

CREDIT OPINION

4 December 2024



Contacts

Nicholas Lehman +1.781.672.1124
VP-Senior Analyst
nicholas.lehman@moody's.com

Thomas Jacobs +1.212.553.0131
Associate Managing Director
thomas.jacobs@moody's.com

CLIENT SERVICES

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

City of Framingham, MA

Update to credit analysis

Summary

Framingham's (Aa2 stable) credit profile benefits from a large and growing economy and tax base with a significant commercial presence. The city's resident income ratio of 112.8% and full (equalized) value per capita of \$176,035 are above-average and in line with the rating category. The rating incorporates a satisfactory financial position with reserves as a percent of revenue trending below the Aa median, although incremental growth is expected over the near term. The city's available fund balance ratio was 17.1% as of the fiscal 2023 audited financials. The city also maintains a healthy amount of unused levy capacity (equal to 9% of revenue) contributing to the operating flexibility. The city's long-term liabilities equaled 170.2% of fiscal 2023 revenues and are expected to remain manageable given a fixed costs ratio of 10.1%.

Credit strengths

- » Strong and diverse economy
- » Above-average resident income and wealth
- » Large amount of unused levy capacity

Credit challenges

- » Low reserves as a percent of revenue
- » History of using reserves to balance operations with limited property tax increases

Rating outlook

The stable outlook incorporates the strength of the city's economy and expectation that the tax base will continue to grow and provide the city with sufficient operating flexibility to maintain a stable financial position and gradually increase reserves while maintaining manageable long-term liabilities and fixed costs.

Factors that could lead to an upgrade

- » Significant increase in the available fund balance ratio to at least 35%
- » Material growth in the city's resident income and equalized value per capita

Factors that could lead to a downgrade

- » Decline in available fund balance ratio to less than 12%
- » Large increase in the leverage ratio and a fixed costs ratio of 18% or greater
- » Decline in the 2025 or 2026 assessed value driven by commercial real estate values

Key indicators

Exhibit 1

Framingham (City of) MA

	2020	2021	2022	2023	Aa Medians
Economy					
Resident income ratio (%)	118.2%	119.6%	112.8%	N/A	115.2%
Full Value (\$000)	\$9,773,588	\$11,101,739	\$11,101,739	\$12,640,217	\$2,753,876
Population	72,846	72,089	71,805	N/A	22,803
Full value per capita (\$)	\$134,168	\$154,000	\$154,610	N/A	N/A
Annual Growth in Real GDP	-1.5%	7.0%	2.3%	N/A	4.9%
Financial Performance					
Revenue (\$000)	\$410,066	\$431,233	\$432,217	\$453,328	\$49,930
Available fund balance (\$000)	\$94,470	\$57,717	\$61,957	\$77,629	\$27,007
Net unrestricted cash (\$000)	\$86,718	\$73,949	\$110,286	\$133,532	\$36,277
Available fund balance ratio (%)	23.0%	13.4%	14.3%	17.1%	54.0%
Liquidity ratio (%)	21.1%	17.1%	25.5%	29.5%	75.9%
Leverage					
Debt (\$000)	\$312,069	\$310,561	\$306,163	\$305,337	\$35,831
Adjusted net pension liabilities (\$000)	\$333,831	\$377,350	\$311,106	\$228,385	\$55,367
Adjusted net OPEB liabilities (\$000)	\$404,956	\$397,926	\$300,418	\$233,939	\$5,248
Other long-term liabilities (\$000)	\$4,767	\$4,725	\$4,175	\$4,123	\$1,716
Long-term liabilities ratio (%)	257.4%	252.9%	213.3%	170.2%	244.9%
Fixed costs					
Implied debt service (\$000)	\$19,259	\$22,348	\$21,783	\$21,382	\$2,465
Pension tread water contribution (\$000)	\$12,239	\$32,380	\$10,943	\$8,047	\$1,563
OPEB contributions (\$000)	\$13,652	\$15,466	\$15,715	\$16,057	\$178
Implied cost of other long-term liabilities (\$000)	\$333	\$341	\$331	\$292	\$116
Fixed-costs ratio (%)	11.1%	16.4%	11.3%	10.1%	10.7%

For definitions of the metrics in the table above please refer to the [US Cities and Counties Methodology](#) or see the Glossary in the Appendix below. Metrics represented as N/A indicate the data were not available at the time of publication. The medians come from our most recently published [US Cities and Counties Median Report](#).

