To the Mayor and Members of the City Council

June 16, 2020

SUBJECT: FINAL RESULTS OF PRICING AND RATINGS ON BONDS WITHIN THE 2020 DEBT PLAN

This informal report is intended to provide the Mayor and City Council with a summary of the final pricing results on bonds issued in connection with the City's 2020 Debt Plan, including: Series 2020A Water and Sewer Revenue Bonds, Series 2020 General Purpose Bonds, and Series 2020 Tax Notes. Additionally, this report summarizes the credit rating agency actions along with key highlights from the rating report commentary. The complete rating reports accompany this informal report.

Overview of Pricing

The bonds were offered utilizing a competitive sale process with the assistance of our co-financial advisors, Hilltop Securities Inc., and Estrada Hinojosa & Co. Despite the challenges associated with the COVID-19 pandemic, the sale was a significant success. The bonds priced at historically low rates.

Series 2020A Water & Sewer Revenue Bonds –

The City's Water and Sewer System issue (AA+/Aa1/AA) priced with an average life of 11.65 years and a TIC of 1.89%. To summarize the transaction, the City sold a total of $94,715,000 in bonds plus premium to fund various improvements to the water and sewer system totaling $100,000,000. Additionally, $73,085,000 were also sold for the purpose of refunding $87,770,000 of existing bonds, which resulted in 8.42% net present value debt service savings of $7,394,476 or 8.42% of the refunded principal amount. The Series 2020A bonds were sold with a premium such that the total proceeds generated was $187,663,162.

Bids were received from eight firms. The chart below depicts the firm and the associated true interest cost:

Bidder	TIC
Wells Fargo Bank, National Association	1.8909%*
Morgan Stanley & Co, LLC	1.9499%
Citigroup Global Markets Inc.	1.9684%
BofA Securities, Inc.	2.0094%
Mesirow Financial, Inc.	2.0108%
Jeffries LLC	2.0191%
Robert W. Baird & Co., Inc.	2.0613%
J.P. Morgan Securities LLC	2.0856%

* Adjusted due to post bid award re-size

Wells Fargo Bank, National Association was the winning bidder.

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Series 2020 General Purpose Bonds –

The City's General Purpose (GO) issue (AA+/AA/Aa3/AA) priced with an average life of 7.157 years and a TIC of 1.69%. To summarize the transaction, the City sold a total of $151,390,000 in bonds to fund projects authorized under the 2018 Bond Programs totaling $120,000,000. Additionally, bonds were sold for the purpose of refunding $48,810,000 of existing bonds, which resulted in present value debt service savings of $6,744,292 or %13.82% of the refunded principal amount. The Series 2020 bonds were sold with a premium such that the total proceeds generated was $170,209,385.

Bids were received from seven firms. The chart below depicts the firm and the associated true interest cost:

Bidder	TIC
BofA Securities, Inc.	1.6866%*
Wells Fargo Bank, National Association	1.6966%
J.P. Morgan Securities LLC	1.7245%
Morgan Stanley & Co, LLC	1.7349%
Citigroup Global Markets Inc.	1.7444%
Mesirow Financial, Inc	1.7739%
Jeffries LLC	1.7743%

* Adjusted due to post bid award re-size

BofA Securities, Inc. was the winning bidder.

Series 2020 Tax Notes –

The City's Tax Note (GO) issue (AA+/AA/Aa3/AA) priced with an average life of 3.825 years and a TIC of 0.63%. To summarize the transaction, the City sold a total of $25,115,000 in bonds to fund improvements related to the purchase of replacement fire apparatus, botanic gardens improvement project, angle avenue land acquisition, and other equipment totaling $28,802,495. The Series 2020 tax notes were sold with a premium such that the total proceeds generated was $29,000,547.

Bids were received from eight firms. The chart below depicts the firm and the associated true interest cost:

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Bidder	TIC
J.P. Morgan Securities LLC	0.6326%*
BofA Securities, Inc.	0.6619%
Citigroup Global Markets Inc.	0.6797%
PNC Capital Markets	0.7015%
Wells Fargo Bank, National Association	0.7100%
Stifel, Nicolaus & Co., Inc.	0.7414%
Frost Bank	0.7682%
Robert W. Baird & Co., Inc.	0.8019%

* Adjusted due to post bid award re-size

JP Morgan Securities LLC was the winning bidder.

Overview of Rating Outcomes

As part of the City's 2020 debt plan, the city sought ratings for the bonds from Moody's Investors Service (Moody's), Kroll Bond Rating Agency (Kroll), S&P Global (S&P), and Fitch Ratings (Fitch). Kroll only rated the City's General Purpose Bonds and the Tax Notes.

This year's discussion with the rating agencies heavily covered the financial and economic impacts stemming from the COVID-19 pandemic, with an emphasis on management's budgetary response, including revised assumptions in current and future year financial forecasts. Similar to prior rating meetings, the analysts also revisited the City's pension and OPEB obligations, noting an ongoing credit weakness that is somewhat exacerbated by current economic conditions

Moody's

GO Rating – Affirmed rating of Aa3 with a stable outlook (no change)

"The city of Fort Worth, TX's (Aa3 stable) credit profile continues to be constrained by a high unfunded pension liability and weak annual pension contributions, despite reform. Given contributions that are insufficient to amortize the slightly reduced unfunded pension liability, the liability will grow absent strong asset performance or additional pension reform and higher contributions beyond those already approved. However, the credit profile is supported by the city's substantial financial resources to afford increasing pension costs due to strong economic growth, as well as the legal ability to reform benefits further, and the demonstrated political will to both exercise this legal right and to increase contributions. Further, the city's conservative budgeting and capital planning practices amid growth have led to increasing and consistently healthy operating reserves, and a relatively manageable debt burden on par with peers.

We regard the coronavirus outbreak as a social risk under our environmental, social and governance framework, given the substantial implications for public health and safety and the economy. We do not see any material immediate credit risks for Fort Worth because the majority of the city's operating revenues are derived from property taxes, which tend to be more stable, and because the city is actively implementing expenditure cuts to make up the projected revenue shortfall in fiscal 2020. However, the situation surrounding coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis."

"The stable outlook reflects the city's strong fiscal management, ample budgetary flexibility and high nominal amount of governmental liquidity that will enable the city to weather the current economic downturn."

Factors that could lead to an upgrade:

- Considerable corporate investment and job creation with the city limits
- Material reduction to unfunded pension liabilities and more rapid amortization
- Moderation of fixed cost burden

Factors that could lead to a downgrade

- Further material increases in the pension burden
- Significant increase in debt profile
- Poor financial performance leading to a significant decline in reserves
- Trend of declining assessed values

<u>Water Rating</u> – Affirmed rating of Aa1 with a 'stable' outlook (no change)

"The city of Fort Worth Water and Sewer Enterprise, TX (Aa1 stable) is a regional treated water and wastewater service provider that benefits from its large and economically vibrant service area in the western Dallas-Fort Worth metroplex. The system exhibits strong management practices including multi-year capital planning and annual rate increases, healthy debt service coverage levels, and a low debt profile. The system's revenue bonds are in part constrained by relatively weak legal provisions and below-median though improved and adequate system liquidity. The system has a manageable level of exposure to the city's unfunded pension liability.

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. We do not see any material immediate credit risks for Fort Worth Water and Sewer Enterprise. Revenues are expected to decline due to a decrease in commercial account demand, though expenditures are also decreasing, leading to stable liquidity. However, the situation surrounding Coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis."

"The stable outlook reflects our expectation the system's strong fiscal management and proactive planning practices will continue in the near term, including implementation of timely rate adjustments to maintain

steady debt service coverage and healthy system liquidity amid increasing operating and maintenance expenditures, including rising pension costs allocated to the system."

Factors that could lead to an upgrade:

- Sustained trend of building and maintaining liquidity at high levels
- Improved legal provisions for the bonds
- Upgrade of the city's GO rating

Factors that could lead to a downgrade:

- A material decline or sustained weak liquidity
- Weak financial performance leading to a reduction in debt service coverage
- Significantly increased leverage
- Rating downgrade of the city's general obligation bonds

Kroll

GO Rating – Affirmed rating of AA+ with a 'positive' outlook (no change)

Kroll was added in 2018 to assist in telling the City's story in a more effective way. We were specifically interested in how they have historically framed local government pension discussions and how they could assist the City in this communication. Highlights from the Kroll report, which are representative of many of the other comments from the other firms, include the following:

"KBRA's rating action reflects the City's strong financial management policies and practices, strong management, and strong financial performance and liquidity. Economic growth is vibrant, fostering improvement in the resident wealth profile. Debt levels are moderate and amortization is very rapid. Fixed costs should remain manageable. The City estimates FY 2020 general fund revenues will be 5% under budget due to the economic impacts of the COVID-19 pandemic. Expenditure reductions are expected to cover the gap, with no use of fund balance. The City is conducting a prioritization of services for possible out year spending reductions should the pandemic be protracted."

Key Credit Strengths:

- Strong financial management policies and an experienced, effective management team.
- Robust economic growth is evidenced by a diverse, growing tax base, and low unemployment rates.
- Strong financial reserves and liquidity, and conservative budgeting practices.

Key Rating Concerns:

- Ability to absorb increasing pension contributions while maintaining financial strength.
- The reliance on sales tax for operations exposes the revenue base to economic fluctuations; deviation from the City's practice of conservative budgeting would increase credit risk.

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Drivers for Rating Change:
- Sustained financial performance despite any economic downturns (+)
- Successful transition to new pension contributions without impact to the City's strong financial position (+)
- City management's ability to adapt to the new property tax levy limitation without significant impact to operations (+)
- Economic decline which causes a significant reduction in tax revenues (-)

"The Positive Outlook is maintained and reflects KBRA's recognition of the City's robust and growing resource base, continued strong financial profile and implementation of pension reforms. KBRA expects the City will manage the increased pension contributions and maintain its strong financial position. KBRA will monitor the impacts of the COVID-19 pandemic and the resilience of the city's strong economic and financial position."

S&P

GO Rating – Affirmed rating of AA with a 'stable' outlook (no change)

The rating reflects our assessment of Fort Worth's:
- Strong economy, with access to a broad and diverse metropolitan statistical area (MSA);
- Very strong management, with strong financial policies and practices under our Financial Management Assessment (FMA) methodology;
- Weak budgetary performance, with balanced operating results in the general fund and an operating surplus at the total governmental fund level in fiscal 2019, yet with anticipated challenges in fiscal 2020 as revenues are negatively affected by economic disruptions associated with the spread of COVID-19;
- Very strong budgetary flexibility, with an available fund balance in fiscal 2019 of 19% of operating expenditures;
- Very strong liquidity, with total government available cash at 98.0% of total governmental fund expenditures and 12.1x governmental debt service, and access to external liquidity that we consider exceptional;
- Very weak debt and contingent liability profile, with debt service carrying charges at 8.1% of expenditures and net direct debt that is 109.3% of total governmental fund revenue, as well as a large pension and other postemployment benefits (OPEB) obligation and the lack of a plan to sufficiently address the obligation; and
- Strong institutional framework score.

"The growth and strengthening of Fort Worth's economy in recent years, and subsequent increase in revenues has allowed the city to reduce its overall tax rate, build its reserves position, and allocate more funding to fixed costs, in particular for pensions. Stable fiscal metrics are supported by very strong management practices. Yet social distancing, restrictions on movement, and businesses stopping or modifying operations as a result of the COVID-19 pandemic will negatively affect the local economy and the city's revenues, in particular sales tax and hospitality tax revenues, on which the city relies. S&P

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Global Economics recognizes consumer spending and business investment in the U.S. have been particularly affected by restrictions on movement and stay-at-home orders (see "An Already Historic U.S. Downturn Now Looks Even Worse," published April 16, 2020, on Ratings Direct). While we anticipate the city's key credit metrics will remain stable in the near term, a prolonged environment that is heavily influenced by the current global pandemic could have significant negative impact on the city, its local economy, and finances. Future credit reviews will focus on the city's ability to respond in a timely and appropriate fashion to ensure maintenance of stable key credit metrics.

Downside scenario
If the city is unable to make prudent and timely adjustments to its budget, and subsequent deterioration to budgetary performance, available reserves or cash are realized, we could lower the rating. If the city's recent pension modifications do not show progress towards making the actuarially required contribution (ARC), or if the net pension liability continues to grow, we could lower the rating. We could also lower the rating if the current environment, as a result of the pandemic, is prolonged and negatively affects key economic metrics including unemployment or market value.

Upside scenario
We could raise the rating if the city's pension funded status improves significantly and it begins making its ARC, without reserve levels deteriorating, and the city experiences continued economic improvement that results in economic metrics that are comparable with those of higher-rated peers, assuming all other rating factors improve or remain stable.

<u>Water Rating</u> – Affirmed rating of AA+ with a 'stable' outlook (no change)

"The stable outlook reflects our expectation that Fort Worth's willingness to adjust rates, including passing through wholesale cost pressures, will be key to rating stability. The city's continued economic growth and diversity, limiting cyclicality from sectors such as energy and commodities despite some expected slowdowns as a result of anticipated economic contraction enhance rating stability. We consider bond provisions credit neutral. In our opinion, the rating reflects a very strong enterprise risk profile and an extremely strong financial risk profile.

Upside scenario
A higher rating would be predicated in large part on sustained improvement in addressing the pension liability while still maintaining strong operations and an extremely strong all-in coverage and liquidity metrics.

Downside scenario
The rating could come under pressure should there be a drop in the system's all-in coverage metrics below 1.5x or liquidity below levels which we would consider extremely strong. There could also be pressure on the rating if there is an increased reliance on the utility's surplus net revenues by the general government, either for either subsidizing general fund operations or to shore up fiduciary funds beyond even that for which the system is responsible."

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Fitch

GO Rating – Rating downgraded to AA, with a ‘stable outlook

In 2018, Fitch placed the City’s GO rating on negative outlook pending further rating action.

“The downgrade of Fort Worth’s Issuer Default Rating (IDR) and limited-tax bond rating to ‘AA’ from ‘AA+’ is due to the weakening of both the city’s expenditure flexibility and long-term liability assessments. Increasing pension contributions are driving carrying costs higher, and the combination of more direct and overlapping debt and an increasing net pension liability (NPL) will maintain upward pressure on the long-term liability total. The rating also reflects Fitch Ratings’ expectation of budgetary adjustments in the currently stressed economic environment to maintain a strong operating profile, as well as solid economic and revenue prospects once normal business conditions resume.”

Factors that could, individually or collectively, lead to positive rating action/upgrade:
- A closing of the current gap between actual and actuarially determined pension contributions (ADCs) and a reduction in the currently projected 43-year amortization period to one closer to the 30-year industry standard.
- A reversal of the recent upward trend in the city’s long-term liability burden, which is currently approaching the ‘a’ assessment range.

Factors that could, individually or collectively, lead to negative rating action/downgrade:
- While not expected, an erosion of post-pandemic economic prospects that weakens the recently strong revenue growth trend.
- A reversal of recent positive operating performance coupled with a resulting decline in the city’s resilience cushion to below the level consistent with an ‘AA’ rating.

Water Rating – Assigned and affirmed Water’s rating of AA with a ‘stable’ outlook (no change)

“The ‘AA’ stand-alone credit profile (SCP) assessment reflects a strong leverage profile within the business framework of strong revenue defensibility and low operating risks. The system has a high degree of rate affordability, and the city retains legal autonomy to raise rates. The operating cost burden is very low but influenced by its dependence on wholesale service providers. Net leverage, defined as net-adjusted debt-to-adjusted funds available for debt service, has declined over the last two fiscal years due to continued increases in reserves and improvement in cash balances. The city adopted a minimum cash balance policy in fiscal 2015 and has seen continuous improvement since then. Fitch Ratings expects net leverage to remain relatively favorable, at around 5.0x-6.0x, as the system continues to implement manageable rate hikes to support capital improvement plans (CIP) and related debt issuances.

Factors that could, individually or collectively, lead to positive rating action/upgrade:
- Sustained net debt/funds available for debt service (FADS) that remains near 5.0x-6.0x while still sufficiently investing in system maintenance would likely lead to positive rating action within the next one to two years.

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Factors that could, individually or collectively, lead to negative rating action/downgrade:

- Increases in net leverage to a sustained level above 9.0x.
- Rate adjustments that result in utility charges being unaffordable for a larger portion of the population (well over 20%).
- A liquidity cushion that falls below 90 days leading to an asymmetric risk, in turn producing rating pressure.

Special Tax Rating – Rating downgraded to AA from AA+, outlook revised to 'negative' from 'stable'

In response to the rapidly deteriorating economic and operational environment linked to the effects of the coronavirus pandemic, Fitch Ratings performed a surveillance review of the City's special tax obligations: Series 2017A and Series 2017B special tax revenue bonds. The bonds' pledged revenues consist of the City's combined 9% hotel occupancy, PFZ revenues, airport shared revenues, and venue-generated tax revenues.

"The downgrade to 'AA' from 'AA+' and the Negative Outlook are due to the anticipated sharp decline in pledged HOT revenues for the latter part of fiscal 2020 and fiscal 2021 as a result of the pandemic-induced economic contraction. While the city reports sufficient available reserves to make debt service payments on the series 2017A and series 2017B bonds for at least the next two years, a slower than expected economic recovery will require application of these monies for debt service and will limit options for future payments if hotel occupancy and venue operations are slow to rebound."

Factors that could, individually or collectively, lead to positive rating action/upgrade:

- A resumption of economic activity and resulting increase in annual pledged HOT revenues to a level consistent with pre-pandemic totals.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

- A slow pace of economic recovery from the current crisis that requires use of current reserves to fill pledged revenue gaps for timely and in-full debt service payments.

Next Steps

We are pleased to share excellent bond pricing results despite the uncertain economic climate. Special thanks to city staff, the City's financial advisors, and outside counsel for their hard work and dedication to these successful debt transactions The city will continue the 2020 debt plan and related bond sales with final closing and delivery of funds scheduled to occur on July 14th (GO) and July 15th (Water).

If you have any questions, please contact Reginald Zeno, Chief Financial Officer, at 817-392-8500.

David Cooke
City Manager

MOODY'S
INVESTORS SERVICE

CREDIT OPINION
1 June 2020

New Issue

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Contacts

Denise Rappmund +1.214.979.6865
VP-Senior Analyst
denise.rappmund@moodys.com

Roy Ousley +1.214.979.6864
Analyst
roy.ousley@moodys.com

Gera M. McGuire +1.214.979.6850
Senior Vice President/Manager
gera.mcguire@moodys.com

Fort Worth (City of) TX

Update to credit analysis

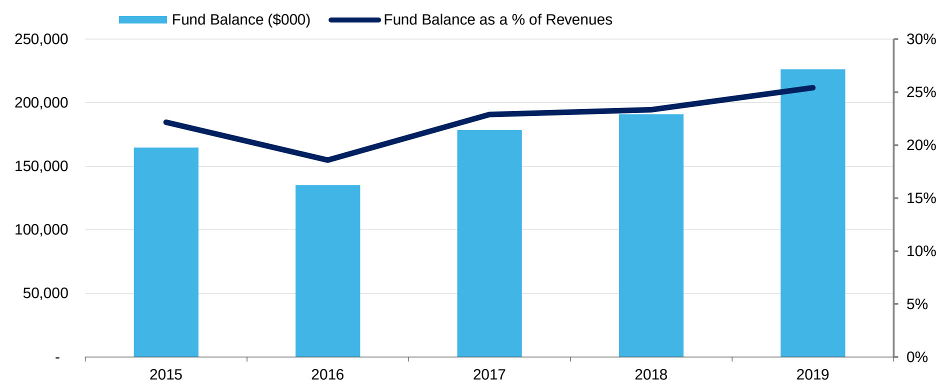
Summary

The city of Fort Worth, TX's (Aa3 stable) credit profile continues to be constrained by a high unfunded pension liability and weak annual pension contributions, despite reform. Given contributions that are insufficient to amortize the slightly reduced unfunded pension liability, the liability will grow absent strong asset performance or additional pension reform and higher contributions beyond those already approved. However, the credit profile is supported by the city's ample financial flexibility to afford increasing pension costs due to strong economic growth, as well as the legal ability to reform benefits further, and the demonstrated political will to both exercise this legal right and to increase contributions. Further, the city's conservative budgeting and capital planning practices amid growth have lead to increasing and consistently healthy operating reserves, and a relatively manageable debt burden on par with peers.

