ALTERNATIVE UTILITY FINANCING STUDY UPDATE

City of Corpus Christi, Texas

prepared by

duncan associates

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Public Review Draft

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EXECUTIVE SUMMARY

This report explores alternative methods for financing the expansion and maintenance of water, wastewater, and stormwater facilities. It is an update of an analysis originally prepared for the City in 2007. The report addresses four main topics:

- Alternative utility financing options available to the City;
- Utility financing policies of similar Texas cities;
- The City's current utility facility financing policies; and
- Recommendations based on the analysis.

The City currently relies almost exclusively on water and wastewater utility rate revenue to fund utility costs (stormwater costs are funded through water rates). Revenue bonds backed by utility rates are issued to fund most capital projects. The primary alternatives to water/wastewater utility rates are impact fees and a separate stormwater utility fee.

A particular focus of this study is methods for funding major growth-related infrastructure expansions. There are really only two revenue sources to fund growth-related expansion costs: utility rates paid by all current customers, or development fees or impact fees paid by new customers. The City currently relies on a combination of these approaches. The City relies on utility rates to fund system-wide components, including water supply, water and wastewater treatment, etc. The extension of major water and wastewater lines and associated lift stations are mostly paid for upfront by developers who need them to serve their projects, with reimbursement from city-wide fees on new development.

Utility Rates

The City's combined utility rate (for water, wastewater, and stormwater) for a single-family home is among the highest of the ten major Texas cities, while the combined rate for a small commercial customer is below average. One reason for this imbalance is that the City assesses what are effectively stormwater rates through its water rate structure. Effective stormwater rates are about average for single-family homes, but are less than one-fifth the Texas average for commercial uses. It is likely that adopting a separate stormwater utility fee, based on impervious cover rather than water demand, would result in higher commercial and lower single-family stormwater rates, bringing total utility rates for both closer to the Texas averages.

Under the current development fee approach to funding growth-related improvements, new development pays for the extension of water and wastewater lines through development fees, while existing utility customers pay for the rest of the system, such as water supply, treatment plants, and other centralized facilities, along with the associated debt. Implementing impact fees would result in lower rates by shifting some of the cost burden of growth-related infrastructure improvements and associated debt from the current rate base to new development.

Development Fees

The City of Corpus Christi assesses utility development fees on all new plats and water and wastewater connections. These fees are used to reimburse developers for the full cost of installing major water and wastewater lines and associated facilities such as lift stations and force mains that are shown on the City's master plan maps, and to reimburse developers for portion of the cost of minor line extensions that will also serve other developments.

The City has two main types of development fees for water and wastewater. The first type is used to reimburse developer for master plan line extensions – these consist of "lot/acreage" fees and "surcharge" fees. The lot/acreage fees are assessed on all new subdivisions (including lot splits) on a per-acre basis, with a minimum fee per lot. The surcharge fees are assessed at a flat rate per new connection (or "tap"). The lot/acreage and surcharge fees are placed in a trust fund to reimburse developers who install major lines (water transmission/grid lines and wastewater trunk lines) identified on the City's master plan maps, with the exception that 25% of the surcharge fees are placed in the fund for smaller distribution or collector lines. These development fees function much like impact fees, in that they are assessed on all new development (new plats and connections), and are earmarked to pay for the expansion of a set of major capital facilities. The main difference from impact fees is that they are only used to reimburse developers, and are therefore exempt from the requirements of the State impact fee statute.

The City also assesses "pro-rata" fees, but these are intended to fund developer reimbursements for minor lines that do not provide system-wide benefit. These types of facilities are typically not covered by impact fees, because they provide only localized benefit and are typically installed by developers within their subdivisions. In most cities, pro-rata fees are structured quite differently: (1) they are assessed only on property that will benefit from the line extension, (2) they are calculated individually for each project based on the cost of the extension and the anticipated amount of benefitting development, (3) they are earmarked to repay the developer who installed the line. Some cities also establish a limited payback period. Reforming the City's pro-rata fees along these lines would promote equitable cost-sharing among adjacent developments, while putting the financial risk of a long-payback on the developer, rather than all new development.

Current development fees have not been comprehensively updated since they were established in 1982. They have been periodically adjusted, most recently in 2011, and current fees are more than double what they were in 1982. The fee increases, however, have not been consistent among the types of fees, indicating that they were not based on a cost inflation index. It appears that decisions to increase the fees have been made on an ad hoc basis reflecting the perceived need for revenue to fund reimbursements. For example, the wastewater fees were increased significantly in 2003, when the cost of lift station and force main improvements was made eligible for reimbursement, but the various wastewater fees were increased by percentages ranging from 77% to 183%. In short, the fees are based on a very old study that is no longer available, and the fees have been changed in ways that make them no longer proportional to the original fees. Given the enhanced scrutiny of monetary exactions by the courts in light of recent Supreme Court decisions, it would be advisable for the City

to either prepare an updated analysis to demonstrate that its development fees are reasonably proportional to the impact of new development, or to transition to impact fees.

The City's developer reimbursement trust fund has stayed solvent for many years, but this may be about to change. Utility line expansion costs are likely to increase as development begins to occur on the south side of Oso Creek, and this could cause the reimbursement funds to be inadequate in the future.

The City's development fees create a perverse incentive for developers to plat subdivisions that are not contiguous with existing served areas by providing reimbursement for the full cost of the line, even though it may be fiscally premature for the City. A pattern of scattershot development and premature infrastructure expansion is more costly because the improvements need to be maintained and begin to depreciate long before the customers they will ultimately serve begin paying rates. For example, the City maintains several lift stations that developers installed and for which they were reimbursed that have been mothballed for years because of lack of sufficient demand.

Relying primarily on development fees to fund major infrastructure improvements through developer reimbursements does not provide any funding for investments in city-wide infrastructure expansion or long-range planning. The components of the system that are not covered by the development fees, such as treatment plants and supply, storage and disposal facilities, must be funded with utility rates. The development fees also cannot be used to fund long-range master plans needed to anticipate future needs and prioritize service extensions that are most cost effective, nor can they be used to fund City-initiated water grid mains or wastewater trunk main extensions or lift stations based on such planning.

Impact Fees

Corpus Christi has reached the size where most other Texas cities have adopted water and wastewater impact fees to fund growth-related infrastructure expansions. The City could develop and adopt water and wastewater impact fees without first preparing long-range master plans, although such plans would be desirable in their own right as well as an aid in impact fee development and administration.

The City should consider moving from development fees to impact fees. As noted above, the City's development fees are essentially impact fees, but differ in two major respects: (1) they can only be used to reimburse developers, and (2) they are limited to funding lines and lift stations. It is estimated that water and wastewater impact fees, if adopted at average rates for Texas, would generate in the neighborhood of $7 million annually (see Table 12), compared to about $1.5 million that the City has been collecting annually from development fees (see Table 10).

If the City converts the development fees into actual impact fees, they could be used for City-initiated projects. Impact fees could fund City-initiated grid and trunk line projects that are now almost exclusively built by developers. Impact fees could also cover costs related to centralized or regional facilities, such as water supply, storage, treatment, pumping and elevated tanks; and wastewater treatment plants, storage, and disposal/recovery facilities.

Impact fees could be used to fund long-range master plans, which would allow the City to prioritize service extensions. Premature extensions entail additional maintenance costs for the utility that are not offset by similar increases in revenue. In sum, transitioning to impact fees would support a more comprehensive, planned approach to utility infrastructure expansion, shift more of the costs of growth onto new development, and lower utility rates for existing customers.

If the City adopts impact fees that cover the cost of water grid and wastewater trunk lines, they would overlap with the City's development fees. The City should eliminate the lot/acreage and surcharge fees on the effective date of the impact fees and move the reimbursement obligations to the impact fee fund. Developers would likely continue to install water grid and wastewater trunk mains through their projects, and would receive credit for the cost against their impact fees. Extensions of lines to connect their projects to the larger system would also potentially be eligible for credit or reimbursement, provided they meet certain conditions.

Impact fees could also be considered for stormwater, but it would be preferable to first use new stormwater utility fees to fund a comprehensive long-range stormwater drainage master plan. Such a master plan would provide the City with the information to determine if there are major capital improvement needs attributable to anticipated growth that would warrant consideration of a stormwater impact fee.

Stormwater Utility Fee

Most other large Texas cities have created stormwater utilities and implemented stormwater utility fees. The City essentially has a stormwater utility fee, but it is buried within the water rate structure, and is not identified separately on the water utility bill. All drainage maintenance and capital improvement costs are currently paid for with water rate revenue. The lack of a funding source that is earmarked solely for stormwater management is likely to result in the under-funding of stormwater needs. Stormwater maintenance and capacity problems are much less visible on a daily basis than problems with the water system, so they are likely to be given lower priority.

The adoption of a stormwater utility fee would reduce water rates, which would no longer need to fund stormwater, but would not necessarily reduce overall utility fees paid by consumers. However, overall monthly utility rates for single-family homes would likely be lower if the stormwater fees are based on impervious cover rather than water use. The City has considered but declined to enact a stormwater utility fee several times over the last couple of decades, but is considering it again. A formal stormwater utility fee would ensure a reliable funding source for stormwater management, more equitably assess fees based on demand, and likely result in lower total residential utility rates, which are now among the highest of major Texas cities.

Recommended Action Plan

Transition from Development Fees to Impact Fees

1. Prepare water and wastewater impact fee studies and adopt impact fees.

2. Upon adoption of impact fees, repeal the lot/acreage and surcharge fees and transfer those obligations to the impact fee fund. Future line extensions or oversizing of major facilities by developers needed to serve their projects should be eligible for credit against the developer's impact fees and/or reimbursement from the impact fee fund. However, eligibility should be subject to conditions to avoid premature and inefficient infrastructure investments. Such conditions could include being designated as priority projects in a long-range master plan, but would at a minimum be limited to the projects identified in the impact fee capital improvements plan.

3. Retain the City's current pro-rata fees, which are designed to fund smaller lines not typically covered by impact fees, only until all outstanding reimbursement obligations for such improvements are paid. Any new developer agreements for such oversizing projects should be (a) calculated on a case-by-case basis, (b) assessed only on future developments that connect to the new line, and (c) remitted only to the developer who oversized the line. They could also have a limited pay-back period.

4. Prepare water and wastewater comprehensive long-range master plans. Ideally, this would be done in conjunction with the impact fee studies, in order to assist in the development of the 10-year impact fee capital improvements plan. If the City does not have upfront funding for such plans, develop a capital plan with current knowledge about what will likely be needed in the next ten years, put the anticipated cost of such plans in the 10-year impact fee list, and fund them with impact fees as a top priority once sufficient impact fee funds become available.