The real GDP annual growth metric cited above is for the Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area.

Sources: US Census Bureau, Framingham (Town of) MA's financial statements and Moody's Ratings, US Bureau of Economic Analysis

Profile

Framingham has a population of around 72,300 and is primarily residential with a large commercial and industrial component that makes it a regional economic center. The largest industry sectors that drive the local economy are professional, scientific, technical services, health services and retail trade. The city is located in Middlesex County approximately 20 miles west of [Boston](#) (Aaa stable). The city provides governmental services including police and fire protection, solid waste disposal, public education in grades K-12, street maintenance, parks and recreational facilities.

Detailed credit considerations

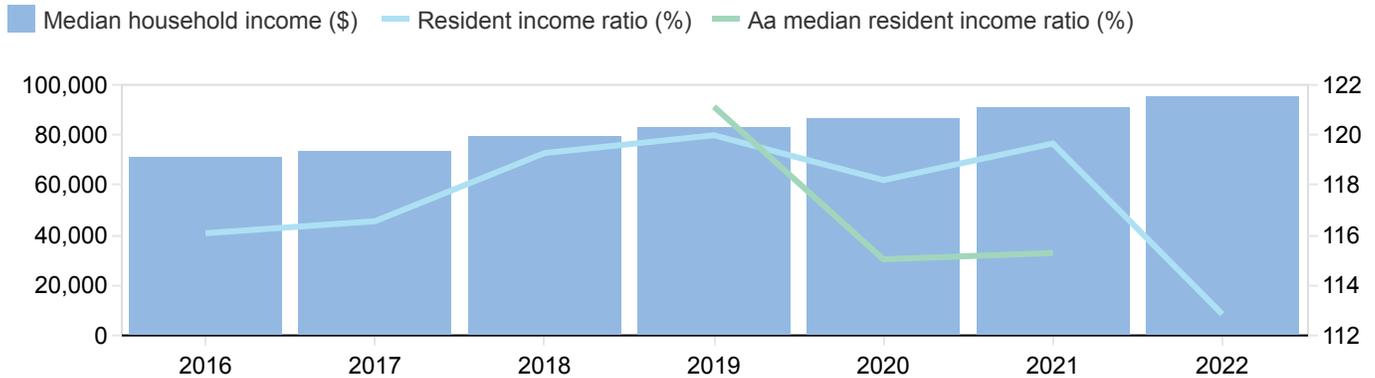
Economy: strong, diverse economy with above-average resident income and wealth

Framingham's economy is strong and driven in part by its location between the two largest cities in New England, Boston and Worcester, MA (Aa3 stable). The city's economic growth rate as measured by the Boston MSA's five year CAGR of real GDP compared to US real GDP is a strong 0.7%. The city also benefits from easy access to major transportation routes and has a large commercial and industrial presence. The city is home to many companies with over 1,000 employees including top employers with headquarters based in Framingham. Those top employers include Bose Corp., [TJX Companies, Inc.](#) (A2 stable), and [Staples, Inc.](#) (B3 stable). The Massachusetts Department of State Police with around 2,300 employees as well as Framingham State University also provide some institutional presence.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

A few top taxpayers including TJ Maxx headquarters and Bose are currently appealing 2024 AV's. Although the driver behind the appeals are not directly related to a decline in office use but a corporate push nationally across all company property. The total potential tax liability is around \$390,000 and the city's overlay account balance is sufficient to cover if needed. The city reports that some businesses have prioritized improving amenities to make the return to office more attractive. For example, the large 990 office park in the city has submitted plans to develop a nine-hole executive golf course at its location. Despite the large commercial presence and concerns over office property vacancies, the 2025 total assessed value increased by 8.7% from last year and the commercial sector increased by 8.5%.

