

AGENDA

The Capital Improvements Advisory Committee (CIAC) of the City of Sherman will hold a meeting Tuesday, August 16, 2022 at 4:00P.M. in the Council Chambers at 220 W. Mulberry to consider the following:

1. **CALL TO ORDER**
2. **APPROVE MINUTES OF THE DECEMBER 14, 2021 CAPITAL IMPROVEMENTS ADVISORY COMMITTEE MEETING**
3. **REVIEW AND CONSIDER THE CAPITAL IMPROVEMENTS ADVISORY COMMITTEE SEMI-ANNUAL REPORT FOR 2022.**
4. **RECEIVE PRESENTATION FROM KIMLEY-HORN AND ASSOCIATES, INC., ON THE MAXIMUM IMPACT FEE.**
5. **ADJOURNMENT**

By direction of the Capital Improvements Advisory Committee of the City of Sherman.

Clay Mahone, Chairman

ATTEST: Rob Rae, Secretary

Meetings of this advisory board are open to the public.

Note: The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time.

In accordance with the Texas Open Meetings Act, Chapter 551 of the Texas Government Code, the Planning and Zoning Commission and Board of Adjustments may hold an executive session if the discussion of any of the items identified in this agenda, or any of the items identified below, concern one or more of the following:

Tex. Gov't Code § 551.071

Seeking the advice of its attorney about pending or contemplated litigation, settlement offers or any matter in which the duty of the attorney to the Planning and Zoning Commission and Board of Adjustments under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act.

Certification

I, the undersigned authority, do hereby certify that the above Agenda of the Special Called Meeting of the Capital Improvements Advisory Committee of the City of Sherman is a true and correct copy of said Notice and that I posted a true and correct copy of said Notice on the bulletin board, at City Hall, of said City of Sherman, Texas, a place convenient to the public and said notice was posted on August 11, 2022 at 4:00 p.m. and said time of posting was 72 hours before said meeting was convened or called to order.

Dated this 11th day of August, 2022
City of Sherman, Texas

Kerri Turner,
Development Services Coordinator





**Capital Improvements Advisory Committee
(CIAC)**

2.

Meeting Date: 08/16/2022

Prepared By: Kerri Turner, Administrative Assistant

Issue:

**APPROVE MINUTES OF THE DECEMBER 14, 2021 CAPITAL IMPROVEMENTS
ADVISORY COMMITTEE MEETING**

List of Agenda Items:

Attachments

12/14/2021 Draft Minutes

STATE OF TEXAS

§

December 14, 2021

COUNTY OF GRAYSON

§

BE IT REMEMBERED THAT A Regular Meeting of the Capital Improvements Advisory Committee (CIAC) and Planning and Zoning Commission of the City of Sherman, was begun and held on December 14, 2021.

MEMBERS PRESENT:

CHAIRMAN MAHONE

COMMISSION MEMBERS: DOWNTAIN, BLAGG, MANLEY,
BACA, SIMS, DAVIS AND WHITAKER

MEMBERS ABSENT:

STAFF PRESENT:

ROB RAE, DIRECTOR OF DEVELOPMENT SERVICES,
TERRENCE STEELE, ASSISTANT CITY MANAGER;
PATSY REEVES, DEVELOPMENT SERVICES
COORDINATOR, KERRI TURNER, DEVELOPMENT
SERVICES ADMINISTRATIVE ASSISTANT, WAYNE LEE,
DIRECTOR OF ENGINEERING AND MARY LAWRENCE,
FINANCE DIRECTOR.

CITY ATTORNEY:

RYAN PITTMAN

CALL TO ORDER

Chairman Mahone of the Capital Improvement Advisory Committee and Planning and Zoning Commission called the meeting to order at 4:03 p.m.

CALL TO ORDER

APPROVE MINUTES

The Capital Improvements Advisory Committee reviewed the minutes of the August 18, 2020 meeting. Motion by Commission Member Manley to approve the Minutes as written. Second by Commission Member Sims. All present voted AYE.

MOTION CARRIED.

APPROVE MINUTES

REVIEW AND CONSIDER THE CAPITAL IMPROVEMENTS
ADVISORY COMMITTEE SEMI-ANNUAL REPORT FOR 2021

Rob Rae, Director of Development Services provided an overview of the impact fee revenue year to date.

Mr. Rae explained, "We are required to have a Capital Improvements Advisory Committee (CIAC) meeting every six months to update the committee on impact fees, what we have collected and where we are to date.

A lot has happened in the City of Sherman since we started working with a consultant on setting up the capital improvement plan. In six months we are going to have the consultant back to update our plan. We have a number of properties that have been annexed into the city that are

REVIEW &
CONSIDER THE CIAC
SEMI-ANNUAL
REPORT FOR 2021

going to be developing. At this point if they were to start developing per our ordinance, they would not have to pay impact fees until we update our impact fee report to show them within our boundaries.

We are now requiring to build more infrastructure because of the large projects that are coming to Sherman, which we did not anticipate when we originally did the impact fee capital improvements assessment."

Commission Member Davis asked, "Is Texas Instruments the major project?"

Mr. Rae replied, "Texas Instruments is a major project that the City of Sherman is having to contribute in building a lot of the infrastructure for that project to happen."

Wayne Lee, Director of Engineering, added, "Shepherd's Place, Heritage Ranch and Bel Air Village also have an effect."

Commission Member Davis asked, "Is the effect mainly on water?"

Mr. Lee replied, "and wastewater."

Mr. Rae stated, "Two of those Planned Developments were not even thought of when we originally did the impact fee study. There was Bel Air Village and The Village. A lot has happened since then."

Mr. Rae explained the documents that were distributed to the Capital Improvements Advisory Committee (CIAC). Mr. Rae asked Mary Lawrence, Finance Director, to explain the financial documentation to the Capital Improvements Advisory Committee (CIAC).

Ms. Lawrence explained, "On the sheet titled Impact Fee Revenue, you can see the total is only \$14,000.00 which does not build a lot of infrastructure. I thought there was more significance on how much we exempted so far. That is an indication of what we can see in a couple of months when properties are not being exempted at the rate they were."

Chairman Mahone asked, "Can you remind us on the timeline of that exemption?"

Mr. Rae replied, "On June 7, 2021 impact fees started. If any property was platted before that date, it is exempt for one year. One of the things we anticipated is that we would have a lot of items at the Planning and Zoning Commission meetings because everyone would try to get their plats in by June 7, 2021 and that our meetings would be long, but would drop off after that. That did not happen. Applicants had to get their plats approved and signed by the Mayor

before June 7, 2021 for them to be exempt for a year. There were a lot of properties that were already platted that didn't have to worry about those impact fees. There were properties that have been platted since June 7, 2021 and starting to develop that have had to pay for impact fees."

Chairman Mahone asked, "Are those properties platted since June 7, 2021 responsible for the \$14,000.00 we have generated?"

Mr. Rae responded, "That is correct."

Commission Member Manley asked, "Were the Planned Developments exempted?"

Mr. Rae responded, "None of the Planned Developments have gotten approved yet. Bel Air Village will be getting their building permits at the beginning of 2022. Bel Air Village phase one is exempt for the single family portion, approximately 300 homes total."

Mr. Lee added, "Bel Air Village filed their plat before June 7, 2021 on phase one."

Commission Member Manley stated, "They then came back and modified the development to add more residential."

Mr. Rae explained, "Bel Air Village came back for a replat at the last Planning and Zoning Commission meeting. The replatted lots will not be exempted. All of the lots that were not changed or altered by that replat will be exempted for the first year."

Mr. Lee added, "If they pull permits after that, they will have to pay impact fees."

Mr. Rae said, "We do anticipate that June 6, 2022 we will see a lot of builders and developers coming in to get a permit at the last second. We tell all of them that this is only valid for six months. They have to get started within six months, if they don't, we will make them re-permit and they will then have to pay impact fees."

With the \$635,000.00 that was potentially exempted there is an opportunist element to this. Some of this development that did happen may not have happened this year if it wasn't for this exemption. There is that potential that some people would have started a year later but got in now because of the impact fees and started their project earlier than anticipated."

Chairman Mahone asked Mr. Rae, "Have you seen any comments or push back on the fees from the people that did pay the \$14,000.00? Did they feel like the fees were reasonable?"

Mr. Rae replied, "The reaction I have gotten on single family developments has been reasonable. These impact fees are generally a smaller number and typically passed off to the buyer so I don't see as much push back on that."

We do see more push back on the larger commercial developments because those numbers go from \$2,500.00 for a single family to \$60,000.00 to \$100,000.00 for a commercial project. It is harder for them to accept that large number even though it is just a percentage of the project, whether it is single family, multi-family or commercial."

Commission Member Davis asked, "This doesn't look so good. Is this to be expected the first year? We spent more than that putting this plan together."

Mr. Rae replied, "That is why Ms. Lawrence said the bigger number is to consider and the fact that after June 7, 2022, the number is more likely to be closer to the \$635,000.00 because those were all exempt."

Chairman Mahone stated, "Our job today is to review the current progress of the impact fees and give a recommendation to continue as is."

Mr. Rae added, "or provide comments."

Commission Member Davis stated, "What we sent to City Council, they whittled back pretty hard, so I don't know where it is at versus what we said. Those low numbers aren't well and if you aren't getting any pushback, they are too low."

Chairman Mahone asked, "Can you remind us what those impact fees are?"

Mr. Rae replied, "For single family residential, the impact fee is \$2,500.00 in total. That is \$1,000.00 for roadway impact fees, \$1,000.00 for water impact fees and \$500.00 for wastewater impact fees. That is per unit."

City Council did create an exemption for what is called Area 3 that is south of Highway 82, east of Highway 75 and north of F.M. 1417 (Vietnam Veterans Parkway), the older part of Sherman where there is a lot of infill. That area is exempted 75%. What the infill lots currently pay is \$625.00 if they were not platted before June 7, 2021. We will probably request that southern boundary of Area 3 to be Post Oak Creek so that projects like Travis Heights and Bel Air Village are in Area 4 which is the south part of Sherman.

Multi-family residential is less than single family residential per unit. The impact fee varies depending on how many units there are and on water meter size.

Commercial and industrial also vary depending on the water meter size and the use.”

Chairman Mahone asked Mr. Rae to give an example of water meter size and what sort of company would use that size.

Mr. Rae replied, “A large industrial project could use a 6” water meter. A single family residential would use a 3/4” water meter and that is \$1,000.00.”

Commission Member Manley asked Mr. Rae “If a multi-family project were broken into a series of duplexes or townhomes, would each individual unit have a small water meter? How would that sort of development be assessed a fee compared to several large multi-family buildings?”

Mr. Rae replied, “It depends. What we tell the developer when we meet with them is that if you run all of your multi-family development off of one water meter, it is going to save you money in the end instead of having individual water meters at each unit. We want to help them save cost and we want development to occur. There is that choice that they could do the individual 3/4” water meters for each unit. It also depends on if it is a platted subdivision. The development at 2100 East Lamar Street (Zone change and site plan approval under Ordinance No. 2280, Section 12, from a C-1 (Retail Business) District and R-1 (One-Family Residential) District to an R-2 (Multi-Family Residential) District) from the November 2021 Planning and Zoning Commission meeting is a platted subdivision and each of those lots would have its own 3/4” water meter. A property that is one platted lot with multiple units, we would recommend doing one large water meter and then they would sub-meter.”

Commission Member Manley stated, “One of the things I have noticed since the last time we discussed this was the amount of multi-family developments in Sherman seems to have skyrocketed and that is also the largest number that has been exempted. If we are not getting any pushback from developers that seems to be a place to look at to recoup more revenue.”

Chairman Mahone replied, “I don’t know how we can say that before we have actually seen what developers are going to do when they are charged an impact fee. After June of 2022, if there is a dramatic reduction in how many people are applying that will tell us one way or the other, where to go.”

Mr. Rae asked Mr. Lee if he had the water collection rates.

Mr. Lee replied, “The water impact fee for a 3/4” water meter is \$1,000.00. The 6” water meter impact fee would be \$93,330.00.

The wastewater impact fee for a 3/4" wastewater meter would be \$500.00 and the impact fee for a 6" wastewater meter would be \$46,665.00."

Commission Member Manley asked, "Is that based on the flow rate that goes through it?"

Mr. Lee replied, "the size of the meter and its capacity."

Mr. Rae said, "The roadway impact fee is calculated by what the land use is and how many trips it generates so it varies."

Commission Member Manley asked, "It has been six months since I saw the proposal and presentation by Kimley-Horn and Associates, Inc. What I remember is all of the comparable sized cities and municipalities that we put ourselves against when establishing these fees, we went lower than all of them. Is that correct?"

Mr. Rae replied, "yes. What we are able to charge for impact fees is still lower than what other cities are charging. We cut that in half per recommendation and City Council cut it down even further to see how it would go."

Commission Member Manley stated, "In reference to my comment about multi-family, everything that has been platted since June 6, 2021, maybe they haven't pulled a permit yet, but they still all knew the impact fees were there and they went through an engineering effort. They have got expense into these projects and know the fee is going to have to be paid at some point. If they were scared of our fees and be cost prohibited, they would not have started the project."

Mr. Lee stated, "The maximum impact fee for a 3/4" water meter per the study was \$4,478.00 and City Council adopted \$1,000.00."

Commission Member Blagg asked, "Are there rules on spending this money?"

Mr. Lee replied, "It has to go toward projects in the impact study. That is another reason why Mr. Rae is wanting to do a revised impact study because there is additional infrastructure that is needed for all this development that is coming."

Chairman Mahone added, "beyond what was initially anticipated when we first did the study."

Commission Member Blagg asked, "The biggest cost to Sherman is the sewer treatment plant. When will we need to start expansion?"

Mr. Lee replied, "within the next two to three years."

Chairman Mahone asked Mr. Rae, "Do you have any recommendations on what they do with the fees?"

Mr. Rae replied, "Right now, it is a wait and see. We are not really sure on what the real numbers are going to be once this grace period ends. I want to wait and see before making any recommendations."

Chairman Mahone stated, "Our next meeting for Capital Improvements Advisory Committee (CIAC) is going to be six months from now."

Mr. Rae said, "Anticipate that our next meeting will have a consultant involved. We will be going over the projects and demographics and then updating the plan."

Chairman Mahone asked, "If we did decide to change the impact fees one way or the other, can we only make that recommendation at the six month meetings?"

Mr. Rae replied, "yes. The next time we go over the impact fee plan with you, it will need to go the City Council for adoption and the ordinance updated."

Chairman Mahone said, "Could they adjust it like they did last time?"

Mr. Rae replied, "yes."

Chairman Mahone clarified, "The study said we could charge roughly \$4,000.00, the Capital Improvements Advisory Committee (CIAC) recommendation was \$2,000.00 and City Council took it down to \$1,000.00 for a 3/4" water meter."

Mr. Rae replied, "yes. If you all would like to make a recommendation to City Council, we can do that."

Commission Member Baca stated, "I have got a concern, because we did drop the impact fees to half of what the maximum was, of making sure there is enough money to do the projects that need to be done."

Chairman Mahone said, "Let's say there is not enough money to complete the projects, those projects still need to be completed. They are just going to have to be paid out of regular tax dollars."

Mr. Lee replied, "or sewer rates, depending on what the rate is."

Commission Member Baca asked, "Could we make the recommendation to City council to put the impact fees back to what we had it set at?"

Mr. Rae replied, "yes, there are two exemptions that we are talking about. The one exemption is the year of grace and that is what is included in this \$600,000.00. Those were already platted. There are other exemptions such as Area 3 residential exemption of 75% reduction of impact fees. There is also the exemption for anything that generates sales tax is reduced by 75% that is also factored into it. We haven't seen enough of those projects that we would be able to say this has discouraged a development from coming in or not."

Commission Member Manley asked Mr. Rae, "What was the sales tax exemption?"

Mr. Rae explained, "If McDonald's Restaurant comes in, they would be exempted 75%, so their rate would be reduced 75% because they are generating sales tax from a retail business."

Commission Member Sims asked, "Is the commercial part of the Planned Developments included in that?"

Mr. Rae replied, "Anything that generates sales tax is the way that City Council worded the ordinance."

Commission Member Davis asked, "What was the thought behind the 75% reduction on the east side of town?"

Mr. Rae replied, "It was to encourage development in older part of town."

Commission Member Blagg asked, "Can the exemption be pulled?"

Mr. Rae replied, the 75% reductions can be changed by City Council. The one year grace period cannot, that is State law."

Chairman Mahone stated, "I would like to see us back to our original recommendation."

Mr. Rae stated, "Right now what City Council can control at any point is the ordinance that was adopted in September 2020. That is without Kimley-Horn and Associates, Inc. doing a study or anything happening. They can change the 75% reductions on retail and Area 3 residential. They can also change the rate that is collected between zero and whatever the maximum rate was that was determined through the study. That is what they can do."

ACTION TAKEN.

Motion by Commission Member Baca to recommend City Council revisit the original numbers for impact fees of water, wastewater and roadway that the Capital

Improvements Advisory Committee (CIAC) recommended in August 2020. Second by Commission Member Manley.

VOTING AYE: DAVIS, MAHONE, DOWNTAIN, MANLEY, SIMS, BACA, WOOD AND WHITAKER.

VOTING NAY: NONE.

MOTION CARRIED.

ANNOUNCEMENTS

Mr. Rae announced the next meeting will take place in six months, "We will come into the meeting with things to go over with you. Kimley-Horn and Associates are planning on starting in April 2022. We will also have our financial report for this next six months."

ADJOURNMENT

On Motion duly made and carried, the meeting adjourned at 4:42 p.m.

ANNOUNCEMENTS

ADJOURNMENT

CHAIRMAN



SECRETARY



**Capital Improvements Advisory Committee
(CIAC)**

3.

Meeting Date: 08/16/2022

Prepared By: Kerri Turner, Development Services Coordinator

Issue:

**REVIEW AND CONSIDER THE CAPITAL IMPROVEMENTS ADVISORY COMMITTEE
SEMI-ANNUAL REPORT FOR 2022.**

List of Agenda Items:

Attachments

Impact Fee Review Summary

City of Sherman
Impact Fee Revenue
July 31, 2022

Fund Name	Account Name	Revenue		Total
		YE 9/30/2021	9 ME 7/31/22	
Roadway Impact Fee Zone #1	Roadway Impact Fee	\$ -	\$ 1,725.60	\$ 1,725.60
Roadway Impact Fee Zone #2	Roadway Impact Fee	\$ -	\$ 76,743.00	\$ 76,743.00
Roadway Impact Fee Zone #3	Roadway Impact Fee	\$ 1,056.00	\$ 24,710.24	\$ 25,766.24
Roadway Impact Fee Zone #4	Roadway Impact Fee	\$ -	\$ 18,000.00	\$ 18,000.00
Total Roadway Impact Fees		\$ 1,056.00	\$ 121,178.84	\$ 122,234.84
Water Impact Fee Fund	Water Impact Fee	\$ -	\$ 79,298.06	\$ 79,298.06
Sewer Impact Fee Fund	Sewer Impact Fee	\$ -	\$ 43,871.00	\$ 43,871.00
Total Impact Fees		\$ 1,056.00	\$ 244,347.90	\$ 245,403.90



**Capital Improvements Advisory Committee
(CIAC)**

4.

Meeting Date: 08/16/2022

Prepared By: Kerri Turner, Administrative Assistant

Issue:

**RECEIVE PRESENTATION FROM KIMLEY-HORN AND ASSOCIATES, INC., ON THE
MAXIMUM IMPACT FEE.**

List of Agenda Items:

Attachments

Draft 2022 Impact Fee Report

PREPARED FOR



Adopted: September 21, 2020
Minor Update: July 2022

CITY OF SHERMAN, TEXAS

2020 Roadway, Water, and Wastewater Impact Fee Study

PREPARED BY

KIMLEY-HORN AND ASSOCIATES, INC.

801 CHERRY STREET, UNIT 11, SUITE 1300

FORT WORTH, TX 76102

PHONE: 817.335.6511

TBPE FIRM REGISTRATION NUMBER: F-928

PROJECT NUMBER: 063493014

Kimley»Horn



2020 Roadway, Water, and Wastewater Impact Fee Study (Minor Update)

Prepared for:

City of Sherman, Texas



Prepared by:

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

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APRIL ROSE ESCAMILLA _____, P.E.
SERIAL NUMBER. 140256
DATE: JULY 2022

July 2022

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FOR INTERIM REVIEW ONLY.

JEFFREY A. WHITACRE _____, P.E.
SERIAL NUMBER. 102469
DATE: JULY 2022

Executive Summary

2020 Impact Fee Study (Minor Update)

Adopted on September 21, 2020
(DRAFT) Minor Update July 2022



July
2022

Prepared for the City of Sherman

Prepared by:

Kimley-Horn and Associates, Inc.

801 Cherry Street, Unit 11, Suite 1300

Fort Worth, TX 76102

Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 063493014

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EXECUTIVE SUMMARY

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 roadway and drainage, water, and wastewater facilities. In 2020, the City of Sherman began exploring Roadway, Water, and Wastewater Impact Fees as a recommendation to be used as a funding tool for infrastructure needs as a result of growth in the City.

In the most basic terms, impact fees are meant to recover the incremental cost of the impact of each new unit of development towards new infrastructure needs. Impact Fees are a mathematical calculation that determine a maximum fee that would be equivalent to growth paying for growth. This study's purpose is to calculate the maximum impact fee per service unit of new growth.

The Maximum Impact Fee is considered an appropriate measure of the impacts generated by a new unit of development on a City's infrastructure system. An impact fee program is anticipated to be designed so that it is predictable for both the development community and City. An impact fee program is transparent. This report describes in detail how the fee is calculated and how the Capital Improvements Advisory Committee (CIAC) monitors the Impact Fee program. An impact fee program is flexible in that funds can be used on priority projects and not just on projects adjacent to a specific development. An impact fee program is both equitable and proportional in that every new development pays an equal fee that is directly related to its systemwide impact.

Impact Fee Basics

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 a 6-mile diameter trip length. In Sherman, this results in the creation of four (4) separate Roadway Service Areas. For Water and Wastewater Impact Fees, a Service Area can consider the Certificate of Convenience and Necessity (CCN) area in the City of Sherman and its Extra-Territorial Jurisdiction that the City is providing or will be providing service. Therefore, this study utilizes a singular Service Area for the Water and Wastewater components respectively.

Land Use Assumptions

The 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 2020-2030. The 10-year increase in residential units is projected to be 20,088 dwelling units. The 2030 projections show an increase of 15,555,500 square feet of non-residential land uses over the 10-year window. These projections set the basis for determining loadings and demands to serve new growth. The distribution of residential and non-residential growth utilized information from historical building permit data and input from City Staff on known future development locations.

Service Units

The “service unit” is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used to quantify the supply and demand for roads and utilities in the City. Service units are attributable to an individual unit of development and utilized to calculate the maximum impact fee of a development.

For roadway purposes, the service unit is defined as a vehicle-mile. A “vehicle-mile” refers to the capacity consumed in a single lane by a vehicle making a trip one mile in length during the PM peak hour. The PM peak hour is the one-hour period during the afternoon/evening when the highest vehicular volumes are observed. In accordance with the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*, the PM Peak is used as the basis for transportation planning and the estimation of trips caused by new development.

The service unit for water and wastewater impact fees is the “single family equivalent” (SFE), which is based on the size of the individual water meters used to serve growth related development. The base water SFE is the water demand associated with the smallest water meter issued for a new single-family residence. The base wastewater SFE is the wastewater flow associated with the smallest water meter issued for a new single-family residence. The smallest water meter issued for a new single-family residence in the City of Sherman is a 3/4-inch meter.

Capital Improvement Plans

The City and project staff have identified the Roadway, Water, and Wastewater projects needed to accommodate the projected growth over the next ten (10) years within the City of Sherman. These projects include existing, proposed, and recently completed projects that were determined based on their current or anticipated impact on each defined Service Area and the City as a whole.

Roadway Impact Fee Capital Improvement Plan

The Grayson County Thoroughfare Plan is the ultimate plan for the roadway infrastructure within the City Limits. The projects on the Roadway Impact Fee Capital Improvement Plan were selected from the Thoroughfare Plan and cover existing, proposed, and completed roadway improvements, as well as intersection improvements with 10-year growth potential. The project team and City staff identified roadway and intersection projects with a projected total project cost (not impact fee eligible cost) of \$244,229,238 over four (4) Roadway Service Areas.

Water Impact Fee Capital Improvements Plan

The Water Impact Fee Capital Improvements Plan was developed for the City of Sherman based on the growth patterns and trends from the Land Use Assumptions. The recommended improvements will provide the required capacity and reliability to meet projected water demand through 2030. Elements of the water system, including storage facilities, pumping facilities, and the distribution network were evaluated against industry standards as outlined in the Design Criteria section of Water Impact Fee Chapter of this report.

A total of five (5) existing and twenty-one (21) proposed projects were identified to develop the Water Impact Fee Capital Improvements Plan. The total project cost (not impact fee eligible cost) to be evaluated is \$402,810,000.

Wastewater Impact Fee Capital Improvements Plan

Similar to the Water Impact Fee Capital Improvements Plan, the Wastewater Impact Fee Capital Improvements Plan was developed to address system improvements driven by growth. Elements of the wastewater system, including gravity pipes, force mains, and lift stations were evaluated against industry standards as outlined in the Design Criteria section of the Wastewater Impact Fee Chapter of this Report.

A total of five (5) existing and nineteen (19) proposed projects were identified to develop the Wastewater Impact Fee Capital Improvements Plan. The total project cost (not impact fee eligible cost) to be evaluated is \$223,060,000.

Recoverable Project Costs

Impact Fees are a one-time fee meant to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs within a ten-year window. With this consideration, the maximum assessable impact fee does not specifically cover the entire cost of a roadway, water, or wastewater project. The calculations that determine the percentage of a project's cost that is impact fee eligible are defined as the project's *recoverable cost*.

Roadway Recoverable Project Costs

The recoverable costs for roadway projects are calculated by first determining the net capacity of vehicle-miles supplied to support future growth within a 10-year window. This net capacity is then multiplied by the percentage of roadway capacity added attributable to this 10-year growth. This growth percentage is obtained through the derivation of a *transportation demand factor* (TDF), which computes the total vehicle-miles associated to a single land use development unit. The TDF is applied to both the net vehicle-miles supplied and the vehicle-mile growth projections to calculate the growth percentage needed to determine the cost of the RIF CIP attributable to growth. Per state law this cost is reduced by 50% to account for future ad valorem tax revenues from the new development. This results in a total recoverable project cost of \$66,308,201 (pre-finance) over four (4) Roadway Service Areas.

Water Recoverable Project Costs

The recoverable costs for water projects are calculated by determining the increase in water demand due to growth over the 10-year window. The City's current and future populations were utilized to calculate the percent utilization of each identified impact fee eligible project. The change in utilization of each project is multiplied by the total project cost to determine total recoverable project cost. The total recoverable cost is then divided by the growth in additional SFEs to determine the maximum fee per SFE. The total recoverable costs for the water distribution system is \$300,093,666 (pre-finance). Per state law this recoverable cost is reduced by 50% to account for future ad valorem tax and utility revenues from the new development.

Wastewater Recoverable Project Costs

The process for calculating the recoverable wastewater costs is similar to the water financial analysis. The recoverable costs for wastewater projects are calculated by determining the increase in wastewater flows due to growth over the 10-year window. The City's current and future populations were utilized to calculate the percent utilization of each identified impact fee eligible project. The change in utilization of each project is multiplied by the total project cost to determine total recoverable project cost. The total recoverable cost is then divided by the growth in additional SFEs to determine the maximum fee per SFE. The total recoverable costs for the wastewater collection system is \$86,023,400 (pre-finance). Per state law this recoverable cost is reduced by 50% to account for future ad valorem tax and utility revenues from the new development.

Maximum Assessable Impact Fee Calculation

In simplest terms, the maximum impact fee allowable by law is calculated by dividing the recoverable cost of the Capital Improvement Plans by the number of new service units of development. In accordance with state law, both the cost of the Capital Improvement Plan and the number of new service units of development used in the equation are based on the growth and corresponding capacity needs projected to occur within a 10-year window. This calculation is performed for each service area individually; each service area has a stand-alone Capital Improvement Plan and 10-year growth projection.

In practice, there are many factors that complicate this calculation. The maximum impact fee allowable by law for each service area is shown on the following page:

Roadway Service Area	Roadway Maximum Fee Per Single Family Dwelling ¹	Water Maximum Fee Per Single Family Equivalent (3/4-inch Meter)	Wastewater Maximum Fee Per Single Family Equivalent (3/4-inch Meter)
1	\$380	\$6,807	\$2,149
2	\$1,250		
3	\$987		
4	\$793		

¹Fee will change based upon land use and development intensity

Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of impact fees. A Capital Improvements Advisory Committee (CIAC) is required to review the Land Use Assumptions and Capacity Plan used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This 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 have adequate representation of the building and development communities. In Sherman this is the Planning & Zoning Commission with an ETJ representative. The City Council then conducts a public hearing on the Land Use Assumptions, Capacity Plan, and 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 Capacity 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 Council as necessary.

Chapter 1
Land Use Assumptions for the
2020 Impact Fee Study (Minor Update)

Adopted on September 21, 2020
(DRAFT) Minor Update July 2022



July
2022

Prepared for the City of Sherman

Prepared by:

Kimley-Horn and Associates, Inc.

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Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 063493014

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1.1 PURPOSE

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 employment estimates, form the basis for the development of impact fee Capital Improvement Plans (CIP) for roadway, water, and wastewater facilities.

Reasonable future growth estimates are necessary in order to aid the City of Sherman in establishing the need for capital improvements 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 Sherman Building Permit Data (2009 – 2022);
- Grayson County Thoroughfare Plan (2018 Update);
- Population Data from Workforce Solutions;
- City of Sherman Future Land Use;
- Aerial Overview of City Development Potential; and
- City of Sherman Staff.

