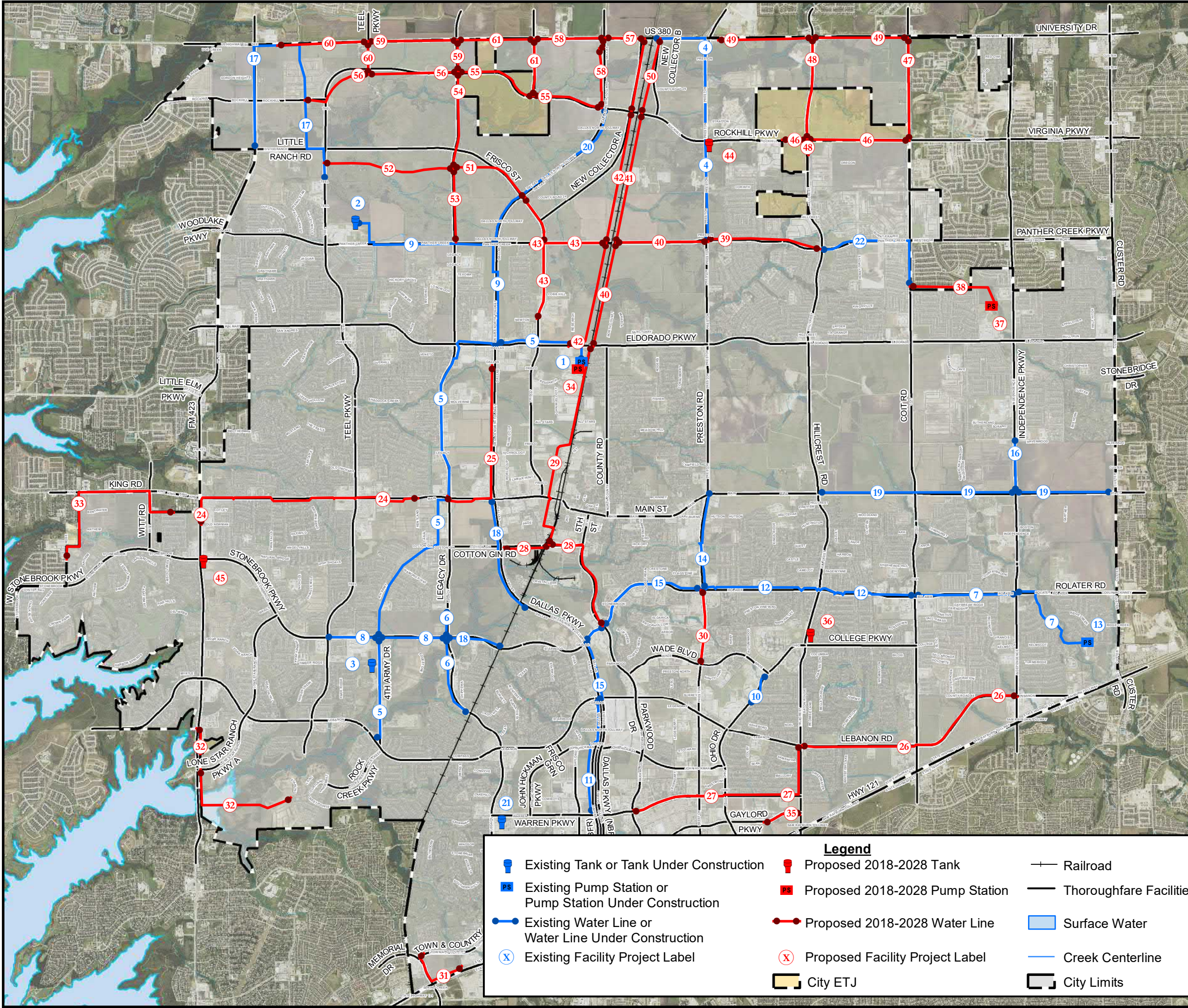
The City Council commissioned Freese & Nichols, Inc., to update *Water, Wastewater, and Reuse System Master Plan*. The purpose of the plan is to provide the City with a logical strategy for upgrading and expanding its water distribution system to accommodate future growth and for addressing existing system deficiencies. Freese & Nichols, Inc. completed the *Water, Wastewater, and Reuse System Master Plan* and recommended system improvements to accommodate growth through the City's build-out.

Twenty-three (23) existing and thirty-eight (38) proposed projects identified in the *Water, Wastewater, and Reuse System Master Plan* are determined eligible for recoverable cost through impact fee over the next 10 years. The total cost of these projects is \$197,737,837. The projected total recoverable through impact fees is \$81,254,510. After financing costs are added and the credit reduction calculation is complete, \$71,635,656 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 3.2.

Table 3.2 Water Impact Fee Capital Improvements
Projected Cost and 10 Year Recoverable Cost

Project #	Description	2018 Required Capacity (Percent Utilization)	2028 Required Capacity (Percent Utilization)	2018-2028 Required Capacity (Percent Utilization)	2028 Projected Recoverable Cost	Total Project Cost
EXISTING						
1	Frisco #3 Pump Station and Ground Storage	95%	100%	5%	\$ 589,256	\$ 11,785,129
2	2.5 MG Teel Elevated Storage Tank	88%	100%	12%	\$ 367,991	\$ 3,066,591
3	2.5 MG Timber Ridge Elevated Storage Tank	88%	100%	12%	\$ 301,389	\$ 2,511,576
4	20" SH 289 Water Line	44%	59%	15%	\$ 118,903	\$ 792,686
5	West Side Water Line - Phase 1, 2 & 3	47%	62%	15%	\$ 188,644	\$ 1,257,625
6	16" Legacy Drive Water Line	47%	62%	15%	\$ 39,346	\$ 262,306
7	42" Rolater Road Water Line (Frisco #1 Pump Station to Coit)	44%	59%	15%	\$ 545,865	\$ 3,639,098
8	24"/18" Railroad/Legacy Drive Water Line	47%	62%	15%	\$ 292,744	\$ 1,951,624
9	36" Legacy Drive and Panther Creek Water Line	47%	62%	15%	\$ 205,036	\$ 1,366,904
10	12" Ohio Drive Water Line	44%	59%	15%	\$ 15,188	\$ 101,250
11	12"/24" Dallas Parkway Water Line and Pressure Reducing Valve	45%	67%	22%	\$ 300,754	\$ 1,367,062
12	42" Rolater Road Water Line (Coit to Preston)	44%	59%	15%	\$ 835,091	\$ 5,567,273
13	Frisco #1 Pump Station Expansion	75%	100%	25%	\$ 1,435,376	\$ 5,741,504
14	24" Preston Road Water Line	44%	59%	15%	\$ 307,709	\$ 2,051,390
15	36" Stonebrook Parkway Water Line and Pressure Reducing Valve	44%	59%	15%	\$ 884,603	\$ 5,897,351
16	16" Independence Parkway Water Line	44%	59%	15%	\$ 55,663	\$ 371,088
17	12"/16"20"/24" FM 423 Water Line	47%	62%	15%	\$ 59,392	\$ 395,949
18	12"/24" Dallas Parkway Water Line	47%	62%	15%	\$ 279,607	\$ 1,864,046
19	20" FM 3537/24" Coit Road Water Line	44%	59%	15%	\$ 721,352	\$ 4,809,014
20	30" Dallas Parkway Water Line	47%	62%	15%	\$ 424,062	\$ 2,827,083
21	1.5 MG Legacy Elevated Tank	75%	100%	25%	\$ 1,057,934	\$ 4,231,736
22	36" Coit Road Water Line & 30"/36" Future Virginia Parkway Water Line	44%	59%	15%	\$ 212,813	\$ 1,418,755
23	Water Impact Fee Update	-	-	100%	\$ 58,090	\$ 58,090
Existing Subtotal					\$ 9,296,808	\$ 63,335,128
PROPOSED						
24	Main Street 30-inch Water Line	0%	62%	62%	\$ 4,915,422	\$ 7,928,100
25	DNT 30/36-inch Water Line	0%	62%	62%	\$ 3,882,688	\$ 6,262,400
26	Southern UPP 30/36-inch Water Line Phase 1	0%	59%	59%	\$ 4,178,557	\$ 7,082,300
27	Southern UPP 30-inch Water Line Phase 2	0%	59%	59%	\$ 3,532,507	\$ 5,987,300
28	Stonebrook Parkway to Cotton Gin Road 20/24-inch Water Line and Transfer Valve	0%	59%	59%	\$ 1,959,036	\$ 3,320,400
29	John Elliot 20-inch Water Line	0%	59%	59%	\$ 2,282,828	\$ 3,869,200
30	Preston Road 20-inch Water Line	0%	59%	59%	\$ 986,362	\$ 1,671,800
31	Town and Country 12-inch Water Line	0%	67%	67%	\$ 711,875	\$ 1,062,500
32	FM 423 12-inch Water Line	0%	62%	62%	\$ 1,026,658	\$ 1,655,900
33	King Road 12-inch Water Line	0%	62%	62%	\$ 1,608,652	\$ 2,594,600
34	Frisco #3 Pump Station 35 MGD Expansion	0%	31%	31%	\$ 4,010,625	\$ 12,937,500
35	Gaylord Parkway 12-inch Water Line	0%	59%	59%	\$ 218,890	\$ 371,000
36	Replace Hillcrest Storage Tank	0%	61%	61%	\$ 3,823,968	\$ 6,268,800
37	Proposed 20 MGD Frisco #4 Pump Station	0%	24%	24%	\$ 2,760,000	\$ 11,500,000
38	Frisco #4 Pump Station 48/54-inch Discharge Line	0%	59%	59%	\$ 2,396,226	\$ 4,061,400
39	Panther Creek Parkway 24-inch Water Line	0%	59%	59%	\$ 1,292,926	\$ 2,191,400
40	Panther Creek Parkway and BNSF Railroad 20/24-inch Water Line	0%	59%	59%	\$ 2,430,328	\$ 4,119,200
41	20-inch BNSF Railroad Waterline	0%	59%	59%	\$ 1,284,607	\$ 2,177,300
42	20-inch BNSF Railroad Waterline	0%	62%	62%	\$ 2,669,720	\$ 4,306,000
43	LPP Panther Creek Parkway 12/16-inch Water Line	0%	62%	62%	\$ 1,285,756	\$ 2,073,800
44	2.5 MG Rockhill Elevated Storage Tank	0%	61%	61%	\$ 3,288,327	\$ 5,390,700
45	Stonebrook Elevated Storage Tank	0%	33%	33%	\$ 1,714,287	\$ 5,194,809
46	Rockhill Parkway UPP 20/30/36-inch Water Line	0%	59%	59%	\$ 2,733,765	\$ 4,633,500
47	Coit Road 16-inch Water Line	0%	59%	59%	\$ 1,118,109	\$ 1,895,100
48	Hillcrest Road 20-inch Northern UPP Water Line	0%	59%	59%	\$ 951,552	\$ 1,612,800
49	UPP US-380 16-inch Water Line	0%	59%	59%	\$ 1,408,330	\$ 2,387,000
50	UPP 16-inch BNSF Railroad Water Line	0%	59%	59%	\$ 1,179,941	\$ 1,999,900

Project #	Description	2018 Required Capacity (Percent Utilization)	2028 Required Capacity (Percent Utilization)	2018-2028 Required Capacity (Percent Utilization)	2028 Projected Recoverable Cost	Total Project Cost
PROPOSED (continued)						
51	Proposed LPP 12/16-inch Water Line	0%	62%	62%	\$ 1,103,290	\$ 1,779,500
52	Proposed Frisco Street Thoroughfare 16-inch Water Line	0%	62%	62%	\$ 1,026,658	\$ 1,655,900
53	Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 1	0%	62%	62%	\$ 719,820	\$ 1,161,000
54	Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 2	0%	62%	62%	\$ 949,964	\$ 1,532,200
55	Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 1	0%	62%	62%	\$ 2,076,132	\$ 3,348,600
56	Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 2	0%	62%	62%	\$ 756,214	\$ 1,219,700
57	LPP 12-inch BNSF Railroad and US-380 Water Line	0%	62%	62%	\$ 669,972	\$ 1,080,600
58	DNT and US-380 12-inch Water Line	0%	62%	62%	\$ 1,143,156	\$ 1,843,800
59	Proposed Legacy Drive Thoroughfare and US-380 12/16-inch Water Line	0%	62%	62%	\$ 1,217,060	\$ 1,963,000
60	Proposed Teel Parkway Thoroughfare and US-380 12/16-inch Water Line	0%	62%	62%	\$ 1,266,040	\$ 2,042,000
61	County Road 26 and US-380 12/16-inch Water Line	0%	62%	62%	\$ 1,377,454	\$ 2,221,700
Proposed Subtotal					\$ 71,957,702	\$ 134,402,709
Total					\$ 81,254,510	\$ 197,737,837



Existing Facility or Facility Under Construction	
Project Number	Project Description
1	Frisco #3 Pump Station and Ground Storage
2	2.5 MG Teel Elevated Storage Tank
3	2.5 MG Timber Ridge Elevated Storage Tank
4	20" SH 289 Water Line
5	West Side Water Line - Phase 1, 2 & 3
6	16" Legacy Drive Water Line
7	42" Rolater Road Water Line (Frisco #1 Pump Station to Coit)
8	24"/18" Railroad/Legacy Drive Water Line
9	36" Legacy Drive and Panther Creek Water Line
10	12" Ohio Drive Water Line
11	12"/24" Dallas Parkway Water Line and Pressure Reducing Valve
12	42" Rolater Road Water Line (Coit to Preston)
13	Frisco #1 Pump Station Expansion
14	24" Preston Road Water Line
15	36" Stonebrook Parkway Water Line and Pressure Reducing Valve
16	16" Independence Parkway Water Line
17	12"/16"20"/24" FM 423 Water Line
18	12"/24" Dallas Parkway Water Line
19	20" FM 3537/24" Coit Road Water Line
20	30" Dallas Parkway Water Line
21	1.5 MG Legacy Elevated Tank
22	30"/48" Coit Road & Future Virginia Parkway Water Line
23	Water Impact Fee Update (Not Shown on Map)