Adopt Stormwater Utility Fees

1. Prepare a stormwater utility rate study and adopt stormwater utility fees. Update water utility rates to remove stormwater costs.

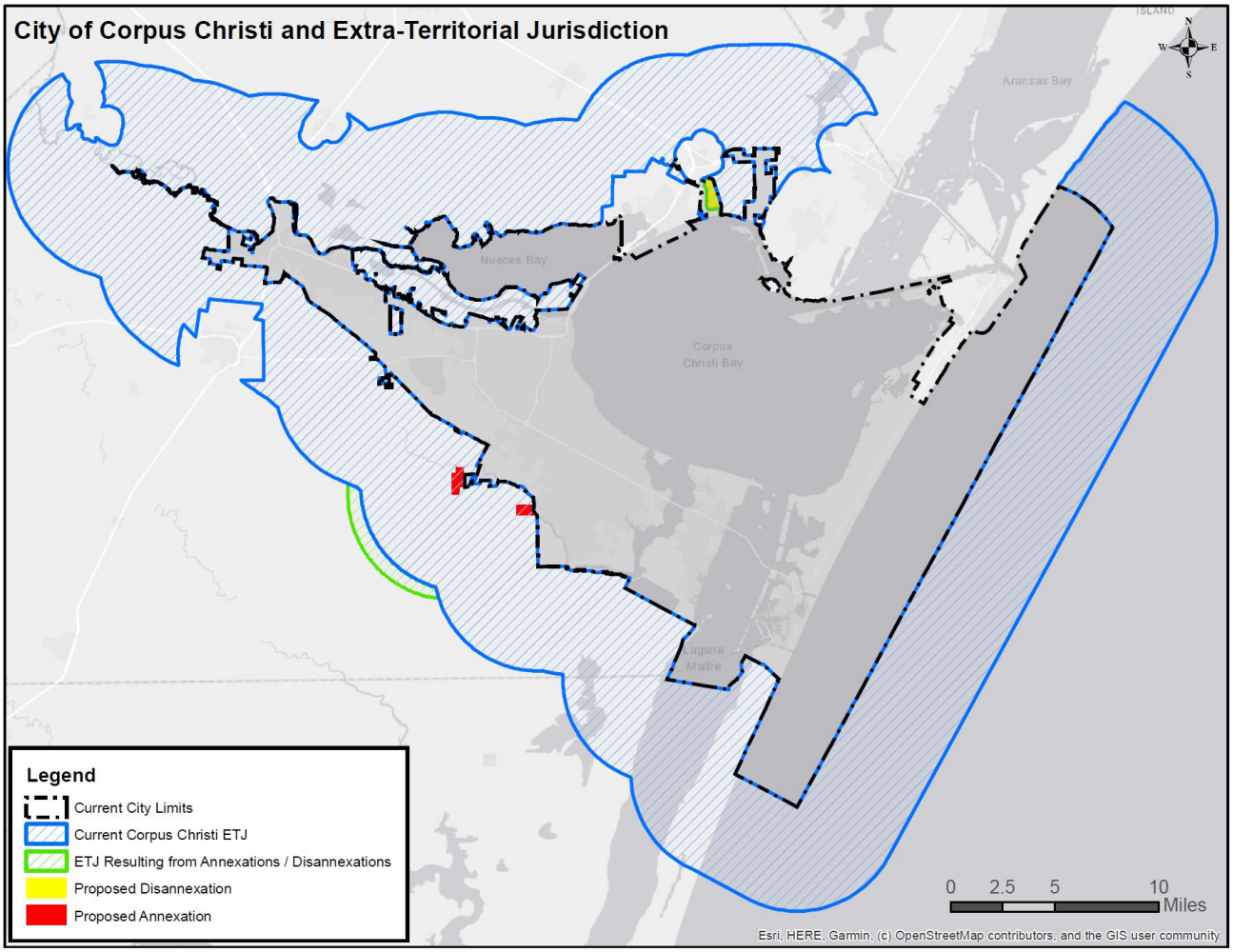
2. Use stormwater rate revenues to fund a comprehensive long-range drainage master plan.

3. Consider a stormwater impact fee if the long-range plan identifies major capacity improvements needed to serve anticipated growth.

GROWTH CONTEXT

Corpus Christi is located on the southwest coast of Texas adjacent to the Gulf of Mexico (see Figure 1). The Port of Corpus Christi is the third-largest in the nation in terms of total tonnage. The City has been home to a U.S. Naval Air Station since 1941. The City is the county seat of Nueces County, and it also extends into Aransas, Kleberg, and San Patricio Counties. Corpus Christi is a home rule city with a mayor, an eight-member city council, and a city manager, who functions as the chief executive officer of the City.

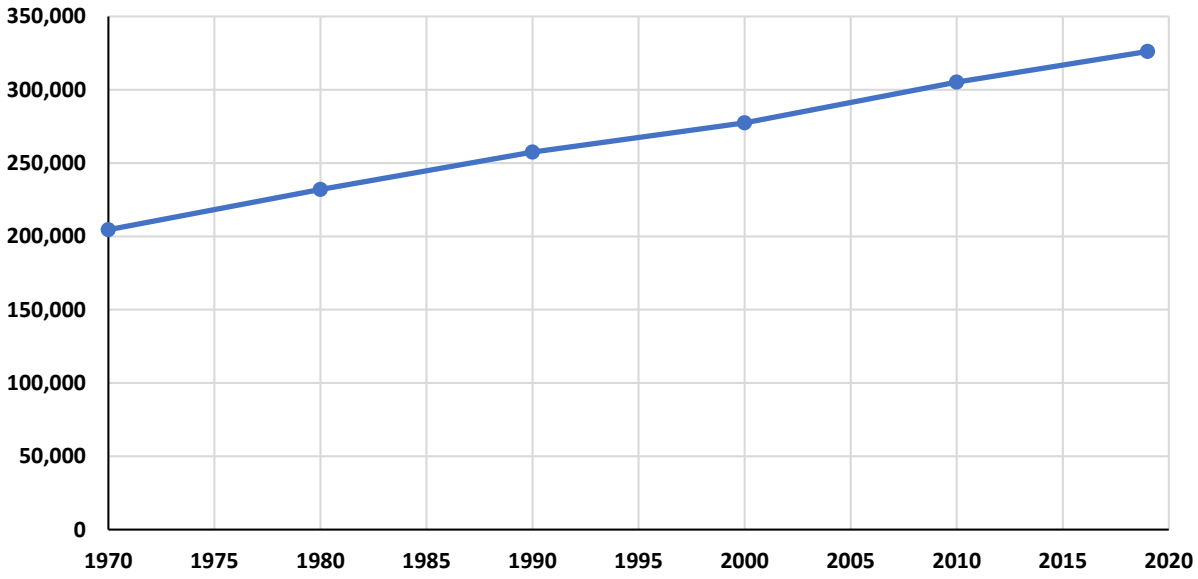
Figure 1. City Limits Map



According to the United States Census Bureau, the City limits encompass a total area of 460 square miles, of which about a third is land and the rest is covered by water. The City's population was estimated to be 326,162 in 2019, making it the eighth-most populous city in Texas. The City has experienced remarkably steady growth over the last 50 years, as illustrated in Figure 2. It has been adding about 2,500 residents annually since 1970 – even through the period that included the Great Recession (June 2007 through December 2009).

Growth projections for the Corpus Christi metropolitan area (Nueces, Aransas and San Patricio Counties) prepared by the Texas Demographic Center suggest continued steady growth for the future. The City accounts for over two-thirds of metropolitan area population, and the metropolitan area is projected to add about 5,300 new residents annually over the next decade.

Figure 2. City Population Growth, 1970-2019



Source: U.S. Census and Texas Demographic Center.

Capital Financing Alternatives

Cities have several options for financing utility capital improvements. This section describes these options and presents advantages and disadvantages of the different strategies. A summary of how the alternative techniques fare on a number of pertinent criteria is presented at the conclusion of this chapter.

Utility Rate Revenue

Utility capital expansions can be financed from current revenues, which are derived from utility rate payments made during the current year. Current-year rate revenues are often accumulated in a carryover balance from one year to another that can be used to fund capital projects on a pay-go basis. The attractive aspect of using current rate revenues to finance utility expansions is that it avoids debt and associated interest costs, and thus represents a pay-as-you-go strategy. However, using current revenues to fund expansions imposes growth costs on current ratepayers for the benefit of future customers. Using impact fee revenues would achieve the same purpose, but would impose growth costs on new customers. On the other hand, the utility depreciates annually and each year some elements of the systems must be replaced or renovated. Use of current revenues for these purposes could be viewed as funding depreciation expenses, where renovation costs are roughly equivalent to annual depreciation. In this manner, current customers will maintain the system that is required for their service needs.

For these reasons, it would be advisable to use current rate revenues primarily to fund renovation and replacement, and to use a combination of bonding and impact fees to finance growth-related infrastructure. In doing so, the costs of growth will be spread over a larger group of benefitting customers, while renovation costs will be assigned to those currently using the system. It should be noted, however, that in some instances it may be desirable to use current revenues for expansion, in order to maintain the utility's financial standing with bonding authorities. Thus, any decision on use of current revenues must balance the desire for equity against the need to maintain a favorable bond rating and associated lower rates.

Stormwater Utility Fees

Drainage is generally the neglected step-child of municipal infrastructure. This is because it typically does not have a dedicated funding source, and problems associated with it are generally invisible except during exceptional storm events.

Increasingly, cities in Texas and elsewhere are financing drainage maintenance and expansion costs with stormwater utility fees instead of general funds. Stormwater utility fees can be used for operating expenses, maintenance and growth-related capital improvements. Many stormwater systems are neglected and have existing deficiencies, making stormwater utility fees a good funding alternative to impact fees, which cannot be used to fund existing deficiencies.

A stormwater utility is essentially an assessment district that generates revenue for stormwater services that are provided in a stormwater service area. The City must establish a boundary known as a service area where stormwater facilities are provided. Stormwater utility fees are equitable because those who do not benefit from stormwater service will not pay for utility improvements.

The State of Texas authorizes municipalities to establish stormwater utilities.[1] A public hearing is required before a city passes a stormwater ordinance and before a fee schedule is set. Drainage revenues must be located in a segregated account that is transparent to the public. Municipalities may charge a stormwater utility fee on any basis besides the value of the property; as long as the fee is directly related to the amount of drainage from the property. Cities have set up fees based on parcel size, land use, number of water meters, and impervious surface area (see Appendix). Impervious surface area is a common and particularly equitable assessment basis for stormwater utility fees, because it is directly related to runoff volumes, chronic flood control problems and pollutant loadings in stormwater.