1.2 COMPONENTS OF THE LAND USE ASSUMPTIONS CHAPTER

The Land Use Assumptions include the following components:

LAND USE ASSUMPTIONS METHODOLOGY

An overview of the general methodology used to generate the land use assumptions.

IMPACT FEE STUDY SERVICE AREAS

Explanation of the divisions of Sherman into service areas for roadway, water, and wastewater facilities.

10-YEAR GROWTH ASSUMPTIONS

Walk through of the growth projections for 2020-2030.

LAND USE ASSUMPTIONS SUMMARY

A synopsis of the land use assumptions.

1.3 LAND USE ASSUMPTIONS METHODOLOGY

The residential and employment 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, location and quantity of existing development;
- Building permit data;
- Probable future developments;
- Location of vacant land;
- Future Land Use; and
- Physical holding capacity of Sherman.

Research of historic building permits was performed to understand previous growth trends in the City of Sherman. Figures 1.1 – 1.3 plot the number of permits pulled over the last 13 years for each of the five general land use categories.

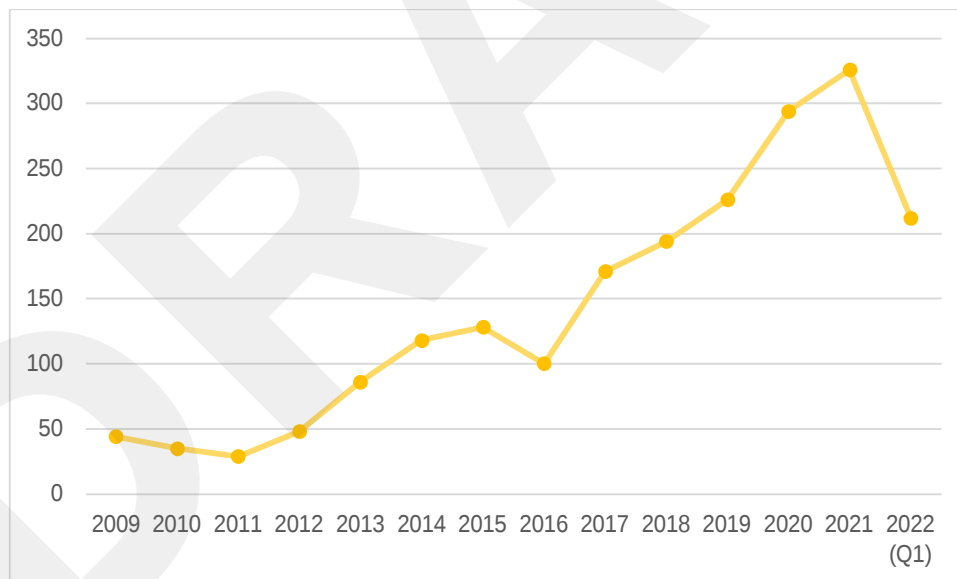


Figure 1.1 Single Family Permit History

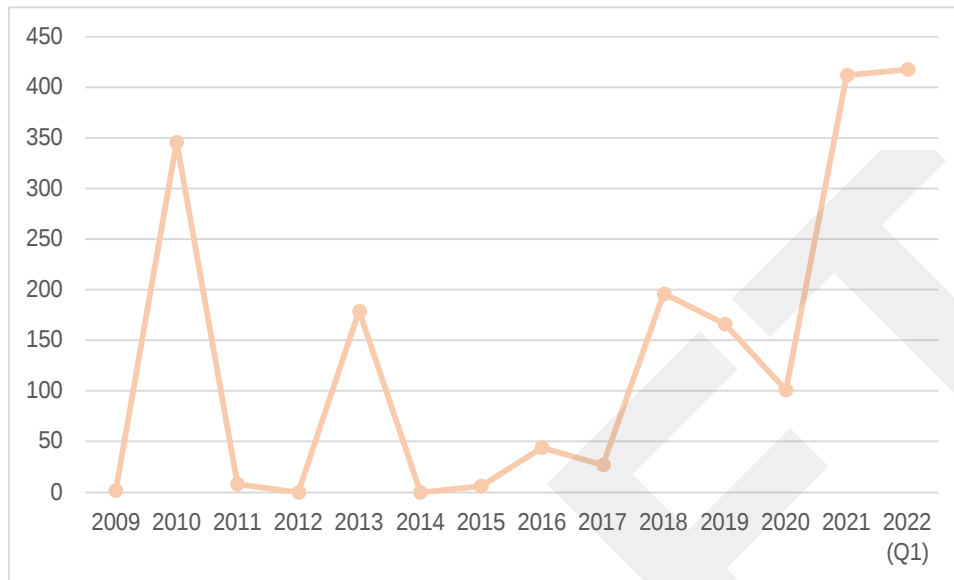


Figure 1.2 Multifamily Permit History

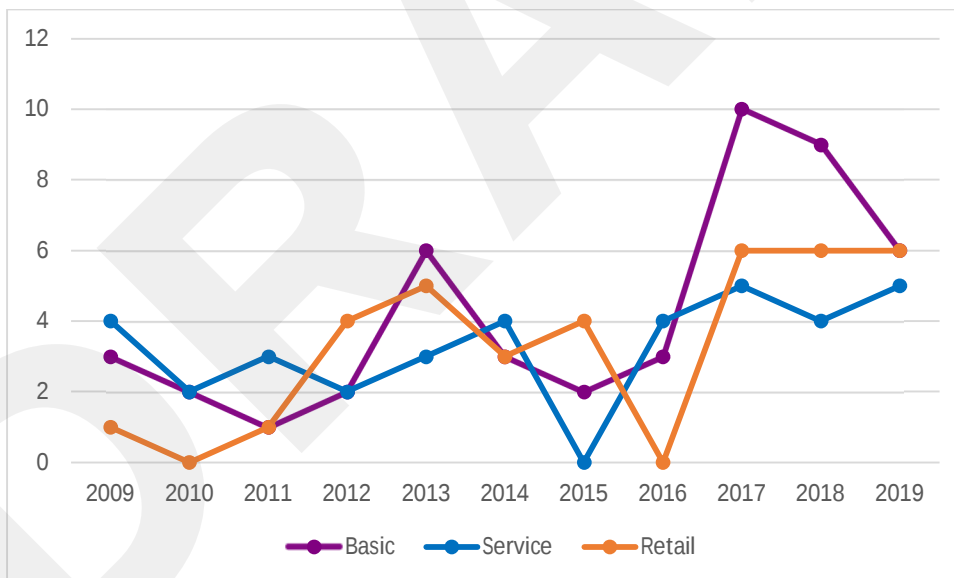


Figure 1.3 Employment Permit History

Based on the permit history over the past 13 years it can be observed that the number of single and multi-family permits have been steadily increasing, while the employment permits do not follow a particular trend. For these reasons, single family growth estimates are based on a linear trend line of data from 2011 to 2030 projections and probable future developments. The multifamily and employment growth estimates are based on average number of permits pulled per year and probable future developments. Growth projections from 2020 – 2030 for the entire City of Sherman were established using these growth trendlines, growth averages, probable future developments, and generally accepted planning principles. These City-wide growth projections were broken out into Service Area growth projections based the location of the probable future developments and an aerial overview determining the location of vacant land and the future land use.

In addition to these base growth projections over the next ten years, the City provided anticipated development build out information for thirty-five (35) planned developments that identified 8,459 single-family and 11,629 multi-family units in buildout potential from 2020-2030 as shown in Table 1.1.

Table 1.1 Probable Future Developments

Subdivision	Units
Aspire Apartments	234 multi-family
Austin Landing Phase IV	135 single-family
Austin Landing V and VI	203 single-family
Bel Air Village	1000 single-family
Planned Development	3000 multi-family
Cottages of Magnolia Village	39 single-family
Estates of Baker Park	150 single-family
Frontera	409 multi-family
Heights at Hickory Creek	313 single-family
	288 multi-family
Heritage Crossing	44 single-family
Heritage Ranch	
Planned Development	750 single-family
Hickory Hill	350 single-family
Planned Development	500 multi-family
Hidden Meadows	280 single-family
	62 single-family
Jamestown Square	384 multi-family
Luella Crossing	440 single-family
Meritage Single Family	257 single-family
Old Orchard Estates	272 single-family
Parkhaven Estates	63 single-family

Subdivision	Units
Pebblebrook Estates IV	139 single-family
Pebblecreek Apartments	300 multi-family
Quail Run Phase II	84 single-family
Sherden Mall Apartments	726 multi-family
Sherman Gateway	1200 multi-family
	200 single-family
Sherman Heights	276 multi-family
	1000 single-family
Shepherd's Place	2000 multi-family
Silver Falcon	67 single-family
Sweetwater Springs	300 single-family
	198 single-family
The Grove Addition	192 multi-family
The Preserve	
Phase I and II	100 single-family
The Village	1000 single-family
Planned Development	1600 multi-family
Three Oaks	234 single-family
Travis Heights	404 single-family
Travis Multifamily	520 multi-family
West Canyon Creek	76 single-family
Washington Meadows	134 single-family
Willow Branch	165 single-family

1.4 IMPACT FEE SERVICE AREAS

SERVICE AREA DEFINITION

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 improvement or facilities specified in the Capital Improvement Plan. Funds collected in the specific service areas must be spent in the service area collected.

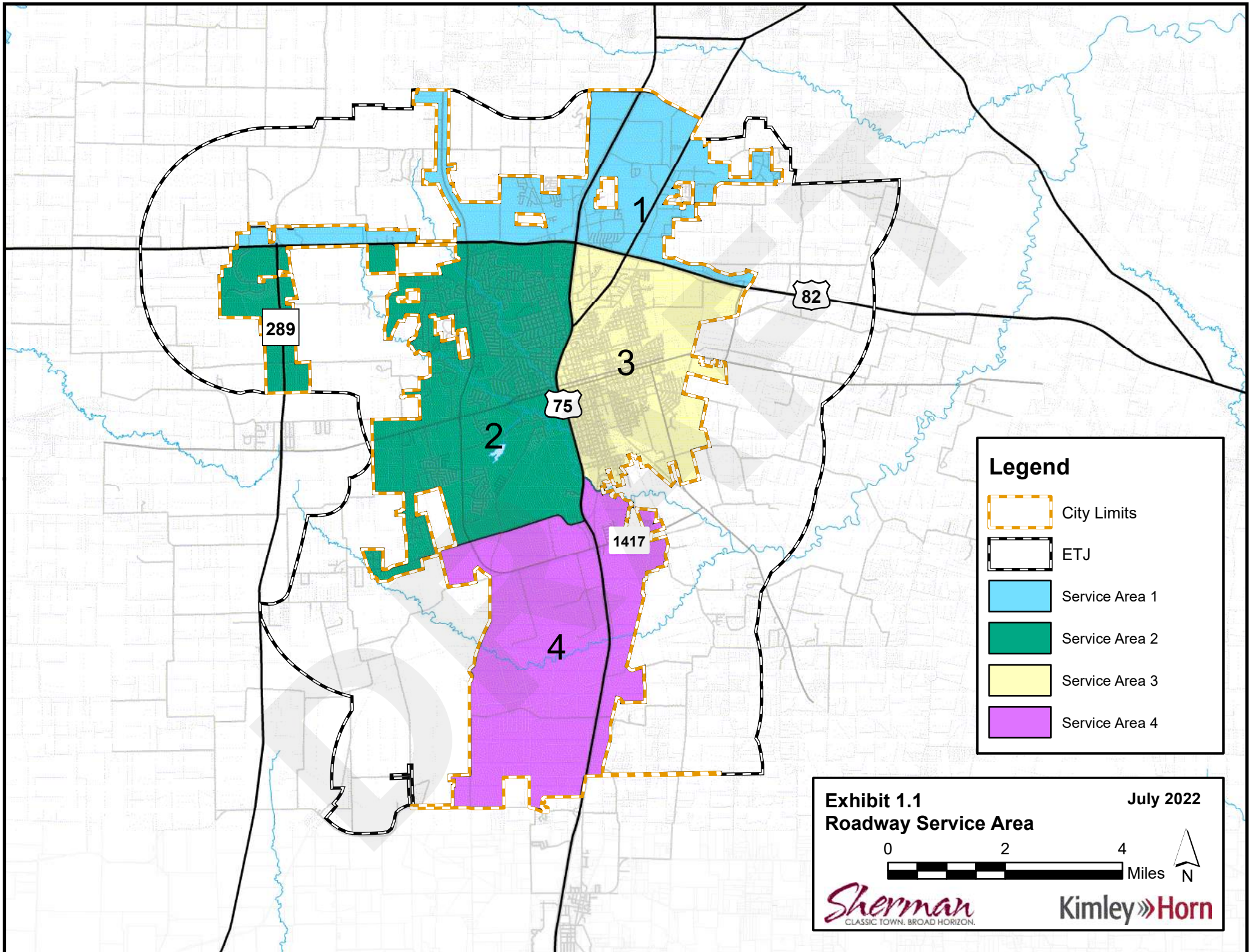
ROADWAY IMPACT FEE SERVICE AREAS

The geographic boundaries of the four (4) impact fee service areas for roadway facilities are shown in Exhibit 1.1. The roadway service areas cover the entire corporate boundary of the City of Sherman. 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.”

Service Area 1 is located north of US 82. Service Area 2 is located west of US 75, between West Travis Street and US 82. Service Area 3 is located east of US 75, between US 82 and Post Oak Creek. Service Area 4 is split by US 75 with the northern limit on the west side being West Travis Street and the northern limit on the east side being Post Oak Creek.

WATER AND WASTEWATER IMPACT FEE SERVICE AREAS

The geographic boundaries of the impact fee service area for water and wastewater facilities are shown in Exhibit 1.2 and 1.3, respectively. The water and wastewater impact fee service areas includes the City Limits, City’s water and wastewater Certificate of Convenience and Necessity (CCN), and extends throughout the Extraterritorial Jurisdiction (ETJ).



Legend

- City Limits
- ETJ
- Service Area 1
- Service Area 2
- Service Area 3
- Service Area 4

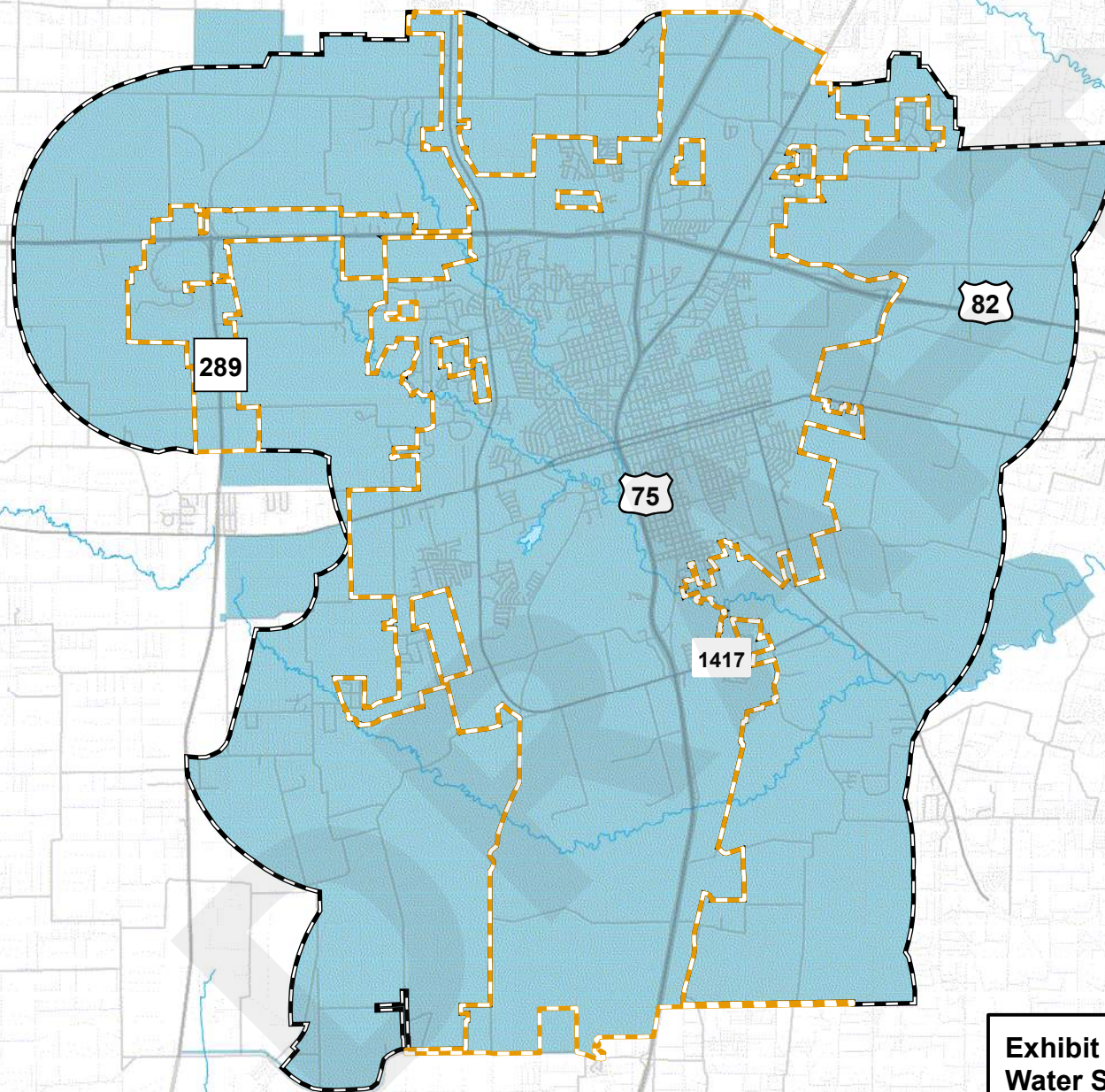
Exhibit 1.1
Roadway Service Area

July 2022

0 2 4 Miles

Sherman
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Kimley»Horn



Legend

-  City Limits
-  ETJ
-  Water Impact Fee Service Area

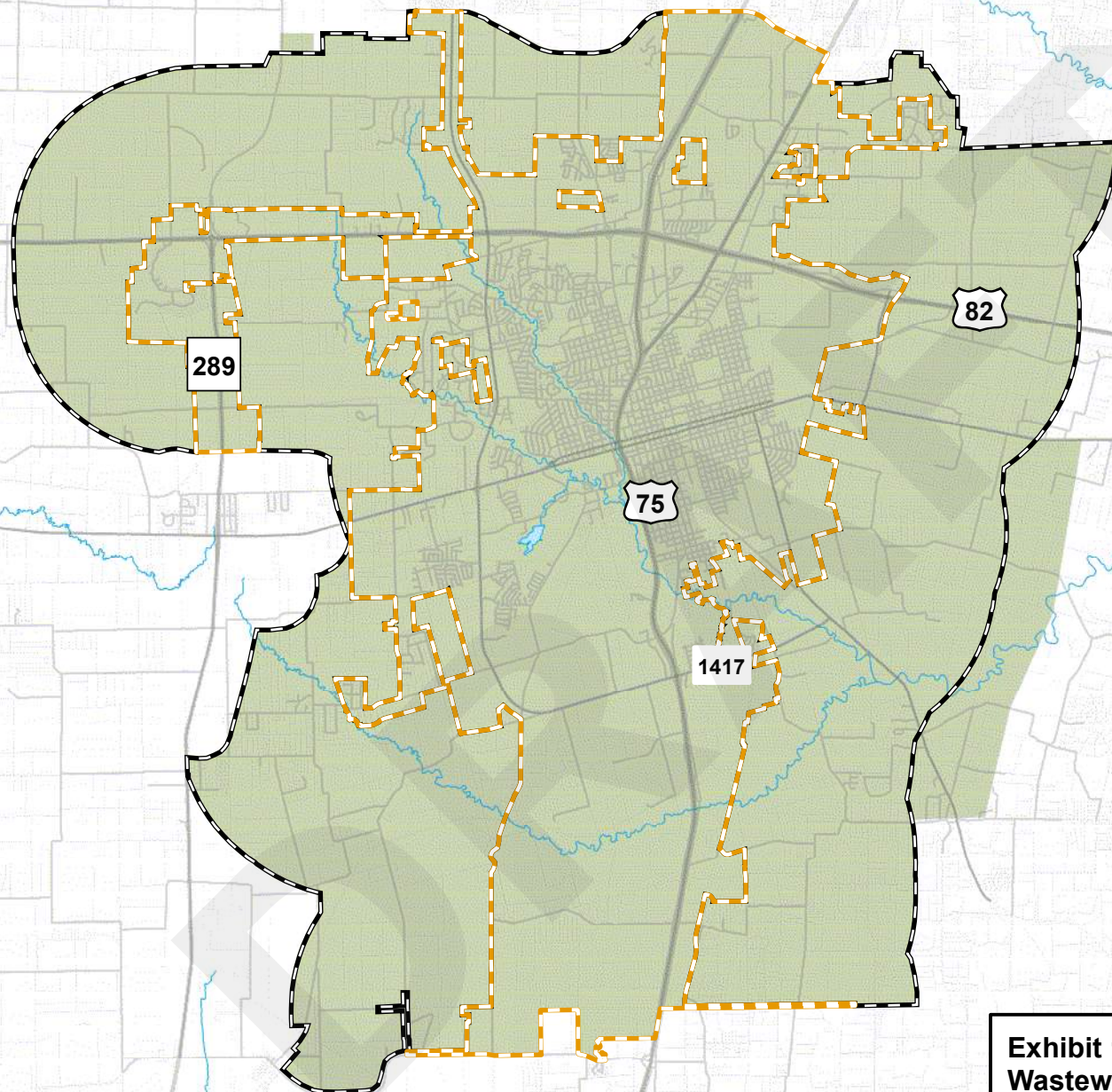
Exhibit 1.2
Water Service Area

July 2022



Sherman
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Kimley»Horn



Legend

-  City Limits
-  ETJ
-  Wastewater Impact Fee Service Area

Exhibit 1.3
Wastewater Service Area

July 2022



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Kimley»Horn

1.5 DATA FORMAT

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

IMPACT FEE SERVICE AREAS:

Larger zones, which correspond to the proposed roadway, water, and wastewater facilities service areas (as described in the previous section).

UNITS:

Number of dwelling units, both single and multifamily.

POPULATION:

Number of people based on person per dwelling unit factors.

EMPLOYMENT:

Square feet of building area based on three (3) different classifications:

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).

Service:

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

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).

1.6 10-YEAR GROWTH SUMMARY

Table 1.1 summarizes the residential and employment 10-year growth projections within the City Limits and ETJ. These projections are summed using the building permit estimate and the probable planned developments.

Table 1.2 Residential and Employment Land Use Assumptions Growth Projections (2020 – 2030)

Service Area	Residential Units		Employment Units		
	Single Family	Multifamily	Basic Sq Ft	Service Sq Ft	Retail Sq Ft
1	1,427	1,480	154,000	1,166,000	1,978,000
2	2,553	1,556	98,000	5,000	535,000
3	977	409	66,000	3,000	136,000
4	3,502	8,184	6,071,000	2,274,000	3,069,000
<u>City Total</u>	<u>8,459</u>	<u>11,629</u>	<u>6,389,000</u>	<u>3,448,000</u>	<u>5,718,000</u>

1.7 SUMMARY

Growth projections from 2020-2030 for the entire City of Sherman were established using these growth trendlines, growth averages, probable future developments, and generally accepted planning principles. Base residential growth projections for the City, summarizing population and dwelling unit growths from 2020 to 2030, are projected to be:

- The ten year (2020 - 2030) residential growth projection is approximately:
 - City Total = 20,088 Dwelling Units
- The ten-year (2020 - 2030) employment growth projection is approximately:
 - City Total = 15,555,000 ft²

Chapter 2
Roadway Impact Fees for the
2020 Impact Fee Study (Minor Update)

Adopted on September 21, 2020
(DRAFT) Minor Update July 2022



July
2022

Prepared for the City of Sherman

Prepared by:

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Project Number: 063493014

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2.1 INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure political subdivisions must follow 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 to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development.”

The City has retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2020 Roadway Impact Fee Study. This chapter includes details of the Roadway Impact Fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the Roadway Impact Fee CIP, and the Land Use Equivalency Table.

This report references two of the basic inputs to the Roadway Impact Fee:

1. Land Use Assumptions (LUA)
2. Roadway Impact Fee Capital Improvements Plan (RIF CIP)

Information from these LUA and RIF CIP 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 Areas
- Service Units
- Cost Per Service Unit
- RIF CIP Costing Methodology
- Summary of RIF CIP Costs
- Service Unit Calculation

The Roadway Impact Fee Calculation includes the calculation 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 RIF CIP as outlined in Chapter 395 of the Texas Local Government Code.

2.2 LAND USE ASSUMPTIONS

SUMMARY

The methodology for land use assumptions is presented in Chapter 1: Land Use Assumptions for the 2020 Impact Fee Study. Table 2.1 presents the land use assumptions that were utilized in the roadway impact fee development. This table illustrates growth that is projected for the City of Sherman from 2020 – 2030. These values were derived based on identifying vacant land, the City's Future Land Use, probable future developments, building permit data, and input from City of Sherman staff.

Table 2.1 Residential and Employment Land Use Assumptions Growth Projections (2020 – 2030)

Service Area	Residential Units		Employment Units		
	Single Family	Multifamily	Basic Sq Ft	Service Sq Ft	Retail Sq Ft
1	1,427	1,480	154,000	1,166,000	1,978,000
2	2,553	1,556	98,000	5,000	535,000
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4	3,502	8,184	6,071,000	2,274,000	3,069,000
<u>City Total</u>	<u>8,459</u>	<u>11,629</u>	<u>6,389,000</u>	<u>3,448,000</u>	<u>5,718,000</u>

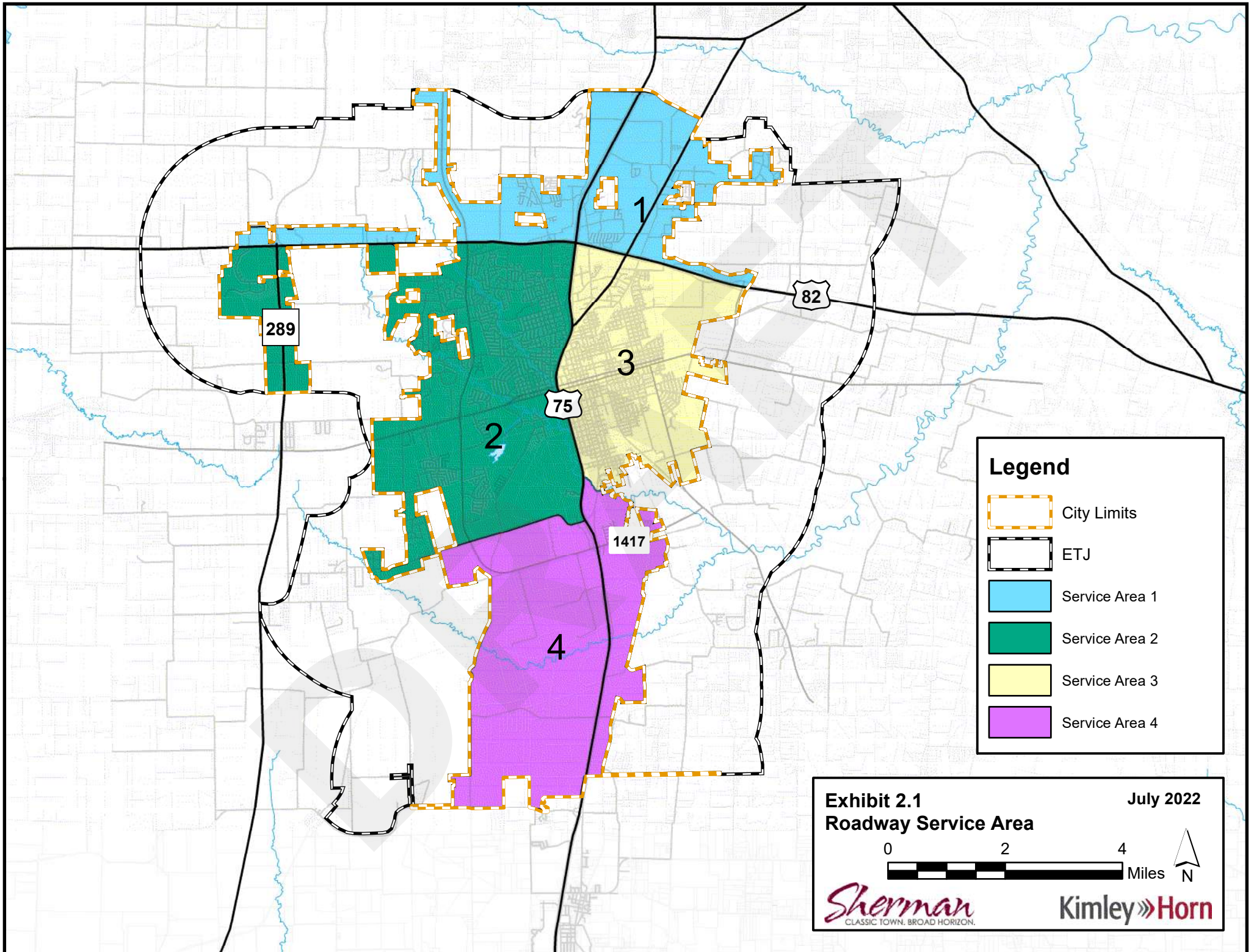
*Includes LUA for Terra Perpetua and The Village

ROADWAY IMPACT FEE SERVICE AREAS

The geographic boundary of the proposed roadway impact fee service areas is shown in Exhibit 2.1. The City of Sherman is divided into four (4) service areas. The service areas were based upon input from the City of Sherman staff.

- Service Area 1 is located north of US 82.
- Service Area 2 is located west of US 75, between West Travis Street and US 82.
- Service Area 3 is located east of US 75, between US 82 and FM 1417.
- Service Area 4 is split by US 75 with the northern limit on the west side being West Travis Street and the northern limit on the east side being FM 1417.