Proposed 2018-2028 Facilities	
Project Number	Project Description
24	Main Street 30-inch Water Line
25	DNT 30/36-inch Water Line
26	Southern UPP 30/36-inch Water Line Phase 1
27	Southern UPP 30-inch Water Line Phase 2
28	Stonebrook Parkway to Cotton Gin Road 20/24-inch Water Line and Transfer Valve
29	John Elliot 20-inch Water Line
30	Preston Road 20-inch Water Line
31	Town and Country 12-inch Water Line
32	FM 423 12-inch Water Line
33	King Road 12-inch Water Line
34	Frisco #3 Pump Station 35 MGD Expansion
35	Gaylord Parkway 12-inch Water Line
36	Replace Hillcrest Storage Tank
37	Proposed 20 MGD Frisco #4 Pump Station
38	Frisco #4 Pump Station 48/54-inch Discharge Line
39	Panther Creek Parkway 24-inch Water Line
40	Panther Creek Parkway and BNSF Railroad 20/24-inch Water Line
41	20-inch BNSF Railroad Waterline
42	20-inch BNSF Railroad Waterline
43	LPP Panther Creek Parkway 12/16-inch Water Line
44	2.5 MG Rockhill Elevated Storage Tank
45	Stonebrook Elevated Storage Tank
46	Rockhill Parkway UPP 20/30/36-inch Water Line
47	Coit Road 16-inch Water Line
48	Hillcrest Road 20-inch Northern UPP Water Line
49	UPP US-380 16-inch Water Line
50	UPP 16-inch BNSF Railroad Water Line
51	Proposed LPP 12/16-inch Water Line
52	Proposed Frisco Street Thoroughfare 16-inch Water Line
53	Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 1
54	Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 2
55	Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 1
56	Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 2
57	LPP 12-inch BNSF Railroad and US-380 Water Line
58	DNT and US-380 12-inch Water Line
59	Proposed Legacy Drive Thoroughfare and US-380 12/16-inch Water Line
60	Proposed Teel Parkway Thoroughfare and US-380 12/16-inch Water Line
61	County Road 26 and US-380 12/16-inch Water Line

Existing Tank or Tank Under Construction

Existing Pump Station or Pump Station Under Construction

Existing Water Line or Water Line Under Construction

Existing Facility Project Label

Proposed 2018-2028 Tank

Proposed 2018-2028 Pump Station

Proposed 2018-2028 Water Line

Proposed Facility Project Label

City ETJ

Railroad

Thoroughfare Facilities

Surface Water

Creek Centerline

City Limits

Exhibit 3.1 - Water Impact Fee CIP

04,0008,000

Feet

January 2019

A. PROJECT DESCRIPTIONS

Existing Facilities or Facilities under Construction

(1) Frisco #3 Pump Station and Ground Storage

30 MGD pump station and 10 MG of ground storage along Eldorado Parkway east of Dallas North Tollway.

Project Cost	\$11,785,129
Recoverable Cost	\$589,256

(2) 2.5 MG Teel Elevated Storage Tank

2.5 MG elevated storage tank near Lone Star High School.

Project Cost	\$3,066,591
Recoverable Cost	\$367,991

(3) 2.5 MG Timber Ridge Elevated Storage Tank

2.5 MG elevated storage tank near Timber Ridge Drive and 4th Army Memorial Drive to serve west side of the City of Frisco.

Project Cost	\$2,511,576
Recoverable Cost	\$301,389

(4) 20" SH 289 Water Line

20" water line along SH 289. This line connects to the Town of Prosper at US 380.

Project Cost	\$792,686
Recoverable Cost	\$118,903

(5) West Side Water Line - Phase 1, 2 & 3

Phase 1- 48" water line in Eldorado Parkway from the BNSF Railroad to DNT. 36" water line adjacent to DNT from Eldorado Parkway south of Panther Creek Parkway. Together with Phases 2 and 3, this will connect the Eldorado Pump Station to the Northwest and Southwest Elevated Water Tanks.

Phase 2- 36" water line adjacent to DNT from south of Panther Creek Parkway to Panther Creek Parkway, in Panther Creek Parkway from DNT to Teel Parkway, and in Teel Parkway from Panther Creek Parkway north to the Northwest Elevated Water Tank. 36" water line in Eldorado Parkway from DNT to Legacy Drive, and in Legacy Drive from Eldorado Parkway to Veneto Drive.

Phase 3- 36" water line adjacent to Legacy Drive from Main Street Platinum Parkway, and in future Platinum Parkway from Legacy Drive to the Southwest Elevated Tank. 16" water line in future Platinum Parkway from the Southwest Elevated Water Tank to Lebanon Road.

Project Cost	\$1,257,625
Recoverable Cost	\$188,644

(6) 16" Legacy Drive Water Line

16" water line along Legacy Drive running south near Stonebrook Parkway.

Project Cost	\$262,306
Recoverable Cost	\$39,346

(7) 42" Rolater Road Water Line (Frisco #1 Pump Station to Coit)

42" water line from the Frisco #1 Pump Station along Rolater Road to Coit Road.

Project Cost	\$3,639,098
Recoverable Cost	\$545,865

(8) 24"/18" Railroad/Legacy Drive Water Line

24"/18" water line along Stonebrook Parkway.

Project Cost	\$1,951,624
Recoverable Cost	\$292,744

(9) 36" Legacy Drive and Panther Creek Water Line

36" water line north along Legacy Drive and east along Panther Creek to the Teel elevated storage tank.

Project Cost	\$1,366,904
Recoverable Cost	\$205,036

(10) 12" Ohio Drive Water Line

12" water line along Ohio Drive from Wake Bridge Drive to Wade Boulevard.

Project Cost	\$101,250
Recoverable Cost	\$15,188

(11) 12"/24" Dallas Parkway Water Line and Pressure Reducing Valve"

12" water line south of McCandles Way to CR 2. 24" water line along Dallas Parkway from Warren Parkway to Lebanon Road. Install 1 Pressure Reducing Valve at Lebanon Road.

Project Cost	\$1,367,062
Recoverable Cost	\$300,754

(12) 42" Rolater Road Water Line (Coit to Preston)

42" water line from Coit Road to Preston Road along Rolater Road.

Project Cost	\$5,567,273
Recoverable Cost	\$835,091

(13) Frisco #1 Pump Station Expansion

Expansion of Frisco #1 to 80 MGD firm capacity.

Project Cost	\$5,741,504
Recoverable Cost	\$1,435,376

(14) 24" Preston Road Water Line

24" water line along Preston Road from Rolater Road to Main Street.

Project Cost	\$2,051,390
Recoverable Cost	\$307,709

(15) 36" Stonebrook Parkway Water Line and Pressure Reducing Valve

36" water line on Stonebrook Parkway from Preston Road to Dallas Parkway and south along Dallas Parkway to Lebanon Road. One (1) pressure reducing valve at Stonebrook Parkway.

Project Cost	\$5,897,351
Recoverable Cost	\$884,603

(16) 16" Independence Parkway Water Line

16" water line along Independence Parkway from Main Street to Sorano Drive.

Project Cost	\$371,088
Recoverable Cost	\$55,663

(17) 12"/16"/20"/24" FM 423 Water Line

12" water line along FM 423 from existing 12" north of Eldorado Parkway to Panther Creek Parkway tying into existing 12" water line along FM 423. 16" water line along FM 423 from Virginia Parkway to Panther Creek Parkway. 12" water line along FM 423 from Highway 380 to Virginia Parkway.

Project Cost	\$395,949
Recoverable Cost	\$59,392

(18) 12"/24" Dallas Parkway Water Line

24" water line along Dallas Parkway from Main Street to Cotton Gin Road. 12" water line from Cotton Gin Road along Dallas Parkway to existing Middle Pressure Plane 12" line. 12" line along Stonebrook Parkway from Legacy Drive to existing Middle Pressure Plane line east of the railroad.

Project Cost	\$1,864,046
Recoverable Cost	\$279,607

(19) 20" FM 3537/24" Coit Road Water Line

20" water line along FM 3537 to close transmission line gap north of Frisco #2 Pump Station. 24" water line along Coit Road from Lyndhurst Drive to FM 3537. Convert existing 20" water line to Frisco transmission line. Convert Frisco #2 to reuse facility.

Project Cost	\$4,809,014
Recoverable Cost	\$721,352

(20) 30" Dallas Parkway Water Line

30" water line along Dallas Parkway from CR 1043/Panther Creek Parkway to CR 26 and east to the future transfer valve. 30" running east from the transfer valve to existing 20" line at SH 289 and CR 25.

Project Cost	\$2,827,083
Recoverable Cost	\$424,062

(21) 1.5 MG Legacy Elevated Tank

Elevated storage tank near the intersection of Legacy Drive and Warren Parkway and in the middle of the Middle Pressure Plane. Decommission existing elevated tank and convert existing pressure reducing valves to transfer valves.

Project Cost	\$4,231,736
Recoverable Cost	\$1,057,934

(22) 30"/48" Coit Road & Future Virginia Parkway Water Line

30"/48" water line running north along Coit Road from the proposed 48" water line then east along future Virginia Parkway to Hillcrest Road.

Project Cost	\$1,418,755
Recoverable Cost	\$212,813

(23) Water Impact Fee Update

Update of the impact fees for water system improvements required to serve new development.

Project Cost	\$58,090
Recoverable Cost	\$58,090

Proposed Facilities, Improvements, and Water Lines

(24) Main Street 30-inch Water Line

Construct new 30-inch water line along Main Street from Majestic Garden to FM 423 and south along FM 423 to Stonebrook EST.

Project Cost	\$7,928,100
Recoverable Cost	\$4,915,422

(25) DNT 30/36-inch Water Line

Construct new 30/36-inch water line along DNT from the existing 48-inch at Eldorado Parkway to Main Street and west along Main Street to the existing 36-inch water line at Legacy Drive.

Project Cost	\$6,262,400
Recoverable Cost	\$3,882,688

(26) Southern UPP 30/36-inch Water Line Phase 1

Construct new 36-inch UPP water line between Independence Parkway and Coit Road along County Road 68, and a new 30-inch water line Coit Road and Hillcrest Road along Lebanon Road.

Project Cost	\$7,082,300
Recoverable Cost	\$4,178,557

(27) Southern UPP 30-inch Water Line Phase 2

Construct new 30-inch UPP water line running south along Hillcrest Road from Lebanon Road and west along Warren Parkway to Parkwood Boulevard.

Project Cost	\$5,987,300
Recoverable Cost	\$3,532,507

(28) Stonebrook Parkway to Cotton Gin Road 20/24-inch Water Line and Transfer Valve

Construct new 24-inch UPP water line connecting to the existing 36-inch water line on Stonebrook Parkway continuing along 5th Street to Eubanks Street then running west along Cotton Gin Road to the DNT, and new transfer valve at DNT and Cotton Gin Road.

Project Cost	\$3,320,400
Recoverable Cost	\$1,959,036

(29) John Elliot 20-inch Water Line

Construct new 20-inch UPP water line connecting to the proposed 24-inch water line at Cotton Gin Road and running north along John Elliot Drive to the existing 20-inch water line at Eldorado Parkway.

Project Cost	\$3,869,200
Recoverable Cost	\$2,282,828

(30) Preston Road 20-inch Water Line

Construct new 20-inch UPP water line along Preston Road between the existing 36-inch water line at Stonebrook Parkway and the existing 18-inch at Wade Boulevard.

Project Cost	\$1,671,800
Recoverable Cost	\$986,362

(31) Town and Country 12-inch Water Line

Construct new 12-inch MPP water line along Sam Rayburn Tollway between the existing 12-inch water line near Legacy Drive to Memorial Drive and north to the existing 12-inch water line on Town and Country Boulevard.

Project Cost	\$1,062,500
Recoverable Cost	\$711,875

(32) FM 423 12-inch Water Line

Construct new 12-inch LPP water line running south along FM 423 from the existing 12-inch water line south of Lebanon Road and then to the east to the existing 12-inch water line in the Hills of Kingswood development.

Project Cost	\$1,655,900
Recoverable Cost	\$1,026,658

(33) King Road 12-inch Water Line

Construct new 12-inch LPP water line along Rose Lane from the existing 20-inch water line to Kings Road, along Kings Road to Witt Road, and along Witt Road to FM 423.

Project Cost	\$2,594,600
Recoverable Cost	\$1,608,652

(34) Frisco #3 Pump Station 35 MGD Expansion

Expansion of Frisco #3 Pump Station to a firm capacity of 70 MGD.

Project Cost	\$12,937,500
Recoverable Cost	\$4,010,625

(35) Gaylord Parkway 12-inch Water Line

Construct new 12-inch UPP water line along Gaylord Parkway from the existing 12-inch water line to the existing 12-inch water line on Hillcrest Road.

Project Cost	\$371,000
Recoverable Cost	\$218,890

(36) Replace Hillcrest Storage Tank

Replace the existing 0.75 MG Hillcrest EST with a new 2.5 MG EST.

Project Cost	\$6,268,800
Recoverable Cost	\$3,823,968

(37) Proposed 20 MGD Frisco #4 Pump Station

Construct new 20 MGD Frisco #4 Pump Station near Heritage High School in the northeast corner of the Upper Pressure Plane.

Project Cost	\$11,500,000
Recoverable Cost	\$2,760,000

(38) Frisco #4 Pump Station 48/54-inch Discharge Line

Construct new 48/54-inch UPP water line from the Frisco #4 Pump Station to the existing 48-inch water line at Coit Road and Panther Creek Parkway.

Project Cost	\$4,061,400
Recoverable Cost	\$2,396,226

(39) Panther Creek Parkway 24-inch Water Line

Construct new 24-inch UPP water line along Panther Creek Parkway between Hillcrest Road and Preston Road.

Project Cost	\$2,191,400
Recoverable Cost	\$1,292,926

(40) Panther Creek Parkway and BNSF Railroad 20/24-inch Water Line

Construct new 20-inch UPP water line from the existing 20-inch water line on Eldorado Parkway to Panther Creek Parkway. Construct new 24-inch water line along Panther Creek Parkway to the intersection with Preston Road.

Project Cost	\$4,119,200
Recoverable Cost	\$2,430,328

(41) 20-inch BNSF Railroad Waterline

Construct new 20-inch UPP water line along the BNSF railroad between the Panther Creek Parkway and the existing 30-inch water line on Rockhill Parkway.

Project Cost	\$2,177,300
Recoverable Cost	\$1,284,607

(42) 20-inch BNSF Railroad Waterline

Construct new 20-inch LPP water line along the BNSF railroad between Eldorado Parkway and Rockhill Parkway.