We regard the coronavirus outbreak as a social risk under our environmental, social and governance framework, given the substantial implications for public health and safety and the economy. We do not see any material immediate credit risks for Fort Worth because the majority of the city's operating revenues are derived from property taxes, which tend to be more stable, and because the city is actively implementing expenditure cuts to make up the projected revenue shortfall in fiscal 2020. However, the situation surrounding coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis. If our view of the credit quality of Fort Worth changes, we will update our opinion at that time.

Exhibit 1

Increased available operating fund reserves leading up to economic downturn



Source: Moody's Investors Service, city audited financial reports

Credit strengths

- Large and growing tax base
- Regionally significant economy
- Trend of operating revenue growth through February 2020; healthy operating reserves
- Legal flexibility to reform pension benefits prospectively

Credit challenges

- Large unfunded pension liability
- High fixed costs

Rating outlook

The stable outlook reflects the city's strong fiscal management, ample budgetary flexibility and high nominal amount of governmental liquidity that will enable the city to weather the current economic downturn.

Factors that could lead to an upgrade

- Considerable corporate investment and job creation within the city limits
- Material reduction to unfunded pension liabilities and more rapid amortization
- Moderation of fixed cost burden

Factors that could lead to a downgrade

- Further material increases in the pension burden
- Significant increase in debt profile
- Poor financial performance leading to a significant decline in reserves
- Trend of declining assessed values

Key indicators

Exhibit 2

Fort Worth (City of) TX	2015	2016	2017	2018	2019
Economy/Tax Base					
Total Full Value ($000)	$47,075,950	$49,667,068	$54,517,129	$61,244,653	$67,762,925
Population	796,614	806,380	815,430	829,560	848,860
Full Value Per Capita	$59,095	$61,593	$66,857	$73,828	$79,828
Median Family Income (% of US Median)	94.4%	94.9%	94.3%	92.6%	92.6%
Finances					
Operating Revenue ($000)	$743,301	$727,094	$780,172	$817,711	$890,586
Fund Balance ($000)	$164,767	$135,100	$178,465	$190,871	$226,332
Cash Balance ($000)	$130,023	$122,175	$172,276	$188,303	$231,371
Fund Balance as a % of Revenues	22.2%	18.6%	22.9%	23.3%	25.4%
Cash Balance as a % of Revenues	17.5%	16.8%	22.1%	23.0%	26.0%
Debt/Pensions					
Net Direct Debt ($000)	$812,433	$834,796	$794,634	$769,819	$883,919
3-Year Average of Moody's ANPL ($000)	$2,389,366	$2,652,562	$3,160,829	$3,506,795	$3,627,956
Net Direct Debt / Full Value (%)	1.7%	1.7%	1.5%	1.3%	1.3%
Net Direct Debt / Operating Revenues (x)	1.1x	1.1x	1.0x	0.9x	1.0x
Moody's - adjusted Net Pension Liability (3-yr average) to Full Value (%)	5.1%	5.3%	5.8%	5.7%	5.4%
Moody's - adjusted Net Pension Liability (3-yr average) to Revenues (x)	3.2x	3.6x	4.1x	4.3x	4.1x

Cash and fund balance includes the general fund, crime control and prevention district and debt service fund
Source: Moody's Investors Service, city audited financial reports

Profile

The city of Fort Worth is located in Tarrant (Aaa stable), Denton (Aaa stable), Parker, Johnson and Wise counties covering 345 square miles in the western portion of the expansion Dallas-Fort Worth metroplex. The city's estimated population as of 2019 was 848,860, and is the 13th largest city in the US.

Detailed credit considerations

Economy and tax base: large metropolitan tax base in north Texas to see growth in fiscal 2021

The coronavirus is driving an unprecedented economic slowdown which is impacting the city of Fort Worth. We currently forecast US GDP to decline significantly during 2020 with a gradual recovery commencing toward the end of the year. Local governments with the highest exposure to tourism, hospitality, health care, retail and oil and gas could suffer particularly severe impacts. Given that Fort Worth is a large and diverse economy, these are industries that operate within the city, among many and are being negatively impacted.

Nonetheless, the city continues to be a regionally significant economic center, serving as the western anchor point to the larger Dallas-Fort Worth metroplex. Residents and commuters have an array of employment options in the city, including military, government, health care and education, manufacturing, transportation and warehousing and energy. Major employers include American Airlines Inc. (Ba1 RUR down), which is being negatively impacted by the significant drop in air travel, and Lockheed Martin Corporation (A3 stable). City officials continue to target corporate economic development to generate high paying jobs within the city. Before the coronavirus pandemic, the city's unemployment rate had consistently hovered around 3.4-3.6% over the past several years, though similar to the rest of the nation, though increased to 4.7% as of March 2020 and is likely to increase as April and May data is released.

The city of Fort Worth will continue to see assessed value (AV) growth through fiscal 2021, though AV may decline in fiscal 2022. The fiscal 2021 value will be based on property appraisal as of January 2020, before the coronavirus pandemic. Strong population growth driving demand, and ongoing residential and commercial development will be reflected on the tax roll for the coming fiscal year. However, fiscal 2022 values will be reflective of economic slowing through the current calendar year. The city's tax base is large at $77.1 billion as of fiscal 2020, and has exhibited strong average annual growth of 10.4% over the past five years. Despite a robust employment base, residential assessed value (AV) has been expanding at a faster pace than commercial development, contributing to a very diverse tax base. The Top 10 taxpayers accounted for a low 6.2% of the fiscal 2020 AV.

Finances and liquidity: expected stable operating reserves through economic downturn

Despite increasing pension costs, the city's financial profile will remain stable through fiscal 2021 because of sophisticated management that has been able to quickly react to a severe economic downturn, ample expenditure flexibility and expected strong AV growth in 2021 that can help to offset weak sales taxes. Longer term, the city's revenue-raising flexibility is reduced starting in fiscal 2021 under legislation passed in 2019 and it will be challenged to maintain structural balance. However management has been quick to focus on budgetary adjustments that will need to be made beyond the current fiscal year given longer term revenue losses and a slow recovery coming out the pandemic. The city has been building reserves over the past several years amid strong revenue growth, which provides an additional financial buffer.

Moody's considers the city's operating funds to include the general fund and debt service fund, as well as the crime control and prevention district (CCPD), which supports a material amount of annual public safety expenditures and is funded by a 0.5% citywide sales tax. As of fiscal 2019 (ending September 30), the combined operating funds reported an available fund balance of $226.3 million, a healthy 25.4% of operating revenues. The available operating funds balance has increased over the past five years, up from 18.5% of revenues in fiscal 2015.

Operating revenues in fiscal 2020 are expected to decline significantly, and the city is expecting a drop of $53 million relative to the general fund and crime control and prevention district budgets combined or about 6.4% of budgeted revenues. The revenue decline projection is largely driven by expected sales tax losses. The city has sourced and is making expenditure cuts to full make up this loss through hiring freezes, deferment of pay-go capital, discretionary spending savings and other areas. Looking ahead, the city is in the process of updating long range financial planning models to incorporate a more prolonged economic decline and recovery. Critical to this planning is the renewal of the 0.5% sales tax that supports the CCPD, which sunsets this year. The city plans to seek voter approval in July to renew the tax for another 10 years. Revenues from this sales tax support over 10% of public safety expenditures.

Property taxes are favorably the city's largest source of operating revenues, and tend to be less susceptible to economic cycles, though a modest decline in AV is possible for fiscal 2022. As of fiscal 2019, property taxes accounted for 55.7% of combined operating revenues, followed by sales tax at 27.3%. Starting in fiscal 2021, the city will be capped at increasing property tax revenues on existing property to 3.5%, down from 8%, absent voter approval and this is incorporated into their forward projections. Per the legislation, the city may increase revenues by 8% under a disaster declaration, which is in place now, but management does not have an intention to exercise this right. With strong growth expected for fiscal 2021, including new construction value, this reduced revenue raising flexibility will become more constraining in fiscal 2022.

LIQUIDITY

The city's liquidity position is likely to remain stable over the near term. Liquidity in the combined operating funds as of fiscal 2019 was $231.4 million, or 26% of operating revenues.

Debt and pensions: high balance sheet leverage driven by pension burden

The city's direct debt burden is likely to remain relatively low and manageable in the near term despite additional debt planned to support capital investment throughout the city. As of the most recent bond sale, the city had $919.3 million of net direct debt outstanding, including $868.1 million of GOLT debt. The city's net direct debt burden represents a moderately-low and manageable 1.2% of the 2020 full value and includes GOLT debt, capital leases and other guaranteed obligations. The net direct GOLT debt included in the debt burden calculation is net of $3 million backed by the solid waste system. The city plans to issue its remaining $249.5 million of authorized but unissued GOLT debt over the next several years. With tax base growth to continue over the near term, the net direct debt burden is likely to remain in line with historic levels.

The city's fixed costs, which include debt service, pension contributions and OPEB, are high at 27.9%. While the city is exercising its ample legal flexibility to adjust the budget during the coronavirus pandemic, high fixed costs are a constraining factor to flexibility. If the city were to increase its pension contributions to prevent the unfunded liability from growing, fixed costs would increase to about 35% operating revenues, once reporting has fully caught up to reforms put in place in 2019.

DEBT STRUCTURE

Given the city's practice to issue new debt with a twenty year amortization and level annual principal, the overall debt profile pays off quickly with 75.8% retired within 10 years.

DEBT-RELATED DERIVATIVES

The city is not a party to any derivative agreements.

PENSIONS AND OPEB

The city's pension burden continues to the be primary weakness of the credit profile. The enacted pension reform, which was adopted in March 2019, reduced the unfunded pension liability slightly, reduced the amortization period and improved annual funding of the plan, though the liability remains high and negative cash flow persists. Absent additional benefit reductions, or investment returns that exceed assumptions, the city and membership will need to increase contributions further to amortize the unfunded liability.

Unique relative to many other large city peers in the state, the city maintains local control to adjust pension benefits and increase employers contributions and therefore can remain nimble going forward if further reforms are required to maintain solvency of the pension fund. The city exercised this authority several times in recent history, having reduced benefits to employees on a prospective basis in 2011 and 2014 and finally in 2019.

As shown in the exhibit below, the city's Moody's adjusted net pension liability, net of enterprise support, is still high at $3.6 billion, nearly 4 times operating revenues. The ANPL will reduce again slightly as reforms implemented catch up with audited reporting, though we still expect that the ANPL would represent at least 3.5 times operating revenues in fiscal 2020. Moody's calculated the ANPL based on a discount rate of 4.17% in 2019, compared to a reported single equivalent GASB rate of 5.35% in the city's 2019 audit. The plan has favorably reduced its assumed rate of return to 7%, from 7.75%, though was still projecting depletion as of the 2019 audit and was required to assume a single rate pursuant to GASB 68 accounting rules. Based on the 2019 actuarial report, implemented reforms remove the depletion projection and the reported liability will assume 7% in the city's 2020 audit.

Exhibit 3

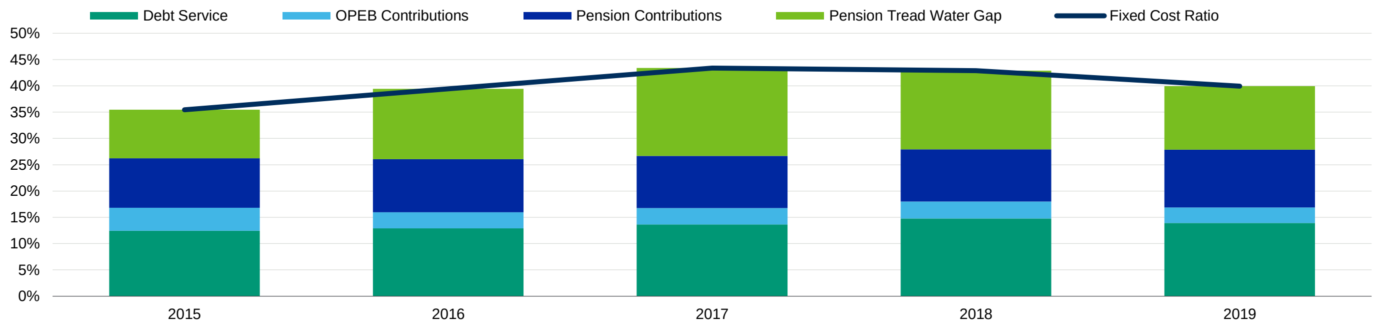
Snapshot of Fort Worth's balance sheet leverage and fixed costs

2019	(000)	% of Operating Revenues	Discount Rate
Operating Revenue	891,415	n/a	n/a
Reported Unfunded Pension Liability	2,685,556	301%	5.35%
Moody's Adjusted Net Pension Liability	3,555,617	399%	4.17%
Reported Net OPEB Liability	791,255	89%	3.86%
Moody's Adjusted Net OPEB Liability	748,306	84%	4.17%
Net Direct Debt	796,830	89%	n/a
Debt & unfunded retirement benefits (Moody's adjusted)	5,100,752	572.21%	
Pension Contribution	98,051	11.00%	n/a
OPEB Contribution	26,520	2.98%	n/a
Debt Service	124,041	13.92%	n/a
Total Fixed Costs	248,612	27.89%	n/a
Tread Water Gap	107,442	12.05%	n/a
Moody's Adjusted Fixed Costs	356,054	39.94%	n/a

The tread water gap is calculating based on reported assumptions, which includes the GASB single-discount rate of 5.35%, compared to the plan's assumed rate of return of 7.75% as of the 2018 actuarial report, because the plan amortization trajectory failed the GASB depletion test.
Source: Moody's Investors Service, city audited financial reports

The ANPL is likely to increase again because contributions to the plan are not sufficient to prevent the unfunded liability from growing, based on reported assumptions. As shown in the exhibit below, annual contributions relative to the unfunded liability have slightly improved and will improve more in the coming years under the risk sharing provisions of the reform plan, which require automatic increases to contributions if the ADEC is not met. However, even with the automatic contribution increases, the projected annual underfunding will still be a substantial, estimated at over $60 million or about 6-7% of operating revenues.

Exhibit 4



The tread water gap is calculating based on reported assumptions, which includes the GASB single-discount rate, compared to the plan's assumed rate of return of 7.75% (through the 2018 actuarial report), because the plan amortization trajectory failed the GASB depletion test from 2014-2018 (reflected in 2015-2019 audits).
Source: Moody's Investors Service, city audited financial reports

Environmental, social and governance considerations

ENVIRONMENTAL

The city is within the Great Plains region, which is forecast to be most affected by rising temperatures that put increasing strain on water supplies and energy. The region is also expected to see periods of extreme rainfall that can cause flooding. The city maintains a robust water, wastewater and stormwater capital improvement and conservation plans to manage these risks, which are expected to materialize over the long term. The city purchases raw water from the Tarrant Regional Water District, which continually invests in sourcing new water supply to manage regional growth and water demand.

SOCIAL

Demographic and socioeconomic trends in the city are favorable. Since 2016, the city's population has increased 5.2% as strong job growth through February 2020 was fueling in-migration. The median family income in the city as of 2018 was slightly below average, but favorable for a large urban center at 92.6% of the national median. Median age is the city is also relatively young, at 32.5 years, compared to a national median of 37.9 as of 2018.

GOVERNANCE

The city operates under a council/manager form of government where the mayor and eight council members are elected to two year terms. The city's management practices include formal financial policies and comprehensive budgeting and forecasting.

Texas Cities have an institutional framework score of "Aa," which is strong. The sector's major revenue sources (property taxes and sales taxes) account for about a third of revenues each and are subject to a cap; the remaining third is derived from other fees and is not subject to a cap. Property taxes, are subject to a statutory cap of $25 per $1,000 of assessed values, with no more than $15 allocated for debt. Most cities are well under the cap, and on an annual basis can increase their property tax revenues by 8% on existing property without voter approval. Most cities are at the sales tax cap for operating purposes. Unpredictable revenue fluctuations tend to be minor, or under 5% annually. Across the sector, fixed and mandated costs are generally less than 25% of expenditures and are primarily debt service expenditures. Unpredictable expenditure fluctuations tend to be minor, under 5% annually.

Rating methodology and scorecard factors

The US Local Government General Obligation Debt methodology includes a scorecard, a tool providing a composite score of a local government's credit profile based on the weighted factors we consider most important, universal and measurable, as well as possible notching factors dependent on individual credit strengths and weaknesses. Its purpose is not to determine the final rating, but rather to provide a standard platform from which to analyze and compare local government credits.

Exhibit 5

Fort Worth (City of) TX

Scorecard Factors	Measure	Score
Economy/Tax Base (30%) [1]		
Tax Base Size: Full Value (in 000s)	$77,063,764	Aaa
Full Value Per Capita	$90,785	Aa
Median Family Income (% of US Median)	92.6%	Aa
Notching Factors:[2]		
Regional Economic Center		Up
Finances (30%)		
Fund Balance as a % of Revenues	25.4%	Aa
5-Year Dollar Change in Fund Balance as % of Revenues	11.2%	Aa
Cash Balance as a % of Revenues	26.0%	Aaa
5-Year Dollar Change in Cash Balance as % of Revenues	13.4%	Aa
Management (20%)		
Institutional Framework	Aa	Aa
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures (x)	1.0x	Aa
Debt and Pensions (20%)		
Net Direct Debt / Full Value (%)	1.2%	Aa
Net Direct Debt / Operating Revenues (x)	1.0x	A
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value (%)	4.7%	A
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues (x)	4.1x	Baa
Notching Factors:[2]		
Unusually Strong or Weak Security Features: GO secured by statute		Up
Other Analyst Adjustment to Debt and Pensions Factor (specify): Persistent and large tread water gap		Down
	Scorecard-Indicated Outcome	Aa2
	Assigned Rating	Aa3

[1] Economy measures are based on data from the most recent year available.
[2] Notching Factors are specifically defined in the US Local Government General Obligation Debt methodology dated December 16, 2016.
[3] Standardized adjustments are outlined in the latest GO Methodology Scorecard Inputs publication.
Source: Issuer's audited financial statements; US Census Bureau

REPORT NUMBER 1231198

Contacts

Denise Rappmund +1.214.979.6865
VP-Senior Analyst
denise.rappmund@moodys.com

Gera M. McGuire +1.214.979.6850
Senior Vice President/ Manager
gera.mcguire@moodys.com

Roy Ousley +1.214.979.6864
Analyst
roy.ousley@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

MOODY'S INVESTORS SERVICE

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CREDIT OPINION
1 June 2020

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Contacts

Denise Rappmund +1.214.979.6865
VP-Senior Analyst
denise.rappmund@moodys.com

Roy Ousley +1.214.979.6864
Analyst
roy.ousley@moodys.com

Gera M. McGuire +1.214.979.6850
Senior Vice President/Manager
gera.mcguire@moodys.com

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Fort Worth (City of) TX Water & Sew. Ent.