All thoroughfare facilities are assumed to be 100% within the City Limits, apart from facilities that border two service areas. In this instance, the proposed boundary is intended to follow the centerline of the roadway.



Legend

- City Limits
- ETJ
- Service Area 1
- Service Area 2
- Service Area 3
- Service Area 4

Exhibit 2.1
Roadway Service Area

July 2022

0 2 4 Miles

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2.3 ROADWAY IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The City has identified the roadway projects needed to accommodate the projected growth within the City. The County Thoroughfare Plan is the ultimate plan for the infrastructure within the City Limits. Only capacity improvements still needed to build out the Thoroughfare Plan to accommodate the expected growth within the next 10-years are included in the RIF CIP. The RIF CIP consists of 5 categories of projects. They are as follows:

- New – Any future roadway identified by the City to be included in the CIP.
- Widening – Existing roadways not currently built to the ultimate classification in the Thoroughfare Plan and must be completely reconstructed.
- Completed – Completed project with excess capacity available to serve new growth that the City contributed to financially.
- Gap Study – Sections along US 75 where the City anticipates contributing a total of \$8.2 million to add main lane capacity.
- Intersections – Major intersection improvements identified by the City.

All the roadway facilities identified are part of the currently adopted Thoroughfare Plan.

The proposed RIF CIP is listed in Tables 2.2 – 2.5 and mapped in Exhibits 2.2 – 2.5. The tables show the length of each project as well as the facility's Thoroughfare Plan classification. The RIF CIP was developed in conjunction with input from City of Sherman staff and represents projects that will be needed to accommodate the growth projected in Chapter 1: Land Use Assumptions for the 2020 Impact Fee Study.

Table 2.2 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area 1

Service Area	Proj. #	Thoroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
SA 1	1	Major Arterial	N HERITAGE PKWY (1)	FM 691 to US 82	2.68	100%
	2	Minor Arterial	N TRAVIS ST	Kraeger Rd to US 82 WBFR	1.11	100%
	3	Freeway	US 75 (1)	1.875' N of US 82 to US 82	0.36	100%
	4	Frontage Road	US 82 WBFR	N SH 289 to N Heritage Pkwy	3.24	100%
	5	Minor Arterial	FALLON DR (1)	N Loy Lake Rd to US 75 SBFR	0.31	100%
	6	Minor Arterial	FALLON DR (2)	1,525' N of Dripping Springs Rd to Dripping Springs Rd	0.29	100%
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area
	1		US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE		50%

Legend

SA 1 Capital Improvements Plan

- Gap Study
- New
- Widening
- Intersections
- Thoroughfare Facilities
- Floodplain
- Local Roads
- City Limits
- ETJ

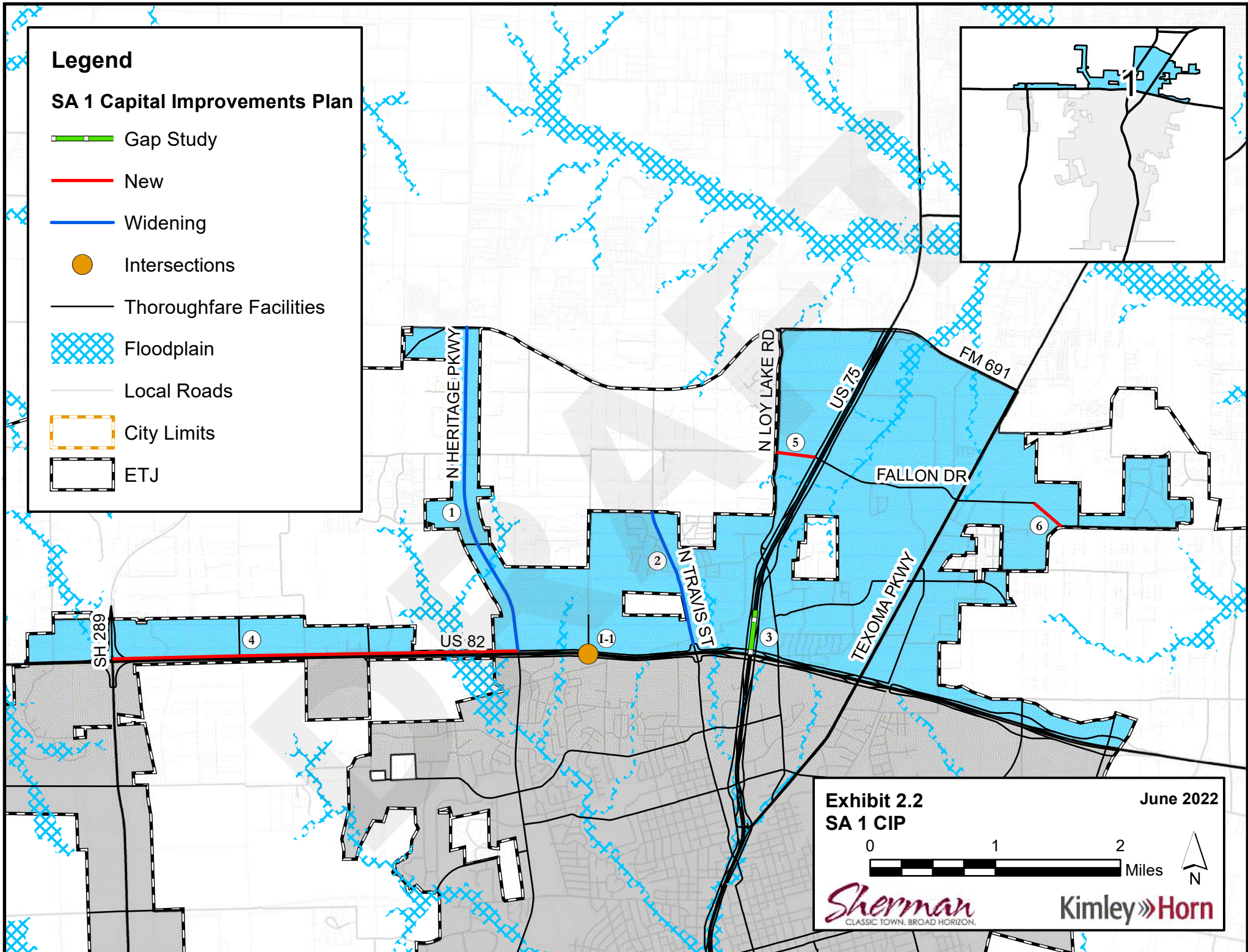


Exhibit 2.2
SA 1 CIP

June 2022



Sherman
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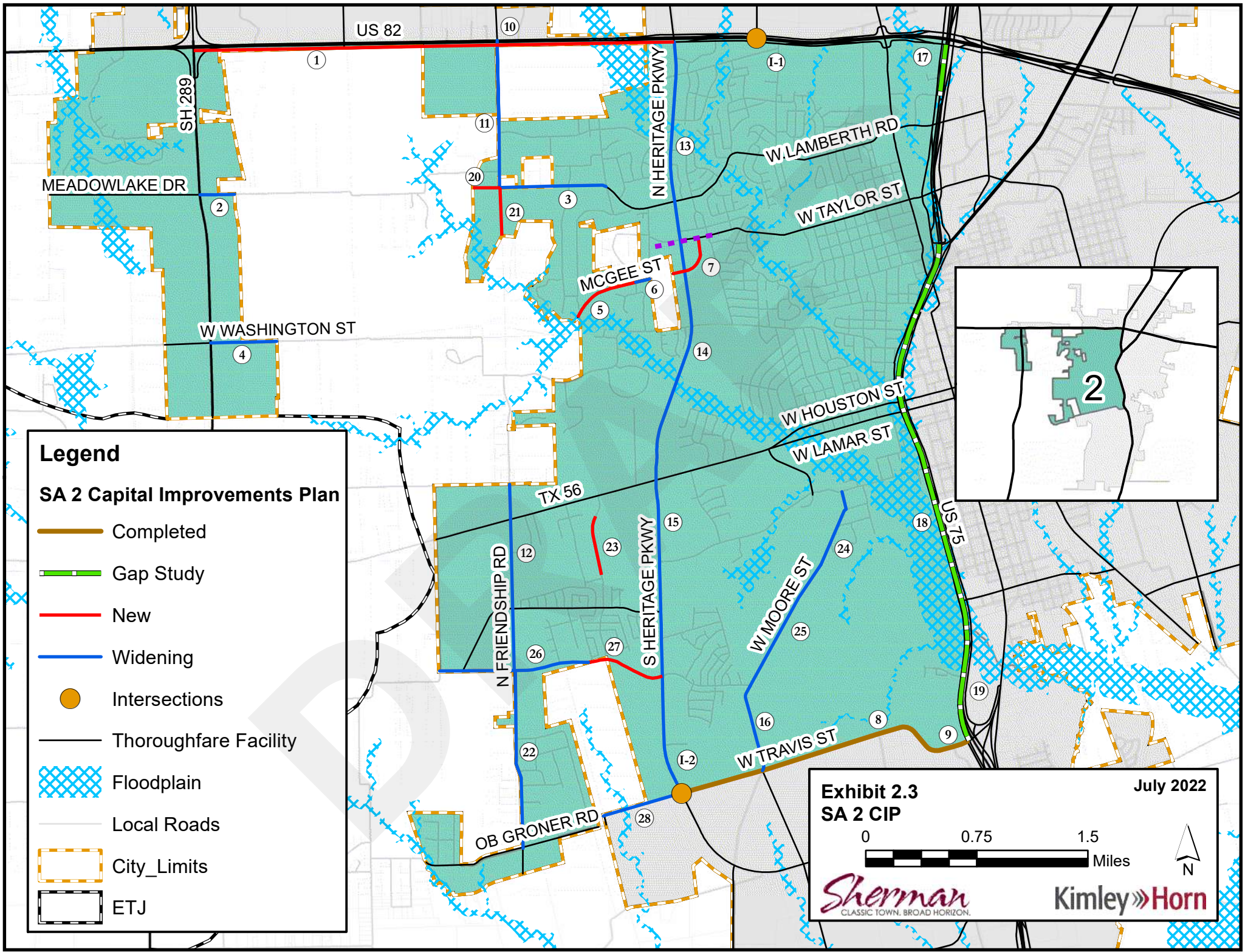
Kimley»Horn

Table 2.3 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area 2

Service Area	Proj. #	Thoroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
SA 2	1	Frontage Road	US 82 EBFR	N SH 289 to N Heritage Pkwy	3.24	100%
	2	Minor Arterial	MEADOWLAKE DR	N SH 289 to 1,235' E of N SH 289	0.23	100%
	3	Minor Arterial	W LAMBERTH RD (1)	1,800' W of Carriage Estates Rd to Shady Oaks Ln	0.72	50%
	4	Minor Arterial	W WASHINGTON ST	N SH 289 to 2,350' E of N SH 289	0.45	100%
	5	Minor Arterial	MCGEE ST (1)	2,545' W of Brookdale St to Brookdale St	0.48	100%
	6	Minor Arterial	MCGEE ST (2)	Brookdale St to Little Ln	0.10	100%
	7	Minor Arterial	MCGEE ST (3)	455' W of N Heritage Pkwy to W Taylor St	0.37	100%
	8	Minor Arterial	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	50%
	9	Minor Arterial	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	50%
	10	Minor Arterial	W LAMBERTH RD (2)	US 82 WB to 220' S of US 82 WB	0.04	100%
	11	Minor Arterial	W LAMBERTH RD (3)	US 82 WB to 1935' S of Canyon Creek Dr	1.45	50%
	12	Minor Arterial	N FRIENDSHIP RD (1)	Elliott Rd to Pleasant Home Rd	1.26	100%
	13	Major Arterial	N HERITAGE PKWY (2)	US 82 EBFR to W Taylor St	1.34	100%
	14	Major Arterial	N HERITAGE PKWY (3)	W Taylor St to W Houston St	1.66	100%
	15	Major Arterial	S HERITAGE PKWY	W Houston St to OG Groner Rd	2.14	100%
	16	Minor Arterial	W MOORE ST (1)	W Park Ave to W Travis St	0.60	100%
	17	Freeway	US 75 (2)	US 82 to 1,835' S of US 82	0.35	50%
	18	Freeway	US 75 (3)	SH 91 to Post Oak Creek	2.72	50%
	19	Freeway	US 75 (4)	Post Oak Creek to W Travis St	0.76	50%
	20	Minor Arterial	W LAMBERTH RD (4)	1000' W of Friendship to 1800' W of Carriage Estates Road	0.19	100%
	21	Minor Arterial	N FRIENDSHIP RD (2)	Lamberth Rd to 1720' S of Lamberth Rd	0.32	100%
	22	Minor Arterial	N FRIENDSHIP RD (3)	Pleasant Home Rd to OB Groner	1.20	100%
	23	Minor Arterial	SWAN RIDGE	335' S of Exculpating Rd to 120' N of Hummingbird Dr	0.41	100%
	24	Minor Arterial	W MOORE ST (2)	Center St to 2845' S of Center St	0.54	100%
	25	Minor Arterial	W MOORE ST (3)	2845' S of Center St to W Park Ave	0.95	100%
	26	Major Arterial	PLEASANT HOME RD (1)	Riddels Rd to 860' E of Cimmaron Trail	1.01	50%
	27	Major Arterial	PLEASANT HOME RD (2)	860' E of Cimmaron Trail to Flanary Rd	0.53	50%
	28	Minor Arterial	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.55	50%
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area
	1		US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE		50%
	2		FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS		50%

Table 2.4 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area 3

Service Area	Proj. #	Thoroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
SA 3	1	Minor Arterial	E PARK AVE (1)	S Inwood St to E Lake Ave	0.22	50%
	2	Minor Arterial	E PARK AVE (2)	E Lake Ave to First St	0.13	100%
	3	Minor Arterial	E PARK AVE (3)	First St to S Gribble St	0.20	100%
	4	Minor Arterial	E PARK AVE (4)	S Gribble St to E Lake Ave	0.21	100%
	5	Minor Arterial	E PARK AVE (5)	620' N of E Ida Rd to Dewey Ave	0.26	100%
	6	Minor Arterial	S TRAVIS ST (1)	W Park Ave to Post Oak Creek	0.52	100%
	7	Freeway	US 75 (2)	US 82 to 1,835' S of US 82	0.35	50%
	8	Freeway	US 75 (3)	SH 91 to Post Oak Creek	2.73	50%
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area
	1		US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE		25%



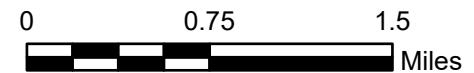
Legend

SA 2 Capital Improvements Plan

- Completed
- Gap Study
- New
- Widening
- Intersections
- Thoroughfare Facility
- Floodplain
- Local Roads
- City_Limits
- ETJ

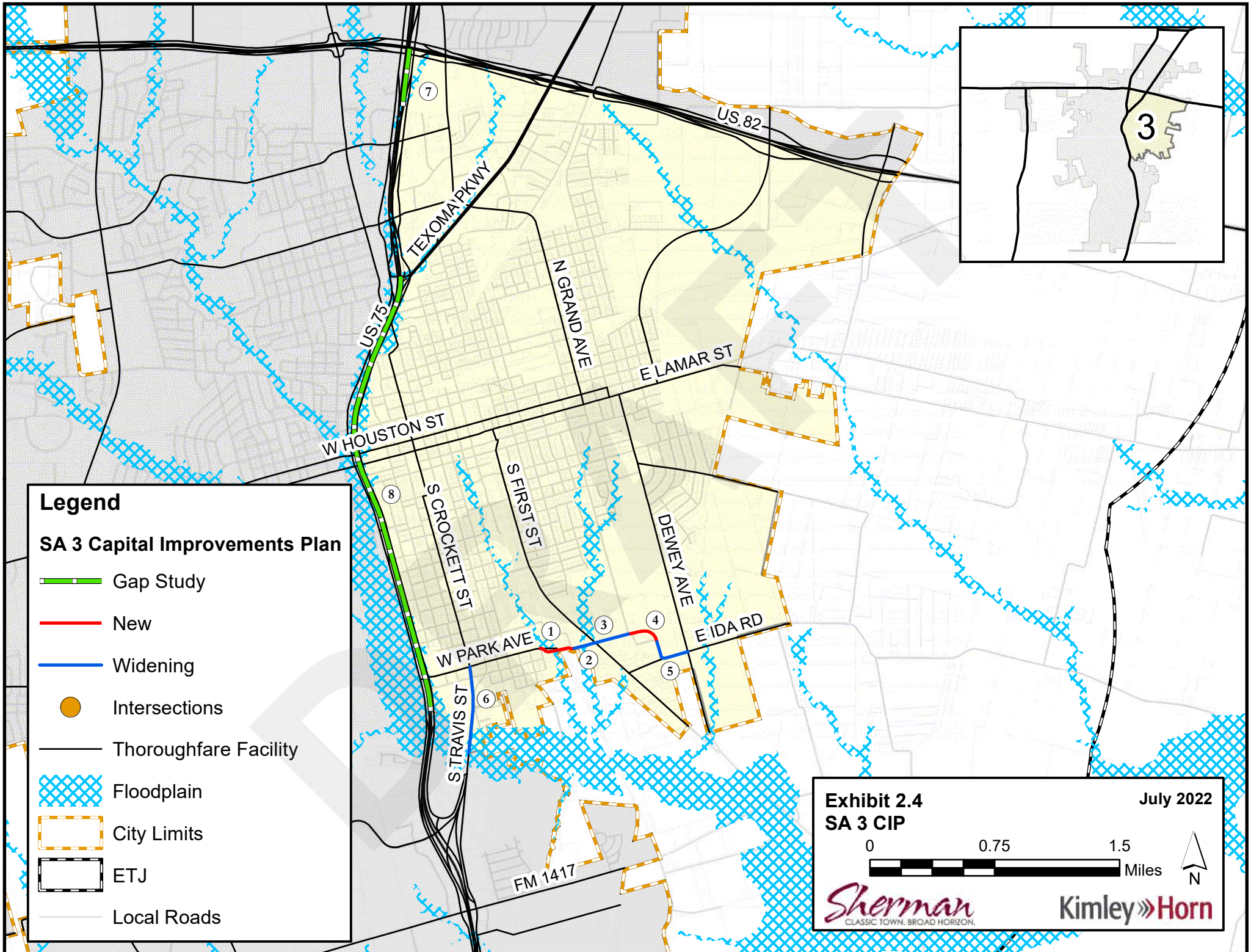
Exhibit 2.3
SA 2 CIP

July 2022



Sherman
CLASSIC TOWN. BROAD HORIZON.

Kimley»Horn



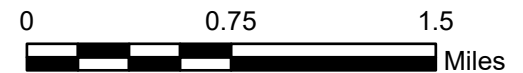
Legend

SA 3 Capital Improvements Plan

- Gap Study
- New
- Widening
- Intersections
- Thoroughfare Facility
- Floodplain
- City Limits
- ETJ
- Local Roads

Exhibit 2.4
SA 3 CIP

July 2022

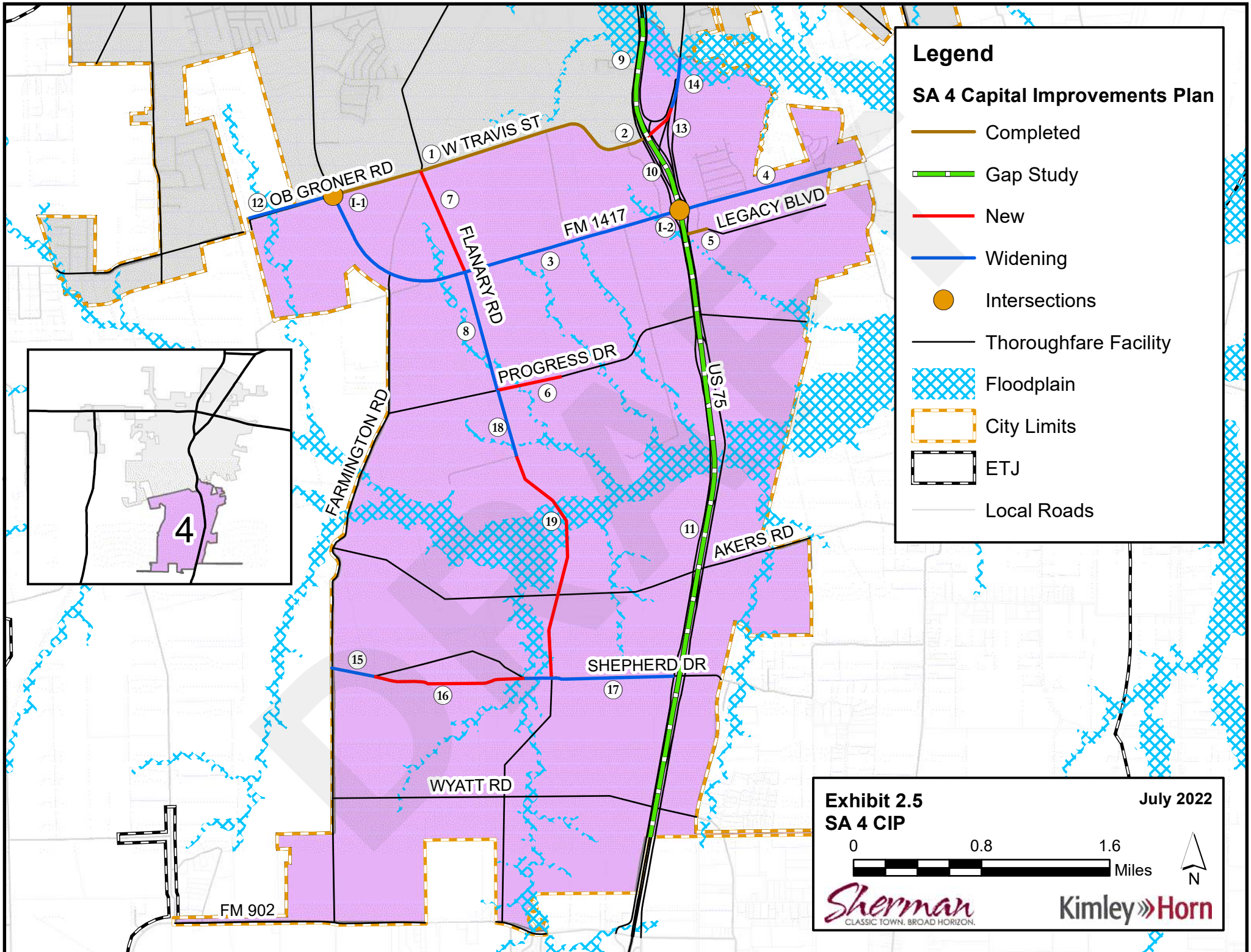


Sherman
CLASSIC TOWN. BROAD HORIZON.

Kimley»Horn

Table 2.5 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area 4

Service Area	Proj. #	Thoroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
SA 4	1	Minor Arterial	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	50%
	2	Minor Arterial	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	50%
	3	Major Arterial	FM 1417 (1)	W Travis St to US 75	2.50	100%
	4	Major Arterial	FM 1417 (2)	US 75 to 455' E of Williams Blvd	0.97	100%
	5	Minor Arterial	LEGACY BLVD	US 75 NBFR to 650' E of US 75 NBFR	0.12	100%
	6	Major Arterial	PROGRESS DR	Flanary Rd to 2,170' E of Flanary Rd	0.41	100%
	7	Minor Arterial	W MOORE ST (4)	W Travis St to W FM 1417	0.69	100%
	8	Minor Arterial	FLANARY RD (1)	W FM 1417 to W Progress Rd	0.76	100%
	9	Freeway	US 75 (4)	Post Oak Creek to W Travis St	0.76	50%
	10	Freeway	US 75 (5)	W Travis St to FM 1417	0.51	100%
	11	Freeway	US 75 (6)	FM 1417 to S City Limit	3.97	100%
	12	Minor Arterial	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.54	50%
	13	Minor Arterial	W TRAVIS ST (3)	US 75 to S Travis St	0.25	100%
	14	Minor Arterial	S TRAVIS ST (2)	Post Oak Creek to W Travis St	0.30	100%
	15	Minor Arterial	SHEPHERD DR (1)	Farmington Rd to 1450' E of Farmington Rd	0.27	100%
	16	Minor Arterial	SHEPHERD DR (2)	1450' E of Farmington Rd to 5120' W of US 75	0.95	100%
	17	Minor Arterial	SHEPHERD DR (3)	5120' W of US 75 to US 75	0.93	100%
	18	Minor Arterial	FLANARY RD (2)	Progress Dr to 2220' S of Progress Dr	0.42	100%
	19	Minor Arterial	FLANARY RD (3)	2220' S of Progress Dr to Shepherd Dr	1.51	100%
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area
	1		FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS		50%
	2		US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE		75%



2.4 METHODOLOGY FOR ROADWAY IMPACT FEES

SERVICE AREAS

The four (4) service areas used in the 2020 Roadway Impact Fee Study are shown in the previously referenced Exhibit 2.1. These service areas cover the entire corporate boundary of the City of Sherman. Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” The service areas in the 2020 Roadway Impact Fee Study are consistent with the specification of Chapter 395 of the Texas Local Government Code.

SERVICE UNITS

The “service unit” is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used in the 2020 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. Below is the definition for vehicle-mile.

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 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) provided by the Thoroughfare Plan (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 capacity values used in the 2020 Roadway Impact Fee Study are based upon generally accepted thoroughfare capacity criteria. Tables 2.6 and 2.7 show the service volumes as a function of the Thoroughfare Plan classification.

Table 2.6 Service Volumes for Proposed Facilities

Thoroughfare Plan Classification	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
Freeway (2 Additional Lanes Assumed)	Divided	1,900
Frontage Road		900
6D - Major Arterial		750
4D - Minor Arterial		650

*Note: Used in Appendix B – CIP Units of Supply

Table 2.7 Service Volumes for Existing Facilities

Existing Section	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
2U	Two-lane undivided	400
3U	Three-lane Undivided (W/ TWLTL)	600
4D	Four-lane divided	650
5U	Five-lane Undivided (W/ TWLTL)	750

COST PER SERVICE UNIT

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the Roadway Impact Fee, this is the cost for each vehicle-mile of travel. 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 ten-year period. Chapter 395 requires that Impact Fees be assessed only to pay for growth projected to occur in the city limits within the next ten-years. As noted earlier, the units of demand are vehicle-miles of travel

ROADWAY IMPACT FEE CIP COSTING METHODOLOGY

All of the project costs for a facility which serves the overall transportation system are eligible to be included in the RIF CIP. 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; and
3. Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the CIP who is not an employee of the political subdivision."

The engineer's opinion of the probable costs of the projects in the RIF CIP are 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 cost for location specific items such as bridges, highway ramps, drainage structures, or any other special components are added to each project, as appropriate. In addition, TxDOT driven projects have been included in the CIP as a 35% portion of the total cost where the City anticipates contributing a portion of the total project costs. This cost assumption is based on the typical cost that the City is responsible for in a state project such as utility adjustments, street lighting, landscaping, and engineering and survey. The following is a detailed description of the costing worksheet/methodology for the Roadway Impact Fee CIP.

Overview of Roadway Impact Fee CIP Costing Worksheets

For each project a specific costing worksheet has been developed (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 Sherman		7/11/2022			
		2020 Roadway Impact Fees					
		Conceptual Level Project Cost Projection					
				Project Number: 7			
Project Information	Project Information:		Thoroughfare Plan Classification: Minor Arterial				
	Name: W MOORE ST (4)						
	Type: New						
	Limits: W Travis St to W FM 1417						
	Service Area:		4				
	Existing Pavement Section:		NA				
	Ultimate Pavement Section:		4D				
	Length (F):		7,992				
	Travelway (F):		24				
	Roadbeds (divided #):		2				
		Parkway (F):		10.5			
		Median Width (F):		17			
		Sidewalk Width (F):		5			
		Sidewalks (#):		2			
This project includes the construction of a new four-lane divided concrete minor arterial.							
Construction Pay Items	Roadway Construction Cost Projection						
	Item	Description	Depth in inches	Quantity	Unit	Unit Cost	Extended Cost
		Street Excavation	8	11,051	CY	\$25.00	\$276,000
		Earthwork/Top Soil	6	4,144	CY	\$15.00	\$62,000
		Prepared Subgrade	6	7,696	CY	\$25.00	\$192,000
		Curb & Gutter	n/a	31,968	LF	\$10.00	\$320,000
		Concrete Sidewalk	n/a	79,920	SF	\$15.00	\$1,199,000
		Concrete Pavement	8	9,472	CY	\$300.00	\$2,842,000
	Roadway Construction Cost Subtotal:						\$4,891,000
	Construction Component Allowances	Major ROW Construction Component Allowances					
Description		Notes	Allowance	Item Cost			
Mobilization			5%	\$243,000			
Utilities		Minor Adjustments	0%	0			
Drainage		Bridge Width	Internal Stormsewer System	20%	\$978,000		
Special Drainage		58	None				
Other Major Items							
ADA Ramps & Requirements			2%	\$98,000			
Signs, Pavement Markings			2%	\$98,000			
Traffic Control			1%	\$49,000			
CIP Allowances	Street Lighting					5%	\$245,000
	Landscaping (Grass, Trees, Restoration, E/S Controls)					5%	\$245,000
	Construction Allowances Subtotal: \$1,955,000						
	Roadway & ROW Construction Allowances Subtotal: \$6,846,000						
	Capital Improvement Project (CIP) Allowances						
	Description	Notes	Allowance	Item Cost			
	Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$1,232,000			
	Contingency		10%	\$685,000			
	ROW / Easement Acquisition	None included					
	CIP Allowances Subtotal: \$1,917,000						
Impact Fee Project Costs	Impact Fee Project Cost Summary						
	Item	Notes	Item Cost				
	Roadway Construction Items			\$4,891,000			
	ROW Construction Items			\$1,955,000			
	Capital Improvement Costs			\$1,917,000			
	Impact Fee Project Cost Total: \$8,763,000						
	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 Sherman.						
	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 which Service Area the project is in with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects.
- Thoroughfare Plan Classification – The costing class to be used in the analysis. The description provides the width and depth for the various elements in the facility cross section. The construction costs are variable, based on the proposed Thoroughfare Plan classification of the roadway. Specialized cases are noted in the short description box located in this section.
- Name – A unique identifier for each project.
- Type – Describes the type of project identified. Includes; New, Widening, Completed, and Gap Study.
- Limits – Represents the beginning and ending location for each project.
- Service Area(s) – Represents the service area where the project is located. Multiple service areas will be listed if the project lies along a service area boundary.
- Pavement Sections – The existing and ultimate cross section of the thoroughfare.
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Cross Section Dimensions – These items are entered based on the cross sectional elements included with the Thoroughfare Plan classification (travelway, number of roadbeds, parkway width, median width, and sidewalk width).