Project Cost	\$4,306,000
Recoverable Cost	\$2,669,720

(43) LPP Panther Creek Parkway 12/16-inch Water Line

Construct new 12/16-inch LPP water line along Panther Creek Parkway between the proposed 20-inch BNSF railroad water line and the existing 12-inch water line on the east side of the DNT, and a new 12-inch water line running south from Panther Creek Parkway along the proposed Frisco Street thoroughfare and the existing 20-inch LPP water line on Eldorado Parkway.

Project Cost	\$2,073,800
Recoverable Cost	\$1,285,756

(44) 2.5 MG Rockhill Elevated Storage Tank

Construct new 2.5 MG elevated storage tank near Rockhill Parkway and Preston Road.

Project Cost	\$5,390,700
Recoverable Cost	\$3,288,327

(45) Stonebrook Elevated Storage Tank

Construct new 2.5 MG elevated storage tank near Stonebrook Parkway and FM 423.

Project Cost	\$5,194,809
Recoverable Cost	\$1,714,287

(46) Rockhill Parkway UPP 20/30/36-inch Water Line

Construct new 20/30/36-inch UPP water line along Rockhill Parkway between Coit Road and Preston Road.

Project Cost	\$4,633,500
Recoverable Cost	\$2,733,765

(47) Coit Road 16-inch Water Line

Construct new 16-inch UPP water line along Coit Road from Rockhill Parkway to US-380.

Project Cost	\$1,895,100
Recoverable Cost	\$1,118,109

(48) Hillcrest Road 20-inch Northern UPP Water Line

Construct new 20-inch UPP water line along the Hillcrest Road thoroughfare between Rockhill Parkway and US-380.

Project Cost	\$1,612,800
Recoverable Cost	\$951,552

(49) UPP US-380 16-inch Water Line

Construct new 16-inch UPP water line along US-380 between the existing 20-inch water line at Preston Road and the Coit Road thoroughfare in the Upper Pressure Plane.

Project Cost	\$2,387,000
Recoverable Cost	\$1,408,330

(50) UPP 16-inch BNSF Railroad Water Line

Construct new 16-inch UPP water line along the BNSF railroad between Rockhill Parkway and US-380.

Project Cost	\$1,999,900
Recoverable Cost	\$1,179,941

(51) Proposed LPP 12/16-inch Water Line

Construct new 12/16-inch LPP water line along proposed Frisco Street between Panther Creek Parkway and proposed Legacy Drive.

Project Cost	\$1,779,500
Recoverable Cost	\$1,103,290

(52) Proposed Frisco Street Thoroughfare 16-inch Water Line

Construct new 16-inch LPP water line along the proposed Frisco Street thoroughfare between the proposed Legacy Drive thoroughfare and the proposed Teel Parkway thoroughfare.

Project Cost	\$1,655,900
Recoverable Cost	\$1,026,658

(53) Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 1

Construct new 20-inch LPP water line along the proposed Legacy Drive thoroughfare between the Panther Creek Parkway and the proposed Frisco Street thoroughfare.

Project Cost	\$1,161,000
Recoverable Cost	\$719,820

(54) Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 2

Construct new 20-inch LPP water line along the proposed Legacy Drive thoroughfare between the proposed Frisco Street and Rockhill Parkway thoroughfares.

Project Cost	\$1,532,200
Recoverable Cost	\$949,964

(55) Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 1

Construct new 24-inch LPP water line parallel to the proposed Rockhill Parkway thoroughfare west of the DNT to the proposed Legacy Drive thoroughfare.

Project Cost	\$3,348,600
Recoverable Cost	\$2,076,132

(56) Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 2

Construct new 24-inch LPP water line parallel to proposed Rockhill Parkway thoroughfare from the proposed Legacy Drive thoroughfare to the proposed Teel Parkway thoroughfare.

Project Cost	\$1,219,700
Recoverable Cost	\$756,214

(57) LPP 12-inch BNSF Railroad and US-380 Water Line

Construct new 12-inch LPP water line along the BNSF railroad between Rockhill Parkway and US-380, and west on US-380 to the DNT.

Project Cost	\$1,080,600
Recoverable Cost	\$669,972

(58) DNT and US-380 12-inch Water Line

Construct new 16-inch water line along the DNT between the proposed Rockhill Parkway thoroughfare and US-380. Construct new 12-inch water line west on US-380 to the County Road 26.

Project Cost	\$1,843,800
Recoverable Cost	\$1,143,156

(59) Proposed Legacy Drive Thoroughfare and US-380 12/16-inch Water Line

Construct new 16-inch LPP water line along the proposed Legacy Drive thoroughfare between the proposed Rockhill Parkway thoroughfare and US-380, and new 12-inch LPP water line west on US-380 to the proposed Teel Parkway thoroughfare.

Project Cost	\$1,963,000
Recoverable Cost	\$1,217,060

(60) Proposed Teel Parkway Thoroughfare and US-380 12/16-inch Water Line

Construct new 16-inch LPP water line along the proposed Teel Parkway thoroughfare between the proposed Rockhill Parkway thoroughfare and US-380, and new 12-inch LPP water line west on US-380 to the 12-inch water line under design.

Project Cost	\$2,042,000
Recoverable Cost	\$1,266,040

(61) County Road 26 and US-380 12/16-inch Water Line

Construct new 16-inch LPP water line along the County Road 26 between the proposed Rockhill Parkway thoroughfare and US-380, and new 12-inch LPP water line west on US-380 to the proposed Legacy Drive thoroughfare.

Project Cost	\$2,221,700
Recoverable Cost	\$1,377,454

3.5 WATER IMPACT FEE CALCULATION

Chapter 395 of the *Local Government Code* defines a service unit as follows; “Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.” Therefore, the City of Frisco defines a *service unit* based on historical water usage over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses a 1-inch meter. The measure of consumption per service unit is based on a 1-inch meter and the data shown in Table 3.3.

Table 3.3 Service Unit Consumption Calculation

Year	Population*	Residential Units (2.80 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2008	97,600	34,857	23.75	681
2009	100,800	36,000	21.06	585
2010	116,989	41,782	24.51	587
2011	121,670	43,454	27.93	643
2012	125,500	44,821	27.97	624
2013	129,680	46,314	24.32	525
2014	137,330	49,046	21.18	432
2015	146,025	52,152	25.71	493
2016	152,710	54,539	25.92	475
2017	161,530	57,689	27.37	474
Average Consumption per Service Unit				552

*Population data from City of Frisco *Water, Wastewater, and Reuse Master Plan* prepared by Freese & Nichols, Inc. and from the City of Frisco.

Based on the City's 10-year growth projections and the resulting water demand projections, water service will be required for an additional 23,659 service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 552 gallons per day (GPD), is a typical residential connection that uses a 1-inch meter.

Table 3.4 10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units
2018	32.35	552	58,605
2028	45.41	552	82,264
10-year Additional Service Units			23,659

Impact fee law allows for a credit calculation to credit back the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The City chose to perform a financial analysis. NewGen Strategies & Solutions has detailed the credit calculation in the Wastewater Appendix.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 3.5 10-Year Recoverable Cost Breakdown¹

Recoverable Impact Fee CIP Costs	\$ 81,254,510
Financing Costs	\$ 37,114,473
Existing Fund Balance	\$ (24,126,369)
Interest Earnings	\$ (15,260,576)
Pre Credit Recoverable Cost for Impact Fee	\$ 78,982,038
Credit for Utility Revenues	\$ (7,346,382)
Maximum Recoverable Cost for Impact Fee	\$ 71,635,656

(1) Per NewGen Strategies & Solutions financial analysis, see the Water Appendix - Summary of Water Impact Fee Determination

$$\begin{aligned}
 \text{Impact fee per service unit} &= \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}} \\
 \text{10-year recoverable costs} &= \$71,635,656 \\
 \text{Impact fee per service unit} &= \frac{\$71,635,656}{23,659} \\
 \text{Impact fee per service unit} &= \$3,028
 \end{aligned}$$

Therefore, the maximum assessable impact fee per service unit is \$3,028.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 1-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the Equivalency Table (Table 3.6).

Table 3.6 Service Unit Equivalency Table for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Impact Fee
1" PD	25	1.0	\$3,028
2" PD	80	3.2	\$9,690
2" MACH 10	100	4.0	\$12,112
3" COMP	175	7.0	\$21,196
4" COMP	300	12.0	\$36,336
6" COMP	675	27.0	\$81,756

*PD=Positive Displacement Meter, TURB=Turbine Meter, COMP=Compound Meter, MACH 10=Mach 10 Solid State Ultrasonic Meter

**Operating capacities obtained from American Water Works Association (AWWA) C-700-15, C-701-15, and C-702-15

WATER APPENDICES

City of Frisco - 2018 Water Impact Fee Update
 Capital Improvement Plan for Impact Fees
 Impact Fee Calculation Assumptions
 Water Service Area

0	Existing Fund Balance	\$ 24,126,369
1	Existing Number of Service Units	58,605
2	Total Number of Services Units for Planning Period	82,264
3	Additional Service Units Added During Planning Period (Line 2 - Line 1)	23,659
4	Total Cost of the Water Impact Fee CIP	\$ 197,737,837
5	Recoverable Cost for Impact Fee Planning Period	\$ 81,254,510
6	Percent Recoverable for Water Impact Fee Planning Period (Line 5 / Line 4)	41.09%
7	Financing Costs (From Financial Analysis)	\$ 37,114,473
8	Interest Earnings (From Financial Analysis)	\$ (15,260,576)
9	Recoverable Cost of Water Impact Fee and Financing Costs Less Balance (Line 5 + Line 7 + Line 8 - Line 0)	\$ 78,982,039
10	Pre-Credit Maximum Fee (Line 9 / Line 3)	\$ 3,338
11	Credit for Utility Revenues (From Financial Analysis)	\$ (7,346,382)
12	Recoverable Cost of Water Impact Fee and Financing (Line 9 + Line 11)	\$ 71,635,657
13	Maximum Assessable Fee (Line 12 / Line 3)	\$ 3,028

SUMMARY OF WATER IMPACT FEE DETERMINATION

Water Service Area

Recoverable Impact Fee CIP Costs	\$ 81,254,510	Table 3.2
Financing Cost	37,114,473	See Detail Below
Existing Fund Balance	(24,126,369)	Water Appendices - page 1
Interest Earnings	(15,260,576)	Water Appendices - page 3
Pre Credit Recoverable Cost for Impact Fee	\$ 78,982,039	Sum of Above
Credit for Utility Revenues	(7,346,382)	Water Appendices - page 6
Maximum Recoverable Cost for Impact Fee	\$ 71,635,657	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 3.2 Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues.

New Annual Debt Service	\$ 111,388,313	Water Appendices - page 2
Existing Annual Debt Service	6,311,185	Water Appendices - page 2
Principal Component (New and Existing Debt)	(80,585,025)	Water Appendices - page 1
Financing Costs	<u>\$ 37,114,473</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Impact Fee Update were also included in prior Impact Fee Updates.

To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Water Appendices.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Water Appendices.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Utility Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects. Reference is page 6 of Water Appendices.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Revenues.

This is the maximum cost that can be recovered through impact fees.

City of Frisco - 2018 Water Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Water Service Area

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	2,366
Existing Fund Balance ⁽³⁾	24,126,369
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 8,627,323
Non-debt Funded Project Cost ⁽⁵⁾	669,485
New Project Cost Funded Through New Debt ⁽⁶⁾	71,957,702
Total Recoverable Project Cost ⁽⁷⁾	\$ 81,254,510

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 7,195,770	3.50%	20
2	7,195,770	4.25%	20
3	7,195,770	4.75%	20
4	7,195,770	4.75%	20
5	7,195,770	4.75%	20
6	7,195,770	4.75%	20
7	7,195,770	4.75%	20
8	7,195,770	4.75%	20
9	7,195,770	4.75%	20
10	7,195,770	4.75%	20
Total	\$ 71,957,702		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 66,948
2	2,465,539
3	4,864,129
4	7,262,719
5	7,262,719
6	7,262,719
7	7,262,719
8	7,262,719
9	7,262,719
10	7,262,719
11	7,195,770
12	4,797,180
13	2,398,590
Total	\$ 72,627,187

- (1) Investment Portfolio Yield as of 02/28/2018
(2) Derived from Table 3.4 10-year Additional Service Units Calculation
(3) Balance from 09/30/2017 provided by City Staff
(4) Per discussions with City Staff and City files
(5) This assumes 0% of new project costs funded through sources other than debt
(6) This assumes 100% of new project costs funded through new debt issues
(7) Table 3.2 Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost
(8) Assumes new debt issued in equal annual amounts
(9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
(10) Assumes new debt proceeds expended over a 3-year timeframe.