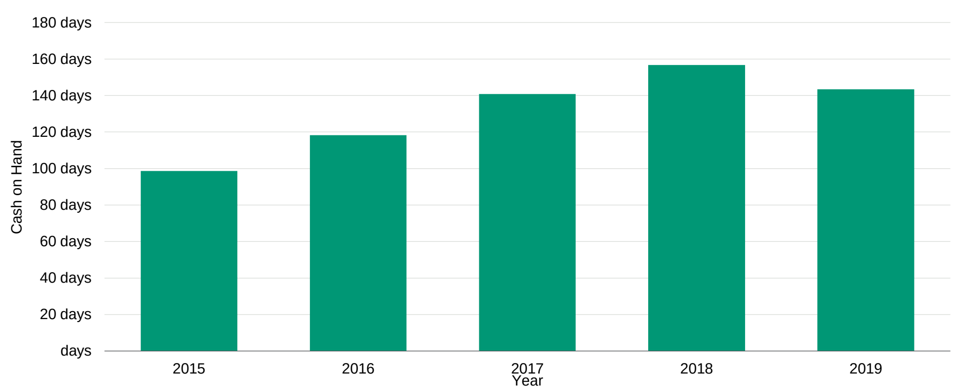
Update to credit analysis

Summary

The city of Fort Worth Water and Sewer Enterprise, TX (Aa1 stable) is a regional treated water and wastewater service provider that benefits from its large and economically vibrant service area in the western Dallas-Fort Worth metroplex. The system exhibits strong management practices including multi-year capital planning and annual rate increases, healthy debt service coverage levels, and a low debt profile. The system's revenue bonds are in part constrained by relatively weak legal provisions and below-median though improved and adequate system liquidity. The system has a manageable level of exposure to the city's unfunded pension liability.

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. We do not see any material immediate credit risks for Fort Worth Water and Sewer Enterprise. Revenues are expected to decline due to a decrease in commercial account demand, though expenditures are also decreasing, leading to stable liquidity. However, the situation surrounding Coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis. If our view of the credit quality of Fort Worth Water and Sewer Enterprise changes, we will update our opinion at that time.

Exhibit 1
Despite decline in FY 2019, liquidity expected to remain stable



Source: Moody's Investors Service, city audited financial reports

Credit strengths

» Large service area that extends well beyond city limits; growing customer base

» Strong fiscal management and capital planning

» Healthy debt service coverage and low direct debt profile

Credit challenges

» Below median liquidity for the rating category

» Weak legal provisions

Rating outlook

The stable outlook reflects our expectation the system's strong fiscal management and proactive planning practices will continue in the near term, including implementation of timely rate adjustments to maintain steady debt service coverage and healthy system liquidity amid increasing operating and maintenance expenditures, including rising pension costs allocated to the system.

Factors that could lead to an upgrade

» Sustained trend of building and maintaining liquidity at high levels

» Improved legal provisions for the bonds

» Upgrade of the city's GOLT rating

Factors that could lead to a downgrade

» A material decline or sustained weak liquidity

» Weak financial performance leading to a reduction in debt service coverage

» Significantly increased leverage

» Rating downgrade of the city's general obligation bonds

Key indicators

Exhibit 2

Fort Worth (City of) Water & Sewer Enterprise, TX					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	36 years				
System Size - O&M ($000)	$248,956				
Service Area Wealth: MFI % of US median	92.60%				
Legal Provisions					
Rate Covenant (x)	1.00x				
Debt Service Reserve Requirement	No explicit DSRF; or funded with speculative grade surety (Baa and Below)				
Management					
Rate Management	Aa				
Regulatory Compliance and Capital Planning	Aa				
Financial Strength					
	2015	2016	2017	2018	2019
Operating Revenue ($000)	$389,205	$417,299	$425,615	$468,171	$453,437
System Size - O&M ($000)	$253,114	$252,486	$243,721	$256,898	$248,956
Net Revenues ($000)	$150,683	$177,651	$196,539	$234,675	$251,094
Net Funded Debt ($000)	$1,062,880	$753,098	$791,062	$804,144	$823,694
Annual Debt Service ($000)	$94,878	$90,488	$92,571	$96,230	$91,350
Annual Debt Service Coverage (x)	1.6x	2.0x	2.1x	2.4x	2.7x
Cash on Hand	99 days	118 days	141 days	157 days	143 days
Debt to Operating Revenues (x)	2.7x	1.8x	1.9x	1.7x	1.8x

Source: City of Fort Worth's Audited Financial Statements

Profile

Fort Worth is located in Tarrant (Aaa stable), Denton (Aaa Stable), Parker, Johnson and Wise counties. The city's water department provides water and wastewater services to residential, commercial, industrial and wholesale customers. The department serves a growing population of approximately 1.3 million people within the city of Fort Worth and 32 surrounding communities.

Detailed credit considerations

Service and system characteristics: regional water provider with growing customer base

The system's diverse and predominantly residential customer base will remain stable over the near term. The system provides water and wastewater services to residential, commercial and industrial customers within the city of Fort Worth (Aa3 stable), as well as surrounding areas within Tarrant County on a wholesale basis. The system currently has 32 wholesale contracts for water and 23 wholesale contracts for wastewater service. Raw water is obtained from the Tarrant Regional Water District ("TRWD"; Aa1 stable). The system operates five water treatment plants with a total capacity of 500 million gallons per day (MGD), compared to average daily usage of 119.6 MGD in fiscal 2019 and peak usage of 308.4 MGD. The city anticipates expansion of the system will be needed in 2028.

Wastewater from the city and 23 surrounding communities is conveyed and treated at the system's Village Creek Water Reclamation Facility or two wastewater treatment plants operated by the Trinity River Authority. The Village Creek Plant has a permitted treatment capacity of 166 MGD and treated an average flow of 117 MGD in 2019. The city has built into the five year capital improvement plan funding allocation for a new wastewater treatment plant to accommodate growth on the west side of town. This project is anticipated to commence in 2023.

The system's customer base is diverse. The 10 largest water customers accounted for $9.6 million in annual revenue and 4.3% of total water usage in 2019. The 10 largest wastewater customers accounted for $7.4 million in revenues and 4.4% of total wastewater usage in 2019. Residential customers accounted for 30.7% of total water sales and 44.2% of wastewater sales in 2019. Wholesale water sold accounted for 38.3% of total water volume in 2019, and 19.7% of wastewater flows.

According to 2018 American Community Survey estimates, the city's wealth levels were near average with median family income equivalent to 92.6% of the US. However, the system's large service area, which extends beyond Fort Worth, is an important consideration and offsets the below average wealth. The enterprise has been continuing to further water conservation efforts while increasing rates to offset decreases in consumption and continue to meet operating and capital needs of the system. Favorably, rates charged by the system to retail customers is affordable relative to peers in the metro area, and the city is able to pass on higher O&M costs to wholesale customers in the broader service area.

Debt service coverage and liquidity: healthy debt service coverage and improved system liquidity

Although there is no rate increase planned for 2021, annual rate increases in the following years are expected to provide steady financial metrics including stable system liquidity. The system has a history of rate increases and a stable trend of increasing revenues to keep pace with growing expenditures. Fiscal 2019 revenues increased 12% from the prior year, which included 3.5% and 3% rate increases to water and sewer, respectively, bringing gross revenues to $500.1 million. After operating expenditures net of depreciation, net revenues of $251.1 million resulted in overall debt service coverage of a healthy 2.75 times.

The system utilizes long-term forecasting and revenue assumptions. Year-to-date performance in 2020 (through April) remains favorable relative to the budget – while revenues are projected to be down 3.7%, expenditures are projected to be down 3.8% below budget largely from a credit expected from TRWD. Additionally, the city has waived assessments of late payments from April 1 through June 30th due to the COVID - 19 pandemic. Delinquencies have increased only marginally to 9% up from a benchmark of 5-7%. Net revenues for debt service is projected to be slightly below 2019 results, though maintain healthy debt service coverage. While the city did not need to pass rate increases in 2019, management anticipates future annual rate increases in the near term to offset increasing operating costs and cash-funded capital, and to maintain cash reserves as part of the system's long-term financial plan.

LIQUIDITY

At fiscal year-end 2019, liquidity declined to 143 days of expenses. Per the fund's policy, the minimum reserve level is 62 days and though management expects to maintain unrestricted cash worth at least 150 days of expenses through 2024.

Debt and legal covenants: low debt profile and weak legal provisions

Following the 2020 bond sale, the system will have $998.8 in outstanding parity debt and an additional $5 million in outstanding subordinate lien bonds. Payout is average with 55.5% of principal retired over the next 10 years. The system's debt to revenues ratio at 1.8 times in fiscal 2019 is at the median for the rating category. The five year CIP plan calls for just under $800 million in investment into the system, approximately 63% of which is planned to be debt funded and the remaining 37% will be cash funded. Despite the plans for additional borrowing, we expect the system's debt profile relative to revenues will remain below 2 times given the relatively above average pace of principal retirement and ongoing rate increases expected.

LEGAL PROVISIONS

Legal provisions for the bonds are weaker than traditionally seen among utility revenue bonds, though adequate given the strong management of the system. The city has covenanted to fix, establish, maintain and collect such rates, charges and fees for the use and availability of the system at all times as are necessary to produce gross revenues and other pledged revenues sufficient (1) to pay all current operating expenses, (2) to produce net revenues for each fiscal year at least equal to the annual debt service requirements. The additional bonds test states that net revenues for the preceding fiscal year, or for twelve consecutive months out of the fifteen months immediately preceding, must be at least equal to 1.25 times average annual debt service and 1.1 times maximum annual debt service. There is not a debt service reserve established for the bonds, though improving system liquidity is considered healthy and adequate.

DEBT-RELATED DERIVATIVES

The system does not have any variable rate debt and is not a party to any interest rate swaps or other derivative agreements.

PENSIONS AND OPEB

The system contributes to a single-employer defined benefit pension plan (the “city plan”) administered by the Employees' Retirement Fund of the City of Fort Worth for employees of the system. In fiscal 2019, the system contributed $13.2 million to the City Plan, which accounts for 13.5% of the city's total contribution of $98.1 million to the plan and 2.6% of the system's 2019 operating revenues. The system's 13.5% share of the total adjusted net pension liability (ANPL) of the city plan equates to $480 million as of fiscal 2019, or 1 times revenues. In December 2018 the city council approved pension reform, which included benefit reductions and increases to city contributions; employees approved increases to their contributions in February 2019. Implementation of the reform occurred in July 2019. The city's contribution to the plan is projected to continue to fall below the actuarially defined contribution rate, as well as our calculated “tread water” level, which measures the annual government contribution required to prevent the reported net pension liability from growing under reported assumptions. The city has incorporated increases to pension contributions in the five year financial forecast for the utility system, and corresponding rate increases needed, which range from a manageable 2.9% to 5.5% annually from 2020 through 2024. There was no rate increase in fiscal 2019.

Environmental, social, and governance considerations

ENVIORNMENTAL

The city is within the Great Plains region, which is forecast to be most affected by rising temperatures that put increasing strain on water supplies and energy. The region is also expected to see periods of extreme rainfall that can cause flooding. The city maintains a robust water, wastewater and stormwater capital improvement and conservation plans to manage these risks, which are expected to materialize over the long term. The city purchases raw water from the Tarrant Regional Water District, which continually invests in sourcing new water supply to manage regional growth and water demand.

SOCIAL

Demographic and socioeconomic trends in the city are favorable. Since 2016, the city's population has increased 5.2% as strong job growth through February 2020 was fueling in-migration. The median family income in the city as of 2018 was slightly below average, but favorable for a large urban center at 92.6% of the national median. Median age is the city is also relatively young, at 32.5 years, compared to a national median of 37.9 as of 2018.

GOVERNANCE

The system exhibits strong fiscal management, demonstrated by appropriate and timely rate setting measures, prudent and conservative budgeting and forecasting of revenues, as well as maintenance of multiyear planning. In addition to the liquidity goal, the system has a goal to maintain a minimum level of working capital in the enterprise funds equal to three months of regular, on-going operating expenses (including transfers out). The system also has a goal of a minimum level of working capital in enterprise funds equal to three months of the amount being paid in debt service payments for the subsequent fiscal year. Rate adjustments must be approved by city council.

The system's water department consists of three separate functions: water, wastewater and reclaimed water, each of which have several divisions responsible for specific areas. The water department is responsible for providing safe, clean drinking water to city residents and customer cities. The wastewater department collects, monitors, treats and processes domestic and industrial waterborne waste from the city and other contracting communities. The reclaimed water department provides highly treated effluent from the city's water reclamation facility to wholesale and retail reclaimed water customers for nonpotable uses such as irrigation and industrial water cooling towers.

REPORT NUMBER 1230917

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

MOODY'S INVESTORS SERVICE

City of Fort Worth, TX

Issuer: City of Fort Worth, TX		
Assigned	**Rating(s)**	**Outlook**
General Purpose Refunding and Improvement Bonds, Series 2020	AA+	Positive
Tax Notes, Series 2020	AA+	Positive
Affirmed	**Rating(s)**	**Outlook**
General Purpose Bonds, Series 2019	AA+	Positive
Tax Notes, Series 2019	AA+	Positive
General Purpose Bonds, Series 2018	AA+	Positive
Tax Notes, Series 2018	AA+	Positive

Methodology:

U.S. Local Government GO Methodology

Analytical Contacts:

Patricia McGuigan, Senior Director
+1 (646) 731-3350
pmcguigan@kbra.com

Jack Morrison, Associate Director
+1 (646) 731-2410
jmorrison@kbra.com

William Cox, Senior Managing Director
+1 (646) 731-2472
wcox@kbra.com

Rating Summary: KBRA's rating action reflects the City's strong financial management policies and practices, strong management, and strong financial performance and liquidity. Economic growth is vibrant, fostering improvement in the resident wealth profile. Debt levels are moderate and amortization is very rapid. Fixed costs should remain manageable. The City estimates FY 2020 general fund revenues will be 5% underbudget due to the economic impacts of the COVID-19 pandemic. Expenditure reductions are expected to cover the gap, with no use of fund balance. The City is conducting a prioritization of services for possible outyear spending reductions should the pandemic be protracted.

Fort Worth is the 13th largest City in the nation by population and among the fastest growing of the nation's top cities. Employment gains have kept pace with the brisk population growth, and the notably low unemployment rate is lower than the state and nation. Per capita income modestly lags the state, but one focus of the City's strategic plan is attracting high wage job growth. The City's tax base is diverse with no dominant taxpayers. The 2020 full value (FV) per capita is approximately $96,000, which KBRA views as favorable. Approximately 60% of the tax base is residential, which is on the high side among the larger cities in the state. Several large development projects located across the City are fueling tax base growth, including the 26,000-acre mixed use Alliance Texas development and the Rock Creek Ranch mixed-use project with a new 80 acre campus for Tarleton State University. American Airlines' new 300-acre corporate headquarters and Facebook's large $1 billion data center both opened in 2019.

KBRA views the City's governance and management structure as strong based on its comprehensive financial management policy statements, formal budget process, multi-year financial forecasting and multi-year capital planning. The City's economic development strategic plan, aims to enhance the City's status, regionally, nationally and globally. Additionally, the City benefits from a tenured, experienced leadership team.

KBRA views the City's financial performance as strong reflecting a trend of healthy operating surpluses and strong General Fund reserves. The vibrant financial results reflect the City's adherence to formal fiscal policies, conservative budgeting and fiscal monitoring practices. The primary General Fund revenue sources are property taxes and sales taxes, accounting for 58% and 24% of FY 2019 revenues, respectively.

KBRA views Fort Worth's debt burden as moderate. Debt service accounts for 10.9% of FY 2019 general government expenditures which KBRA also views as moderate. Debt is very rapidly amortized, with 80% maturing in ten years and 100% by 2040. The City maintains a formal five-year capital improvement plan (CIP) which is updated annually. The FY 2020-2024 CIP totals $1.86 billion, with the largest component of the CIP for water improvements to address system growth, rehabilitation, and mandates. Water project funding is primarily generated through water enterprise revenue bonds and pay-go funding. In May 2018, a $399.5 million bond election was overwhelmingly approved by voters, providing the general purpose bond authority needed for the five years of the capital improvement program.

The City's pension plan ($2.3 billion net pension liability) has a low funding level due in part to a historically high investment rate of return assumption. A number of measures have been taken, including adding a second benefit tier, and more recently increasing required contributions by both the city and employees and a lowering of the discount rate assumption. Fixed costs are expected to increase but given the city's resource base, KBRA expects payments to be manageable. KBRA views the City's OPEB liability as moderate. Total fixed costs, including direct debt service, the actual pension contribution and pay-go OPEB cost was a manageable 23.1% of FY 2019 governmental expenditures.

The Positive Outlook is maintained and reflects KBRA's recognition of the City's robust and growing resource base, continued strong financial profile and implementation of pension reforms. KBRA expects the City will manage the increased pension contributions and maintain its strong financial position. KBRA will monitor the impacts of the COVID-19 pandemic and the resilience of the city's strong economic and financial position.

Key Credit Considerations

KBRA continues to monitor the direct and indirect impacts of the COVID-19 virus on the U.S. Local Government General Obligation sector. Please refer to KBRA's ongoing research on the topic **here** for more information.

The rating was assigned because of the following key credit considerations:

Credit Positives

- Strong financial management policies and an experienced, effective management team.
- Robust economic growth is evidenced by a diverse, growing tax base, and low unemployment rates.
- Strong financial reserves and liquidity, and conservative budgeting practices.

Credit Challenges

- Ability to absorb increasing pension contributions while maintaining financial strength.
- The reliance on sales tax for operations exposes the revenue base to economic fluctuations; deviation from the City's practice of conservative budgeting would increase credit risk.

Rating Sensitivities

• Sustained financial performance despite any economic downturns. • Successful transition to new pension contributions without impact to the City's strong financial position. • City management's ability to adapt to the new property tax levy limitation without significant impact to operations.	+
• Economic decline which causes a significant reduction in tax revenues.	-

ESG Considerations

KBRA's ratings incorporate all material credit factors including those that relate to Environmental, Social and Governance (ESG) factors. While ESG factors may influence ratings, it is important to underscore that KBRA's ratings do not incorporate value-based judgments. Throughout our analysis, KBRA captures the impact of ESG factors in the same manner as all other credit-relevant factors. More information on ESG Considerations can be found here.
Among the ESG factors that have impact on this rating analysis are:

- Discussions in RD 1 Management Structure and Policies reflect Governance Factors. KBRA has examined the statutory framework within which the city operates as well as its financial policies and procedures.
- Discussions in RD 3 Economic Base and Demographics reflect Social Factors. KBRA has examined the following areas for this credit: trends in population, education, income, poverty levels, employment, unemployment, and the potential impact of the COVID-19 crisis.

Key Ratios

Rating Highlights	
Population Growth, 2010-2018	
City	20.8%
State	13.6%
Top 10 Taxpayers as % Total AV	6.2%
Annual change in Market Value, 2010-2019	6.2%
Unassigned General Fund Balance as % Expenditures, FY 2019	19.6%
Overall Debt as % Full Market Value	4.1%
Debt Payout, Ten Years	80.3%
Fixed Costs as % Expenditures, FY 2019	23.1%

Rating Determinants (RD)	
1. Management Structure and Policies	AAA
2. Debt and Additional Continuing Obligations	AA
3. Financial Performance and Liquidity Position	AAA
4. Municipal Resource Base	AA+

RD 1: Management Structure and Policies

KBRA views the City's governance and management structure as very strong. The City's detailed Financial Policy Statements, which document a policy framework for fiscal decision making, is an important contributor to the strong governance profile. A comprehensive budget process, active financial monitoring, defined reserve policies for all City fund groups, long term financial planning and conservative constraints on use of excess reserves are some of the hallmarks of the City's strong management practices. Fort Worth released its first economic development strategic plan, aimed at enhancing the City's economic profile. The City's municipal services include public safety, highways and streets, solid waste, public health, public works, recreation, municipal airports, and water and wastewater systems.

City Organization

The City operates under a Council/Manager form of government. The City council is comprised of the mayor and nine council members, all elected for two-year terms. The mayor is elected at large, and the nine other council members are elected by district. The mayor and council appoint the City manager, as well as the City attorney, City secretary and City auditor and the municipal judges. A special election on May 7, 2016 amended the City charter. Proposition 2 increases the number of council members to 11 from nine, beginning with the first election following the 2020 census.

The City benefits from a highly experienced leadership team. The City manager, David Cooke, joined the City five years ago, having previously been the county manager of Wake County, NC, another region of the nation with strong growth and a tradition of strong public finance management. The City's Chief Financial officer, Reginald Zeno, was appointed in May 2019, and most recently had served as the finance director for the City of Cincinnati, and prior to that as finance director for the City of New Orleans.