Revenue and General Obligation Bonds

Water, wastewater and stormwater utilities are generally structured as enterprise funds intended to be self-supporting. Many cities finance utility expansions with revenue bonds that are retired solely through rate revenues from active customers over the life of the bonds. The use of revenue bonds generally ensures that only the beneficiaries of utility service (customers) pay for improvements. Moreover, payments are made by customers in amounts that are roughly proportional to the cost each imposes on the system.

General obligation (GO) bonds are also sometimes used to fund utility improvements. GO bonds are tax-backed bonds. Cities may or may not transfer revenues from utility funds to retire utility-related general obligation bonds, but ultimately property owners assume the risk and often the cost of such bonds. If general obligation bonds are retired from property tax revenues, costs to individual property owners will be proportional to property values rather than utility use. Moreover, property owners who do not benefit from the service will pay for utility improvements through property taxes.

Revenue bonds are an appropriate mechanism for funding enterprise fund facilities, such as utility expansions. Moreover, they recover the cost of expansion over a long period of time and thereby spread costs over current and future customers who benefit from the improvements. The use of general obligation bonds should be avoided, particularly if some customers are located outside the city limits or use private systems, such as on-site wells or septic tanks. The City currently uses rate revenue to retire revenue bonds that are issued to fund most of its capital projects.

1. Texas Local Government Code, Title 13. Water and Utilities, Subtitle A. Municipal Water and Utilities, Chapter 552. Municipal Utilities, Subchapter C. Municipal Drainage Utility Systems

Development Fees

Developer contributions come in many forms, including cash and in-kind contributions of on-site and off-site facilities. Contributions may be *required* as a condition of development approval or *offered* by a developer to secure service prior to the time that the city had originally scheduled service to an area. In some cases, contributions are secured through contracts between a city and one or more developers.

For water and wastewater facilities, developers may be required to extend lines outside their development if necessary, to connect to the larger system, and may also be required to oversize lines or supporting facilities to serve future developments expected to be served by the new facilities. Generally, developers are required to fund the initial cost of the facilities, although there may be city cost participation, and are reimbursed based on some type of "pro rata" fee assessed on future developments that use those facilities.

These pro rata fees are typically calculated on a project-by-project basis, often in the form of a fee per acre or per linear foot of line frontage, collected by the city and conveyed to the original developer. In doing so, the city in essence serves as a middleman to ensure that the original developer is compensated by other line users. In some cases, there is a cut-off date for subsequent user payments, such as ten years from the date of construction. The approach is attractive to cities because it places the potential risks of premature development on the original developer, while ensuring that risks to the original developer will be minimal if market forces support his or her judgement. Sometimes cities themselves oversize lines and collect subsequent pro rata fees.

The City of Corpus Christi has a version of this fee system for reimbursing developers for line extensions and oversizing. The City's system includes "lot/acreage" fees assessed on new plats, and "surcharge" and "pro rata" fees on new service connections. These are described in the Current Utility Financing chapter.

Impact Fees

Impact fees are up-front payments for major capital improvements needed to serve new development. Impact fees may take the form of either cash or in-kind (facility) contributions. Texas in 1987 was the first state to pass legislation specifically authorizing the use of impact fees to fund growth-related capital improvements. Under the Texas statute, impact fees are authorized for road, water, wastewater and stormwater projects. Impact fees in Texas must be developed in accordance with Chapter 395 of the Texas Local Government Code. The State law lays out very specific requirements for the technical development of these fees as well as the procedures necessary for enactment of such fee programs. The Texas statute defines impact fees as a charge imposed against new development in order to generate revenue for funding or recouping the cost of capital improvements or expansions attributable to new development.

The Texas statute explicitly excludes acreage, lot, and pro-rata fees used to reimburse developers for water or wastewater line extensions or oversizing from the definition of impact fees. The statute does not define any of these terms, other than stating they are used for developer reimbursements.

The Texas legislature made some significant amendments to Chapter 395 in 2001. The major change was on the issue of revenue credits. Credits against the impact fees for other taxes or fees that would be paid by new development and used for capital improvements of the same facility type as the impact fee are now required. As an alternative to performing a revenue credit calculation, cities can simply reduce the impact fees by fifty percent. Another change was to increase the time between mandatory updates from three to five years. The requirement that the fees be recalculated after the Capital Improvements Plan is completed based on actual costs and any overcharge refunded if the recalculated fees exceeded the fees being charged by more than ten percent was eliminated. Finally, the number of public hearings required before impact fees could be updated was reduced from two to one (two are still required for initial adoption).

Revised impact fees do not apply to lots platted while the previous fee schedule was in place. Chapter 395 states that the impact fee schedule that is in effect at the time a lot is platted is the one that applies to the property, regardless of when development occurs. This occurs through a process called "assessment." Assessment must occur at the time of plat recording, or, for property already platted or not required to be platted, at the time of development approval or building permit, whichever occurs first. The statute makes clear that no action by the local government is required for assessment to occur. Essentially, impact fee assessment locks in the fee schedule in place at the time assessment occurs. Any subsequent revision to the impact fee schedules does not affect the impact fees owed for the development. Many Texas cities charge fees that are some percentage less than the maximum fees calculated in the fee schedule, and adopt both maximum fees and currently assessed fees. With this approach, new subdivisions are locked in at the maximum fee, rather than at the lower fee that were being charged when the subdivision was recorded.

Evaluation of Alternative Financing Techniques

Alternative financing strategies can be evaluated according to a number of criteria. Although all of the criteria are examined as if they were of equal importance, in reality some are more critical than others. The following is a broad-brush overview. Implications for the City are discussed in the next chapter

Legal Basis. It is essential that financing strategies adopted by the City have a sound legal basis. All the financing techniques discussed above are authorized under current law in Texas. However, developer exactions are under higher legal scrutiny these days based on recent U.S. Supreme Court decisions.[2] Such exactions, including monetary exactions, must be based on analysis to show that they are roughly proportional to the need created by the development subject to the exaction.

[2] Nollan V. California Coastal Commission (1987), Dolan v. City of Tigard (1994), Koontz v. St. Johns River Water Management District (2013).

Growth Pays for Growth. The extent to which those who impose costs on utilities will pay their proportionate share of those costs is another important criteria. The focus of this evaluation is the extent to which new development bears the burden of the costs necessary to expand the capacity of the infrastructure to accommodate the increased demands generated by growth. Using current utility rate revenue to pay for growth-related costs puts much of the burden on existing customers through increased utility rates. Using revenue or general obligation bond debt to finance growth-related improvements allows future development to pay somewhat more of the cost by spreading the payments over time. Developer contributions and impact fees require new development to pay much of the cost up-front, reducing the need to increase utility rates or taxes.

Housing Affordability. It is often asserted that the costs of development fees or impact fees are necessarily all passed on to the home buyer in the form of increased purchase price. Unlike taxes, however, development fees and impact fees must be used to expand infrastructure, which may increase the supply of buildable lots and drive down housing prices by increasing supply. In addition, there are two aspects to housing affordability: purchase price and operating costs (monthly payments). Generally, financing techniques that work to decrease purchase price by avoiding up-front housing costs such as developer exactions, acreage fees or impact fees tend to result in increased operating costs like utility rates or taxes to pay for growth-related infrastructure. In the long term, however, it is likely that development or impact fees will be reflected in at least somewhat higher home prices/rents or somewhat lower availability of lower-priced housing. Whether there is a net loss for housing affordability after higher monthly costs are factored in is difficult to determine. On balance, our judgement is that development fees and impact fees may have somewhat more negative effects on housing affordability than other funding techniques. However, such potential negative effects could be mitigated by exempting low-income and/or low- and moderate-income housing from impact fees, as some Texas cities, such as Houston, have done.

Administrative Ease. Administrative ease refers to the initial and ongoing administrative effort and cost involved in the implementation and maintenance of each financing strategy. New financing strategies would obviously require some changes to current city practices, which would entail some additional initial administrative costs. They may require, for example, adjustments to the city's billing system or accounting practices. A stormwater utility would require its own rate study, in addition to rate studies conducted periodically for water and wastewater utilities. Impact fees require an impact fee study. Development fees that operate much like impact fees would require a similar study.

TEXAS UTILITY FEE SURVEY

This chapter compares facility financing techniques and monthly utility rates for water, wastewater and stormwater utilities for the ten largest Texas cities, including Corpus Christi. The survey presents the cities' various capital funding strategies and compares impact fees and monthly rates for water, wastewater and stormwater utilities. Detailed rate schedules for the ten cities are included in the appendix of this report.

Major Funding Sources for Capital Improvements

This section describes the various strategies that the cities employ to fund infrastructure improvements. Most of the cities rely primarily on impact fees and water, wastewater and stormwater rates to fund major capital facilities expansion for these utilities, as illustrated in Table 1.

Table 1. Summary of Major Capital Funding Sources

City	2019 Population	Growth Rate	Water	Wastewater	Stormwater
Houston	2,338,187	1.23%	Impact Fees and Rates	Impact Fees and Rates	Impact Fees/Utility Fees
San Antonio	1,544,672	1.75%	Impact Fees and Rates	Impact Fees and Rates	Stormwater Utility Fees
Dallas	1,358,066	1.45%	Water Utility Rates	Wastewater Utility Rates	Stormwater Utility Fees
Austin	974,581	2.42%	Impact Fees and Rates	Impact Fees and Rates	Stormwater Utility Fees
Fort Worth	894,195	2.17%	Impact Fees and Rates	Impact Fees and Rates	Stormwater Utility Fees
El Paso	681,877	0.56%	Impact Fees and Rates	Impact Fees and Rates	Stormwater Utility Fees
Arlington	391,409	0.79%	Impact Fees and Rates	Impact Fees and Rates	General Fund
Corpus Christi	**326,162**	**0.76%**	**Rates and Dev't Fees**	**Rates and Dev't Fees**	**Water Utility Rates**
Plano	290,441	1.28%	Water Utility Rates	Wastewater Utility Rates	Stormwater Utility Fees
Laredo	268,057	1.46%	Water Utility Rates	Wastewater Utility Rates	Stormwater Utility Fees

Source: Population estimates for January 2019 from Texas Demographic Data Center (https://demographics.texas.gov/Data/TPEPP/Estimates/); growth rate is compounded annual growth rate from 2010 U.S. Census to January 2019, estimated to be 8.75 years; funding sources from survey tables in Appendix.

Impact fees are used in six of the ten cities surveyed to offset the capital costs associated with water and wastewater facility expansions related to growth. Corpus Christi appears to be at the size where cities begin charging water and wastewater impact fees. With the exception of Dallas, all the other Texas cities besides Corpus with populations of 300,000 or more have enacted water and wastewater impact fees. A comparison of impact fees charged by Texas cities can be found in the Table 11 in the next chapter.