Non-debt funded capital expenditures allocated in equal annual amounts

City of Frisco - 2018 Water Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Water Service Area

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 506,302	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 506,302
2	506,302	541,265	-	-	-	-	-	-	-	-	1,047,567
3	506,302	541,265	565,231	-	-	-	-	-	-	-	1,612,798
4	506,302	541,265	565,231	565,231	-	-	-	-	-	-	2,178,029
5	506,302	541,265	565,231	565,231	565,231	-	-	-	-	-	2,743,260
6	506,302	541,265	565,231	565,231	565,231	565,231	-	-	-	-	3,308,491
7	506,302	541,265	565,231	565,231	565,231	565,231	565,231	-	-	-	3,873,722
8	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	-	-	4,438,953
9	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	-	5,004,185
10	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
11	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
12	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
13	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
14	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
15	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
16	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
17	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
18	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
19	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
20	506,302	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,569,416
21	-	541,265	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	5,063,114
22	-	-	565,231	565,231	565,231	565,231	565,231	565,231	565,231	565,231	4,521,849
23	-	-	-	565,231	565,231	565,231	565,231	565,231	565,231	565,231	3,956,618
24	-	-	-	-	565,231	565,231	565,231	565,231	565,231	565,231	3,391,387
25	-	-	-	-	-	565,231	565,231	565,231	565,231	565,231	2,826,156
26	-	-	-	-	-	-	565,231	565,231	565,231	565,231	2,260,924
27	-	-	-	-	-	-	-	565,231	565,231	565,231	1,695,693
28	-	-	-	-	-	-	-	-	565,231	565,231	1,130,462
29	-	-	-	-	-	-	-	-	-	565,231	565,231
	\$ 10,126,043	\$ 10,825,293	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 11,304,622	\$ 111,388,313

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	\$ 506,302	\$ 66,948	\$ (7,195,770)	\$ 603,569	\$ -	\$ (6,018,950)
2	1,047,567	2,465,539	(7,195,770)	595,406	(122,744)	(3,210,003)
3	1,612,798	4,864,129	(7,195,770)	607,406	(239,843)	(351,281)
4	2,178,029	7,262,719	(7,195,770)	606,935	(387,194)	2,464,718
5	2,743,260	7,262,719	(7,195,770)	605,517	(562,428)	2,853,297
6	3,308,491	7,262,719	(7,195,770)	605,116	(763,117)	3,217,439
7	3,873,722	7,262,719	(7,195,770)	531,993	(970,706)	3,501,958
8	4,438,953	7,262,719	(7,195,770)	444,503	(1,192,152)	3,758,253
9	5,004,185	7,262,719	(7,195,770)	354,947	(1,428,226)	3,997,854
10	5,569,416	7,262,719	(7,195,770)	271,963	(1,679,972)	4,228,356
11	5,569,416	7,195,770	-	151,656	-	12,916,842
12	5,569,416	4,797,180	-	151,464	-	10,518,060
13	5,569,416	2,398,590	-	151,477	-	8,119,483
14	5,569,416	-	-	151,624	-	5,721,040
15	5,569,416	-	-	148,588	-	5,718,004
16	5,569,416	-	-	148,387	-	5,717,803
17	5,569,416	-	-	100,450	-	5,669,866
18	5,569,416	-	-	80,183	-	5,649,598
19	5,569,416	-	-	-	-	5,569,416
20	5,569,416	-	-	-	-	5,569,416
21	5,063,114	-	-	-	-	5,063,114
22	4,521,849	-	-	-	-	4,521,849
23	3,956,618	-	-	-	-	3,956,618
24	3,391,387	-	-	-	-	3,391,387
25	2,826,156	-	-	-	-	2,826,156
26	2,260,924	-	-	-	-	2,260,924
27	1,695,693	-	-	-	-	1,695,693
28	1,130,462	-	-	-	-	1,130,462
29	565,231	-	-	-	-	565,231
	\$111,388,313	\$ 72,627,187	\$ (71,957,702)	\$ 6,311,185	\$ (7,346,382)	\$111,022,601

(1) Water Appendices - page 2 Section I

(2) Water Appendices - page 1

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Water Appendices - page 6

City of Frisco - 2018 Water Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Water Service Area

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 24,126,369
1	\$ 3,028	2,366	\$ 7,163,566	\$ (6,018,950)	\$ 13,182,516	380,284	37,689,169
2	3,028	2,366	7,163,566	(3,210,003)	10,373,568	530,804	48,593,542
3	3,028	2,366	7,163,566	(351,281)	7,514,847	648,105	56,756,493
4	3,028	2,366	7,163,566	2,464,718	4,698,848	731,731	62,187,073
5	3,028	2,366	7,163,566	2,853,297	4,310,268	796,557	67,293,897
6	3,028	2,366	7,163,566	3,217,439	3,946,127	857,525	72,097,549
7	3,028	2,366	7,163,566	3,501,958	3,661,608	915,233	76,674,390
8	3,028	2,366	7,163,566	3,758,253	3,405,312	970,308	81,050,010
9	3,028	2,366	7,163,566	3,997,854	3,165,712	1,022,995	85,238,717
10	3,028	2,366	7,163,566	4,228,356	2,935,210	1,073,424	89,247,351
11	-	-	-	12,916,842	(12,916,842)	1,024,927	77,355,436
12	-	-	-	10,518,060	(10,518,060)	892,554	67,729,930
13	-	-	-	8,119,483	(8,119,483)	788,237	60,398,684
14	-	-	-	5,721,040	(5,721,040)	712,322	55,389,966
15	-	-	-	5,718,004	(5,718,004)	650,333	50,322,296
16	-	-	-	5,717,803	(5,717,803)	587,597	45,192,090
17	-	-	-	5,669,866	(5,669,866)	524,382	40,046,605
18	-	-	-	5,649,598	(5,649,598)	460,806	34,857,813
19	-	-	-	5,569,416	(5,569,416)	397,065	29,685,462
20	-	-	-	5,569,416	(5,569,416)	333,031	24,449,078
21	-	-	-	5,063,114	(5,063,114)	271,339	19,657,303
22	-	-	-	4,521,849	(4,521,849)	215,367	15,350,822
23	-	-	-	3,956,618	(3,956,618)	165,552	11,559,756
24	-	-	-	3,391,387	(3,391,387)	122,117	8,290,486
25	-	-	-	2,826,156	(2,826,156)	85,142	5,549,473
26	-	-	-	2,260,924	(2,260,924)	54,707	3,343,256
27	-	-	-	1,695,693	(1,695,693)	30,893	1,678,456
28	-	-	-	1,130,462	(1,130,462)	13,782	561,775
29	-	-	-	565,231	(565,231)	3,456	-
			71,635,656	111,022,601		15,260,576	

City of Frisco - 2018 Water Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Water Service Area

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4200	1.0000	2,366	3,360	\$ (6,018,950)	\$ (8,547,130)
2	28	1.4027	1.0000	2,366	3,319	(3,210,003)	(4,502,580)
3	27	1.3855	1.0000	2,366	3,278	(351,281)	(486,707)
4	26	1.3686	1.0000	2,366	3,238	2,464,718	3,373,154
5	25	1.3518	1.0000	2,366	3,198	2,853,297	3,857,202
6	24	1.3353	1.0000	2,366	3,159	3,217,439	4,296,275
7	23	1.3190	1.0000	2,366	3,121	3,501,958	4,619,013
8	22	1.3029	1.0000	2,366	3,082	3,758,253	4,896,443
9	21	1.2869	1.0000	2,366	3,045	3,997,854	5,144,913
10	20	1.2712	1.0000	2,366	3,007	4,228,356	5,375,008
11	19	1.2556	1.0000	-	-	12,916,842	16,218,861
12	18	1.2403	1.0000	-	-	10,518,060	13,045,361
13	17	1.2251	1.0000	-	-	8,119,483	9,947,302
14	16	1.2101	1.0000	-	-	5,721,040	6,923,223
15	15	1.1953	1.0000	-	-	5,718,004	6,834,932
16	14	1.1807	1.0000	-	-	5,717,803	6,751,114
17	13	1.1663	1.0000	-	-	5,669,866	6,612,649
18	12	1.1520	1.0000	-	-	5,649,598	6,508,437
19	11	1.1379	1.0000	-	-	5,569,416	6,337,605
20	10	1.1240	1.0000	-	-	5,569,416	6,260,105
21	9	1.1103	1.0000	-	-	5,063,114	5,621,421
22	8	1.0967	1.0000	-	-	4,521,849	4,959,078
23	7	1.0833	1.0000	-	-	3,956,618	4,286,131
24	6	1.0700	1.0000	-	-	3,391,387	3,628,901
25	5	1.0569	1.0000	-	-	2,826,156	2,987,104
26	4	1.0440	1.0000	-	-	2,260,924	2,360,460
27	3	1.0313	1.0000	-	-	1,695,693	1,748,696
28	2	1.0186	1.0000	-	-	1,130,462	1,151,542
29	1	1.0062	1.0000	-	-	565,231	568,730
					31,807		\$ 130,777,243

Annual Interest Rate:	1.24%
Present Value of Initial Impact Fee Fund Balance	\$ 24,126,369
Total Escalated Expense for Entire Period	\$ 130,777,243
Less Future Value of Initial Impact Fee Fund Balance	34,471,098
Sub-Total	\$ 96,306,145
Total Escalated Service Units	31,807
Impact Fee for Water Service Area	\$ 3,028

City of Frisco - 2018 Water Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Water Service Area

Impact Fee Project Name⁽¹⁾	Cost In	Percent in	Impact Fee	Debt Funded⁽²⁾		Non-Debt	Impact Fee
	Service Area⁽¹⁾	2017-2027 Demand	Recoverable Cost⁽¹⁾	Existing	Proposed	Funded⁽²⁾	Recoverable Cost
Frisco #3 Pump Station and Ground Storage	\$ 11,785,129	5%	\$ 589,256	\$ 586,177	\$ -	\$ 3,079	\$ 589,256
2.5 MG Teel Elevated Storage Tank	3,066,591	12%	367,991	367,991	-	-	367,991
2.5 MG Timber Ridge Elevated Storage Tank	2,511,576	12%	301,389	301,389	-	-	301,389
20" SH 289 Water Line	792,686	15%	118,903	84,696	-	34,207	118,903
West Side Water Line - Phase 1, 2 & 3	1,257,625	15%	188,644	186,535	-	2,109	188,644
16" Legacy Drive Water Line	262,306	15%	39,346	39,346	-	-	39,346
42" Rolater Road Water Line (Frisco #1 Pump Station to Coit)	3,639,098	15%	545,865	545,865	-	-	545,865
24"/18" Railroad/Legacy Drive Water Line	1,951,624	15%	292,744	245,959	-	46,785	292,744
36" Legacy Drive and Panther Creek Water Line	1,366,904	15%	205,036	205,036	-	-	205,036
12" Ohio Drive Water Line	101,250	15%	15,188	785	-	14,403	15,188
12"/24" Dallas Parkway Water Line and Pressure Reducing Valve	1,367,062	22%	300,754	300,754	-	134	300,754
42" Rolater Road Water Line (Coit to Preston)	5,567,273	15%	835,091	835,091	-	-	835,091
Frisco #1 Pump Station Expansion	5,741,504	25%	1,435,376	1,435,266	-	110	1,435,376
24" Preston Road Water Line	2,051,390	15%	307,709	307,709	-	-	307,709
36" Stonebrook Parkway Water Line and Pressure Reducing Valve	5,897,351	15%	884,603	884,603	-	-	884,603
16" Independence Parkway Water Line	371,088	15%	55,663	55,663	-	-	55,663
12"/16"/20"/24" FM 423 Water Line	395,949	15%	59,392	59,392	-	-	59,392
12"/24" Dallas Parkway Water Line	1,864,046	15%	279,607	279,607	-	-	279,607
20" FM 3537/24" Coit Road Water Line	4,809,014	15%	721,352	210,785	-	510,567	721,352
30" Dallas Parkway Water Line	2,827,083	15%	424,062	424,062	-	-	424,062
1.5 MG Legacy Elevated Tank	4,231,736	25%	1,057,934	1,057,934	-	-	1,057,934
36" Coit Road Water Line & 30"/36" Future Virginia Parkway Water Line	1,418,755	15%	212,813	212,813	-	-	212,813
Main Street 30-inch Water Line	7,928,100	62%	4,915,422	-	4,915,422	-	4,915,422
DNT 30/36-inch Water Line	6,262,400	62%	3,882,688	-	3,882,688	-	3,882,688
Southern UPP 30/36-inch Water Line Phase 1	7,082,300	59%	4,178,557	-	4,178,557	-	4,178,557
Southern UPP 30-inch Water Line Phase 2	5,987,300	59%	3,532,507	-	3,532,507	-	3,532,507
Stonebrook Parkway to Cotton Gin Road 20/24-inch Water Line and Transfer Valve	3,320,400	59%	1,959,036	-	1,959,036	-	1,959,036
John Elliot 20-inch Water Line	3,869,200	59%	2,282,828	-	2,282,828	-	2,282,828
Preston Road 20-inch Water Line	1,671,800	59%	986,362	-	986,362	-	986,362
Town and Country 12-inch Water Line	1,062,500	67%	711,875	-	711,875	-	711,875
FM 423 12-inch Water Line	1,655,900	62%	1,026,658	-	1,026,658	-	1,026,658
King Road 12-inch Water Line	2,594,600	62%	1,608,652	-	1,608,652	-	1,608,652
Frisco #3 Pump Station 35 MGD Expansion	12,937,500	31%	4,010,625	-	4,010,625	-	4,010,625
Gaylord Parkway 12-inch Water Line	371,000	59%	218,890	-	218,890	-	218,890
Replace Hillcrest Storage Tank	6,268,800	61%	3,823,968	-	3,823,968	-	3,823,968
Proposed 20 MGD Frisco #4 Pump Station	11,500,000	24%	2,760,000	-	2,760,000	-	2,760,000
Frisco #4 Pump Station 48/54-inch Discharge Line	4,061,400	59%	2,396,226	-	2,396,226	-	2,396,226
Panther Creek Parkway 24-inch Water Line	2,191,400	59%	1,292,926	-	1,292,926	-	1,292,926
Panther Creek Parkway and BNSF Railroad 20/24-inch Water Line	4,119,200	59%	2,430,328	-	2,430,328	-	2,430,328
20-inch BNSF Railroad Waterline	2,177,300	59%	1,284,607	-	1,284,607	-	1,284,607
20-inch BNSF Railroad Waterline	4,306,000	62%	2,669,720	-	2,669,720	-	2,669,720
LPP Panther Creek Parkway 12/16-inch Water Line	2,073,800	62%	1,285,756	-	1,285,756	-	1,285,756
2.5 MG Rockhill Elevated Storage Tank	5,390,700	61%	3,288,327	-	3,288,327	-	3,288,327
Stonebrook Elevated Storage Tank	5,194,809	33%	1,714,287	-	1,714,287	-	1,714,287
Rockhill Parkway UPP 20/30/36-inch Water Line	4,633,500	59%	2,733,765	-	2,733,765	-	2,733,765
Coit Road 16-inch Water Line	1,895,100	59%	1,118,109	-	1,118,109	-	1,118,109
Hillcrest Road 20-inch Northern UPP Water Line	1,612,800	59%	951,552	-	951,552	-	951,552
UPP US-380 16-inch Water Line	2,387,000	59%	1,408,330	-	1,408,330	-	1,408,330
UPP 16-inch BNSF Railroad Water Line	1,999,900	59%	1,179,941	-	1,179,941	-	1,179,941
Proposed LPP 12/16-inch Water Line	1,779,500	62%	1,103,290	-	1,103,290	-	1,103,290
Proposed Frisco Street Thoroughfare 16-inch Water Line	1,655,900	62%	1,026,658	-	1,026,658	-	1,026,658
Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 1	1,161,000	62%	719,820	-	719,820	-	719,820
Proposed Legacy Drive Thoroughfare 20-inch Water Line Phase 2	1,532,200	62%	949,964	-	949,964	-	949,964
Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 1	3,348,600	62%	2,076,132	-	2,076,132	-	2,076,132
Proposed Rockhill Parkway Thoroughfare 24-inch Water Line Phase 2	1,219,700	62%	756,214	-	756,214	-	756,214
LPP 12-inch BNSF Railroad and US-380 Water Line	1,080,600	62%	669,972	-	669,972	-	669,972
DNT and US-380 12-inch Water Line	1,843,800	62%	1,143,156	-	1,143,156	-	1,143,156
Proposed Legacy Drive Thoroughfare and US-380 12/16-inch Water Line	1,963,000	62%	1,217,060	-	1,217,060	-	1,217,060
Proposed Teel Parkway Thoroughfare and US-380 12/16-inch Water Line	2,042,000	62%	1,266,040	-	1,266,040	-	1,266,040
County Road 26 and US-380 12/16-inch Water Line	2,221,700	62%	1,377,454	-	1,377,454	-	1,377,454
Water Impact Fee Project	58,090	100%	58,090	-	-	58,090	58,090
Total	\$ 197,737,837		\$ 81,254,510	\$ 8,627,323	\$ 71,957,702	\$ 669,485	\$ 81,254,510