State Statutory Framework

The state constitution limits the ad valorem tax rate to $2.50 per $100 of taxable assessed value; and the City's home rule charter limits the tax rate to $1.90. In addition, SB 2 establishes a revised levy cap, lowering the levy growth rate for existing properties to 3.5% from 8%. The revision was to take effect in FY 2021, but due to the COVID disaster declaration, the tax cap has been raised to 8% for the next 2 years. At budget preparation, the city calculates its highest allowed rate: the rate that will produce last year's maintenance and operation levy from this year's values (adjusted for additions) multiplied by 1.08 plus a rate to cover this year's debt service. A tax rate exceeding the highest allowed rate requires voter approval.

The current tax rate provides the City taxing capacity within the statutory and charter real property tax rate limit; giving the City financial flexibility should unanticipated needs occur. In addition, 8.7% of the City's FY 2020 operating millage is for pay go financing, providing additional operating millage capacity should the rollback millage become a constraint. The City has lowered the tax rate for the past four years, made possible by strong growth in the tax base.

Under state statutes, the local sales tax rate is limited to 2%. The City levies 1% for the general fund, 0.5% for a crime prevention and 0.5% is dedicated to the transit authority. The 0.5% for crime prevention was approved by voters for a five-year period ending September 30, 2020 and a renewal vote is scheduled for July 14. There are no state or local debt limit laws, except to the extent that the tax rate limitation poses a constraint.

Financial Management Policies and Procedures

KBRA believes the City has strong fiscal management and control practices, that are supported by formal financial policies. The City provides transparent disclosure of financial policies in the annual financial report and budget document, which highlight the City's prudent management of financial resources. Pursuant to the City's adopted financial management policy statements, the City will maintain a minimum unassigned general fund balance of 10% of regular ongoing operating expenditures, with a goal of two months (16.67%) of regular ongoing operating expenditures. Notably, the City maintains fund balance policies on all fund types, including a policy for each individual fund within the special revenue funds, enterprise funds and internal service funds.

When reserves exceed the requirement, allowable uses of any year end excess reserves are stipulated in the policy, and include: funding of liabilities with a priority given to items that reduce future financial pressure, for pay-go financing, one-time expenditures, or new programs, provided a multiyear financial projection is evaluated.

Budget Process

The annual budget process begins in the Spring of the preceding year, with the council subsequently establishing goals for the executive staff. In compliance with the City charter, the City manager must submit to the City council a recommended balanced budget that provides a complete financial plan for all City funds, on or before August 15th of each year. The City charter further requires the budget show comparative figures for actual and estimated income and expenditures of the current fiscal year and actual income and expenditures of the preceding fiscal year. The budget is required to be adopted by the City council at least ten days after the first publication of the appropriations ordinance. The City manager is responsible for maintaining a balanced budget at all times.

Strategic Planning

Among the fastest growing of the nation's 20 largest cities, Fort Worth embarked on its first economic development strategic plan, released in December 2017. The plan is aimed at enhancing the City's status, regionally, nationally and globally by focusing on emerging opportunities, better capitalizing on manufacturing and healthcare expertise, leveraging existing international assets and taking a more aggressive stance to capture a greater share of high profile corporate expansions within the region. The project consulting team includes TIP Strategies, Inc, and the plan outcomes focus on high-wage job growth, more commercial/industrial tax base growth, attention to high growth businesses, and a commitment to "quality of place". The plan process involved asking stakeholders "What does economic success look like in Fort Worth?"; and the plan outlines specific initiatives as well as performance metrics.

Labor Relations

The City reports having favorable relations with employees. Police civil service employees receive increases in accordance with the police meet and confer agreement, which has a term of June 1, 2017 through September 30, 2020, and a one-year evergreen period. Fire civil service employee salaries are in accordance with the fire collective bargaining contract, expiring September 30, 2022, with a one-year evergreen. Negotiations for a new fire agreement are actively underway, and ratification is anticipated prior to the evergreen. The City's salary schedules are detailed in an annual report; employees will receive adjustments to their pay based on their individual job performance using the City's pay for performance program.

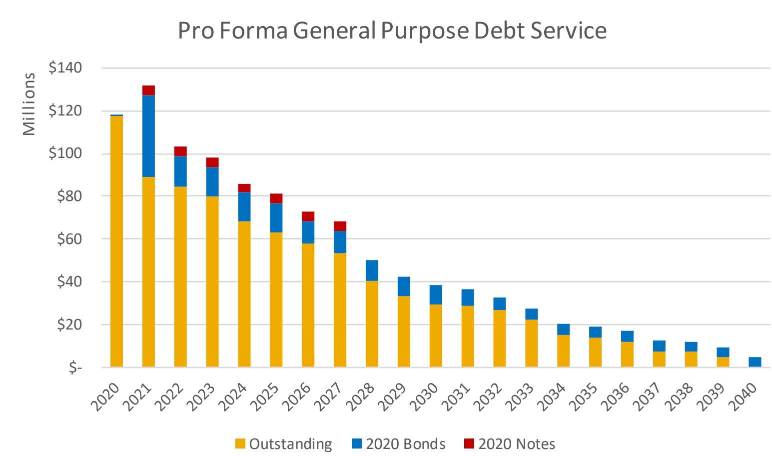
RD 2: Debt and Additional Continuing Obligations

KBRA views the City's debt and additional continuing obligations as moderate, which is notable given the City's exceptionally rapid population growth. The City's use of pay go financing, practice of rapid debt repayment and active management of other continuing obligations have all served to contain the long-term liability profile.

Overall Direct and Overlapping Debt

KBRA views Fort Worth's debt burden as moderate. The City has no variable rate debt and no exposure to derivative products such as swaps. KBRA views the City's debt amortization as very rapid with debt service quickly declining after MADS ($132.0 million) in FY 2021 (see Figure 1).

FIGURE 1



Source: City of Fort Worth, Texas Series 2020 Preliminary Official Statement

Inclusive of the current offering, the City will have approximately $694.2 million in direct debt outstanding. The City has approximately $76 million in self-supporting debt[1] not included in the direct debt calculation. This equates to manageable levels of overall debt per capita at $3,906, and overall debt as a percent of full market value at 4.1%. The City's FY 2019 direct debt service as a percentage of total governmental expenditures is moderate (See Figure 2). Fort Worth's direct debt includes general obligation bonds, tax notes, and certificates of obligation (the latter two debt categories are non-voted).

FIGURE 2

Debt Ratios
Fiscal Year 2019

KBRA Metric	Ratio
Overall direct and indirect debt per capita	$3,906
Overall debt as % of full market value of property	4.1%
Debt amortization within 10 years	80.3%
Debt amortization within 20 years	100.0%
Direct debt service as % of total governmental expenditures	10.9%
Fixed Costs	23.1%

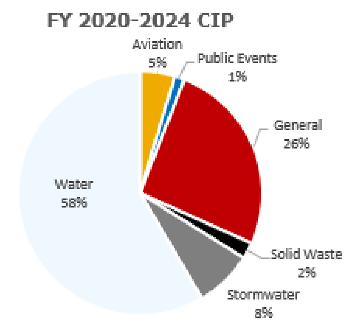
Note: metrics include Series 2020 issuance. With special assessment debt, special tax revenue debt, and Tarrant Regional Water District obligation included, debt per capita and debt per FMV ratios are $4,385 and 4.6%, respectively. Debt outstanding as of 4/1/2020.

Source: City of Fort Worth CAFR and Preliminary Official Statement

Capital Improvement Plan (FY 2020-2024)

The City of Fort Worth maintains a formal five-year capital improvement plan (CIP). The FY 2020-2024 CIP totals $1.86 billion, including $476 million budgeted for FY 2020. The largest component of the CIP is water improvements ($1.1 billion) to address system growth, rehabilitation, and mandates. Water project funding is primarily generated through revenue bonds and pay-go funding. On May 5, 2018 voters approved a general obligation bond referendum of $399.5 million by favorable margins.

FIGURE 3



Source: City of Fort Worth FY 2020-2024 CIP

Employee Retirement Fund

The City maintains the City of Fort Worth employees benefit plan (the City plan), a defined benefits plan. Assets of the City plan and the Retirement Fund employees plan (the staff plan, which is relatively small) are comingled for investment purposes, but the staff plan is otherwise wholly governed and maintained outside of the City. The City plan was established by City ordinance, both plans are governed by state statute and are administered by the thirteen-member retirement fund board of trustees (the board). Seven of the board members are elected by plan members. The mayor and City council appoint five City residents and also designate the City's CFO as board members. Adoption of benefit changes and setting of contribution rates are determined by the mayor and the City council.

The City's pension plans provide retirement, disability, and death benefits to all employees of the City, except elected officers and non-salaried appointed members of administrative boards and commissions, part-time, temporary and contract employees, and employees paid in part by another governmental agency. As of December 31, 2019, City plans membership totaled 12,555, with 53% of membership consisting of actives.

Pension Changes

The City's pension plans currently have a low funded ratio, largely due to a historical high assumption for the investment rate of return relative to actual investment performance. The assumed rate of return is set by the pension board. To address the underfunding, the investment assumption was lowered, and a second benefit tier created. These measures were insufficient, and in 2019 additional reforms were implemented. In brief, reforms include larger contributions, eliminating service credits for future accruals of sick leave and major medical leave and eliminating cost of living adjustments for service credits earned on or after July 20, 2019.

[1] Self-supporting debt includes Car Rental Tax Obligation, Parking Obligations, Culture and Tourism Obligations, Solid Waste Obligations, Crime Control and Prevention District Obligations

The City, and employees, contribute a fixed percentage of payroll. With pension reform the city's contribution rate increased 4.5% effective July 2019, although remains below the actuarially determined contribution (ADC). In FY 2019, the City's actual pension contribution was $113.1 million, which represents 83.0% of the ADC ($136.2 million).

FIGURE 4
City Pension Contribution Rates (% of Payroll)

Group	Rate Effective 7/2019	Maximum Rate, With Risk Sharing
Police	24.96%	27.36%
General	24.24%	26.64%

Source: City of Forth Worth

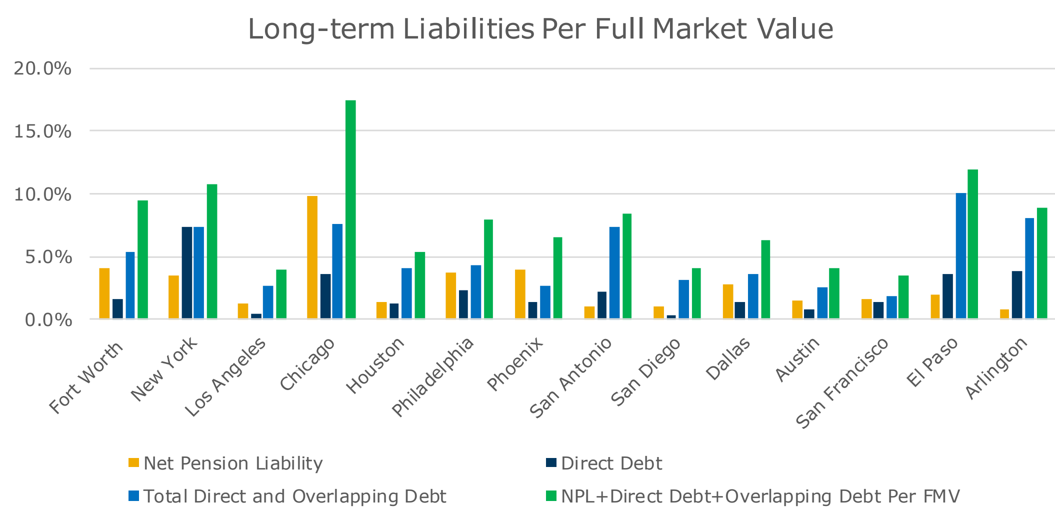
Under the 2019 modifications, general employee contributions increased to 9.35% in July 2019 (from 8.25%), and police contributions increase over three years to 13.53% (from 8.73%).

The pension modifications include automatic risk sharing contributions: if the ADC is greater than actual contributions for two or more consecutive years, then contributions are to increase. The risk sharing increases are shared 60% employer and 40% employee, which is the historical overall proportional sharing of funding. The mechanism is expected to take effect in 2022, and the maximum contribution by the city for police officers will be 27.36%, with police officers contributing a maximum of 14.73%.

Pension Liability
Based on GASB 68 reporting requirements, the net pension liability totals $2.26 billion[2] (governmental and enterprise activities), which represents a favorable 2.6% of the full market value of real property. The plan net position as a percent of the total pension liability was 50.59%. The plan's underfunding is largely due to investment experience, as the investment assumption had been as high as 8.5%. The investment assumption is now 7%.

KBRA acknowledges the importance of the GASB NPL reporting standards, especially because of the transparent and consistent measurement they bring to the important issue of unfunded pension liabilities. However, our analysis of the issue does not stop at the point of observing and rank ordering NPL ratios. KBRA analyzes the context in which the NPL has evolved in that community, the willingness and ability to address the underlying issues, and the ability of the municipality to afford solutions. In the case of Fort Worth, KBRA notes three positive characteristics; (i) the NPL declined in 2019 as a result of the new pension modifications and its increased contribution requirements, (ii) the City is very conservative in managing its other direct debt obligations with 80% of debt amortizing within 10 years, (iii) the City has strong budget and economic ability to afford its increased pension contributions.

FIGURE 5



Note: data reflects FY 2019 except Chicago where FY 2018 was used.
Source: CAFR data as presented in CreditScope.

[2] GASB Statement No. 68 Reporting and Disclosure Information for the City of Fort Worth Fiscal Year Ending September 30, 2020

KBRA believes the City's tax base has ample capacity to meet all of its credit and pension obligations. The City operates within its taxing limits, and KBRA estimates the City has the capacity to meet its pension obligations. Doing so, of course, would need to be considered in the context of all other tax increases for rapidly growing school districts, other infrastructure investments and taxpayer service demands.

OPEB Liabilities

The City has actively managed its OPEB liability exposure, and KBRA views the related long-term liability as moderate. Depending on when an employee was hired and their years of service, the City will pay all or none of a retiree's healthcare premium costs. Employees hired on or after January 1, 2009, pay the full premium, but may participate in the plan upon retirement. All retirement eligible employees are eligible for health care coverage benefits; the normal retirement age is 65 with five years of credited service. The City has actively managed OPEB liabilities by containing benefit eligibility, creating an OPEB trust, performing a dependent benefit audit and instituting cost-effective health plan changes. The City maintains an OPEB trust, which reported a FY 2019 net position of $84.7 million. City officials indicated to KBRA that the trust assets are not anticipated to be utilized until benefit payments peak.

In FY 2019, the City contributed $33.1 million for retiree healthcare, including firefighters who maintain a separate plan. The total net OPEB liability reported in the City's FY 2019 CAFR, was $791 million. The discount rate used in computing the plan liability was 3.86%.

In FY 2019, total fixed costs (debt service, the total pension actuarially determined contribution and the OPEB contributions), represent 23.1% of total general government expenditures.

RD 3: Financial Performance and Liquidity Position

KBRA views the City's financial performance as strong, with a trend of healthy operating surpluses and healthy General Fund reserve levels, with additional reserves and liquidity across all City operations. These financial results reflect the City's conservative budgeting and fiscal monitoring practices.

The General Fund is the City's primary operating fund and the focus of KBRA's financial performance analysis. The City budgets on a cash basis of Generally Accepted Accounting Principles (GAAP) and the budget document is a complete financial plan for all City funds. The City manager may transfer budgeted amounts within a fund, while revisions altering total appropriations requires approval by the City council. The City's fiscal year ends September 30. Financial forecasts that evaluate budget performance, are published twice per year, in March and July.

In addition to the general fund, other sizable components of governmental operations are

- the debt service fund,
- the crime and control prevention district fund (which receives a dedicated portion of the local sales tax), and the culture and
- the tourism fund (which receives hotel tax collections).

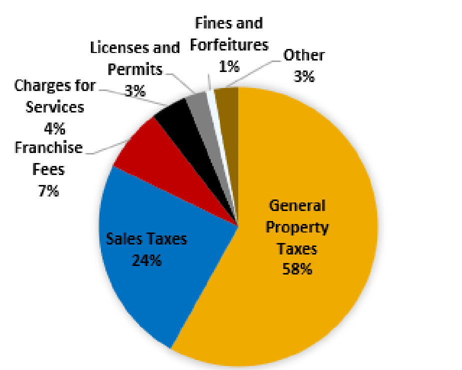
The City maintains a sizable internal service fund (ISF), which is reimbursed by the other funds for services reported in the ISF. Management and reporting of equipment, capital project design, and healthcare costs are handled via the ISF, enabling the City to centralize and better leverage resources. The City maintains strong liquidity in the ISF.

The two-primary general fund revenue sources are property taxes and sales taxes. Property taxes are collected by the county and remitted to the City as they are collected. Sales taxes, collected by the state, are remitted monthly. Dependence on sales tax can pose financial vulnerability given the exposure to economic volatility; however, the local sales tax does not apply to motor vehicle sales or motor fuel sales, thus moderating economic fluctuations.

The sales tax rate totals 8.25%, with 6.25% the state share and 2% representing the local share. In Fort Worth, as is typical of large cities in the state, the local sales tax rate levied is the maximum rate allowed under state law. Of the 2% local tax rate, 0.5% is dedicated to crime control (reported in a special revenue fund of the City). In addition, 0.5% is dedicated to the Fort Worth Transit Authority (FWTA), a separate entity from the City.

FIGURE 6

GENERAL FUND REVENUE, FY 2019



** Other Local Taxes, Revenue from Use of Money and Property, Investment Income, Intergovernmental, Gas Leases and Royalties, Other, and Contributions*
Source: City of Fort Worth, FY 2019 cafr

FY 2019 Financial Results

Fiscal 2019 closed with a $21.1 million general fund increase in fund balance and maintenance of strong reserves. Year end balances are historically robust. FY 2019 results reflect favorable variances to budget on both revenues and expenditures. Sales tax revenues were the largest contributor to positive budgetary performance, with collections exceeding budget by $2.1 million (1.3% positive variance from budget). General Fund revenue growth was a vibrant 8.1%, favorably outpacing the 6.4% expenditure growth.

FIGURE 7

General Fund Revenues and Expenditures ($ in 000s)

	2019	2018	2017	2016	2015
Revenues					
General Property Taxes	$ 398,426	$ 371,832	$ 345,657	$ 324,654	$ 308,037
Sales Taxes	$ 165,364	$ 157,369	$ 148,365	$ 138,497	$ 138,358
Franchise Fees	$ 50,494	$ 51,934	$ 50,078	$ 49,031	$ 53,129
Charges for Services	$ 28,931	$ 18,185	$ 19,349	$ 21,039	$ 10,919
Other[1]	$ 42,797	$ 35,058	$ 32,719	$ 36,695	$ 32,267
Total Revenues	**$ 686,012**	**$ 634,378**	**$ 596,168**	**$ 569,916**	**$ 542,710**
Expenditures					
General Government	$ 96,395	$ 63,718	$ 59,937	$ 57,274	$ 100,387
Public Safety	$ 418,042	$ 419,515	$ 395,236	$ 381,237	$ 341,817
Culture and Recreation	$ 59,770	$ 60,911	$ 61,166	$ 60,747	$ 56,673
Urban Redevelopment and Housing	$ 44,955	$ 35,921	$ 38,584	$ 35,767	$ 17,023
Other[2]	$ 35,656	$ 35,201	$ 35,623	$ 30,707	$ 33,149
Total Expenditures	**$ 654,818**	**$ 615,266**	**$ 590,546**	**$ 565,732**	**$ 549,049**
Surplus (Deficit) from Operations	$ 31,194	$ 19,112	$ 5,622	$ 4,184	$ (6,339)
Total Other Financing Sources (Uses)	$ (10,098)	$ (1,860)	$ (2,094)	$ 3,176	$ 44,858
Net Change in Fund Balance	$ 21,096	$ 17,252	$ 3,528	$ 7,360	$ 38,519
Unassigned Fund Balance	$ 128,603	$ 107,272	$ 93,601	$ 68,436	$ 84,280
Unassigned Fund Balance as a % of General Fund Expenditures	**19.6%**	**17.4%**	**15.8%**	**12.1%**	**15.4%**

Source: City of Fort Worth CAFR

1 Includes Other Local Taxes, Licenses & permits, Fines & Forfeitures, Revenue from Use of Money and Property, Investment Income, Intergovernmental, Gas Leases and Royalties, Other, Contributions.