The three other large Texas cities besides Corpus Christi that do not charge water and wastewater impact fees require developers to construct water and wastewater lines needed to serve the development and connect to the larger system. They don't have development fees comparable to the City's lot/acreage and surcharge fees, which are assessed on all new development and function much like impact fees (see discussion in next chapter). For this reason, no comparison of development fees is provided. Of the ten largest cities. Only Houston has implemented a stormwater impact fee. Stormwater impact fees tend to be less commonly-used nationally as well.[3] This may be due to the

[3] A 2019 internet survey of 233 U.S. jurisdictions outside California that charge impact fees conducted by Duncan Associates, in association with the University of Arizona and Georgia State University, found that about half imposed water and wastewater fees, compared to about one-fifth that assessed drainage fees.

complex nature of drainage infrastructure, which tends to be a mix of natural channels and man-made systems tied to topography. Another factor is that stormwater drainage infrastructure tends to be under-funded, and existing systems often have extensive deficiencies that cannot be funded with impact fees.

Most major Texas cities rely on stormwater utility fees to fund major drainage improvements. Eight of the ten cities have established stormwater utility fees, which can fund maintenance as well as growth-related capital improvements. Corpus Christi and Arlington are the only two of the ten major Texas cities that have not implemented stormwater utility fees. Corpus funds stormwater projects with water utility rate revenue, while Arlington relies on the general fund.

Utility Rate Comparisons

Texas cities use various types of rate schedules in charging customers for utility service. Detailed tables comparing rate schedules for the ten Texas cities are included in the appendix to this report. Summary comparisons of the rates are provided in this section.

The most common type of water or wastewater charge combines a flat fee for monthly service with a consumption charge or charge per unit (gallon/cubic foot) of water used or wastewater produced. Base charges may be a flat fee for residential and commercial service, or one that varies based on the size of water meter. Some communities charge different rates for commercial and residential use, and charge different rates for connections within the city limits as opposed to connections outside city limits. Many cities also have inverted rates that increase the more water consumed or wastewater produced**.** Most stormwater utility rates are allotted based on the amount of impervious area.

This section of the report compares average water, wastewater and stormwater charges for a single-family detached unit and a small commercial development for the ten cities. Both land uses are assumed to use the smallest meter size, which is typically either 5/8"-by-3/4" or 3/4", and consume 5,000 gallons of water per month (wastewater generation is typically not metered, and wastewater rates are generally based on water consumption). For stormwater fees, single-family units are assumed to have 3,000 square feet of impervious cover, accounting for 30% of the lot area; while commercial properties are assumed to have 15,000 square feet of impervious area, covering 75% of the lot area.

Overall, Corpus Christi's total combined utility rates are on the high end among the major cities for residential users (single-family homes), and below average for commercial users. Table 2 on the following page displays a comparison of single-family utility rates, ranked from lowest to highest total rate. Corpus Christi has among the highest residential water, wastewater, and total utility rates of the major Texas cities, despite not charging a stormwater utility fee. Actually, the City essentially does collect a stormwater fee, but it is embedded in the water utility fee – stormwater costs account for about 20% of water utility expenditures. In practice then, the City's stormwater rate is about $6.35 per month and the remaining water rate is about $25.40, both of which are about average for the major cities. It is the City's wastewater rate that makes its total single-family utility rate on the high end of the major cities.

Table 2. Single-Family Utility Rate Comparison

City	Monthly Water Rate	Monthly Wastewater Rate	Monthly Stormwater Rate	Total Utility Rate
Laredo	$16.82	$21.23	$6.50	$44.55
San Antonio	$21.15	$26.35	$4.94	$52.44
Dallas	$16.77	$31.58	$6.21	$54.56
El Paso	$24.50	$21.88	$8.51	$54.89
Fort Worth	$25.24	$34.72	$5.40	$65.36
Arlington	$21.94	$38.59	$7.77	$68.30
Plano	$27.51	$37.87	$4.15	$69.53
Houston	$30.39	$34.96	$8.00	$73.35
Corpus Christi	**$31.75**	**$42.35**	**n/a**	**$74.10**
Austin	$32.01	$50.57	$7.20	$89.78
Average	$24.81	$34.01	$6.52	$64.69
Corpus (actual)	**$25.40**	**$42.35**	**$6.35**	**$74.10**
Average (actual)	$24.17	$34.01	$6.50	$64.69

Source: Appendix Table 13 (water), Table 14 (wastewater), and Table 15 (stormwater); "actual" rates assume 20% of water rates are effectively stormwater rates, based on Table 5.

Table 3 illustrates the comparisons of utility rates for small commercial uses, ranked from lowest to highest total rate. The City charges commercial utility rates that are about average for water, the highest for wastewater, and below average overall. Taking into account the actual use of water rates to fund stormwater, the effective water rate is below average, while the effective stormwater rate is only one-fifth the major-city average.

Table 3. Commercial Utility Rate Comparison

City	Monthly Water Rate	Monthly Wastewater Rate	Monthly Stormwater Rate	Total Utility Rate
Dallas	$23.98	$25.33	$31.50	$80.81
El Paso	$33.46	$21.88	$32.55	$87.89
Plano	$39.35	$37.87	$11.25	$88.47
Corpus Christi	**$33.85**	**$58.85**	**n/a**	**$92.70**
Fort Worth	$30.08	$33.99	$31.15	$95.22
Arlington	$26.30	$38.59	$38.84	$103.73
Laredo	$47.71	$36.69	$23.00	$107.40
Houston	$28.46	$42.27	$40.00	$110.73
San Antonio	$22.91	$29.10	$78.25	$130.26
Austin	$45.30	$55.80	$87.86	$188.96
Average	$33.14	$38.04	$41.60	$108.62
Corpus (actual)	**$27.08**	**$58.85**	**$6.77**	**$92.70**
Average (actual)	$32.46	$38.04	$38.12	$108.62

Source: Appendix Table 13 (water), Table 14 (wastewater), and Table 15 (stormwater); "actual" rates assume 20% of water rates are effectively stormwater rates, based on Table 5.

Current Utility Financing

This chapter describes and evaluates the City's current approach to funding water, wastewater, and stormwater utilities, with particular focus on how growth-related capital improvements are funded.

Utility Enterprise Funds

The City's water and wastewater utilities are enterprise funds that derive most of their revenue from utility rates charged to customers. The City also has a stormwater enterprise fund that receives all its revenue from the water utility fund. Budgeted revenues and expenditures for these three enterprise funds for the last fiscal year are summarized in Table 4. It is notable that almost one-fifth of water utility funds are transferred to the stormwater enterprise fund, and almost one-half of annual stormwater fund expenditures are for debt service payments.

Table 4. Utility Fund Revenues and Expenditures, FY 2019

	Water	Wastewater	Stormwater	Total
Revenues				
Rates and Fees	$140,665,892	$77,768,655	$0	$218,434,547
Transfer from Other Utility Fund	$226,315	$0	$28,827,451	$29,053,766
Intergovernmental Services	$200,000	$0	$0	$200,000
Interest Earnings	$300,000	$250,000	$98,000	$648,000
Miscellaneous Revenue	$2,522,315	$24,000	$0	$2,546,315
Total Revenues	$143,914,522	$78,042,655	$28,925,451	$250,882,628
% from Rates/Fees	97.7%	99.6%	0.0%	87.1%
Expenditures				
Personnel/Operating	$93,625,988	$59,143,354	$13,719,398	$166,488,740
Capital Expense	$1,446,996	$13,227,000	$355,000	$15,028,996
Debt Service	$13,379,443	$21,172,843	$15,361,801	$49,914,087
Transfer to Stormwater Fund	$28,827,451	$0	$0	$28,827,451
Internal Service Transfers	$7,557,340	$4,528,980	$1,935,732	$14,022,052
Total Expenditures	$144,837,218	$98,072,177	$31,371,930	$274,281,325
% to Debt Service	9.2%	21.6%	49.0%	18.2%
% Transfered to Stormwater Utility	19.9%	0.0%	0.0%	10.5%

Source: City of Corpus Christi, *FY 2018-2019 Budget*, adopted September 18, 2018.

While the City does not formally have stormwater utility fees, it essentially does assess such fees through water utility rates. On average, over the last three years, the transfers from the water utility to the stormwater fund have amounted to 19.3% of water fund expenditures, as shown in Table 5

Table 5. Stormwater Share of Water Fund Expenditures, FY 2017-2019

	Actual 2016-17	Estimated 2017-18	Adopted 2018-19	Total FY 2017-19
Transfers to Stormwater Fund	$26,681,938	$28,827,451	$28,827,451	$84,336,840
Total Water Fund Expenditures	$145,690,163	$145,770,011	$144,837,218	$436,297,392
Stormwater Percent	18.3%	19.8%	19.9%	19.3%

Source: City of Corpus Christi, *FY 2018-2019 Budget*, adopted September 18, 2018.

Utility Capital Improvement Plan

The City's capital improvement plan (CIP) for water, wastewater and stormwater over the next three years is summarized in Table 6 below.

A rough estimate of growth-related or capacity-expanding project costs was derived based on project descriptions in the CIP. This rough analysis assumes that 10 percent of utility support costs for street projects are attributable to capacity expansion, either in the form of extensions of major facilities along new roads or upgrading existing facility capacity when streets are widened or repaired. In addition, anticipated 3-year development fee collections based on recent history has been added, since these revenues will all be spent on growth-related improvements but are not reflected in the CIP.

While this is just a short-term snapshot, it suggests that about 15% of capital expenditures over the next three years will be for growth-related improvements. This does not include debt service costs related to available excess capacity that will serve future growth, which if taken into consideration would bump up the growth share of capital expenditures. There may also be significant long-term growth-related needs that are currently going unfunded due to the need to use most available capital revenue to address existing capacity deficiencies or major maintenance issues.

Other characteristics of the City approach to financing capital facilities are highlighted in the CIP summary below. Utility support for street projects consumes a significant share of utility capital funding. Street-related projects account for about 10% of water and wastewater capital funds, and about half of stormwater capital funds, amounting overall to just under 20% of utility capital expenditures. It is also apparent that the City's current CIP relies heavily on revenue bonds, which are retired with water and wastewater utility rates. Revenue bonds provide about 90% of utility capital funds, with the rest coming from accumulated utility revenue.

