New Issue Report

February 24, 2020

Cambridge, Massachusetts

New Issue Summary

Sale Date: March 5 via competitive sale
Series: $53,665,000 General Obligation Municipal Purpose Loan Bonds, Series 2020
Purpose: To finance various city, sewer and school related projects
Security: The bonds are a general obligation of the city and are backed by its full faith and credit and a property tax levy that is limited by state statute.

The city's 'AAA' general obligation bond rating and Issuer Default Rating reflect Fitch's expectation for Cambridge to maintain a high level of financial flexibility through economic cycles, consistent with a history of strong operating performance and budget controls. The ratings further reflect the city's wealthy and growing property tax base, moderate expenditure growth and its demonstrated ability to reduce expenditures during economic downturns. Fitch expects long-term liabilities to remain low based on the city's capital needs, very rapid pace of principal amortization, continued growth in economic resources, and a practice of fully funding actuarially determined pension contributions.

Economic Resource Base: Cambridge is located in Middlesex County across the Charles River from the city of Boston and has an estimated 2018 census population of 118,977, which is up 13% since 2010.

Key Rating Drivers

Revenue Framework: 'aaa': Revenues are derived primarily from property taxes. Total general fund revenue growth of more than 5% annually over the past 10 fiscal years has exceeded both U.S. GDP and CPI for the same period reflective of strong growth in Cambridge's economy and tax base. The city maintains significant excess levy capacity under the state's Proposition 2 1/2 law and Fitch expects revenue growth to remain strong.

Expenditure Framework: 'aa': The natural pace of spending growth is expected by Fitch to be in line with or below natural revenue growth over time. Carrying costs for debt and retiree benefits claim a moderate proportion of governmental spending. Fitch expects carrying costs to remain moderate even with future debt issuances and annual increases in other-post employment benefit (OPEB) and pension contributions. The city maintains strong legal control over headcount and other key employment terms as provided by state statute.

Long-Term Liability Burden: 'aaa': Cambridge's combined direct debt, net of water and sewer debt paid from user charges, and Fitch-adjusted net pension liabilities (NPL), are low at approximately 7.5% of residents' personal income. Fitch anticipates Cambridge's long-term liability burden will remain in line with the 'aaa' assessment based on expected growth in the city's population and personal income, future debt plans, and a rapid pace of principal amortization. OPEB liabilities compared to personal income are somewhat high based on a conservative interest rate assumption, but management is actively managing these costs.

Operating Performance: 'aaa': Careful expenditure management combined with moderate tax levy increases and conservative financial forecasting has led to the maintenance of considerable reserves over the past decade. Fitch expects the city will continue to demonstrate a high level of financial resilience and gap-closing ability throughout economic cycles.

Rating Sensitivities

Financial Management Practices: Fitch expects management to continue to manage growth in expenditures in line with future revenue growth while maintaining its financial flexibility.
Credit Profile

The city is an important economic component of the Boston metropolitan area and Massachusetts as a whole and benefits from the presence of both Harvard University and Massachusetts Institute of Technology. These institutions are the city’s top two employers and other major employers include the city itself and Mt. Auburn Hospital, and a number of biotechnology companies including Biogen, Novartis, Sanofi and Takeda Pharmaceutical.

Cambridge continues to strengthen its position as a national leader in the life sciences and high tech sectors. Expansion in these sectors has contributed to notable tax base, employment and resident income growth over the past several years and is projected by the city to continue for at least the near term. Job growth significantly outpaced national levels in 2017 and 2018 but tapered down in 2019 to in line with national levels. Vacancy rates for office and research lab space remain very low, which has had led to upward pressure on rents. While space for new development is somewhat limited in Cambridge, new construction or rehabilitation of existing properties is underway in various areas of the city and should provide some support for demand. Wealth levels are above state and national averages and the unemployment rate is consistently below them.

Cambridge also continues to attract research and development companies, ranging from startups to international companies. Several major software and internet companies have established research and development operations in Cambridge, including Microsoft, Google, Amazon, Facebook and EMC/VMware.

Taxable assessed value (TAV) performance reflects this activity, as well as growth in residential values. TAV grew another 12% in fiscal 2020 to $54.9 billion following growth of 12% in fiscal 2019. TAV per capita is very high at approximately $461,000. Economic development districts located in the city continue to provide opportunities for current and future economic expansion and new housing opportunities. The city is projecting moderate increases in TAV in fiscal years 2021 through 2024, which Fitch considers conservative based on new commercial and residential construction underway and proposed.

Revenue Framework

Property taxes make up approximately 63% of fiscal 2019 general fund revenues. Intergovernmental revenues, primarily for education, and sewer use charges, accounted for another 11% and 8%, respectively, of revenue. Excise taxes on hotel, meals and motor vehicles and payment in lieu of taxes provide an additional moderate source of general fund revenues.

Fitch expects revenue growth to continue to be strong based on the city’s solid underlying economic fundamentals and expectations for future tax base growth from new commercial and residential projects.

Expenditure Framework

Education is the city’s largest expenditure, comprising 35% of fiscal 2019 general fund expenses. Public safety follows at 22% of expenditures.