2 Includes Highways & Streets, Health & Welfare, Debt Service, Capital Outlay. Debt Service is largely reported in the Debt Service Fund

The unassigned general fund balance levels have consistently met or exceeded the City's required minimum fund balance policy of 10%, as reflected in the table above. In FY 2019, unassigned general fund balance grew to $128.6 million, or 19.6% of General Fund expenditures which KBRA views as strong.

FIGURE 8

General Fund
Revenues, Expenditures and Changes in Fund Balance ($ in 000s)

	2019		2018		2017		2016		2015
General Fund Revenue	$686,012		$634,378		$596,168		$569,916		$542,710
percent change		*8.1%*		6.4%		4.6%		5.0%	
General Fund Expenditures	$654,818		$615,266		$590,546		$565,732		$549,049
percent change		*6.4%*		4.2%		4.4%		3.0%	
Surplus (Deficit) from Operations	31,194		19,112		5,622		4,184		(6,339)
Total Other Financing Sources (Uses)	($10,098)		($1,860)		($2,094)		$3,176		$44,858
Net Change in Fund Balance	21,096		17,252		3,528		7,360		38,519
Total Fund Balance	$173,797		$152,701		$135,449		$131,921		$124,561
Nonspendable Fund Balance	$4,717		$5,029		$2,953		$27,823		$5,427
Restricted Fund Balance	$10,644		$10,495		$9,886		$12,738		$12,153
Committed Fund Balance	$29,833		$27,360		$29,009		$22,924		$22,508
Unassigned Fund Balance	$128,603		$107,272		$93,601		$68,436		$84,280
Unassigned Fund Balance as a % of General Fund Expenditures	**19.6%**		**17.4%**		**15.8%**		**12.1%**		**15.4%**

Source: Fort Worth CAFR

2020 Budget

The City currently estimates it will close the year with balanced General Fund (GF) operations. The City is projecting a $38.6 million GF revenue shortfall as a result of the economic impact of COVID-19, largely comprised of reduced sales tax collections. Expenditure reductions, including a hiring freeze, cuts in discretionary spending and postponement of paygo capital financing are expected to cover the gap. The City is undertaking financial management preparations should the pandemic be protracted, including a prioritization of services and long term financial planning.

The FY 2020 general fund budget, totals $771.9 million and reflects a 5.57% increase over the FY 2019 adopted budget. The budget lowers the property tax rate, increases pension funding and contains no use of reserves to balance operations; KBRA views the City's budgeting practices as very strong. The budget includes compensation increases for police of 3.1% plus steps, and a 3% cost increase for general employees under a pay for performance program.

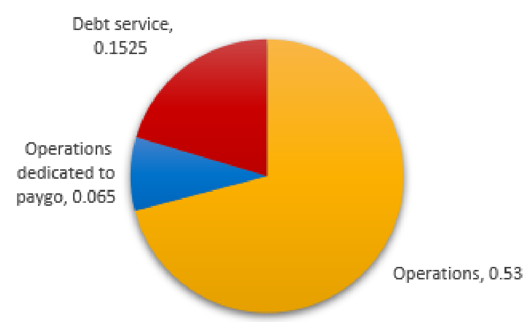
The adopted budget assumes 5.9% revenue and expenditure growth. Sales tax growth has been fueled by construction activity and population growth. The property tax roll increased 13.7%, enabling a 3.75 cent per $100 of AV reduction in the property tax rate (to $.7475 per $100). This is the city's fourth consecutive year of a tax rate reduction and is an effort to contain the tax burden and enhance the City's competitive position for commercial development. The City reported to KBRA that as tax increment districts expire, and taxing levy is freed up, the City will continue to pursue property tax rate reductions. Currently there are 12 active increment districts in the City, which capture approximately 4% of the base (based on City participation).

The City budgets at a 98.5% collection rate of its property tax levy. In a sign of fiscal discipline and prudent planning, the City allocates a portion of the real property tax levy for pay go capital financing, a practice KBRA views favorably. This affords the city flexibility should the property tax levy limit become restrictive.

FIGURE 9

Operating Millage Supports Sizable Capital

Paygo FY 2020 Tax Rate: $.7475 per $100 AV



Source: City of Fort Worth

Liquidity Position

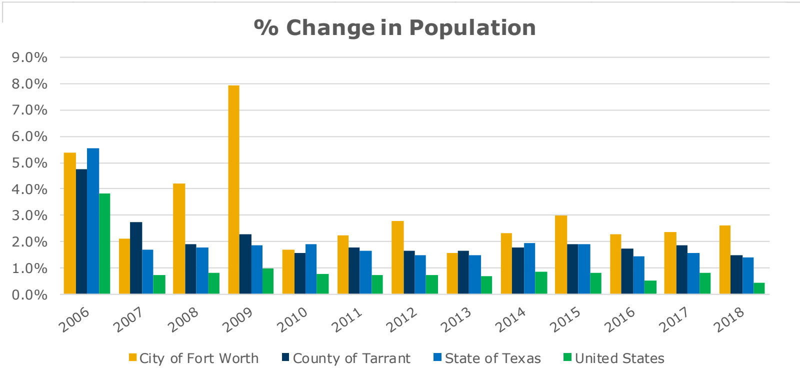
KBRA views the City's liquidity position as strong as evidenced by robust year end balances. The FY 2019 governmental funds cash totaled $894 million, with an additional $74 million held in the Internal Service Funds. The governmental funds cash represents 271 days cash on hand at the close of FY 2019, which KBRA considers very strong. The strong liquidity position precludes the need for cash flow borrowing.

RD 4: Municipal Resource Base

KBRA views the City's resource base as very strong and diverse. Incorporated in 1873, the City of Fort Worth is approximately 350 square miles and is the county seat of Tarrant County.

The City is 13th largest City in the United States and the 5th largest in Texas with a population of 898,919. The City's population has grown nearly 21% since 2010, a rate which outpaces both the State of Texas and the U.S. The City expects the population to grow by another 60% reaching approximately 1.4 million by 2045. Due to its rapid population growth, the City has embarked on various projects to meet service needs. The City has approximately 70,000 acres of developable land, and is seeing large scale development of both residential and commercial properties. The City's resource base is further supported by tourism. According to the Fort Worth Convention and Visitors Bureau more than 9.1 million people annually visit the City, generating approximately $2.4 billion in annual economic impact and supporting more than 143,000 jobs.

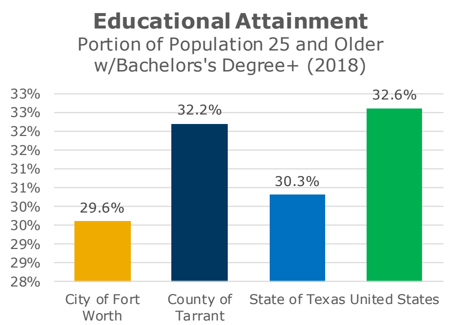
FIGURE 10



	2010	2018	Δ 2010-2018
City of Fort Worth	744,114	898,919	20.8%
County of Tarrant	1,817,658	2,084,931	14.7%
State of Texas	25,257,114	28,701,845	13.6%
United States	309,349,689	327,167,439	5.8%

Source: U.S. Census Bureau

Figure 11

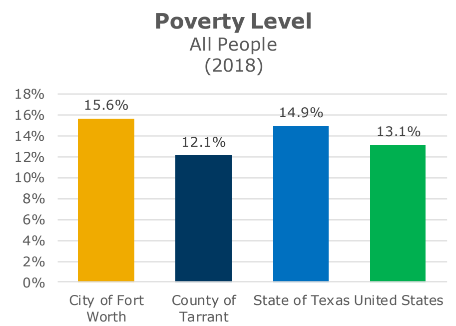


Educational Attainment

	2010	2018	Point Δ 2010 to 2018
City of Fort Worth	26.1%	29.6%	3.5
County of Tarrant	28.6%	32.2%	3.6
State of Texas	25.9%	30.3%	4.4
United States	28.2%	32.6%	4.4

Source: U.S. Census Bureau

Figure 12

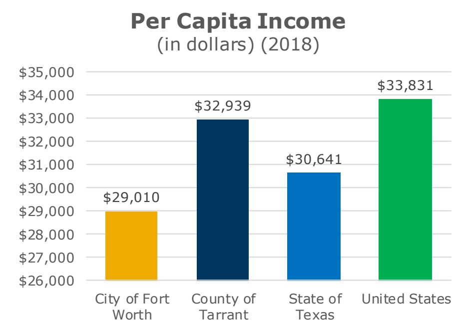


Poverty Level

	2010	2018	Point Δ 2010 to 2018
City of Fort Worth	17.9%	15.6%	-2.3
County of Tarrant	14.5%	12.1%	-2.4
State of Texas	17.9%	14.9%	-3.0
United States	15.3%	13.1%	-2.2

Source: U.S. Census Bureau

Figure 13



Per Capita Income

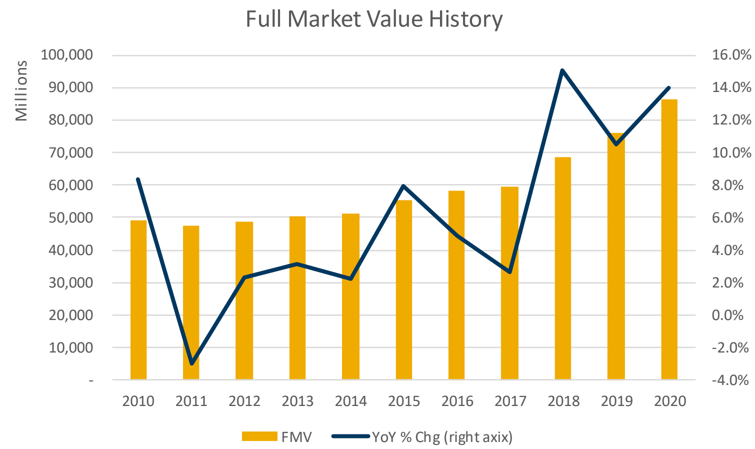
	2010	2018
City of Fort Worth Per Capita Income		
as % of County	88%	88%
as % of State	95%	95%
as % of United States	87%	86%

Source: U.S. Census Bureau

Tax Base and Demographics

The City's full market value (FMV) continues to exhibit strong growth with a sizable 13.9% YOY increase to $86.5 billion in 2020 (see figure 14). Pursuant to state law, taxable property is appraised at market value. The City's tax base is largely residential and in 2020, single and multi-family properties represent 61.3% of the City's FMV followed by commercial/industrial properties at 33.8%. Residential growth has outpaced commercial/industrial growth. In 2010 single and multi-family properties made up approximately 51.9% of FMV. The 2020 FMV per capita ($96,264) continues to increase, as FMV has increased at a greater year over year rate than the population growth rate.

FIGURE 14



Source: Preliminary Official Statement Series 2020 and Continuing Disclsoure

The City's top 10 taxpayers as a percentage of total AV continues to trend upwards. This increase was primarily driven by Facebook, which is associated with Winner LLC, opening over a billion-dollar data center in Fort Worth. Nonetheless, the City's top ten taxpayers remain diverse at 6.22% (see Figure 15). The City's property tax is collected by Tarrant County and since 2010 current property tax collections have been high, averaging over 98%. In FY 2019, the current property tax collection rate continued to be high at 97.7%.

FIGURE 15

Ten Largest Taxpayers			
Name of Taxpayer	**Nature of Property**	**2019/20 Taxable Assessed Valuation**	**% of Total Taxable Assessed Valuation**
Winner LLC	Data Center	$ 1,574,939,466	2.04%
American Airlines, Inc.	Airline	767,296,598	1.00%
Oncor Electric Delivery Co.	Utility	489,133,953	0.63%
Bell Helicopter Inc.	Helicopter	392,986,722	0.51%
Alcon Laboratories, Inc.	Optics Mfg.	356,633,382	0.46%
Wal-Mart Real Estate Bus Trust/Stores Texas LLC	Retail & Distributing Facility	296,240,894	0.38%
DDR/DTC City Investments LP	Real Estate	288,872,491	0.37%
AT Industrial Owner	Warehouse/Distribution	260,065,329	0.34%
Atmos Energy	Utility	185,419,290	0.24%
Behringer Harvard Burnett Plz	Real Estate	183,244,242	0.24%
		$ 4,794,832,367	6.22%

Source: Preliminary Official Statement Series 2020

The City's wealth indicators trend lower than the State and national average but income per capita growth since 2010 mirrors the State.. However, the City's wealth levels remain line with the largest cities in Texas (see Figure 16).

Figure 16

Top 10 Largest Cities in Texas						
City	**Population**	**Per Capita Income**	**Poverty Rate**	**Unemployment 2018**	**2019**	**March-20**
Houston	2,326,090	$ 31,162	20.4%	4.3	3.7	5.0
San Antonio	1,532,212	$ 24,684	20.0%	3.3	3.1	4.1
Dallas	1,345,076	$ 34,016	18.0%	3.8	3.4	4.4
Austin	964,243	$ 43,923	13.3%	2.8	2.5	3.4
Fort Worth	898,919	$ 29,010	15.6%	3.6	3.4	4.7
El Paso	682,686	$ 22,777	20.1%	4.1	3.7	4.8
Arlington	398,122	$ 28,744	13.5%	3.5	3.4	4.2
Corpus Christi	326,566	$ 27,729	15.9%	4.6	4.1	5.4
Plano	287,765	$ 46,659	6.9%	3.3	3.1	4.0
Laredo	259,512	$ 18,109	25.9%	3.7	3.7	5.1

Source: U.S Census | Bureau of Labor Statistics
MArch 2020 are Preliminary

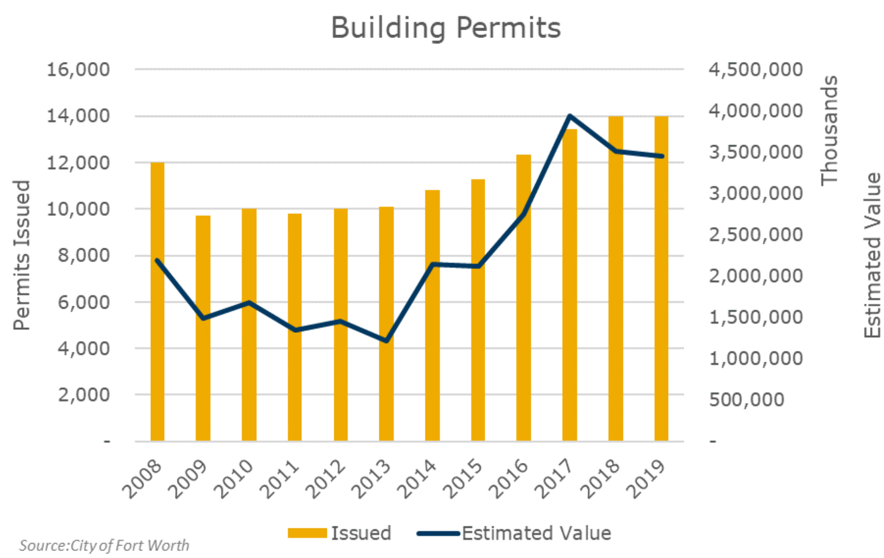
Economic Development Activities

Population has grown by approximately 21% since 2010, and as the population has grown so has the economic development in the City. Alliance Texas, a 26,000-acre master-planned, mixed use community development project, located in northern Fort Worth, has added an estimated $76 billion in economic impact since 1980, as report in the City's FY 2019 CAFR. The development now employs nearly 62,000 people in over 500 businesses. Residential developments include Encore Multifamily, a 300-unit, 233,198-square-foot multi-family community located on Panther Island along the Riverwalk. Other developments include the $175 million refurbishing of the historic House and Mule Barns which features restaurants, entertainment, and retail experiences.

The City's new 14,000 seat Dickies Arena opened in October of last year, and is expected to host 130 events annually including of the month-long Fort Worth Stock Show rodeo (which first started in Fort Worth in 1896) as well as various college tournaments and championships. The arena will have the capacity to accommodate conventions, exhibit events, business meetings, and private receptions in spaces up to 91,315 square feet. In addition to the events held inside the arena and the neighboring Will Rogers Memorial Campus's 5.8-acre plaza space can host outdoor events for up to 3,000 guests.

Since 2010, the number of annual building permits issued in the City has grown by 40% while the estimated value has increased by over 100% to $3.5 billion in 2019. To keep up with the economic growth, the City's voters approved a $399.5 million bond package in May 2018 which includes propositions to build and repair roads, new park amenities, and public safety facility improvements.

Figure 17



Source: City of Fort Worth

The City is served by Dallas/Fort Worth International Airport ("DFW"), bonds rated **AA-/Watch Developing** by KBRA, which ranked 4th among commercial service airports in enplanements, prior to COVID-19. It is yet to be seen how enplanement activity recovers from the current pandemic. TEXRail provides a 27-mile rail line from downtown Fort Worth through Tarrant County and ending at DFW terminal B. The City projects that the new rail line will attract 8,000 daily riders by the end of the first year and up to 14,000 by 2035. In addition to the City's proximity to DFW, the City operates three private aviation airports, and is served by six major railroad systems with service to cities such as Chicago, St. Louis, Little Rock, Dallas, San Antonio and Los Angeles.

Employment

Since 2010, the City's unemployment rate has annually trended slightly lower than the State's average. Preliminary numbers for March 2020 indicate the City's unemployment rate mirrors the State's. As is expected, employment and unemployment numbers should trend negative as the effects of COVID-19 are realized in the data. Since its cyclical low, the City has sustained employment growth which well outpaces the State and the U.S. Employment growth has been driven by gains in employment in trade, transportation, utilities, professional and business services, education and health services, leisure and hospital, and government sectors, which collectively represent 72.4% of total employment in the Fort-Worth-Arlington MSA (see Figure 21), with employment in the MSA shifting away from the manufacturing sector.

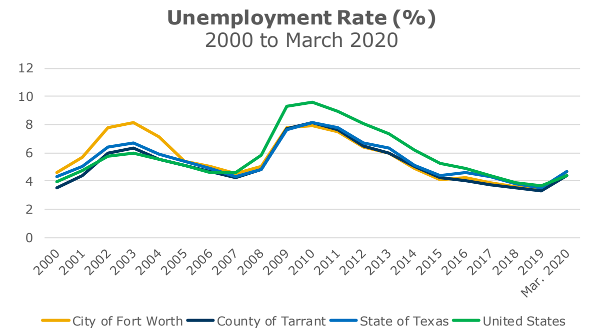
Figure 18

Employment (Not Seasonally Adjusted in thousands)								
Year	City of Fort Worth	Δ YOY (%)	County of Tarrant	Δ YOY (%)	State of Texas	Δ YOY (%)	United States	Δ YOY (%)
2000	256.3		766.8		9,929.4		136,900.7	
2001	256.3	0.0%	767.1	0.0%	10,011.0	0.8%	136,939.3	0.0%
2002	256.1	-0.1%	766.2	-0.1%	10,065.9	0.5%	136,480.9	-0.3%
2003	256.9	0.3%	768.8	0.3%	10,185.3	1.2%	137,729.3	0.9%
2004	262.0	2.0%	783.9	2.0%	10,338.5	1.5%	139,239.8	1.1%
2005	280.0	6.9%	800.4	2.1%	10,523.3	1.8%	141,710.1	1.8%
2006	291.6	4.1%	819.2	2.3%	10,774.5	2.4%	144,417.6	1.9%
2007	301.0	3.2%	831.9	1.5%	10,941.4	1.5%	**146,050.2**	**1.1%**
2008	**307.1**	**2.0%**	**838.8**	**0.8%**	**11,104.1**	**1.5%**	145,373.3	-0.5%
2009	306.5	-0.2%	827.4	-1.4%	11,008.9	-0.9%	139,893.9	-3.8%
2010	329.5	7.5%	849.6	2.7%	11,244.6	2.1%	139,077.2	-0.6%
2011	342.1	3.8%	878.7	3.4%	11,535.1	2.6%	139,885.2	0.6%
2012	352.8	3.1%	903.3	2.8%	11,818.7	2.5%	142,474.6	1.9%
2013	361.2	2.4%	922.2	2.1%	12,052.6	2.0%	143,940.7	1.0%
2014	371.6	2.9%	942.2	2.2%	12,374.2	2.7%	146,318.7	1.7%
2015	377.4	1.6%	950.5	0.9%	12,505.6	1.1%	148,844.7	1.7%
2016	388.4	2.9%	970.5	2.1%	12,720.2	1.7%	151,439.1	1.7%
2017	401.2	3.3%	997.8	2.8%	12,989.7	2.1%	153,333.6	1.3%
2018	414.9	3.4%	1,023.0	2.5%	13,285.1	2.3%	155,759.9	1.6%
2019	424.6	2.3%	1,046.9	2.3%	13,551.8	2.0%	157,528.7	1.1%
Mar. 2019	421.3		1,038.9		13,486.3		156,741.0	
Mar. 2020	417.2	-1.0%	1,028.4	-1.0%	13,409.3	-0.6%	155,772.0	-0.6%
Growth to 2019	38.3%		24.8%		22.0%		7.9%	

Note: bold reflects prior cyclical high. Growth reflects growth from cyclical high to 2019.