(1) Table 3.2 Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

(2) Per discussions with City staff and City files

City of Frisco - 2018 Water Impact Fee Update
 Capital Improvement Plan for Impact Fees
 Credit Determination
 Water Service Area

2018 Service Units ⁽¹⁾	58,605
Ten Year Growth in Service Units ⁽¹⁾	23,659
	<u>10</u> years
Annual Growth in Service Units	2,366

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 1,109,872	\$ 1,642,973	\$ 2,220,204	\$ 2,784,964	\$ 3,348,777	\$ 3,913,607	\$ 4,405,715	\$ 4,883,457	\$ 5,359,131	\$ 5,841,379	\$ 35,510,079
Less: Impact Fees Applied to Debt Service ⁽³⁾	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	2,070,000	20,700,000
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ -	\$ -	\$ 150,204	\$ 714,964	\$ 1,278,777	\$ 1,843,607	\$ 2,335,715	\$ 2,813,457	\$ 3,289,131	\$ 3,771,379	\$ 14,810,079
Current Service Units	60,971	63,337	65,703	68,069	70,435	72,800	75,166	77,532	79,898	82,264	
Total Net Impact Fee Eligible Debt Service Funded by Other Sources per Service Unit	\$ -	\$ 25.94	\$ 33.79	\$ 40.91	\$ 47.54	\$ 53.76	\$ 58.61	\$ 62.99	\$ 67.07	\$ 71.01	
Annual Growth in Service Units (Cumulative)	2,366	4,732	7,098	9,464	11,830	14,195	16,561	18,927	21,293	23,659	
Annual Water Rate Revenue Generated by Service Unit for Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ -	\$ 122,744	\$ 239,843	\$ 387,194	\$ 562,428	\$ 763,117	\$ 970,706	\$ 1,192,152	\$ 1,428,226	\$ 1,679,972	\$ 7,346,382
Credit Amount	\$ 7,346,382										

(1) Derived from Table 3.4 10-Year Additional Service Units Calculation

(2) Water Appendices - page 2 Section II

(3) \$3,000,000 in Water and Wastewater Impact Fee revenue applied to debt service with 69% to Water and 31% to Wastewater; in Year 1, Impact Fees balances applied are greater than eligible project amounts

2018-2028 Wastewater Impact Fee Update

Prepared for:

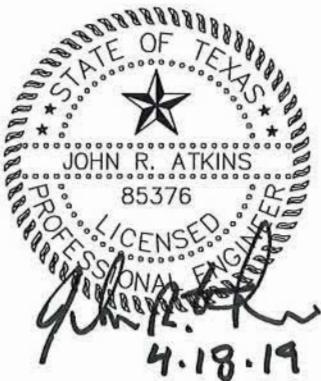
City of Frisco, Texas



Prepared by:

Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
817.335.6511
Firm Registration No. F-928

January 2019



© Kimley-Horn and Associates, Inc., 2019
061123039

TABLE OF CONTENTS

Table of Contents	i
4.1 Executive Summary	1
4.2 Introduction	3
A. Land Use Assumptions	4
B. Evaluation of the Water, Wastewater, and Reuse Master Plan.....	4
C. Impact Fee Capital Improvements Plan.....	4
D. Impact Fee Analysis and Report.....	4
4.3 Design Criteria.....	5
A. Sewer Trunk Lines (Interceptors)	5
B. Lift Stations Pumping Capacity	5
C. Lift Station Wet Well Capacity.....	5
D. Force Mains.....	5
4.4 Impact Fee Capital Improvements Plan	6
A. Project Descriptions	9
4.5 Wastewater Impact Fee Calculation.....	16
Wastewater Appendices	19

List of Exhibits

4.1	Wastewater System Map.....	8
-----	----------------------------	---

List of Tables

4.1	Maximum Assessable Wastewater Impact Fee for Commonly Used Meters.....	2
4.2	Wastewater Impact Fee Capital Improvements Projected Cost and 10-Year Recoverable Cost.....	7
4.3	Service Unit Consumption Calculation.....	16
4.4	10-Year Additional Service Units Calculation.....	17
4.5	10-Year Recoverable Cost Breakdown.....	17
4.6	Service Unit Equivalency Table for Commonly Used Meters.....	18

4.1 EXECUTIVE SUMMARY

This study was performed to update the City of Frisco's Wastewater System Impact Fees. Wastewater system analysis and the *Water, Wastewater, and Reuse Master Plan* are important tools for facilitating orderly growth of the wastewater system and for providing adequate facilities that promote economic development in the City of Frisco. The implementation of Impact Fees is a way to shift a portion of the burden of paying for new facilities onto new development.

Elements of the wastewater system, including gravity pipes, force mains and lift station facilities, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth of the City was provided by Freese & Nichols, Inc.

Wastewater system improvements necessary to serve 10-year (2028) and ultimate system needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, the state's impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The remainder can be assessed as the planning window extends beyond 2028 and as the impact fees are updated in the future.

The impact fee law defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Frisco defines a *service unit* as unit of development that consumes the amount of water requiring a standard 1-inch meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 1-inch meter. The equivalency factor and associated impact fee by meter size is shown in Table 4.1.

Based on the City's 10-year growth projections and the associated flow values, 43,192 additional service units will need water by the year 2028. Based on the additional service units and the recoverable capital improvements plans the City may assess a maximum of \$3,348 per service unit.

Table 4.1 Maximum Assessable Wastewater Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Impact Fee
1" PD	25	1.0	\$3,348
2" PD	80	3.2	\$10,714
2" MACH 10	100	4.0	\$13,392
3" COMP	175	7.0	\$23,436
4" COMP	300	12.0	\$40,176
6" COMP	675	27.0	\$90,396

*PD=Positive Displacement Meter, TURB=Turbine Meter, COMP=Compound Meter, MACH 10=Mach 10 Solid State Ultrasonic Meter

**Operating capacities obtained from American Water Works Association (AWWA) C-700-15, C-701-15, and C-702-15

4.2 INTRODUCTION

The City of Frisco retained the services of Kimley-Horn and Associates, Inc., for the purpose of updating the impact fees for water system improvements required to serve new development. These fees were originally developed in 1999, and updated in 2005 and 2012 in accordance with Chapter 395 of the Local Government Code (impact fees).

The purpose of this report is to satisfy the requirements of the law and provide the City with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

- (a) *The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:*
- (1) *a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;*
 - (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
 - (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*

(7) plan for awarding:

- (A) a credit for the portion of ad valorem tax and utility service revenues generated by new service unit during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or
- (B) in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.

The impact fee study includes information from the *Water, Wastewater, and Reuse Master Plan* completed by Freese & Nichols, Inc. The impact fees are based on recommended capital improvements outlined in the *Water, Wastewater, and Reuse Master Plan* and the population growth projections shown in the current Land Use Assumptions Report.

The study process was comprised of four tasks:

A. LAND USE ASSUMPTIONS

The development of land use assumptions included the following:

- Establishing impact fee service areas (SA) for water and wastewater;
- Collection/determination of population and employment data by SA; and
- Projection of the ten-year population and employment by SA.

A detailed discussion is outlined in the current *Land Use Assumptions Report*.

B. EVALUATION OF THE WATER, WASTEWATER, AND REUSE MASTER PLAN

This task involved reviewing the *Water, Wastewater, and Reuse Master Plan* and its growth projection compatibility with the Land Use Assumptions Report. The wastewater flow projections were then used to determine the additional service units.

C. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved evaluation of the wastewater capital improvements plan outlined in the master plan and discussion with City staff to identify projects that will be built in the 10-year planning window and meet the design criteria.

D. IMPACT FEE ANALYSIS AND REPORT

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

4.3 DESIGN CRITERIA

A. SEWER TRUNK LINES (INTERCEPTORS)

The design criteria for sewer trunk lines or interceptors is based on the TCEQ requirements that meet peak wet weather design flows with no overflows, while maintaining a minimum of 2 feet per second cleaning velocity and a maximum of 10 feet per second velocity.

B. LIFT STATIONS PUMPING CAPACITY

The design criteria for lift station pumping shall be to provide firm pumping capacity to meet the peak wet weather design flows. The firm pumping capacity is defined as the available total pumping capacity with the largest pump out of service.

C. LIFT STATION WET WELL CAPACITY

The design criteria for lift station wet wells are to provide adequate volumes to limit pump cycling to once every 6 minutes for 50 hp and smaller pumps, once every 10 minutes for 50-100 hp pumps, and once every 15 minutes for greater than 100 hp pumps. Based on this criteria, the required operating volume for each pump can be calculated as

$$V = tQ/4 \text{ where,}$$

$$t = \text{Maximum pump cycling time (minutes)}$$

$$Q = \text{Lead pump discharge rate in gallons per minute (gpm)}$$

$$V = \text{Required wet well volume between pump start and stop elevation}$$

D. FORCE MAINS

The design criteria recommended for force mains is to meet the required pumping capacity of the lift station at a velocity less than 6 feet per second and to allow a minimum of 2 feet per second scouring velocity during a single pump operation.

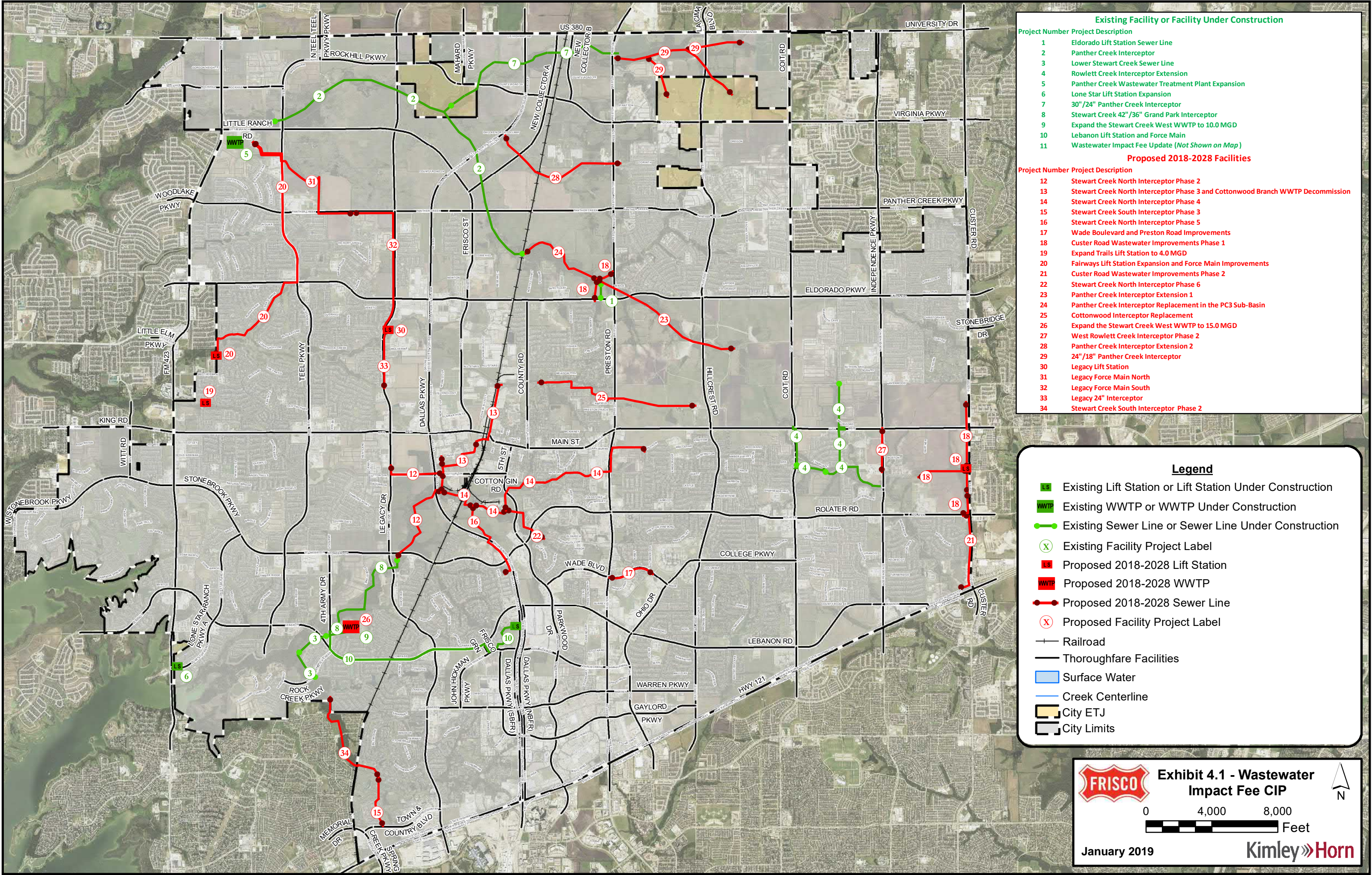
4.4 IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The City Council commissioned Freese & Nichols, Inc., to develop a *Water, Wastewater, and Reuse Master Plan*. The purpose of the plan is to provide the City with a logical strategy for upgrading and expanding its wastewater collection system to accommodate future growth and for addressing existing system deficiencies. Freese & Nichols completed the *Water, Wastewater, and Reuse Master Plan* and recommended system improvements to accommodate growth through the City's build-out.