Roadway Construction Costs

A typical roadway project consists of a number of costs, including the following: planning, survey, design engineering, permitting, right-of-way acquisition, construction, and inspection. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified approach was used for developing the conceptual level project costs. The pay items are listed below:

- Street Excavation
- Earthwork/Top Soil
- Prepared Subgrade
- Curb & Gutter
- Concrete Sidewalk (only Minor Arterials)
- Concrete Pavement

Construction Component Allowances

A percentage of the roadway construction cost is allotted for various major construction component allowances, as appropriate. These allowances include mobilization, utilities, drainage, ADA ramps and requirements, signage and pavement markings, traffic control, street lighting, and landscaping.

If the project type is “New,” utility adjustments were set to 0% and traffic control was set to 1%. If the project type is “Widening”, these values were set to 4% and 3%, respectively.

For projects longer than a half mile in length, the mobilization was assumed to be 5%, while 10% was assumed for shorter projects.

In addition, lump sum dollar allowances are provided for special drainage structures. An allotment of \$250,000, or \$500,000, per crossing was assumed to account for minor, or major, stream or flood plain crossings, respectively.

CIP Allowances

To determine the total Impact Fee project cost, 18% of the roadway and ROW construction allowance subtotal is added for engineering, surveying, and geotechnical work. An additional allowance is given for contingency (10%).

Impact Fee Project Cost

The Impact Fee Project Cost Total is then the Roadway Construction Items, ROW Construction Items, and Capital Improvement Plan Allowances. State highway projects were included with a projected contribution of 35% of the total project. In addition, some projects have been included based on cost estimates from the City.

SUMMARY OF ROADWAY IMPACT FEE CIP COSTS

Tables 2.8 – 2.11 are the 10-Year RIF CIP project lists for each service area with planning level project costs. Individual project cost worksheets can be seen 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 predicted.

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

Table 2.8 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections – Service Area 1

Service Area	Proj. #	Thoroughfare System Classification	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
SA 1	1	Major Arterial	N HERITAGE PKWY (1)	FM 691 to US 82	2.68	100%	\$ 6,022,000	\$ 6,022,000
	2	Minor Arterial	N TRAVIS ST	Kraeger Rd to US 82 WBFR	1.11	100%	\$ 2,340,000	\$ 2,340,000
	3	Freeway	US 75 (1)	1,875' N of US 82 to US 82	0.36	100%	\$ 620,000	\$ 620,000
	4	Frontage Road	US 82 WBFR	N SH 289 to N Heritage Pkwy	3.24	100%	\$ 1,451,000	\$ 1,451,000
	5	Minor Arterial	FALLON DR (1)	N Loy Lake Rd to US 75 SBFR	0.31	100%	\$ 2,500,000	\$ 2,500,000
	6	Minor Arterial	FALLON DR (2)	1,525' N of Dripping Springs Rd to Dripping Springs Rd	0.29	100%	\$ 1,210,000	\$ 1,210,000
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area	Total Project Cost	Cost in Service Area
	1		US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE		50%	\$ 3,000,000	\$ 1,500,000
	Service Area Roadway Project Cost Subtotal							\$ 14,143,000
	Service Area Intersection Project Cost Subtotal							\$ 1,500,000
2020 Roadway Impact Fee Study Cost Per Service Area							\$ 12,500	
Total Cost in SERVICE AREA 1							\$ 15,655,500	

- a. These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Sherman
- b. These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

Table 2.9 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections – Service Area 2

Service Area	Proj. #	Thoroughfare System Classification	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area	
SA 2	1	Frontage Road	US 82 EBFR	N SH 289 to N Heritage Pkwy	3.24	100%	\$ 1,451,000	\$ 1,451,000	
	2	Minor Arterial	MEADOWLAKE DR	N SH 289 to 1,235' E of N SH 289	0.23	100%	\$ 1,461,000	\$ 1,461,000	
	3	Minor Arterial	W LAMBERTH RD (1)	1,800' W of Carriage Estates Rd to Shady Oaks Ln	0.72	50%	\$ 4,324,000	\$ 2,162,000	
	4	Minor Arterial	W WASHINGTON ST	N SH 289 to 2,350' E of N SH 289	0.45	100%	\$ 2,780,000	\$ 2,780,000	
	5	Minor Arterial	MCGEE ST (1)	2,545' W of Brookdale St to Brookdale St	0.48	100%	\$ 3,209,000	\$ 3,209,000	
	6	Minor Arterial	MCGEE ST (2)	Brookdale St to Little Ln	0.10	100%	\$ 609,000	\$ 609,000	
	7	Minor Arterial	MCGEE ST (3)	455' W of N Heritage Pkwy to W Taylor St	0.37	100%	\$ 2,203,000	\$ 2,203,000	
	8	Minor Arterial	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	50%	\$ 7,500,000	\$ 3,750,000	
	9	Minor Arterial	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	50%	\$ 820,339	\$ 410,170	
	10	Minor Arterial	W LAMBERTH RD (2)	US 82 WB to 220' S of US 82 WB	0.04	100%	\$ 260,000	\$ 260,000	
	11	Minor Arterial	W LAMBERTH RD (3)	US 82 WB to 1935' S of Canyon Creek Dr	1.45	50%	\$ 8,751,000	\$ 4,375,500	
	12	Minor Arterial	N FRIENDSHIP RD (1)	Elliott Rd to Pleasant Home Rd	1.26	100%	\$ 18,323,343	\$ 18,323,343	
	13	Major Arterial	N HERITAGE PKWY (2)	US 82 EBFR to W Taylor St	1.34	100%	\$ 3,191,000	\$ 3,191,000	
	14	Major Arterial	N HERITAGE PKWY (3)	W Taylor St to W Houston St	1.66	100%	\$ 3,889,000	\$ 3,889,000	
	15	Major Arterial	S HERITAGE PKWY	W Houston St to OG Groner Rd	2.14	100%	\$ 3,300,000	\$ 3,300,000	
	16	Minor Arterial	W MOORE ST (1)	W Park Ave to W Travis St	0.60	100%	\$ 3,615,000	\$ 3,615,000	
	17	Freeway	US 75 (2)	US 82 to 1,835' S of US 82	0.35	50%	\$ 606,000	\$ 303,000	
	18	Freeway	US 75 (3)	SH 91 to Post Oak Creek	2.72	50%	\$ 4,748,000	\$ 2,374,000	
	19	Freeway	US 75 (4)	Post Oak Creek to W Travis St	0.76	50%	\$ 1,322,000	\$ 661,000	
	20	Minor Arterial	W LAMBERTH RD (4)	1000' W of Friendship to 1800' W of Carriage Estates Road	0.19	100%	\$ 628,833	\$ 628,833	
	21	Minor Arterial	N FRIENDSHIP RD (2)	Lamberth Rd to 1720' S of Lamberth Rd	0.32	100%	\$ 14,556,081	\$ 14,556,081	
	22	Minor Arterial	N FRIENDSHIP RD (3)	Pleasant Home Rd to OB Groner	1.20	100%	\$ 9,170,576	\$ 9,170,576	
	23	Minor Arterial	SWAN RIDGE	335' S of Exculpating Rd to 120' N of Hummingbird Dr	0.41	100%	\$ 1,100,000	\$ 1,100,000	
	24	Minor Arterial	W MOORE ST (2)	Center St to 2845' S of Center St	0.54	100%	\$ 9,045,391	\$ 9,045,391	
	25	Minor Arterial	W MOORE ST (3)	2845' S of Center St to W Park Ave	0.95	100%	\$ 16,004,609	\$ 16,004,609	
	26	Major Arterial	PLEASANT HOME RD (1)	Riddels Rd to 860' E of Cimmaron Trail	1.01	50%	\$ 16,468,911	\$ 8,234,456	
	27	Major Arterial	PLEASANT HOME RD (2)	860' E of Cimmaron Trail to Flanary Rd	0.53	50%	\$ 8,581,089	\$ 4,290,545	
	28	Minor Arterial	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.55	50%	\$ 500,000	\$ 250,000	
		Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area	Total Project Cost	Cost in Service Area
		1		US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE		50%	\$ 3,000,000	\$ 1,500,000
		2		FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS		50%	\$ 1,750,000	\$ 875,000
		Service Area Roadway Project Cost Subtotal						\$ 121,607,503	
		Service Area Intersection Project Cost Subtotal						\$ 2,375,000	
		2020 Roadway Impact Fee Study Cost Per Service Area						\$ 12,500	
		Total Cost in SERVICE AREA 2						\$ 123,995,000	

- These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Sherman.
- These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

Table 2.10 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections – Service Area 3

Service Area	Proj. #	Thoroughfare System Classification	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
SA 3	1	Minor Arterial	E PARK AVE (1)	S Inwood St to E Lake Ave	0.22	50%	\$ 1,800,000	\$ 900,000
	2	Minor Arterial	E PARK AVE (2)	E Lake Ave to First St	0.13	100%	\$ 1,154,000	\$ 1,154,000
	3	Minor Arterial	E PARK AVE (3)	First St to S Gribble St	0.20	100%	\$ 1,226,772	\$ 1,226,772
	4	Minor Arterial	E PARK AVE (4)	S Gribble St to E Lake Ave	0.21	100%	\$ 1,261,329	\$ 1,261,329
	5	Minor Arterial	E PARK AVE (5)	620' N of E Ida Rd to Dewey Ave	0.26	100%	\$ 1,606,899	\$ 1,606,899
	6	Minor Arterial	S TRAVIS ST (1)	W Park Ave to Post Oak Creek	0.52	100%	\$ 3,792,000	\$ 3,792,000
	7	Freeway	US 75 (2)	US 82 to 1,835' S of US 82	0.35	50%	\$ 606,000	\$ 303,000
	8	Freeway	US 75 (3)	SH 91 to Post Oak Creek	2.73	50%	\$ 4,748,000	\$ 2,374,000
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area	Total Project Cost	Cost in Service Area
	1		US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE		25%	\$ 7,600,000	\$ 1,900,000
	Service Area Roadway Project Cost Subtotal							\$
Service Area Intersection Project Cost Subtotal							\$	1,900,000
2020 Roadway Impact Fee Study Cost Per Service Area							\$	12,500
Total Cost in SERVICE AREA 3						\$	14,530,500	

- These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Sherman.
- These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

Table 2.11 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections – Service Area 4

Service Area	Proj. #	Thoroughfare System Classification	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
SA 4	1	Minor Arterial	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	50%	\$ 7,500,000	\$ 3,750,000
	2	Minor Arterial	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	50%	\$ 820,339	\$ 410,170
	3	Major Arterial	FM 1417 (1)	W Travis St to US 75	2.50	100%	\$ 5,730,000	\$ 5,730,000
	4	Major Arterial	FM 1417 (2)	US 75 to 455' E of Williams Blvd	0.97	100%	\$ 2,144,000	\$ 2,144,000
	5	Minor Arterial	LEGACY BLVD	US 75 NBFR to 650' E of US 75 NBFR	0.12	100%	\$ 1,968,565	\$ 1,968,565
	6	Major Arterial	PROGRESS DR	Flanary Rd to 2,170' E of Flanary Rd	0.41	100%	\$ 2,900,000	\$ 2,900,000
	7	Minor Arterial	W MOORE ST (4)	W Travis St to W FM 1417	0.69	100%	\$ 8,763,000	\$ 8,763,000
	8	Minor Arterial	FLANARY RD (1)	W FM 1417 to W Progress Rd	0.76	100%	\$ 5,500,000	\$ 5,500,000
	9	Freeway	US 75 (4)	Post Oak Creek to W Travis St	0.76	50%	\$ 1,322,000	\$ 661,000
	10	Freeway	US 75 (5)	W Travis St to FM 1417	0.51	100%	\$ 884,000	\$ 884,000
	11	Freeway	US 75 (6)	FM 1417 to S City Limit	3.97	100%	\$ 6,450,000	\$ 6,450,000
	12	Minor Arterial	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.54	50%	\$ 500,000	\$ 250,000
	13	Minor Arterial	W TRAVIS ST (3)	US 75 to S Travis St	0.25	100%	\$ 2,200,000	\$ 2,200,000
	14	Minor Arterial	S TRAVIS ST (2)	Post Oak Creek to W Travis St	0.30	100%	\$ 550,000	\$ 550,000
	15	Minor Arterial	SHEPHERD DR (1)	Farmington Rd to 1450' E of Farmington Rd	0.27	100%	\$ 1,093,640	\$ 1,093,640
	16	Minor Arterial	SHEPHERD DR (2)	1450' E of Farmington Rd to 5120' W of US 75	0.95	100%	\$ 3,795,041	\$ 3,795,041
	17	Minor Arterial	SHEPHERD DR (3)	5120' W of US 75 to US 75	0.93	100%	\$ 3,711,319	\$ 3,711,319
	18	Minor Arterial	FLANARY RD (2)	Progress Dr to 2220' S of Progress Dr	0.42	100%	\$ 3,700,000	\$ 3,700,000
	19	Minor Arterial	FLANARY RD (3)	2220' S of Progress Dr to Shepherd Dr	1.51	100%	\$ 29,000,000	\$ 29,000,000
	Proj. #	Intersection Improvements	Location	Improvement(s)		% In Service Area	Total Project Cost	Cost in Service Area
	1		FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS		50%	\$ 1,750,000	\$ 875,000
	2		US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE		75%	\$ 7,600,000	\$ 5,700,000
Service Area Roadway Project Cost Subtotal								\$ 83,460,735
Service Area Intersection Project Cost Subtotal								\$ 6,575,000
2020 Roadway Impact Fee Study Cost Per Service Area								\$ 12,500
Total Cost in SERVICE AREA 4								\$ 90,048,235

- These planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Projects within the City of Sherman.
- These planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

SERVICE UNIT CALCULATION

The basic service unit for the computation of Sherman's Roadway Impact Fee is the vehicle-mile of travel during the afternoon peak-hour. To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service areas for the ten-year period.

The growth in vehicle-miles from 2020 to 2030 is based upon projected changes in residential units and employment for the period. These growth projections are discussed in Chapter 1: Land Use Assumptions for the 2020 Impact Fee Study.

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

For non-residential land uses, the process is similar. Existing and projected number of building square footages for three (3) categories of employment – basic, service, and retail – are provided. These categories correspond to an aggregation of other specific land use categories based on the North American Industrial 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, 10th Edition. This characteristic is more appropriate than the number of employees, because building square footage is tied more closely to trip generation and is known at the time of application for any development that would require the assessment of an impact fee.

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

The transportation demand factors are aggregate rates derived from two sources – the ITE Trip Generation Manual, 10th Edition and information from the National Household Travel Survey (NHTS).

The ITE Trip Generation Manual, 10th Edition provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. For example, a stop at a nearby supermarket on the way home from work does not create a new trip onto the roadway network. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail trip generation rates 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 NHTS, requirements in Chapter 395, and other generally accepted planning principles.

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

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

Where... $L_{MaxIndustrial} = \min (L * OD \text{ or } 6)$ OR $L_{Max} = \min (L * OD \text{ or } 3)$

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), and

OD = Origin-Destination Reduction (50%)

The maximum trip length was limited to six (6) miles for industrial type land uses. For all other land uses, this max trip length was cut in half and assumed to be the radius of the service area (three (3) 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 RIF 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 Sherman to both residential and non-residential land uses. To avoid counting these trips twice as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use, and the total trip is only counted once. This methodology is consistent with that used in the National Household Travel Survey.

Table 2.12 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 2.12 Transportation Demand Factor Calculations

Variable	Residential		Basic	Service	Retail
	Single Family	Multifamily			
T	0.99	0.44	0.63	1.15	3.81
P _b	0%	0%	0%	0%	34%
L _{Max} *	3.0	3.0	5.01	3.0	2.8
TDF	2.97	1.32	3.16	3.45	7.03

*L_{Max} is 3 miles for all land uses apart from Basic; therefore this lower trip length is used for calculating the TDF for these land uses.

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), and
- OD = Origin-Destination Reduction (50%)

The application of the demographic projections and the transportation demand factors are presented in the 10-Year Growth Projections in Table 2.13. This table shows the total growth in total vehicle-miles by service area between the years 2020 and 2030. These estimates and projections lead to the Vehicle-Miles of Travel for the 10-year period.

Table 2.13 10-Year Growth Projections

2020 - 2030 Growth Projections ¹																
SERVICE AREA	RESIDENTIAL VEHICLE-MILES				NON-RESIDENTIAL SQUARE FEET ⁵				TRANS. DEMAND FACTOR ⁶				NON-RESIDENTIAL VEHICLE-MILES ¹⁰		TOTAL VEHICLE MILES ¹¹	
	Single Family Units	Trip Rate TDF ²	Multi-Family Units	Trip Rate TDF ³	VEHICLE MILES ⁴	BASIC	SERVICE	RETAIL	BASIC ⁷	SERVICE ⁸	RETAIL ⁹	BASIC	SERVICE	RETAIL		
1	1,427		1,480	0.44	6,192	154,000	1,166,000	1,978,000	0.63	1.15	2.51	487	4,023	13,905	18,415	24,607
2	2,553		1,556		9,636	98,000	5,000	535,000				310	17	3,761	4,088	13,724
3	977	2.97	409	1.32	3,442	66,000	3,000	136,000	3.16	3.45	7.03	209	10	956	1,175	4,617
4	3,502		8,184		21,204	6,071,000	2,274,000	3,069,000				19,184	7,845	21,575	48,604	69,808
Totals	8,459		11,629		40,474	6,389,000	3,448,000	5,718,000				20,190	11,895	40,197	72,282	112,756

VEHICLE-MILES OF INCREASE (2020 - 2030)

SERVICE AREA	VEH-MILES
1	24,607
2	13,724
3	4,617
4	69,808

Notes:

- From Chapter 1: Land Use Assumptions for 2020 Impact Fee Study
- Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and trip generation rate
- Transportation Demand Factor for each Service Area (from LUVMET) using Multifamily Housing (Mid-Rise) land use and trip generation rate
- Calculated by multiplying TDF by the number of dwelling units
- From Chapter 1: Land Use Assumptions for 2020 Impact Fee Study
- Trip generation rate and Transportation Demand Factors from LUVMET for each land use
- 'Basic' corresponds to General Light Industrial land use and trip generation rate
- 'Service' corresponds to General Office land use and trip generation rate
- 'Retail' corresponds to Shopping Center land use and trip generation rate
- Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
- Residential plus non-residential vehicle-mile totals for each Service Area

2.5 ROADWAY IMPACT FEE CALCULATION

MAXIMUM ASSESSABLE IMPACT FEE PER SERVICE UNIT

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

Table 2.14 illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation. The calculation of the maximum assessable impact fee is shown in Table 2.15.

Table 2.14 Maximum Assessable Roadway Impact Fee Computation

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

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

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

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

A number of facilities identified in the CIP 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.

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

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

5	<i>Total Cost of the RIF CIP within the Service Area</i>	The total cost of the Roadway projects within each service area (from Table 2.8-11: 10-Year RIF CIP with Conceptual Level Cost Opinions)
---	--	--

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

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

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

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

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

8	<i>Total Vehicle-Miles of New Demand over Ten Years</i>	Based upon the growth projection provided in Chapter 1: Land Use Assumptions for the 2020 Impact Fee Study, an estimate of the number of new vehicle-miles within the service area over the next ten years (from Table 2.13)
---	---	--

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

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

In order to ensure that the vehicle-miles added by the RIF CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the RIF CIP exceeds the growth projected to occur in the next ten years, the RIF CIP cost is reduced accordingly. This occurs in Service Area 4.

11	<i>Cost of RIF CIP Attributable to New Growth</i>	The result of multiplying the Cost of Net Capacity Added (Line 6) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 10)
----	---	--

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

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

This value is the total pre-credit maximum fee per service unit (without finance) that may be recovered through impact fees. This line is determined considering limitations to impact fee required by Texas Legislature.

PLAN FOR THE ROADWAY IMPACT FEE CREDIT

Chapter 395 of the Texas Local Government Code requires the RIF CIP 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 Sherman has determined the maximum assessable impact fee per service unit shall be 50% of the total projected cost of implementing the CIP. Therefore, the Credit Calculation (Line 13) is assumed to be half of the Cost of Total RIF CIP Attributable to Growth (Line 11). The sum of these values presents the Recoverable Cost of the RIF CIP (Line 14). The Recoverable Cost of the RIF CIP Plus Financing Costs (Line 15) are anticipated to add an additional 30.37% to account for an interest rate over a 20-year payment period. The Maximum Assessable Fee Per Service Unit (Line 16) is then found dividing the Recoverable Cost of the RIF CIP Plus Financing Costs (Line 15) by the Total Vehicle-Miles of Demand over Ten Years (Line 8).

The continuation of Table 2.14 summarizes the additional computations carried out to provide the maximum assessable impact fee.

Table 2.14 Maximum Assessable Roadway Impact Fee Computation (Continued)

Line	Title	Description
13	<i>Credit Calculation</i>	Assumed to be 50% of the cost of the CIP (Line 11) as allowed by Chapter 395.
14	<i>Recoverable Cost of RIF CIP</i>	The sum of the cost of the CIP (Line 11) and the 50% Credit (Line 13) (Line 11 + Line 13)
15	<i>Recoverable Cost of RIF CIP Plus Financing Costs</i>	The sum of the cost of the Recoverable Cost of the CIP (Line 14) and Financing Costs (Assumed 30.37%)
16	<i>Maximum Assessable Fee Per Service Unit</i>	Found by dividing the Recoverable Cost of the CIP Plus Financing (Line 15) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 15 / Line 8)

Table 2.15 summarizes the calculations walked through in Table 2.14 and provides the maximum assessable impact fee for each service area.

Table 2.15 Maximum Assessable Roadway Impact Fee

SERVICE AREA:		1	2	3	4
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE ROADWAY IMPACT FEE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	23,674	64,470	9,590	55,414
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	1,999	7,467	271	3,128
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING FACILITIES INVENTORY, APPENDIX C)	0	900	0	0
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	21,675	56,103	9,319	52,286
5	TOTAL COST OF THE ROADWAY IMPACT FEE CIP AND STUDY WITHIN SERVICE AREA (FROM TABLES 2.8 TO 2.11)	\$ 15,655,500	\$123,995,003	\$ 14,530,500	\$ 90,048,235
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	\$ 14,333,571	\$107,902,771	\$ 14,119,888	\$ 84,965,207
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	\$ 1,321,929	\$ 16,092,232	\$ 410,612	\$ 5,083,028
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM TABLE 2.13 AND CHAPTER 1)	24,607	13,724	4,617	69,808
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	113.5%	24.4%	49.5%	133.5%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	100.0%	24.4%	49.5%	100.0%
11	COST OF ROADWAY IMPACT FEE CIP ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	\$ 14,333,571	\$ 26,328,276	\$ 6,989,345	\$ 84,965,207
12	PRE-CREDIT MAXIMUM FEE PER SERVICE UNIT WITHOUT FINANCING (LINE 11 / LINE 8)	\$ 583	\$ 1,918	\$ 1,514	\$ 1,217
13	CREDIT CALCULATION (50% OF LINE 11)	\$ (7,166,786)	\$(13,164,138)	\$ (3,494,673)	\$(42,482,604)
14	RECOVERABLE COST OF ROADWAY IMPACT FEE CIP (LINE 11 + LINE 13)	\$ 7,166,786	\$ 13,164,138	\$ 3,494,673	\$ 42,482,604
15	RECOVERABLE COST OF ROADWAY IMPACT FEE CIP PLUS FINANCING COSTS (ASSUMED 30.37%)	\$ 9,343,338	\$ 17,162,087	\$ 4,556,005	\$ 55,384,570
16	MAXIMUM ASSESSABLE FEE PER SERVICE UNIT (LINE 15 / LINE 8)	\$ 380	\$ 1,250	\$ 987	\$ 793

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 2.16. This table lists the predominant land uses that may occur within the City of Sherman. 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. The descriptions for each land use are presented in Table 2.17. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use is a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the afternoon peak hour by each land use per development unit. The next column in Table 2.16, 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 definitive source of the trip generation and pass-by statistics is the ITE Trip Generation Manual, 10th 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 10th Edition of the ITE Trip Generation Manual, an alternative service unit demand could be calculated by completing a trip generation study based on the procedure identified in the ITE Trip Generation Handbook.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The trip length values are based on land use, as explained in Section 2.4 - 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 2.16 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	Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
PORT AND TERMINAL											
Truck Terminal	030	1,000 SF GFA	1.87			1.87	10.02	50%	5.01	5.01	9.37
Park-and-Ride	090	Parking Spaces	0.43			0.43	10.02	50%	5.01	5.01	2.15
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.63			0.63	10.02	50%	5.01	5.01	3.16
Industrial Park	130	1,000 SF GFA	0.40			0.40	10.02	50%	5.01	5.01	2.00
Manufacturing	140	1,000 SF GFA	0.67			0.67	10.02	50%	5.01	5.01	3.36
Warehousing	150	1,000 SF GFA	0.19			0.19	10.02	50%	5.01	5.01	0.95
Mini-Warehouse	151	1,000 SF GFA	0.17			0.17	10.02	50%	5.01	5.01	0.85
Data Center	160	1,000 SF GFA	0.09			0.09	10.02	50%	5.01	5.01	0.45
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	0.99			0.99	9.79	50%	4.90	3.00	2.97
Multifamily Housing (Low-Rise)	220	Dwelling Unit	0.56			0.56	9.79	50%	4.90	3.00	1.68
Multifamily Housing (Mid-Rise)	221	Dwelling Unit	0.44			0.44	9.79	50%	4.90	3.00	1.32
Multifamily Housing (High-Rise)	222	Dwelling Unit	0.36			0.36	9.79	50%	4.90	3.00	1.08
Mobile Home Park / Manufactured Home	240	Dwelling Unit	0.46			0.46	9.79	50%	4.90	3.00	1.38
Senior Adult Housing-Detached	251	Dwelling Unit	0.30			0.30	9.79	50%	4.90	3.00	0.90
Senior Adult Housing-Attached	252	Dwelling Unit	0.26			0.26	9.79	50%	4.90	3.00	0.78
Assisted Living	254	Beds	0.26			0.26	9.79	50%	4.90	3.00	0.78
LODGING											
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.00	1.80
Motel / Other Lodging Facilities	320	Room	0.38			0.38	6.43	50%	3.22	3.00	1.14
RECREATIONAL											
Golf Course	430	Hole	2.91			2.91	7.86	50%	3.93	3.00	8.73
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.00	0.99
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.00	3.75
Bowling Alley	437	1,000 SF GFA	1.16			1.16	7.86	50%	3.93	3.00	3.48
Multiplex Movie Theater	445	Screens	13.73			13.73	15.77	50%	7.89	3.00	41.19
Ice Skating Rink	465	1,000 SF GFA	1.33			1.33	7.86	50%	3.93	3.00	3.99
Racquet / Tennis Club	491	Court	3.82			3.82	7.86	50%	3.93	3.00	11.46
Health/Fitness Club	492	1,000 SF GFA	3.45			3.45	7.86	50%	3.93	3.00	10.35
Recreational Community Center	495	1,000 SF GFA	2.31			2.31	7.86	50%	3.93	3.00	6.93
INSTITUTIONAL											
Primary/Middle School (1-8)	522	Students	0.17			0.17	3.49	50%	1.75	1.75	0.30
High School	530	Students	0.14			0.14	3.49	50%	1.75	1.75	0.25
Junior / Community College	540	Students	0.11			0.11	10.44	50%	5.22	3.00	0.33
University / College	550	Students	0.15			0.15	10.44	50%	5.22	3.00	0.45
Religious Institute	560	1,000 SF GFA	0.49			0.49	8.31	50%	4.16	3.00	1.47
Day Care Center	565	1,000 SF GFA	11.12	44%	B	6.23	3.49	50%	1.75	1.75	10.90
MEDICAL											
Hospital	610	1,000 SF GFA	0.97			0.97	9.85	50%	4.93	3.00	2.91
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	3.00	0.66
Clinic	630	1,000 SF GFA	3.28			3.28	9.85	50%	4.93	3.00	9.84
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	3.53	30%	B	2.47	9.85	50%	4.93	3.00	7.41
OFFICE											
General Office Building	710	1,000 SF GFA	1.15			1.15	14.65	50%	7.33	3.00	3.45
Corporate Headquarters Building	714	1,000 SF GFA	0.60			0.60	14.65	50%	7.33	3.00	1.80
Single Tenant Office Building	715	1,000 SF GFA	1.71			1.71	14.65	50%	7.33	3.00	5.13
Medical-Dental Office Building	720	1,000 SF GFA	3.46			3.46	9.85	50%	4.93	3.00	10.38
Office Park	750	1,000 SF GFA	1.07			1.07	14.65	50%	7.33	3.00	3.21

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 10th Edition (September 2017)

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

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

Table 2.16 LUVMET (Continued)