Source: U.S. Bureau of Labor Statistics

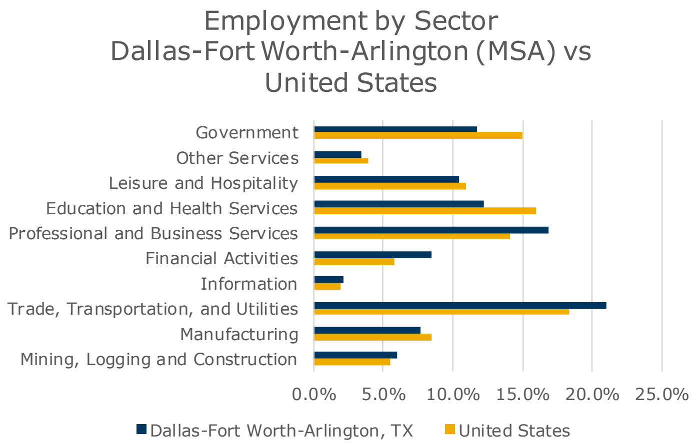
Figure 19



	City of Fort Worth	County of Tarrant	State of Texas	United States
Peak	8.1	8.1	8.1	9.6
Mar. 2020	4.7	4.4	4.7	4.4
Point Δ Since Peak	-3.4	-3.7	-3.4	-5.2

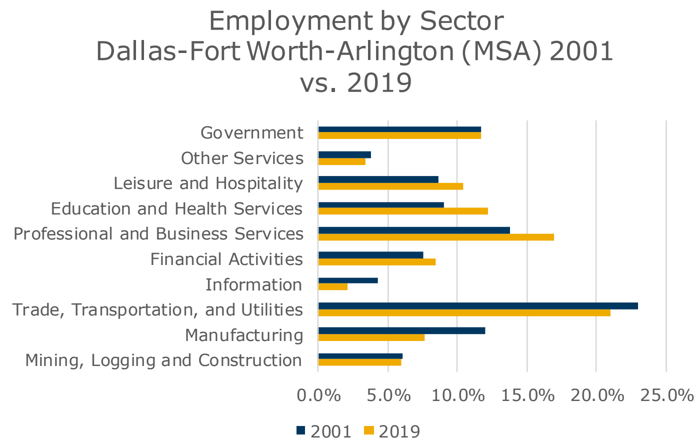
Source: U.S. Bureau of Labor Statistics

Figure 20



Source: Bureau of Labor Statistics

Figure 21



Source: Bureau of Labor Statistics

In addition to employment opportunities located in the City, residents of Fort Worth have access to employment markets in Dallas and Arlington. The City's top employers have grown from 12.3% of total employment in FY 2010 to 22.7% in FY 2019. Top employers within City limits include the City itself, the American Airlines corporate headquarters, and National Air Station (NAS) Fort Worth Joint Reserve base. American opened its new 1.8 million square foot headquarters (Skyview 8) in June 2019 and the headquarters could be home to approximately 12,000 employees.

Bankruptcy Analysis

To be a debtor under the municipal bankruptcy provisions of the U.S. Bankruptcy Code (Chapter 9), a local governmental entity must, among other things, qualify under the definition of "municipality" in the Bankruptcy Code, and must also be specifically authorized to file a bankruptcy petition by the State in which it is located. KBRA has consulted outside counsel on bankruptcy matters and the following represents our understanding of the material bankruptcy issues relevant to the City. The City is a political subdivision and municipal corporation of the State of Texas organized and existing under state law, and thus is a "municipality" as defined under the Bankruptcy Code. In addition, Texas state law specifically authorizes any municipality in the state that has the power to incur indebtedness through the action of the municipality's governing body to file a Chapter 9 petition. Thus, the City has the authority under Texas state law to incur indebtedness and, hence, it is specifically authorized under Texas state law to file a Chapter 9 petition, subject of course to the further threshold requirements in Federal law (the Bankruptcy Code) for commencement of a Chapter 9 case.

The principal of and interest on the Bonds and the Notes are payable from a direct and continuing *ad valorem* tax levied by the City, within the limits prescribed by law, upon all taxable property in the City.

If the City were to file a petition commencing a Chapter 9 proceeding, though Chapter 9 provides for post-petition recognition of (i) a security interest represented by a pledge of specific special tax revenues or municipal enterprise revenues (each "special revenues") and also (ii) a statutory lien on revenues pledged for municipal obligations, in contrast, the pledge of general *ad valorem* property taxes for a general purposes obligation of a municipality is not recognized as a security interest or lien that survives the filing of a petition under Chapter 9. Accordingly, because (a) the funds pledged to pay the Bonds and the Notes are not from a separate, dedicated source of revenues that meets the definition of "special revenues" under Chapter 9, and (b) there is no statutory lien imposed on the pledged *ad valorem* tax revenues levied to pay the Bonds or the Notes, holders of the Bonds and the Notes would likely be treated as unsecured creditors of the City.

S&P Global
Ratings

RatingsDirect®

Summary:
Fort Worth, Texas; General Obligation

Primary Credit Analyst:
Andy A Hobbs, Farmers Branch + 1 (972) 367 3345; Andy.Hobbs@spglobal.com

Secondary Contact:
Stephen Doyle, Farmers Branch (1) 214-765-5886; stephen.doyle@spglobal.com

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Summary:

Fort Worth, Texas; General Obligation

Credit Profile		
US$148.735 mil GO rfdg & imp bnds ser 2020 dtd 05/01/2020 due 03/01/2040		
Long Term Rating	AA/Stable	New
US$24.915 mil tax nts ser 2020 dtd 07/14/2020 due 09/30/2027		
Long Term Rating	AA/Stable	New
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed

Rating Action

S&P Global Ratings assigned its 'AA' rating to Fort Worth, Texas' $149 million series 2020 general purpose refunding and improvement bonds, and the city's $25 million series 2020 tax notes. At the same time, we affirmed our 'AA' rating on the city's existing parity limited-tax GO debt. The outlook is stable.

The obligations constitute direct obligations of the city, payable from the levy and collection of a direct and continuing ad valorem tax, within the limits prescribed by law, on all taxable property within the city. Based on the application of our criteria, "Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness," published Nov. 20, 2019, we do not differentiate between the city's limited-tax GO debt and general creditworthiness. The bond proceeds will finance permanent improvements throughout the city as well as refinance a portion of the city's existing debt in order to achieve debt service savings. Proceeds from the sale of the notes will pay for contractual obligations incurred or to be incurred for the construction of public works and the purchase of materials, supplies, equipment, machinery, buildings, lands, and rights-of-way.

Credit overview

The growth and strengthening of Fort Worth's economy in recent years, and subsequent increase in revenues has allowed the city to reduce its overall tax rate, build its reserves position, and allocate more funding to fixed costs, in particular for pensions. Stable fiscal metrics are supported by very strong management practices. Yet social distancing, restrictions on movement, and businesses stopping or modifying operations as a result of the COVID-19 pandemic will negatively affect the local economy and the city's revenues, in particular sales tax and hospitality tax revenues, on which the city relies. S&P Global Economics recognizes consumer spending and business investment in the U.S. have been particularly affected by restrictions on movement and stay-at-home orders (see "An Already Historic U.S. Downturn Now Looks Even Worse," published April 16, 2020, on RatingsDirect). While we anticipate the city's key credit metrics will remain stable in the near term, a prolonged environment that is heavily influenced by the current global pandemic could have significant negative impact on the city, its local economy, and finances. Future credit reviews will focus on the city's ability to respond in a timely and appropriate fashion to ensure maintenance of stable key credit metrics.

The rating reflects our assessment of Fort Worth's:

- Strong economy, with access to a broad and diverse metropolitan statistical area (MSA);
- Very strong management, with strong financial policies and practices under our Financial Management Assessment (FMA) methodology;
- Weak budgetary performance, with balanced operating results in the general fund and an operating surplus at the total governmental fund level in fiscal 2019, yet with anticipated challenges in fiscal 2020 as revenues are negatively affected by economic disruptions associated with the spread of COVID-19;
- Very strong budgetary flexibility, with an available fund balance in fiscal 2019 of 19% of operating expenditures;
- Very strong liquidity, with total government available cash at 98.0% of total governmental fund expenditures and 12.1x governmental debt service, and access to external liquidity that we consider exceptional;
- Very weak debt and contingent liability profile, with debt service carrying charges at 8.1% of expenditures and net direct debt that is 109.3% of total governmental fund revenue, as well as a large pension and other postemployment benefits (OPEB) obligation and the lack of a plan to sufficiently address the obligation; and
- Strong institutional framework score.

Environmental, social, and governance factors

We analyzed the city's environmental, social, and governance (ESG) risk relative to its economy, budgetary outcomes, and debt profile. We determined that the environmental, and governance risks are in line with our view of the sector standard. Our review and outlook also reflects our view that the COVID-19 pandemic's impact on the city's economy, budget, and forecast is a social rating factor elevating the public health and safety issues.

Stable Outlook

Downside scenario

If the city is unable to make prudent and timely adjustments to its budget, and subsequent deterioration to budgetary performance, available reserves or cash are realized, we could lower the rating. If the city's recent pension modifications do not show progress towards making the actuarially required contribution (ARC), or if the net pension liability continues to grow, we could lower the rating. We could also lower the rating if the current environment, as a result of the pandemic, is prolonged and negatively affects key economic metrics including unemployment or market value.

Upside scenario

We could raise the rating if the city's pension funded status improves significantly and it begins making its ARC, without reserve levels deteriorating, and the city experiences continued economic improvement that results in economic metrics that are comparable with those of higher-rated peers, assuming all other rating factors improve or remain stable.

Strong economy, but with negative impact anticipated from spread of COVID-19

We consider Fort Worth's economy strong. The city, with an estimated population of 848,860, is located in Denton, Parker, and Tarrant counties in the Dallas-Fort Worth-Arlington MSA, which we consider to be broad and diverse. The city has a projected per capita effective buying income of 90.5% of the national level and per capita market value of $90,785. Overall, the city's market value grew 13.7% over the past year to $77.1 billion in 2020. The weight-averaged unemployment rate of the counties was 3.5% in 2018.

Fort Worth enters a time of uncertainty, with strong economic metrics including a growing population base and solid growth in total market value. The city's taxable value has grown a solid 7.47% annually on average since 2010. The city's local economy remains one of the most robust in the state, led by health care, professional services, the aerospace and defense-related industries, and construction, all of which have increasingly offset the region's cyclical energy sector and most recent significant decline in oil prices. The city is also a regional hub for higher education and financial services. The city's taxable value mainly comprises single-family properties (51% of the total tax base), as well as commercial and industrial properties (21%). The top 10 taxpayers are diverse and make up only 6.2% of the total tax base. Despite the strength and improving metrics of the local economy, we anticipate social distancing and disruptions in business activity from the COVID-19 pandemic will have a significant negative impact on the local economy.

S&P Global Economics recognizes consumer spending and business investment in the U.S. have been particularly affected by restrictions on movement and stay-at-home orders. Although Fort Worth has a relatively diverse and growing economy, the city has acted historically as the host to large events, conferences, and visitors. We anticipate the current environment will negatively affect the local economy, particularly in unemployment, and that will have an impact on sales and hospitality taxes. Future credit reviews will focus on to what extent the current challenging environment impacts key credit metrics, as well as the city's ability to respond in a timely and appropriate fashion.

Very strong management

We view the city's management as very strong, with strong financial policies and practices under our FMA methodology, indicating financial practices are strong, well embedded, and likely sustainable.

The budgeting process incorporates an analysis of past trends related to primary revenue and expenditure items. Management completes a comprehensive review of financial performance on a monthly basis, and provides semiannual reports on financial performance to the city council. The governing body can amend the budget at any time with council approval. As part of the budget process, management produces a five-year financial forecast to illustrate the long-term effect of current-year budget decisions. A formal investment policy, focusing on cash management and investment strategy, also exists; management reports results to the city council quarterly.

Adopted debt policies focus on the types of debt instruments officials can use, how much debt they can issue, and what type of structure they should use. Concerning reserves, the policy states management will strive to maintain an undesignated general fund balance equal to at least 10% of the current-year budget for operating and maintenance items, with a goal to reach 16% of expenditures. For capital planning, management is required to review its capital improvement needs and the city's infrastructure status annually. An adopted five-year capital improvement plan is annually produced, and shows all projects and corresponding funding sources.

Weak budgetary performance

Fort Worth's budgetary performance is adequate, in our opinion. The city had balanced operating results in the general fund of negative 0.4% of expenditures, and surplus results across all governmental funds of 4.0% in fiscal 2019. Yet we do anticipate challenges in fiscal 2020 as revenues are negatively affected by economic disruptions associated with the spread of COVID-19.

Despite pension contributions falling short of plan actuarial required contributions, the city's performance was relatively stable and strong in 2019. We adjust expenditures to account for the difference between what the city contributed to its Employees' Retirement Fund and the ARC, which amount to an additional $23 million of expenditures in fiscal 2019. Prior to our adjustments, for fiscal 2019, the city posted a healthy surplus in the general fund due to positive sales tax and property tax growth. For fiscal 2019, 58% of general fund revenues were derived from property taxes while 24% were from sales taxes.

We note that in fiscal 2020 the city anticipates a roughly $40 million budget gap based on the expectation of weak performing revenues, in particular sales taxes and hospitality taxes, as a result of actions taken to slow the spread of COVID-19. Prior to March of 2020, the city's budget performance remained stable. In an effort to find savings in the current fiscal year, the city has implemented cost-cutting measures to specifically address the expected shortfall including installing a hiring freeze, furloughing some workers, deferring some capital expenditures, as well as making discretionary departmental cuts. The city also anticipates using significant available federally awarded grant money for COVID-19 related expenditures, which should help alleviate, at least partially, additional budgetary pressures. While the negative budgetary pressure related to the impact on the local economy is significant, near-term budgetary performance stability is supported by the city's recent growth and the subsequent increase in market value and property tax collections that make up a significant part of the city's general fund revenues. The city's adjusted levy for fiscal 2020 was $576 million compared with $527.5 million in the previous year, which was the result of solid growth in market value.

Key aspects of the city's fiscal 2021 budget will likely be driven by expectations of economic activity within the local economy. The length of time and extent to which the local economy is affected by the spread of COVID-19 and business disruptions will influence budgetary performance. Future credit reviews will focus on what influence the current challenging environment presents to the city, as well as Fort Worth's ability to respond in a timely and appropriate fashion to ensure maintenance of stable budgetary performance and growing fixed costs.

Very strong budgetary flexibility

Fort Worth's budgetary flexibility is very strong, in our view, with an available fund balance in fiscal 2019 of 19% of operating expenditures, or $128.6 million.

Transfers to other governmental funds and enterprise funds, along with the ARC deficiency, are included in the city's operating expenditures for our calculations. Fort Worth's available fund balance at year-end fiscal 2019 was nominally the largest over the past six years. Stable fiscal performance in 2019 supported the increase is available reserves. Despite the year-over-year increase in the fund balance, we believe Fort Worth's budgetary flexibility could be pressured by declines in revenues related to the spread of COVID-19. The city is actively taking measures to ensure budget performance stability including establishing a hiring freeze, furlough some employees, deferring pay-as-you go capital expenses, making discretionary departmental cuts in an effort to reduce any near-term needed use of available reserves to fill budget gaps. Moving forward, we believe management will adhere to its formal reserve policy, and that reserves will not decrease below 10% of operating expenditures. If current challenges persist, maintenance of very strong reserves may be difficult.

Very strong liquidity

In our opinion, Fort Worth's liquidity is very strong, with total government available cash at 98.0% of total governmental fund expenditures and 12.1x governmental debt service in 2019. In our view, the city has exceptional access to external liquidity if necessary.

Fort Worth has, in our view, exceptional market access, having issued GO, utility revenue, and certificates of obligation on a frequent basis. The city has four privately placed agreements and we do not consider the obligations as a contingent liquidity risk as there are no permissive covenants, acceleration provisions, or cross-default provisions that could result in an unanticipated call on liquidity. The city's investments are highly liquid and despite current stress on certain revenues streams, we do not anticipate significant deterioration in the city's cash position in the near term.

Very weak debt and contingent liability profile

In our view, Fort Worth's debt and contingent liability profile is very weak. Total governmental fund debt service is 8.1% of total governmental fund expenditures, and net direct debt is 109.3% of total governmental fund revenue.

Revenue-backed debt supported through the city's enterprise fund has been adjusted in our direct debt-to-revenue calculations. Following the sale of the current issuances, Fort Worth will have $249.5 million of authorized but unissued debt remaining, all of it from the city's nearly $400 million 2018 bond program that was approved by voters in May 2018. The city anticipates issuing approximately $100 million in obligations supported by ad valorem taxes in 2021. Given future debt plans, we expect Fort Worth's debt profile to remain very weak over the near-to-medium term.

In our opinion, a credit weakness is Fort Worth's large pension and OPEB obligation, without a plan in place that we think will sufficiently address the obligation. Fort Worth's combined required pension and actual OPEB contributions totaled 14.5% of total governmental fund expenditures in 2019. Of that amount, 12.2% represented required contributions to pension obligations, and 2.3% represented OPEB payments. The city made 83.0% of its annual required pension contribution in 2019. The funded ratio of the largest pension plan is 50.6%.

In our opinion, a credit weakness is Fort Worth's large pension and OPEB obligation. Despite recent plan changes in early 2019, we do not anticipate material improvements in plan funded status within our two-year outlook horizon, and furthermore, current market disruptions could prolong the challenges at meeting adequate funding levels in the near-to-medium term.

Fort Worth provides benefits to its employees via the following plans:

- Employee's Retirement Fund of the City of Fort Worth: 50.6% funded at a measurement date of Sept. 30, 2019, 83% contribution as a percent of ARC in 2019, 12% pension ARC as a percent of expenditures.
- Other postemployment health care benefit: 8.7% funded ratio, OPEB pay-as-you-go contribution 2.3% as a percent of expenditures in 2019.

Recent plan changes, which addressed future employer and employee contributions and benefits, should have a positive impact on the plan's funded status over time. However, at fiscal year-end the plan's overall funded status remained weak, at 50.6%, and contributions fell short of our minimum- and static-funding progress metrics.

Contributions to the city's pension plan are statutorily defined and have been well below the ARC in recent years. Aside from its pension benefits, Fort Worth provides certain OPEB for retired employees. The city discontinued OPEB for employees hired after 2008. At Sept. 30, 2019, the OPEB liability was $683 million, down from $883 million in the previous year.

Strong institutional framework

The institutional framework score for Texas municipalities is strong.

