CREDIT OPINION
14 October 2019

Update to credit analysis

Summary
The City of Austin (TX) Water and Sewer System’s (Aa2 prior subordinate and separate lien, stable) credit profile benefits from a very large and diverse customer base, sufficient water resources and system capacity, as well as history of rate increases that have recently bolstered reserve levels. Challenges of the credit profile include an above average debt level as well as sizable capital improvement plan that calls for additional debt.

Exhibit 1
Austin’s liquidity has significantly improved but remains below national medians

<table>
<thead>
<tr>
<th>Year</th>
<th>Austin Water &amp; Sewer Enterprise's days cash on hand</th>
<th>National water and sewer days cash on hand median</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>2012</td>
<td>160</td>
<td>210</td>
</tr>
<tr>
<td>2013</td>
<td>170</td>
<td>220</td>
</tr>
<tr>
<td>2014</td>
<td>180</td>
<td>230</td>
</tr>
<tr>
<td>2015</td>
<td>190</td>
<td>240</td>
</tr>
<tr>
<td>2016</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>2017</td>
<td>210</td>
<td>260</td>
</tr>
<tr>
<td>2018</td>
<td>220</td>
<td>270</td>
</tr>
</tbody>
</table>

*2017 national median days cash on hand held constant for fiscal 2018 comparison
Source: City of Austin’s (TX) CAFRs

Credit strengths
» Strong service area and expanding customer base
» History of regular rate increases has afforded good debt service coverage levels
» Improving days cash on hand

Credit challenges
» Below average liquidity for rating category
» Above average debt profile with plans for additional debt

Rating outlook
The stable outlook reflects the expectation that sound coverage will continue, supported by managed rate increases and manageable future borrowing plans. The outlook also incorporates the expectation that Austin Water will prudently maintain its infrastructure and water supply.
Factors that could lead to an upgrade

» Sustained trend of healthy operating surpluses leading to improved liquidity and debt service coverage

» Substantial decline in system’s debt profile

Factors that could lead to a downgrade

» Poor operating performance leading to a decline or prolonged weakness in reserve levels and debt service coverage

» Significant increase in debt profile

Key indicators

Exhibit 2

<table>
<thead>
<tr>
<th>Austin (City of) Water &amp; Sewer Enterprise, TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Characteristics</td>
</tr>
<tr>
<td>Asset Condition (Net Fixed Assets / Annual Depreciation)</td>
</tr>
<tr>
<td>System Size - O&amp;M ($000)</td>
</tr>
<tr>
<td>Service Area Wealth: MFI % of US median</td>
</tr>
<tr>
<td>Legal Provisions</td>
</tr>
<tr>
<td>Rate Covenant (x)</td>
</tr>
<tr>
<td>Debt Service Reserve Requirement</td>
</tr>
<tr>
<td>Management</td>
</tr>
<tr>
<td>Rate Management</td>
</tr>
<tr>
<td>Regulatory Compliance and Capital Planning</td>
</tr>
<tr>
<td>Financial Strength</td>
</tr>
<tr>
<td>Annual Debt Service Coverage (x)</td>
</tr>
<tr>
<td>Cash on Hand</td>
</tr>
<tr>
<td>Debt to Operating Revenues (x)</td>
</tr>
</tbody>
</table>

Debt service coverage calculations vary from the coverage calculations required under the City’s bond ordinances; Debt service coverage in prior reports vary because of adjustments

Source: City of Austin’s (TX) CAFRs; Moody’s Investors Service

Profile

The water and wastewater system predominantly serves the City of Austin (Aaa negative) as well as additional areas in Travis (Aaa stable) and Williamson (Aa1 stable) counties.

Detailed credit considerations

Service area and system characteristics: large and strong service area with institutional presence

The system’s large and diverse service area as well as ample supply and treatment capacity are expected to remain strengths of the credit profile for the medium term. Lake Travis and Buchanan are the system’s two major water supply storage reservoirs and are managed by the Lower Colorado River Authority (LCRA). Combined lake storage is at approximately 91% full, which is significant when compared to about one-third full in early 2015. Heavy rains throughout Texas in the springs months of 2015 and 2016 helped restore...
depleted levels. The system owns and operates three water treatment plants and storage and transportation infrastructure. The total combined treatment capacity for the water system of 335 million gallons per day (MGD) far exceeds the fiscal 2018 average daily use of 113.5 MGD. The city has two main wastewater treatment plants with a total combined permitted capacity of 150 MGD, which provides sufficient capacity for ongoing operations given an average usage of 99 MGD.

As such, we anticipate the system’s customer base will remain stable and diverse for years to come. Historically the wealth profile of the city’s residents has remained above state and national levels. The 2017 American Community Survey indicates above average income levels, evidenced by a per capita income and median family income of 121.5% and 115.8% of national levels, respectively. The May 2018 unemployment rate of 2.5% was well below that of the state (3.6%) and the nation (3.8%) for the same period.

Debt service coverage and liquidity: improved coverage and liquidity since 2014

After declining debt service coverage and liquidity levels from fiscal 2011 to 2014, annual rate increases along with strong expenditure management helped boost annual financial metrics in fiscal 2015 and 2016. Net revenue declined in fiscal 2018 to $331.4 million, which was partially driven by city council’s decision to reduce rates by 4.8% for water and sewer services in March 2018. Additionally, increasing annual debt service requirements dropped total system coverage to a still adequate 1.59 times, which is a still an improvement over fiscal 2014 and 2015 coverage levels of 1.21 and 1.42 times, respectively. Management projects fiscal 2019 coverage to be aligned with the long-term internal target of 1.85 times. There are no plans to increase rates in 2019 or 2020. Rates are then projected to increase roughly 2% in 2021 and another 2% in 2023.

