Prepared for:

City of Sanger

ROADWAY IMPACT FEE STUDY

July 2024

City of Sanger

Roadway Impact Fee Study

July 2024

Prepared for the City of Sanger

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1. EXECUTIVE SUMMARY

A. INTRODUCTION

Impact fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads, and utilities. In Texas, the legislature has allowed their use for water, wastewater, roadway, and drainage facilities. Historically, they have been used to fund both public water, wastewater, and roadway improvements in the City of Sanger.

In the most basic terms, impact fees are meant to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs. In the case of roadway impact fees, the infrastructure need is the increased capacity on arterial and collector roadways that serve the overall transportation system. The purpose of the 2024 Roadway Impact Fee Study is to identify the fee per unit of new development necessary to fund these improvements in accordance with the enabling legislation, Chapter 395 of the Texas Local Government Code.

B. IMPACT FEE BASICS

Roadway impact fees are determined by several key variables, each described below in greater detail.

Impact Fee Study

The primary purpose of the 2024 Roadway Impact Fee Study is to determine the maximum impact fee per unit of new development chargeable as allowed by the state law. This determination is not a recommendation; the actual fee amount ultimately assessed is at the discretion of the Sanger City Council, so long as it does not exceed the maximum assessable allowed by law. The study looks at a period of 10 years to project new growth and corresponding capacity needs, as required by state law. The study (and corresponding maximum fees) must be restudied at least every five years. However, the study can be updated at any time to accommodate significant changes in any of the key variables of the impact fee equation.

Service Areas

A service area is a geographic area within which a unique maximum impact fee is determined. All fees collected within the service area must be spent on eligible improvements within the same service area. For roadway impact fees, the service area may not exceed 6 miles. Considering this restriction, the entire corporate boundary of the City of Sanger is proposed to be evaluated as one (1) service area.

Land Use Assumptions

The maximum roadway impact fee determination is required to be based on the projected growth and corresponding capacity needs in a 10-year window. This study considers the years 2024-2034.

To project future development in the 10-year window, growth assumptions were made based on the City of Sanger 2040 Comprehensive plan, parcel data, historical census data, existing and future known development characteristics, and input from City of Sanger staff. Acknowledging that development is ongoing and changing constantly, this study is based on conditions as they were on December 20, 2023.

In order to arrive at a reasonable projection of growth, existing residential and non-residential estimates were obtained using parcel data and aerial survey of existing developments. For the remaining undeveloped areas, assumptions were utilized based upon City of Sanger 2040 Comprehensive Plan, historical growth projections, and known planned developments. Consultation with City staff helped with finalizing the growth assumptions.

Capital Improvements Plan

The Capital Improvements Plan (CIP) is the list of projects eligible for funding through impact fees. Only those capacity improvements included in the City's Future Thoroughfare Plan are included in the CIP. Capacity improvements may include the widening of an existing roadway, addition of lanes, or the construction of a new roadway. Resurfacing or other maintenance activities do not qualify as capacity improvements under impact fee laws in Texas.

The cost of the CIP is one of the fundamental factors in the calculation of the per-unit maximum impact fee. The CIP's cost was calculated through systematic evaluation of each eligible project. The presence of any special conditions (such as the need for significant drainage improvements or railroad crossings) and whether various additional construction costs were applicable (such as construction phase traffic control) were considered. In determining project limits, the team identified roadway segments with uniform need. The team utilized a standard methodology for estimating construction costs. Referencing multiple roadway projects in Sanger's vicinity, uniform costs were determined for the major items of work, additional construction items, and project delivery costs. Chapter 4 provides a listing of the 10-Year CIP in Table 2 and map of the CIP in Exhibit 2. Finally, detailed cost projections by project can be found in Appendix A. It should be noted that these cost projections are based on conceptual level planning and are subject to refinement upon final design.

Only the projects listed in the CIP are eligible to utilize impact fee funds. Only the costs associated with providing the additional capacity necessitated by 10 years of growth can be used to calculate the maximum impact fee.

In order to calculate the maximum impact fee, the total cost of the CIP was reduced to account for:

- The portion of new capacity that will address existing needs, and
- The portion of new capacity that will not be necessitated until beyond the 10-year growth window.

A ratio that compares 10 years' demand for capacity to the net supply of capacity (total new capacity in the CIP minus existing needs) can be calculated. This ratio, which may not exceed 100%, is then applied to the cost of the net capacity supplied. The result is a determination of the costs attributable to the next 10 years' growth, which is then used to calculate the maximum impact fee in accordance with state law. The result is known as the Cost of the CIP Attributable to New Growth Between 2024-2034 (i.e. recoverable portion of the CIP):

SERVICE AREA:	SANGER
COST OF CAPACITY ADDED ATTRIBUTABLE TO NEW GROWTH	$ 220,690,065

Service Units

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."

The 2024 Roadway Impact Fee Study defines vehicle-miles as the service unit. Based on the City's 10-year growth projections, the associated demand (consumption) value in vehicle-miles is as follows:

SERVICE AREA:	SANGER
TOTAL VEH-MI OF NEW DEMAND OVER 10 YEARS	47,852

C. Impact Fee Calculation

The maximum impact fee allowable in the service area is then calculated by dividing the Cost of the CIP Attributable to New Growth by the projected vehicle-miles of demand in the service area in the above table. The resulting value is multiplied by 50% to account for ad valorem credits.

Below is the listing of the 2024 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

SERVICE AREA:	SANGER
MAX ASSESSABLE FEE PER SERVICE UNIT ($ PER VEH-MI)	$ 2,305

D. Chapter 395 Required Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of roadway impact fees. A Capital Improvements Advisory Committee (CIAC) is required to review the Land Use Assumptions and CIP used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This CIAC also reviews the roadway impact fee ordinance and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. The City Council then conducts a public hearing on the Land Use Assumptions, CIP, and roadway impact fee ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the CIP at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the roadway impact fee, once in place, and advises the City Council as necessary.

E. Collection and Use of Roadway Impact Fees

Roadway impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway impact fees are collected when a building permit is issued. Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can be used only within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.

2. INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure political subdivisions must follow in order to create and implement impact fees. Chapter 395 defines 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."

Accordingly, the City of Sanger has developed its Land Use Assumptions and Capital Improvements Plan with which to implement roadway impact fees. The City has retained Kimley-Horn and Associates to provide professional transportation engineering services for the 2024 Roadway Impact Fee Study. This report includes details of the roadway impact fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the Capital Improvements Plan, and refinement of the Land Use / Vehicle-Mile Equivalency Table.

This report introduces and references two of the basic inputs to the roadway impact fee:

1. Land Use Assumptions
2. Capital Improvements Plan

Information from the Land Use Assumptions and Capital Improvements Plan are used extensively throughout the remainder of the report.

There is a detailed discussion of the methodology for the computation of impact fees. This discussion is broken into three components:

1. Methodology for Roadway Impact Fees
2. Roadway Impact Fee Calculation
3. Plan for the Roadway Impact Fee Credit

The components of the Methodology for Roadway Impact Fees include development of:

- Service Area
- Service Units
- Cost Per Service Unit
- Capital Improvements Plan Costing Methodology
- Summary of Capital Improvements Plan
- Service Unit Calculation

The Roadway Impact Fee Calculation includes the determination of the:

- Maximum Assessable Impact Fee Per Service Unit
- Service Unit Demand Per Unit of Development

The Plan for the Roadway Impact Fee Credit outlines a 50% reduction of the Capital Improvements Plan as outlined in Chapter 395 of the Texas Local Government Code.

The final chapter of the report is the Conclusion, which presents the findings of the analysis and summarizes the report.

3. LAND USE ASSUMPTIONS

A. PURPOSE AND OVERVIEW

Chapter 395 of the Texas Local Government Code describes the procedure Texas political subdivisions must follow in order to assess impact fees for new development. The first step required in updating impact fees is the development of Land Use Assumptions. These Land Use Assumptions, which include both residential and non-residential estimates, form the basis for the development of impact fees for roadway facilities.

Reasonable future growth estimates are necessary in order to aid the City of Sanger in establishing the need for roadway projects required to serve future development. In accordance with Chapter 395, Kimley-Horn has compiled the information required to complete the Land Use Assumptions using the following sources:

- City of Sanger 2040 Comprehensive Plan;
- Parcel Data Information from Denton Central Appraisal District;
- Historical Census Data;
- Aerial Overview of City Development Potential; and
- City of Sanger Staff.

The Land Use Assumptions include the following components:

1. Land Use Assumptions Methodology – Overview of the general methodology used to generate the land use assumptions.
2. Impact Fee Service Area – Determination of the Sanger service area for roadway impact fees.
3. Data Format – Discussion into the categorical groupings assumed for roadway impact fees.
4. 10-Year Growth Summary – Data on residential and non-residential growth within each service area over the next 10 years (2024-2034).
5. Land Use Assumptions Summary – Synopsis of the land use assumptions.

B. Land Use Assumptions Methodology

The residential and non-residential growth projections formulated in this chapter were done using reasonable and generally accepted planning principles. The following factors were considered in developing these projections:

- Character, type, density, and quantity of existing development;
- Known planned developments;
- Location of vacant land;
- Historical population growth; and
- Input from City of Sanger staff.

Existing residential and non-residential data was compiled using parcel data and aerial survey of existing developments. For the remaining undeveloped areas, assumptions were utilized based upon City of Sanger 2040 Comprehensive Plan, historical growth projections, and known planned developments. Consultation with City staff helped with finalizing the growth assumptions.

C. Impact Fee Service Area

According to Chapter 395 of the Local Government Code, a service area refers to the area within the corporate boundaries or extraterritorial jurisdiction of the political subdivision to be served by the capital improvements or facilities specified in the impact fee. Funds collected in the specific service areas must be spent in the service area collected.

The geographic boundary of the proposed impact fee service area for roadway facilities is shown in Exhibit 1. The roadway service area covers the entire corporate boundary of the City of Sanger. Chapter 395 of the Texas Local Government Code specifies that "the service area is limited to an area within the corporate boundaries of a political subdivision and shall not exceed six (6) miles."

The City of Sanger is proposed to be considered as one (1) service area for roadway impact fee purposes. For roadway facilities, the service area is limited to those areas within the current corporate limits. Therefore, areas within the extraterritorial jurisdiction (ETJ) are excluded from the study.

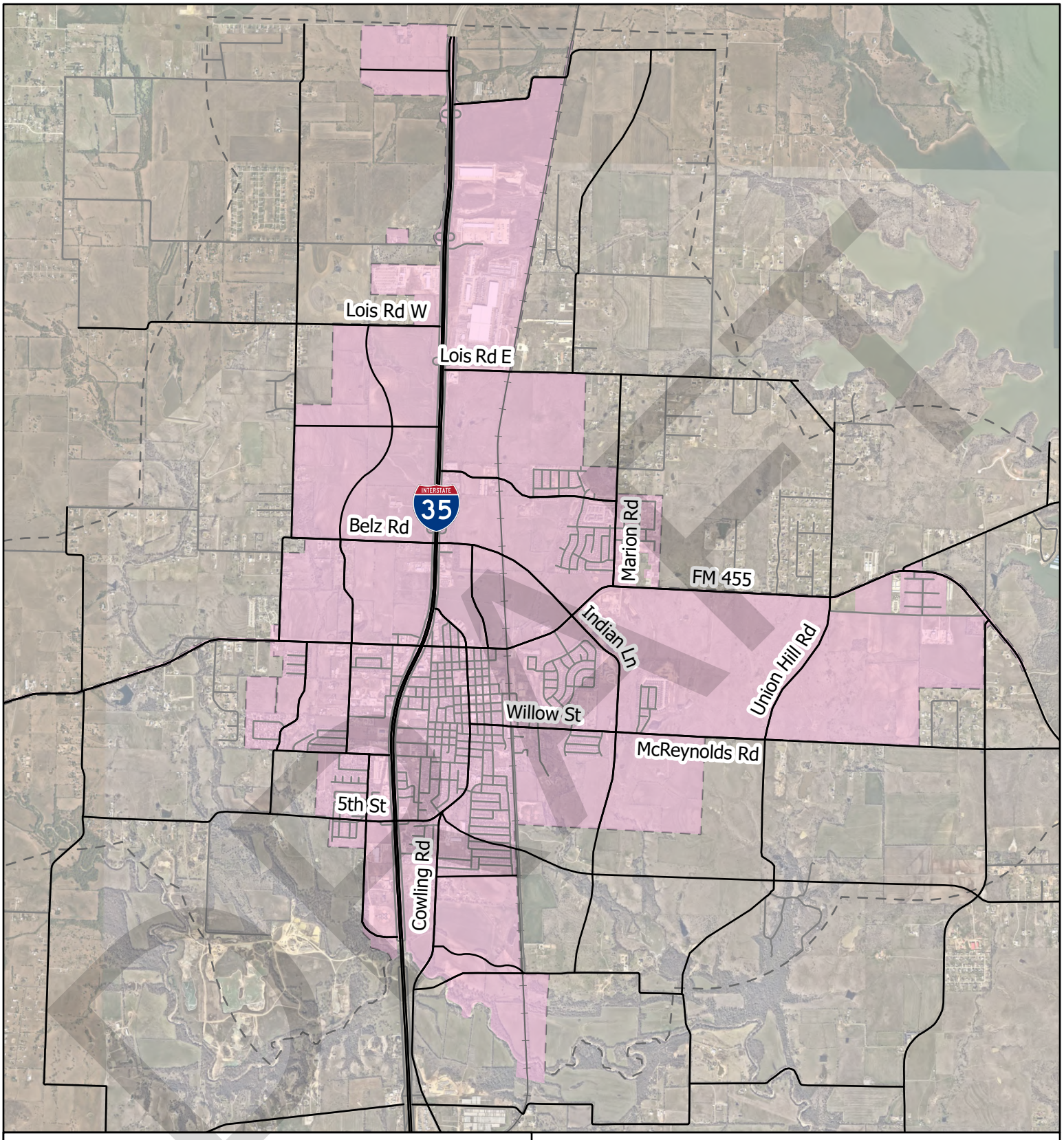


Exhibit 1
Roadway Service Area Map

EST. 1886 SANGER TEXAS

N

0 0.5 1 Miles

Legend

- Service Area
- ETJ
- Railroads
- Thoroughfare Plan Network
- Local Roads

D. Data Format

The residential and non-residential estimates were all compiled in accordance with the following categories and format:

- Residential Units – Number of dwelling units, both single-family and multifamily.
- Non-Residential Units – Square feet of building area based on three (3) different classifications:
    - Basic: Land use activities that produce goods and services, including those that are exported outside the local economy (i.e. manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses).
    - Service: Land use activities which provide personal and professional services such as government and other professional and administrative offices.
    - Retail: Land use activities which provide for the retail sale of goods that primarily serve households and whose location choice is oriented toward the household sector (i.e. grocery stores and restaurants).

E. 10-Year Growth Summary

Table 1 summarizes the residential and non-residential 10-year growth projections within the roadway service area. These projections were prepared based upon existing land use, anticipated future land use, and consultation with City staff.