Eleven (11) existing and twenty-three (23) proposed projects identified are determined eligible for recoverable cost through impact fee over the next 10 years. The total projected cost of these projects is \$233,602,547. The projected total recoverable through impact fees is \$131,047,331. After financing costs are added and the credit reduction calculation is complete, \$144,619,345 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 4.2.


Table 4.2 Wastewater Impact Fee Capital Improvements
Projected Cost and 10 Year Recoverable Cost

Proj. #	Description	2018 Required Capacity (Percent Utilization)	2028 Required Capacity (Percent Utilization)	2018-2028 Required Capacity (Percent Utilization)	2028 Projected Recoverable Cost	Total Project Cost
EXISTING						
1	Eldorado Lift Station Sewer Line	18%	40%	22%	\$ 150,886	\$ 685,847
2	Panther Creek Interceptor	12%	35%	23%	\$ 1,571,789	\$ 6,833,863
3	Lower Stewart Creek Sewer Line	50%	75%	25%	\$ 603,306	\$ 2,413,222
4	Rowlett Creek Interceptor Extension	25%	46%	21%	\$ 1,579,132	\$ 7,519,677
5	Panther Creek Wastewater Treatment Plant Expansion	83%	100%	17%	\$ 920,151	\$ 5,412,652
6	Lone Star Lift Station Expansion	54%	66%	12%	\$ 15,773	\$ 131,445
7	30"/24" Panther Creek Interceptor	5%	27%	22%	\$ 1,117,009	\$ 5,077,312
8	Stewart Creek 42"/36" Grand Park Interceptor	44%	67%	23%	\$ 1,605,511	\$ 6,980,481
9	Expand the Stewart Creek West WWTP to 10.0 MGD	4%	99%	95%	\$ 58,305,433	\$ 61,374,140
10	Lebanon Lift Station and Force Main	31%	83%	52%	\$ 4,658,963	\$ 8,959,545
11	Wastewater Impact Fee Update	-	-	100%	\$ 58,090	\$ 58,090
Existing Subtotal					\$ 70,586,042	\$ 105,446,274
PROPOSED						
12	Stewart Creek North Interceptor Phase 2	0%	66%	66%	\$ 7,336,560	\$ 11,116,000
13	Stewart Creek North Interceptor Phase 3 and Cottonwood Branch WWTP Decommission	0%	77%	77%	\$ 6,120,884	\$ 7,949,200
14	Stewart Creek North Interceptor Phase 4	0%	76%	76%	\$ 5,015,848	\$ 6,599,800
15	Stewart Creek South Interceptor Phase 3	0%	76%	76%	\$ 906,376	\$ 1,192,600
16	Stewart Creek North Interceptor Phase 5	0%	76%	76%	\$ 1,273,760	\$ 1,676,000
17	Wade Boulevard and Preston Road Improvements	0%	76%	76%	\$ 2,084,832	\$ 2,743,200
18	Custer Road Wastewater Improvements Phase 1	0%	46%	46%	\$ 2,895,562	\$ 6,294,700
19	Expand Trails Lift Station to 4.0 MGD	47%	100%	53%	\$ 498,624	\$ 940,800
20	Fairways Lift Station Expansion and Force Main Improvements	0%	29%	29%	\$ 4,350,899	\$ 15,003,100
21	Custer Road Wastewater Improvements Phase 2	0%	46%	46%	\$ 1,029,894	\$ 2,238,900
22	Stewart Creek North Interceptor Phase 6	0%	76%	76%	\$ 1,636,204	\$ 2,152,900
23	Panther Creek Interceptor Extension 1	0%	40%	40%	\$ 1,748,040	\$ 4,370,100
24	Panther Creek Interceptor Replacement in the PC3 Sub-Basin	15%	37%	22%	\$ 1,020,096	\$ 4,636,800
25	Cottonwood Interceptor Replacement	49%	77%	28%	\$ 1,045,744	\$ 3,734,800
26	Expand the Stewart Creek West WWTP to 15.0 MGD	0%	23%	23%	\$ 4,636,800	\$ 20,160,000
27	West Rowlett Creek Interceptor Phase 2	0%	46%	46%	\$ 512,762	\$ 1,114,700
28	Panther Creek Interceptor Extension 2	0%	27%	27%	\$ 960,849	\$ 3,558,700
29	24"/18" Panther Creek Interceptor	0%	27%	27%	\$ 1,141,817	\$ 4,228,953
30	Legacy Lift Station	0%	61%	61%	\$ 6,862,500	\$ 11,250,000
31	Legacy Force Main North	0%	61%	61%	\$ 3,416,000	\$ 5,600,000
32	Legacy Force Main South	0%	61%	61%	\$ 3,416,000	\$ 5,600,000
33	Legacy 24" Interceptor	0%	61%	61%	\$ 958,993	\$ 1,572,120
34	Stewart Creek South Interceptor Phase 2	54%	90%	36%	\$ 1,592,244	\$ 4,422,900
Proposed Subtotal					\$ 60,461,289	\$ 128,156,273
Total					\$ 131,047,331	\$ 233,602,547



Existing Facility or Facility Under Construction	
Project Number	Project Description
1	Eldorado Lift Station Sewer Line
2	Panther Creek Interceptor
3	Lower Stewart Creek Sewer Line
4	Rowlett Creek Interceptor Extension
5	Panther Creek Wastewater Treatment Plant Expansion
6	Lone Star Lift Station Expansion
7	30" /24" Panther Creek Interceptor
8	Stewart Creek 42" /36" Grand Park Interceptor
9	Expand the Stewart Creek West WWTP to 10.0 MGD
10	Lebanon Lift Station and Force Main
11	Wastewater Impact Fee Update (Not Shown on Map)
Proposed 2018-2028 Facilities	
Project Number	Project Description
12	Stewart Creek North Interceptor Phase 2
13	Stewart Creek North Interceptor Phase 3 and Cottonwood Branch WWTP Decommission
14	Stewart Creek North Interceptor Phase 4
15	Stewart Creek South Interceptor Phase 3
16	Stewart Creek North Interceptor Phase 5
17	Wade Boulevard and Preston Road Improvements
18	Custer Road Wastewater Improvements Phase 1
19	Expand Trails Lift Station to 4.0 MGD
20	Fairways Lift Station Expansion and Force Main Improvements
21	Custer Road Wastewater Improvements Phase 2
22	Stewart Creek North Interceptor Phase 6
23	Panther Creek Interceptor Extension 1
24	Panther Creek Interceptor Replacement in the PC3 Sub-Basin
25	Cottonwood Interceptor Replacement
26	Expand the Stewart Creek West WWTP to 15.0 MGD
27	West Rowlett Creek Interceptor Phase 2
28	Panther Creek Interceptor Extension 2
29	24" /18" Panther Creek Interceptor
30	Legacy Lift Station
31	Legacy Force Main North
32	Legacy Force Main South
33	Legacy 24" Interceptor
34	Stewart Creek South Interceptor Phase 2

Legend	
LS	Existing Lift Station or Lift Station Under Construction
WWTP	Existing WWTP or WWTP Under Construction
—	Existing Sewer Line or Sewer Line Under Construction
(X)	Existing Facility Project Label
LS	Proposed 2018-2028 Lift Station
WWTP	Proposed 2018-2028 WWTP
—	Proposed 2018-2028 Sewer Line
(X)	Proposed Facility Project Label
+	Railroad
—	Thoroughfare Facilities
Blue Area	Surface Water
Blue Line	Creek Centerline
Yellow Area	City ETJ
Grey Area	City Limits





**Exhibit 4.1 - Wastewater
Impact Fee CIP**

04,0008,000

Feet

January 2019



A. PROJECT DESCRIPTIONS

Existing Facilities or Facilities under Construction

(1) Eldorado Lift Station Sewer Line

15" line from manhole at decommissioned Eldorado Lift Station to existing 27" line north.

Project Cost	\$685,847
--------------	-----------

Recoverable Cost	\$150,886
------------------	-----------

(2) Panther Creek Interceptor

Construct 48"/36" interceptor line from Panther Creek Lift Station to Panther Creek Wastewater Treatment Plant.

Project Cost	\$6,833,863
--------------	-------------

Recoverable Cost	\$1,571,789
------------------	-------------

(3) Lower Stewart Creek Sewer Line

Construct section of 42" sewer interceptor from Rock Creek Parkway to Stewart Creek West Wastewater Treatment Plant.

Project Cost	\$2,413,222
--------------	-------------

Recoverable Cost	\$603,306
------------------	-----------

(4) Rowlett Creek Interceptor Extension

Construct Rowlett Creek 21"/24"/27" extension and 15" sewer line from decommissioned Coit Lift Station to new 21" sewer line.

Project Cost	\$7,519,677
--------------	-------------

Recoverable Cost	\$1,579,132
------------------	-------------

(5) Panther Creek Wastewater Treatment Plant Expansion

Phase 1- Construction of a 48" water line in Eldorado Parkway from the BNSF Railroad to DNT. Construction of a 36" water line adjacent to DNT from Eldorado Parkway south of Panther Creek Parkway. Together with Phases 2 and 3, this will connect the Eldorado Pump Station to the Northwest and Southwest Elevated Water Tanks. Expansion of Panther Creek Wastewater Plant to 10.0 MGD.

Project Cost	\$5,412,652
Recoverable Cost	\$920,151

(6) Lone Star Lift Station Expansion

Expansion of Lone Star Lift Station to 12.0 MGD firm capacity.

Project Cost	\$131,445
Recoverable Cost	\$15,773

(7) 30"/24" Panther Creek Interceptor

Construct 30"/24" interceptor in sub-basin PC3 to SH 289.

Project Cost	\$5,077,312
Recoverable Cost	\$1,117,009

(8) Stewart Creek 42"/36" Grand Park Interceptor

Construct 36" and 42" line inside of Grand Park from Cotton Gin Road and Dallas North Tollway to west of the Stewart Creek West Wastewater Treatment Plant.

Project Cost	\$6,980,481
Recoverable Cost	\$1,605,511

(9) Expand the Stewart Creek West WWTP to 10.0 MGD

Expansion of Stewart Creek West WWTP to 10.0 MGD firm capacity.

Project Cost	\$61,374,140
Recoverable Cost	\$58,305,433

(10) Lebanon Lift Station and Force Main

Construction of lift station and force main from Lebanon Road to Stewart Creek West WWTP.

Project Cost	\$8,959,545
Recoverable Cost	\$4,658,963

Proposed Facilities, Improvements, and Sewer Lines

(12) Stewart Creek North Interceptor Phase 2

- Construct new 42-inch sewer line between the existing 18-inch John Elliot sewer line and the 48-inch interceptor under design. The new 42-inch will replace existing 24-inch Stewart Creek North Interceptor.
- Construct new 21/30-inch sewer line between Frisco Square and the proposed 42-inch Stewart Creek North Interceptor. The new 21/30-inch sewer line will replace existing 18-inch sewer line.
- Construct new 18-inch sewer line beginning north of the intersection of Cotton Gin Road and Legacy Drive. The new 18-inch sewer line will replace the existing 12-inch sewer line.
- Construct new 27-inch sewer line beginning Cotton Gin Road and the proposed 30-inch along DNT. The new 27-inch sewer line will replace the existing 12-inch sewer line.

Project Cost \$11,116,000

Recoverable Cost \$7,336,560

(13) Stewart Creek North Interceptor Phase 3 and Cottonwood Branch WWTP
Decommission

Construct new 36-inch interceptor along First Street between the Cottonwood Branch WWTP and proposed 42-inch Stewart Creek North Interceptor Phase 2. Decommission the Cottonwood WWTP.

Project Cost \$7,949,200

Recoverable Cost \$6,120,884

(14) Stewart Creek North Interceptor Phase 4

- Construct new 21-inch sewer line between the intersection of Acorn Lane and Rimrock Circle to the existing 24-inch. The new 21-inch will replace the existing 12-inch sewer line and a new 36-inch line will replace the existing 24-inch.
- Construct new 15/18-inch sewer line between the intersections of Town Bridge and Huston Drive and the intersection of Acorn Lane and Rimrock Circle. The new 15/18-inch sewer line will replace the existing 10-inch sewer line.

Project Cost \$6,599,800

Recoverable Cost \$5,015,848

(15) Stewart Creek South Interceptor Phase 3

Construct new 15/18-inch sewer line between Town and Country Boulevard and the existing 27-inch Stewart Creek South Interceptor. The new 15/18-inch sewer line will replace existing 10/12-inch sewer line.

Project Cost	\$1,192,600
Recoverable Cost	\$906,376

(16) Stewart Creek North Interceptor Phase 5

Construct new 15/18-inch sewer line between the intersection of Stonebrook Parkway and DNT to the proposed 36-inch Stewart Creek North Interceptor Phase 4. The new 15/18-inch sewer line will replace the existing 10-inch sewer line.

Project Cost	\$1,676,000
Recoverable Cost	\$1,273,760

(17) Wade Boulevard and Preston Road Improvements

Construct new 15-inch sewer line along Wade Boulevard near the intersection of Preston Road and Brookhollow Boulevard. The new 15-inch sewer line will replace the existing 10-inch sewer line.

Project Cost	\$2,743,200
Recoverable Cost	\$2,084,832

(18) Custer Road Wastewater Improvements Phase 1

Construct new 3.0 MGD lift station, 12-inch force main, and 15/18-inch gravity sewer line along Custer Road near Main Street.

Project Cost	\$6,294,700
Recoverable Cost	\$2,895,562

(19) Expand Trails Lift Station to 4.0 MGD

Expansion of Trails Lift Station to 4.0 MGD firm capacity.

Project Cost	\$940,800
Recoverable Cost	\$498,624

(20) Fairways Lift Station Expansion and Force Main Improvements

Expansion of Fairways Lift Station to 25.0 MGD firm capacity. Construct new 30-inch force main from the Trails of Frisco Golf Club to the intersection of Eldorado and Teel Parkways. Construct new 42-inch gravity sewer line from intersection of Eldorado and Teel Parkways to the Panther Creek WWTP.

Project Cost	\$15,003,100
Recoverable Cost	\$4,350,899

(21) Custer Road Wastewater Improvements Phase 2

Decommission of the 3.0 MGD lift station from Project #16 Custer Road Wastewater Water Improvements Phase 1. Extend the existing 15-inch gravity sewer line to serve proposed development along Custer Road near Main Street.