Exhibit 2
Resident Income



Source: Moody's Ratings

Financial operations: recent trend of balanced operations and utility rate increases has stabilized the financial position

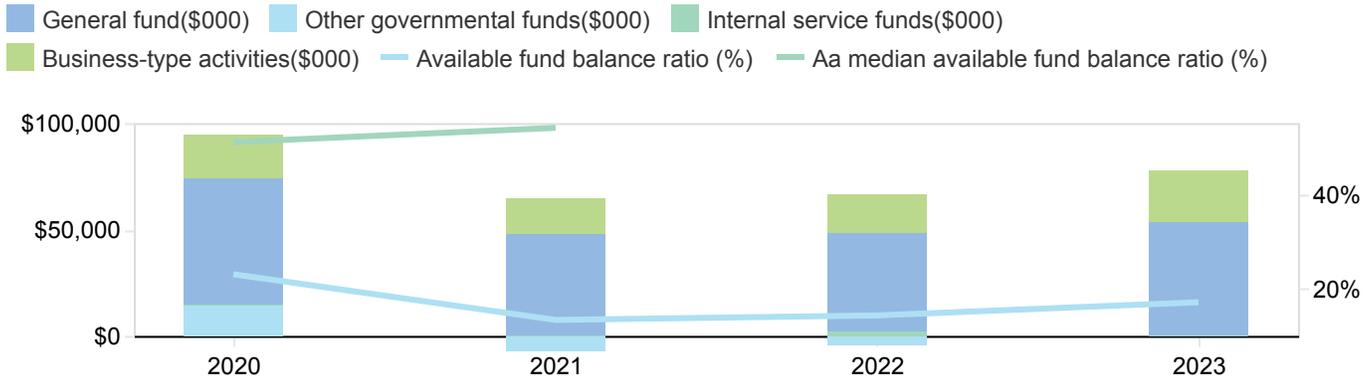
Framingham has stabilized its financial position over the last three years by reducing its use of reserves for operations, increasing utility fees to balance the water and sewer operations and positioning itself to incrementally grow reserves as a percent of revenue. The city also used modest tax increases, conservative budgeting and benefitted from a 20% increase in state education funding in both fiscal 2023 and 2024.

The current fiscal 2025 budget increased by 4.4% over the prior year driven by education, retirement contributions, debt service and health insurance. The budget is balanced with a tax levy increase to the 2.5% levy limit plus new growth and \$3.4 million in reserves. Future budget drivers are expected to be salaries, retirement contributions and health insurance costs. We expect the city to conservatively manage expenses focusing on level services and weigh the need to tap unused levy capacity as needed to maintain balanced budgets with limited use of reserves. The city's 2024 unused levy capacity of \$40.9 million represents a healthy 9% of governmental and business-type activities revenue.

Fiscal 2024 year-end operating results are projected to reflect an operating surplus that results in an increase in unassigned general fund balance of \$6 million. The positive revenue variance was attributable to strong investment earnings and motor vehicle excise tax collections. Expenditures were under budget by around \$9 million.

Framingham's governmental activities provide 87% of the city's revenue base with property taxes representing 53% of fiscal 2023 governmental revenue. The city's business-type activities including the water and sewer utility fund, provide the remaining revenue sources. The largest expenditures are education and general government representing 51% and 25%, respectively, of total governmental costs.