Table 1. Residential and Non-Residential Growth Projections (2024 – 2034)

Condition	Residential (Dwelling Units)		Non-Residential (Square Feet)		
	Single-Family	Multifamily	Basic	Service	Retail
2023 (Existing)	3,228	805	1,113,500	978,500	1,620,000
2033 (3% Annual Growth)	4,338	1,082	1,496,500	1,315,000	2,177,000
Net Growth	***1,110***	***277***	***383,000***	***336,500***	***557,000***
Known Planned Developments	2,138	1,160	2,071,000	152,000	608,000
Total Projected Growth	***3,248***	***1,437***	***2,454,000***	***488,500***	***1,165,000***

F. Land Use Assumptions Summary

The following is a summary of the land use assumptions for roadway impact fees. The roadway land use assumptions are confined to growth projected within the City Limits. The 10-year (2024-2034) growth projections are:

- Residential
  - Single-Family = 3,248 Dwelling Units
  - Multifamily = 1,437 Dwelling Units
- Non-residential
  - Basic = 2,454,000 ft^2
  - Service = 488,500 ft^2
  - Retail = 1,165,000 ft^2

4. CAPITAL IMPROVEMENTS PLAN

The City has identified the roadway projects needed to accommodate the projected growth within the City. The City of Sanger Future Thoroughfare Plan is the ultimate plan for the infrastructure within the City Limits. Only capacity improvements still needed to build out the Future Thoroughfare Plan to accommodate the expected growth within the next 10 years are included in the Capital Improvements Plan. The Capital Improvements Plan includes arterial and collector roadway facilities and consists of four (4) categories of projects. They are as follows:

- New – Any future roadway identified by the City to be included in the Capital Improvements Plan.
- Widening – Existing roadways not currently built to the ultimate classification in the Future Thoroughfare Plan and must be completely reconstructed.
- 1/3 Widening – Existing roadways that only have one-third of the ultimate cross section to be built.
- Construction – Roadway currently under construction which the City has contributed funds towards.

All the roadway facilities identified are part of the currently adopted Future Thoroughfare Plan. For costing purposes, four-lane divided cross sections are assumed for principal arterial facilities, four-lane undivided cross sections are assumed for minor arterial facilities, and two-lane undivided cross sections are assumed for collector facilities. A thoroughfare's costing assumptions may be assumed with an alternative cross section depending on existing adjacent facilities.

The proposed Capital Improvements Plan is listed in Table 2 and mapped in Exhibit 2. The table shows the length of each project as well as the facility's impact fee classification. The Capital Improvements Plan was developed in conjunction with input from City of Sanger staff and represents those projects that will be needed to accommodate the growth projected in Chapter 3. Land Use Assumptions.

Table 2. Capital Improvements Plan

Service Area	Proj. #	Roadway	Limits	Project Type	Length (mi)	% In Service Area
Sanger	1	North Metz to I-35 Connector	3,030' W of I-35 SBFR to I-35 SBFR	New	0.57	100%
	2	Chisam Rd	I-35 NBFR to 4,375' E of I-35 NBFR	Widening	0.83	100%
	3	Lois Rd W	3,645' W of I-35 SBFR to I-35 SBFR	Widening	0.69	100%
	4	Lois Rd E (1)	I-35 NBFR to 525' E of I-35 NBFR	Widening	0.10	100%
	5	Lois Rd E (2)	525' E of I-35 NBFR to 775' E of I-35 NBFR	New	0.05	100%
	6	Lois Rd E (3)	775' E of I-35 NBFR to 2,255' E of I-35 NBFR	Widening	0.28	100%
	7	South Metz to I-35 Connector	4,935' W of I-35 SBFR to I-35 SBFR	New	0.93	100%
	8	Utility Rd	I-35 NBFR to 1,920' E of I-35 NBFR	Widening	0.36	100%
	9	Belz Rd	Metz Rd to I-35 SBFR	Widening	0.91	100%
	10	Indian Ln (1)	I-35 SBFR to FM 455	New	1.07	100%
	11	Indian Ln (2)	1,290' N of McReynolds Rd to McReynolds Rd	Widening 1/3	0.24	100%
	12	Indian Ln (3)	McReynolds Rd to 3,365' S of McReynolds Rd	New	0.64	100%
	13	FM 455 (1)	FM 2450 to 830' E of Marion Rd	Construction	5.47	100%
	14	FM 455 (2)	830' E of Marion Rd to 2,110' S of FM 2164	Widening	2.84	100%
	15	Willow St	Cowling Rd to Indian Ln	Widening	0.95	100%
	16	McReynolds Rd	Indian Ln to 600' E of PR 6630	Widening	1.08	100%
	17	5th St	Keaton Rd to I-35 SBFR	Widening	0.17	100%
	18	Cowling to Railroad Connector	Cowling Rd to Railroad Ave	New	0.52	100%
	19	Rector Rd	2,730' W of Railroad Ave to Railroad Ave	New	0.52	100%
	20	N Tejas Dr	1,245' S of FM 455 to 1,490' N of Duck Creek Rd	New	0.25	100%
	21	Jennifer Cir (1)	Lois Rd W to Belz Rd	New	1.54	100%
	22	Jennifer Cir (2)	Belz Rd to 1,555' S of Belz Rd	Widening	0.29	100%
	23	Jennifer Cir (3)	1,555' S of Belz Rd to Keith Dr	New	0.13	100%
	24	Keith Dr	Jennifer Cir to FM 455	Widening	0.27	100%
	25	Cowling Rd	5th St to 3,335' S of Cowling to Railroad Connector	Widening	1.06	100%
	26	2nd St	Indian Ln to FM 455	New	0.69	100%
	27	Marion Rd	270' N of Avion Dr to FM 455	Widening	0.60	100%
	28	Union Hill Rd	FM 455 to McReynolds Rd	New	1.04	100%

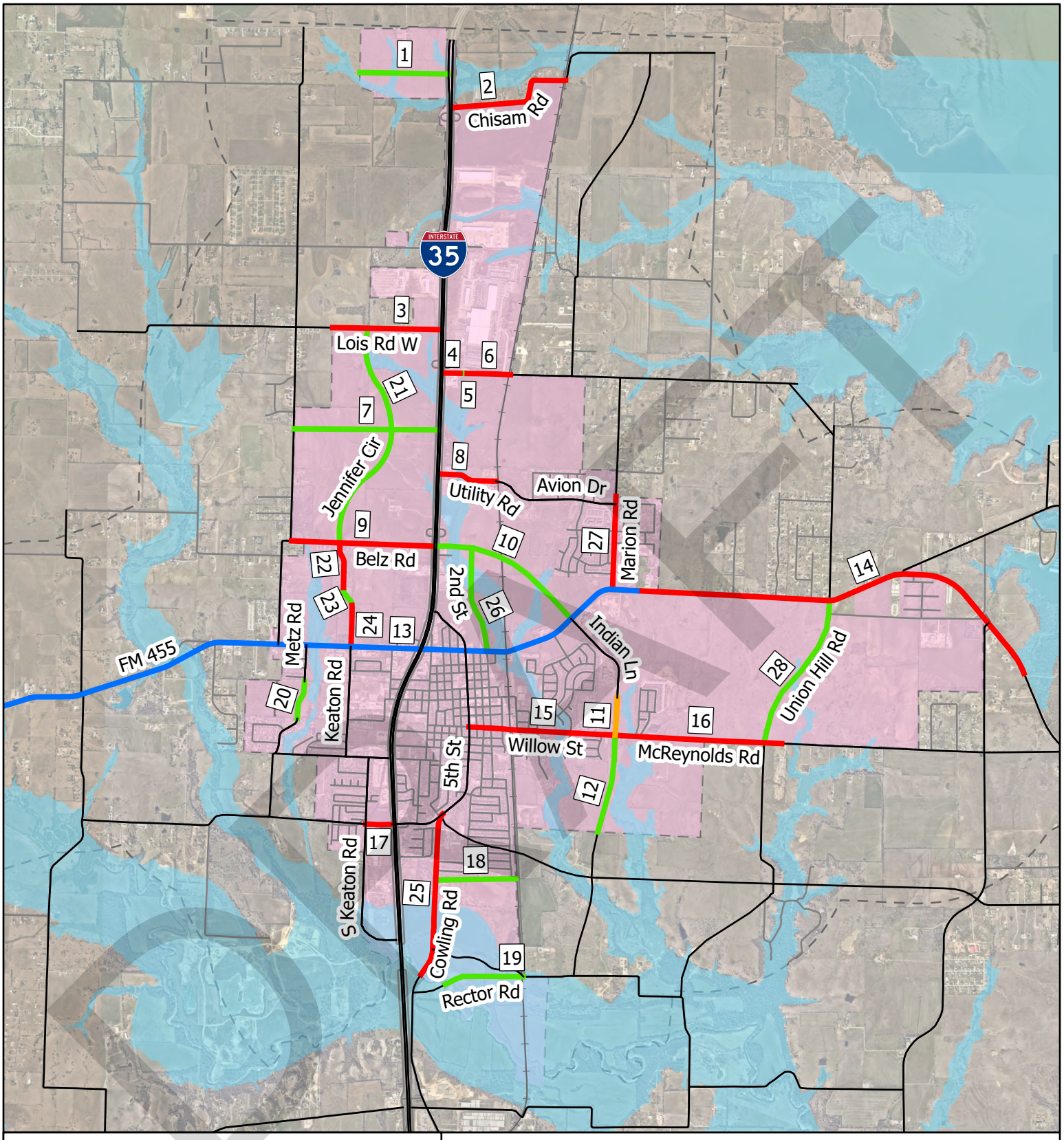


Exhibit 2
Capital Improvements Plan

SANGER
EST. 1886
TEXAS

N

0 0.5 1 Miles

Legend

- Service Area
- ETJ
- Floodplain
- Railroads
- Local Roads

Project Type

- New
- Widening
- Widening 1/3
- Construction
- Thoroughfare Plan Network

5. METHODOLOGY FOR ROADWAY IMPACT FEES

A. SERVICE AREA

The one (1) service area used in the 2024 Roadway Impact Fee Study is shown in the previously referenced Exhibit 1. This service area covers the entire corporate boundary of the City of Sanger. 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 area in the 2024 Roadway Impact Fee Study is consistent with the specification of Chapter 395 of the Texas Local Government Code.

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 in the 2024 Roadway Impact Fee Study to quantify the supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile as explained below:

- Vehicle-Mile: The capacity consumed in a single lane in the PM peak hour by a vehicle making a trip one mile in length. The PM peak hour is used as the basis for transportation planning and the estimation of trips caused by new development.
- Total Vehicle-Miles of Supply: Based on the total length (miles), number of lanes, and capacity (vehicles per hour) (see Appendix B).
- Total Vehicle-Miles of Demand: Based on the 10-year growth projections. The demand is equal to PM Trip Rate (trips) * Trip Length (miles).

The hourly service volumes used in the 2024 Roadway Impact Fee Study are based upon thoroughfare capacity criteria published by the North Central Texas Council of Governments (NCTCOG) and applied to the City of Sanger's thoroughfare classifications. Table 3 and Table 4 show the service volumes as a function of the Impact Fee classification and existing cross sections, respectively.

Table 3. Service Volumes for Proposed Facilities

Roadway Type (Impact Fee Classifications)	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
Principal Arterial	Four-Lane Divided	650
Minor Arterial	Four-Lane Undivided	525
Collector	Two-Lane Undivided	425

Table 4. Service Volumes for Existing Facilities

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
3U	Three-Lane Undivided	525
2U	Two-Lane Undivided	425
2U-G	Two-Lane Undivided (Gravel or Dirt)	150

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 roadway impact fees, this is the cost for each vehicle-mile of travel. Thus, it is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel. The cost per service unit is calculated for each service area based on the roadway projects within that service area.

The second component of the cost per service unit is the determination of 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 10-year period. Chapter 395 requires that roadway impact fees be assessed only to pay for growth projected to occur in the City Limits within the next 10 years. As noted earlier, the units of demand are vehicle-miles of travel.

D. Capital Improvements Plan Costing Methodology

All of the project costs for a facility which serves the overall transportation system are eligible to be included in the Capital Improvements Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "…including and limited to the:

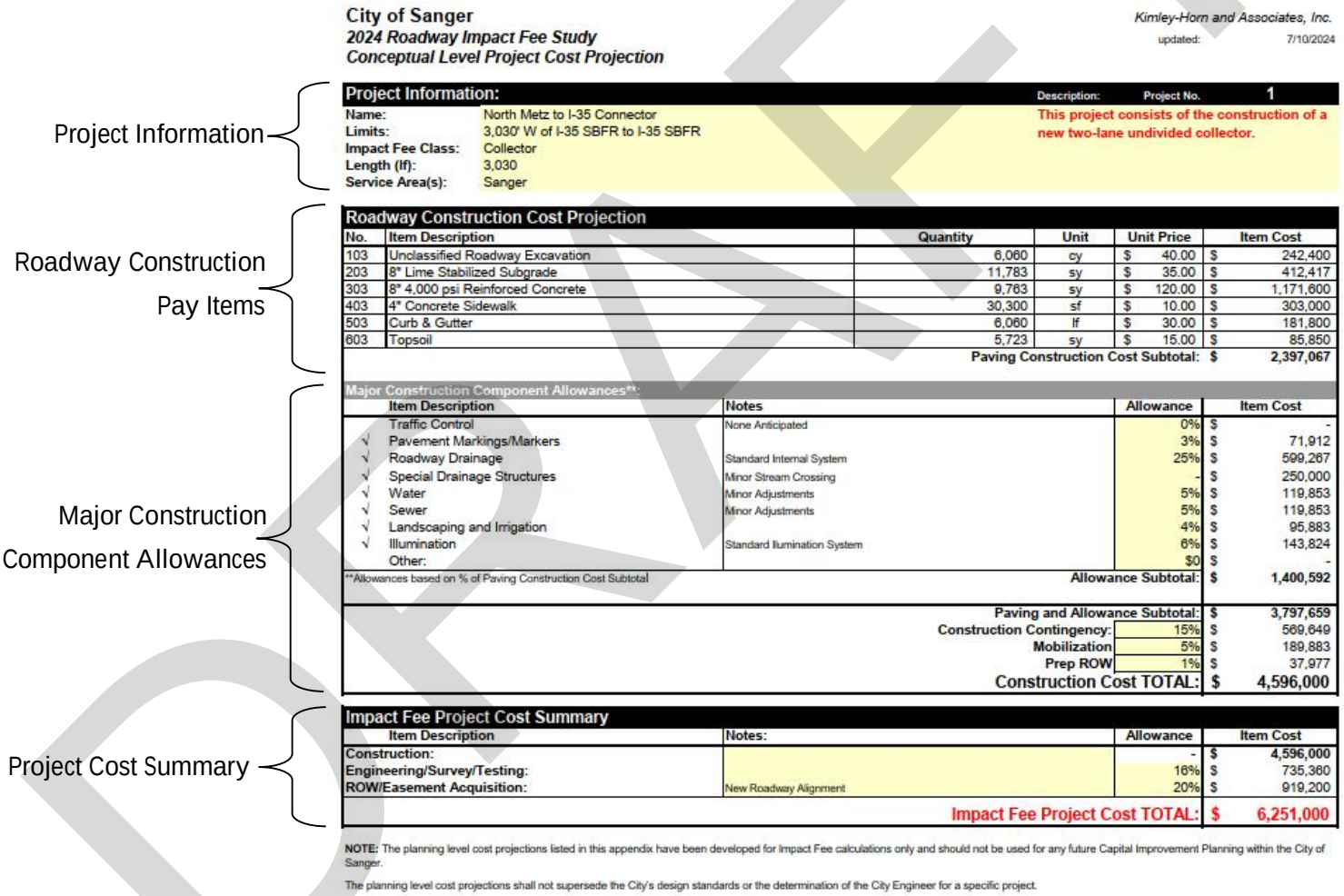
1. Construction contract price;
2. Surveying and engineering fees;
3. Land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
4. Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing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

The engineer's opinion of the probable costs of the projects in the Capital Improvements Plan 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 drainage structures and railroad crossings are added to each project as appropriate. The following is a detailed description of the costing worksheet/methodology for the Capital Improvements Plan. Where actual City contributions to a project's cost are known, the specific cost amounts are utilized in lieu of the conceptual level project cost projections.