Table 6. Planned Utility Fund Capital Improvements, 3-Year CIP

	Water	Wastewater	Stormwater	Total
Growth-Related CIP Projects	$29,922,350	$13,667,130	$8,839,357	$52,428,837
Avg. 3-Yr. Dev't Fees Collected	$2,140,137	$2,522,758	$0	$4,662,894
Est. 3-Year Growth Expenditures	$32,062,487	$16,189,888	$8,839,357	$57,091,731
÷ Total Capital Expenditures	$159,483,637	$156,768,058	$75,193,569	$391,445,263
Percent Growth-Related	20.1%	10.3%	11.8%	14.6%
Support for Street Projects	$16,223,500	$19,671,300	$38,393,569	$74,288,369
÷ Total Fund Capital Expenditures	$157,343,500	$154,245,300	$75,193,569	$386,782,369
Percent of Street Project Support	10.3%	12.8%	51.1%	19.2%
Revenue Bonds	$147,963,485	$128,117,300	$70,493,569	$346,574,354
÷ Total Fund Capital Expenditures	$157,343,500	$154,245,300	$75,193,569	$386,782,369
Percent Revenue Bonds	94.0%	83.1%	93.7%	89.6%

Source: Total fund capital expenditures, support for street projects and revenue bond funding for FY 2020 through FY 2022 from City of Corpus Christi, *FY 2019-2020 Capital Budget & Capital Improvement Planning Guide*.(CIP); growth-related CIP project costs are estimated based on the project descriptions in the CIP and the assumption that 10% of support for street improvements expands utility capacity; average 3-year development fees collected based on actual collections for FY 2014-2018 from City of Corpus Christi; estimated total 3-year capital expenditures is sum of total fund capital expenditures and average 3-year development fees collected.

Development Fees

The City charges three types of water and wastewater development fees on all new subdivision plats and utility connections customers. These include "lot/acreage" fees (a fee per acre with a minimum per lot), "surcharge" fees (a fee per new utility connection), and "pro-rata" fees (a fee per linear foot of lot frontage). The fees lot/acreage and surcharge are used exclusively to reimburse developers for the cost of building major water or wastewater mains that are identified on the City's master plan maps. Called water transmission or grid mains or wastewater trunk mains, these major lines are distinguished by their diameter and function in the line network. Wastewater lift stations and associated force mains are also eligible, but elevated water storage tanks are not. The cost of major lines, lift stations and force mains installed by developers is fully reimbursed, regardless of whether an existing line is being extended to reach the developer's project or simply to go through it, as long as those facilities are shown on the relevant master plan map.

The City's development fees were originally adopted in 1982. According to a participant in the original calculation for the lot/acreage fees, the approach taken to calculate the fees was to lay out the water grid lines or wastewater trunk lines for several areas, estimate the cost of the improvements and number of acres that would be served, and divide the total cost by total acres served to arrive at an average fee per acre. The lot fees assumed four units per gross acre. It is not clear how the surcharge or pro-rata fees were calculated. Without those original fee calculations, it might be difficult to defend current development fees in the event of a legal challenge, given today's legal standards for development exactions as discussed in the Capital Financing Alternatives chapter. If the City at some point desires to increase the development fees substantially (e.g., beyond inflation adjustments as in the past), it would be even more important to base the fees on a current fee calculation study.

To our knowledge, the City has not recalculated the utility development fees since they were adopted 38 years ago. They were, however, adjusted periodically, most recently in 2011, as summarized in Table 7 on the following page. Because the increases were not uniform across the various fees, it does not appear that they were based on a construction cost index. The wastewater fees were not originally calculated to cover lift station and force main costs, and were increased when those were added in 2003, but the increases do not appear to have been based on a new cost analysis. The overall increases over the entire period are reasonably close to the change in the *Engineering News-Record* Construction Cost Index annual average from 1982 to 2018 most of the fee types. However, there are some obvious anomalies, such as the elimination of the water surcharge fee for commercial taps and the much larger increase in the wastewater lot fee compared to the wastewater acreage fee.

Table 7. Changes in Development Fees, 1982 to Present

Utility Fund & Fee Type	Customer Type	Fee Unit	Fee by Year of Change*				Percentage Change			
			1982	2003	2007	2011	1982-2003	2003-2007	2007 2011	1982-now
Water										
Lot	Resid.	Lot	$75	$92	$160	$182	23%	74%	9%	143%
Lot	Comm.	Lot	$150	$186	$316	$359	24%	70%	20%	139%
Acreage	Resid.	Acre	$300	$369	$632	$719	23%	71%	9%	140%
Acreage	Comm.	Acre	$600	$741	$1,266	$1,439	24%	71%	9%	140%
Surcharge	Resid.	Tap	$100	$173	$214	$243	73%	24%	9%	143%
Surcharge	Comm.	Tap	$100	$125	$0	$0	25%	-100%	n/a	-100%
Pro-Rata	All	Ln. Ft.	$5.00	$6.20	$10.72	$12.18	24%	73%	14%	144%
Wastewater										
Lot	All	Lot	$100	$283	$345	$393	183%	22%	14%	293%
Acreage	All	Acre	$600	$1,133	$1,382	$1,571	89%	22%	14%	162%
Surcharge	All	Tap	$100	$200	$243	$277	100%	22%	14%	177%
Pro-Rata	All	Ln. Ft.	$4.25	$7.53	$9.26	$10.53	77%	23%	14%	148%
Change in *Engineering News-Record* Construction Cost Index							77%	18%	13%	189%

* Fees were also increased in 2008, 2009 and 2010, although those fees are not shown.

Source: City of Corpus Christi Development Services Department, December 20, 2019

Lot/Acreage Fees. The City assesses lot/acreage fees on all subdividers at time of plat based on an adopted fee schedule. The fee schedule for water has different fees per acre and per lot for residential (single-family and duplex) and commercial (including multi-family) plats (the commercial rates are roughly twice as high). The fee that applies is the greater of the lot fee or the acreage fee. These fees are used to reimburse developers for the cost of any water transmission and grid main extensions, and for their wastewater trunk line extensions they install to serve their projects. All lot/acreage fees are deposited in the water transmission and grid main trust fund or the sanitary sewer trunk system trust fund, and are paid out to reimburse developers in the order in which their eligible improvements were completed and accepted by the City.

Surcharge Fees. The City assesses "surcharge" fees on new customers at time of connection (or "tap") based on an adopted fee schedule. The fee per tap is the same for residential and commercial plats, but the water fee only applies to residential customers. The surcharge fees are split between the trust funds, with 75% going to the water transmission/grid main or sanitary sewer trunk system fund, and 25% going to the water distribution main or sanitary sewer collection main trust fund. They are paid out to reimburse developers in the order in which their eligible improvements were completed and accepted by the City.

Pro-Rata Fees. The City's "pro-rata" fees are similar to the lot/acreage and surcharge fees. They differ only in that they are assessed per linear foot of frontage and are intended to recover the cost of smaller distribution and collector lines that are typically installed by developers and not included in impact fees (otherwise a credit would need to be provided to every developer). They are a flat rate per foot of lot frontage assessed at time of service connection. Pro-rata fees are deposited in the trust

funds for smaller lines (the water distribution main trust fund or the sanitary sewer collection line trust fund), and are paid out to reimburse developers in the order in which their eligible improvements were completed and accepted by the City.

Summary of Development Fees. Major characteristics of the City's utility development fees are summarized in Table 8. Lot/acreage fees are collected from developers and property owners splitting a lot at time of subdivision plat. Surcharge and pro-rata fees are collected when a tap is made to connect an individual customer to the City system. To the extent that they primarily pay for extensions of major lines, the lot/acreage and surcharge fees function like quasi-impact fees, which pay for major lines (and other major system components). Pro-rata fees are structured much like the other development fees, but are used primarily for minor lines that would not be covered by an impact fee because they have limited system-wide benefit and are typically installed in every subdivision by the developers. For residential lots, the pro-rata fee accounts for about half the total development fee.

Table 8. City Utility Development Fee Summary

Type of Fee	Time of Collection	Water		Waste-Water
		Resid.	Comm.	
Acreage Fee (per acre)	Subdivision	$719	$1,439	$1,571
Lot Fee (min. acreage fee)	Subdivision	$182	$359	$393
Surcharge (per connection)	Tap	$243	$0	$277
Pro-Rata Fee (per front ft.)	Tap	$10.53	$10.53	$12.18
Lot and Surcharge Fee per Residential Lot		$425	n/a	$670
Pro-Rata Fee per Residential Lot*		$527	n/a	$609
Total Fee per Residential Lot		$952	n/a	$1,279

* assuming 50 feet of frontage

Source: City of Corpus Christi Platting Ordinance and City staff.

The distribution of fees collected into two trust funds for water and two for wastewater are summarized in Table 9 below. Lot/acreage fees are deposited in the funds for larger lines, while pro-rata fees go into the funds for smaller lines. Surcharge fees are split between the funds for larger and smaller lines. The names of the trust funds, however, do not necessarily determine how the revenues in each fund are spent. The City has periodically moved money between the trust funds as needed to fund a developer reimbursement, most recently in 2015 and 2018. In 2018, for example, the City transferred $2.7 million from the water trust funds and the wastewater collection line trust fund to the wastewater trunk system fund. Given this practice, there is essentially a single trust fund for all water and wastewater developer reimbursements.

Table 9. Distribution of City Utility Development Fees

Water		Sanitary Sewer	
Transmission & Grid Main Trust	Distribution Main Trust	Trunk System Trust	Collection Line Trust
Lot & Acreage Fees	Pro Rata Fees	Lot & Acreage Fees	Pro Rata Fees
75% of Surcharge	25% of Surcharge	75% of Surcharge	25% of Surcharge

Source: City of Corpus Christi Platting Ordinance.

Activity in the utility developer reimbursement trust funds over the past five years is summarized in Table 10 (the major/minor line sub-funds are combined to show just the water and wastewater funds). At the beginning of the 5-year period, the water fund had about $2.5 million on hand. It took in about $3.5 million in fees over the five years, but the City Council transferred almost all of that to the wastewater fund. It paid out $1.3 million in reimbursements for water-related projects, and ended up with a lower balance than it started with. The wastewater fund collected somewhat more fee revenue and paid out somewhat more in reimbursements, but had an ending balance almost $5 million higher than it started with, thanks to the transfer of the water funds. The transfer was done to pay the outstanding reimbursement obligations of the wastewater fund. The experience of the last five years highlights the extent to which the trust funds operate in practice as a single fund to reimburse developers for water and wastewater line extensions.