Exhibit 3
Fund Balance

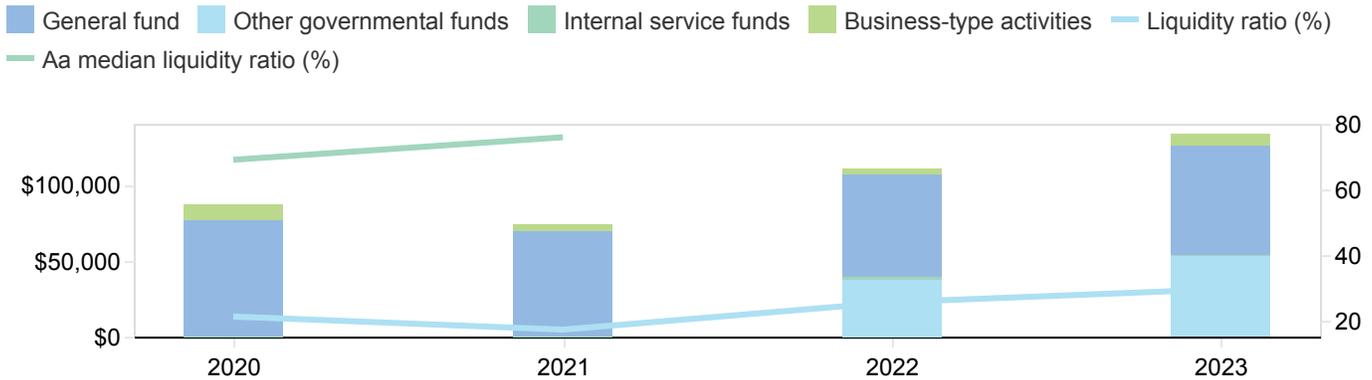


Source: Moody's Ratings

Liquidity

Framingham's net unrestricted cash and investments at the end of fiscal 2023 was \$133.5 million representing 29.5% of revenue. The liquidity position through the end of fiscal 2024 is not expected to materially change once the audit is released.

Exhibit 4
Cash



Source: Moody's Ratings

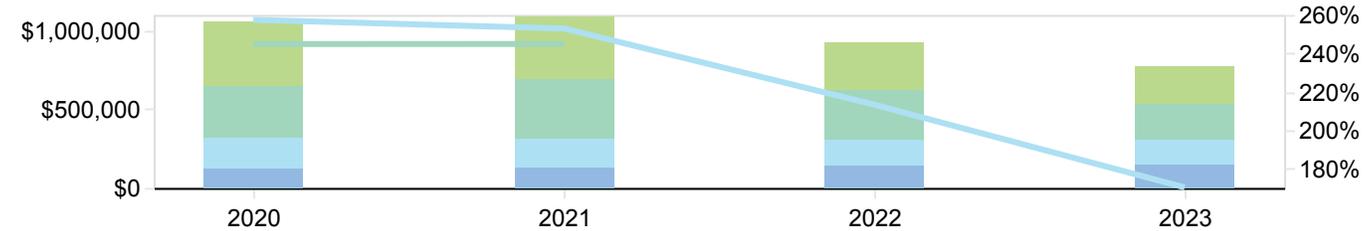
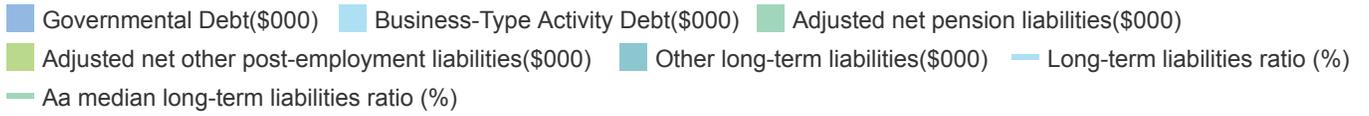
Leverage: Capital plan will drive leverage over the near term while total long-term liabilities remain moderate

The city's leverage is in-line with peers in the rating category. We expect the long-term liabilities to remain manageable but will likely increase slightly driven by an increase in capital projects and debt financing. The fiscal 2026 capital budget currently totals almost \$42 million related to the general fund and \$63 million for enterprise projects. The city anticipates leveraging state loans for the water and sewer projects. The city maintains a debt policy for general fund debt service to equal no more than 5% of the budget.

The city ended fiscal 2023 with a long-term liabilities ratio of 170.2% of revenue. The city's debt accounts for 40% of the total leverage ratio while adjusted net pension liability and adjusted net OPEB liability represent another 30% and 30%, respectively.

Exhibit 5

Total Primary Government - Long Term Liabilities



Legal security

All of the city's bonds and notes are backed by Framingham's full faith and credit general obligation limited tax pledge because not all of the debt service has been voted as excluded from the Proposition 2 ½ tax levy limit.

Debt structure

All of the city's debt is fixed rate with a final maturity of 2044.

Debt-related derivatives

Framingham is not party to interest rate swaps or other derivative agreements.