Overview of Capital Improvements Plan Costing Worksheets

A specific costing worksheet has been developed for each project (see Appendix A). Each worksheet contains project information, construction pay items, construction component allowances, and a summary of costs and allowances. An example costing sheet can be seen below.



City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information: Description: Project No. 1

Name:	North Metz to I-35 Connector
Limits:	3,030' W of I-35 SBFR to I-35 SBFR
Impact Fee Class:	Collector
Length (lf):	3,030
Service Area(s):	Sanger

This project consists of the construction of a new two-lane undivided collector.

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	6,060	cy	$ 40.00	$ 242,400
203	8" Lime Stabilized Subgrade	11,783	sy	$ 35.00	$ 412,417
303	8" 4,000 psi Reinforced Concrete	9,763	sy	$ 120.00	$ 1,171,600
403	4' Concrete Sidewalk	30,300	sf	$ 10.00	$ 303,000
503	Curb & Gutter	6,060	lf	$ 30.00	$ 181,800
603	Topsoil	5,723	sy	$ 15.00	$ 85,850
				Paving Construction Cost Subtotal:	$ 2,397,067

Major Construction Component Allowances**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 71,912
√	Roadway Drainage	Standard Internal System	25%	$ 599,267
√	Special Drainage Structures	Minor Stream Crossing	-	$ 250,000
√	Water	Minor Adjustments	5%	$ 119,853
√	Sewer	Minor Adjustments	5%	$ 119,853
√	Landscaping and Irrigation		4%	$ 95,883
√	Illumination	Standard Ilumination System	6%	$ 143,824
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	$ 1,400,592

Paving and Allowance Subtotal:		$ 3,797,659
Construction Contingency:	15%	$ 569,649
Mobilization	5%	$ 189,883
Prep ROW	1%	$ 37,977
Construction Cost TOTAL:		$ 4,596,000

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	$ 4,596,000
Engineering/Survey/Testing:		16%	$ 735,360
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 919,200
		Impact Fee Project Cost TOTAL:	$ 6,251,000

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 Sanger.

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

Project Information

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

- Project Number – Identifies each project with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects.
- Name – A unique identifier for each project.

- 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 proposed Future Thoroughfare Plan classification of the roadway. An additional classification is utilized for Indian Lane (2) where a portion of the facility currently exists and the road is only to be partially widened. The following notation is used for this project:
    - "(1/3)" for facilities where one additional lane is to be constructed to match the existing, adjacent section of Indian Lane.
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Service Area – Represents the service area where the project is located.
- Description – Used to describe the project type assumed in the costing such as a widening or a new project.

Roadway Construction Pay Items

A typical roadway project consists of several costs, including planning, survey, design engineering, permitting, right-of-way acquisition, construction, and inspection. While the construction cost component of a project may actually consist of hundreds of various pay items, a simplified approach was used for developing the conceptual level project costs. The roadway construction components pay items are listed below:

- Unclassified Roadway Excavation
- Lime-Treated Subgrade
- Reinforced Concrete
- Concrete Sidewalk
- Curb & Gutter
- Topsoil
- Turn Lanes and Median Openings

Major Construction Component Allowances

A percentage of the paving construction cost is allotted for various major construction component allowances, as appropriate. These allowances include traffic control, pavement markings, roadway drainage, utility adjustments, landscaping, and illumination.

Lump sum dollar allowances are provided for special drainage structures and railroad crossings where needs are anticipated.

The paving and allowance subtotal is given a fifteen percent (15%) contingency, five percent (5%) mobilization, and either five (5%) or one percent (1%) preparation of right-of-way (ROW) based on whether the project is new or existing to determine the construction cost total.

Project Cost Summary

To determine the total Impact Fee Project Cost, sixteen percent (16%) of the construction cost total is added for engineering, surveying, and testing.

Percentages are also allotted for ROW/easement acquisition. ROW/easement acquisition was based on whether the project was an existing alignment or future alignment. For an existing alignment, the ROW/easement acquisition cost was provided an allotment equal to ten percent (10%) of the construction cost total. For a new alignment, the ROW/easement acquisition cost was equal to twenty percent (20%) of the constriction cost total. The value for ROW/easement acquisition is an estimated contribution allocation and does not represent actual ROW/easement acquisition needs. TxDOT facilities and partial widening projects assumed no ROW/easement acquisition.

The Impact Fee Project Cost Total is the Construction Cost Total plus engineering, surveying, testing, and inspection, plus ROW/easement acquisition. Based upon discussions with City of Sanger staff, state highway projects were included with a projected City contribution of twenty percent (20%) of the total project cost.

E. Summary of Capital Improvements Plan

Table 5 provides the Capital Improvements Plan list for the service area with planning level project costs. Individual project cost worksheets are provided in Appendix A, Conceptual Level Project Cost Projections. 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 precisely predicted.

The Capital Improvements Plan establishes the list of projects for which Roadway Impact Fees may be utilized. Projects not included in the Capital Improvements Plan are not eligible to receive impact fee funding. The cost projections utilized in this study should not be utilized for the City's building program or construction CIP.

Table 5. 10-Year Capital Improvements Plan with Conceptual Level Cost Projections

Service Area	Proj. #	Roadway	Limits	Project Type	Length (mi)	% In Service Area	Total Project Cost	Total Cost in Service Area
Sanger	1	North Metz to I-35 Connector	3,030' W of I-35 SBFR to I-35 SBFR	New	0.57	100%	$ 6,251,000	$ 6,251,000
	2	Chisam Rd	I-35 NBFR to 4,375' E of I-35 NBFR	Widening	0.83	100%	$ 10,309,000	$ 10,309,000
	3	Lois Rd W	3,645' W of I-35 SBFR to I-35 SBFR	Widening	0.69	100%	$ 11,535,000	$ 11,535,000
	4	Lois Rd E (1)	I-35 NBFR to 525' E of I-35 NBFR	Widening	0.10	100%	$ 1,549,000	$ 1,549,000
	5	Lois Rd E (2)	525' E of I-35 NBFR to 775' E of I-35 NBFR	New	0.05	100%	$ 745,000	$ 745,000
	6	Lois Rd E (3)	775' E of I-35 NBFR to 2,255' E of I-35 NBFR	Widening	0.28	100%	$ 6,333,000	$ 6,333,000
	7	South Metz to I-35 Connector	4,935' W of I-35 SBFR to I-35 SBFR	New	0.93	100%	$ 9,509,000	$ 9,509,000
	8	Utility Rd	I-35 NBFR to 1,920' E of I-35 NBFR	Widening	0.36	100%	$ 4,448,000	$ 4,448,000
	9	Belz Rd	Metz Rd to I-35 SBFR	Widening	0.91	100%	$ 15,788,000	$ 15,788,000
	10	Indian Ln (1)	I-35 SBFR to FM 455	New	1.07	100%	$ 19,659,000	$ 19,659,000
	11	Indian Ln (2)	1,290' N of McReynolds Rd to McReynolds Rd	Widening 1/3	0.24	100%	$ 725,000	$ 725,000
	12	Indian Ln (3)	McReynolds Rd to 3,365' S of McReynolds Rd	New	0.64	100%	$ 6,484,000	$ 6,484,000
	13	FM 455 (1)	FM 2450 to 830' E of Marion Rd	Construction	5.47	100%	$ 7,850,949	$ 7,850,949
	14	FM 455 (2)	830' E of Marion Rd to 2,110' S of FM 2164	Widening	2.84	100%	$ 11,020,000	$ 11,020,000
	15	Willow St	Cowling Rd to Indian Ln	Widening	0.95	100%	$ 18,725,000	$ 18,725,000
	16	McReynolds Rd	Indian Ln to 600' E of PR 6630	Widening	1.08	100%	$ 21,576,000	$ 21,576,000
	17	5th St	Keaton Rd to I-35 SBFR	Widening	0.17	100%	$ 489,000	$ 489,000
	18	Cowling to Railroad Connector	Cowling Rd to Railroad Ave	New	0.52	100%	$ 8,167,000	$ 8,167,000
	19	Rector Rd	2,730' W of Railroad Ave to Railroad Ave	New	0.52	100%	$ 8,141,000	$ 8,141,000
	20	N Tejas Dr	1,245' S of FM 455 to 1,490' N of Duck Creek Rd	New	0.25	100%	$ 2,545,000	$ 2,545,000
	21	Jennifer Cir (1)	Lois Rd W to Belz Rd	New	1.54	100%	$ 16,029,000	$ 16,029,000
	22	Jennifer Cir (2)	Belz Rd to 1,555' S of Belz Rd	Widening	0.29	100%	$ 2,965,000	$ 2,965,000
	23	Jennifer Cir (3)	1,555' S of Belz Rd to Keith Dr	New	0.13	100%	$ 1,359,000	$ 1,359,000
	24	Keith Dr	Jennifer Cir to FM 455	Widening	0.27	100%	$ 2,679,000	$ 2,679,000
	25	Cowling Rd	5th St to 3,335' S of Cowling to Railroad Connector	Widening	1.06	100%	$ 19,706,000	$ 19,706,000
	26	2nd St	Indian Ln to FM 455	New	0.69	100%	$ 9,052,000	$ 9,052,000
	27	Marion Rd	270' N of Avion Dr to FM 455	Widening	0.60	100%	$ 10,573,000	$ 10,573,000
	28	Union Hill Rd	FM 455 to McReynolds Rd	New	1.04	100%	$ 16,773,000	$ 16,773,000
							Project Cost Subtotal	**$ 250,984,949**
							Roadway Impact Fee Study Cost	**$ 50,000**
							Total Cost	**$ 251,034,949**

F. Service Unit Calculation

The basic service unit for the computation of the City of Sanger's roadway impact fee is the vehicle-mile of travel during the PM 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 10-year period.

The growth in vehicle-miles from 2024 to 2034 is based upon projected changes in residential and non-residential growth for the period. These growth projections are discussed in Chapter 3. Land Use Assumptions.

The residential and non-residential statistics in the Land Use Assumptions provide the "independent variables" that are used to calculate the existing (2024) and projected (2034) transportation service units (vehicle-miles) used to establish the roadway impact fee maximum rates within the service area. The roadway demand service units (vehicle-miles) for the 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 number of dwelling units in each service area is multiplied by a transportation demand factor to compute the vehicle-miles of travel that occur during the PM peak hour. This factor computes the average amount of demand caused by the residential land uses in the service area. The transportation demand factor is discussed in more detail later in this section.

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

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, 11th 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 the service area.

The transportation demand factors are aggregate rates derived from three sources – the ITE Trip Generation Manual, 11th Edition, NCTCOG, and open-source data specific to Sanger.

ITE's Trip Generation Manual, 11th 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. 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 region-wide travel characteristics survey conducted by NCTCOG, open-source data specific to Sanger, and other generally accepted planning principles.

The computation of the transportation demand factor is based on the following equation:

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

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

Variables:

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

The maximum trip length was limited to six (6) miles based on the maximum trip length within the City Limits. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles.

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 Sanger 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.

Table 6 shows the derivation of the Transportation Demand Factor for the two (2) 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 6. Transportation Demand Factor Calculations

Variable	Residential		Basic	Service	Retail
	Single-Family	Multifamily			
T	0.94	0.51	0.65	1.44	3.40
P_b	0%	0%	0%	0%	29%
L_{max}*	5.17	5.17	6.00	6.00	5.15
TDF	***4.86***	***2.64***	***3.90***	***8.64***	***12.43***

The application of the demographic projections and the transportation demand factors are presented in the 10-Year Growth Projections in Table 7. This table shows the total growth projected in total vehicle-miles by service area between the years 2024 and 2034. These estimates and projections lead to the Vehicle-Miles of Travel for the 10-year period.

Table 7. 10-Year Growth Projections

2024 - 2034 Growth Projections[1]

SERVICE AREA	RESIDENTIAL VEHICLE-MILES					NON-RESIDENTIAL SQUARE FEET[5]			TRANS. DEMAND FACTOR[6]			NON-RESIDENTIAL VEHICLE-MILES[10]				TOTAL
	SINGLE-FAMILY UNITS	Trip Rate TDF[2]	MULTIFAMILY UNITS	Trip Rate TDF[3]	VEHICLE MILES[4]	BASIC	SERVICE	RETAIL	BASIC[7]	SERVICE[8]	RETAIL[9]	BASIC	SERVICE	RETAIL	TOTAL	VEHICLE MILES[11]
		0.94		*0.51*					*0.65*	*1.44*	*3.40*					
SANGER	3,248	4.86	1,437	2.64	19,579	2,454,000	488,500	1,165,000	3.90	8.64	12.43	9,571	4,221	14,481	28,273	47,852

VEHICLE-MILES OF INCREASE (2024 - 2034)

SERVICE AREA	VEH-MILES
SANGER	47,852

Notes:

[1] From Chapter 3: Land Use Assumptions
[2] Transportation Demand Factor (from LUVMET) using Single-Family Detached Housing land use and trip generation rate
[3] Transportation Demand Factor (from LUVMET) using Multifamily Housing (Low-Rise) land use and trip generation rate
[4] Calculated by multiplying TDF by the number of dwelling units
[5] From Chapter 3: Land Use Assumptions
[6] Trip generation rate and Transportation Demand Factors from LUVMET for each land use
[7] 'Basic' corresponds to General Light Industrial land use and trip generation rate
[8] 'Service' corresponds to General Office Building land use and trip generation rate
[9] 'Retail' corresponds to Shopping Center (>150k SF) land use and trip generation rate
[10] Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
[11] Residential plus non-residential vehicle-mile totals

6. ROADWAY IMPACT FEE CALCULATION

A. MAXIMUM ASSESSABLE IMPACT FEE PER SERVICE UNIT

This chapter presents the maximum assessable impact fee rate calculated for the service area. The maximum assessable impact fee is the sum of the eligible Capital Improvements Plan 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 chapters. The purpose of this section is to document the computation and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed.

Tables 8-9 illustrate the computation of the maximum assessable impact fee. Each row in the tables is numbered to simplify explanation of the calculation. The calculation of the maximum assessable impact fee is shown in Table 10.

Table 8. Maximum Assessable Roadway Impact Fee Computation

Line	Title	Description
1	*Total Vehicle-Miles of Capacity Added by the Capital Improvements Plan*	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 – Capital Improvements Plan Service Units of Supply)

Each project identified in the Capital Improvements Plan 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	*Total Vehicle-Miles of Existing Demand*	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from Appendix B – Capital Improvements Plan Service Units of Supply)

A number of facilities identified in the Capital Improvements Plan have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently being used by existing traffic.

3	*Total Vehicle-Miles of Existing Deficiencies*	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 thoroughfare within the service area that is deficient, even those not identified on the Capital Improvements Plan, will have these additional vehicle-miles removed from the calculation.

4	*Net Amount of Vehicle-Miles of Capacity Added*	A measurement of the amount of vehicle-miles added by the Capital Improvements Plan that will not be utilized by existing demand. (Line 1 – Line 2 – Line 3)

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

5	*Total Cost of the Capital Improvements Plan within the Service Area*	The total cost of the Capital Improvements Plan projects within each service area (from Table 5: 10-Year Capital Improvements Plan with Conceptual Level Cost Projections)

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

6	*Cost of Net Capacity Supplied*	The total Capital Improvements Plan 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 Capital Improvements Plan available to serve future growth to the total vehicle-miles added, the total cost of the Capital Improvements Plan is reduced to the amount available for future growth (i.e. excluding existing usage and deficiencies).