Project Cost	\$2,238,900
Recoverable Cost	\$1,029,894

(22) Stewart Creek North Interceptor Phase 6

Construct new 30-inch sewer line from Memorial Drive and Crystallizer Road. The new 30-inch sewer line will replace the existing 24-inch interceptor.

Project Cost	\$2,152,900
Recoverable Cost	\$1,636,204

(23) Panther Creek Interceptor Extension 1

Extend existing 24-inch interceptor from northern portion of the Brinkmann Ranch to the existing 27-inch interceptor with new 24-inch sewer line.

Project Cost	\$4,370,100
Recoverable Cost	\$1,748,040

(24) Panther Creek Interceptor Replacement in the PC3 Sub-Basin

Construct new 42-inch sewer line between Preston Road and the BNSF railroad. The new 42-inch sewer line will replace the existing 27-inch Panther Creek interceptor.

Project Cost	\$4,636,800
Recoverable Cost	\$1,020,096

(25) Cottonwood Interceptor Replacement

- Construct new 18-inch sewer line between Brinkmann Ranch and Preston Road. The new 18-inch sewer line will replace the existing 8-inch sewer line.
- Construct new 18/21-inch sewer line between Preston Road and the existing 21-inch line east of North Country Road. The new 18/21 inch sewer line will replace the existing 12/18-inch trunk line.

Project Cost	\$3,734,800
Recoverable Cost	\$1,045,744

(26) Expand the Stewart Creek West WWTP to 15.0 MGD

Expansion of Stewart Creek West WWTP to 15.0 MGD.

Project Cost	\$20,160,000
Recoverable Cost	\$4,636,800

(27) West Rowlett Creek Interceptor Phase 2

Construct new 15-inch sewer line from the intersection of Independence Parkway and Main Street to the existing 15-inch sewer line west of the Independence Parkway and Congress Lane intersection.

Project Cost	\$1,114,700
Recoverable Cost	\$512,762

(28) Panther Creek Interceptor Extension 2

Extend existing 18/21-inch sewer line from Dallas Tollway to Preston Road with new 18/21-inch sewer line.

Project Cost	\$3,558,700
Recoverable Cost	\$960,849

(29) 24"/18" Panther Creek Interceptor

Construct new 24/18-inch sewer line from the northeastern development areas to the existing 24-inch sewer line south of the Preston Road and East University Drive intersection.

Project Cost	\$4,228,953
Recoverable Cost	\$1,141,817

(30) Legacy Lift Station

Construct new lift station east of the intersection of Legacy Drive and Andrew Lane.

Project Cost	\$11,250,000
Recoverable Cost	\$6,862,500

(31) Legacy Force Main North

Construct new 24-inch force main from Panther Creek WWTP to Panther Creek Parkway.

Project Cost	\$5,600,000
Recoverable Cost	\$3,416,000

(32) Legacy Force Main South

Construct new 24-inch force main from proposed 24-inch Legacy Force Main North to Legacy Lift Station.

Project Cost	\$5,600,000
Recoverable Cost	\$3,416,000

(33) Legacy 24" Interceptor

Construct new 24-inch sewer line north near the intersection of Throne Hall Drive and Legacy Drive to the proposed Legacy Lift Station.

Project Cost	\$1,572,120
Recoverable Cost	\$958,993

(34) Stewart Creek South Interceptor Phase 2

Construct new 36-inch sewer line from the proposed 18-inch Stewart Creek South Interceptor Phase 3 sewer line, through The Colony, and to the existing 42-inch sewer line near Columbus Drive. The new 36-inch sewer line will replace the existing 27/30-inch sewer line.

Project Cost	\$4,422,900
Recoverable Cost	\$1,592,244

4.5 WASTEWATER IMPACT FEE CALCULATION

Chapter 395 of the Local Government Code defines a service unit as follows; “Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.” Therefore, the City of Frisco defines a *service unit* based on historical wastewater discharge over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses a 1-inch meter. The measure of consumption per service unit is based on a 1-inch meter and the data shown in Table 4.3.

Table 4.3 Service Unit Consumption Calculation

Year	Population*	Residential Units (2.80 persons/unit)	Wastewater Flow Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2008	97,600	34,857	9.08	260
2009	100,800	36,000	9.64	268
2010	116,989	41,782	9.89	237
2011	121,670	43,454	9.58	220
2012	125,500	44,821	10.13	226
2013	129,680	46,314	10.26	222
2014	137,330	49,046	10.50	214
2015	146,025	52,152	13.01	249
2016	152,710	54,539	12.72	233
2017	161,530	57,689	12.80	222
Average Consumption per Service Unit				235

*Population data from City of Frisco *Water, Wastewater, and Reuse Master Plan* prepared by Freese & Nichols, Inc. and from the City of Frisco.

Based on the City's 10-year growth projections and the resulting wastewater flow projections, wastewater service will be required for an additional 43,192 service units. The calculation is as follows:

- A service unit, which is a unit of development that discharges approximately 235 gallons per day (GPD), is a typical residential connection that uses a 1-inch meter.

Table 4.4 10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units
2018	19.55	235	83,191
2028	29.70	235	126,383
10-year Additional Service Units			43,192

Impact fee law allows for a credit calculation to credit back the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The City chose to perform a financial analysis. NewGen Strategies & Solutions has detailed the credit calculation in the Wastewater Appendix.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 4.5 10-Year Recoverable Cost Breakdown¹

Recoverable Impact Fee CIP Costs	\$ 131,047,331
Financing Costs	\$ 56,181,591
Existing Fund Balance	\$ (10,496,473)
Interest Earnings	\$ (16,532,637)
Pre Credit Recoverable Cost for Impact Fee	\$ 160,199,812
Credit for Utility Revenues	\$ (15,580,467)
Maximum Recoverable Cost for Impact Fee	\$ 144,619,345

¹Per NewGen Strategies & Solutions financial analysis, see the Wastewater Appendix - Summary of Wastewater Impact Fee Determination

$$\begin{aligned}
 \text{Impact fee per service unit} &= \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}} \\
 \text{10-year recoverable costs} &= \$144,619,345 \\
 \text{Impact fee per service unit} &= \frac{\$144,619,345}{43,192} \\
 \text{Impact fee per service unit} &= \$3,348
 \end{aligned}$$

Therefore, the maximum assessable impact fee per service unit is \$3,348.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 1-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the Equivalency Table (Table 4.6).

Table 4.6 Service Unit Equivalency Table for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Impact Fee
1" PD	25	1.0	\$3,348
2" PD	80	3.2	\$10,714
2" MACH 10	100	4.0	\$13,392
3" COMP	175	7.0	\$23,436
4" COMP	300	12.0	\$40,176
6" COMP	675	27.0	\$90,396

*PD=Positive Displacement Meter, TURB=Turbine Meter, COMP=Compound Meter, MACH 10=Mach 10 Solid State Ultrasonic Meter

**Operating capacities obtained from American Water Works Association (AWWA) C-700-15, C-701-15, and C-702-15

WASTEWATER APPENDICES

City of Frisco - 2018 Wastewater Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation Assumptions
Wastewater Service Area

0	Existing Fund Balance	\$ 10,496,473
1	Existing Number of Service Units	\$ 83,191
2	Total Number of Services Units for Planning Period	126,383
3	Additional Service Units Added During Planning Period (Line 2 - Line 1)	43,192
4	Total Cost of the Wastewater Impact Fee CIP	\$ 233,602,547
5	Recoverable Cost for Impact Fee Planning Period	\$ 131,047,331
6	Percent Recoverable for Wastewater Impact Fee Planning Period (Line 5 / Line 4)	56.10%
7	Financing Costs (From Financial Analysis)	\$ 56,181,591
8	Interest Earnings (From Financial Analysis)	\$ (16,532,637)
9	Recoverable Cost of Wastewater Impact Fee and Financing Costs Less Balance (Line 5 + Line 7 + Line 8 - Line 0)	\$ 160,199,812
10	Pre-Credit Maximum Fee (Line 9 / Line 3)	\$ 3,709
11	Credit for Utility Revenues (From Financial Analysis)	\$ (15,580,467)
12	Recoverable Cost of Wastewater Impact Fee and Financing (Line 9 + Line 11)	\$ 144,619,345
13	Maximum Assessable Fee (Line 12 / Line 3)	\$ 3,348

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Wastewater Service Area

Recoverable Impact Fee CIP Costs	\$ 131,047,331	Table 4.2
Financing Cost	56,181,591	See Detail Below
Existing Fund Balance	(10,496,473)	Wastewater Appendices - page 1
Interest Earnings	(16,532,637)	Wastewater Appendices - page 3
Pre Credit Recoverable Cost for Impact Fee	\$ 160,199,812	Sum of Above
Credit for Utility Revenues	(15,580,467)	Wastewater Appendices - page 6
Maximum Recoverable Cost for Impact Fee	\$ 144,619,345	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Reference is Table 4.2 Wastewater Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues.

New Annual Debt Service	\$ 92,130,083	Wastewater Appendices - page 2
Existing Annual Debt Service	91,653,485	Wastewater Appendices - page 2
Principal Component (New and Existing Debt)	(127,601,978)	Wastewater Appendices - page 1
Financing Costs	\$ 56,181,591	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2018 Impact Fee Update were also included in prior Impact Fee Updates.

To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Wastewater Appendices.

Interest Earnings

Represents the interest earned on cash flows and assumes a 1.24% annual interest rate.

The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Reference is the sum of Accumulated Interest on page 4 of Wastewater Appendices.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Utility Revenues

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects. Reference is page 6 of Wastewater Appendices.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Revenues.

This is the maximum cost that can be recovered through impact fees.

City of Frisco - 2018 Wastewater Impact Fee Update

Capital Improvement Plan for Impact Fees

Impact Fee Calculation Assumptions

Wastewater Service Area

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	1.24%
Annual Service Unit Growth ⁽²⁾	4,319
Existing Fund Balance ⁽³⁾	10,496,473
Portion of Projects Funded by Existing Debt ⁽⁴⁾	\$ 68,085,240
Non-debt Funded New Project Cost ⁽⁵⁾	3,445,354
New Project Cost Funded Through New Debt ⁽⁶⁾	59,516,738
Total Recoverable Project Cost ⁽⁷⁾	\$ 131,047,331

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁸⁾</u>	<u>Interest⁽⁹⁾</u>	<u>Term</u>
1	\$ 5,951,674	3.50%	20
2	5,951,674	4.25%	20
3	5,951,674	4.75%	20
4	5,951,674	4.75%	20
5	5,951,674	4.75%	20
6	5,951,674	4.75%	20
7	5,951,674	4.75%	20
8	5,951,674	4.75%	20
9	5,951,674	4.75%	20
10	5,951,674	4.75%	20
Total	\$ 59,516,738		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽¹⁰⁾</u>
1	\$ 344,535
2	2,328,427
3	4,312,318
4	6,296,209
5	6,296,209
6	6,296,209
7	6,296,209
8	6,296,209
9	6,296,209
10	6,296,209
11	5,951,674
12	3,967,783
13	1,983,891
Total	\$ 62,962,091

- (1) Investment Portfolio Yield as of 02/28/2018
(2) Derived from Table 4.4 10-year Additional Service Unit Calculation
(3) Balance from 09/30/2017 provided by City Staff
(4) Per discussions with City Staff and City files
(5) This assumes 0% of new project costs funded through sources other than debt
(6) This assumes 100% of new project costs funded through new debt issues
(7) Table 4.2 Wastewater Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost
(8) Assumes new debt issued in equal annual amounts
(9) Estimated interest on future debt from City's Financial Advisor March 23, 2018
(10) Assumes new debt proceeds expended over a 3-year timeframe.
Non-debt funded capital expenditures allocated in equal annual amounts

City of Frisco - 2018 Wastewater Impact Fee Update
Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Wastewater Service Area

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 418,766	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 418,766
2	418,766	447,684	-	-	-	-	-	-	-	-	866,450
3	418,766	447,684	467,507	-	-	-	-	-	-	-	1,333,957
4	418,766	447,684	467,507	467,507	-	-	-	-	-	-	1,801,464
5	418,766	447,684	467,507	467,507	467,507	-	-	-	-	-	2,268,970
6	418,766	447,684	467,507	467,507	467,507	467,507	-	-	-	-	2,736,477
7	418,766	447,684	467,507	467,507	467,507	467,507	467,507	-	-	-	3,203,984
8	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	-	-	3,671,491
9	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	-	4,138,997
10	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
11	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
12	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
13	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
14	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
15	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
16	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
17	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
18	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
19	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
20	418,766	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,606,504
21	-	447,684	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	4,187,738
22	-	-	467,507	467,507	467,507	467,507	467,507	467,507	467,507	467,507	3,740,054
23	-	-	-	467,507	467,507	467,507	467,507	467,507	467,507	467,507	3,272,547
24	-	-	-	-	467,507	467,507	467,507	467,507	467,507	467,507	2,805,041
25	-	-	-	-	-	467,507	467,507	467,507	467,507	467,507	2,337,534
26	-	-	-	-	-	-	467,507	467,507	467,507	467,507	1,870,027
27	-	-	-	-	-	-	-	467,507	467,507	467,507	1,402,520
28	-	-	-	-	-	-	-	-	467,507	467,507	935,014
29	-	-	-	-	-	-	-	-	-	467,507	467,507
	\$ 8,375,324	\$ 8,953,678	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 9,350,135	\$ 92,130,083