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	Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
COMMERCIAL											
Automobile Related											
New Car Sales	841	1,000 SF GFA	2.43	20%	B	1.94	5.60	50%	2.80	2.80	5.43
Automobile Parts Sales	843	1,000 SF GFA	4.91	43%	A	2.80	4.45	50%	2.23	2.23	6.24
Tire Store	848	1,000 SF GFA	3.98	28%	A	2.87	4.45	50%	2.23	2.23	6.40
Quick Lubrication Vehicle Shop	941	Servicing Positions	4.85	40%	B	2.91	4.45	50%	2.23	2.23	6.49
Automobile Care Center	942	1,000 SF GFA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	4.17
Gasoline/Service Station	944	Vehicle Fueling Position	14.03	42%	A	8.14	1.20	50%	0.60	0.60	4.88
Gasoline/Service Station w/ Conv Market and Car Wash	945	Vehicle Fueling Position	13.99	56%	B	6.16	1.20	50%	0.60	0.60	3.70
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Dining											
Drinking Place	925	1,000 SF GFA	11.36			11.36	5.64	50%	2.82	2.82	32.04
Quality Restaurant	931	1,000 SF GFA	7.80	44%	A	4.37	5.64	50%	2.82	2.82	12.32
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.77	43%	A	5.57	5.64	50%	2.82	2.82	15.71
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	28.34	50%	B	14.17	5.64	50%	2.82	2.82	39.96
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.67	50%	A	16.34	5.64	50%	2.82	2.82	46.08
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	43.38	70%	A	13.01	5.64	50%	2.82	2.82	36.69
Other Retail											
Free-Standing Store	815	1,000 SF GFA	4.83	30%	C	3.38	5.60	50%	2.80	2.80	9.46
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	13.61
Shopping Center	820	1,000 SF GLA	3.81	34%	A	2.51	5.60	50%	2.80	2.80	7.03
Supermarket	850	1,000 SF GFA	9.24	36%	A	5.91	5.60	50%	2.80	2.80	16.55
Home Improvement Superstore	862	1,000 SF GFA	2.33	48%	A	1.21	5.60	50%	2.80	2.80	3.39
Toy/Children's Superstore	864	1,000 SF GFA	5.00	30%	B	3.50	5.60	50%	2.80	2.80	9.80
Department Store	875	1,000 SF GFA	1.95	30%	B	1.37	5.60	50%	2.80	2.80	3.84
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.51	53%	A	4.00	5.60	50%	2.80	2.80	11.20
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	10.29	49%	A	5.25	5.60	50%	2.80	2.80	14.70
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	16.23
Drive-In Bank	912	Drive-in Lanes	27.15	35%	A	17.65	4.45	50%	2.23	2.23	39.36
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	6.41	50%	3.21	3.00	3.06

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 10th Edition (September 2017)

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

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

Table 2.17 Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description
PORT AND TERMINAL		
Truck Terminal	030	Point of good transfer between trucks or between trucks and rail
Park and Ride	090	Area used for the transfer of people between private vehicles and buses, light rail, or carpooling.
INDUSTRIAL		
General Light Industrial	110	Emphasis on activities other than manufacturing; typically employing fewer than 500 workers
Industrial Park	130	Area containing a number of industries or related facilities
Manufacturing	140	Primary activity is the conversion of raw materials or parts into finished products
Warehousing	150	Devoted to storage of materials but may include office and maintenance areas
Mini-Warehouse	151	Facilities with a number of units rented to others for the storage of goods
Data Center	160	Free-standing warehouse type facility that is primarily used for off-site storage of computer systems
RESIDENTIAL		
Single-Family Detached Housing	210	Single-family detached homes on individual lots
Multifamily Housing (Low-Rise)	220	One or two levels (floors) per building such as duplex and townhomes
Multifamily Housing (Mid-Rise)	221	Multi-family housing between three and ten levels (floors) per building
Multifamily Housing (High-Rise)	222	Multi-family housing more than ten levels (floors) per building
Mobile Home Park / Manufactured Housing	240	Consist of manufactured homes that are sited and installed on permanent foundations
Senior Adult Housing-Detached	251	Consists of detached independent living developments that include amenities such as golf courses and swimming pools
Senior Adult Housing-Attached	252	Consists of attached independent living developments that include limited social or recreation services
Assisted Living	254	Residential settings that provide either routine general protective oversight or assistance with activities.
LODGING		
Hotel	310	Lodging facilities that typically have on-site restaurants, lounges, meeting and/or banquet rooms, or other retail shops and services
Motel / Other Lodging Facilities	320	Lodging facilities that may have small on-site restaurant or buffet area but little or no meeting space
RECREATIONAL		
Golf Course	430	May include municipal courses and private country clubs; may have driving ranges, pro shops, and restaurant/banquet facilities
Miniature Golf Course	431	One or more individual putting courses; category should not be used when part of a larger entertainment center (with batting cages, video game centers, etc)
Golf Driving Range	432	Facilities with driving tees for practice; may provide individual or group lessons; may have pro shop and/or refreshment facilities
Bowling Alley	437	Recreational facility that include bowling lanes
Multiplex Movie Theater	445	Movie theater with audience seating, minimum of ten screens, lobby, and refreshment area.
Ice Skating Rink	465	Rinks for ice skating and related sports; may contain spectator areas and refreshment facilities
Racquet / Tennis Club	491	Indoor or outdoor facilities specifically designed for playing tennis
Health / Fitness Club	492	Privately owned facilities that primarily focus on individual fitness or training
Recreational Community Center	495	Public facilities that primarily focus on individual fitness or training
INSTITUTIONAL		
Primary / Middle School	522	Serves students prior to High School
High School	530	Serves students after Middle School
Junior / Community College	540	Two-year junior, community, or technical colleges
University / College	550	Four-year university or college that may or may not offer graduate programs
Religious Institute	560	Places of worship
Day Care Center	565	Generally includes facilities for care of pre-school aged children, generally includes classrooms, offices, eating areas, and playgrounds
MEDICAL		
Hospital	610	Medical and surgical facilities with overnight accommodations
Nursing Home	620	Rest and convalescent homes with residents who do little or no driving
Clinic	630	Facilities with limited diagnostic and outpatient care
Animal Hospital / Veterinary Clinic	640	Facility that specializes in the medical care and treatment of animals
OFFICE		
General Office Building	710	Office buildings which house multiple tenants
Corporate Headquarters Building	714	Office building housing corporate headquarters of a single company or organization
Single Tenant Office Building	715	Single tenant office buildings other than corporate headquarters
Medical/Dental Office	720	Multi-tenant building with offices for physicians and/or dentists
Office Park	750	Office buildings (typically low-rise) in a campus setting and served by a common roadway system

Table 2.17 Land Use Descriptions (Continued)

Land Use Category	ITE Land Use Code	Land Use Description
COMMERCIAL		
Automobile Related		
New Car Sales	841	New car dealerships, typically with automobile servicing and part sales
Automobile Parts Sales	843	Retail sale of auto parts but no on-site vehicle repair
Tire Store	848	Primary business is sales and installation of tires; usually do not have large storage or warehouse area
Quick Lubrication Vehicle Shop	941	Primary business is to perform oil changes and fluid/filter changes with other repair services not provided
Automobile Care Center	942	Automobile repair and servicing including stereo installations and upholstery
Gasoline / Service Station	944	Gasoline sales without convenience store or car wash; may include repair
Gasoline/Service Station w/ Conv Market	945	Gasoline sales with convenience store where the primary business is gasoline sales
Self-Service Car Wash	947	Has stalls for driver to park and wash the vehicle
Dining		
Drinking Place	925	Bar where alcoholic beverages and food are served
Sit Down Restaurant	931	Restaurants with turnover rates of one hour or longer; typically require reservations
High Turnover (Sit-Down) Restaurant	932	Restaurants with turnover rates less than one hour; typically includes moderately-priced chain restaurants
Fast Food Restaurant without Drive-Thru Window	933	High-turnover fast food restaurant for carry-out and eat-in customers, but without a drive-thru window
Fast Food Restaurant with Drive-Thru Window	934	High-turnover fast food restaurant for carry-out and eat-in customers with a drive-thru window
Coffee / Donut Shop with Drive-Thru Window	937	Coffee and Donut restaurants with drive-through windows, hold long store hours and have limited indoor seating
Other Retail		
Free-Standing Retail Store	815	Category includes free-standing stores with off-street parking; typically offer a variety of products and services with long store hours
Garden Center (Nursery)	817	Building with a yard of planting or landscape stock; may have office, storage, shipping or greenhouse facilities
Shopping Center	820	Integrated group of commercial establishments; planning, owned, and managed as a unit
Supermarket	850	Primary business is sale of groceries, food, and household cleaning items; may include photo, pharmacy, video rental, and/or ATM
Home Improvement Superstore	862	Warehouse-type facilities offering a large variety of products and services including lumber, tool, paint, lighting, and fixtures, among other items.
Toy/Children's Superstore	864	Businesses specializing in child-oriented merchandise
Department Store	875	Free-standing facility that specialize in the sale of a wide range of products
Pharmacy / Drugstore without Drive-Thru Window	880	Facilities that primarily sell prescription and non-prescription drugs without a drive-through window
Pharmacy / Drugstore with Drive-Thru Window	881	Facilities that primarily sell prescription and non-prescription drugs with a drive-through window
SERVICES		
Bank (Walk-In)	911	Bank without drive-thru lanes
Bank (Drive In)	912	Bank with drive-thru lanes
Hair Salon	918	Facilities that specialize in cosmetic and beauty services including hair cutting and styling

2.6 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 in Service Area 1

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 2.16 [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: 2.97
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	From Table 2.15, Line 16 [Maximum Assessable Fee Per Service Unit] Service Area 1: \$380
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 2.97 * \$380 Maximum Assessable Impact Fee = \$1,129

Example 2:

Development Type - 150,000 Square Foot Home Improvement Store in Service Area 4

Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 2.16 [Land Use – Vehicle-Mile Equivalency Table] Development Type: 150,000 square feet of Home Improvement Store Development Units: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.39
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	From Table 2.15, Line 16 [Maximum Assessable Fee Per Service Unit] Service Area 4: \$793
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 150 * 3.39 * \$793 Maximum Assessable Impact Fee = \$403,241

2.7 ADOPTION AND ADMINISTRATION OF ROADWAY IMPACT FEES

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 Fees 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 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 and Capital Improvements Plan) and a second public hearing on the Roadway Impact Fee Calculation 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 Roadway Impact Fees CIP 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 Council as necessary.

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.

2.8 CONCLUSIONS

The City of Sherman 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 Sherman, as shown in the previously referenced Table 2.15. 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 Roadway Impact Fee Capital Improvements Plan are appropriately incorporated into the development of the maximum assessable Roadway Impact Fee.

Below is the listing of the 2020 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile), based on the July 2022 updates. This table also includes the maximum fees reported in September 2020 for comparative purposes.

Service Area	Maximum Fee Per Service Unit (per Vehicle-Mile)	
	September 2020	July 2022
1	\$374	\$380
2	\$527	\$1,250
3	\$748	\$987
4	\$608	\$793

Chapter 3
Water Impact Fee Study for the
2020 Impact Fee Study (Minor Update)

Adopted on September 21, 2020
(DRAFT) Minor Update July 2022



July
2022

Prepared for the City of Sherman

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3.1 INTRODUCTION

The City of Sherman retained the services of Kimley-Horn and Associates, Inc., for the purpose of developing the impact fees for water system improvements required to serve new development. These fees were developed in accordance with Chapter 395 of the *Local Government Code* (impact fees).

The purpose of this report is to satisfy the requirements of the law and provide the City with an impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

- (1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
- (2) an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
- (3) a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
- (4) a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;*
- (5) the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
- (6) the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*

(7) plan for awarding:

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

The study process was comprised of three tasks:

A. LAND USE ASSUMPTIONS

The development of land use assumptions included the following:

- Establishing impact fee service areas (SA) for water and wastewater;
- Collection/determination of population and employment data by SA; and
- Projection of the ten-year population and employment by SA.

A detailed discussion is outlined in the current Land Use Assumptions Chapter of this report.

B. EVALUATION OF THE CURRENT WATER CAPITAL IMPROVEMENT PLANS AND DEVELOPMENT OF THE IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved reviewing the City's current capital improvements plans, identifying proposed water capital improvements that will be built in the 10-year planning window, and interviews with planning and public works staff. Both parties provided information allowing us to develop the impact fee capital improvements plan. Water demand projections were then used to determine the additional single-family equivalents (SFE).

C. IMPACT FEE ANALYSIS AND REPORT

This task included calculating the additional single-family equivalent units and credit reduction. These values were then used to determine the impact fee per SFE and the maximum assessable impact fee by meter size.

3.2 DESIGN CRITERIA

In accordance with the Chapter 290 of the Texas Administrative Code (Public Drinking Water) and the American Water Works Associations (AWWA) requirements for the design and operation of potable water systems the following design criteria is followed when planning for future water infrastructure.

A. WATER LINES

Water lines are generally sized to maintain the following pressure requirements:

- Peak hour demand with a minimum pressure of 35 pounds per square inch (psi);
- Night-time tank filling with a maximum pressure of 100 psi; and
- Peak day demand plus fire flow with a minimum pressure of 20 psi.

B. STORAGE TANKS

The Texas Commission on Environmental Quality (TCEQ) and the State Board of Insurance (SBI) have established criteria for ground and elevated storage. These criteria address volume and height requirements only. The layout of the distribution system, location of the storage facilities, and the interaction with the high service and booster pumps affect the amount of storage necessary for the most efficient and reliable operation of the system.

(a) Ground Storage

Ground storage serves two functions:

- Equalization for differing feed rates between the water supply and pumping to the system; and
- Emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Suggested storage capacities are established based on several criteria. There are specific requirements of the TCEQ. These criteria are detailed later in this section. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations. Their capacities are established based on knowledge of how demand varies seasonally and daily.

(b) Elevated Storage

Elevated storage serves three purposes:

- Functionally, elevated storage equalizes the pumping rate to compensate for daily variations in demand and to maintain a fairly constant pumping rate (usually referred to as operational storage), or a pumping rate that conforms to the requirements of the electrical rate structure.
- Provides pressure maintenance and protection against surges created by instantaneous demand, such as fire flow and main breaks, and instantaneous change in supply, such as pumps turning on and off.
- Maintains a reserve capacity for fire protection and pressure maintenance in case of power failure to one or more pump stations. Sufficient storage should be maintained to provide four hours of fire flow demand during a loss of power to the pump station.

Suggested storage capacities are established by the TCEQ. Adequate operational storage is established by determining the required volume to equalize the daily fluctuations in flow during the maximum day demand, plus the reserve volume required for fire protection.

The minimum requirements for storage, according to Chapter 290 of the Texas Administrative Code, are as follows:

- Total Storage - Equal to 200 gallons per connection.
- Elevated Storage - Equal to 100 gallons per connection; or
- Elevated Storage – Equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gallons per connection to 0.6 gallons per connection.

C. PUMP STATIONS

Pumping capacities must provide the maximum demand or the peak hour demand required by the water system or the suggested capacities established by the TCEQ. Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at the pump station to be out of service. This is known as firm pumping capacity.

Each pump station or pressure plane must have two or more pumps that have a total capacity of 2.0 gallons per minute per connection, or have a total capacity of at least 1,000 gallons per minute and the ability to meet peak hour demand with the largest pump out of service, whichever is less. If the system provides elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required.

3.3 IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The purpose of a capital improvements program is to provide the City with a logical strategy for upgrading and expanding its water distribution system to accommodate future growth and for addressing existing system deficiencies. The impact fee capital improvements plan is developed using projects identified during the capital improvement program planning process. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study. The following details the projects and the eligible recoverable cost.

Five (5) existing and twenty-one (21) proposed projects identified in the water capital improvements plan are determined eligible for recoverable cost over the next 10 years. The City of Sherman's total cost of these projects is \$402,810,000. The projected recoverable cost through impact fees is \$300,093,666. After debt service costs are added and the credit reduction calculation is complete, \$195,616,056 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 3.1 and illustrated in Exhibit 3.1.

Table 3.1 Water Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj. #	Description	2020 Required Capacity (Percent Utilization)	2030 Required Capacity (Percent Utilization)	2020-2030 Required Capacity (Percent Utilization)	2030 Projected Recoverable Cost	Total Project Cost
EXISTING						
1	Water Treatment Plant Expansion Construction	9%	100%	91%	\$ 27,627,960	\$ 30,240,000
2	Southwest Elevated Storage Tank	0%	100%	100%	\$ 2,640,000	\$ 2,640,000
3	Swan Ridge Water	25%	56%	31%	\$ 40,300	\$ 130,000
4	Taylor/Washington Street Water Line	25%	56%	31%	\$ 21,700	\$ 70,000
5	Water Impact Fee Study	0%	100%	100%	\$ 35,000	\$ 35,000
Existing Subtotal					\$ 30,364,960	\$ 33,115,000
PROPOSED						
6	NTMWD Raw Water Line Phase I	0%	56%	56%	\$ 16,016,000	\$ 28,600,000
7	NTMWD LTPS Electrical Ph I	0%	56%	56%	\$ 2,150,400	\$ 3,840,000
8	Legacy Surface Water Line (Bel Air)	0%	56%	56%	\$ 1,528,800	\$ 2,730,000
9	Fairview Elevated Tank Balance Line	0%	56%	56%	\$ 84,000	\$ 150,000
10	36" Line 1A Water Line Down Future Friendship ROW	0%	56%	56%	\$ 26,880,000	\$ 48,000,000
11	36" Line 1B Water Line Down Future Friendship ROW	0%	56%	56%	\$ 10,304,000	\$ 18,400,000
12	36" Low Head Water Transmission Line (Not Shown)	0%	56%	56%	\$ 31,735,200	\$ 56,670,000
13	2MG ET for Industrial & 36" Transmission Water Line	0%	100%	100%	\$ 8,400,000	\$ 8,400,000
14	Shepard/Farmington (Marilee) Water Line	0%	56%	56%	\$ 448,000	\$ 800,000
15	WTP Expansion - 5 MGD UF/RO Addition	0%	100%	100%	\$ 12,920,000	\$ 12,920,000
16	WTP Expansion - 30 MGD Building with 10 MGD UF/RO	0%	100%	100%	\$ 67,200,000	\$ 67,200,000
17	WTP Expansion - 10 MGD UF/RO Addition	0%	100%	100%	\$ 42,100,000	\$ 42,100,000
18	WTP Expansion - 5 MGD UF/RO Addition	0%	17%	17%	\$ 4,758,707	\$ 27,300,000
19	WTP Expansion - LSP Station and Clearwell Expansion	0%	70%	70%	\$ 13,440,000	\$ 19,200,000
20	WTP Expansion - HSP Station Expansion	0%	100%	100%	\$ 6,400,000	\$ 6,400,000
21	100 MG Earthen Lined Terminal Storage Reservoir	0%	100%	100%	\$ 5,600,000	\$ 5,600,000
22	Terminal Reservoir 10 MGD Pump Station	0%	100%	100%	\$ 4,300,000	\$ 4,300,000
23	LTPS 25 MGD Raw Water Pump #1	0%	100%	100%	\$ 13,200,000	\$ 13,200,000
24	WTP Concentrate Discharge	0%	56%	56%	\$ 1,904,000	\$ 3,400,000
25	Water Hydraulic Study	0%	100%	100%	\$ 200,000	\$ 200,000
26	Water Upsizing	0%	56%	56%	\$ 159,600	\$ 285,000
Proposed Subtotal					\$ 269,728,707	\$ 369,695,000
Total					\$ 300,093,666	\$ 402,810,000



3.4 WATER IMPACT FEE CALCULATION

Chapter 395 of the Local Government Code defines a service unit as follows, “Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.”

The service unit for Sherman’s water impact fees is the “single family equivalent” (SFE), which is based on the size of the base water meter. An SFE is the water demand associated with the smallest water meter issued for new single-family development in the system (3/4-inch meter). The ratio of each larger meter’s capacity to the capacity of the base meter determines the SFE multiplier applied to each larger meter size. The current SFE equivalency factors are shown in Table 3.2.

Table 3.2 Meter Capacity Ratios

Meter Size	SFEs/ Meter
3/4"	1
1"	1.67
1-1/2"	3.33
2"	5.33
3"	11.67
4"	20
6"	45
8"	60
10"	233.33
16"	433.33

Multiplying the number of existing connections for each meter size by the SFEs per meter yields the total SFEs for that meter size. Summing for all meter sizes yields the total number of water SFEs connected to the City's water system as shown in Table 3.3. The current population in the water service area is divided by the total number of SFEs yielding a Persons per SFE number.

Table 3.3 Capita per Single-Family Equivalent (SFE)

Meter Size	Existing Connections ¹	SFEs/ Meter	Single Family Equivalents
5/8"	7,076	0.67	4,741
5/8"x3/4"	24	0.67	17
3/4"	6,814	1	6,814
1"	715	1.67	1,195
1-1/2"	375	3.33	1,249
2"	288	5.33	1,536
3"	68	11.67	794
4"	37	20	740
6"	23	45	1,035
8"	15	60	900
10"	2	233.33	467
16"	2	433.33	867

Total Existing Connections:	15,439	Total SFEs:	20,355
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Total Served Population:	42,168
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Persons per SFE:	2.07
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(1) Data Sources: City of Sherman

The City of Sherman defines a single-family equivalent (SFE) based on historical water demand over the past 10 years. The single-family equivalent is the development type that predominately uses a 3/4-inch meter. The measure of consumption per SFE is based on a 3/4-inch meter and the data shown in Table 3.4.

Table 3.4 SFE Consumption Calculation

Year	Population ¹	Single-Family Equivalent (2.07 capita/SFE)	Water Average Day Demand (MGD) ¹	Demand per SFE (GPD)
2010	38,531	18,614	8.31	446
2011	38,214	18,461	9.48	514
2012	38,499	18,599	8.3	446
2013	38,805	18,746	8.37	446
2014	39,119	18,898	8.92	472
2015	39,569	19,115	10.12	529
2016	40,112	19,378	9.53	492
2017	40,543	19,586	9.48	484
2018	41,149	19,879	8.69	437
2019	42,168	20,371	8.35	410
Average Historical Demand per SFE				468

(1) Data Sources: City of Sherman

Based on the City's 10-year growth projections and the resulting water demand projections, water service will be required for an additional 28,739 SFEs by the year 2030 as shown in Table 3.5. The calculation is as follows:

- A single family equivalent, which is a unit of development that consumes approximately 468 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter.

Table 3.5 10-year Additional Single-Family Equivalent Calculation

Year	Average Day Demand (MGD) ¹	SFE Demand (GPD)	Projected SFEs
2020	8.67	468	18,526
2030	22.12	468	47,265
10-year Additional SFEs			28,739

(1) Data Sources: City of Sherman

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the city chooses not to do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The city has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the Pre Credit Recoverable Cost.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 3.6 Water 10-Year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	\$ 300,093,666
Debt Service*	\$ 91,138,446
Pre Credit Recoverable Cost for Impact Fee	\$ 391,232,113
Credit for Utility Revenues	\$ (195,616,056)
Maximum Recoverable Cost for Impact Fee	\$ 195,616,056

*Represents the interest costs associated with debt financing the new impact fee project costs.

$$\text{Impact fee per SFE} = \frac{\text{10-year recoverable costs}}{\text{10-year additional SFEs}}$$

$$\text{Impact fee per SFE} = \frac{\$195,616,056}{28,739}$$

$$\text{Impact fee per SFE} = \$6,807$$

Therefore, the maximum assessable impact fee per SFE is \$6,807.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 3/4-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the Equivalency Table (Table 3.7).

Table 3.7 Maximum Assessable Water Impact Fee for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (GPM)*	Single Family Equivalent	Maximum Assessable Water Impact Fee
3/4"	15	1	\$6,807
1"	25	1.67	\$11,368
1-1/2"	50	3.33	\$22,667
2"	80	5.33	\$36,281
3"	175	11.67	\$79,438
4"	300	20	\$136,140
6"	675	45	\$306,315
8"	900	60	\$408,420
10"	3500	233.33	\$1,588,277
16"	6500	433.33	\$2,949,677

**Operating capacities obtained from American Water Works Association (AWWA) C-700-20, C-701-19, C702-19

Chapter 4
Wastewater Impact Fee Study for the
2020 Impact Fee Study (Minor Update)

Adopted on September 21, 2020
(DRAFT) Minor Update July 2022



July
2022

Prepared for the City of Sherman

Prepared by:

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Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 063493014

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4.1 INTRODUCTION

The City of Sherman retained the services of Kimley-Horn and Associates, Inc., for the purpose of developing the impact fees for wastewater system improvements required to serve new development. These fees were developed in accordance with Chapter 395 of the *Local Government Code* (impact fees). The purpose of this report is to satisfy the requirements of the law and provide the City with an impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

- (a) *The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:*
- (1) *a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
 - (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;*
 - (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
 - (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*

(7) plan for awarding:

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

The study process was comprised of three tasks:

A. LAND USE ASSUMPTIONS

The development of land use assumptions included the following:

- Establishing impact fee service areas (SA) for water and wastewater;
- Collection/determination of population and employment data by SA; and
- Projection of the ten-year population and employment by SA.

A detailed discussion is outlined in the current Land Use Assumptions Chapter of this report.

B. EVALUATION OF THE CURRENT WASTEWATER CAPITAL IMPROVEMENT PLANS AND DEVELOPMENT OF THE IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved reviewing the City's current capital improvements plans, identifying proposed wastewater capital improvements that will be built in the 10-year planning window, and interviews with planning and public works staff. Both parties provided information allowing us to develop the impact fee capital improvements plan. Wastewater flow projections were then used to determine the additional single-family equivalents.

C. IMPACT FEE ANALYSIS AND REPORT

This task included calculating the additional single-family equivalent units and credit reduction. These values were then used to determine the impact fee per SFE and the maximum assessable impact fee by meter size.

4.2 DESIGN CRITERIA

In accordance with the Chapter 217 of the Texas Administrative Code (Design Criteria for Domestic Wastewater Systems) the following design criteria is followed when planning for future wastewater infrastructure.

A. SEWER TRUNK LINES (INTERCEPTORS)

The design criteria for sewer trunk lines or interceptors is based on the TCEQ requirements that meet peak wet weather design flows with no overflows while maintaining a minimum of 2 ft/sec cleaning velocity and a maximum of 8 ft/sec velocity.

B. LIFT STATIONS PUMPING CAPACITY

The design criteria for lift station pumping shall be to provide firm pumping capacity to meet 125% of the peak wet weather design flows. The firm pumping capacity is defined as the available total pumping capacity with the largest pump out of service.

C. LIFT STATION WET WELL CAPACITY

The design criteria for lift station wet wells are to provide adequate volumes to limit pump cycling to once every 10 minutes. Based on this criterion, the required operating volume for each pump can be calculated as

$$V = tQ/4 \quad \text{where,}$$

$$t = \text{Maximum pump cycling time} = 10 \text{ minutes}$$

$$Q = \text{Lead pump discharge rate in gallons per minute (gpm)}$$

$$V = \text{Required wet well volume between pump start and stop elevation}$$

D. FORCE MAINS

The design criteria recommended for force mains is to meet the required pumping capacity of the lift station at a velocity less than 8 feet per second and a maximum discharge pressure of 100 psi and to allow a minimum of 2 feet per second scouring velocity during a single pump operation.

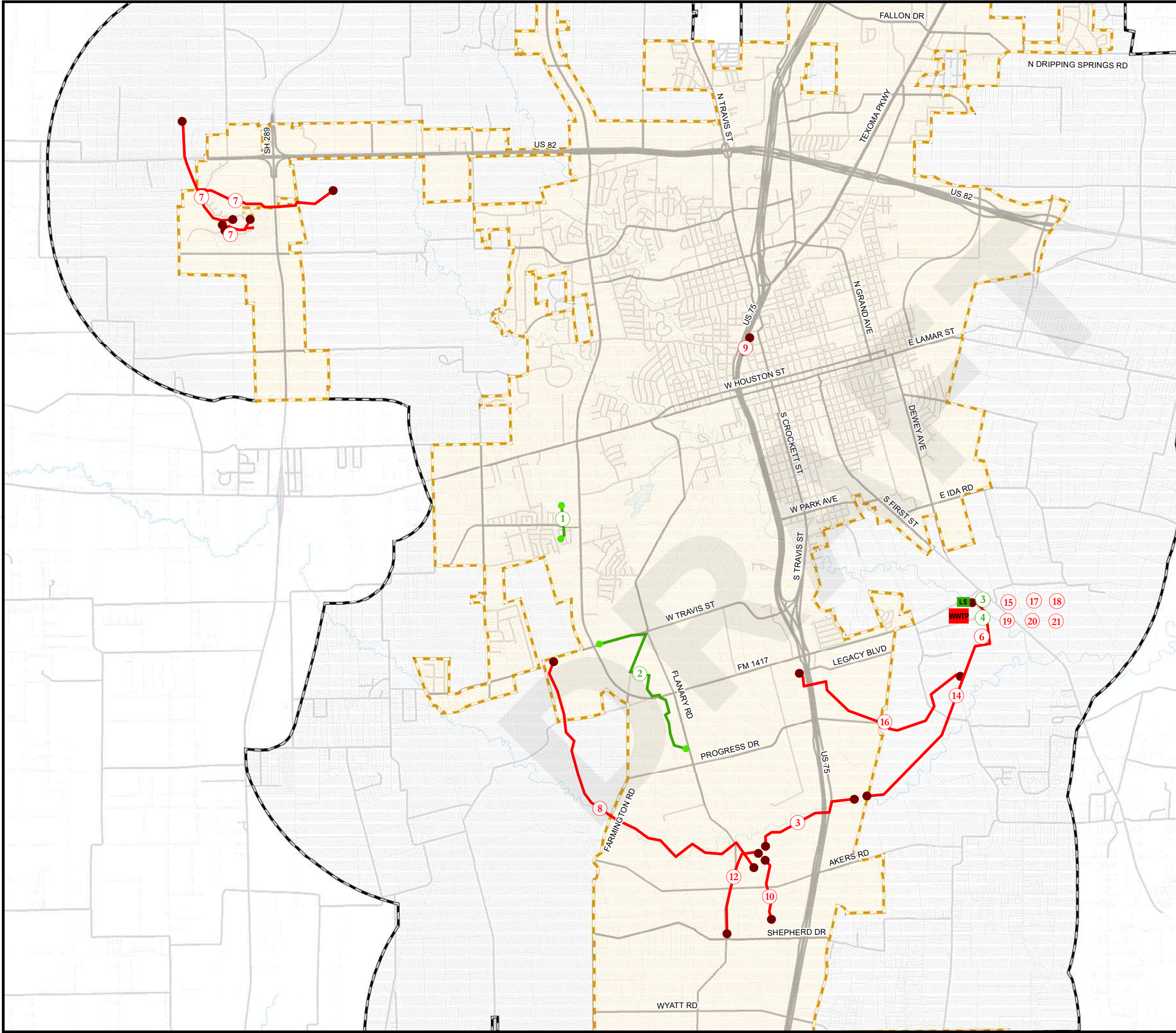
4.3 IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The purpose of a capital improvements program is to provide the City with a logical strategy for upgrading and expanding its wastewater collection system to accommodate future growth and for addressing existing system deficiencies. The impact fee capital improvements plan is developed using projects identified during the capital improvement program planning process. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study. The following details the projects and the eligible recoverable cost.