Table 10. Developer Reimbursement Trust Fund Activity, FY 2014-2018

	Water	Wastewater	Total
Beginning Balance	$2,551,839	$817,284	$3,369,123
Fees Collected	$3,566,894	$4,204,596	$7,771,490
Transfers	-$3,016,284	$3,016,284	$0
Interest Earned	$85,739	$95,084	$180,823
– Reimbursements Paid	-$1,323,947	-$2,469,232	-$3,793,179
Ending Balance	$1,864,242	$5,664,016	$7,528,257
– Outstanding Reimbursements	-$109,354	-$4,047,898	-$4,157,252
Net Ending Balance	$1,754,888	$1,616,118	$3,371,005

Source: City of Corpus Christi Development Services, December 2, 2019.

The City's developer reimbursement trust fund has stayed solvent for many years, but that may be about to change. The fees did not originally cover the cost of expensive lift station and force main improvements, and the fees were not increased when they were added. As development begins to occur on the south side of Oso Creek, extending service across the creek will be costly, and the reimbursement funds may be overwhelmed.

Comparisons to Other Cities. Most cities that don't charge impact fees collect some type of development fees from subsequent developments to reimburse developers who extend lines or install over-sized facilities that will benefit those developments. However, these fees function in a fundamentally different way from the City's development fees. Generally, these fees are (a) calculated separately for each developer-installed improvement, (b) assessed only on other developments that benefit from that improvement, and (c) earmarked to reimburse the developer who made the improvement. In contrast, the City's development fees are (a) based on a pre-determined fees schedule, (b) assessed on all new development (with the exception that the water surcharge fee is not assessed on nonresidential taps), and (c) pooled in trust funds that are drawn upon to repay developers in the order of completion of eligible projects.

The three other large Texas cities besides Corpus Christi that do not charge water and wastewater impact fees are Dallas, Plano and Laredo. The City of Dallas has a utility development fee system most like Corpus Christi's. Dallas has a predetermined schedule of lot/acreage fees and front-footage fees, but these are assessed only on benefitting property, rather than on all new plats or taps. As in

Corpus Christi, the fees are pooled and reimbursed to developers in the order in which the eligible improvements were made, rather than being reimbursed to the developer who made the specific improvement that benefits the fee-payer.

Plano and Laredo offer examples of the more typical approach to pro-rata utility fees. In Plano, the City may decide to participate in the cost of a line extension or oversizing, but only if the off-site share is at least 30 percent of the cost. The City calculates pro-rata fees that other properties will be charged on a case-by-case basis. The pro-rata fees may be either per acre or per linear foot of frontage. The City then collects those fees as the benefitting property develops, and remits them to the developer who built the improvement. The City ceases collecting the fees after 10 years from acceptance of the improvement.

The City of Laredo uses an approach similar to Plano's. Pro-rata fees per linear foot are calculated for each eligible improvement project, and are collected by the City and used to reimburse the developer for up to 15 years. In addition to being more legally-defensible, these types of approaches put more of the economic risk involved with line extensions into unserved and undeveloped areas on the developer who decides to build there.

Evaluation Summary. None of the three other large Texas cities without impact fees use development fees in the way that Corpus Christi does. Their fees do not function like quasi-impact fees. The other cities basically start from the position that it is the developer's responsibility to install lines needed to serve their projects. If developers extend lines that will benefit other developments, or oversize lines for the benefit of other developments, any reimbursement of such costs comes from fees collected only from benefitting property, and is subject to City approval and/or meeting certain conditions.

The City's development fee approach essentially puts developers in the driver's seat on infrastructure expansion, because none of the funding can be used to reimburse the City for improvements it might make. It also creates a perverse incentive for developers to plat subdivisions that are not contiguous with existing served areas, by providing reimbursement for the full cost of any line identified in the City's master plan, even though it may be fiscally premature for the City. A pattern of scattershot development and premature infrastructure expansion is more costly, because the improvements need to be maintained and begin to depreciate long before the customers they will ultimately serve begin paying rates. For example, the City maintains several lift stations that developers installed and for which they were reimbursed that have been mothballed for years because of lack of sufficient demand.

The City has the alternative of putting itself in the driver's seat on infrastructure expansion. It could commission long-range master plans that would prioritize major system expansions based on growth projections and cost-efficiency. Such master plans are relatively expensive, and the City currently has no revenue source to draw on besides utility rates, which are already high. However, the City does have the option of adopting impact fees, which could be used not only to fund City-initiated projects, but also fund long-range master plans. Impact fees are the subject of the next section.

Impact Fees

The Texas impact fee enabling act authorizes impact fees for water, wastewater, and stormwater facilities. Water and wastewater impact fees currently charged by a dozen other Texas cities are summarized in Table 11, along with Houston's stormwater impact fee. Fees charged by six smaller Texas cities have been added to the six larger cities summarized in the survey in the Appendix to provide a larger sample. Impact fees tend to be lower in Texas than elsewhere in the country. The City's development fees (sum of residential lot, surcharge and pro-rata fees) are roughly one-quarter the state's combined average water and wastewater impact fees.

Of the ten largest cities, only Houston has implemented stormwater impact fees, and their fees are quite low. Our 2019 national impact fee survey identified 36 jurisdictions outside of California that charge stormwater impact fees, accounting for about 15% of the 233 jurisdictions surveyed, compared to almost 50% that charge water and wastewater impact fees. The average stormwater impact fee from that survey is $1,261 per single-family detached unit.[4]

Table 11. Impact Fees, Texas Cities

	Impact Fee per Single-Family Equivalent			
City	Water	Wastewater	Drainage	Total
Corpus Christi Dev't Fees *	**$425**	**$670**	**n/a**	**$1,095**
Arlington	$828	$418	n/a	$1,246
McKinney	$1,295	$162	n/a	$1,457
El Paso	$845	$713	n/a	$1,558
Houston	$791	$1,199	$33	$2,023
Fort Worth	$1,758	$1,044	n/a	$2,802
Colleyville	$2,491	$643	n/a	$3,134
College Station	$500	$3,000	n/a	$3,500
Allen	$2,840	$1,644	n/a	$4,484
Austin	$4,700	$2,500	n/a	$7,200
San Antonio	$4,749	$3,451	n/a	$8,200
Denton	$4,853	$4,716	n/a	$9,569
Georgetown	$6,921	$3,115	n/a	$10,036
Texas Average	$2,714	$1,884	n/a	$4,598
National Average (w/o CA)	$3,603	$3,420	$1,261	$8,284

* sum of residential lot and surcharge fees from Table 8

Source: Table 16 in the Appendix for survey cities; Duncan Associates, 2019 national impact fee survey of 233 non-California jurisdictions for other cities and national average.

[4] Based on a 2019 internet survey of 233 U.S. jurisdictions outside California that charge impact fees conducted by Duncan Associates, in association with the University of Arizona and Georgia State University.

Water and wastewater impact fees, if adopted at average rates for Texas, would bring in a combined total of about $4.7 million annually from new residential development alone based on the average number of new single-family permits issued annually over the last five years. Total impact fee revenue, including revenue from nonresidential development, would probably be on the order of 50% higher, or in the neighborhood of $7.1 million annually, as shown in Table 12. This would be considerably more than the approximately $1.5 million generated annually by the City's current water and wastewater development fees. A stormwater impact fee adopted at the average national rate (excluding California) could generate another $1.9 million annually.

Table 12. Potential Annual Impact Fee Revenue

Utility	Average Single-Family Impact Fee	Annual Single-Family Permits	Annual Single-Family Revenue	Annual Total Revenue*
Water	$2,714	1,020	$2,768,497	$4,200,000
Wastewater	$1,884	1,020	$1,921,434	$2,900,000
Subtotal, Water and Wastewater	$4,598		$4,689,931	$7,100,000
Stormwater	$1,261	1,020	$1,286,220	$1,900,000
Total Potential Annual Revenue			$5,976,151	$9,000,000

* estimate assuming total revenues are 50% more than single-family revenue

Source: Texas average fees for water and wastewater from Table 11; stormwater fee is average non-California fee from Duncan Associates, 2019 national impact fee survey of 36 jurisdictions outside California; annual average single-family permits for 2014-2018 in Corpus Christi from U.S. Census Bureau website (https://www2.census.gov/econ/bps/Place/).

In the 2007 report, we stated that impact fees would not be feasible in the short-term, because the City would first need to prepare comprehensive long-range master plans. What we meant by that was comprehensive studies that model where future development would occur over a 10-20 year period, and identify improvements and their costs that would need to be made to the system to accommodate the projected development. The City has master plans, but they are limited to maps that show the layout of a future system of lines. While having a long-range master plan is desirable, we no longer believe that it is a necessary prerequisite to developing impact fees under the Texas act. That effort would require an impact fee study, projections of land use over a 10-year period, and a list of future capital improvements with estimated costs, but not a comprehensive long-range master plan.

Impact fees would recover growth-related costs from new development more comprehensively than development fees used to reimburse developers for line extensions they initiate. They could generate additional revenue to fund needed line improvements for which no developer is willing to upfront the cost. They could cover the cost of comprehensive master plans that would enable the City to prioritize both City-initiated improvements and credit eligibility for developer-initiated projects. They could also cover the cost of retiring debt on past investments in water production or wastewater treatment capacity that is available to serve new development but is now being paid by existing utility customers. The additional revenue generated by impact fees would relieve the City from the need to rely on utility rates for these purposes, which should result in lower utility rates than would otherwise be needed. Even if utility rates do not actually decline, they would be able to fund critical maintenance needs that may have been deferred due to a reluctance to raise rates.

Since impact fees typically do not cover smaller water distribution or wastewater collection lines, there would still be a place for some kind of pro-rata agreements that would spread the cost of developer-initiated line extensions more equitably among benefitting development. However, those fees should be calculated on a case-by-case basis, assessed only on benefitting development and used only to reimburse the developer who made the improvement.

While impact fees do not have to cover water grid mains or wastewater trunk mains, which are addressed with the City's current lot/acreage and surcharge fees, impact fees would provide a better system for funding reimbursements for such facilities. Impact fees could be updated much more easily, and would generate additional revenue to fund City-initiated grid and trunk line projects that developers are not positioned to make. The lot/acreage and surcharge fees could be eliminated upon adoption of impact fees, with outstanding reimbursement obligations transferred to the impact fee funds.

Finally, impact fees typically cover centralized or regional facilities, such as water supply, storage, treatment, pumps and transmission lines; and wastewater treatment plants, storage, disposal/recovery facilities, and interceptors and associated lift stations. Impact fee revenue could be used to retire debt on facilities with excess capacity, pay directly for new capacity-expanding improvements, or retire new debt issued for capacity-expansion projects.

Impact fees could also be considered for stormwater. However, it would be advisable to first use new stormwater utility fees to fund a comprehensive long-range stormwater master plan, and then determine if major capital improvements identified as attributable to anticipated growth would warrant an impact fee.