7	*Cost to Meet Existing Needs and Usage*	The difference between the Total Cost of the Capital Improvements Plan within the Service Area (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 Capital Improvements Plan that is required to meet existing demand.

8	*Total Vehicle-Miles of New Demand over 10 Years*	Based upon the growth projection provided in Chapter 3: Land Use Assumptions, an estimate of the number of new vehicle-miles within the service area over the next ten years (from Table 7)

This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next 10 years.

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

In order to ensure that the vehicle-miles added by the Capital Improvements Plan do not exceed the amount needed to accommodate growth beyond the 10-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the Capital Improvements Plan exceeds the growth projected to occur in the next ten years, the Capital Improvements Plan cost is reduced accordingly.

11	*Cost of Capacity Added Attributable to New Growth*	The result of multiplying the Cost of Net Capacity Supplied (Line 6) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 10). (Line 6 * Line 10)

This value is the total Capital Improvements Plan project costs (excluding financial costs) that may be recovered through impact fees. This line considers the limitations to impact fees required by the Texas legislature.

12	*Pre-Credit Maximum Fee Per Service Unit*	Found by dividing the Cost of Capacity Added Attributable to New Growth (Line 11) by the Total Vehicle-Miles of New Demand Over 10 Years (Line 8). (Line 11 / Line 8)

This value is the total pre-credit maximum fee per service unit that may be recovered through impact fees.

B. Plan for the Roadway Impact Fee Credit

Chapter 395 of the Texas Local Government Code requires the Capital Improvements Plan 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 City of Sanger has determined the maximum assessable impact fee per service unit shall be 50% of the total projected cost of implementing the Capital Improvements Plan. Therefore, the Credit Calculation (Line 13) is assumed to be half of the Cost of the Capacity Added Attributable to Growth (Line 11). The sum of these values represents the Recoverable Cost of the Capital Improvements Plan (Line 14). The Maximum Assessable Fee Per Service Unit (Line 15) is then found dividing the Recoverable Cost of the Capital Improvements Plan (Line 14) by the Total Vehicle-Miles of Demand over 10 Years (Line 8). Table 9 summarizes the additional computations carried out to provide the maximum assessable impact fee.

Table 9. Maximum Assessable Roadway Impact Fee Computation (continued)

Line	Title	Description
13	*Credit Calculation*	Assumed to be 50% of the Cost of Capacity Added Attributable to New Growth (Line 11) as allowed by Chapter 395. (Line 11 * 50%)
14	*Recoverable Cost of Capital Improvements Plan*	The sum of the Cost of Capacity Added Attributable to New Growth (Line 11) and the Credit Calculation (Line 13). (Line 11 + Line 13)
15	*Maximum Assessable Fee Per Service Unit*	Found by dividing the Recoverable Cost of the Capital Improvements Plan (Line 14) by the Total Vehicle-Miles of New Demand Over 10 Years (Line 8). (Line 14 / Line 8)

Table 10 summarizes the calculations walked through in Tables 8 – 9 and provides the maximum assessable impact fee for the service area.

Table 10. Maximum Assessable Roadway Impact Fee

SERVICE AREA:		SANGER
1	TOTAL VEH-MI OF CAPACITY ADDED BY CIP (FROM CIP UNITS OF SUPPLY, **APPENDIX B**)	45,591
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM CIP UNITS OF SUPPLY, **APPENDIX B**)	5,455
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING ROADWAY FACILITIES INVENTORY, **APPENDIX C**)	56
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	40,080
5	TOTAL COST OF CIP WITHIN SERVICE AREA (FROM **TABLE 5**)	$ 251,034,949
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	$ 220,690,065
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	$ 30,344,884
8	TOTAL VEH-MI OF NEW DEMAND OVER 10 YEARS (FROM **TABLE 7** AND **LAND USE ASSUMPTIONS**)	47,852
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	119.4%
10	CHAPTER 395 CHECK (IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE)	100.0%
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO NEW GROWTH (LINE 6 * LINE 10)	$ 220,690,065
12	PRE-CREDIT MAX FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 11 / LINE 8)	$ 4,611
13	CREDIT CALCULATION (50% OF LINE 11)	$ (110,345,033)
14	RECOVERABLE COST OF CIP (LINE 11 + LINE 13)	$ 110,345,032
15	MAX ASSESSABLE FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 14 / LINE 8)	$ 2,305

C. 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 will utilize the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in Table 11. This table lists the predominant land uses that may occur within the City of Sanger. 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, and industrial.

The trip rates presented for each land use are a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the PM 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, 11th Edition, the latest edition. 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 11th 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 trip length values are based on land use, as explained in Section 5.F. Service Unit Calculation.

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 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 11. 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	Acres	6.55			6.55	19.33	50%	9.66	6.00	**39.30**
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.65			0.65	19.33	50%	9.66	6.00	**3.90**
Industrial Park	130	1,000 SF GFA	0.34			0.34	19.33	50%	9.66	6.00	**2.04**
Warehousing	150	1,000 SF GFA	0.18			0.18	19.33	50%	9.66	6.00	**1.08**
Mini-Warehouse	151	1,000 SF GFA	0.15			0.15	19.33	50%	9.66	6.00	**0.90**
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Units	0.94			0.94	10.34	50%	5.17	5.17	**4.86**
Single-Family Attached Housing	215	Dwelling Units	0.57			0.57	10.34	50%	5.17	5.17	**2.95**
Multifamily Housing (Low-Rise)	220	Dwelling Units	0.51			0.51	10.34	50%	5.17	5.17	**2.64**
Mobile Home Park	240	Dwelling Units	0.58			0.58	10.34	50%	5.17	5.17	**3.00**
Senior Adult Housing - Single-Family	251	Dwelling Units	0.30			0.30	10.34	50%	5.17	5.17	**1.55**
Senior Adult Housing - Multifamily	252	Dwelling Units	0.25			0.25	10.34	50%	5.17	5.17	**1.29**
Congregate Care Facility	253	Dwelling Units	0.18			0.18	10.34	50%	5.17	5.17	**0.93**
Assisted Living	254	Beds	0.24			0.24	10.34	50%	5.17	5.17	**1.24**
LODGING											
Hotel	310	Rooms	0.59			0.59	5.78	50%	2.89	2.89	**1.71**
Motel	320	Rooms	0.36			0.36	5.78	50%	2.89	2.89	**1.04**
RECREATIONAL											
Golf Course	430	Acres	0.28			0.28	12.36	50%	6.18	6.00	**1.68**
Miniature Golf Course	431	Holes	0.33			0.33	12.36	50%	6.18	6.00	**1.98**
Golf Driving Range	432	Tees	1.25			1.25	12.36	50%	6.18	6.00	**7.50**
Movie Theater	445	Movie Screens	13.96			13.96	12.36	50%	6.18	6.00	**83.76**
Ice Skating Rink	465	1,000 SF GFA	1.33			1.33	12.36	50%	6.18	6.00	**7.98**
Racquet / Tennis Club	491	Tennis Courts	3.82			3.82	12.36	50%	6.18	6.00	**22.92**
Recreational Community Center	495	1,000 SF GFA	2.50			2.50	12.36	50%	6.18	6.00	**15.00**
INSTITUTIONAL											
Elementary School	520	Students	0.16			0.16	10.43	50%	5.21	5.21	**0.83**
Middle School / Junior High School	522	Students	0.15			0.15	10.43	50%	5.21	5.21	**0.78**
High School	525	Students	0.14			0.14	10.43	50%	5.21	5.21	**0.73**
Junior / Community College	540	Students	0.11			0.11	10.43	50%	5.21	5.21	**0.57**
University / College	550	Students	0.15			0.15	10.43	50%	5.21	5.21	**0.78**
Church	560	1,000 SF GFA	0.49			0.49	10.43	50%	5.21	5.21	**2.55**
Day Care Center	565	1,000 SF GFA	11.12	44%	C	6.23	10.43	50%	5.21	5.21	**32.44**
MEDICAL											
Hospital	610	Beds	1.69			1.69	19.49	50%	9.74	6.00	**10.14**
Nursing Home	620	Beds	0.14			0.14	19.49	50%	9.74	6.00	**0.84**
Clinic	630	1,000 SF GFA	3.69			3.69	19.49	50%	9.74	6.00	**22.14**
Animal Hospital / Veterinary Clinic	640	1,000 SF GFA	3.53			3.53	19.49	50%	9.74	6.00	**21.18**
OFFICE											
General Office Building	710	1,000 SF GFA	1.44			1.44	19.98	50%	9.99	6.00	**8.64**
Corporate Headquarters Building	714	1,000 SF GFA	1.30			1.30	19.98	50%	9.99	6.00	**7.80**
Single Tenant Office Building	715	1,000 SF GFA	1.76			1.76	19.98	50%	9.99	6.00	**10.56**
Medical-Dental Office Building	720	1,000 SF GFA	3.93			3.93	19.98	50%	9.99	6.00	**23.58**
Office Park	750	1,000 SF GFA	1.30			1.30	19.98	50%	9.99	6.00	**7.80**

*Uses data from ITE Trip Generation Manual 8th Edition

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: 2021 Pass-By Tables for ITETripGen Appendices

Table 11 (continued). 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
COMMERCIAL											
Automobile Related											
Automobile Sales (New)	840	1,000 SF GFA	2.42			2.42	11.32	50%	5.66	5.66	**13.70**
Automobile Sales (Used)	841	1,000 SF GFA	3.75			3.75	11.32	50%	5.66	5.66	**21.23**
Automobile Parts Sales	843	1,000 SF GFA	4.90	43%	C	2.79	11.32	50%	5.66	5.66	**15.81**
Tire Store	848	1,000 SF GFA	3.75	25%	C	2.81	11.32	50%	5.66	5.66	**15.92**
Quick Lubrication Vehicle Shop	941	Servicing Positions	4.85	20%	B	3.88	11.32	50%	5.66	5.66	**21.96**
Automobile Care Center	942	1,000 SF GFA	3.11			3.11	11.32	50%	5.66	5.66	**17.60**
Gasoline / Service Station	944	Vehicle Fueling Positions	13.91	57%	C	5.98	1.20	50%	0.60	0.60	**3.59**
Convenience Store / Gas Station	945	Vehicle Fueling Positions	18.42	56%	C	8.10	1.20	50%	0.60	0.60	**4.86**
Self-Service Car Wash	947	Wash Stalls	5.54	40%	B	3.32	1.20	50%	0.60	0.60	**1.99**
Automated Car Wash	948	Car Wash Tunnels	77.50	40%	B	46.50	1.20	50%	0.60	0.60	**27.90**
Dining											
Fine Dining Restaurant	931	1,000 SF GFA	7.80	44%	C	4.37	9.62	50%	4.81	4.81	**21.01**
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.05	43%	C	5.16	9.62	50%	4.81	4.81	**24.81**
Fast-Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	33.21	55%	B	14.94	9.62	50%	4.81	4.81	**71.88**
Fast-Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	33.03	55%	C	14.86	9.62	50%	4.81	4.81	**71.49**
Fast-Food Restaurant with Drive-Thru Window (No Indoor Seating)	935	Drive-Thru Lanes	59.50	31%	C	41.06	9.62	50%	4.81	4.81	**197.47**
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	38.99	70%	B	11.70	9.62	50%	4.81	4.81	**56.26**
Other Retail											
Construction Equipment Rental Store	811	1,000 SF GFA	0.99	26%	B	0.73	10.31	50%	5.15	5.15	**3.77**
Free-Standing Discount Store	815	1,000 SF GFA	4.86	20%	C	3.89	10.31	50%	5.15	5.15	**20.02**
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	10.31	50%	5.15	5.15	**25.02**
Shopping Center (>150k)	820	1,000 SF GLA	3.40	29%	C	2.41	10.31	50%	5.15	5.15	**12.43**
Shopping Plaza (40-150k)	821	1,000 SF GLA	5.19	40%	C	3.11	10.31	50%	5.15	5.15	**16.04**
Strip Retail Plaza (<40k)	822	1,000 SF GLA	6.59	40%	B	3.95	10.31	50%	5.15	5.15	**20.36**
Supermarket	850	1,000 SF GFA	8.95	24%	C	6.80	10.31	50%	5.15	5.15	**35.03**
Convenience Store	851	1,000 SF GFA	49.11	51%	A	24.06	10.31	50%	5.15	5.15	**123.93**
Home Improvement Superstore	862	1,000 SF GFA	2.29	42%	C	1.33	10.31	50%	5.15	5.15	**6.84**
Toy / Children's Superstore	864	1,000 SF GFA	5.00	30%	B	3.50	10.31	50%	5.15	5.15	**18.03**
Department Store	875	1,000 SF GFA	1.95	30%	B	1.37	10.31	50%	5.15	5.15	**7.03**
Pharmacy / Drugstore without Drive-Thru Window	880	1,000 SF GFA	8.51	53%	C	4.00	10.31	50%	5.15	5.15	**20.60**
Pharmacy / Drugstore with Drive-Thru Window	881	1,000 SF GFA	10.25	49%	C	5.23	10.31	50%	5.15	5.15	**26.92**
SERVICES											
Walk-in Bank	911	1,000 SF GFA	12.13	35%	B	7.88	3.39	50%	1.69	1.69	**13.32**
Drive-in Bank	912	Drive-in Lanes	27.07	35%	C	17.60	3.39	50%	1.69	1.69	**29.74**
Hair Salon	918	1,000 SF GFA	1.45	30%	B	1.02	3.39	50%	1.69	1.69	**1.72**

*Uses data from ITE Trip Generation Manual 8th Edition

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: 2021 Pass-By Tables for ITETripGen Appendices

7. SAMPLE CALCULATIONS

The following section details two (2) examples of maximum assessable Roadway Impact Fee calculations.

Example 1:

Development Type - One (1) Unit of Single-Family Housing

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 11 [Land Use / Vehicle-Mile Equivalency Table] Development Type: 1 Dwelling Unit of Single-Family Detached Housing Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.86
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	From Table 10, Line 15 [Maximum Assessable Fee Per Service Unit] Sanger Service Area: $2,305
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Development Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.86 * $2,305 Maximum Assessable Impact Fee = $11,202

Example 2:

Development Type - 150,000 Square Foot Home Improvement Superstore

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 11 [Land Use / Vehicle-Mile Equivalency Table] Development Type: 150,000 square feet of Home Improvement Superstore Development Units: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 6.84
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	From Table 10, Line 15 [Maximum Assessable Fee Per Service Unit] Sanger Service Area: $2,305
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Development Unit * Max. Fee Per Service Unit Impact Fee = 150 * 6.84 * $2,305 Maximum Assessable Impact Fee = $2,364,930

8. ADOPTION AND ADMINISTRATION OF ROADWAY IMPACT FEES

A. ADOPTION PROCESS

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of Roadway Impact Fees. A Capital Improvements Advisory Committee (CIAC) is required to review the Land Use Assumptions and Roadway Impact Fee Capital Improvements Plan used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. The CIAC also reviews the calculation and resulting maximum fees and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. The City Council then conducts a public hearing on the roadway impact fee assumptions (Land Use Assumptions and Capital Improvements Plan) and Roadway Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the Capital Improvements Plan at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the impact fee, once in place, and advises the City Council as necessary.

B. COLLECTION AND USE OF ROADWAY IMPACT FEES

Roadway impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway impact fees are collected when a building permit is issued. Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can only be used within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.

9. CONCLUSIONS

The City of Sanger 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 Sanger, as shown in the previously referenced Table 10. This document serves as a guide to the assessment of roadway impact fees pertaining to future development, and the City's need for transportation improvements to accommodate that growth. Following the public hearing process, the City Council may establish an impact fee amount to be collected, up to the calculated maximum and establish 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 development of the maximum assessable roadway impact fee.