Five (5) existing and nineteen (19) proposed projects identified in the wastewater capital improvements plan are determined eligible for recoverable cost over the next 10 years. The City of Sherman's total cost of these projects is \$223,060,000. The projected recoverable cost through impact fees is \$86,023,400. After debt service costs are added and the credit reduction calculation is complete, \$56,074,353 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 4.1 and illustrated in Exhibit 4.1.

Table 4.1 Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj. #	Description	2020 Required Capacity (Percent Utilization)	2030 Required Capacity (Percent Utilization)	2020-2030 Required Capacity (Percent Utilization)	2030 Projected Recoverable Cost	Total Project Cost
EXISTING						
1	Swan Ridge Wastewater Line	25%	56%	31%	\$ 37,200	\$ 120,000
2	Moore Street Sewer/Southwest Sanitary Sewer Main	25%	56%	31%	\$ 341,000	\$ 1,100,000
3	WWTP Storm Water System and Lift Station	25%	56%	31%	\$ 341,000	\$ 1,100,000
4	Expand Lab Facility at WWTP	25%	56%	31%	\$ 620,000	\$ 2,000,000
5	Wastewater Impact Fee Study	0%	100%	100%	\$ 35,000	\$ 35,000
Existing Subtotal					\$ 1,374,200	\$ 4,355,000
PROPOSED						
6	WWTP Effluent Reuse Line	0%	56%	56%	\$ 3,360,000	\$ 6,000,000
7	Northwest Sewer Expansion Project and Lift Station	0%	56%	56%	\$ 2,492,000	\$ 4,450,000
8	Southwest Sewer Line Extension	0%	56%	56%	\$ 3,360,000	\$ 6,000,000
9	Upsize 8" Sanitary Sewer Line on Texoma Pkwy to 15"; Sycamore to Evergreen	16%	56%	40%	\$ 104,000	\$ 260,000
10	Upsize 24" Sanitary Sewer Line West of Texas Instruments to 42"	22%	56%	34%	\$ 1,791,800	\$ 5,270,000
11	Upsize 36" Sanitary Sewer Line South of Choctaw Creek to 48"	46%	56%	10%	\$ 1,120,000	\$ 11,200,000
12	Upsize 15" Sanitary Sewer Line near Shepherd Place Development to 21"	41%	56%	15%	\$ 621,000	\$ 4,140,000
13	Upsize 42" Sanitary Sewer Line along Post Oak to 60"	39%	56%	17%	\$ 2,346,000	\$ 13,800,000
14	Upsize 42" Sanitary Sewer Line along Choctaw Creek to 54"	27%	78%	51%	\$ 7,242,000	\$ 14,200,000
15	Post Oak WWTP 24 MGD Expansion	0%	20%	20%	\$ 12,200,000	\$ 61,000,000
16	Upsize 21" Sanitary Sewer Line near Bel Air Village Development to 30"	39%	56%	17%	\$ 2,414,000	\$ 14,200,000
17	WWTP Expansion Preliminary Design	0%	100%	100%	\$ 2,000,000	\$ 2,000,000
18	WWTP Electrical System, Switchgear, ATS	0%	100%	100%	\$ 5,720,000	\$ 5,720,000
19	WWTP Enhanced Treatment System for Industrial Users	0%	56%	56%	\$ 7,392,000	\$ 13,200,000
20	WWTP Trickling Filters	0%	56%	56%	\$ 1,696,800	\$ 3,030,000
21	WWTP - 4MGD Membrane Bioreactor with Sludge Handling	0%	56%	56%	\$ 29,680,000	\$ 53,000,000
22	Wastewater Treatability Study	0%	100%	100%	\$ 500,000	\$ 500,000
23	Wastewater System Study	0%	100%	100%	\$ 450,000	\$ 450,000
24	Wastewater Upsizing	0%	56%	56%	\$ 159,600	\$ 285,000
Proposed Subtotal					\$ 84,649,200	\$ 218,705,000
Total					\$ 86,023,400	\$ 223,060,000



Existing Facility or Facility Under Construction	
Project Number	Project Description
1	Swan Ridge Wastewater Line
2	Moore St. Sewer/SW SS Main
3	WWTP Storm Water System and Lift Station
4	Expand Lab Facility at WWTP
5	Wastewater Impact Fee Study (Not Shown on Map)

Proposed 2020-2030 Facilities	
Project Number	Project Description
6	WWTP Effluent Reuse Line
7	Northwest Sewer Expansion Project and Lift Station
8	Southwest Sewer Line Extension
9	Upsize 8" Sanitary Sewer Line on Texoma Prkwy to 15"; Sycamore to Evergreen
10	Upsize 24" Sanitary Sewer Line West of Texas Instruments to 42"
11	Upsize 36" Sanitary Sewer Line South of Choctaw Creek to 48"
12	Upsize 15" Sanitary Sewer Line near Shepherd Place Development to 21"
13	Upsize 42" Sanitary Sewer Line along Post Oak to 60"
14	Upsize 42" Sanitary Sewer Line along Choctaw Creek to 54"
15	Post Oak WWTP 24 MGD Expansion
16	Upsize 21" Sanitary Sewer Line along Choctaw to 30"
17	WWTP Expansion Preliminary Design
18	WWTP Electrical System, Switchgear, ATS
19	WWTP Enhanced Treatment System for Industrial Users
20	WWTP Trickling Filters
21	WWTP - 4MGD Membrane Bioreactor with Sludge Handling
22	Wastewater Treatability Study (Not Shown on Map)
23	Wastewater System Study (Not Shown on Map)
24	Wastewater Upsizing (Not Shown on Map)

Legend	
Existing Lift Station or Lift Station Under Construction	Proposed 2020-2030 Lift Station
Existing WWTP or WWTP Under Construction	Proposed 2020-2030 WWTP
Existing Sewer Line or Sewer Line Under Construction	Proposed 2020-2030 Sewer Line
Existing Facility Project Label	Proposed Facility Project Label
City Limits	City ETJ

Exhibit 4.1

Wastewater Impact Fee CIP

July 2022

012

Miles

Sherman
CLASSIC TOWN. BROAD HORIZON.

Kimley»Horn

4.4 WASTEWATER IMPACT FEE CALCULATION

Chapter 395 of the Local Government Code defines a service unit as follows, “Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.”

The service unit for Sherman’s wastewater impact fees is the “single family equivalent” (SFE), which is based on the size of the base water meter. An SFE is the wastewater flow associated with the smallest water meter issued for new single-family development in the system (3/4-inch meter). The ratio of each larger meter’s capacity to the capacity of the base meter determines the SFE multiplier applied to each larger meter size. The current SFE equivalency factors are shown in Table 4.2.

Table 4.2 Meter Capacity Ratios

Meter Size	SFEs/ Meter
3/4"	1
1"	1.67
1-1/2"	3.33
2"	5.33
3"	11.67
4"	20
6"	45
8"	60
10"	233.33
16"	433.33

Multiplying the number of existing connections for each meter size by the SFEs per meter yields the total SFEs for that meter size. Summing for all meter sizes yields the total number of wastewater SFEs connected to the City's wastewater system as shown in Table 4.3. The current population in the wastewater service area is divided by the total number of SFEs yielding a Persons per SFE number.

Table 4.3 Capita per Single-Family Equivalent (SFE)

Meter Size	Existing Connections ¹	SFEs/ Meter	Single Family Equivalents
5/8"	7,076	0.67	4,741
5/8"x3/4"	24	0.67	17
3/4"	6,814	1	6,814
1"	715	1.67	1,195
1-1/2"	375	3.33	1,249
2"	288	5.33	1,536
3"	68	11.67	794
4"	37	20	740
6"	23	45	1,035
8"	15	60	900
10"	2	233.33	467
16"	2	433.33	867

Total Existing Connections:	15,439	Total SFEs:	20,355
-----------------------------	--------	-------------	--------

Total Served Population:	42,168
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Persons per SFE:	2.07
------------------	------

(1) Data Sources: City of Sherman

The City of Sherman defines a single-family equivalent (SFE) based on historical wastewater discharge over the past 10 years. The single-family equivalent is the development type that predominately uses a 3/4-inch meter. The measure of consumption per SFE is based on a 3/4-inch meter and the data shown in Table 4.4.

Table 4.4 SFE Consumption Calculation

Year	Population ¹	Single-Family Equivalent (2.07 capita/SFE)	Wastewater Average Day Flow (MGD) ¹	Flow per SFE (GPD)
2010	38,531	18,614	8.21	441
2011	38,214	18,461	6.93	375
2012	38,499	18,599	6.23	335
2013	38,805	18,746	6.11	326
2014	39,119	18,898	5.84	309
2015	39,569	19,115	8.81	461
2016	40,112	19,378	7.7	397
2017	40,543	19,586	6.57	335
2018	41,149	19,879	7.33	369
2019	42,168	20,371	7.79	382
Average Historical Flow per SFE				374

(1) Data Sources: City of Sherman

Based on the City's 10-year growth projections and the resulting wastewater flow projections, wastewater service will be required for an additional 26,096 SFEs by the year 2030 as shown in Table 4.5. The calculation is as follows:

- A single family equivalent, which is a unit of development that discharges approximately 374 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter.

Table 4.5 10-year Additional Single-Family Equivalent Calculation

Year	Average Day Flow (MGD) ¹	SFE Discharge (GPD)	Projected SFEs
2020	7.86	374	21,016
2030	17.62	374	47,112
10-year Additional SFEs			26,096

(1) Data Sources: City of Sherman

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the city chooses not to do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The city has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the Pre Credit Recoverable Cost.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 4.6 Wastewater 10-Year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	\$ 86,023,400
Debt Service*	\$ 26,125,307
Pre Credit Recoverable Cost for Impact Fee	\$ 112,148,707
Credit for Utility Revenues	\$ (56,074,353)
Maximum Recoverable Cost for Impact Fee	\$ 56,074,353

*Represents the interest costs associated with debt financing the new impact fee project costs.

$$\text{Impact fee per SFE} = \frac{\text{10-year recoverable costs}}{\text{10-year additional SFEs}}$$

$$\text{Impact fee per SFE} = \frac{\$56,074,353}{26,096}$$

$$\text{Impact fee per SFE} = \$2,149$$

Therefore, the maximum assessable impact fee per SFE is \$2,149.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 3/4-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the Equivalency Table (Table 4.7).

Table 4.7 Maximum Assessable Wastewater Impact Fee for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (GPM)*	Single Family Equivalent	Maximum Assessable Wastewater Impact Fee
3/4"	15	1	\$2,149
1"	25	1.67	\$3,589
1-1/2"	50	3.33	\$7,156
2"	80	5.33	\$11,454
3"	175	11.67	\$25,079
4"	300	20	\$42,980
6"	675	45	\$96,705
8"	900	60	\$128,940
10"	3500	233.33	\$501,426
16"	6500	433.33	\$931,226

*Operating capacities obtained from American Water Works Association (AWWA) C-700-20, C701-19, and C-701-19

APPENDIX

CONCEPTUAL LEVEL PROJECT COST PROJECTIONS

ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY

EXISTING ROADWAY FACILITIES INVENTORY

CONCEPTUAL LEVEL PROJECT COST PROJECTIONS

City of Sherman - 2022 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 1

#	Thoroughfare Plan Classification	Project	Type	Limits		Percent in Service Area	Project Cost	Total Cost in Service Area
				From	To			
1	Major Arterial	N HERITAGE PKWY (1)	Widening	FM 691	US 82	100%	\$ 6,022,000	\$ 6,022,000
2	Minor Arterial	N TRAVIS ST	Widening	Kraeger Rd	US 82 WBFR	100%	\$ 2,340,000	\$ 2,340,000
3	Freeway	US 75 (1)	Gap Study	1,875' N of US 82	US 82	100%	\$ 620,000	\$ 620,000
4	Frontage Road	US 82 WBFR	New	N SH 289	N Heritage Pkwy	100%	\$ 1,451,000	\$ 1,451,000
5	Minor Arterial	FALLON DR (1)	New	N Loy Lake Rd	US 75 SBFR	100%	\$ 2,500,000	\$ 2,500,000
6	Minor Arterial	FALLON DR (2)	New	1,525' N of Dripping Springs Rd	Dripping Springs Rd	100%	\$ 1,210,000	\$ 1,210,000
							\$ 14,143,000	\$ 14,143,000

Intersection Improvements - Service Area 1

#	Project	Improvement		Percent in Service Area	Project Cost	Total Cost in Service Area
		Improvement 1	Improvement 2			
1	US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE		50%	\$ 3,000,000	\$ 1,500,000
					\$ 3,000,000	\$ 1,500,000

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 Sherman. 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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 1

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **N HERITAGE PKWY (1)**

Type: **Widening**

Limits: **FM 691 to US 82**

Service Area:	1
Existing Pavement Section:	3U
Ultimate Pavement Section:	6D
Length (Ft):	14,140
Travelway (Ft):	36
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17

This project includes the widening of the existing section to a six-lane divided concrete major arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	27,931	CY	\$25.00	\$698,000
	Earthwork/Top Soil	6	9,950	CY	\$15.00	\$149,000
	Prepared Subgrade	6	19,901	CY	\$25.00	\$498,000
	Curb & Gutter	n/a	56,560	LF	\$10.00	\$566,000
	Concrete Pavement	8	23,741	CY	\$300.00	\$7,122,000

Roadway Construction Cost Subtotal: **\$9,033,000**

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$449,000
Utilities		4%	\$367,000
Drainage	Bridge Width 72	20%	\$1,807,000
Special Drainage	Internal Stormsewer System		\$250,000
Other Major Items	Minor Crossing		
ADA Ramps & Requirements		2%	\$181,000
Signs, Pavement Markings		2%	\$181,000
Traffic Control		3%	\$271,000
Street Lighting		5%	\$452,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$452,000

Construction Allowances Subtotal: **\$4,408,000**

Roadway & ROW Construction Allowances Subtotal: **\$13,441,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$2,419,000
Contingency		10%	\$1,344,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: **\$3,764,000**

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$9,033,000
ROW Construction Items		\$4,408,000
Capital Improvement Costs		\$3,764,000

Impact Fee Project Cost Total (35% City Cost Participation): **\$6,022,000**

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 2

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **N TRAVIS ST**

Type: **Widening**

Limits: **Kraeger Rd to US 82 WBFR**

Service Area:	1
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	5,845
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	8,082	CY	\$25.00	\$202,000
	Earthwork/Top Soil	6	3,031	CY	\$15.00	\$45,000
	Prepared Subgrade	6	5,629	CY	\$25.00	\$141,000
	Curb & Gutter	n/a	23,380	LF	\$10.00	\$234,000
	Concrete Sidewalk	n/a	58,450	SF	\$15.00	\$877,000
	Concrete Pavement	8	6,927	CY	\$300.00	\$2,078,000

Roadway Construction Cost Subtotal: **\$3,577,000**

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$178,000
Utilities	Minor Adjustments	4%	\$145,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$715,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$72,000
Signs, Pavement Markings		2%	\$72,000
Traffic Control		3%	\$107,000
Street Lighting		5%	\$179,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$179,000

Construction Allowances Subtotal: **\$1,647,000**

Roadway & ROW Construction Allowances Subtotal: **\$5,224,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$940,000
Contingency		10%	\$522,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: **\$1,463,000**

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$3,577,000
ROW Construction Items		\$1,647,000
Capital Improvement Costs		\$1,463,000

Impact Fee Project Cost Total (35% City Cost Participation): **\$2,340,000**

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 3

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (1)

Type: Gap Study

Limits: 1,875' N of US 82 to US 82

Service Area:

Length (Ft): 1,875

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$620,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$620,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 4

Project Information:

Thoroughfare Plan Classification: Frontage Road

Name: **US 82 WBFR**

Type: **New**

Limits: **N SH 289 to N Heritage Pkwy**

Service Area: **1**

Length (Ft): **17,115**

The MPO Plan projects an overall project cost of \$19,347,000 to provide US 82 Frontage Road and Ramp Reversals from FM 1417 (N Heritage Parkway) to SH 289. The City anticipates contributing approximately 15% to the overall project. The City cost for the US 82 WBFR is anticipated to be \$1,451,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$1,451,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 5

Project Information: Thoroughfare Plan Classification: Minor Arterial

Name: FALLON DR (1)

Type: New

Limits: N Loy Lake Rd to US 75 SBFR

Service Area:

Existing Pavement Section:

Ultimate Pavement Section:

Length (Ft):

Travelway (Ft):

Roadbeds (divided #):

Parkway (Ft):

Median Width (Ft):

Sidewalk Width (Ft):

Sidewalks (#):

1

NA

4D

1,645

24

2

10.5

17

5

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$2,500,000.

Impact Fee Project Cost Summary

Item

Notes

Item Cost

Impact Fee Project Cost Total: \$ 2,500,000

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

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 6

Project Information: Thoroughfare Plan Classification: Minor Arterial

Name: **FALLON DR (2)**

Type: **New**

Limits: **1,525' N of Dripping Springs Rd to Dripping Springs Rd**

Service Area: **1**

Existing Pavement Section: **NA**

Ultimate Pavement Section: **4D**

Length (Ft): **1,525**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,210,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 1,210,000

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 Sherman.

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 Sherman - 2022 Roadway Impact Fee Study

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

Roadway Improvements - Service Area 2

#	Thoroughfare Plan Classification	Project	Type	Limits		Percent in Service Area	Project Cost	Total Cost in Service Area
				From	To			
1	Frontage Road	US 82 EBFR	New	N SH 289	N Heritage Pkwy	100%	\$ 1,451,000	\$ 1,451,000
2	Minor Arterial	MEADOWLAKE DR	Widening	N SH 289	1,235' E of N SH 289	100%	\$ 1,461,000	\$ 1,461,000
3	Minor Arterial	W LAMBERTH RD (1)	Widening	1,800' W of Carriage Estates Rd	Shady Oaks Ln	50%	\$ 4,324,000	\$ 2,162,000
4	Minor Arterial	W WASHINGTON ST	Widening	N SH 289	2,350' E of N SH 289	100%	\$ 2,780,000	\$ 2,780,000
5	Minor Arterial	MCGEE ST (1)	New	2,545' W of Brookdale St	Brookdale St	100%	\$ 3,209,000	\$ 3,209,000
6	Minor Arterial	MCGEE ST (2)	Widening	Brookdale St	Little Ln	100%	\$ 609,000	\$ 609,000
7	Minor Arterial	MCGEE ST (3)	New	455' W of N Heritage Pkwy	W Taylor St	100%	\$ 2,203,000	\$ 2,203,000
8	Minor Arterial	W TRAVIS ST (1)	Completed	S Heritage Pkwy	480' W of Crossroads Blvd	50%	\$ 7,500,000	\$ 3,750,000
9	Minor Arterial	W TRAVIS ST (2)	Completed	480' W of Crossroads Blvd	US 75 SBFR	50%	\$ 820,339	\$ 410,170
10	Minor Arterial	W LAMBERTH RD (2)	Widening	US 82 WB	220' S of US 82 WB	100%	\$ 260,000	\$ 260,000
11	Minor Arterial	W LAMBERTH RD (3)	Widening	US 82 WB	1935' S of Canyon Creek Dr	50%	\$ 8,751,000	\$ 4,375,500
12	Minor Arterial	N FRIENDSHIP RD (1)	Widening	Elliott Rd	Pleasant Home Rd	100%	\$ 18,323,343	\$ 18,323,343
13	Major Arterial	N HERITAGE PKWY (2)	Widening	US 82 EBFR	W Taylor St	100%	\$ 3,191,000	\$ 3,191,000
14	Major Arterial	N HERITAGE PKWY (3)	Widening	W Taylor St	W Houston St	100%	\$ 3,889,000	\$ 3,889,000
15	Major Arterial	S HERITAGE PKWY	Widening	W Houston St	OG Groner Rd	100%	\$ 3,300,000	\$ 3,300,000
16	Minor Arterial	W MOORE ST (1)	Widening	W Park Ave	W Travis St	100%	\$ 3,615,000	\$ 3,615,000
17	Freeway	US 75 (2)	Gap Study	US 82	1,835' S of US 82	50%	\$ 606,000	\$ 303,000
18	Freeway	US 75 (3)	Gap Study	SH 91	Post Oak Creek	50%	\$ 4,748,000	\$ 2,374,000
19	Freeway	US 75 (4)	Gap Study	Post Oak Creek	W Travis St	50%	\$ 1,322,000	\$ 661,000
20	Minor Arterial	W LAMBERTH RD (4)	New	1000' W of Friendship	1800' W of Carriage Estates Road	100%	\$ 628,833	\$ 628,833
21	Minor Arterial	N FRIENDSHIP RD (2)	New	Lamberth Rd	1720' S of Lamberth Rd	100%	\$ 14,556,081	\$ 14,556,081
22	Minor Arterial	N FRIENDSHIP RD (3)	Widening	Pleasant Home Rd	OB Groner	100%	\$ 9,170,576	\$ 9,170,576
23	Minor Arterial	SWAN RIDGE	New	335' S of Exculpating Rd	120' N of Hummingbird Dr	100%	\$ 1,100,000	\$ 1,100,000
24	Minor Arterial	W MOORE ST (2)	Widening	Center St	2845' S of Center St	100%	\$ 9,045,391	\$ 9,045,391
25	Minor Arterial	W MOORE ST (3)	Widening	2845' S of Center St	W Park Ave	100%	\$ 16,004,609	\$ 16,004,609
26	Major Arterial	PLEASANT HOME RD (1)	Widening	Riddels Rd	860' E of Cimmaron Trail	50%	\$ 16,468,911	\$ 8,234,456
27	Major Arterial	PLEASANT HOME RD (2)	New	860' E of Cimmaron Trail	Flanary Rd	50%	\$ 8,581,089	\$ 4,290,545
28	Minor Arterial	OB GRONER RD	Widening	2900' W of Flanary Rd	Flanary Rd	50%	\$ 500,000	\$ 250,000
							\$ 148,418,172	\$ 121,607,503

Intersection Improvements - Service Area 2

#	Project	Improvement		Percent in Service Area	Project Cost	Total Cost in Service Area
		Improvement 1	Improvement 2			
1	US 82 & Plainview Rd	GRADE SEPARATED	INTERCHANGE	50%	\$ 3,000,000	\$ 1,500,000
2	FM 1417 & W Travis St	SIGNAL	TURN LANE IMPROVEMENTS	50%	\$ 1,750,000	\$ 875,000
					\$ 4,750,000	\$ 2,375,000

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 Sherman. 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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 1

Project Information:

Thoroughfare Plan Classification: Frontage Road

Name: **US 82 EBFR**

Type: **New**

Limits: **N SH 289 to N Heritage Pkwy**

Service Area: **2**

Length (Ft): **17,130**

The MPO Plan projects an overall project cost of \$19,347,000 to provide US 82 Frontage Road and Ramp Reversals from FM 1417 (N Heritage Parkway) to SH 289. The City anticipates contributing approximately 15% to the overall project. The City cost for the US 82 EBFR is anticipated to be \$1,451,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$1,451,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 2

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: MEADOWLAKE DR

Type: Widening

Limits: N SH 289 to 1,235' E of N SH 289

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	1,235
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	1,708	CY	\$25.00	\$43,000
	Earthwork/Top Soil	6	640	CY	\$15.00	\$10,000
	Prepared Subgrade	6	1,189	CY	\$25.00	\$30,000
	Curb & Gutter	n/a	4,940	LF	\$10.00	\$49,000
	Concrete Sidewalk	n/a	12,350	SF	\$15.00	\$185,000
	Concrete Pavement	8	1,464	CY	\$300.00	\$439,000
Roadway Construction Cost Subtotal:						\$756,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$75,000
Utilities	Minor Adjustments	4%	\$31,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$151,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$15,000
Signs, Pavement Markings		2%	\$15,000
Traffic Control		3%	\$23,000
Street Lighting		5%	\$38,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$38,000
Construction Allowances Subtotal:			\$385,000

Roadway & ROW Construction Allowances Subtotal: \$1,141,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$205,000
Contingency		10%	\$114,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$320,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$756,000
ROW Construction Items		\$385,000
Capital Improvement Costs		\$320,000
Impact Fee Project Cost Total:		\$1,461,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 3

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W LAMBERTH RD (1)**

Type: **Widening**

Limits: **1,800' W of Carriage Estates Rd to Shady Oaks Ln**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	3,780
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	5,227	CY	\$25.00	\$131,000
	Earthwork/Top Soil	6	1,960	CY	\$15.00	\$29,000
	Prepared Subgrade	6	3,640	CY	\$25.00	\$91,000
	Curb & Gutter	n/a	15,120	LF	\$10.00	\$151,000
	Concrete Sidewalk	n/a	37,800	SF	\$15.00	\$567,000
	Concrete Pavement	8	4,480	CY	\$300.00	\$1,344,000
Roadway Construction Cost Subtotal:						\$2,313,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$115,000
Utilities	Minor Adjustments	4%	\$94,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$463,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$46,000
Signs, Pavement Markings		2%	\$46,000
Traffic Control		3%	\$69,000
Street Lighting		5%	\$116,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$116,000
Construction Allowances Subtotal:			\$1,065,000

Roadway & ROW Construction Allowances Subtotal: **\$3,378,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$608,000
Contingency		10%	\$338,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$946,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$2,313,000
ROW Construction Items		\$1,065,000
Capital Improvement Costs		\$946,000
Impact Fee Project Cost Total:		\$4,324,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 4

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W WASHINGTON ST**

Type: **Widening**

Limits: **N SH 289 to 2,350' E of N SH 289**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	2,350
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	3,249	CY	\$25.00	\$81,000
	Earthwork/Top Soil	6	1,219	CY	\$15.00	\$18,000
	Prepared Subgrade	6	2,263	CY	\$25.00	\$57,000
	Curb & Gutter	n/a	9,400	LF	\$10.00	\$94,000
	Concrete Sidewalk	n/a	23,500	SF	\$15.00	\$353,000
	Concrete Pavement	8	2,785	CY	\$300.00	\$836,000
Roadway Construction Cost Subtotal:						\$1,438,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$143,000
Utilities	Minor Adjustments	4%	\$58,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$288,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$29,000
Signs, Pavement Markings		2%	\$29,000
Traffic Control		3%	\$43,000
Street Lighting		5%	\$72,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$72,000
Construction Allowances Subtotal:			\$734,000

Roadway & ROW Construction Allowances Subtotal: **\$2,172,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$391,000
Contingency		10%	\$217,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$608,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$1,438,000
ROW Construction Items		\$734,000
Capital Improvement Costs		\$608,000
Impact Fee Project Cost Total:		\$2,780,000

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 5

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **MC GEE ST (1)**

Type: **New**

Limits: **2,545' W of Brookdale St to Brookdale St**

Service Area:	2
Existing Pavement Section:	NA
Ultimate Pavement Section:	4D
Length (Ft):	2,545
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the construction of a new four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	3,519	CY	\$25.00	\$88,000
	Earthwork/Top Soil	6	1,320	CY	\$15.00	\$20,000
	Prepared Subgrade	6	2,451	CY	\$25.00	\$61,000
	Curb & Gutter	n/a	10,180	LF	\$10.00	\$102,000
	Concrete Sidewalk	n/a	25,450	SF	\$15.00	\$382,000
	Concrete Pavement	8	3,016	CY	\$300.00	\$905,000

Roadway Construction Cost Subtotal: \$1,557,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$155,000
Utilities	Minor Adjustments	0%	0
Drainage	Internal Stormsewer System	20%	\$311,000
Special Drainage	Minor Crossing		\$250,000
Other Major Items			
ADA Ramps & Requirements		2%	\$31,000
Signs, Pavement Markings		2%	\$31,000
Traffic Control		1%	\$16,000
Street Lighting		5%	\$78,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$78,000

Construction Allowances Subtotal: \$950,000

Roadway & ROW Construction Allowances Subtotal: \$2,507,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$451,000
Contingency		10%	\$251,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$702,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$1,557,000
ROW Construction Items		\$950,000
Capital Improvement Costs		\$702,000

Impact Fee Project Cost Total: \$3,209,000

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 6

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **MC GEE ST (2)**

Type: **Widening**

Limits: **Brookdale St to Little Ln**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	515
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	712	CY	\$25.00	\$18,000
	Earthwork/Top Soil	6	267	CY	\$15.00	\$4,000
	Prepared Subgrade	6	496	CY	\$25.00	\$12,000
	Curb & Gutter	n/a	2,060	LF	\$10.00	\$21,000
	Concrete Sidewalk	n/a	5,150	SF	\$15.00	\$77,000
	Concrete Pavement	8	610	CY	\$300.00	\$183,000

Roadway Construction Cost Subtotal: \$315,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$31,000
Utilities	Minor Adjustments	4%	\$13,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$63,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$6,000
Signs, Pavement Markings		2%	\$6,000
Traffic Control		3%	\$9,000
Street Lighting		5%	\$16,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$16,000

Construction Allowances Subtotal: \$161,000

Roadway & ROW Construction Allowances Subtotal: \$476,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$86,000
Contingency		10%	\$48,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$133,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$315,000
ROW Construction Items		\$161,000
Capital Improvement Costs		\$133,000

Impact Fee Project Cost Total: \$609,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 7

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **MC GEE ST (3)**

Type: **New**

Limits: **455' W of N Heritage Pkwy to W Taylor St**

Service Area:	2
Existing Pavement Section:	NA
Ultimate Pavement Section:	4D
Length (Ft):	1,940
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the construction of a new four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	2,682	CY	\$25.00	\$67,000
	Earthwork/Top Soil	6	1,006	CY	\$15.00	\$15,000
	Prepared Subgrade	6	1,868	CY	\$25.00	\$47,000
	Curb & Gutter	n/a	7,760	LF	\$10.00	\$78,000
	Concrete Sidewalk	n/a	19,400	SF	\$15.00	\$291,000
	Concrete Pavement	8	2,299	CY	\$300.00	\$690,000
Roadway Construction Cost Subtotal:						\$1,187,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$118,000
Utilities	Minor Adjustments	0%	0
Drainage	Bridge Width Internal Stormsewer System	20%	\$237,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$24,000
Signs, Pavement Markings		2%	\$24,000
Traffic Control		1%	\$12,000
Street Lighting		5%	\$59,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$59,000
Construction Allowances Subtotal:			\$533,000

Roadway & ROW Construction Allowances Subtotal: **\$1,721,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$310,000
Contingency		10%	\$172,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$482,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$1,187,000
ROW Construction Items		\$533,000
Capital Improvement Costs		\$482,000
Impact Fee Project Cost Total:		\$2,203,000

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 Sherman.