Related Research

2019 Update Of Institutional Framework For U.S. Local Governments

Ratings Detail (As Of May 22, 2020)		
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed
Fort Worth GO		
Long Term Rating	AA/Stable	Affirmed

S&P Global Ratings

RatingsDirect®

Summary:

Fort Worth, Texas; CP; Water/Sewer

Primary Credit Analyst:
Omid Rahmani, Farmers Branch + 1 (214) 765 5880; omid.rahmani@spglobal.com

Secondary Contact:
Theodore A Chapman, Farmers Branch (1) 214-871-1401; theodore.chapman@spglobal.com

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Summary:

Fort Worth, Texas; CP; Water/Sewer

Credit Profile		
US$170.195 mil wtr and swr sys rev rfdg and imp bnds ser 2020A due 02/15/2050		
Long Term Rating	AA+/Stable	New
Fort Worth WS		
Long Term Rating	AA+/Stable	Affirmed

Rating Action

S&P Global Ratings assigned its 'AA+' long-term rating to Fort Worth, Texas' series 2020A water and sewer system revenue refunding and improvement bonds. At the same time, we have affirmed our 'AA+' rating on the city's outstanding revenue debt. The outlook is stable.

Credit overview

Net revenues of the water and sewer system secure the approximately $168.125 million series 2020A bonds. After the issuance, Fort Worth will have approximately $943.4 million in outstanding revenue debt. Officials intend to use series 2020A bond proceeds to refund a portion of the city's outstanding debt for savings and constructing several improvements to the system. Fort Worth indicates it has not entered into any direct-purchase bank debt. The stable outlook reflects our expectation that Fort Worth's willingness to adjust rates, including passing through wholesale cost pressures, will be key to rating stability. The city's continued economic growth and diversity, limiting cyclicality from sectors such as energy and commodities despite some expected slowdowns as a result of anticipated economic contraction enhance rating stability. We consider bond provisions credit neutral. In our opinion, the rating reflects a very strong enterprise risk profile and an extremely strong financial risk profile.

The enterprise risk profile reflects our opinion of the system's:

- Service area participation in the namesake broad and diverse Dallas-Fort Worth-Arlington metropolitan statistical area (MSA) economy;
- Diverse customer base with no significant concentration;
- Generally affordable rates with moderate county poverty rates; and
- Good operational management practices and policies under our Operational Management Assessment (OMA) methodology.

The financial risk profile reflects our opinion of the system's:

- All-in debt service coverage (DSC) at roughly between 1.3x and 1.9x from fiscal years 2017-2019;
- Strong unrestricted liquidity, which has grown from 111 days' to 122 days' cash on hand during the past three audited fiscal years;

- Moderate debt position with a slightly less than $1.03 billion capital improvement plan (CIP) which will be predominantly debt funded through 2025; and
- Strong financial management practices and policies under our Financial Management Assessment (FMA) methodology.

Environmental, social, and governance factors

Overall, we believe that management has mitigated most of its environmental, social, and governance (ESG)-related risk by adopting, adhering to, and adjusting operating and financial policies and procedures. While we believe the utility's revenues may experience some declines in fiscal 2020, ultimately, our expectation is that management will continue to manage the system, whether in delaying self-funded capital projects or by developing operational efficiencies to maintain sound coverage levels. The utility also has over 122 days' cash on hand, which we believe provides some cushion against short-term disruptions. The city's current pension under-funding and deficiency exposes it to some increased governance risk. We recognize Fort Worth has revised its pension plan, but it will take time to determine whether those recent changes will sufficiently address the obligation. While we continue to monitor events related to COVID-19, we do not currently expect it to affect the utility's ability to maintain budgetary balance and pay debt service costs. For more information, see our article "COVID-19's Potential Effects In U.S. Public Finance Vary By Sector" (published March 5, 2020 on RatingsDirect).

Stable Outlook

Downside scenario

The rating could come under pressure should there be a drop in the system's all-in coverage metrics below 1.5x or liquidity below levels which we would consider extremely strong. There could also be pressure on the rating if there is an increased reliance on the utility's surplus net revenues by the general government, either for either subsidizing general fund operations or to shore up fiduciary funds beyond even that for which the system is responsible.

Upside scenario

A higher rating would be predicated in large part on sustained improvement in addressing the pension liability while still maintaining strong operations and an extremely strong all-in coverage and liquidity metrics.

Credit Opinion

Bonds provisions are credit neutral and include:

- A debt service reserve, funded at the greater of 50% of the average annual debt service requirements on all outstanding parity obligations secured by the reserve fund, or 37.5%;
- A rate covenant that stipulates maintaining rates at a minimum of 1x annual debt service; and
- An additional bonds test that allows additional debt issuance but only if net revenue for the previous fiscal year, adjusted by approved rates or system improvements, is at least 1.1x parity maximum annual debt service (MADS) and 1.25x average annual parity debt service.

Enterprise risk

Fort Worth, with roughly 255,000 customers, serves a deep and diverse customer base with a total population estimate of 1.1 million, including Fort Worth and more than 30 communities in much of Tarrant County. Wholesale revenues will provide about 20% of total budgeted operating revenues. Despite that, the system's 10 largest retail customers contributed less than 5% to operating revenues, indicating no revenue concentration. The city also serves as a regional hub and anchor of the Dallas-Ft. Worth-Arlington MSA, providing a diverse employment base. Despite the expected slowdown as a result of the recession, we expect the economic fundamentals of the service area to remain relatively strong. The city is also home to Texas Christian University, Texas Wesleyan University, a robust community college system, and numerous other institutions of higher learning. Income indicators are what we consider good, with median household effective buying income (MHHEBI) equal to 103% of the national average. Unemployment as of January 2020 was about 3.5%. However, due to the stay-at-home orders resulting from the spread of COVID-19 and the related economic downturn, unemployment is expected to reach meaningfully higher levels.

The city purchases raw water from Trinity River Water District (TRWD) before treating it at five city-owned water treatment plants with a combined 500 million-gallon-per-day (mgd) treatment capacity. Capacity is more than sufficient to meet peak day demand. The larger focus is on enhancing the long-term water supply. The city has had water conservation-oriented rates, outdoor watering and public education programs, and other resource management policies for years. TRWD is gearing up its efforts for future growth. This includes the integrated pipeline project (IPL), a joint venture with Dallas to move water from a reservoir southeast of the region. The district is projecting the first phase of the IPL to be operational by 2021, at an eventual cost of about $2.4 billion; based on capacity allocations, about $1.4 billion of that would be allocable to the district. The city generally accounts for 55%-60% of TRWD's annual operating revenues. Given the magnitude of the district's capital commitments, Fort Worth is anticipating wholesale water costs to continue increasing substantially.

The city's wastewater system is an operational strength, in our view. Its main treatment plant has 166 mgd of rated capacity, although a portion of the waste is sent to the Trinity River Authority (TRA)'s 11.5-mgd-capacity Denton Creek and Central Regional facilities by way of a contractual commitment to TRA. The facilities meet the city's average flow. Several years ago, Fort Worth executed an agreement with the state environmental agency that preempts any unfunded mandates in exchange for the city increasing levels of collection system maintenance, repairs, and reporting.

For residential customers, based on the city's actual average billing rates, the monthly combined bill is just under $67.50. As a percentage of MHHEBI, the average bill is roughly 1.6%, which we consider generally affordable in relation to regional peers and local income metrics. The city maintains a comprehensive long-term CIP and annually updated cost-of-service study with an emphasis on sustainable utility rates. The city council has the ability to raise rates whenever necessary. Fort Worth implemented changes in retail rates, reflecting cost of service effective Jan. 1, 2020 by 1.98% on water and 2.93% on sewer. In addition, the city fully recovers any wholesale cost increases.

Based on our OMA, we view Fort Worth as a '2' on a scale of '1' to '6', '1' being the strongest. This indicates, in our view, that operational and organizational goals are generally well-aligned, even if some challenges exist. The OMA of good includes a firm, long-term water supply by way of TRWD; a collaborative agreement with the state environmental regulator by which Fort Worth has a proactive capacity; strong management policies; operations and maintenance program for the sewer system; and a rate review at least annually. The city has also been a regional leader in water conservation and drought management, and has a lost water percentage that is in line with that of peer cities but remains a focus of both the operating budget via an aggressive leak detection program and the CIP via main replacements.

Financial risk

All-in coverage is S&P Global Ratings' adjusted DSC metric that treats certain recurring financial obligations as if they were debt. In Fort Worth's case, we incorporate a portion of the system's contractual payments made to TRWD as we view them as debt-like obligations rather than an operating expense. We also make an adjustment to include transfer payments to the general fund for administrative costs since we view them as a recurring use of utility revenues and exclude the transfers for the capitalization of equipping them. The city's all-in coverage metrics are very strong, in our view. Its all-in coverage metrics were at roughly 1.35x in fiscal 2017 and have risen to about 1.9x in fiscal 2019. Based on the city's rate model, we expect its future all-in DSC to be consistent with levels which we view as very strong. We have reviewed management's forecast that indicates all-in DSC will--very conservatively--move toward just under 1.4x, and based on our stress scenarios, would most likely be no lower than 1.2x.

Liquidity is an identified strength of the system. Unrestricted cash and investments have grown from about $94 million in fiscal 2017 to about $97.9 million in fiscal 2019. The unrestricted cash and investments at fiscal year-end stood at the equivalent of 122 days' cash on hand, which exceeds the management requirement of 62 days' reserve requirements and on track for management's 150 days cash target. In relation to the city's CIP, these amounts may fluctuate slightly. However, based on management's indications, we expect the unrestricted liquidity position to remain stable.

The city's five-year CIP has identified slightly less than $1.03 billion in capital projects through fiscal 2025. Regular use of additional debt is anticipated, including state loans for both distribution and collection system infrastructure. We understand Fort Worth might also issue parity revenue bonds annually, but this will depend on internal priorities and not regulatory mandates. The city also has in place a $150 million commercial paper program that it could choose to use as an interim funding mechanism. In our opinion, a credit weakness is Fort Worth's large pension and other postemployment benefit obligation. We recognize the city has revised its pension plan, but it will take time to determine whether those recent changes will sufficiently address the obligation.

Based on our FMA, we view Fort Worth to be a '1' on a scale of '1' to '6', '1' being the strongest. An FMA of strong indicates that practices are well embedded and likely sustainable. The management team maintains most of the best practices we believe are critical to supporting credit quality and these are well-embedded in the government's daily operations and practices. Formal policies support many of these activities, adding to the likelihood that these practices will continue and transcend changes in the operating environment or personnel. This includes comprehensive long-term planning for both the operational and capital budgets, regular monitoring of year-to-date and budget-to-actual results, and policies speaking to minimum working capital level.

Ratings Detail (As Of May 22, 2020)		
Fort Worth WS CP		
Short Term Rating	A-1+	Affirmed

Ratings Detail (As Of May 22, 2020) (cont.)		
Fort Worth WS (AGM)		
Unenhanced Rating	AA+(SPUR)/Stable	Affirmed

Many issues are enhanced by bond insurance.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

FitchRatings

Public Finance
Tax-Supported
U.S.A

Fort Worth, Texas

Ratings

Long-Term Issuer Default Rating[a]	AA

New Issues

$156,025,000 General Purpose Refunding and Improvement Bonds, Series 2020	AA
$26,055,000 Tax Notes, Series 2020	AA

Outstanding Debt

Combination Tax and Limited Surplus Revenue Certificates of Obligation[b]	AA
General Purpose Bonds[b]	AA
Tax Notes[b]	AA

[a]Downgraded from 'AA+' on May 20, 2020.
[b]Downgraded from 'AA+' on May 20, 2020.

Rating Outlook

Stable

Applicable Criteria

U.S. Public Finance Tax-Supported Rating Criteria (March 2020)

Related Research

Fitch Rates Fort Worth, TX $182MM LT Bonds, Tax Notes 'AA', Downgrades IDR; Outlook Stable (May 2020)

Fitch Ratings Coronavirus Scenarios: Baseline and Downside Cases -- Update (April 2020)

Analysts

Steve Murray
+1 512 215-3729
steve.murray@fitchratings.com

Emmanuelle Lawrence
+1 512 215-3740
emmanuelle.lawrence@fitchratings.com

New Issue Summary

Sale Date: The bonds are expected to sell competitively on or about June 9, 2020.

Series: $156,025,000 General Purpose Refunding and Improvement Bonds, Series 2020; $26,055,000 Tax Notes, Series 2020.

Purpose: The bond proceeds will be used to finance various municipal improvements within the city of Forth Worth (the city) and refund outstanding tax-supported debt. The note proceeds will be used to finance public works improvements in Fort Worth.

Security: The bonds and notes are supported by the city's limited ad valorem tax levy.

The downgrade of Fort Worth's Issuer Default Rating (IDR) and limited-tax bond rating to 'AA' from 'AA+' is due to weakening of both the city's expenditure flexibility and long-term liability assessments. Increasing pension contributions are driving carrying costs higher, and the combination of more direct and overlapping debt and an increasing net pension liability (NPL) will maintain upward pressure on the long-term liability total. The rating also reflects Fitch Ratings' expectation of budgetary adjustments in the currently stressed economic environment to maintain a strong operating profile, as well as solid economic and revenue prospects once normal business conditions resume.

Economic Resource Base: Fort Worth is a major anchor within the Dallas-Fort Worth regional economy with a population of nearly 900,000. The MSA employment base is extensive and — while military-related spending still accounts for a significant part of the local economy — recent gains in other sectors, such as services, construction and trade, have diversified the labor force. In addition, ranching, manufacturing, technology, education and aerospace are significant components of the Fort Worth area economy and serve to diversify economic activity. Post-coronavirus pandemic economic prospects for both the city and the MSA as a whole remain positive.

Key Rating Drivers

Revenue Framework: 'aaa': Post-pandemic growth prospects for revenue are strong based on recent gains in taxable values and sales tax receipts, as well as recent and planned economic development. The city's independent revenue-raising ability remains strong despite 2019 state legislation that imposed tighter restrictions on property tax rate increases.

Expenditure Framework: 'aa': The natural pace of spending growth is expected to be in line with to marginally above revenue growth as service demands continue to grow. Management retains solid overall expenditure flexibility, although carrying costs are trending higher due primarily to increasing pension contributions resulting from recent major reforms to the city's single-employer plan.

Long-Term Liability Burden: 'aa': The combination of overall debt and the city's NPL is moderately elevated at nearly 19% of personal income. The liability burden has been trending higher in recent years, and additional city and area capital needs will likely apply further upward pressure.

Operating Performance: 'aaa': The city's sound financial resilience suggests the highest level of gap-closing capacity through a typical business cycle. However, the current economic contraction and sharp revenue losses will challenge these strengths over the coming months. The ongoing deferral of a portion of annual pension costs, even after incorporating the recent pension changes, weakens the budget management assessment to a degree.

Rating Sensitivities

Factors that could, individually or collectively, lead to positive rating action/upgrade:

- A closing of the current gap between actual and actuarially determined pension contributions (ADCs) and a reduction in the currently projected 43-year amortization period to one closer to the 30-year industry standard.
- A reversal of the recent upward trend in the city's long-term liability burden, which is currently approaching the 'a' assessment range.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

- While not expected, an erosion of post-pandemic economic prospects that weakens the recently strong revenue growth trend.
- A reversal of recent positive operating performance coupled with a resulting decline in the city's resilience cushion to below the level consistent with a 'AA' rating.

Current Developments

The ongoing coronavirus pandemic and related government containment measures worldwide create an uncertain global environment for U.S., state and local governments and related entities in the near term. While Fort Worth's most recently available fiscal and economic data may not fully reflect impairment, material changes in revenues and expenditures are occurring across the country and likely to worsen in the coming weeks and months as economic activity suffers while public health spending increases. Fitch's ratings are forward-looking in nature; as such, Fitch will monitor developments in state and local governments resulting from the pandemic as they relate to severity and duration and incorporate revised expectations for future performance and assessment of key risks.

In its baseline scenario, Fitch assumes sharp economic contractions hit major economies in the first half of 2020 at a speed and depth that is unprecedented since World War II. Sequential recovery is projected to begin from 3Q20 onward as the health crisis subsides after a short but severe global recession. GDP is projected to remain below its 4Q19 level until mid-2022. Additional details, including key assumptions and implications of the baseline scenario and a downside scenario, are described in the report entitled, "Fitch Ratings Coronavirus Scenarios: Baseline and Downside Cases -- Update," published April 29, 2020 on www.fitchratings.com.

The city's current fiscal 2020 general fund revenue forecast anticipates a $38.6 million, or 5%, drop from the original budgeted amount, led by a roughly $27 million decline in sales tax revenues. This loss reverses what had been a positive performance through February, with sales tax receipts running roughly 5% above prior-year totals.

Management has responded to the pandemic-induced economic contraction with a variety of measures, including a hiring freeze, reduced discretionary spending, a delay in some cash-funded capital projects and a shift in other cash-funded projects to short-term borrowings. The total estimated savings from these actions is $37 million, plus $1.4 million in reimbursable pandemic-related expenses. Management is currently projecting break-even general fund results at fiscal year-end as a result of these adjustments. Management is also reporting the receipt of $158 million in federal Coronavirus Aid, Relief, and Economic Security (CARES) Act proceeds, which, according to the legislation, can only be used for pandemic-related spending and programs.

Credit Profile

The city has recently registered solid gains in employment, building permits, the tax base and sales tax revenues in conjunction with overall regional economic gains. Fort Worth's population continues to grow, up a healthy 20% since the 2010 census. In addition, the city's extra-territorial jurisdiction is sizable and provides opportunity for future annexation and growth.

A number of commercial, residential and industrial projects in the city have either been completed or announced in recent months. In particular, AMR Corporation (the parent of American Airlines) opened its new 1.8 million square-foot corporate headquarters in

Rating History (IDR)

Rating	Action	Outlook/ Watch	Date
AA	Downgraded	Stable	5/20/20
AA+	Affirmed	Negative	5/17/18
AA+	Affirmed	Stable	7/30/12
AA+	Affirmed	Positive	8/4/11
AA+	Revised	Stable	4/30/10
AA	Downgraded	Stable	8/9/07
AA+	Affirmed	Stable	3/14/03
AA+	Upgraded	—	5/23/00
AA	Assigned	—	8/20/92

September 2019; AMR employs roughly 25,000 workers in the area and is the city's largest employer. Although the company has not announced layoffs at its headquarters with the emergence of the pandemic, the sharp reduction in commercial air travel worldwide may result in local job losses. Meanwhile, Lockheed Martin is the city's second largest employer with about 13,700 workers. Other noteworthy projects include a continued expansion at Alliance Texas (a major mixed-used project with 48,000 workers) and the November 2019 opening of a new city-owned multipurpose arena.

Employment totals had also been trending positively prior to the pandemic-induced shutdown, registering average annual gains of more than 2.5% since 2013. Taxable values have registered annual gains in each of the past nine years, and the fiscal 2020 taxable valuation is $77.1 billion, up a strong 13.7% from the prior year. Fitch expects the recent strong pace of economic expansion to continue once normal business activity resumes.

Revenue Framework

Property and sales taxes are the dominant operating revenue sources for Forth Worth, comprising 58% and 24% of fiscal 2019 general fund revenues, respectively. Both components exhibited solid annual increases following recessionary and energy sector-related declines during the 2009–2011 period.

The city's historical revenue performance over the last 10 years — adjusted for tax-rate changes — registered a 3.8% CAGR, slightly below U.S. GDP growth over the same period. However, revenue growth accelerated over the past five years, registering average annual gains of 6%. Given recent revenue trends and anticipated post-pandemic economic activity, the expectation is that future revenue growth will adhere to this pattern.

Fort Worth retains a significant margin below its statutory and city charter property tax limitations.

However, the recently enacted Texas Senate Bill 2 (SB 2) makes a number of changes to local governments' property tax rate-setting processes. Most notably, SB 2 will reduce the rollback tax rate (now the voter-approval tax rate) from 8% to 3.5% for most local taxing units and require a ratification election, replacing the current petition process, if any local taxing unit exceeds its voter-approval rate. These changes are due to take effect in fiscal 2021.