Table 12 below lists the 2024 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

Table 12. Maximum Assessable Roadway Impact Fee Per Service Unit (Vehicle-Mile)

Service Area	Maximum Fee Per Service Unit (per Vehicle-Mile)
Sanger	$2,305

APPENDIX A – CONCEPTUAL LEVEL PROJECT COST PROJECTIONS

City of Sanger - 2024 Roadway Impact Fee Study

Capital Improvements Plan

#	Length (ft)	Impact Fee Class	Project	Limits		Existing Cross Section	Ultimate Cross Section	Status	Percent in Service Area	Total Cost in Service Area
				From	To					
1	3,030	Collector	North Metz to I-35 Connector	3,030' W of I-35 SBFR	I-35 SBFR	None	2U	New	100%	$ 6,251,000
2	4,375	Collector	Chisam Rd	I-35 NBFR	4,375' E of I-35 NBFR	2U	2U	Widening	100%	$ 10,309,000
3	3,645	Minor Arterial	Lois Rd W	3,645' W of I-35 SBFR	I-35 SBFR	2U	4U	Widening	100%	$ 11,535,000
4	525	Minor Arterial	Lois Rd E (1)	I-35 NBFR	525' E of I-35 NBFR	2U	4U	Widening	100%	$ 1,549,000
5	250	Minor Arterial	Lois Rd E (2)	525' E of I-35 NBFR	775' E of I-35 NBFR	None	4U	New	100%	$ 745,000
6	1,480	Minor Arterial	Lois Rd E (3)	775' E of I-35 NBFR	2,255' E of I-35 NBFR	2U	4U	Widening	100%	$ 6,333,000
7	4,935	Collector	South Metz to I-35 Connector	4,935' W of I-35 SBFR	I-35 SBFR	None	2U	New	100%	$ 9,509,000
8	1,920	Collector	Utility Rd	I-35 NBFR	1,920' E of I-35 NBFR	2U	2U	Widening	100%	$ 4,448,000
9	4,820	Minor Arterial	Belz Rd	Metz Rd	I-35 SBFR	2U	4U	Widening	100%	$ 15,788,000
10	5,630	Minor Arterial	Indian Ln (1)	I-35 SBFR	FM 455	None	4U	New	100%	$ 19,659,000
11	1,290	Minor Arterial (1/3)	Indian Ln (2)	1,290' N of McReynolds Rd	McReynolds Rd	2U	3U	Widening 1/3	100%	$ 725,000
12	3,365	Collector	Indian Ln (3)	McReynolds Rd	3,365' S of McReynolds Rd	None	2U	New	100%	$ 6,484,000
13	28,860	Principal Arterial	FM 455 (1)	FM 2450	830' E of Marion Rd	2U	4D	Construction	100%	$ 7,850,949
14	15,015	Principal Arterial	FM 455 (2)	830' E of Marion Rd	2,110' S of FM 2164	2U	4D	Widening	100%	$ 11,020,000
15	5,015	Minor Arterial	Willow St	Cowling Rd	Indian Ln	2U	4U	Widening	100%	$ 18,725,000
16	5,715	Minor Arterial	McReynolds Rd	Indian Ln	600' E of PR 6630	2U	4U	Widening	100%	$ 21,576,000
17	900	Minor Arterial	5th St	Keaton Rd	I-35 SBFR	2U	4U	Widening	100%	$ 489,000
18	2,740	Minor Arterial	Cowling to Railroad Connector	Cowling Rd	Railroad Ave	None	4U	New	100%	$ 8,167,000
19	2,730	Collector	Rector Rd	2,730' W of Railroad Ave	Railroad Ave	None	2U	New	100%	$ 8,141,000
20	1,320	Collector	N Tejas Dr	1,245' S of FM 455	1,490' N of Duck Creek Rd	None	2U	New	100%	$ 2,545,000
21	8,105	Collector	Jennifer Cir (1)	Lois Rd W	Belz Rd	None	2U	New	100%	$ 16,029,000
22	1,555	Collector	Jennifer Cir (2)	Belz Rd	1,555' S of Belz Rd	2U	2U	Widening	100%	$ 2,965,000
23	705	Collector	Jennifer Cir (3)	1,555' S of Belz Rd	Keith Dr	None	2U	New	100%	$ 1,359,000
24	1,405	Collector	Keith Dr	Jennifer Cir	FM 455	2U-G	2U	Widening	100%	$ 2,679,000
25	5,615	Minor Arterial	Cowling Rd	5th St	3,335' S of Cowling to Railroad Connector	2U	4U	Widening	100%	$ 19,706,000
26	3,630	Collector	2nd St	Indian Ln	FM 455	None	2U	New	100%	$ 9,052,000
27	3,185	Minor Arterial	Marion Rd	270' N of Avion Dr	FM 455	2U	4U	Widening	100%	$ 10,573,000
28	5,490	Minor Arterial	Union Hill Rd	FM 455	McReynolds Rd	None	4U	New	100%	$ 16,773,000
									TOTAL	**$ 250,984,949**

NOTE: These 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 Sanger. These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**1**
Name:	North Metz to I-35 Connector	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	3,030' W of I-35 SBFR to I-35 SBFR			
Impact Fee Class:	Collector			
Length (lf):	3,030			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	6,060	cy	$ 40.00	$ 242,400
203	8" Lime Stabilized Subgrade	11,783	sy	$ 35.00	$ 412,417
303	8" 4,000 psi Reinforced Concrete	9,763	sy	$ 120.00	$ 1,171,600
403	4" Concrete Sidewalk	30,300	sf	$ 10.00	$ 303,000
503	Curb & Gutter	6,060	lf	$ 30.00	$ 181,800
603	Topsoil	5,723	sy	$ 15.00	$ 85,850
				Paving Construction Cost Subtotal:	**$ 2,397,067**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 71,912
√	Roadway Drainage	Standard Internal System	25%	$ 599,267
√	Special Drainage Structures	Minor Stream Crossing	-	$ 250,000
√	Water	Minor Adjustments	5%	$ 119,853
√	Sewer	Minor Adjustments	5%	$ 119,853
√	Landscaping and Irrigation		4%	$ 95,883
√	Illumination	Standard Illumination System	6%	$ 143,824
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,400,592**

Paving and Allowance Subtotal:		**$ 3,797,659**
Construction Contingency:	15%	$ 569,649
Mobilization	5%	$ 189,883
Prep ROW	1%	$ 37,977
Construction Cost TOTAL:		**$ 4,596,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,596,000**
Engineering/Survey/Testing:		16%	$ 735,360
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 919,200
		Impact Fee Project Cost TOTAL:	**$ 6,251,000**

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 Sanger.

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

City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**2**
Name:	Chisam Rd	**This project consists of widening the existing facility to a two-lane undivided collector.**		
Limits:	I-35 NBFR to 4,375' E of I-35 NBFR			
Impact Fee Class:	Collector			
Length (lf):	4,375			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	8,750	cy	$ 40.00	$ 350,000
203	8" Lime Stabilized Subgrade	17,014	sy	$ 35.00	$ 595,486
303	8" 4,000 psi Reinforced Concrete	14,097	sy	$ 120.00	$ 1,691,667
403	4" Concrete Sidewalk	43,750	sf	$ 10.00	$ 437,500
503	Curb & Gutter	8,750	lf	$ 30.00	$ 262,500
603	Topsoil	8,264	sy	$ 15.00	$ 123,958
				Paving Construction Cost Subtotal:	**$ 3,461,111**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 173,056
√	Pavement Markings/Markers		3%	$ 103,833
√	Roadway Drainage	Standard Internal System	25%	$ 865,278
√	Special Drainage Structures	Minor Stream Crossing (2)	-	$ 500,000
√	Water	Minor Adjustments	5%	$ 173,056
√	Sewer	Minor Adjustments	5%	$ 173,056
√	Landscaping and Irrigation		4%	$ 138,444
√	Illumination	Standard Illumination System	6%	$ 207,667
√	Other:	Railroad Crossing	$750,000	$ 750,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 3,084,389**

Paving and Allowance Subtotal:		**$ 6,545,500**
Construction Contingency:	15%	$ 981,825
Mobilization	5%	$ 327,275
Prep ROW	5%	$ 327,275
Construction Cost TOTAL:		**$ 8,182,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 8,182,000**
Engineering/Survey/Testing:		16%	$ 1,309,120
ROW/Easement Acquisition:	Existing Alignment	10%	$ 818,200
		Impact Fee Project Cost TOTAL:	**$ 10,309,000**

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 Sanger.

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

City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**3**
Name:	Lois Rd W	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	3,645' W of I-35 SBFR to I-35 SBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	3,645			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	10,834	cy	$ 40.00	$ 433,350
202	10" Lime Stabilized Subgrade	21,263	sy	$ 40.00	$ 850,500
302	9" 4,000 psi Reinforced Concrete	19,035	sy	$ 130.00	$ 2,474,550
402	4" Concrete Sidewalk	36,450	sf	$ 10.00	$ 364,500
502	Curb & Gutter	7,290	lf	$ 30.00	$ 218,700
602	Topsoil	7,898	sy	$ 15.00	$ 118,463
			Paving Construction Cost Subtotal:		**$ 4,460,063**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 223,003
√	Pavement Markings/Markers		3%	$ 133,802
√	Roadway Drainage	Standard Internal System	25%	$ 1,115,016
√	Special Drainage Structures	Minor Stream Crossing (2)	-	$ 500,000
√	Water	Minor Adjustments	5%	$ 223,003
√	Sewer	Minor Adjustments	5%	$ 223,003
√	Landscaping and Irrigation		4%	$ 178,403
√	Illumination	Standard Illumination System	6%	$ 267,604
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,863,833**

Paving and Allowance Subtotal:		**$ 7,323,896**
Construction Contingency:	15%	$ 1,098,584
Mobilization	5%	$ 366,195
Prep ROW	5%	$ 366,195
Construction Cost TOTAL:		**$ 9,155,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 9,155,000**
Engineering/Survey/Testing:		16%	$ 1,464,800
ROW/Easement Acquisition:	Existing Alignment	10%	$ 915,500
		Impact Fee Project Cost TOTAL:	**$ 11,535,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**4**
Name:	Lois Rd E (1)	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	I-35 NBFR to 525' E of I-35 NBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	525			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	1,560	cy	$ 40.00	$ 62,417
202	10" Lime Stabilized Subgrade	3,063	sy	$ 40.00	$ 122,500
302	9" 4,000 psi Reinforced Concrete	2,742	sy	$ 130.00	$ 356,417
402	4" Concrete Sidewalk	5,250	sf	$ 10.00	$ 52,500
502	Curb & Gutter	1,050	lf	$ 30.00	$ 31,500
602	Topsoil	1,138	sy	$ 15.00	$ 17,063
				Paving Construction Cost Subtotal:	**$ 642,396**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 32,120
√	Pavement Markings/Markers		3%	$ 19,272
√	Roadway Drainage	Standard Internal System	25%	$ 160,599
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 32,120
√	Sewer	Minor Adjustments	5%	$ 32,120
√	Landscaping and Irrigation		4%	$ 25,696
√	Illumination	Standard Illumination System	6%	$ 38,544
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 340,470**

Paving and Allowance Subtotal:		**$ 982,866**
Construction Contingency:	15%	$ 147,430
Mobilization	5%	$ 49,143
Prep ROW	5%	$ 49,143
Construction Cost TOTAL:		**$ 1,229,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,229,000**
Engineering/Survey/Testing:		16%	$ 196,640
ROW/Easement Acquisition:	Existing Alignment	10%	$ 122,900
		Impact Fee Project Cost TOTAL:	**$ 1,549,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**5**
Name:	Lois Rd E (2)	**This project consists of the construction of a new four-lane undivided arterial.**		
Limits:	525' E of I-35 NBFR to 775' E of I-35 NBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	250			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	743	cy	$ 40.00	$ 29,722
202	10" Lime Stabilized Subgrade	1,458	sy	$ 40.00	$ 58,333
302	9" 4,000 psi Reinforced Concrete	1,306	sy	$ 130.00	$ 169,722
402	4" Concrete Sidewalk	2,500	sf	$ 10.00	$ 25,000
502	Curb & Gutter	500	lf	$ 30.00	$ 15,000
602	Topsoil	542	sy	$ 15.00	$ 8,125
				Paving Construction Cost Subtotal:	**$ 305,903**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 9,177
√	Roadway Drainage	Standard Internal System	25%	$ 76,476
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 15,295
√	Sewer	Minor Adjustments	5%	$ 15,295
√	Landscaping and Irrigation		4%	$ 12,236
√	Illumination	Standard Illumination System	6%	$ 18,354
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 146,833**

Paving and Allowance Subtotal:		**$ 452,736**
Construction Contingency:	15%	$ 67,910
Mobilization	5%	$ 22,637
Prep ROW	1%	$ 4,527
Construction Cost TOTAL:		**$ 548,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 548,000**
Engineering/Survey/Testing:		16%	$ 87,680
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 109,600
		Impact Fee Project Cost TOTAL:	**$ 745,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**6**
Name:	Lois Rd E (3)	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	775' E of I-35 NBFR to 2,255' E of I-35 NBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	1,480			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	4,399	cy	$ 40.00	$ 175,956
202	10" Lime Stabilized Subgrade	8,633	sy	$ 40.00	$ 345,333
302	9" 4,000 psi Reinforced Concrete	7,729	sy	$ 130.00	$ 1,004,756
402	4" Concrete Sidewalk	14,800	sf	$ 10.00	$ 148,000
502	Curb & Gutter	2,960	lf	$ 30.00	$ 88,800
602	Topsoil	3,207	sy	$ 15.00	$ 48,100
				Paving Construction Cost Subtotal:	**$ 1,810,944**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 90,547
√	Pavement Markings/Markers		3%	$ 54,328
√	Roadway Drainage	Standard Internal System	25%	$ 452,736
√	Special Drainage Structures	Major Stream Crossing	-	$ 500,000
√	Water	Minor Adjustments	5%	$ 90,547
√	Sewer	Minor Adjustments	5%	$ 90,547
√	Landscaping and Irrigation		4%	$ 72,438
√	Illumination	Standard Illumination System	6%	$ 108,657
√	Other:	Railroad Crossing	$750,000	$ 750,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,209,801**
			Paving and Allowance Subtotal:	**$ 4,020,745**
			Construction Contingency: 15%	$ 603,112
			Mobilization 5%	$ 201,037
			Prep ROW 5%	$ 201,037
			Construction Cost TOTAL:	**$ 5,026,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 5,026,000**
Engineering/Survey/Testing:		16%	$ 804,160
ROW/Easement Acquisition:	Existing Alignment	10%	$ 502,600
		Impact Fee Project Cost TOTAL:	**$ 6,333,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**7**
Name:	South Metz to I-35 Connector	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	4,935' W of I-35 SBFR to I-35 SBFR			
Impact Fee Class:	Collector			
Length (lf):	4,935			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	9,870	cy	$ 40.00	$ 394,800
203	8" Lime Stabilized Subgrade	19,192	sy	$ 35.00	$ 671,708
303	8" 4,000 psi Reinforced Concrete	15,902	sy	$ 120.00	$ 1,908,200
403	4" Concrete Sidewalk	49,350	sf	$ 10.00	$ 493,500
503	Curb & Gutter	9,870	lf	$ 30.00	$ 296,100
603	Topsoil	9,322	sy	$ 15.00	$ 139,825
				Paving Construction Cost Subtotal:	**$ 3,904,133**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 117,124
√	Roadway Drainage	Standard Internal System	25%	$ 976,033
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 195,207
√	Sewer	Minor Adjustments	5%	$ 195,207
√	Landscaping and Irrigation		4%	$ 156,165
√	Illumination	Standard Illumination System	6%	$ 234,248
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,873,984**