II. Summary of Annual Expenses

<u>Year</u>	<u>New Annual Debt Service⁽¹⁾</u>	<u>Annual Capital Expenditures⁽²⁾</u>	<u>Annual Bond Proceeds⁽²⁾</u>	<u>Existing Annual Debt Service⁽³⁾</u>	<u>Annual Credit⁽⁴⁾</u>	<u>Total Expense</u>
1	418,766	344,535	(5,951,674)	688,249	(8,737)	(4,508,860)
2	866,450	2,328,427	(5,951,674)	5,885,495	(547,671)	2,581,027
3	1,333,957	4,312,318	(5,951,674)	5,340,670	(774,183)	4,261,088
4	1,801,464	6,296,209	(5,951,674)	5,390,594	(1,076,846)	6,459,748
5	2,268,970	6,296,209	(5,951,674)	5,361,134	(1,380,853)	6,593,787
6	2,736,477	6,296,209	(5,951,674)	5,338,436	(1,697,079)	6,722,369
7	3,203,984	6,296,209	(5,951,674)	5,309,634	(2,021,471)	6,836,682
8	3,671,491	6,296,209	(5,951,674)	5,257,001	(2,347,256)	6,925,771
9	4,138,997	6,296,209	(5,951,674)	5,200,893	(2,678,239)	7,006,187
10	4,606,504	6,296,209	(5,951,674)	5,242,561	(3,048,133)	7,145,467
11	4,606,504	5,951,674	-	5,229,758	-	15,787,935
12	4,606,504	3,967,783	-	5,227,462	-	13,801,749
13	4,606,504	1,983,891	-	5,303,097	-	11,893,492
14	4,606,504	-	-	5,341,032	-	9,947,536
15	4,606,504	-	-	5,381,171	-	9,987,675
16	4,606,504	-	-	5,444,010	-	10,050,514
17	4,606,504	-	-	5,381,419	-	9,987,923
18	4,606,504	-	-	5,330,871	-	9,937,375
19	4,606,504	-	-	-	-	4,606,504
20	4,606,504	-	-	-	-	4,606,504
21	4,187,738	-	-	-	-	4,187,738
22	3,740,054	-	-	-	-	3,740,054
23	3,272,547	-	-	-	-	3,272,547
24	2,805,041	-	-	-	-	2,805,041
25	2,337,534	-	-	-	-	2,337,534
26	1,870,027	-	-	-	-	1,870,027
27	1,402,520	-	-	-	-	1,402,520
28	935,014	-	-	-	-	935,014
29	467,507	-	-	-	-	467,507
	\$ 92,130,083	\$ 62,962,091	\$ (59,516,738)	\$ 91,653,485	\$ (15,580,467)	\$ 171,648,455

(1) Wastewater Appendices - page 2 Section I

(2) Wastewater Appendices - page 1

(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service

(4) Wastewater Appendices - page 6

City of Frisco - 2018 Wastewater Impact Fee Update
Capital Improvement Plan for Impact Fees
Revenue Test
Wastewater Service Area

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 10,496,473
1	\$ 3,348	4,319	\$ 14,461,935	\$ (4,508,860)	\$ 18,970,795	247,775	29,715,043
2	3,348	4,319	14,461,935	2,581,027	11,880,907	442,128	42,038,078
3	3,348	4,319	14,461,935	4,261,088	10,200,846	584,517	52,823,442
4	3,348	4,319	14,461,935	6,459,748	8,002,187	704,624	61,530,253
5	3,348	4,319	14,461,935	6,593,787	7,868,148	811,758	70,210,159
6	3,348	4,319	14,461,935	6,722,369	7,739,565	918,591	78,868,315
7	3,348	4,319	14,461,935	6,836,682	7,625,252	1,025,244	87,518,811
8	3,348	4,319	14,461,935	6,925,771	7,536,164	1,131,957	96,186,932
9	3,348	4,319	14,461,935	7,006,187	7,455,748	1,238,944	104,881,623
10	3,348	4,319	14,461,935	7,145,467	7,316,468	1,345,894	113,543,986
11	-	-	-	15,787,935	(15,787,935)	1,310,060	99,066,110
12	-	-	-	13,801,749	(13,801,749)	1,142,849	86,407,211
13	-	-	-	11,893,492	(11,893,492)	997,710	75,511,428
14	-	-	-	9,947,536	(9,947,536)	874,667	66,438,559
15	-	-	-	9,987,675	(9,987,675)	761,915	57,212,799
16	-	-	-	10,050,514	(10,050,514)	647,126	47,809,410
17	-	-	-	9,987,923	(9,987,923)	530,912	38,352,398
18	-	-	-	9,937,375	(9,937,375)	413,958	28,828,981
19	-	-	-	4,606,504	(4,606,504)	328,919	24,551,396
20	-	-	-	4,606,504	(4,606,504)	275,877	20,220,769
21	-	-	-	4,187,738	(4,187,738)	224,774	16,257,805
22	-	-	-	3,740,054	(3,740,054)	178,408	12,696,159
23	-	-	-	3,272,547	(3,272,547)	137,143	9,560,754
24	-	-	-	2,805,041	(2,805,041)	101,162	6,856,876
25	-	-	-	2,337,534	(2,337,534)	70,533	4,589,875
26	-	-	-	1,870,027	(1,870,027)	45,320	2,765,168
27	-	-	-	1,402,520	(1,402,520)	25,592	1,388,240
28	-	-	-	935,014	(935,014)	11,417	464,644
29	-	-	-	467,507	(467,507)	2,863	-
			144,619,345	171,648,455		16,532,637	

City of Frisco - 2018 Wastewater Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Calculation
Wastewater Service Area

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.4208	1.0000	4,319	6,137	\$ (4,508,860)	\$ (6,406,354)
2	28	1.4034	1.0000	4,319	6,062	2,581,027	3,622,302
3	27	1.3862	1.0000	4,319	5,987	4,261,088	5,906,911
4	26	1.3693	1.0000	4,319	5,914	6,459,748	8,845,111
5	25	1.3525	1.0000	4,319	5,842	6,593,787	8,918,062
6	24	1.3359	1.0000	4,319	5,770	6,722,369	8,980,610
7	23	1.3196	1.0000	4,319	5,699	6,836,682	9,021,458
8	22	1.3034	1.0000	4,319	5,630	6,925,771	9,027,080
9	21	1.2874	1.0000	4,319	5,561	7,006,187	9,020,046
10	20	1.2717	1.0000	4,319	5,493	7,145,467	9,086,686
11	19	1.2561	1.0000	-	-	15,787,935	19,831,160
12	18	1.2407	1.0000	-	-	13,801,749	17,123,981
13	17	1.2255	1.0000	-	-	11,893,492	14,575,648
14	16	1.2105	1.0000	-	-	9,947,536	12,041,536
15	15	1.1957	1.0000	-	-	9,987,675	11,942,043
16	14	1.1810	1.0000	-	-	10,050,514	11,869,991
17	13	1.1666	1.0000	-	-	9,987,923	11,651,589
18	12	1.1523	1.0000	-	-	9,937,375	11,450,633
19	11	1.1382	1.0000	-	-	4,606,504	5,242,967
20	10	1.1242	1.0000	-	-	4,606,504	5,178,751
21	9	1.1105	1.0000	-	-	4,187,738	4,650,299
22	8	1.0969	1.0000	-	-	3,740,054	4,102,297
23	7	1.0834	1.0000	-	-	3,272,547	3,545,545
24	6	1.0702	1.0000	-	-	2,805,041	3,001,816
25	5	1.0570	1.0000	-	-	2,337,534	2,470,875
26	4	1.0441	1.0000	-	-	1,870,027	1,952,489
27	3	1.0313	1.0000	-	-	1,402,520	1,446,431
28	2	1.0187	1.0000	-	-	935,014	952,477
29	1	1.0062	1.0000	-	-	467,507	470,405
				<hr/>		58,094	<hr/>
							\$ 209,522,845

Annual Interest Rate:	1.24%
Present Value of Initial Impact Fee Fund Balance	\$ 10,496,473
Total Escalated Expense for Entire Period	\$ 209,522,845
Less Future Value of Initial Impact Fee Fund Balance	15,005,669
Sub-Total	<hr/> \$ 194,517,176
Total Escalated Service Units	<hr/> 58,094
Impact Fee for Wastewater Service Area	\$ 3,348

City of Frisco - 2018 Wastewater Impact Fee Update
Capital Improvement Plan for Impact Fees
Impact Fee Project Funding
Wastewater Service Area

Impact Fee Project Name⁽¹⁾	Cost In	Impact Fee	Debt Funded⁽²⁾		Non-Debt	Impact Fee
	Service Area⁽¹⁾	Recoverable Cost⁽¹⁾	Existing	Proposed	Funded⁽²⁾	Recoverable Cost
Eldorado Lift Station Sewer Line	\$ 685,847	\$ 150,886	\$ -	\$ -	\$ 150,886	\$ 150,886
Panther Creek Interceptor	6,833,863	1,571,789	1,570,976	-	813	1,571,789
Lower Stewart Creek Sewer Line	2,413,222	603,306	580,236	-	23,070	603,306
Rowlett Creek Interceptor Extension	7,519,677	1,579,132	1,255,510	-	323,622	1,579,132
Panther Creek Wastewater Treatment Plant Expansion	5,412,652	920,151	342,927.57	-	577,223	920,151
Lone Star Lift Station Expansion	131,445	15,773	15,773	-	-	15,773
30"/24" Panther Creek Interceptor	5,077,312	1,117,009	1,019,145	-	97,864	1,117,009
Stewart Creek 42"/36" Grand Park Interceptor	6,980,481	1,605,511	1,211,724	-	393,786	1,605,511
Expand the Stewart Creek West WWTP to 10.0 MGD	61,374,140	58,305,433	58,305,433	-	-	58,305,433
Lebanon Lift Station and Force Main	8,959,545	4,658,963	2,838,963	-	1,820,000	4,658,963
Stewart Creek North Interceptor Phase 2	11,116,000	7,336,560	-	7,336,560	-	7,336,560
Stewart Creek North Interceptor Phase 3 and Cottonwood Branch WWTP Decommission	7,949,200	6,120,884	447,385	5,673,499	-	6,120,884
Stewart Creek North Inceptor Phase 4	6,599,800	5,015,848	-	5,015,848	-	5,015,848
Stewart Creek South Inceptor Phase 3	1,192,600	906,376	441,575	464,801	-	906,376
Stewart Creek North Inceptor Phase 5	1,676,000	1,273,760	-	1,273,760	-	1,273,760
Wade Boulevard and Preston Road Improvements	2,743,200	2,084,832	55,590	2,029,242	-	2,084,832
Custer Road Wastewater Improvements Phase 1	6,294,700	2,895,562	-	2,895,562	-	2,895,562
Expand Trails Lift Station to 4.0 MGD	940,800	498,624	-	498,624	-	498,624
Fairways Lift Station Expansion and Force Main Improvements	15,003,100	4,350,899	-	4,350,899	-	4,350,899
Custer Road Wastewater Improvements Phase 2	2,238,900	1,029,894	-	1,029,894	-	1,029,894
Stewart Creek North Interceptor Phase 6	2,152,900	1,636,204	-	1,636,204	-	1,636,204
Panther Creek Interceptor Extension 1	4,370,100	1,748,040	-	1,748,040	-	1,748,040
Panther Creek Interceptor Replacement in the PC3 Sub-Basin	4,636,800	1,020,096	-	1,020,096	-	1,020,096
Cottonwood Interceptor Replacement	3,734,800	1,045,744	-	1,045,744	-	1,045,744
Expand the Stewart Creek West WWTP to 15.0 MGD	20,160,000	4,636,800	-	4,636,800	-	4,636,800
West Rowlett Creek Interceptor Phase 2	1,114,700	512,762	-	512,762	-	512,762
Panther Creek Interceptor Extension 2	3,558,700	960,849	-	960,849	-	960,849
24"/18" Panther Creek Interceptor	4,228,953	1,141,817	-	1,141,817	-	1,141,817
Legacy Lift Station	11,250,000	6,862,500	-	6,862,500	-	6,862,500
Legacy Force Main North	5,600,000	3,416,000	-	3,416,000	-	3,416,000
Legacy Force Main South	5,600,000	3,416,000	-	3,416,000	-	3,416,000
Legacy 24" Interceptor	1,572,120	958,993	-	958,993	-	958,993
Stewart Creek South Interceptor Phase 2	4,422,900	1,592,244	-	1,592,244	-	1,592,244
Wastewater Impact Fee Update	58,090	58,090	-	-	58,090	58,090
Total	\$ 233,602,547	\$ 131,047,331	\$ 68,085,240	\$ 59,516,738	\$ 3,445,354	\$ 131,047,331

(1) Table 4.2 Wastewater Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

(2) Per discussions with City staff and City files

City of Frisco - 2018 Wastewater Impact Fee Update

Capital Improvement Plan for Impact Fees

Credit Determination

Wastewater Service Area

2018 Service Units ⁽¹⁾	83,191
Ten Year Growth in Service Units ⁽¹⁾	43,192
	<u>10</u> years
Annual Growth in Service Units	4,319

	1	2	3	4	5	6	7	8	9	10	Total
Debt Service for Debt Funded Projects Eligible for Impact Fees ⁽²⁾	\$ 1,107,015	\$ 6,751,946	\$ 6,674,627	\$ 7,192,058	\$ 7,630,105	\$ 8,074,913	\$ 8,513,618	\$ 8,928,491	\$ 9,339,890	\$ 9,849,065	\$ 74,061,727
Less: Impact Fees Applied to Debt Service ⁽³⁾	930,000	930,000	930,000	930,000	930,000	930,000	930,000	930,000	930,000	930,000	9,300,000
Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 177,015	\$ 5,821,946	\$ 5,744,627	\$ 6,262,058	\$ 6,700,105	\$ 7,144,913	\$ 7,583,618	\$ 7,998,491	\$ 8,409,890	\$ 8,919,065	\$ 64,761,727
Current Service Units	87,510	91,829	96,149	100,468	104,787	109,106	113,425	117,745	122,064	126,383	
Total Net Impact Fee Eligible Debt Service Funded by Other Sources per Service Unit	\$ 2.02	\$ 63.40	\$ 59.75	\$ 62.33	\$ 63.94	\$ 65.49	\$ 66.86	\$ 67.93	\$ 68.90	\$ 70.57	
Annual Growth in Service Units (Cumulative)	4,319	8,638	12,958	17,277	21,596	25,915	30,234	34,554	38,873	43,192	
Annual Wastewater Rate Revenue Generated by Service Unit for Net Impact Fee Eligible Debt Service Funded by Other Sources	\$ 8,737	\$ 547,671	\$ 774,183	\$ 1,076,846	\$ 1,380,853	\$ 1,697,079	\$ 2,021,471	\$ 2,347,256	\$ 2,678,239	\$ 3,048,133	\$ 15,580,467
Credit Amount	\$ 15,580,467										

(1) Derived from Table 4.4 10-Year Additional Service Unit Calculation

(2) Wastewater Appendices - page 2 Section II

(3) \$3,000,000 in Water and Wastewater Impact Fee revenue applied to debt service with 69% to Water and 31% to Wastewater