General fund expenditure growth has historically been in line with or below the pace of revenue growth and the city has solid flexibility to reduce expenditures if necessary. Fitch expects expenditure growth to be driven by an increase in population and services but remain aligned with revenues going forward.

Rating History - IDR and GO Bonds

<table>
<thead>
<tr>
<th>Rating</th>
<th>Action</th>
<th>Outlook/Watch</th>
<th>Date</th>
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<tbody>
<tr>
<td>AAA</td>
<td>Affirmed</td>
<td>Stable</td>
<td>2/21/20</td>
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<tr>
<td>AAA</td>
<td>Affirmed</td>
<td>Stable</td>
<td>1/09/03</td>
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<tr>
<td>AAA</td>
<td>Assigned</td>
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<td>10/07/99</td>
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Pursuant to state law, Proposition 2 1/2 limits the city’s ability to levy property taxes by: 1) a ‘levy ceiling’, an absolute cap on the level of property taxation, set at 2.5% of the overall property tax valuation (primary limit); and 2) a levy limit, which restricts the annual growth in taxation to 2.5% over the previous year’s levy plus the value of new growth (secondary limit). Taxation in excess of the levy limit (plus any new growth) requires voter approval.

Management has typically levied below the ceiling each year. Any excess in levy capacity is carried forward and available for use at any time. The city’s excess tax levy limit increased to $190 million in fiscal 2020 from $189 million for fiscal 2019. This excess levy capacity totals approximately 28% of the fiscal 2020 operating budget and provides for substantial revenue raising flexibility if needed.
Carrying costs for debt service, pensions and OPEB contributions were a moderate 15% of fiscal 2019 governmental spending and Fitch expects such costs to remain moderate going forward. Employee salary and benefit costs as well as moderate annual increases in debt service continue to drive annual expenditure increases.

Management has negotiated increases in health care contributions from certain employee groups, which should help control growth in these costs. Debt service costs will trend upward based on plans for additional debt to finance various schools, sewer and other city projects. The carrying cost metric includes debt service costs for GO sewer debt for which the city levies user charges.

Education will continue to be a driver of spending and management is planning moderate annual increases in education spending over the next four years as part of its commitment to the overall improvement of its school system and to accommodate projected enrollment growth.

Approximately 80% of the city's employees belong to a union or collective bargaining group. Management has the ability to impose employee layoffs and furloughs if necessary. Public safety contracts are subject to arbitration, although the city council has the ability to vote down an award. In such a case, both parties continue to bargain within the arbitration process.

**Long-Term Liability Burden**

Long-term liabilities for net overall debt plus the Fitch-adjusted NPL are low at 7.5% of estimated personal income. Outstanding debt, net of self-supporting water and sewer debt, accounts for 45% of the liability metric, with the city's NPL making up the remainder. Fitch expects the burden to remain low as a percentage of personal income based on pension funding practices, future debt plans and expectations for future growth in population and residents' personal income.

Management is projecting the issuance of an additional $519 million in additional debt (almost 5% of current personal income) through 2024. Roughly 24% of this debt is expected to be supported from user fees and will be partially offset by the principal repayment of bonds and notes outstanding; approximately $290 million of outstanding principal is scheduled to mature in the next four fiscal years (2021-2024). Principal amortization of outstanding GO debt including sewer debt is rapid at 83% over the next ten years (fiscal years 2021-2030).

The city is one of four employers participating in the Cambridge Retirement System. The city consistently funds its full actuarially determined contribution. The fiduciary net position to total pension liabilities for the system was reported at 80% as of December 31, 2018 based on a 7.5% discount rate. Using Fitch’s more conservative 6% investment rate of return, the estimated funded ratio was 68%.

The city's net OPEB liability totaled $713 million as of June 30, 2019, based on GASB 75 reporting requirements, and represents 6.5% of personal income. The liability was determined using a blended 3.67% discount rate. City management created an OPEB trust fund in December 2009 and has made contributions totaling $17 million since that time with a current value of $18.4 million. Management projects a $2 million annual contribution to the trust for each of the next four fiscal years, based on the city's current financial forecast.

**Operating Performance**

Fitch expects the city to maintain a high level of financial resilience throughout an economic cycle given its historically strong revenue performance, conservative budgeting practices and superior degree of inherent budget flexibility. The city's steady growth in revenues has supported surplus operations over the past several fiscal years and has built up its reserves to high levels.

During times of economic weakness, management has controlled spending and staffing levels to offset reductions in revenues. The city's strong budget monitoring practices and financial planning bolster the city's operating environment.