Paving and Allowance Subtotal:		**$ 5,778,117**
Construction Contingency:	15%	$ 866,718
Mobilization	5%	$ 288,906
Prep ROW	1%	$ 57,781
Construction Cost TOTAL:		**$ 6,992,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 6,992,000**
Engineering/Survey/Testing:		16%	$ 1,118,720
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 1,398,400
		Impact Fee Project Cost TOTAL:	**$ 9,509,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**8**
Name:	Utility Rd	**This project consists of widening the existing facility to a two-lane undivided collector.**		
Limits:	I-35 NBFR to 1,920' E of I-35 NBFR			
Impact Fee Class:	Collector			
Length (lf):	1,920			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	3,840	cy	$ 40.00	$ 153,600
203	8" Lime Stabilized Subgrade	7,467	sy	$ 35.00	$ 261,333
303	8" 4,000 psi Reinforced Concrete	6,187	sy	$ 120.00	$ 742,400
403	4" Concrete Sidewalk	19,200	sf	$ 10.00	$ 192,000
503	Curb & Gutter	3,840	lf	$ 30.00	$ 115,200
603	Topsoil	3,627	sy	$ 15.00	$ 54,400
				Paving Construction Cost Subtotal:	**$ 1,518,933**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 75,947
√	Pavement Markings/Markers		3%	$ 45,568
√	Roadway Drainage	Standard Internal System	25%	$ 379,733
√	Special Drainage Structures	Major Stream Crossing	-	$ 500,000
√	Water	Minor Adjustments	5%	$ 75,947
√	Sewer	Minor Adjustments	5%	$ 75,947
√	Landscaping and Irrigation		4%	$ 60,757
√	Illumination	Standard Illumination System	6%	$ 91,136
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,305,035**
			Paving and Allowance Subtotal:	**$ 2,823,968**
			Construction Contingency: 15%	$ 423,595
			Mobilization 5%	$ 141,198
			Prep ROW 5%	$ 141,198
			Construction Cost TOTAL:	**$ 3,530,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,530,000**
Engineering/Survey/Testing:		16%	$ 564,800
ROW/Easement Acquisition:	Existing Alignment	10%	$ 353,000
		Impact Fee Project Cost TOTAL:	**$ 4,448,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**9**
Name:	Belz Rd	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	Metz Rd to I-35 SBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	4,820			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	14,326	cy	$ 40.00	$ 573,044
202	10" Lime Stabilized Subgrade	28,117	sy	$ 40.00	$ 1,124,667
302	9" 4,000 psi Reinforced Concrete	25,171	sy	$ 130.00	$ 3,272,244
402	4" Concrete Sidewalk	48,200	sf	$ 10.00	$ 482,000
502	Curb & Gutter	9,640	lf	$ 30.00	$ 289,200
602	Topsoil	10,443	sy	$ 15.00	$ 156,650
				Paving Construction Cost Subtotal:	**$ 5,897,806**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 294,890
√	Pavement Markings/Markers		3%	$ 176,934
√	Roadway Drainage	Standard Internal System	25%	$ 1,474,451
√	Special Drainage Structures	Minor Stream Crossing (2), Major Stream Crossing	-	$ 1,000,000
√	Water	Minor Adjustments	5%	$ 294,890
√	Sewer	Minor Adjustments	5%	$ 294,890
√	Landscaping and Irrigation		4%	$ 235,912
√	Illumination	Standard Illumination System	6%	$ 353,868
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 4,125,837**

Paving and Allowance Subtotal:		**$ 10,023,643**
Construction Contingency:	15%	$ 1,503,546
Mobilization	5%	$ 501,182
Prep ROW	5%	$ 501,182
Construction Cost TOTAL:		**$ 12,530,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 12,530,000**
Engineering/Survey/Testing:		16%	$ 2,004,800
ROW/Easement Acquisition:	Existing Alignment	10%	$ 1,253,000
		Impact Fee Project Cost TOTAL:	**$ 15,788,000**

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City of Sanger

2024 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**10**
Name:	Indian Ln (1)	**This project consists of the construction of a new four-lane undivided arterial.**		
Limits:	I-35 SBFR to FM 455			
Impact Fee Class:	Minor Arterial			
Length (lf):	5,630			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	16,734	cy	$ 40.00	$ 669,344
202	10" Lime Stabilized Subgrade	32,842	sy	$ 40.00	$ 1,313,667
302	9" 4,000 psi Reinforced Concrete	29,401	sy	$ 130.00	$ 3,822,144
402	4" Concrete Sidewalk	56,300	sf	$ 10.00	$ 563,000
502	Curb & Gutter	11,260	lf	$ 30.00	$ 337,800
602	Topsoil	12,198	sy	$ 15.00	$ 182,975
				Paving Construction Cost Subtotal:	**$ 6,888,931**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 206,668
√	Roadway Drainage	Standard Internal System	25%	$ 1,722,233
√	Special Drainage Structures	Major Stream Crossing (2)	-	$ 1,000,000
√	Water	Minor Adjustments	5%	$ 344,447
√	Sewer	Minor Adjustments	5%	$ 344,447
√	Landscaping and Irrigation		4%	$ 275,557
√	Illumination	Standard Illumination System	6%	$ 413,336
√	Other:	Railroad Crossing	$750,000	$ 750,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 5,056,687**

Paving and Allowance Subtotal:		**$ 11,945,617**
Construction Contingency:	15%	$ 1,791,843
Mobilization	5%	$ 597,281
Prep ROW	1%	$ 119,456
Construction Cost TOTAL:		**$ 14,455,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 14,455,000**
Engineering/Survey/Testing:		16%	$ 2,312,800
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 2,891,000
		Impact Fee Project Cost TOTAL:	**$ 19,659,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**11**
Name:	Indian Ln (2)	**This project consists of the construction of the additional one lane of a three-lane undivided arterial in continuity with the adjacent cross-sections.**		
Limits:	1,290' N of McReynolds Rd to McReynolds Rd			
Impact Fee Class:	Minor Arterial (1/3)			
Length (lf):	1,290			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Roadway Excavation	1,003	cy	$ 40.00	$ 40,133
204	10" Lime Stabilized Subgrade	1,935	sy	$ 40.00	$ 77,400
304	9" 4,000 psi Reinforced Concrete	1,577	sy	$ 130.00	$ 204,967
404	4" Concrete Sidewalk	6,450	sf	$ 10.00	$ 64,500
504	Curb & Gutter	1,290	lf	$ 30.00	$ 38,700
604	Topsoil	1,362	sy	$ 15.00	$ 20,425
				Paving Construction Cost Subtotal:	**$ 446,125**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 22,306
√	Pavement Markings/Markers		3%	$ 13,384
	Roadway Drainage	None Anticipated	0%	$ -
	Special Drainage Structures	Existing Major Stream Crossing	-	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Landscaping and Irrigation		4%	$ 17,845
	Illumination	None Anticipated	0%	$ -
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 53,535**

Paving and Allowance Subtotal:		**$ 499,660**
Construction Contingency:	15%	$ 74,949
Mobilization	5%	$ 24,983
Prep ROW	5%	$ 24,983
Construction Cost TOTAL:		**$ 625,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 625,000**
Engineering/Survey/Testing:		16%	$ 100,000
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 725,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**12**
Name:	Indian Ln (3)	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	McReynolds Rd to 3,365' S of McReynolds Rd			
Impact Fee Class:	Collector			
Length (lf):	3,365			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	6,730	cy	$ 40.00	$ 269,200
203	8" Lime Stabilized Subgrade	13,086	sy	$ 35.00	$ 458,014
303	8" 4,000 psi Reinforced Concrete	10,843	sy	$ 120.00	$ 1,301,133
403	4" Concrete Sidewalk	33,650	sf	$ 10.00	$ 336,500
503	Curb & Gutter	6,730	lf	$ 30.00	$ 201,900
603	Topsoil	6,356	sy	$ 15.00	$ 95,342
				Paving Construction Cost Subtotal:	**$ 2,662,089**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 79,863
√	Roadway Drainage	Standard Internal System	25%	$ 665,522
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 133,104
√	Sewer	Minor Adjustments	5%	$ 133,104
√	Landscaping and Irrigation		4%	$ 106,484
√	Illumination	Standard Illumination System	6%	$ 159,725
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,277,803**

Paving and Allowance Subtotal:		**$ 3,939,892**
Construction Contingency:	15%	$ 590,984
Mobilization	5%	$ 196,995
Prep ROW	1%	$ 39,399
Construction Cost TOTAL:		**$ 4,768,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,768,000**
Engineering/Survey/Testing:		16%	$ 762,880
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 953,600
		Impact Fee Project Cost TOTAL:	**$ 6,484,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**13**
Name:	FM 455 (1)	**This project consisted of the City's contribution of the widening to the ultimate section. The overall City contribution was $7,850,949.**		
Limits:	FM 2450 to 830' E of Marion Rd			
Impact Fee Class:	Principal Arterial			
Length (lf):	28,860			
Service Area(s):	Sanger			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:			
Engineering/Survey/Testing:			**$ 7,850,949**
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 7,850,949**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**14**
Name:	FM 455 (2)	**This project consists of widening the existing facility to a four-lane divided TxDOT arterial.**		
Limits:	830' E of Marion Rd to 2,110' S of FM 2164			
Impact Fee Class:	Principal Arterial			
Length (lf):	15,015			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Roadway Excavation	49,216	cy	$ 40.00	$ 1,968,633
201	10" Lime Stabilized Subgrade	95,095	sy	$ 40.00	$ 3,803,800
301	9" 4,000 psi Reinforced Concrete	85,085	sy	$ 130.00	$ 11,061,050
401	4" Concrete Sidewalk	150,150	sf	$ 10.00	$ 1,501,500
501	Curb & Gutter	60,060	lf	$ 30.00	$ 1,801,800
601	Topsoil	61,728	sy	$ 15.00	$ 925,925
701	Turn Lanes and Median Openings	12,588	sy	$ 170.00	$ 2,140,017
				Paving Construction Cost Subtotal:	**$ 23,202,725**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 1,160,136
√	Pavement Markings/Markers		3%	$ 696,082
√	Roadway Drainage	Standard Internal System	25%	$ 5,800,681
√	Special Drainage Structures	Minor Stream Crossing (2), Major Stream Crossing (4)	-	$ 2,500,000
√	Water	Minor Adjustments	5%	$ 1,160,136
√	Sewer	Minor Adjustments	5%	$ 1,160,136
√	Landscaping and Irrigation		4%	$ 928,109
√	Illumination	Standard Ilumination System	6%	$ 1,392,164
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 14,797,444**

Paving and Allowance Subtotal:		**$ 38,000,169**
Construction Contingency:	15%	$ 5,700,025
Mobilization	5%	$ 1,900,008
Prep ROW	5%	$ 1,900,008
Construction Cost TOTAL:		**$ 47,501,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 47,501,000**
Engineering/Survey/Testing:		16%	$ 7,600,160
ROW/Easement Acquisition:	TxDOT Roadway	0%	$ -
		Impact Fee Project Cost TOTAL (20% City Contribution):	**$ 11,020,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**15**
Name:	Willow St	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	Cowling Rd to Indian Ln			
Impact Fee Class:	Minor Arterial			
Length (lf):	5,015			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	14,906	cy	$ 40.00	$ 596,228
202	10" Lime Stabilized Subgrade	29,254	sy	$ 40.00	$ 1,170,167
302	9" 4,000 psi Reinforced Concrete	26,189	sy	$ 130.00	$ 3,404,628
402	4" Concrete Sidewalk	50,150	sf	$ 10.00	$ 501,500
502	Curb & Gutter	10,030	lf	$ 30.00	$ 300,900
602	Topsoil	10,866	sy	$ 15.00	$ 162,988
				Paving Construction Cost Subtotal:	**$ 6,136,410**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 306,820
√	Pavement Markings/Markers		3%	$ 184,092
√	Roadway Drainage	Standard Internal System	25%	$ 1,534,102
√	Special Drainage Structures	Minor Stream Crossing, Major Stream Crossing, Bridge Crossing	-	$ 1,750,000
√	Water	Minor Adjustments	5%	$ 306,820
√	Sewer	Minor Adjustments	5%	$ 306,820
√	Landscaping and Irrigation		4%	$ 245,456
√	Illumination	Standard Illumination System	6%	$ 368,185
√	Other:	Railroad Crossing	$750,000	$ 750,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 5,752,297**

Paving and Allowance Subtotal:		**$ 11,888,707**
Construction Contingency:	15%	$ 1,783,306
Mobilization	5%	$ 594,435
Prep ROW	5%	$ 594,435
Construction Cost TOTAL:		**$ 14,861,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 14,861,000**
Engineering/Survey/Testing:		16%	$ 2,377,760
ROW/Easement Acquisition:	Existing Alignment	10%	$ 1,486,100
		Impact Fee Project Cost TOTAL:	**$ 18,725,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**16**
Name:	McReynolds Rd	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	Indian Ln to 600' E of PR 6630			
Impact Fee Class:	Minor Arterial			
Length (lf):	5,715			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	16,986	cy	$ 40.00	$ 679,450
202	10" Lime Stabilized Subgrade	33,338	sy	$ 40.00	$ 1,333,500
302	9" 4,000 psi Reinforced Concrete	29,845	sy	$ 130.00	$ 3,879,850
402	4" Concrete Sidewalk	57,150	sf	$ 10.00	$ 571,500
502	Curb & Gutter	11,430	lf	$ 30.00	$ 342,900
602	Topsoil	12,383	sy	$ 15.00	$ 185,738
				Paving Construction Cost Subtotal:	**$ 6,992,938**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 349,647
√	Pavement Markings/Markers		3%	$ 209,788
√	Roadway Drainage	Standard Internal System	25%	$ 1,748,234
√	Special Drainage Structures	Major Stream Crossing (2), Bridge Crossing (2)	-	$ 3,000,000
√	Water	Minor Adjustments	5%	$ 349,647
√	Sewer	Minor Adjustments	5%	$ 349,647
√	Landscaping and Irrigation		4%	$ 279,718
√	Illumination	Standard Illumination System	6%	$ 419,576
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 6,706,257**

Paving and Allowance Subtotal:		**$ 13,699,194**
Construction Contingency:	15%	$ 2,054,879
Mobilization	5%	$ 684,960
Prep ROW	5%	$ 684,960
Construction Cost TOTAL:		**$ 17,124,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 17,124,000**
Engineering/Survey/Testing:		16%	$ 2,739,840
ROW/Easement Acquisition:	Existing Alignment	10%	$ 1,712,400
		Impact Fee Project Cost TOTAL:	**$ 21,576,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**17**
Name:	5th St	**This project consists of widening the existing facility to a four-lane undivided TxDOT arterial.**		
Limits:	Keaton Rd to I-35 SBFR			
Impact Fee Class:	Minor Arterial			
Length (lf):	900			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	2,675	cy	$ 40.00	$ 107,000
202	10" Lime Stabilized Subgrade	5,250	sy	$ 40.00	$ 210,000
302	9" 4,000 psi Reinforced Concrete	4,700	sy	$ 130.00	$ 611,000
402	4" Concrete Sidewalk	9,000	sf	$ 10.00	$ 90,000
502	Curb & Gutter	1,800	lf	$ 30.00	$ 54,000
602	Topsoil	1,950	sy	$ 15.00	$ 29,250
				Paving Construction Cost Subtotal:	**$ 1,101,250**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 55,063
√	Pavement Markings/Markers		3%	$ 33,038
√	Roadway Drainage	Standard Internal System	25%	$ 275,313
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 55,063
√	Sewer	Minor Adjustments	5%	$ 55,063
√	Landscaping and Irrigation		4%	$ 44,050
√	Illumination	Standard Illumination System	6%	$ 66,075
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 583,663**