The tax-rate limitation in SB2 excludes new additions to tax rolls and allows for the banking of unused margin for up to three years. Fort Worth's remaining control over property taxes and other local revenues, such as fines, fees, licenses and permits, is still sufficient to maintain high revenue-raising flexibility, a credit strength that will likely be critical during the current environment.

Expenditure Framework

As is the case with many cities, public safety is the largest general fund cost driver, comprising nearly two-thirds of fiscal 2019 spending. General government (15%) and culture and recreation (9%) were the next-largest spending components for the year.

Fitch expects that spending growth will largely track revenue trends once normal economic activity resumes, as an expanding population and area economy will generate increased service demands. Additional spending pressure will come from pension contributions, which have fallen short of ADC amounts recently and will increase.

Carrying costs (debt service and retiree benefit contributions) have been trending higher and totaled more than 24% of fiscal 2019 governmental spending. The recent pension reform package calls for increases in city contributions (in addition to larger employee contributions), but the outlays will still fall short of actuarially determined amounts. Further reform measures will be necessary to close the gap between actuarial and actual contribution amounts. Assuming a more conservative 5% discount rate and 20-year pension amortization period would result in a near doubling of total carrying costs under Fitch's benchmark pension contribution methodology.

A favorable workforce assessment tempers the carrying cost concern to a degree, and the city does retain flexibility regarding annual pay-as-you-go capital spending. Management has demonstrated budgetary maneuverability in prior recessionary periods, and those skills will be called upon again as fiscal 2021 budget preparations begin.

Long-Term Liability Burden

Fort Worth's long-term liability burden (overall debt and the Fitch-adjusted NPL) is trending higher despite strong growth in personal income and is at the high end of the 'aa' range at nearly 18% of total personal income. Overlapping debt — primarily issued by area school districts — is the primary driver of the upward trend and, at $3.25 billion, comprises roughly 44% of the total liability burden. A portion of the series 2020 general purpose refunding and improvement bonds will finance road, park and public safety improvements approved by voters during a 2018 election. Roughly $250 million will remain in authorized but unissued debt following this sale.

The city maintains a single-employer pension plan for retirees. In its fiscal 2019 Comprehensive Annual Financial Report (CAFR), the city reported a total plan liability of $5.4 billion and assets of $2.3 billion, resulting in an NPL of $3.09 billion (with assets covering 43% of the liability). A subsequent GASB 68 plan report that incorporated the recent reform measure reported a total plan liability of $4.57 billion and an NPL of $2.26 billion, resulting in an assets-to-liabilities ratio of slightly more than 50% (at an assumed 7% discount rate). Using Fitch's more conservative 6% investment-rate assumption raises the NPL to $2.84 billion and reduces the funding ratio to 45%.

This latest step in a series of measures to ensure the pension plan's sustainability began in 2015 when the city appointed a pension review committee comprised of plan stakeholders and citizens. The committee proposed a series of plan changes that addressed both benefit levels and contribution amounts. The city council approved the reform package in December 2018 and, after a series of informational meetings, 74% of voting city employees approved the changes in early 2019.

Highlights of the reform measure are:

- Sizable increases in both city and employee contributions.
- Elimination of the COLA for future service effective July 20, 2019.
- A variable COLA for active eligible employees based on plan performance.
- A risk-sharing provision that, beginning in 2022, requires both city and employee contributions to increase by 2% of pay annually (maximum aggregate increase capped at 4% of pay) if actual contributions fall short of the ADC amount for two consecutive years (assuming a 30-year closed amortization period and a discount rate calculated by averaging a rate provided by two independent sources).
- A reduction in the plan discount rate from 7.75% to 7%.

An actuarial study that includes these plan changes noted that initial contribution increases will still leave total contributions below actuarially determined amounts. As a result, the study projects that the additional contributions required under the risk-sharing provision will begin in 2022 and estimates an amortization period of 44 years. Acknowledging that this projected amortization period extends beyond industry norms and the plan objectives detailed in the city code, management anticipates additional plan adjustments in the future.

Other post-employment benefits (OPEBs) are limited to employees hired before Jan. 1, 2009, and the city has established a trust for this obligation. Assets in the trust as of Sept. 30, 2018 were valued at roughly $76 million, or nearly 9% of the total OPEB liability; the net OPEB liability represents 2% of total personal income.

Operating Performance

Fitch expects that management will respond to the current revenue challenges with budgetary adjustments that will maintain reserve levels consistent with a 'aaa' resilience assessment. The city has demonstrated an ability and willingness to reduce spending during previous downturns, and it retains the budgetary tools (e.g. staffing levels, capital spending deferment, etc.) to respond to changing economic conditions. However, since the magnitude of the current downturn dwarfs prior recessions, more significant budgetary adjustments will be necessitated. Additionally, this heightened pressure coincides with the required additional annual pension contributions (per the recent reform measure) mentioned previously.

The budget management assessment is negatively affected by continued funding of the city's pension obligation below the ADC. The fiscal 2019 contribution of $113 million was $23 million (or nearly 2% of governmental spending) below the ADC. Current projections include steadily increasing annual contribution totals over the next decade.

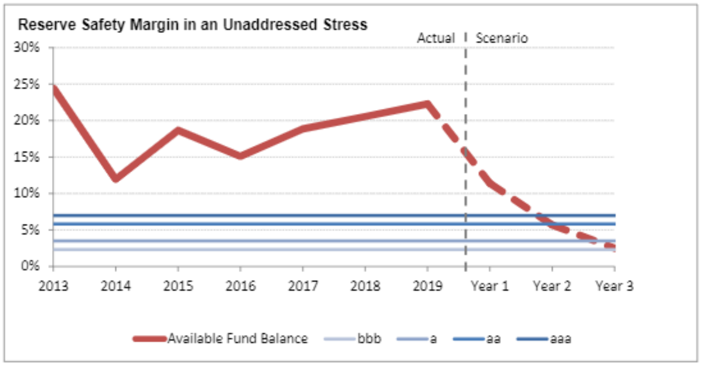
Fiscal 2019 general fund results included a $21 million surplus after transfers, increasing the unrestricted fund balance to more than $158 million, or 22% of spending. In February 2020, management projected another positive general fund result for the current fiscal year based on tax revenues and expenditures both outperforming original budget projections. The pandemic-induced economic shutdown and resulting revenue losses have forced a revision to this projection; management now anticipates basically break-even operating results at fiscal year-end as a result of various spending reduction measures.

ESG Considerations

The highest level of environmental, social and governance (ESG) credit relevance, if present, is a score of 3. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, due to either their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

Fort Worth (TX)

Scenario Analysis



Analyst Interpretation of Scenario Results:
Fitch expects that management will respond to the current revenue challenges with budgetary adjustments that will maintain reserve levels consistent with a 'aaa' resilience assessment. The city has demonstrated an ability and willingness to reduce spending during previous downturns, and retains budgetary tools (e.g. staffing levels, capital spending deferment) to respond to changing economic conditions. However, the magnitude of the current downturn dwarfs prior recessions and will require more significant budgetary adjustments. This heightened pressure will coincide with required additional annual pension contributions (per the recent reform measure).

Scenario Parameters:					Year 1	Year 2	Year 3
GDP Assumption (% Change)					(5.6%)	4.3%	2.5%
Expenditure Assumption (% Change)					0.0%	2.0%	2.0%
Revenue Output (% Change)	*Min Y1 Stress:*	-5%	*Case Used:*	Baseline	(13.4%)	8.2%	4.6%
Inherent Budget Flexibility						High	

Revenues, Expenditures, and Fund Balance	Actuals							Scenario Output		
	2013	2014	2015	2016	2017	2018	2019	Year 1	Year 2	Year 3
Total Revenues	509,206	518,037	542,710	569,916	596,168	634,378	686,012	593,839	642,320	671,874
% Change in Revenues	-	1.7%	4.8%	5.0%	4.6%	6.4%	8.1%	(13.4%)	8.2%	4.6%
Total Expenditures	557,707	553,598	549,049	565,732	590,546	615,266	654,818	654,818	667,914	681,273
% Change in Expenditures	-	(0.7%)	(0.8%)	3.0%	4.4%	4.2%	6.4%	0.0%	2.0%	2.0%
Transfers In and Other Sources	58,535	58,512	68,788	42,554	57,528	50,465	46,777	40,492	43,798	45,813
Transfers Out and Other Uses	17,124	98,244	23,930	39,378	59,622	52,325	56,875	56,875	58,013	59,173
Net Transfers	41,411	(39,732)	44,858	3,176	(2,094)	(1,860)	(10,098)	(16,383)	(14,215)	(13,360)
Bond Proceeds and Other One-Time Uses	-	-	-	-	-	-	-	-	-	-
Net Operating Surplus(+)/Deficit(-) After Transfers	(7,090)	(75,293)	38,519	7,360	3,528	17,252	21,096	(77,362)	(39,809)	(22,759)
Net Operating Surplus(+)/Deficit(-) (% of Expend. and Transfers Out)	(1.2%)	(11.6%)	6.7%	1.2%	0.5%	2.6%	3.0%	(10.9%)	(5.5%)	(3.1%)
Unrestricted/Unreserved Fund Balance (General Fund)	140,565	77,817	106,981	91,360	122,610	137,177	158,436	81,074	41,266	18,507
Other Available Funds (GF + Non-GF)	-	-	-	-	-	-	-	-	-	-
Combined Available Funds Balance (GF + Other Available Funds)	140,565	77,817	106,981	91,360	122,610	137,177	158,436	81,074	41,266	18,507
Combined Available Fund Bal. (% of Expend. and Transfers Out)	24.5%	11.9%	18.7%	15.1%	18.9%	20.5%	22.3%	11.4%	5.7%	2.5%

Reserve Safety Margins	Inherent Budget Flexibility				
Moderate	Minimal	Limited	Midrange	High	Superior
Reserve Safety Margin (aaa)	37.3%	18.6%	11.6%	7.0%	4.7%
Reserve Safety Margin (aa)	27.9%	14.0%	9.3%	5.8%	3.5%
Reserve Safety Margin (a)	18.6%	9.3%	5.8%	3.5%	2.3%
Reserve Safety Margin (bbb)	7.0%	4.7%	3.5%	2.3%	2.0%

Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch's scenario analysis assumes the GDP and expenditure growth sequence shown in the 'Scenario Parameters' section. Inherent budget flexibility is the analyst's assessment of the issuer's ability to deal with fiscal stress through tax and spending policy choices, and determines the multiples used to calculate the reserve safety margin. For further details, please see Fitch's US Tax-Supported Rating Criteria.

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.

FitchRatings

RATING ACTION COMMENTARY

Fitch Downgrades Fort Worth, TX Special Tax Revs to 'AA' from 'AA+', Outlook Negative

Tue 26 May, 2020 - 2:50 PM ET

Fitch Ratings - Austin - 26 May 2020: Fitch Ratings has downgraded its rating on the following Fort Worth, Texas obligations to 'AA' from 'AA+':

--$86.17 million special tax revenue bonds, series 2017A;

--$139.51 million special tax revenue bonds, taxable series 2017B.

The Rating Outlook is Negative.

SECURITY

Pledged revenues consist of the city's combined 9% hotel occupancy tax (HOT), incremental state hotel occupancy and sales and use taxes collected within a specified project financing zone, and airport shared revenues. The bonds are also payable from certain anticipated venue-generated tax revenues, the pledge in relation to the Series 2017A bonds limited to 5% of debt service in a given year.

ANALYTICAL CONCLUSION

The downgrade to 'AA' from 'AA+' and the Negative Outlook are due to the anticipated sharp decline in pledged HOT revenues for the latter part of fiscal 2020 and fiscal 2021 as a result of the pandemic-induced economic contraction. While the city reports sufficient available reserves to make debt service payments on the series 2017A and series 2017B bonds for at least the next two years, a slower than expected economic recovery will require application of these monies for debt service and will limit options for future payments if hotel occupancy and venue operations are slow to rebound.

The project financed with bond proceeds is a multipurpose arena with seating capacity of 14,000 to be used for Fort Worth Livestock Show and Rodeo, concerts, basketball tournaments and other events. The facility opened in November 2019.

KEY RATING DRIVERS

Strong Long-Term Revenue Growth Prospects: Pledged revenue growth had been strong prior to the current crisis, with a 10-year CAGR of more than 7%. Fitch expects this pace of growth to continue once normal business activity resumes, although the timing remains uncertain.

Solid Resilience Expected: The resilience assessment has been affected by the current economic contraction and uncertainty regarding the strength and timing of recovery. Acknowledging this uncertainty, Fitch expects the pledged revenue stream eventually to exhibit resilience and sensitivity to economic swings consistent with the pre-pandemic assessment. The city does not anticipate additional leveraging, as the project has been completed.

RATING SENSITIVITIES

Factors that could, individually or collectively, lead to positive rating action/upgrade:

--A resumption of economic activity and resulting increase in annual pledged HOT revenues to a level consistent with pre-pandemic totals.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--A slow pace of economic recovery from the current crisis that requires use of current reserves to fill pledged revenue gaps for timely and in-full debt service payments.

BEST/WORST CASE RATING SCENARIO

International scale credit ratings of Public Finance issuers have a best-case rating upgrade scenario (defined as the 99th percentile of rating transitions, measured in a positive direction) of three notches over a three-year rating horizon; and a worst-case rating downgrade scenario (defined as the 99th percentile of rating transitions, measured in a negative direction) of three notches over three years. The complete span of best- and worst-case scenario credit ratings for all rating categories ranges from 'AAA' to 'D'. Best- and worst-case scenario credit ratings are based on historical performance. For more information about the methodology used to determine sector-specific best- and worst-case scenario credit ratings, visit https://www.fitchratings.com/site/re/10111579.

CURRENT DEVELOPMENTS

The recent outbreak of coronavirus and related government containment measures worldwide create an uncertain global environment for U.S. state and local governments and related entities in the near term. While Fort Worth's most recently available fiscal and economic data may not fully reflect impairment, material changes in revenues and expenditures are occurring across the country and likely to worsen in the coming weeks and months as economic activity suffers and public health spending increases. Fitch's ratings are forward-looking in nature, and Fitch will monitor developments in state and local governments as a result of the virus outbreak as it relates to severity and duration and incorporate revised expectations for future performance and assessment of key risks.

In its baseline scenario, Fitch assumes sharp economic contractions to hit major economies in the first half of 2020 at a speed and depth that is unprecedented since World War II. Sequential recovery is projected to begin from 3Q2020 onward as the health crisis subsides after a short but severe global recession. GDP is projected to remain below its 4Q2019 level until mid-2022. Additional details, including key assumptions and implications of the baseline scenario and a downside scenario, are described in the report titled, "Fitch Ratings Coronavirus Scenarios: Baseline and Downside Cases - Update" (https://www.fitchratings.com/site/re/10120570), published April 29, 2020 on www.fitchratings.com.

ECONOMIC RESOURCE BASE

The city has registered solid gains recently in employment, building permits, tax base and sales tax revenues in conjunction with overall regional economic gains. Fort Worth's population continues to grow (up a healthy 20% since the 2010 census). In addition, the city's extra-territorial jurisdiction is sizable and provides opportunity for future annexation and growth.

A number of commercial, residential and industrial projects in the city have been completed or announced in recent months. AMR Corporation (parent of American Airlines) opened its new 1.8 million square-foot corporate headquarters in September 2019; AMR employs roughly 25,000 workers in the area and is the city's largest employer. The company has not announced layoffs at headquarters following the coronavirus outbreak, but the sharp reduction in commercial air travel may result in local job losses. Lockheed Martin is the city's second largest employer with about 13,700 workers. Other noteworthy projects include continued expansion at Alliance Texas (a major mixed-used project with 48,000 workers) and the November 2019 opening of a new city-owned multi-purpose arena.

Employment totals also had been trending positively prior to the pandemic-induced shutdown, registering average annual gains of more than 2.5% since 2013. Taxable values have registered annual gains each of the past nine years and the fiscal 2020 taxable valuation totals $77.1 billion, up a strong 13.7% from the prior year. Fitch expects the recent strong pace of economic expansion to continue once normal business activity resumes.

DEDICATED TAX CREDIT PROFILE

The pledged revenues meet the requirements set out in Fitch criteria for treatment as "pledged special revenues" under Section 902(2)(B) of the U.S. Bankruptcy Code. As a result, the rating on the bonds can be higher than the city's 'AA' IDR based on the notching guidance in Fitch's U.S. Public Finance Tax-Supported Rating Criteria.

Pledged revenues consist of the city's combined 9% hotel occupancy tax, incremental state hotel occupancy and sales and use taxes collected within a specified project financing zone, and airport shared revenues. The bonds are also payable from certain anticipated venue-generated tax revenues, the pledge in relation to the Series 2017A bonds limited to 5% of debt service in a given year. Fitch's analysis focuses on the pledged city 9% HOT, which is the dominant pledged revenue source.

Pledged HOT revenues registered strong pre-pandemic growth, with a 10-year CAGR through fiscal 2019 of 7.1%. Fiscal 2019 revenues totaled $30.9 million, up 5% from the prior year. Management is projecting a sharp 40% drop in fiscal 2020 HOT revenues to $18.7 million and then a moderate rebound to $25.8 million in fiscal 2021. Longer-term, revenue growth prospects are expected to return to a strong level consistent with the pre-pandemic trends.

To evaluate the sensitivity of tourism tax pledged revenues in the current environment, Fitch applies a revenue stress test of 47% to latest audited annual totals. Pledged revenue streams that can withstand this magnitude of decline and still maintain a sufficient MADS resilience cushion are expected to emerge from the current pandemic-induced slowdown with the ability to successfully navigate subsequent business cycles.

The pledged HOT revenues can withstand a decline of nearly 52% from the fiscal 2019 total and still cover MADS 1x ($14.9 million in 2023). This margin is slightly above the current Fitch revenue stress decline and the 40% drop the city is projecting for fiscal 2020. Management reports roughly $40.7 million in current balances and reserves available for debt service. The combination of the 52% MADS revenue cushion and these available monies generate a near-term sound resilience assessment. However, either an extended economic slowdown or a slow recovery would require use of the available reserves to fill likely pledged revenue gaps and would limit the city's options for further debt service support.

CRITERIA VARIATION

None

In addition to the sources of information identified in Fitch's applicable criteria specified below, this action was informed by information from Lumesis.

REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

ESG CONSIDERATIONS

The highest level of ESG credit relevance, if present, is a score of 3. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity(ies), either due to their nature or to the way in which they are being managed by the entity(ies). For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

RATING ACTIONS

ENTITY/DEBT	RATING
Fort Worth (TX) [General Government]	

ENTITY/DEBT	RATING		
• Fort Worth (TX) /Tourism Tax Revenues/1 LT	LT	AA	Downgrade

VIEW ADDITIONAL RATING DETAILS

FITCH RATINGS ANALYSTS

Steve Murray
Senior Director
Primary Rating Analyst
+1 512 215 3729
Fitch Ratings, Inc. 111 Congress Avenue Suite 2010 Austin 78701

Emmanuelle Lawrence
Director
Secondary Rating Analyst
+1 512 215 3740

Amy Laskey
Managing Director
Committee Chairperson
+1 212 908 0568

MEDIA CONTACTS

Sandro Scenga
New York
+1 212 908 0278
sandro.scenga@thefitchgroup.com

Additional information is available on www.fitchratings.com

APPLICABLE CRITERIA

U.S. Public Finance Tax-Supported Rating Criteria (pub. 27 Mar 2020) (including rating assumption sensitivity)

APPLICABLE MODELS

Numbers in parentheses accompanying applicable model(s) contain hyperlinks to criteria providing description of model(s).

FAST States & Locals - Fitch Analytical Stress Test Model, v2.4.0 (1)

ADDITIONAL DISCLOSURES

Dodd-Frank Rating Information Disclosure Form

Solicitation Status

Endorsement Policy

ENDORSEMENT STATUS

Fort Worth (TX)	EU Endorsed

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US Public Finance Infrastructure and Project Finance North America United States