Debt service coverage calculations vary from the coverage calculations required under the City’s bond ordinances; Debt service coverage in prior reports vary because of adjustments. Source: City of Austin’s (TX) CAFRs
LIQUIDITY
Management has taken significant steps to increase its liquidity position in recent years. Given solid operating performance in recent years, liquidity has improved to a satisfactory 280 days of unrestricted cash on hand at fiscal year end 2018. This level is a significant improvement since 2011, which ended with roughly 11 days cash on hand. In addition, the system created a water revenue stabilization fund reserve in 2013 which had $451 million at fiscal year-end 2018, or a solid 125 water days cash on hand. The fund is restricted for water service revenue shortfalls of 10% or greater in any given year. City Council approval is required to tap the fund and if used, only 50% of the balance is available for a single year. Importantly, the reserve provides the system with additional operating flexibility.

Although the system’s policy is to maintain at least 60 days cash on hand, management targets 245 days. The fiscal 2018 unrestricted cash position of 280 days exceeded this target and reserves are expected to be maintained at this level for the foreseeable future.

Debt and legal covenants: debt profile expected to remain high given robust capital plan
The system’s debt profile is expected to remain high given plans for additional debt, but is still considered manageable for the system. The system has a sizable $2.2 billion in total debt outstanding. The majority of the system’s debt ($2.1 billion) is separate lien debt (open working lien). The system also has roughly $91 million in Prior Subordinate Lien debt outstanding. The system’s debt level equates to an above average 3.8 times operating revenue.

The system’s capital improvement plan calls for $975.2 million in capital spending over the next five years. Spending is relatively balanced between the water and wastewater systems. Significant improvements in the plan include South Austin Regional Wastewater Treatment Plant improvements, Davis Water Treatment Plant improvements, and infrastructure for advanced metering. A healthy portion of the planned spending will be focused on upgrades to existing facilities versus construction of new facilities. Management plans to cash fund roughly 40% of the capital plan through annual operations with the remaining 60% being debt funded.

Despite the robust capital plan, the system’s debt profile remains manageable given anticipated rate increases as well as early debt retirement initiatives. Also of note, management plans to dedicate the majority of capital recovery fees to debt defeasance, which is estimated at roughly $30 million annually.

LEGAL COVENANTS
Under the system’s master ordinance, the system’s additional bonds test and rate covenant are both set at 1.25 times average annual debt service. If coverage falls below this level, City Council has to increase rates in order to comply with the covenant by the next year. Under the master ordinance, the city has the option to fund a debt service reserve fund, but has chosen not to since 2013.

DEBT STRUCTURE
Debt amortization is below average with roughly 48% of the outstanding principal is retired in 10 years. All debt matures in fiscal 2047. The current debt service schedule is declining in nature, which will allow for additional debt capacity in future years without impacting projected debt service coverage levels.

The system, along with the city’s electric utility, uses a tax-exempt commercial paper program through a $400 million line of credit through the JPMorgan Bank, N.A. (Aa2 stable). Management’s practice is to draw upon this line of credit throughout the year for capital projects and then subsequently take the debt long with bond issuances. The line of credit expires on October 9, 2020.

DEBT-RELATED DERIVATIVES
System exposure to interest rate risk remains low given the modest variable rate debt amount (roughly 5% of debt profile). The system has one outstanding variable rate issue (Series 2008). There is $105.7 million outstanding and the bonds are supported by a letter of credit from Barclays Bank PLC (A2 positive) with an expiration date of October 28, 2022. The LOC is sized for the outstanding principal amount of the bonds and provides sufficient coverage while the bonds are in the weekly rate mode. In association with the 2008 bonds, the system entered into a swap agreement with Goldman Sachs Bank USA (A1 stable). The system pays a fixed rate of 3.6% and receives SIFMA. The mark to market for this swap was a negative $18.5 million, as of August 31, 2019.
PENSIONS AND OPEB
Apportioned unfunded liabilities associated with the City of Austin Employees’ Retirement and Pension Fund, a single employer defined benefit pension plan, is expected to continue to grow given overall weak contributions into the system on an annual basis. The system contributed 11% of the total plan’s contributions in fiscal 2018, which generates a proportional Moody’s Adjusted Net Pension Liability of $362.6 million, or a manageable 0.62 times operating revenue. Continued growth of these unfunded liabilities would be unfavorable for the credit profile.

City management reports that a formal plan to make changes to 2 of the 3 plans (including the employees plan, which the system is associated with) is currently underway and is expected to take the next 12 to 18 months to develop. Although no details are available at this time, potential changes could be in the form of increased contributions, reductions in benefits, creating new benefit tiers for new hires, or a combination of the above.

Moody’s ANPL reflects certain adjustments we make to improve comparability of reported pension liabilities. The adjustments are not intended to replace the utility’s reported liability information, but to improve comparability with other rated entities. For more information on Moody’s insights on employee pensions and the related credit impact on companies, government, and other entities across the globe, please visit Moody’s on Pensions at www.moodys.com/pensions.

Management and governance: city council has authority to set rates
We believe management of the city’s water and wastewater system will remain stable, demonstrated by appropriate and timely rate setting measures, prudent and conservative budgeting and forecasting of revenue, as well as maintenance of multiyear planning. Moody’s notes that despite the presence of a debt service reserve, the establishment of a rate stabilization reserve is a positive influencing factor. Rate increases are subject to City Council approval.
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