Paving and Allowance Subtotal:		**$ 1,684,913**
Construction Contingency:	15%	$ 252,737
Mobilization	5%	$ 84,246
Prep ROW	5%	$ 84,246
Construction Cost TOTAL:		**$ 2,107,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,107,000**
Engineering/Survey/Testing:		16%	$ 337,120
ROW/Easement Acquisition:	TxDOT Roadway	0%	$ -
	Impact Fee Project Cost TOTAL (20% City Contribution)		**$ 489,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**18**
Name:	Cowling to Railroad Connector	**This project consists of the construction of a new four-lane undivided arterial.**		
Limits:	Cowling Rd to Railroad Ave			
Impact Fee Class:	Minor Arterial			
Length (lf):	2,740			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	8,144	cy	$ 40.00	$ 325,756
202	10" Lime Stabilized Subgrade	15,983	sy	$ 40.00	$ 639,333
302	9" 4,000 psi Reinforced Concrete	14,309	sy	$ 130.00	$ 1,860,156
402	4" Concrete Sidewalk	27,400	sf	$ 10.00	$ 274,000
502	Curb & Gutter	5,480	lf	$ 30.00	$ 164,400
602	Topsoil	5,937	sy	$ 15.00	$ 89,050
			Paving Construction Cost Subtotal:		**$ 3,352,694**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 100,581
√	Roadway Drainage	Standard Internal System	25%	$ 838,174
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 167,635
√	Sewer	Minor Adjustments	5%	$ 167,635
√	Landscaping and Irrigation		4%	$ 134,108
√	Illumination	Standard Illumination System	6%	$ 201,162
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,609,293**

Paving and Allowance Subtotal:		**$ 4,961,988**
Construction Contingency:	15%	$ 744,298
Mobilization	5%	$ 248,099
Prep ROW	1%	$ 49,620
Construction Cost TOTAL:		**$ 6,005,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 6,005,000**
Engineering/Survey/Testing:		16%	$ 960,800
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 1,201,000
		Impact Fee Project Cost TOTAL:	**$ 8,167,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**19**
Name:	Rector Rd	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	2,730' W of Railroad Ave to Railroad Ave			
Impact Fee Class:	Collector			
Length (lf):	2,730			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	5,460	cy	$ 40.00	$ 218,400
203	8" Lime Stabilized Subgrade	10,617	sy	$ 35.00	$ 371,583
303	8" 4,000 psi Reinforced Concrete	8,797	sy	$ 120.00	$ 1,055,600
403	4" Concrete Sidewalk	27,300	sf	$ 10.00	$ 273,000
503	Curb & Gutter	5,460	lf	$ 30.00	$ 163,800
603	Topsoil	5,157	sy	$ 15.00	$ 77,350
				Paving Construction Cost Subtotal:	**$ 2,159,733**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 64,792
√	Roadway Drainage	Standard Internal System	25%	$ 539,933
√	Special Drainage Structures	Bridge Crossing	-	$ 1,000,000
√	Water	Minor Adjustments	5%	$ 107,987
√	Sewer	Minor Adjustments	5%	$ 107,987
√	Landscaping and Irrigation		4%	$ 86,389
√	Illumination	Standard Illumination System	6%	$ 129,584
√	Other:	Railroad Crossing	$750,000	$ 750,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,786,672**

Paving and Allowance Subtotal:		**$ 4,946,405**
Construction Contingency:	15%	$ 741,961
Mobilization	5%	$ 247,320
Prep ROW	1%	$ 49,464
Construction Cost TOTAL:		**$ 5,986,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 5,986,000**
Engineering/Survey/Testing:		16%	$ 957,760
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 1,197,200
		Impact Fee Project Cost TOTAL:	**$ 8,141,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**20**
Name:	N Tejas Dr	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	1,245' S of FM 455 to 1,490' N of Duck Creek Rd			
Impact Fee Class:	Collector			
Length (lf):	1,320			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	2,640	cy	$ 40.00	$ 105,600
203	8" Lime Stabilized Subgrade	5,133	sy	$ 35.00	$ 179,667
303	8" 4,000 psi Reinforced Concrete	4,253	sy	$ 120.00	$ 510,400
403	4" Concrete Sidewalk	13,200	sf	$ 10.00	$ 132,000
503	Curb & Gutter	2,640	lf	$ 30.00	$ 79,200
603	Topsoil	2,493	sy	$ 15.00	$ 37,400
				Paving Construction Cost Subtotal:	**$ 1,044,267**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 31,328
√	Roadway Drainage	Standard Internal System	25%	$ 261,067
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 52,213
√	Sewer	Minor Adjustments	5%	$ 52,213
√	Landscaping and Irrigation		4%	$ 41,771
√	Illumination	Standard Illumination System	6%	$ 62,656
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 501,248**

Paving and Allowance Subtotal:		**$ 1,545,515**
Construction Contingency:	15%	$ 231,827
Mobilization	5%	$ 77,276
Prep ROW	1%	$ 15,455
Construction Cost TOTAL:		**$ 1,871,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,871,000**
Engineering/Survey/Testing:		16%	$ 299,360
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 374,200
		Impact Fee Project Cost TOTAL:	**$ 2,545,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**21**
Name:	Jennifer Cir (1)	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	Lois Rd W to Belz Rd			
Impact Fee Class:	Collector			
Length (lf):	8,105			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	16,210	cy	$ 40.00	$ 648,400
203	8" Lime Stabilized Subgrade	31,519	sy	$ 35.00	$ 1,103,181
303	8" 4,000 psi Reinforced Concrete	26,116	sy	$ 120.00	$ 3,133,933
403	4" Concrete Sidewalk	81,050	sf	$ 10.00	$ 810,500
503	Curb & Gutter	16,210	lf	$ 30.00	$ 486,300
603	Topsoil	15,309	sy	$ 15.00	$ 229,642
			Paving Construction Cost Subtotal:		**$ 6,411,956**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 192,359
√	Roadway Drainage	Standard Internal System	25%	$ 1,602,989
√	Special Drainage Structures	Minor Stream Crossing	-	$ 250,000
√	Water	Minor Adjustments	5%	$ 320,598
√	Sewer	Minor Adjustments	5%	$ 320,598
√	Landscaping and Irrigation		4%	$ 256,478
√	Illumination	Standard Illumination System	6%	$ 384,717
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 3,327,739**

Paving and Allowance Subtotal:		**$ 9,739,694**
Construction Contingency:	15%	$ 1,460,954
Mobilization	5%	$ 486,985
Prep ROW	1%	$ 97,397
Construction Cost TOTAL:		**$ 11,786,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 11,786,000**
Engineering/Survey/Testing:		16%	$ 1,885,760
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 2,357,200
		Impact Fee Project Cost TOTAL:	**$ 16,029,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**22**
Name:	Jennifer Cir (2)	**This project consists of widening the existing facility to a two-lane undivided collector.**		
Limits:	Belz Rd to 1,555' S of Belz Rd			
Impact Fee Class:	Collector			
Length (lf):	1,555			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	3,110	cy	$ 40.00	$ 124,400
203	8" Lime Stabilized Subgrade	6,047	sy	$ 35.00	$ 211,653
303	8" 4,000 psi Reinforced Concrete	5,011	sy	$ 120.00	$ 601,267
403	4" Concrete Sidewalk	15,550	sf	$ 10.00	$ 155,500
503	Curb & Gutter	3,110	lf	$ 30.00	$ 93,300
603	Topsoil	2,937	sy	$ 15.00	$ 44,058
				Paving Construction Cost Subtotal:	**$ 1,230,178**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 61,509
√	Pavement Markings/Markers		3%	$ 36,905
√	Roadway Drainage	Standard Internal System	25%	$ 307,544
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 61,509
√	Sewer	Minor Adjustments	5%	$ 61,509
√	Landscaping and Irrigation		4%	$ 49,207
√	Illumination	Standard Illumination System	6%	$ 73,811
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 651,994**

Paving and Allowance Subtotal:		**$ 1,882,172**
Construction Contingency:	15%	$ 282,326
Mobilization	5%	$ 94,109
Prep ROW	5%	$ 94,109
Construction Cost TOTAL:		**$ 2,353,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,353,000**
Engineering/Survey/Testing:		16%	$ 376,480
ROW/Easement Acquisition:	Existing Alignment	10%	$ 235,300
		Impact Fee Project Cost TOTAL:	**$ 2,965,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**23**
Name:	Jennifer Cir (3)	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	1,555' S of Belz Rd to Keith Dr			
Impact Fee Class:	Collector			
Length (lf):	705			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	1,410	cy	$ 40.00	$ 56,400
203	8" Lime Stabilized Subgrade	2,742	sy	$ 35.00	$ 95,958
303	8" 4,000 psi Reinforced Concrete	2,272	sy	$ 120.00	$ 272,600
403	4" Concrete Sidewalk	7,050	sf	$ 10.00	$ 70,500
503	Curb & Gutter	1,410	lf	$ 30.00	$ 42,300
603	Topsoil	1,332	sy	$ 15.00	$ 19,975
				Paving Construction Cost Subtotal:	**$ 557,733**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 16,732
√	Roadway Drainage	Standard Internal System	25%	$ 139,433
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 27,887
√	Sewer	Minor Adjustments	5%	$ 27,887
√	Landscaping and Irrigation		4%	$ 22,309
√	Illumination	Standard Illumination System	6%	$ 33,464
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 267,712**

Paving and Allowance Subtotal:		**$ 825,445**
Construction Contingency:	15%	$ 123,817
Mobilization	5%	$ 41,272
Prep ROW	1%	$ 8,254
Construction Cost TOTAL:		**$ 999,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 999,000**
Engineering/Survey/Testing:		16%	$ 159,840
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 199,800
		Impact Fee Project Cost TOTAL:	**$ 1,359,000**

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 Sanger.

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**24**
Name:	Keith Dr	**This project consists of widening the existing facility to a two-lane undivided collector.**		
Limits:	Jennifer Cir to FM 455			
Impact Fee Class:	Collector			
Length (lf):	1,405			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	2,810	cy	$ 40.00	$ 112,400
203	8" Lime Stabilized Subgrade	5,464	sy	$ 35.00	$ 191,236
303	8" 4,000 psi Reinforced Concrete	4,527	sy	$ 120.00	$ 543,267
403	4" Concrete Sidewalk	14,050	sf	$ 10.00	$ 140,500
503	Curb & Gutter	2,810	lf	$ 30.00	$ 84,300
603	Topsoil	2,654	sy	$ 15.00	$ 39,808
				Paving Construction Cost Subtotal:	**$ 1,111,511**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 55,576
√	Pavement Markings/Markers		3%	$ 33,345
√	Roadway Drainage	Standard Internal System	25%	$ 277,878
	Special Drainage Structures	None Anticipated	-	$ -
√	Water	Minor Adjustments	5%	$ 55,576
√	Sewer	Minor Adjustments	5%	$ 55,576
√	Landscaping and Irrigation		4%	$ 44,460
√	Illumination	Standard Illumination System	6%	$ 66,691
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 589,101**

Paving and Allowance Subtotal:		**$ 1,700,612**
Construction Contingency:	15%	$ 255,092
Mobilization	5%	$ 85,031
Prep ROW	5%	$ 85,031
Construction Cost TOTAL:		**$ 2,126,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,126,000**
Engineering/Survey/Testing:		16%	$ 340,160
ROW/Easement Acquisition:	Existing Alignment	10%	$ 212,600
		Impact Fee Project Cost TOTAL:	**$ 2,679,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**25**
Name:	Cowling Rd	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	5th St to 3,335' S of Cowling to Railroad Connector			
Impact Fee Class:	Minor Arterial			
Length (lf):	5,615			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	16,689	cy	$ 40.00	$ 667,561
202	10" Lime Stabilized Subgrade	32,754	sy	$ 40.00	$ 1,310,167
302	9" 4,000 psi Reinforced Concrete	29,323	sy	$ 130.00	$ 3,811,961
402	4" Concrete Sidewalk	56,150	sf	$ 10.00	$ 561,500
502	Curb & Gutter	11,230	lf	$ 30.00	$ 336,900
602	Topsoil	12,166	sy	$ 15.00	$ 182,488
				Paving Construction Cost Subtotal:	**$ 6,870,576**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 343,529
√	Pavement Markings/Markers		3%	$ 206,117
√	Roadway Drainage	Standard Internal System	25%	$ 1,717,644
√	Special Drainage Structures	Bridge Crossing (2)	-	$ 2,000,000
√	Water	Minor Adjustments	5%	$ 343,529
√	Sewer	Minor Adjustments	5%	$ 343,529
√	Landscaping and Irrigation		4%	$ 274,823
√	Illumination	Standard Illumination System	6%	$ 412,235
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 5,641,405**

Paving and Allowance Subtotal:		**$ 12,511,982**
Construction Contingency:	15%	$ 1,876,797
Mobilization	5%	$ 625,599
Prep ROW	5%	$ 625,599
Construction Cost TOTAL:		**$ 15,640,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 15,640,000**
Engineering/Survey/Testing:		16%	$ 2,502,400
ROW/Easement Acquisition:	Existing Alignment	10%	$ 1,564,000
		Impact Fee Project Cost TOTAL:	**$ 19,706,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**26**
Name:	2nd St	**This project consists of the construction of a new two-lane undivided collector.**		
Limits:	Indian Ln to FM 455			
Impact Fee Class:	Collector			
Length (lf):	3,630			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Roadway Excavation	7,260	cy	$ 40.00	$ 290,400
203	8" Lime Stabilized Subgrade	14,117	sy	$ 35.00	$ 494,083
303	8" 4,000 psi Reinforced Concrete	11,697	sy	$ 120.00	$ 1,403,600
403	4" Concrete Sidewalk	36,300	sf	$ 10.00	$ 363,000
503	Curb & Gutter	7,260	lf	$ 30.00	$ 217,800
603	Topsoil	6,857	sy	$ 15.00	$ 102,850
				Paving Construction Cost Subtotal:	**$ 2,871,733**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 86,152
√	Roadway Drainage	Standard Internal System	25%	$ 717,933
√	Special Drainage Structures	Minor Stream Crossing, Bridge Crossing	-	$ 1,250,000
√	Water	Minor Adjustments	5%	$ 143,587
√	Sewer	Minor Adjustments	5%	$ 143,587
√	Landscaping and Irrigation		4%	$ 114,869
√	Illumination	Standard Ilumination System	6%	$ 172,304
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,628,432**