The general fund had a fiscal 2019 net operating surplus after transfers of $19 million (nearly 3% of spending on a GAAP basis) resulting from conservative budget assumptions and positive variances achieved for both revenues and expenses. The general fund unrestricted fund balance improved to $384 million or a very high 58% of spending.
The fiscal 2020 operating budget of $678 million was up 5.7% over the adjusted fiscal 2019 budget. Increases in spending were associated in part with higher salary and benefit costs and increases in debt service. Management reports estimated expenditure savings compared to budget for health insurance and other areas and higher than anticipated hotel, meals and motor vehicle excise taxes and building permit fees due to conservative assumptions and continued building activity. However, a higher amount of pay-go spending for capital projects is planned to avoid borrowing. Fitch expects the city to continue to manage its budget in a way that supports an exceptionally strong financial position throughout the economic cycle.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of ‘3’ - ESG issues are credit neutral or have only a minimal credit impact on the entity, either due to 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.
Cambridge (MA)

Scenario Analysis

Fitch expects the city to maintain a high level of financial resilience throughout an economic cycle given its historically strong revenue performance, conservative budgeting practices and superior degree of inherent budget flexibility. The city’s steady growth in revenues has supported surplus operations over the past several fiscal years and has built up its reserves to high levels.

Analyst Interpretation of Scenario Results:

Fitch expects the city to maintain a high level of financial resilience throughout an economic cycle given its historically strong revenue performance, conservative budgeting practices and superior degree of inherent budget flexibility. The city’s steady growth in revenues has supported surplus operations over the past several fiscal years and has built up its reserves to high levels.

Scenario Parameters:

- GDP Assumption (% Change)
- Expenditure Assumption (% Change)
- Revenue Output (% Change)
- Inherent Budget Flexibility

Revenues, Expenditures, and Fund Balance

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<tbody>
<tr>
<td>Total Revenues</td>
<td>464,220</td>
<td>509,290</td>
<td>524,355</td>
<td>560,698</td>
<td>592,598</td>
<td>622,640</td>
<td>658,347</td>
<td>651,764</td>
<td>672,829</td>
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<tr>
<td>% Change in Revenues</td>
<td>-</td>
<td>9.7%</td>
<td>3.0%</td>
<td>6.9%</td>
<td>5.7%</td>
<td>6.8%</td>
<td>4.1%</td>
<td>(1.0%)</td>
<td>3.2%</td>
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<tr>
<td>Total Expenditures</td>
<td>450,026</td>
<td>493,496</td>
<td>501,646</td>
<td>531,111</td>
<td>562,893</td>
<td>596,882</td>
<td>625,530</td>
<td>638,040</td>
<td>663,817</td>
</tr>
<tr>
<td>% Change in Expenditures</td>
<td>-</td>
<td>9.7%</td>
<td>1.7%</td>
<td>5.9%</td>
<td>6.0%</td>
<td>6.0%</td>
<td>4.8%</td>
<td>2.0%</td>
<td>2.0%</td>
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<tr>
<td>Transfers In and Other Sources</td>
<td>24,840</td>
<td>24,395</td>
<td>44,805</td>
<td>24,420</td>
<td>44,132</td>
<td>22,480</td>
<td>23,330</td>
<td>23,097</td>
<td>25,003</td>
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<tr>
<td>Transfers Out and Other Uses</td>
<td>6,223</td>
<td>8,672</td>
<td>19,264</td>
<td>28,810</td>
<td>41,972</td>
<td>22,407</td>
<td>37,056</td>
<td>37,797</td>
<td>39,324</td>
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<tr>
<td>Net Transfers</td>
<td>18,617</td>
<td>15,723</td>
<td>25,541</td>
<td>(4,391)</td>
<td>2,160</td>
<td>73</td>
<td>(13,726)</td>
<td>(14,700)</td>
<td>(14,709)</td>
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<tr>
<td>Bond Proceeds and Other One-Time Uses</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>Net Operating Surplus/(Deficit) (% of Expend. and Transfers Out)</td>
<td>7.2%</td>
<td>6.3%</td>
<td>9.3%</td>
<td>4.5%</td>
<td>5.5%</td>
<td>5.8%</td>
<td>2.9%</td>
<td>(0.1%)</td>
<td>1.1%</td>
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Unrestricted/Unreserved Fund Balance (General Fund)

|--------|------|------|------|------|------|------|------|---------|----------------|

Other Available Funds (GF + Non-GF)

Combined Available Funds Balance (GF + Other Available Funds)

Combined Available Fund Bal. (% of Expend. and Transfers Out)

|--------|------|------|------|------|------|------|------|---------|----------------|

Reserve Safety Margin

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<tbody>
<tr>
<td>Reserve Safety Margin (aa)</td>
<td>16.0%</td>
<td>8.0%</td>
<td>5.0%</td>
<td>3.0%</td>
<td>2.0%</td>
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<tr>
<td>Reserve Safety Margin (a)</td>
<td>12.0%</td>
<td>6.0%</td>
<td>4.0%</td>
<td>2.5%</td>
<td>2.0%</td>
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<tr>
<td>Reserve Safety Margin (bbb)</td>
<td>8.0%</td>
<td>4.0%</td>
<td>2.5%</td>
<td>2.0%</td>
<td>2.0%</td>
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Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch’s downturn scenario assumes a -1.0% GDP decline in the first year, followed by 0.5% and 2.0% GDP growth in Years 2 and 3, respectively. Expenditures are assumed to grow at a 2.0% rate of inflation. 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.