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 Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 8

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W TRAVIS ST (1)**

Type: **Completed**

Limits: **S Heritage Pkwy to 480' W of Crossroads Blvd**

Service Area: **2,4**

Existing Pavement Section: **4D**

Ultimate Pavement Section: **4D**

Length (Ft): **9,915**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project included the construction of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$7,500,000.

Impact Fee Project Cost Summary

Item

Notes

Item Cost

Impact Fee Project Cost Total: \$ 7,500,000

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

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:Thoroughfare Plan Classification: Minor Arterial

Name: W TRAVIS ST (2)

Type: Completed

Limits: 480' W of Crossroads Blvd to US 75 SBFR

Service Area: 2,4

Existing Pavement Section: 4D

Ultimate Pavement Section: 4D

Length (Ft): 1,005

Travelway (Ft): 24

Roadbeds (divided #): 2

Parkway (Ft): 10.5

Median Width (Ft): 17

Sidewalk Width (Ft): 5

Sidewalks (#): 2

This project included the construction of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$820,339.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 820,339

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 10

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W LAMBERTH RD (2)**

Type: **Widening**

Limits: **US 82 WB to 220' S of US 82 WB**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	220
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	304	CY	\$25.00	\$8,000
	Earthwork/Top Soil	6	114	CY	\$15.00	\$2,000
	Prepared Subgrade	6	212	CY	\$25.00	\$5,000
	Curb & Gutter	n/a	880	LF	\$10.00	\$9,000
	Concrete Sidewalk	n/a	2,200	SF	\$15.00	\$33,000
	Concrete Pavement	8	261	CY	\$300.00	\$78,000
Roadway Construction Cost Subtotal:						\$135,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$13,000
Utilities	Minor Adjustments	4%	\$5,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$27,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$3,000
Signs, Pavement Markings		2%	\$3,000
Traffic Control		3%	\$4,000
Street Lighting		5%	\$7,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$7,000
Construction Allowances Subtotal:			\$69,000

Roadway & ROW Construction Allowances Subtotal: **\$203,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$37,000
Contingency		10%	\$20,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$57,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$135,000
ROW Construction Items		\$69,000
Capital Improvement Costs		\$57,000
Impact Fee Project Cost Total:		\$260,000

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 11

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W LAMBERTH RD (3)**

Type: **Widening**

Limits: **US 82 WB to 1935' S of Canyon Creek Dr**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	7,650
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	10,578	CY	\$25.00	\$264,000
	Earthwork/Top Soil	6	3,967	CY	\$15.00	\$60,000
	Prepared Subgrade	6	7,367	CY	\$25.00	\$184,000
	Curb & Gutter	n/a	30,600	LF	\$10.00	\$306,000
	Concrete Sidewalk	n/a	76,500	SF	\$15.00	\$1,148,000
	Concrete Pavement	8	9,067	CY	\$300.00	\$2,720,000
Roadway Construction Cost Subtotal:						\$4,682,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$233,000
Utilities	Minor Adjustments	4%	\$190,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$936,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$94,000
Signs, Pavement Markings		2%	\$94,000
Traffic Control		3%	\$140,000
Street Lighting		5%	\$234,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$234,000
Construction Allowances Subtotal:			\$2,155,000

Roadway & ROW Construction Allowances Subtotal: **\$6,837,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$1,231,000
Contingency		10%	\$684,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$1,914,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$4,682,000
ROW Construction Items		\$2,155,000
Capital Improvement Costs		\$1,914,000
Impact Fee Project Cost Total:		\$8,751,000

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 12

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: N FRIENDSHIP RD (1)

Type: Widening

Limits: Elliott Rd to Pleasant Home Rd

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	6,640
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project is one section of two N Friendship Road projects, for which the City provided a combined project cost projection of \$42,050,000. This section accounts for \$18,323,343.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 18,323,343

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 13

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **N HERITAGE PKWY (2)**

Type: **Widening**

Limits: **US 82 EBFR to W Taylor St**

Service Area:

2

Existing Pavement Section:

3U

Ultimate Pavement Section:

6D

Length (Ft):

7,100

Travelway (Ft):

36

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

This project includes the widening of the existing section to a six-lane divided concrete major arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	14,025	CY	\$25.00	\$351,000
	Earthwork/Top Soil	6	4,996	CY	\$15.00	\$75,000
	Prepared Subgrade	6	9,993	CY	\$25.00	\$250,000
	Curb & Gutter	n/a	28,400	LF	\$10.00	\$284,000
	Concrete Pavement	8	11,921	CY	\$300.00	\$3,576,000

Roadway Construction Cost Subtotal: **\$4,536,000**

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$225,000
Utilities	Minor Adjustments	4%	\$184,000
Drainage	Bridge Width	20%	\$907,000
Special Drainage	72		\$500,000
Other Major Items	Major Crossing		
ADA Ramps & Requirements		2%	\$91,000
Signs, Pavement Markings		2%	\$91,000
Traffic Control		3%	\$136,000
Street Lighting		5%	\$227,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$227,000

Construction Allowances Subtotal: **\$2,588,000**

Roadway & ROW Construction Allowances Subtotal: **\$7,124,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$1,282,000
Contingency		10%	\$712,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: **\$1,995,000**

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$4,536,000
ROW Construction Items		\$2,588,000
Capital Improvement Costs		\$1,995,000

Impact Fee Project Cost Total (35% City Cost Participation): **\$3,191,000**

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 14

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **N HERITAGE PKWY (3)**

Type: **Widening**

Limits: **W Taylor St to W Houston St**

Service Area:

2

Existing Pavement Section:

2U

Ultimate Pavement Section:

6D

Length (Ft):

8,770

Travelway (Ft):

36

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

This project includes the widening of the existing section to a six-lane divided concrete major arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	17,323	CY	\$25.00	\$433,000
	Earthwork/Top Soil	6	6,171	CY	\$15.00	\$93,000
	Prepared Subgrade	6	12,343	CY	\$25.00	\$309,000
	Curb & Gutter	n/a	35,080	LF	\$10.00	\$351,000
	Concrete Pavement	8	14,725	CY	\$300.00	\$4,417,000

Roadway Construction Cost Subtotal: **\$5,603,000**

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$278,000
Utilities		4%	\$228,000
Drainage	Bridge Width	20%	\$1,121,000
Special Drainage	72		\$500,000
Other Major Items			
ADA Ramps & Requirements		2%	\$112,000
Signs, Pavement Markings		2%	\$112,000
Traffic Control		3%	\$168,000
Street Lighting		5%	\$280,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$280,000

Construction Allowances Subtotal: **\$3,079,000**

Roadway & ROW Construction Allowances Subtotal: **\$8,682,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$1,563,000
Contingency		10%	\$868,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: **\$2,431,000**

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$5,603,000
ROW Construction Items		\$3,079,000
Capital Improvement Costs		\$2,431,000

Impact Fee Project Cost Total (35% City Cost Participation): **\$3,889,000**

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 Sherman.

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 15

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **S HERITAGE PKWY**

Type: **Widening**

Limits: **W Houston St to OG Groner Rd**

Service Area:	2
Existing Pavement Section:	3U
Ultimate Pavement Section:	6D
Length (Ft):	11,295
Travelway (Ft):	36
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of a six-lane divided concrete minor arterial. The City provided a cost estimate of \$3,300,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total (20% City Cost Participation):		\$ 3,300,000

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City of Sherman

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2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 16

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W MOORE ST (1)**

Type: **Widening**

Limits: **W Park Ave to W Travis St**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	3,160
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	4,369	CY	\$25.00	\$109,000
	Earthwork/Top Soil	6	1,639	CY	\$15.00	\$25,000
	Prepared Subgrade	6	3,043	CY	\$25.00	\$76,000
	Curb & Gutter	n/a	12,640	LF	\$10.00	\$126,000
	Concrete Sidewalk	n/a	31,600	SF	\$15.00	\$474,000
	Concrete Pavement	8	3,745	CY	\$300.00	\$1,124,000
Roadway Construction Cost Subtotal:						\$1,934,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$96,000
Utilities	Minor Adjustments	4%	\$79,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$387,000
Special Drainage	58		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$39,000
Signs, Pavement Markings		2%	\$39,000
Traffic Control		3%	\$58,000
Street Lighting		5%	\$97,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$97,000
Construction Allowances Subtotal:			\$890,000

Roadway & ROW Construction Allowances Subtotal: **\$2,824,000**

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$508,000
Contingency		10%	\$282,000
ROW / Easement Acquisition	None included		
CIP Allowances Subtotal:			\$791,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$1,934,000
ROW Construction Items		\$890,000
Capital Improvement Costs		\$791,000
Impact Fee Project Cost Total:		\$3,615,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 17

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (2)

Type: Gap Study

Limits: US 82 to 1,835' S of US 82

Service Area: 3,2

Length (Ft): 1,835

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$606,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$606,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 18

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (3)

Type: Gap Study

Limits: SH 91 to Post Oak Creek

Service Area: 3,2

Length (Ft): 14,360

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$4,748,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$4,748,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 19

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (4)

Type: Gap Study

Limits: Post Oak Creek to W Travis St

Service Area: 4,2

Length (Ft): 4,000

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$1,322,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$1,322,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 20

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W LAMBERTH RD (4)**

Type: **New**

Limits: **1000' W of Friendship to 1800' W of Carriage Estates Road**

Service Area:	2
Existing Pavement Section:	NA
Ultimate Pavement Section:	4D
Length (Ft):	980
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$628,833.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 628,833

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 21

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **N FRIENDSHIP RD (2)**

Type: **New**

Limits: **Lamberth Rd to 1720' S of Lamberth Rd**

Service Area:	2
Existing Pavement Section:	NA
Ultimate Pavement Section:	4D
Length (Ft):	1,715
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$14,556,081.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 14,556,081

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 Sherman.

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:Thoroughfare Plan Classification: Minor Arterial

Name:	N FRIENDSHIP RD (3)		
Type:	Widening		
Limits:	Pleasant Home Rd to OB Groner		
Service Area:		2	This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$9,170,576.
Existing Pavement Section:		2U	
Ultimate Pavement Section:		4D	
Length (Ft):		6,325	
Travelway (Ft):		24	
Roadbeds (divided #):		2	
Parkway (Ft):		10.5	
Median Width (Ft):		17	
Sidewalk Width (Ft):		5	
Sidewalks (#):		2	

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 9,170,576

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 23

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **SWAN RIDGE**

Type: **New**

Limits: **335' S of Exculpating Rd to 120' N of Hummingbird Dr**

Service Area: **2**

Existing Pavement Section: **NA**

Ultimate Pavement Section: **4D**

Length (Ft): **2,140**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,100,000.

Impact Fee Project Cost Summary

Item

Notes

Item Cost

Impact Fee Project Cost Total: \$ 1,100,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 24

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W MOORE ST (2)**

Type: **Widening**

Limits: **Center St to 2845' S of Center St**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	2,840
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$9,045,391.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 9,045,391

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 25

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W MOORE ST (3)**

Type: **Widening**

Limits: **2845' S of Center St to W Park Ave**

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	5,025
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$16,004,609.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 16,004,609

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 26

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: PLEASANT HOME RD (1)

Type: Widening

Limits: Riddels Rd to 860' E of Cimmaron Trail

Service Area:	2
Existing Pavement Section:	2U
Ultimate Pavement Section:	6D
Length (Ft):	5,345
Travelway (Ft):	36
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of a six-lane divided concrete minor arterial. The City provided a cost estimate of \$16,468,911.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 16,468,911

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 Sherman.

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Project Information:Thoroughfare Plan Classification: Major Arterial

Name: PLEASANT HOME RD (2)

Type: New

Limits: 860' E of Cimmaron Trail to Flanary Rd

Service Area:2

Existing Pavement Section:NA

Ultimate Pavement Section:6D

Length (Ft):2,785

Travelway (Ft):36

Roadbeds (divided #):2

Parkway (Ft):10.5

Median Width (Ft):17

Sidewalk Width (Ft):5

Sidewalks (#):2

This project includes the construction of a new six-lane divided concrete minor arterial. The City provided a cost estimate of \$8,581,089.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 8,581,089

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 28

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **OB GRONER RD**

Type: **Widening**

Limits: **2900' W of Flanary Rd to Flanary Rd**

Service Area: **2,4**

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

2,905

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$500,000.

Impact Fee Project Cost Summary

Item

Notes

Item Cost

Impact Fee Project Cost Total: \$ 500,000

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City of Sherman - 2022 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 3

#	Thoroughfare Plan Classification	Project	Type	Limits		Percent in Service Area	Project Cost	Total Cost in Service Area
				From	To			
1	Minor Arterial	E PARK AVE (1)	New	S Inwood St	E Lake Ave	50%	\$ 1,800,000	\$ 900,000
2	Minor Arterial	E PARK AVE (2)	Widening	E Lake Ave	First St	100%	\$ 1,154,000	\$ 1,154,000
3	Minor Arterial	E PARK AVE (3)	Widening	First St	S Gribble St	100%	\$ 1,226,772	\$ 1,226,772
4	Minor Arterial	E PARK AVE (4)	New	S Gribble St	E Lake Ave	100%	\$ 1,261,329	\$ 1,261,329
5	Minor Arterial	E PARK AVE (5)	Widening	620' N of E Ida Rd	Dewey Ave	100%	\$ 1,606,899	\$ 1,606,899
6	Minor Arterial	S TRAVIS ST (1)	Widening	W Park Ave	Post Oak Creek	100%	\$ 3,792,000	\$ 3,792,000
7	Freeway	US 75 (2)	Gap Study	US 82	1,835' S of US 82	50%	\$ 606,000	\$ 303,000
8	Freeway	US 75 (3)	Gap Study	SH 91	Post Oak Creek	50%	\$ 4,748,000	\$ 2,374,000
							\$ 16,195,000	\$ 12,618,000

Intersection Improvements - Service Area 3

#	Project	Improvement		Percent in Service Area	Project Cost	Total Cost in Service Area
		Improvement 1	Improvement 2			
1	US 75 & FM 1417	BRAIDED RAMP	U-TURN LANE	25%	\$ 7,600,000	\$ 1,900,000
					\$ 7,600,000	\$ 1,900,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 1

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **E PARK AVE (1)**

Type: **New**

Limits: **S Inwood St to E Lake Ave**

Service Area:

3

Existing Pavement Section:

NA

Ultimate Pavement Section:

4D

Length (Ft):

1,165

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,800,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 1,800,000

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City of Sherman
2020 Roadway Impact Fees
Conceptual Level Project Cost Projection

7/11/2022

Project Number: 2

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **E PARK AVE (2)**

Type: **Widening**

Limits: **E Lake Ave to First St**

Service Area:	3
Existing Pavement Section:	2U
Ultimate Pavement Section:	4D
Length (Ft):	705
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	975	CY	\$25.00	\$24,000
	Earthwork/Top Soil	6	366	CY	\$15.00	\$5,000
	Prepared Subgrade	6	679	CY	\$25.00	\$17,000
	Curb & Gutter	n/a	2,820	LF	\$10.00	\$28,000
	Concrete Sidewalk	n/a	7,050	SF	\$15.00	\$106,000
	Concrete Pavement	8	836	CY	\$300.00	\$251,000

Roadway Construction Cost Subtotal: \$431,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		10%	\$43,000
Utilities	Minor Adjustments	4%	\$18,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$86,000
Special Drainage	58 Minor Crossing		\$250,000
Other Major Items			
ADA Ramps & Requirements		2%	\$9,000
Signs, Pavement Markings		2%	\$9,000
Traffic Control		3%	\$13,000
Street Lighting		5%	\$22,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$22,000

Construction Allowances Subtotal: \$470,000

Roadway & ROW Construction Allowances Subtotal: \$901,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$162,000
Contingency		10%	\$90,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$252,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$431,000
ROW Construction Items		\$470,000
Capital Improvement Costs		\$252,000

Impact Fee Project Cost Total: \$1,154,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 3

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **E PARK AVE (3)**

Type: **Widening**

Limits: **First St to S Gribble St**

Service Area:

3

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

1,075

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,226,772.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 1,226,772

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 4

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **E PARK AVE (4)**

Type: **New**

Limits: **S Gribble St to E Lake Ave**

Service Area:

3

Existing Pavement Section:

NA

Ultimate Pavement Section:

4D

Length (Ft):

1,095

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,261,329.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 1,261,329

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 5

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **E PARK AVE (5)**

Type: **Widening**

Limits: **620' N of E Ida Rd to Dewey Ave**

Service Area:

3

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

1,395

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,606,899.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 1,606,899

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 Sherman.

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City of Sherman
2020 Roadway Impact Fees
Conceptual Level Project Cost Projection

7/11/2022

Project Number: 6

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **S TRAVIS ST (1)**

Type: **Widening**

Limits: **W Park Ave to Post Oak Creek**

Service Area:

3

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

2,755

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of the existing section to a four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	3,809	CY	\$25.00	\$95,000
	Earthwork/Top Soil	6	1,429	CY	\$15.00	\$21,000
	Prepared Subgrade	6	2,653	CY	\$25.00	\$66,000
	Curb & Gutter	n/a	11,020	LF	\$10.00	\$110,000
	Concrete Sidewalk	n/a	27,550	SF	\$15.00	\$413,000
	Concrete Pavement	8	3,265	CY	\$300.00	\$980,000

Roadway Construction Cost Subtotal: \$1,686,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$84,000
Utilities	Minor Adjustments	4%	\$69,000
Drainage	Bridge Width	20%	\$337,000
Special Drainage	Internal Stormsewer System		\$500,000
Other Major Items	Major Crossing		
ADA Ramps & Requirements		2%	\$34,000
Signs, Pavement Markings		2%	\$34,000
Traffic Control		3%	\$51,000
Street Lighting		5%	\$84,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$84,000

Construction Allowances Subtotal: \$1,276,000

Roadway & ROW Construction Allowances Subtotal: \$2,962,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$533,000
Contingency		10%	\$296,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$829,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$1,686,000
ROW Construction Items		\$1,276,000
Capital Improvement Costs		\$829,000

Impact Fee Project Cost Total: \$3,792,000

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 7

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (2)

Type: Gap Study

Limits: US 82 to 1,835' S of US 82

Service Area: 2,3

Length (Ft): 1,835

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$606,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$606,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 8

Project Information:

Thoroughfare Plan Classification: Freeway

Name: US 75 (3)

Type: Gap Study

Limits: SH 91 to Post Oak Creek

Service Area: 2,3

Length (Ft): 14,360

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$4,748,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: \$4,748,000

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 Sherman.

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City of Sherman - 2022 Roadway Impact Fee Study

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

Roadway Improvements - Service Area 4

#	Thoroughfare Plan Classification	Project	Type	Limits		Percent in Service Area	Project Cost	Total Cost in Service Area
				From	To			
1	Minor Arterial	W TRAVIS ST (1)	Completed	S Heritage Pkwy	480' W of Crossroads Blvd	50%	\$ 7,500,000	\$ 3,750,000
2	Minor Arterial	W TRAVIS ST (2)	Completed	480' W of Crossroads Blvd	US 75 SBFR	50%	\$ 820,339	\$ 410,170
3	Major Arterial	FM 1417 (1)	Widening	W Travis St	US 75	100%	\$ 5,730,000	\$ 5,730,000
4	Major Arterial	FM 1417 (2)	Widening	US 75	455' E of Williams Blvd	100%	\$ 2,144,000	\$ 2,144,000
5	Minor Arterial	LEGACY BLVD	Completed	US 75 NBFR	650' E of US 75 NBFR	100%	\$ 1,968,565	\$ 1,968,565
6	Major Arterial	PROGRESS DR	New	Flanary Rd	2,170' E of Flanary Rd	100%	\$ 2,900,000	\$ 2,900,000
7	Minor Arterial	W MOORE ST (4)	New	W Travis St	W FM 1417	100%	\$ 8,763,000	\$ 8,763,000
8	Minor Arterial	FLANARY RD (1)	Widening	W FM 1417	W Progress Rd	100%	\$ 5,500,000	\$ 5,500,000
9	Freeway	US 75 (4)	Gap Study	Post Oak Creek	W Travis St	50%	\$ 1,322,000	\$ 661,000
10	Freeway	US 75 (5)	Gap Study	W Travis St	FM 1417	100%	\$ 884,000	\$ 884,000
11	Freeway	US 75 (6)	Gap Study	FM 1417	S City Limit	100%	\$ 6,450,000	\$ 6,450,000
12	Minor Arterial	OB GRONER RD	Widening	2900' W of Flanary Rd	Flanary Rd	50%	\$ 500,000	\$ 250,000
13	Minor Arterial	W TRAVIS ST (3)	New	US 75	S Travis St	100%	\$ 2,200,000	\$ 2,200,000
14	Minor Arterial	S TRAVIS ST (2)	Widening	Post Oak Creek	W Travis St	100%	\$ 550,000	\$ 550,000
15	Minor Arterial	SHEPHERD DR (1)	Widening	Farmington Rd	1450' E of Farmington Rd	100%	\$ 1,093,640	\$ 1,093,640
16	Minor Arterial	SHEPHERD DR (2)	New	1450' E of Farmington Rd	5120' W of US 75	100%	\$ 3,795,041	\$ 3,795,041
17	Minor Arterial	SHEPHERD DR (3)	Widening	5120' W of US 75	US 75	100%	\$ 3,711,319	\$ 3,711,319
18	Minor Arterial	FLANARY RD (2)	Widening	Progress Dr	2220' S of Progress Dr	100%	\$ 3,700,000	\$ 3,700,000
19	Minor Arterial	FLANARY RD (3)	New	2220' S of Progress Dr	Shepherd Dr	100%	\$ 29,000,000	\$ 29,000,000
							\$ 88,531,904	\$ 83,460,735

Intersection Improvements - Service Area 4

#	Project	Improvement		Percent in Service Area	Project Cost	Total Cost in Service Area
		Improvement 1	Improvement 2			
1	FM 1417 & W Travis St	SIGNAL	TURN LANE IMPROVEMENTS	50%	\$ 1,750,000	\$ 875,000
2	US 75 & FM 1417	BRAIDED RAMP	U-TURN LANE	75%	\$ 7,600,000	\$ 5,700,000
					\$ 9,350,000	\$ 6,575,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 1

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W TRAVIS ST (1)**

Type: **Completed**

Limits: **S Heritage Pkwy to 480' W of Crossroads Blvd**

Service Area: **2,4**

Existing Pavement Section: **4D**

Ultimate Pavement Section: **4D**

Length (Ft): **9,915**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project included the construction of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$7,500,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 7,500,000

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

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 2

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W TRAVIS ST (2)**

Type: **Completed**

Limits: **480' W of Crossroads Blvd to US 75 SBFR**

Service Area: **2,4**

Existing Pavement Section: **4D**

Ultimate Pavement Section: **4D**

Length (Ft): **1,005**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project included the construction of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$820,339.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 820,339

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 Sherman.

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City of Sherman
2020 Roadway Impact Fees
Conceptual Level Project Cost Projection

7/11/2022

Project Number: 3

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **FM 1417 (1)**

Type: **Widening**

Limits: **W Travis St to US 75**

Service Area:	4
Existing Pavement Section:	2U
Ultimate Pavement Section:	6D
Length (Ft):	13,175
Travelway (Ft):	36
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17

This project includes the widening of the existing section to a six-lane divided concrete major arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	26,025	CY	\$25.00	\$651,000
	Earthwork/Top Soil	6	9,271	CY	\$15.00	\$139,000
	Prepared Subgrade	6	18,543	CY	\$25.00	\$464,000
	Curb & Gutter	n/a	52,700	LF	\$10.00	\$527,000
	Concrete Pavement	8	22,121	CY	\$300.00	\$6,636,000

Roadway Construction Cost Subtotal: \$8,417,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$418,000
Utilities	Minor Adjustments	4%	\$342,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$1,683,000
Special Drainage	Major Crossing		\$500,000
Other Major Items			
ADA Ramps & Requirements		2%	\$168,000
Signs, Pavement Markings		2%	\$168,000
Traffic Control		3%	\$252,000
Street Lighting		5%	\$421,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$421,000

Construction Allowances Subtotal: \$4,375,000

Roadway & ROW Construction Allowances Subtotal: \$12,791,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$2,302,000
Contingency		10%	\$1,279,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$3,582,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$8,417,000
ROW Construction Items		\$4,375,000
Capital Improvement Costs		\$3,582,000

Impact Fee Project Cost Total (35% City Cost Participation): \$5,730,000

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City of Sherman
2020 Roadway Impact Fees
Conceptual Level Project Cost Projection

7/11/2022

Project Number: 4

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **FM 1417 (2)**

Type: **Widening**

Limits: **US 75 to 455' E of Williams Blvd**

Service Area:

Existing Pavement Section:

Ultimate Pavement Section:

Length (Ft):

Travelway (Ft):

Roadbeds (divided #):

Parkway (Ft):

Median Width (Ft):

4

3U

6D

5,130

36

2

10.5

17

This project includes the widening of the existing section to a six-lane divided concrete major arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	10,133	CY	\$25.00	\$253,000
	Earthwork/Top Soil	6	3,610	CY	\$15.00	\$54,000
	Prepared Subgrade	6	7,220	CY	\$25.00	\$181,000
	Curb & Gutter	n/a	20,520	LF	\$10.00	\$205,000
	Concrete Pavement	8	8,613	CY	\$300.00	\$2,584,000

Roadway Construction Cost Subtotal: \$3,277,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$163,000
Utilities	Minor Adjustments	4%	\$133,000
Drainage	Bridge Width Internal Stormsewer System	20%	\$655,000
Special Drainage	72		
Other Major Items	None		
ADA Ramps & Requirements		2%	\$66,000
Signs, Pavement Markings		2%	\$66,000
Traffic Control		3%	\$98,000
Street Lighting		5%	\$164,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$164,000

Construction Allowances Subtotal: \$1,509,000

Roadway & ROW Construction Allowances Subtotal: \$4,786,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$861,000
Contingency		10%	\$479,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$1,340,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$3,277,000
ROW Construction Items		\$1,509,000
Capital Improvement Costs		\$1,340,000

Impact Fee Project Cost Total (35% City Cost Participation): \$2,144,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 5

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **LEGACY BLVD**

Type: **Completed**

Limits: **US 75 NBFR to 650' E of US 75 NBFR**

Service Area:	4
Existing Pavement Section:	4D
Ultimate Pavement Section:	4D
Length (Ft):	650
Travelway (Ft):	24
Roadbeds (divided #):	2
Parkway (Ft):	10.5
Median Width (Ft):	17
Sidewalk Width (Ft):	5
Sidewalks (#):	2

This project included the construction of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,968,565.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 1,968,565

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 6

Project Information:

Thoroughfare Plan Classification: Major Arterial

Name: **PROGRESS DR**

Type: **New**

Limits: **Flanary Rd to 2,170' E of Flanary Rd**

Service Area:

4

Existing Pavement Section:

NA

Ultimate Pavement Section:

6D

Length (Ft):

2,170

Travelway (Ft):

36

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project included the construction of a new six-lane divided concrete minor arterial. The City provided a cost estimate of \$2,900,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 2,900,000

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City of Sherman
2020 Roadway Impact Fees
Conceptual Level Project Cost Projection

7/11/2022

Project Number: 7

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W MOORE ST (4)**

Type: **New**

Limits: **W Travis St to W FM 1417**

Service Area: **4**
 Existing Pavement Section: **NA**
 Ultimate Pavement Section: **4D**
 Length (Ft): **7,992**
 Travelway (Ft): **24**
 Roadbeds (divided #): **2**
 Parkway (Ft): **10.5**
 Median Width (Ft): **17**
 Sidewalk Width (Ft): **5**
 Sidewalks (#): **2**

This project includes the construction of a new four-lane divided concrete minor arterial.