Paving and Allowance Subtotal:		**$ 5,500,165**
Construction Contingency:	15%	$ 825,025
Mobilization	5%	$ 275,008
Prep ROW	1%	$ 55,002
Construction Cost TOTAL:		**$ 6,656,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 6,656,000**
Engineering/Survey/Testing:		16%	$ 1,064,960
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 1,331,200
		Impact Fee Project Cost TOTAL:	**$ 9,052,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**27**
Name:	Marion Rd	**This project consists of widening the existing facility to a four-lane undivided arterial.**		
Limits:	270' N of Avion Dr to FM 455			
Impact Fee Class:	Minor Arterial			
Length (lf):	3,185			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	9,467	cy	$ 40.00	$ 378,661
202	10" Lime Stabilized Subgrade	18,579	sy	$ 40.00	$ 743,167
302	9" 4,000 psi Reinforced Concrete	16,633	sy	$ 130.00	$ 2,162,261
402	4" Concrete Sidewalk	31,850	sf	$ 10.00	$ 318,500
502	Curb & Gutter	6,370	lf	$ 30.00	$ 191,100
602	Topsoil	6,901	sy	$ 15.00	$ 103,513
				Paving Construction Cost Subtotal:	**$ 3,897,201**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 194,860
√	Pavement Markings/Markers		3%	$ 116,916
√	Roadway Drainage	Standard Internal System	25%	$ 974,300
√	Special Drainage Structures	Minor Stream Crossing, Major Stream Crossing	-	$ 750,000
√	Water	Minor Adjustments	5%	$ 194,860
√	Sewer	Minor Adjustments	5%	$ 194,860
√	Landscaping and Irrigation		4%	$ 155,888
√	Illumination	Standard Illumination System	6%	$ 233,832
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,815,517**

Paving and Allowance Subtotal:		**$ 6,712,718**
Construction Contingency:	15%	$ 1,006,908
Mobilization	5%	$ 335,636
Prep ROW	5%	$ 335,636
Construction Cost TOTAL:		**$ 8,391,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 8,391,000**
Engineering/Survey/Testing:		16%	$ 1,342,560
ROW/Easement Acquisition:	Existing Alignment	10%	$ 839,100
		Impact Fee Project Cost TOTAL:	**$ 10,573,000**

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City of Sanger
2024 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 7/10/2024

Project Information:		**Description:**	**Project No.**	**28**
Name:	Union Hill Rd	**This project consists of the construction of a new four-lane undivided arterial.**		
Limits:	FM 455 to McReynolds Rd			
Impact Fee Class:	Minor Arterial			
Length (lf):	5,490			
Service Area(s):	Sanger			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Roadway Excavation	16,318	cy	$ 40.00	$ 652,700
202	10" Lime Stabilized Subgrade	32,025	sy	$ 40.00	$ 1,281,000
302	9" 4,000 psi Reinforced Concrete	28,670	sy	$ 130.00	$ 3,727,100
402	4" Concrete Sidewalk	54,900	sf	$ 10.00	$ 549,000
502	Curb & Gutter	10,980	lf	$ 30.00	$ 329,400
602	Topsoil	11,895	sy	$ 15.00	$ 178,425
			Paving Construction Cost Subtotal:		**$ 6,717,625**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 201,529
√	Roadway Drainage	Standard Internal System	25%	$ 1,679,406
√	Special Drainage Structures	Minor Stream Crossing	-	$ 250,000
√	Water	Minor Adjustments	5%	$ 335,881
√	Sewer	Minor Adjustments	5%	$ 335,881
√	Landscaping and Irrigation		4%	$ 268,705
√	Illumination	Standard Illumination System	6%	$ 403,058
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 3,474,460**

Paving and Allowance Subtotal:		**$ 10,192,085**
Construction Contingency:	15%	$ 1,528,813
Mobilization	5%	$ 509,604
Prep ROW	1%	$ 101,921
Construction Cost TOTAL:		**$ 12,333,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 12,333,000**
Engineering/Survey/Testing:		16%	$ 1,973,280
ROW/Easement Acquisition:	New Roadway Alignment	20%	$ 2,466,600
		Impact Fee Project Cost TOTAL:	**$ 16,773,000**

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APPENDIX B – CAPITAL IMPROVEMENTS PLAN SERVICE UNITS OF SUPPLY

City of Sanger - 2024 Roadway Impact Fee Study

Capital Improvements Plan Units of Supply

7/11/2024

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 COST IN SERVICE AREA
1	North Metz to I-35 Connector	3,030' W of I-35 SBFR to I-35 SBFR	0.57	2	Collector	New	100%	425	485	0	485	$ 6,251,000
2	Chisam Rd	I-35 NBFR to 4,375' E of I-35 NBFR	0.83	2	Collector	16	100%	425	706	13	692	$ 10,309,000
3	Lois Rd W	3,645' W of I-35 SBFR to I-35 SBFR	0.69	4	Minor Arterial	42	100%	525	1,449	29	1,420	$ 11,535,000
4	Lois Rd E (1)	I-35 NBFR to 525' E of I-35 NBFR	0.10	4	Minor Arterial	288	100%	525	210	29	181	$ 1,549,000
5	Lois Rd E (2)	525' E of I-35 NBFR to 775' E of I-35 NBFR	0.05	4	Minor Arterial	New	100%	525	105	0	105	$ 745,000
6	Lois Rd E (3)	775' E of I-35 NBFR to 2,255' E of I-35 NBFR	0.28	4	Minor Arterial	148	100%	525	588	41	547	$ 6,333,000
7	South Metz to I-35 Connector	4,935' W of I-35 SBFR to I-35 SBFR	0.93	2	Collector	New	100%	425	791	0	791	$ 9,509,000
8	Utility Rd*	I-35 NBFR to 1,920' E of I-35 NBFR	0.36	2	Collector	100	100%	425	306	36	270	$ 4,448,000
9	Belz Rd*	Metz Rd to I-35 SBFR	0.91	4	Minor Arterial	200	100%	525	1,911	182	1,729	$ 15,788,000
10	Indian Ln (1)	I-35 SBFR to FM 455	1.07	4	Minor Arterial	New	100%	525	2,247	0	2,247	$ 19,659,000
11	Indian Ln (2)	1,290' N of McReynolds Rd to McReynolds Rd	0.24	1	Minor Arterial (1/3)	N/A	100%	525	126	0	126	$ 725,000
12	Indian Ln (3)	McReynolds Rd to 3,365' S of McReynolds Rd	0.64	2	Collector	New	100%	425	544	0	544	$ 6,484,000
13	FM 455 (1)	FM 2450 to 830' E of Marion Rd	5.47	4	Principal Arterial	580	100%	650	14,222	3,173	11,049	$ 7,850,949
14	FM 455 (2)	830' E of Marion Rd to 2,110' S of FM 2164	2.84	4	Principal Arterial	434	100%	650	7,384	1,233	6,151	$ 11,020,000
15	Willow St	Cowling Rd to Indian Ln	0.95	4	Minor Arterial	226	100%	525	1,995	215	1,780	$ 18,725,000
16	McReynolds Rd	Indian Ln to 600' E of PR 6630	1.08	4	Minor Arterial	124	100%	525	2,268	134	2,134	$ 21,576,000
17	5th St	Keaton Rd to I-35 SBFR	0.17	4	Minor Arterial	286	100%	525	357	49	308	$ 489,000
18	Cowling to Railroad Connector	Cowling Rd to Railroad Ave	0.52	4	Minor Arterial	New	100%	525	1,092	0	1,092	$ 8,167,000
19	Rector Rd	2,730' W of Railroad Ave to Railroad Ave	0.52	2	Collector	New	100%	425	442	0	442	$ 8,141,000
20	N Tejas Dr	1,245' S of FM 455 to 1,490' N of Duck Creek Rd	0.25	2	Collector	New	100%	425	213	0	213	$ 2,545,000
21	Jennifer Cir (1)	Lois Rd W to Belz Rd	1.54	2	Collector	New	100%	425	1,309	0	1,309	$ 16,029,000
22	Jennifer Cir (2)*	Belz Rd to 1,555' S of Belz Rd	0.29	2	Collector	100	100%	425	247	29	218	$ 2,965,000
23	Jennifer Cir (3)	1,555' S of Belz Rd to Keith Dr	0.13	2	Collector	New	100%	425	111	0	111	$ 1,359,000
24	Keith Dr*	Jennifer Cir to FM 455	0.27	2	Collector	100	100%	425	230	27	203	$ 2,679,000
25	Cowling Rd	5th St to 3,335' S of Cowling to Railroad Connector	1.06	4	Minor Arterial	140	100%	525	2,226	148	2,078	$ 19,706,000
26	2nd St	Indian Ln to FM 455	0.69	2	Collector	New	100%	425	587	0	587	$ 9,052,000
27	Marion Rd	270' N of Avion Dr to FM 455	0.60	4	Minor Arterial	196	100%	525	1,260	118	1,142	$ 10,573,000
28	Union Hill Rd	FM 455 to McReynolds Rd	1.04	4	Minor Arterial	New	100%	525	2,184	0	2,184	$ 16,773,000
								SUBTOTAL	**45,591**	**5,455**	**40,136**	**$ 250,984,949**

*Existing peak hour volumes assumed based on road context and development access

Roadway Impact Fee Study Cost $ 50,000

TOTAL COST $ 251,034,949

APPENDIX C – EXISTING ROADWAY FACILITIES INVENTORY

City of Sanger - 2024 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

7/11/2024

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXISTING LANES		EXISTING SECTION	PM PEAK HOUR VOL		% 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
5th St	I-35 NBFR	FM 455	1,755	0.33	1	1	2U	107	107	100%	425	425	141	141	36	36	105	105		
5th St	FM 455	Willow St	2,610	0.49	1	1	2U	188	188	100%	425	425	210	210	93	93	117	117		
5th St	Willow St	Cowling Rd	3,335	0.63	1	1	2U	47	47	100%	425	425	268	268	30	30	238	238		
5th St	Cowling Rd	I-35 SBFR	1,835	0.35	1	1	2U	439	439	100%	425	425	148	148	153	153	-5	-5	5	5
5th St	Keaton Rd	I-35 SBFR	900	0.17	1	1	2U	143	143	100%	425	425	72	72	24	24	48	48		
Avion Dr*	Utility Rd	Marion Rd	2,970	0.56	1	1	2U	50	50	100%	425	425	239	239	28	28	211	211		
Belz Rd*	Metz Rd	Jennifer Cir	1,660	0.31	1	1	2U	100	100	100%	425	425	134	134	31	31	103	103		
Belz Rd*	Jennifer Cir	I-35 SBFR	3,160	0.60	1	1	2U	100	100	100%	425	425	254	254	60	60	194	194		
Chisam Rd	I-35 NBFR	4,375' E of I-35 NBFR	4,375	0.83	1	1	2U	8	8	100%	425	425	352	352	7	7	345	345		
Cowling Rd	5th St	Cowling to Railroad Connector	2,275	0.43	1	1	2U	70	70	100%	425	425	183	183	30	30	153	153		
Cowling Rd	Cowling to Railroad Connector	3,335' S of Cowling to Railroad Connector	3,335	0.63	1	1	2U	70	70	100%	425	425	268	268	44	44	224	224		
Duck Creek Rd	Keaton Rd (W)	Keaton Rd (E)	810	0.15	1	1	2U	214	214	100%	425	425	65	65	33	33	32	32		
Duck Creek Rd	Keaton Rd (E)	I-35 SBFR	675	0.13	1	1	2U	152	152	100%	425	425	54	54	19	19	35	35		
FM 455	FM 2450	Metz Rd	15,885	3.01	1	1	2U	227	227	100%	425	425	1,279	1,279	683	683	596	596		
FM 455	Metz Rd	N Tejas Dr	965	0.18	1	1	2U	216	216	100%	425	425	78	78	39	39	39	39		
FM 455	N Tejas Dr	Keith Dr	1,525	0.29	1	1	2U	216	216	100%	425	425	123	123	62	62	61	61		
FM 455	Keith Dr	I-35	2,400	0.45	1	1	2U	457	457	100%	425	425	193	193	208	208	-15	-15	15	15
FM 455	I-35	5th St	1,535	0.29	1	1	2U	455	455	100%	425	425	124	124	132	132	-8	-8	8	8
FM 455	5th St	2nd St	755	0.14	1	1	2U	385	385	100%	425	425	61	61	55	55	6	6		
FM 455	2nd St	Indian Ln	3,180	0.60	1	1	2U	385	385	100%	425	425	256	256	232	232	24	24		
FM 455	Indian Ln	Marion Rd	1,790	0.34	1	1	2U	391	391	100%	425	425	144	144	133	133	11	11		
FM 455	Marion Rd	830' E of Marion Rd	830	0.16	1	1	2U	231	231	100%	425	425	67	67	36	36	31	31		
FM 455	830' E of Marion Rd	FM 2164	12,905	2.44	1	1	2U	231	231	100%	425	425	1,039	1,039	565	565	474	474		
FM 455	FM 2164	2,110' S of FM 2164	2,110	0.40	1	1	2U	127	127	100%	425	425	170	170	51	51	119	119		
Indian Ln	FM 455	1,290' N of McReynolds Rd	3,375	0.64	1	1	3U	47	47	100%	525	525	336	336	30	30	306	306		
Indian Ln	1,290' N of McReynolds Rd	McReynolds Rd	1,290	0.24	1	1	2U	47	47	100%	425	425	104	104	11	11	93	93		
Jennifer Cir*	Belz Rd	1,555' S of Belz Rd	1,555	0.29	1	1	2U	50	50	100%	425	425	125	125	15	15	110	110		
Keaton Rd	FM 455	Duck Creek Rd	3,755	0.71	1	1	2U	114	114	100%	425	425	302	302	81	81	221	221		
Keaton Rd	Duck Creed Rd	5th St	2,280	0.43	1	1	2U	135	135	100%	425	425	184	184	58	58	126	126		
Keith Dr*	Jennifer Cir	FM 455	1,405	0.27	1	1	2U-G	50	50	100%	150	150	40	40	13	13	27	27		
Lois Rd W	3,645' W of I-35 SBFR	I-35 SBFR	3,645	0.69	1	1	2U	21	21	100%	425	425	293	293	14	14	279	279		
Lois Rd E	I-35 NBFR	525' E of I-35 NBFR	525	0.10	1	1	2U	144	144	100%	425	425	42	42	14	14	28	28		
Lois Rd E	775' E of I-35 NBFR	2,255' E of I-35 NBFR	1,480	0.28	1	1	2U	74	74	100%	425	425	119	119	21	21	98	98		
Marion Rd	270' N of Avion Dr	Avion Dr	270	0.05	1	1	2U	68	68	100%	425	425	22	22	3	3	19	19		
Marion Rd*	Avion Dr	FM 455	2,915	0.55	1	1	2U	100	100	100%	425	425	235	235	55	55	180	180		
McReynolds Rd	Indian Ln	PR 6630	5,115	0.97	1	1	2U	61	61	100%	425	425	412	412	59	59	353	353		
McReynolds Rd	PR 6630	600' E of PR 6630	600	0.11	1	1	2U	69	69	100%	425	425	48	48	8	8	40	40		
Metz Rd	545' N of FM 455	FM 455	545	0.10	1	1	2U	27	27	100%	425	425	44	44	3	3	41	41		
N Tejas Dr*	FM 455	1,245' S of FM 455	1,245	0.24	1	1	2U	50	50	100%	425	425	100	100	12	12	88	88		
S Keaton Rd*	5th St	1,150' S of 5th St	1,150	0.22	1	1	2U	50	50	100%	425	425	93	93	11	11	82	82		
Tejas Dr*	1,490' N of Duck Creek Rd	Duck Creek Rd	1,490	0.28	1	1	2U	50	50	100%	425	425	120	120	14	14	106	106		
Utility Rd*	I-35 NBFR	1,920' E of I-35 NBFR	1,920	0.36	1	1	2U	50	50	100%	425	425	155	155	18	18	137	137		
Willow St	Cowling Rd	Indian Ln	5,015	0.95	1	1	2U	113	113	100%	425	425	404	404	107	107	297	297		
		SUBTOTAL	**113,150**	**21.43**									**9,100**	**9,100**	**3,331**	**3,331**	**5,769**	**5,769**	**28**	**28**
												TOTAL	**18,200**		**6,662**		**11,538**		**56**	

*Existing peak hour volumes assumed based on road context and development access