Stormwater Utility Fees

Most major Texas cities rely on stormwater utility fees to fund major drainage improvements. Eight of the ten largest cities have established stormwater utility fees, which can fund operations and capital maintenance as well as growth-related capital improvements. The City has an informal stormwater utility fee buried it its water utility rate, where it accounts for about one-fifth of expenditures. The question is whether to formally adopt a separate utility fee exclusively for stormwater purposes.

Making such a change would not necessarily increase overall utility rates or revenues, although a stormwater rate study could potentially justify higher rates, in which case the City would have the option to assess higher stormwater rates. It is likely that a stormwater utility fee, which is generally based on impervious cover rather than water usage, would result in fees that are more like average stormwater fees for major Texas cities. Based on data presented earlier in Table 2 and Table 3, the City's commercial fee would be about five times what the effective rate is now. Given current stormwater expenditure levels, stormwater rates for both residential and nonresidential would be lower than Texas average rates, and the total combined residential rate would be lower than it is now.

Given the likelihood that the City's stormwater system has been historically under-funded because of the relative invisibility of problems on a day-to-day basis, stormwater rates might need to be increased to adequately fund existing maintenance needs and capacity deficiencies. Formal stormwater utility fees would ensure than any additional revenue is earmarked for stormwater purposes.

The City has made several efforts to establish a stormwater utility. In 1993, the City Council adopted a resolution to take steps to create a stormwater utility. In 1994 the City developed a database model for a potential stormwater utility, and in 1995 developed a fee which amounted to $0.16 per month per 100 square feet of improved surface, drafted an ordinance, and took steps to notify the public of the changes. Towards the end of 1995, after numerous public meetings, the City Council appointed a Drainage Ad-Hoc Committee to determine a level of service standard and related rate structure to present to Council. In July of 1996, the Drainage Ad-Hoc Committee recommended that the Council not establish a stormwater utility, based primarily on the inability of the public to see the benefits of a stormwater utility.

In 1997, the City Council established a Stormwater Management Advisory Committee (SWMAC) as a result of regulation review associated with the City's Environmental Protection Agency permit compliance schedule to review technical issues. The committee originally was to be abolished in 1999. In 1999, the City Council identified several priority issues, which included establishing a stormwater utility. Staff prepared an action plan that proposed the initiation of charges by April 2000. In June 1999, the City Council amended the ordinance to continue the existence of the SWMAC and included the additional duty to advise the Mayor and Council on the establishment of a drainage utility.

In 2002, the SWMAC delivered its opinion that the City should not establish a stormwater utility, and recommended alternatives including: additional bonding, utility rate increases, consideration of a Stormwater Capital Improvement Fee, and that the City impose higher drainage standards in the platting process. The City Council deferred action on the findings until the Drainage Master Plan was completed. Completion of the master plan was stymied due to disagreements over levels of protection and who should be responsible for funding deficiencies.

To-date, the City has not implemented a formal stormwater utility fee. However, is again moving forward with a plan to consider doing so. Continued funding of drainage maintenance and improvement costs out of the water utility fund risks continuing to under-fund drainage needs, which are visible only in the aftermath of severe storm events. The current system is not proportional to the demand generated by a land use, which is related to impervious cover, not water demand. A formal stormwater utility fee would be more equitable, and would probably also result in a lower overall residential utility rate.

Table 13. Water Rate Survey

City	Single-Family (smallest meter) Basis	Monthly Rate	Commercial (smallest meter) Basis	City
Houston	Monthly gallons		Base fee (5/8" meter)	$5.76
	<1,000	$5.54	+	+
	1,000 - 1,999	$5.69	Usage Fee	$4.54
	2,000 - 2,999	$12.97	(per 1,000 gal.)	
	3,000 - 3,999	$13.41		
	4,000 - 4,999	$25.36		
	5,000 - 5,999	$30.39		
	6,000 - 6,999	$35.43		
	7,000 - 12,000	+ $5.47 per 1,000		
	> 12,000	+ $9.00 per 1,000		
San Antonio	Base fee (5/8" meter)	$12.82	Base fee (5/8" meter)	$13.86
	+	+	+	+
	Usage Fee (per 100 gal.)		Usage Fee (per 100 gal.)	
	0 - 2,992 gallons	$0.0740	Customer Base Use	$0.1810
	2,993 - 4,489	$0.1295	>100 - 125% Base	$0.2084
	4,490 - 5,985	$0.1665	>125 - 175% of Base	$0.2717
	5.986 - 7,481	$0.2034	>175% of Base	$0.3171
	7,482 - 10,473	$0.2405		
	10,474 - 14,962	$0.2775		
	14,963 - 20,199	$0.3329		
	> 20,199 gallons	$0.4809		
Dallas	Base fee (5/8" meter)	$5.33	Base fee (5/8" meter)	$5.33
	+	+	+	+
	Usage Fee		Usage Fee	
	(per 1,000 gal.)		(per 1,000 gal.)	
	Up to 4,000 gal.	$1.86	Up to 10,000 gal.	$3.73
	4,001 - 10,000 gal.	$4.00	> 10,000 gal.	$4.05
	10,001 - 20,000 gal.	$6.50	> 10,000 gal. &	$6.15
	20,001 - 30,000 gal.	$9.30	1.4 x annual avg.	
	> 30,000 gal.	$10.70	monthly usage	
Austin	Base fee (5/8" meter)	$7.25	Base fee (5/8" meter)	$7.25
	+	+	+	+
	Usage Fee		Fixed Charge	$8.75
	(monthly gallons)		+	+
	0 - 2,000	$1.25		
	2,001 - 6,000	$3.55		
	6,001 - 11,000	$9.25		
	11,001 - 20,000	$29.75		
	> 20,001	$29.75		
	+	+		
	Volume Charge		Volume Charge	
	(per 1,000 gal.)		(per 1,000 gal.)	
	0 - 2,000	$2.89	Nov - June	$5.27
	2,001 - 6,000	$4.81	July - October	$5.66
	6,001 - 11,000	$8.34		
	11,001 - 20,000	$12.70		
	> 20,001	$14.21		
	+	+	+	+

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Table 13. Water Rate Survey (continued)

City	Single-Family (smallest meter) Basis	Monthly Rate	Commercial (smallest meter) Basis	City
Austin (cont'd.)	Community Benefit Charge (per 1,000 gal.)	$0.15	Community Benefit Charge (per 1,000 gal.)	$0.15
	+	+	+	+
	Reserve Fund Surcharge (per 1,000 gal.)	$0.05	Reserve Fund Surcharge (per 1,000 gal.)	$0.05
Fort Worth	Base fee (5/8" meter)	$12.10	Base fee (5/8" meter)	$12.10
	+	+	+	+
	Volume charge (per 100 cu. ft.)		Volume charge (per 100 cu. ft.)	$2.69
	First 6 CCF	$2.19		
	>6 - 18 CCF	$3.07		
	>18 - 30 CCF	$3.92		
	>30 CCF	$4.73		
	(CCF = 100 cu. ft.)			
El Paso	Base fee (<1" meter)	$7.45	Base fee (<1" meter)	$7.45
	+	+	+	+
	Usage Fee per CCF (usage > 400 cu. ft.)		Usage Fee per CCF (all usage)	
	Up to 150% of AWC	$2.24	Up to 150% of AWC	$2.24
	150%-250% of AWC	$5.31	150%-250% of AWC	$5.31
	Over 250% of AWC	$7.59	Over 250% of AWC	$7.59
	(AWC = customer's Average Winter Consumption in prevous year)			
	+	+	+	+
	Water Supply Replacement Charge (if usage > 400 cu. ft.)	$11.04	Water Supply Replacement Charge (per meter)	$11.04
Arlington	Base fee (5/8" meter)		Base fee (5/8" meter)	$10.30
	≤ 2,000 gallons	$7.10		
	> 2,000 gallons	$10.30		
	+	+	+	+
	Usage Fee (per 1,000 gal.)		Usage Fee (per 1,000 gal.)	
	0 - 3,000 gal.	$2.02	< 16,000 gal.	$3.20
	> 3,000-11,000	$2.79	≥ 16,000 gal.	$3.38
	>11,000-16,000	$4.02		
	>16,000-29,999	$5.63		
	> 30,000 gal.	$6.78		
Corpus Christi	Base fee (5/8" meter)	$12.70	Base fee (5/8" meter)	$12.70
	+	+	+	+
	Usage Fee (per 1,000 gal. over 2,000 gal.)		Usage Fee (per 1,000 gal. over 2,000 gal.)	$7.05
	Up to 6,000 gal.	$6.35		
	6,000-15,000 gal.	$7.30		
	Over 15,000 gal.	$7.95		

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Table 13. Water Rate Survey (continued)

City	Single-Family (smallest meter) Basis	Monthly Rate	Commercial (smallest meter) Basis	City
Plano	Base fee (3/4" meter)	$24.51	Base fee (3/4" meter)	$24.51
	+	+	+	+
	Usage Fee		Usage Fee	$3.71
	(per 1,000 gal.		(per 1,000 gal.	
	over 1,000 gal.)		over 1,000 gal.)	
	1,001 - 5,000 gal.	$0.75		
	5,001 - 20,000 gal.	$3.71		
	20,001 - 40,000 gal.	$7.41		
	> 40,000 gal.	$8.98		
Laredo	Base fee (5/8" meter)	$10.52	Base fee (5/8" meter)	$39.61
	+	+	+	+
	Usage Fee		Usage Fee	
	(per 1,000 gal.		(per 1,000 gal.	
	over 2,000 gal.)		over 2,000 gal.)	
	2,001 - 4,000	$2.05	2,001 - 4,000	$2.51
	4,001 - 10,000 gal.	$2.20	4,001 - 10,000 gal.	$3.08
	10,001 - 20,000 gal.	$2.27	10,001 - 40,000 gal.	$3.88
	20,001 - 30,000 gal.	$2.41	40,001 - 150,000 gal.	$4.10
	30,001 - 40,000 gal.	$2.57	150,001 - 300,000 gal.	$4.43
	40,001 - 50,000 gal.	$2.69	300,001 - 600,000 gal.	$4.89
	> 50,000 gal.	$5.35	600,001 - 1,000,000 gal.	$5.78
			> 1,000,000 gal.	$5.92

Source: Duncan Associates, November 2019.