Roadway Construction Cost Projection

Item	Description	Depth in Inches	Quantity	Unit	Unit Cost	Extended Cost
	Street Excavation	8	11,051	CY	\$25.00	\$276,000
	Earthwork/Top Soil	6	4,144	CY	\$15.00	\$62,000
	Prepared Subgrade	6	7,696	CY	\$25.00	\$192,000
	Curb & Gutter	n/a	31,968	LF	\$10.00	\$320,000
	Concrete Sidewalk	n/a	79,920	SF	\$15.00	\$1,199,000
	Concrete Pavement	8	9,472	CY	\$300.00	\$2,842,000

Roadway Construction Cost Subtotal: \$4,891,000

Major ROW Construction Component Allowances

Description	Notes	Allowance	Item Cost
Mobilization		5%	\$243,000
Utilities	Minor Adjustments	0%	0
Drainage	Bridge Width Internal Stormsewer System	20%	\$978,000
Special Drainage	58 None		
Other Major Items			
ADA Ramps & Requirements		2%	\$98,000
Signs, Pavement Markings		2%	\$98,000
Traffic Control		1%	\$49,000
Street Lighting		5%	\$245,000
Landscaping (Grass, Trees, Restoration, E/S Controls)		5%	\$245,000

Construction Allowances Subtotal: \$1,955,000

Roadway & ROW Construction Allowances Subtotal: \$6,846,000

Capital Improvement Project (CIP) Allowances

Description	Notes	Allowance	Item Cost
Engineering / Surveying / Geotechnical	(12%+4%+2%)	18%	\$1,232,000
Contingency		10%	\$685,000
ROW / Easement Acquisition	None included		

CIP Allowances Subtotal: \$1,917,000

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Roadway Construction Items		\$4,891,000
ROW Construction Items		\$1,955,000
Capital Improvement Costs		\$1,917,000

Impact Fee Project Cost Total: \$8,763,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 8

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **FLANARY RD (1)**

Type: **Widening**

Limits: **W FM 1417 to W Progress Rd**

Service Area:

4

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

4,035

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project included the widening of a six-lane divided concrete minor arterial. The City provided a cost estimate of \$5,500,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 5,500,000

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

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 9

Project Information:

Thoroughfare Plan Classification: Freeway

Name: **US 75 (4)**

Type: **Gap Study**

Limits: **Post Oak Creek to W Travis St**

Service Area: **4,2**

Length (Ft): **4,000**

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$1,322,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total: **\$1,322,000**

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 10

Project Information:

Thoroughfare Plan Classification: Freeway

Name: **US 75 (5)**

Type: **Gap Study**

Limits: **W Travis St to FM 1417**

Service Area:

4

Length (Ft):

2,676

This project is one section of the US 75 Gap Study. The City anticipates contributing \$8.2 million for the US 75 Gap Study project which will add main lane capacity. This section accounts for \$884,000.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total:

\$884,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 11

Project Information:

Thoroughfare Plan Classification: Freeway

Name: **US 75 (6)**

Type: **Gap Study**

Limits: **FM 1417 to S City Limit**

Service Area:

4

Length (Ft):

20,936

This project is separate from the other US 75 Gap Study. The City anticipates contributing \$6.45 million for this section of US 75 Gap which will add main lane capacity.

Impact Fee Project Cost Summary

Impact Fee Project Cost Total:

\$6,450,000

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 12

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **OB GRONER RD**

Type: **Widening**

Limits: **2900' W of Flanary Rd to Flanary Rd**

Service Area: **4,2**

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

2,850

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$500,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 500,000

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

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 13

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **W TRAVIS ST (3)**

Type: **New**

Limits: **US 75 to S Travis St**

Service Area:

4

Existing Pavement Section:

NA

Ultimate Pavement Section:

4D

Length (Ft):

1,307

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$2,200,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total (20% City Cost Participation):		\$ 2,200,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 14

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **S TRAVIS ST (2)**

Type: **Widening**

Limits: **Post Oak Creek to W Travis St**

Service Area:

4

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

1,606

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$550,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 550,000

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 Sherman.

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City of Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 15

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **SHEPHERD DR (1)**

Type: **Widening**

Limits: **Farmington Rd to 1450' E of Farmington Rd**

Service Area: **4**

Existing Pavement Section: **2U**

Ultimate Pavement Section: **4D**

Length (Ft): **1,442**

Travelway (Ft): **24**

Roadbeds (divided #): **2**

Parkway (Ft): **10.5**

Median Width (Ft): **17**

Sidewalk Width (Ft): **5**

Sidewalks (#): **2**

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$1,093,640.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 1,093,640

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 16

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **SHEPHERD DR (2)**

Type: **New**

Limits: **1450' E of Farmington Rd to 5120' W of US 75**

Service Area:

4

Existing Pavement Section:

NA

Ultimate Pavement Section:

4D

Length (Ft):

5,004

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$3,795,041.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
Impact Fee Project Cost Total:		\$ 3,795,041

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 17

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **SHEPHERD DR (3)**

Type: **Widening**

Limits: **5120' W of US 75 to US 75**

Service Area:

4

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

4,893

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$3,711,319.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 3,711,319

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 Sherman.

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 18

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **FLANARY RD (2)**

Type: **Widening**

Limits: **Progress Dr to 2220' S of Progress Dr**

Service Area:

0

Existing Pavement Section:

2U

Ultimate Pavement Section:

4D

Length (Ft):

2,212

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the widening of a four-lane divided concrete minor arterial. The City provided a cost estimate of \$3,700,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 3,700,000

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

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 Sherman

7/11/2022

2020 Roadway Impact Fees

Conceptual Level Project Cost Projection

Project Number: 19

Project Information:

Thoroughfare Plan Classification: Minor Arterial

Name: **FLANARY RD (3)**

Type: **New**

Limits: **2220' S of Progress Dr to Shepherd Dr**

Service Area:

4

Existing Pavement Section:

NA

Ultimate Pavement Section:

4D

Length (Ft):

7,992

Travelway (Ft):

24

Roadbeds (divided #):

2

Parkway (Ft):

10.5

Median Width (Ft):

17

Sidewalk Width (Ft):

5

Sidewalks (#):

2

This project includes the construction of a new four-lane divided concrete minor arterial. The City provided a cost estimate of \$29,000,000.

Impact Fee Project Cost Summary

Item	Notes	Item Cost
		Impact Fee Project Cost Total: \$ 29,000,000

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 Sherman.

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

ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY

City of Sherman - 2020 Roadway Impact Fee Study

CIP Service Units of Supply

7/11/2022

Service Area 1

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	THOROUGHFARE PLAN CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
1	N HERITAGE PKWY (1)	FM 691 to US 82	2.68	6	Major Arterial	538	100%	750	12051	1,441	10,610	\$ 6,022,000	\$ 6,022,000
2	N TRAVIS ST	Kraeger Rd to US 82 WBFR	1.11	4	Minor Arterial	504	100%	650	2878	558	2320	\$ 2,340,000	\$ 2,340,000
3	US 75 (1)	1,875' N of US 82 to US 82	0.36	2	Freeway	New	100%	1900	1349	0	1,349	\$ 620,000	\$ 620,000
4	US 82 WBFR	N SH 289 to N Heritage Pkwy	3.24	2	Frontage Road	New	100%	900	5835	0	5,835	\$ 1,451,000	\$ 1,451,000
5	FALLON DR (1)	N Loy Lake Rd to US 75 SBFR	0.31	4	Minor Arterial	New	100%	650	810	0	810	\$ 2,500,000	\$ 2,500,000
6	FALLON DR (2)	1,525' N of Dripping Springs Rd to Dripping Springs Rd	0.29	4	Minor Arterial	New	100%	650	751	0	751	\$ 1,210,000	\$ 1,210,000
SUBTOTAL									23,674	1,999	21,675	\$ 14,143,000	\$ 14,143,000
1	US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE					50%					\$ 3,000,000	\$ 1,500,000
SUBTOTAL												\$ 3,000,000	\$ 1,500,000

2020 Roadway Impact Fee Study Cost Per Service Area \$ 12,500

TOTAL COST IN SERVICE AREA 1 \$ 15,655,500

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area 2

7/11/2022

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	THOROUGHFARE PLAN CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
1	US 82 EBFR	N SH 289 to N Heritage Pkwy	3.24	2	Frontage Road	New	100%	900	5,840	0	5,840	\$ 1,451,000	\$ 1,451,000
2	MEADOWLAKE DR	N SH 289 to 1,235' E of N SH 289	0.23	4	Minor Arterial	200	100%	650	608	47	561	\$ 1,461,000	\$ 1,461,000
3	W LAMBERTH RD (1)	1,800' W of Carriage Estates Rd to Shady Oaks Ln	0.72	4	Minor Arterial	200	50%	650	931	72	859	\$ 4,324,000	\$ 2,162,000
4	W WASHINGTON ST	N SH 289 to 2,350' E of N SH 289	0.45	4	Minor Arterial	200	100%	650	1,157	89	1,068	\$ 2,780,000	\$ 2,780,000
5	MC GEE ST (1)	2,545' W of Brookdale St to Brookdale St	0.48	4	Minor Arterial	New	100%	650	1,253	0	1,253	\$ 3,209,000	\$ 3,209,000
6	MC GEE ST (2)	Brookdale St to Little Ln	0.10	4	Minor Arterial	24	100%	650	254	2	252	\$ 609,000	\$ 609,000
7	MC GEE ST (3)	455' W of N Heritage Pkwy to W Taylor St	0.37	4	Minor Arterial	New	100%	650	955	0	955	\$ 2,203,000	\$ 2,203,000
8	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	4	Minor Arterial	125	50%	650	2,441	117	2,324	\$ 7,500,000	\$ 3,750,000
9	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	4	Minor Arterial	125	50%	650	247	12	235	\$ 820,339	\$ 410,170
10	W LAMBERTH RD (2)	US 82 WB to 220' S of US 82 WB	0.04	4	Minor Arterial	200	100%	650	108	8	100	\$ 260,000	\$ 260,000
11	W LAMBERTH RD (3)	US 82 WB to 1935' S of Canyon Creek Dr	1.45	4	Minor Arterial	200	50%	650	1,884	145	1,739	\$ 8,751,000	\$ 4,375,500
12	N FRIENDSHIP RD (1)	Elliott Rd to Pleasant Home Rd	1.26	4	Minor Arterial	200	100%	650	3,270	252	3,018	\$ 18,323,343	\$ 18,323,343
13	N HERITAGE PKWY (2)	US 82 EBFR to W Taylor St	1.34	6	Major Arterial	1,234	100%	750	6,051	1,659	4,392	\$ 3,191,000	\$ 3,191,000
14	N HERITAGE PKWY (3)	W Taylor St to W Houston St	1.66	6	Major Arterial	1,116	100%	750	7,474	1,854	5,620	\$ 3,889,000	\$ 3,889,000
15	S HERITAGE PKWY	W Houston St to OG Groner Rd	2.14	6	Major Arterial	1,200	100%	750	9,626	2,567	7,059	\$ 3,300,000	\$ 3,300,000
16	W MOORE ST (1)	W Park Ave to W Travis St	0.60	4	Minor Arterial	200	100%	650	1,556	120	1,436	\$ 3,615,000	\$ 3,615,000
17	US 75 (2)	US 82 to 1,835' S of US 82	0.35	2	Freeway	New	50%	1900	660	0	660	\$ 606,000	\$ 303,000
18	US 75 (3)	SH 91 to Post Oak Creek	2.72	2	Freeway	New	50%	1900	5,167	0	5,167	\$ 4,748,000	\$ 2,374,000
19	US 75 (4)	Post Oak Creek to W Travis St	0.76	2	Freeway	New	50%	1900	1,439	0	1,439	\$ 1,322,000	\$ 661,000
20	W LAMBERTH RD (4)	1000' W of Friendship to 1800' W of Carriage Estates Road	0.19	4	Minor Arterial	New	100%	650	483	0	483	\$ 628,833	\$ 628,833
21	N FRIENDSHIP RD (2)	Lamberth Rd to 1720' S of Lamberth Rd	0.32	4	Minor Arterial	New	100%	650	845	0	845	\$ 14,556,081	\$ 14,556,081
22	N FRIENDSHIP RD (3)	Pleasant Home Rd to OB Groner	1.20	4	Minor Arterial	200	100%	650	3,115	240	2,875	\$ 9,170,576	\$ 9,170,576
23	SWAN RIDGE	335' S of Exculpating Rd to 120' N of Hummingbird Dr	0.41	4	Minor Arterial	New	100%	650	1,054	0	1,054	\$ 1,100,000	\$ 1,100,000
24	W MOORE ST (2)	Center St to 2845' S of Center St	0.54	4	Minor Arterial	125	100%	650	1,398	67	1,331	\$ 9,045,391	\$ 9,045,391
25	W MOORE ST (3)	2845' S of Center St to W Park Ave	0.95	4	Minor Arterial	125	100%	650	2,474	119	2,355	\$ 16,004,609	\$ 16,004,609
26	PLEASANT HOME RD (1)	Riddels Rd to 860' E of Cimmaron Trail	1.01	6	Major Arterial	125	50%	750	2,278	63	2,215	\$ 16,468,911	\$ 8,234,456
27	PLEASANT HOME RD (2)	860' E of Cimmaron Trail to Flanary Rd	0.53	6	Major Arterial	New	50%	750	1,187	0	1,187	\$ 8,581,089	\$ 4,290,545
28	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.55	4	Minor Arterial	125	50%	650	715	34	681	\$ 500,000	\$ 250,000
SUBTOTAL									64,470	7,467	57,003	\$ 148,418,172	\$ 121,607,503
1	US 82 & Plainview Rd	GRADE SEPARATED INTERCHANGE					50%					\$ 3,000,000	\$ 1,500,000
2	FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS					50%					\$ 1,750,000	\$ 875,000
SUBTOTAL												\$ 4,750,000	\$ 2,375,000

2020 Roadway Impact Fee Study Cost Per Service Area \$ 12,500

TOTAL COST IN SERVICE AREA 2 \$ 123,995,003

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area 3

7/11/2022

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	THOROUGHFARE PLAN CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
1	E PARK AVE (1)	S Inwood St to E Lake Ave	0.22	4	Minor Arterial	New	50%	650	287	0	287	\$ 1,800,000	\$ 900,000
2	E PARK AVE (2)	E Lake Ave to First St	0.13	4	Minor Arterial	102	100%	650	347	14	333	\$ 1,154,000	\$ 1,154,000
3	E PARK AVE (3)	First St to S Gribble St	0.20	4	Minor Arterial	102	100%	650	529	21	508	\$ 1,226,772	\$ 1,226,772
4	E PARK AVE (4)	S Gribble St to E Lake Ave	0.21	4	Minor Arterial	New	100%	650	539	0	539	\$ 1,261,329	\$ 1,261,329
5	E PARK AVE (5)	620' N of E Ida Rd to Dewey Ave	0.26	4	Minor Arterial	102	100%	650	687	27	660	\$ 1,606,899	\$ 1,606,899
6	S TRAVIS ST (1)	W Park Ave to Post Oak Creek	0.52	4	Minor Arterial	400	100%	650	1357	209	1148	\$ 3,792,000	\$ 3,792,000
7	US 75 (2)	US 82 to 1,835' S of US 82	0.35	2	Freeway	New	50%	1900	660	0	660	\$ 606,000	\$ 303,000
8	US 75 (3)	SH 91 to Post Oak Creek	2.73	2	Freeway	New	50%	1900	5184	0	5184	\$ 4,748,000	\$ 2,374,000
SUBTOTAL									9,590	271	9,319	\$ 16,195,000	\$ 12,618,000
1	US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE					25%					\$ 7,600,000	\$ 1,900,000
SUBTOTAL												\$ 7,600,000	\$ 1,900,000

2020 Roadway Impact Fee Study Cost Per Service Area \$ 12,500

TOTAL COST IN SERVICE AREA 3 \$ 14,530,500

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area 4

7/11/2022

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	THOROUGHFARE PLAN CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA	
1	W TRAVIS ST (1)	S Heritage Pkwy to 480' W of Crossroads Blvd	1.88	4	Minor Arterial	125	50%	650	2441	117	2,324	\$ 7,500,000	\$ 3,750,000	
2	W TRAVIS ST (2)	480' W of Crossroads Blvd to US 75 SBFR	0.19	4	Minor Arterial	125	50%	650	247	12	235	\$ 820,339	\$ 410,170	
3	FM 1417 (1)	W Travis St to US 75	2.50	6	Major Arterial	770	100%	750	11229	1921	9308	\$ 5,730,000	\$ 5,730,000	
4	FM 1417 (2)	US 75 to 455' E of Williams Blvd	0.97	6	Major Arterial	850	100%	750	4372	826	3546	\$ 2,144,000	\$ 2,144,000	
5	LEGACY BLVD	US 75 NBFR to 650' E of US 75 NBFR	0.12	4	Minor Arterial	400	100%	650	320	49	271	\$ 1,968,565	\$ 1,968,565	
6	PROGRESS DR	Flanary Rd to 2,170' E of Flanary Rd	0.41	6	Major Arterial	New	100%	750	1849	0	1849	\$ 2,900,000	\$ 2,900,000	
7	W MOORE ST (4)	W Travis St to W FM 1417	0.69	4	Minor Arterial	New	100%	650	1790	0	1790	\$ 8,763,000	\$ 8,763,000	
8	FLANARY RD (1)	W FM 1417 to W Progress Rd	0.76	4	Minor Arterial	20	100%	650	1987	15	1972	\$ 5,500,000	\$ 5,500,000	
9	US 75 (4)	Post Oak Creek to W Travis St	0.76	2	Freeway	New	50%	1900	1439	0	1439	\$ 1,322,000	\$ 661,000	
10	US 75 (5)	W Travis St to FM 1417	0.51	2	Freeway	New	100%	1900	1926	0	1926	\$ 884,000	\$ 884,000	
11	US 75 (6)	FM 1417 to S City Limit	3.97	2	Freeway	New	100%	1900	15068	0	15068	\$ 6,450,000	\$ 6,450,000	
12	OB GRONER RD	2900' W of Flanary Rd to Flanary Rd	0.54	4	Minor Arterial	125	50%	650	702	34	668	\$ 500,000	\$ 250,000	
13	W TRAVIS ST (3)	US 75 to S Travis St	0.25	4	Minor Arterial	New	100%	650	644	0	644	\$ 2,200,000	\$ 2,200,000	
14	S TRAVIS ST (2)	Post Oak Creek to W Travis St	0.30	4	Minor Arterial	400	100%	650	791	122	669	\$ 550,000	\$ 550,000	
15	SHEPHERD DR (1)	Farmington Rd to 1450' E of Farmington Rd	0.27	4	Minor Arterial	20	100%	650	710	5	705	\$ 1,093,640	\$ 1,093,640	
16	SHEPHERD DR (2)	1450' E of Farmington Rd to 5120' W of US 75	0.95	4	Minor Arterial	New	100%	650	2464	0	2464	\$ 3,795,041	\$ 3,795,041	
17	SHEPHERD DR (3)	5120' W of US 75 to US 75	0.93	4	Minor Arterial	20	100%	650	2410	19	2391	\$ 3,711,319	\$ 3,711,319	
18	FLANARY RD (2)	Progress Dr to 2220' S of Progress Dr	0.42	4	Minor Arterial	20	100%	650	1089	8	1081	\$ 3,700,000	\$ 3,700,000	
19	FLANARY RD (3)	2220' S of Progress Dr to Shepherd Dr	1.51	4	Minor Arterial	New	100%	650	3936	0	3936	\$ 29,000,000	\$ 29,000,000	
SUBTOTAL									55,414	3,128	52,286	\$ 88,531,904	\$ 83,460,735	
1	FM 1417 & W Travis St	SIGNAL & TURN LANE IMPROVEMENTS	Intersection Improvements				50%	Intersection Improvements				\$ 1,750,000	\$ 875,000	
2	US 75 & FM 1417	BRAIDED RAMP & U-TURN LANE					75%					\$ 7,600,000	\$ 5,700,000	
SUBTOTAL													\$ 9,350,000	\$ 6,575,000

2020 Roadway Impact Fee Study Cost Per Service Area \$ 12,500

TOTAL COST IN SERVICE AREA 4 \$ 90,048,235

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

EXISTING ROADWAY FACILITIES INVENTORY

City of Sherman - 2020 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 1

7/11/2022

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXISTING CROSS SECTION	CLASS	ULTIMATE CROSS SECTION	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴		
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB			
N HERITAGE PKWY	365' S of FM 691	US 82	13,775	2.61	1	1	3U	Major Arterial	6D	269	269	100%	600	600	1,565	1,565	702	702	864	864			
N HERITAGE PKWY	FM 691	365' S of FM 691	366	0.07	2	2	5U	Major Arterial	6D	269	269	100%	750	750	104	104	19	19	85	85			
N TRAVIS ST	Kreager Rd	W Canyon Grove Rd	5,624	1.07	1	1	2U	Minor Arterial	4D	252	252	100%	400	400	426	426	268	268	158	158			
N TRAVIS ST	W Canyon Grove Rd	US 82 WBFR	223	0.04	2	2	4D	Minor Arterial	4D	252	252	100%	650	650	55	55	11	11	44	44			
PLAINVIEW RD	1,525' N of US 82 WBFR	US 82 WBFR	1,531	0.29	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	116	116	29	29	87	87			
SUBTOTAL			21,520	4.08												2,266	2,266	1,029	1,029	1,238	1,238	0	0
																4,533	2,057			2,476	0		

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

4. Existing Deficiencies Pk-Hr Veh-Mi = [Veh-Mi Demand Pk-Hr Total] - [Veh-Mi Supply Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 2

7/11/2022

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANCES		EXISTING CROSS SECTION	CLASS	ULTIMATE CROSS SECTION	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴		
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB			
MCGEE ST	Brookdale St	Little Ln	515	0.10	1	1	2U	Minor Arterial	4D	24	24	100%	400	400	39	39	2	2	37	37			
MEADOWLAKE DR	N SH 289	1,235' E of N SH 289	1,233	0.23	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	93	93	23	23	70	70			
N FRIENDSHIP RD	Elliott Rd	W Houston St	1,244	0.24	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	94	94	24	24	71	71			
N HERITAGE PKWY	W Lamberth Rd	W Taylor St	1,402	0.27	1	1	3U	Major Arterial	6D	617	617	100%	600	600	159	159	164	164	-5	-5	5	5	
N HERITAGE PKWY	US 82 EBFR	W Lamberth Rd	5,699	1.08	1	1	3U	Major Arterial	6D	617	617	100%	600	600	648	648	666	666	-18	-18	18	18	
N HERITAGE PKWY	W Washington St	W Houston St	5,656	1.07	1	1	2U	Major Arterial	6D	558	558	100%	400	400	428	428	598	598	-169	-169	169	169	
N HERITAGE PKWY	W Taylor St	W Washington St	3,115	0.59	1	1	2U	Major Arterial	6D	558	558	100%	400	400	236	236	329	329	-93	-93	93	93	
S HERITAGE PKWY	W Center St	Quail Run Rd	1,775	0.34	1	1	3U	Major Arterial	6D	600	600	100%	600	600	202	202	202	202	0	0			
S HERITAGE PKWY	Quail Run Rd	1,520' S of W Park Ave	3,806	0.72	1	1	3U	Major Arterial	6D	600	600	100%	600	600	433	433	433	433	0	0			
S HERITAGE PKWY	1,520' S of W Park Ave	OG Groner Rd	2,787	0.53	1	1	2U	Major Arterial	6D	600	600	100%	400	400	211	211	317	317	-106	-106	106	106	
S HERITAGE PKWY	W Houston St	1,560' S of W Houston St	1,562	0.30	1	1	2U	Major Arterial	6D	600	600	100%	400	400	118	118	177	177	-59	-59	59	59	
S HERITAGE PKWY	1,560' S of W Houston St	W Center St	1,364	0.26	1	1	3U	Major Arterial	6D	600	600	100%	600	600	155	155	155	155	0	0			
W LAMBERTH RD	445' N of Canyon Creek Dr	955' S of Canyon Creek Dr	1,402	0.27	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	106	106	27	27	80	80			
W LAMBERTH RD	1,800' W of Carriage Estates Rd	Shady Oaks Ln	2,138	0.41	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	162	162	41	41	122	122			
W LAMBERTH RD	US 82 WB	220' S of US 82 WB	219	0.04	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	17	17	4	4	12	12			
W MOORE ST	W Park Ave	W Travis St	3,160	0.60	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	239	239	60	60	180	180			
W TRAVIS ST	480' W of Crossroads Blvd	US 75 SBFR	1,003	0.19	2	2	4D	Minor Arterial	4D	125	125	50%	650	650	123	123	12	12	112	112			
W WASHINGTON ST	N SH 289	2,350' E of N SH 289	2,350	0.45	1	1	2U	Minor Arterial	4D	100	100	100%	400	400	178	178	45	45	134	134			
SUBTOTAL			40,430	7.66											3,642	3,642	3,277	3,277	366	366	450	450	
																3,642	3,642	3,277	3,277	366	366	450	450
																7,285	6,553			731		900	

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% in Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

4. Existing Deficiencies Pk-Hr Veh-Mi = [Veh-Mi Demand Pk-Hr Total] - [Veh-Mi Supply Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 3

7/11/2022

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXISTING CROSS SECTION	CLASS	ULTIMATE CROSS SECTION	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴		
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB			
E IDA RD	S First St	Dewey Ave	1,709	0.32	1	1	2U	Minor Arterial	4D	51	51	100%	400	400	129	129	17	17	113	113			
E IDA RD	S First St	Dewey Ave	287	0.05	1	1	2U	Minor Arterial	4D	51	51	100%	400	400	22	22	3	3	19	19			
E LAKE ST	E Park Ave	S First St	726	0.14	1	1	2U	Minor Arterial	4D	51	51	100%	400	400	55	55	7	7	48	48			
S CROCKETT ST	W Park Ave	S Travis St	950	0.18	1	1	2U	Minor Arterial	4D	200	200	100%	400	400	72	72	36	36	36	36			
S FIRST ST	E Lake Ave	E Ida Rd	1,417	0.27	1	1	2U	Minor Arterial	4D	51	51	100%	400	400	107	107	14	14	94	94			
S TRAVIS ST	S Crockett St	S Travis St Ramps	2,503	0.47	1	1	2U	Minor Arterial	4D	200	200	100%	400	400	190	190	95	95	95	95			
S TRAVIS ST	W Travis St	S Travis St Ramps	941	0.18	1	1	2U	Minor Arterial	4D	200	200	100%	400	400	71	71	36	36	36	36			
VIETNAM VETERANS PKWY	US 75 NBFR	320' E of US 75 NBFR	322	0.06	2	2	5U	Major Arterial	6D	425	425	50%	750	750	46	46	13	13	33	33			
VIETNAM VETERANS PKWY	320' E of US 75 NBFR	Williams Blvd	4,103	0.78	1	1	3U	Major Arterial	6D	425	425	50%	600	600	233	233	165	165	68	68			
VIETNAM VETERANS PKWY	Williams Blvd	455' E of Williams Blvd	454	0.09	1	1	3U	Major Arterial	6D	425	425	50%	600	600	26	26	18	18	8	8			
W FM 1417	US 75	US 75 NBFR	251	0.05	2	2	4D	Major Arterial	6D	425	425	50%	650	650	31	31	10	10	21	21			
SUBTOTAL			13,661	2.59											982	982	413	413	569	569	0	0	
																1,964		826		1,138		0	

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

4. Existing Deficiencies Pk-Hr Veh-Mi = [Veh-Mi Demand Pk-Hr Total] - [Veh-Mi Supply Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].

City of Sherman - 2020 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 4

7/11/2022

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXISTING CROSS SECTION	CLASS	ULTIMATE CROSS SECTION	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
FLANARY RD	W FM 1417	W Progress Rd	4,035	0.76	1	1	2U	Minor Arterial	4D	10	10	100%	400	400	306	306	8	8	298	298		
LEGACY BLVD	US 75 NBFR	650' E of US 75 NBFR	650	0.12	2	2	4D	Minor Arterial	4D	N/A	N/A	100%	650	650	160	160						
VIETNAM VETERANS PKWY	US 75 NBFR	320' E of US 75 NBFR	322	0.06	2	2	5U	Major Arterial	6D	425	425	50%	750	750	46	46	13	13	33	33		
VIETNAM VETERANS PKWY	320' E of US 75 NBFR	Williams Blvd	4,103	0.78	1	1	3U	Major Arterial	6D	425	425	50%	600	600	233	233	165	165	68	68		
VIETNAM VETERANS PKWY	Williams Blvd	455' E of Williams Blvd	454	0.09	1	1	3U	Major Arterial	6D	425	425	50%	600	600	26	26	18	18	8	8		
W FM 1417	US 75	US 75 NBFR	251	0.05	2	2	4D	Major Arterial	6D	425	425	50%	650	650	31	31	10	10	21	21		
W FM 1417	OG Groner Rd	1,180' E of S Northgate Dr	10,538	2.00	1	1	2U	Major Arterial	6D	385	385	100%	400	400	798	798	768	768	30	30		
W FM 1417	US 75 SBFR	Howie Dr	1,673	0.32	2	2	5U	Major Arterial	6D	385	385	100%	750	750	475	475	122	122	353	353		
W FM 1417	1,180' E of S Northgate Dr	Howie Dr	715	0.14	1	1	3U	Major Arterial	6D	385	385	100%	600	600	81	81	52	52	29	29		
W FM 1417	US 75 SBFR	US 75	248	0.05	2	2	4D	Major Arterial	6D	385	385	100%	650	650	61	61	18	18	43	43		
W TRAVIS ST	480' W of Crossroads Blvd	US 75 SBFR	1,003	0.19	2	2	4D	Minor Arterial	4D	125	125	50%	650	650	123	123	12	12	112	112		
SUBTOTAL			23,991	4.54											2,341	2,341	1,187	1,187	994	994	0	0
																4,681	2,373	1,988	0			

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

4. Existing Deficiencies Pk-Hr Veh-Mi = [Veh-Mi Demand Pk-Hr Total] - [Veh-Mi Supply Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280].