Table 14. Wastewater Rate Survey

City	Single-Family Basis	Monthly Rate (in-city)	Commercial Basis	Monthly Rate (in-city)
Houston	Base fee (5/8" meter) (includes usage up to 1,000 gal.)	$11.77	Base fee (5/8" meter) + Usage Fee (per 1,000 gal.)	$10.12 + $6.43
	Sum of Base and Usage Fees			
	>1,000 gallons	$11.96		
	2,000 gallons	$12.35		
	3,000 gallons	$12.67		
	4,000 gallons	$29.04		
	5,000 gallons	$34.96		
	6,000 gallons	$43.57		
	> 6,000 gallons	+ $8.61 per 1,000 gal.		
San Antonio	Base fee (5/8" meter) + Usage Fee (per 100 gal.)	$14.53 +	Base fee (5/8" meter) + Usage Fee (per 100 gal.)	$14.53 +
	1,496 gallons	$0.0000	1,496 gallons	$0.0000
	1,497-2,992 gal.	$0.3104	> 1,496 gallons	$0.4159
	> 2,992 gallons	$0.4657		
Dallas	Base fee (5/8" meter) + Usage Fee (per 1,000 gal.)	$4.78 + $5.36	Base fee (5/8" meter) + Usage Fee (per 1,000 gal.)	$4.78 + $4.11
Austin	Monthly Service Charge + Volume Charge (per 1,000 gal.)	$10.30 +	Monthly Service Charge + Volume Charge (per 1,000 gal.)	$10.30 + $8.95
	0 - 2,000 gal.	$4.85		
	>2,000 gal.	$9.94		
	+ Community Benefit Charge (per 1,000 gal.)	+ $0.15	+ Community Benefit Charge (per 1,000 gal.)	+ $0.15
Fort Worth	Monthly Service Charge + Volume Charge (per 100 cu ft.)	$6.85 + $4.17	Monthly Service Charge + Volume Charge (per 100 cu ft.)	$6.85 + $4.06
El Paso	Base fee (<1" meter) + Usage Charge (per 100 cu.ft. over 400 cu. ft.)	$16.35 + $2.06	Base fee (<1" meter) + Usage Charge (per 100 cu.ft. over 400 cu. ft.)	$16.35 + $2.06
	(usage based on 90% of customer's avg. winter use in previous year)			

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Table 14. Wastewater Rate Survey (continued)

City	Single-Family Basis	Monthly Rate (in-city)	Commercial Basis	Monthly Rate (in-city)
Arlington	Fixed Fee (5/8" meter)		Fixed Fee (5/8" meter)	$12.94
	≤ 2,000 gallons	$7.64		
	> 2,000 gallons	$12.94		
	+	+	+	+
	Volume Charge	$5.13	Volume Charge	$5.13
	(per 1,000 gal.)		(per 1,000 gal.)	
Corpus Christi	Base Fee	$32.60	Base Fee	$44.75
	+	+	+	+
	Usage Fee		Usage Fee	$4.70
	(per 1,000 gal. over 2,000)		(per 1,000 gal. over 2,000)	
	2,001-6,000 gal.	$3.25		
	6,001-15,000 gal.	$4.85		
	> 15,000 gal.	$7.25		
	One Family Maximum			
	(up to 25,000 gal.)	$161.75		
Plano	Base Rate (3/4" meter)	$14.67	Base Rate (3/4" meter)	$14.67
	+	+	+	+
	Volume Charge	$5.80	Volume Charge	$5.80
	(per 1,000 gal. over 1,000)		(per 1,000 gal. over 1,000)	
Laredo	Base Rate	$10.44	Base Rate	$27.97
	+	+	+	+
	Volume Charge		Volume Charge	
	(per 1,000 gal. over 2,000)		(per 1,000 gal. over 2,000)	
	2,001 - 4,000 gal.	$3.58	2,001 - 4,000 gal.	$2.89
	4,001 - 10,000 gal.	$3.63	4,001 - 10,000 gal.	$2.94
	10,001 - 20,000 gal.	$3.82	10,001 - 40,000 gal.	$3.37
	> 20,000 gal.	$4.11	40,001 - 150,000 gal.	$3.48
			150,001 - 300,000 gal.	$4.45
			300,001 - 600,000 gal.	$4.45
			600,001 - 1,000,000 gal.	$5.09
			> 1,000,000 gal.	$6.18

Source: Duncan Associates, November 2019.

Table 15. Stormwater Rate Survey

City	Single-Family Basis	Monthly Rate	Commercial Basis	Monthly Rate
Houston	Impervious Area (per sq. ft.)		Impervious Area (per sq. ft.)	$0.0027
	Curb & Gutter	$0.0027		
	Open Ditch	$0.0022		
San Antonio	Impervious Area		Base Fee	$67.30
	≤ 2,750 sq. ft.	$3.75	+	+
	> 2,750 - 4,220 sq. ft.	$4.94	Impervious Area (per 1,000 sq. ft.) % Impervious	
	> 4,220 sq. ft.	$10.45	≤ 20%	$0.31
			> 20-40%	$0.45
			>40-65%	$0.58
			>65%	$0.73
Dallas	Impervious Area		Impervious Area (per 1,000 sq. ft.)	$2.10
	Up to 2,000 sq. ft.	$3.90		
	2,001 - 3,500 sq. ft.	$6.21		
	3,501 - 5,500 sq. ft.	$9.29	Minimum Charge	$6.00
	> 5,500 sq. ft.	$15.19		
Austin	Base Monthly Rate per sf of Impervious Cover (IC)	$0.00498	Base Monthly Rate per sf of Impervious Cover (IC)	$0.00498
	Actual Rate =Base Rate x %IC x Adjustment Factor (1.5425 x %IC + 0.01933)		Actual Rate =Base Rate x %IC x Adjustment Factor (1.5425 x %IC + 0.01933)	
	Example:		Example:	
	30% Impervious Cover	$0.0024	75% Impervious Cover	$0.0059
Fort Worth	Equiv. Residential Unit (based on living area and no. of garage spaces)		Impervious Area (per 2,600 sq. ft.)	$5.40
	0.5 ERU	$2.70		
	1.0 ERU	$5.40		
	1.5 ERU	$8.10		
	2.0 ERU	$10.80		
El Paso	Impervious Area		Impervious Area	
	≤ 1,200 sq, ft,	$2.13	(per 2,000 sq. ft.)	$4.34
	1,201 - 3,000 sq. ft.	$4.25		
	> 3,001 sq. ft.	$8.51		
Arlington	Impervious Area (per 2800 sq. ft.)	$7.25	Impervious Area (per 2800 sq. ft.)	$7.25
Corpus Christi	no fee	n/a	no fee	n/a
Plano	Impervious Area (sq. ft.)*		Impervious Area (per 100 sq. ft.)	$0.075
	< 4750	$3.10		
	4,750 - 6,450	$4.15	Minimum monthly bill	$3.15
	> 6,450	$5.60		

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Table 15. Wastewater Rate Survey (continued)

City	Single-Family Basis	Monthly Rate	Commercial Basis	Monthly Rate
Laredo	Flat Fee per unit	$6.50	Lot Size	
			0 - 10,000 sq. ft.	$8.00
			10,001 - 40,000	$23.00
			40,001 - 75,000	$46.00
			75,001 - 110,000	$70.00
			> 110,000 sq. ft.	$120.00

* 3,000 sq. ft added to house square feet to account for street, sidewalk and alley impervious cover

Source: Duncan Associates, November 2019.

Table 16. Capital Funding Survey

City	Water	Wastewater	Stormwater
Houston	**Water Impact Fee** $791 per single-family equivalent Fee = sum of flow, system development, and water supply impact fees	**Wastewater Impact Fee** $1,199 per single-family equivalent Fee = sum of collection and treatment components	**Drainage Impact Fee** avg. of watersheds: $11.13 per 1,000 sf impervious cover **Stormwater Utility Fee** Additional funding from Metro, TxDOT, and ad valorem taxes
San Antonio	**Water Impact Fee** $4,749 per EDU (290 gpd, 5/8" meter) in Low Elevaton Zone (EDU is equiv. dwelling unit)	**Wastewater Impact Fee** $3,451 per EDU (200 gpd) in Upper Collection zone (EDU is equiv. dwelling unit)	**Stormwater Utility Fee** (see stormwater rate survey) Developer needs addressed through on-site detention, off-site mitigation, or payment of fee in lieu for participation in a regional stormwater project
Dallas	**Water Utility Rates** Developer extensons/oversizing reimbursed from fees paid by future connections from benefitting projects	**Wastewater Utility Rates** Developer extensons/oversizing reimbursed from fees paid by future connections from benefitting projects	**Stormwater Utility Fee** (see stormwater rate survey)
Austin	**Water Impact Fee** $4,700 per single-family equivalent called Capital Recover Fee	**Wastewater Impact Fee** $2,500 per single-family equivalent called Capital Recover Fee	**Stormwater Utility Fee** (see stormwater rate survey)
Fort Worth	**Water Impact Fee** $1,758 per single-family equivalent (5/8"x3/4" meter)	**Wastewater Impact Fee** $1,044 per single-family equivalent (5/8"x3/4" meter)	**Stormwater Utility Fee** (see stormwater rate survey) Improvements traditionally funded with property tax, but increasingly paid with utility rates.
El Paso	**Water Impact Fee** $845 (average fee for 3 areas) per single-family equivalent (<1" water meter)	**Wastewater Impact Fee** $713 (average fee for 3 areas) per single-family equivalent (<1" water meter)	**Stormwater Utility Fee** (see stormwater rate survey)
Arlington	**Water Impact Fee** $828 per single-family equivalent (5/8"x3/4" meter)	**Wastewater Impact Fee** $418 per single-family equivalent (5/8"x3/4" meter)	**General Funds** Smaller facilities exacted from developer, larger faciliites bonded and and repaid with general funds (property tax)
Corpus Christi	**Acreage Fee** Residential: $719 per acre (minimum $182 per lot) Commercial: $1,439 per acre (with minimum $359 per lot) **Tap Surcharge** Residential: $243 per tap Commercial: $0 per tap **Pro Rata Fee** $10.53 per frontage lin. ft.	**Acreage Fee** $1,571 per acre (minimum $393 per lot) **Tap Surcharge** $277 per tap **Pro Rata Fee** $12.18 per frontage lin. ft.	**Water Utility Rates** Stormwater projects funded with water utility revenue

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Table 16. Capital Funding Survey (continued)

City	Water	Wastewater	Stormwater
Plano	**Water Utility Rates** Water revenue used for pay-go funding	**Wastewater Utility Rates** Wastewater revenue used for pay-go funding	**Stormwater Utility Fee** (see stormwater rate survey)
Laredo	**Water Utility Rates** Water revenue used for pay-go funding developers pay for lines to serve their projects	**Wastewater Utility Rates** Wastewater revenue used for pay-go/bond funding, developers pay for lines to serve their projects	**Stormwater Utility Fee** (see stormwater rate survey)

Source: Duncan Associates, November 2019.