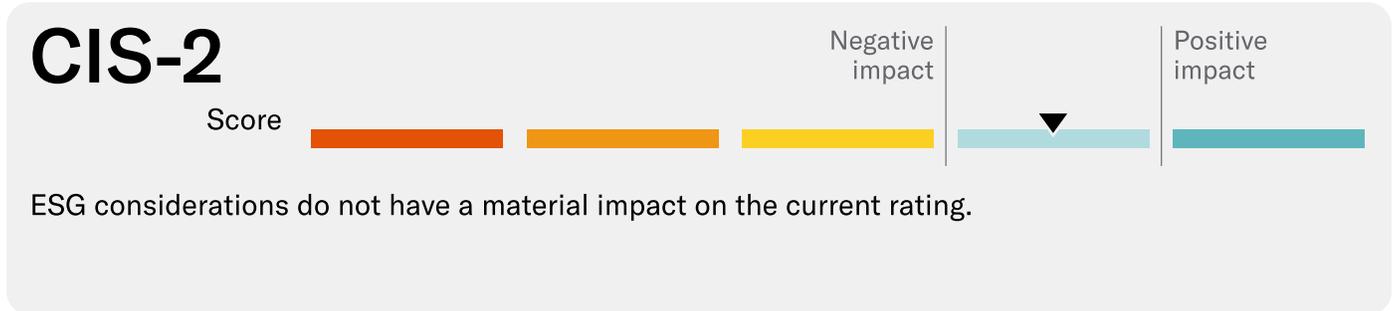
Pensions and OPEB

Framingham's pension and OPEB liabilities are larger than its debt burden and though manageable at this time, represent a potential future credit challenge. The city participates in the Framingham Retirement Plan, a multi-employer defined benefit plan and makes annual required contributions. The latest actuarial report assumes a 7% discount rate and maintains a funded date of 2030 on a reported basis. Annual pension contributions are scheduled to increase by 5.5% annually until 2030. The city's teachers participate in the Massachusetts Teachers Retirement System in which the city receives on-behalf payments toward that liability that is covered by the Commonwealth.

The city also funds its OPEB liability on a pay-go basis and has made deposits into an OPEB trust but has not contributed to the trust since fiscal 2020. The OPEB plan fiduciary net position is 3.4% of the total OPEB liability as of the end of fiscal 2023.

ESG considerations

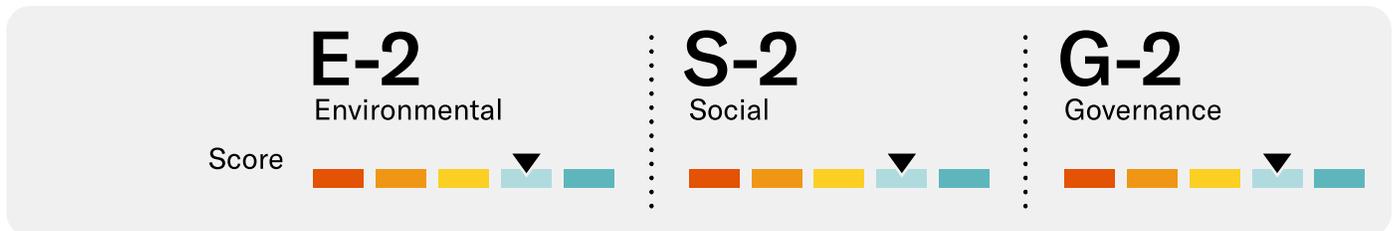
Exhibit 6
ESG credit impact score



Source: Moody's Ratings

The City of Framingham's ESG credit impact score is neutral-to-low (**CIS-2**), reflecting neutral to low exposure to environmental, social and governance risks that support the city's credit rating, resilience and capacity to respond to shocks.

Exhibit 7
ESG issuer profile scores



Source: Moody's Ratings

Environmental

Framingham's E environmental profile score is neutral to low (**E-2**). The city's carbon transition, natural capital, and water and pollution risks are modest. Given Framingham's geographical location, physical climate risk is also neutral to low with no material exposure to sea level rise and moderate exposure to shocks from extreme weather events such as hurricanes and nor-easters.

Social

Framingham's S social issuer profile score is neutral to low (**S-2**). The city benefits from a positive health and safety profile, while exposures to demographics, labor and income, education, housing, and access to basic services are neutral to low.

Governance

Framingham's G governance issuer profile score is neutral to low (**G-2**). The city is managed by certified and experienced professionals who are responsible for implementing its policy objectives. Framingham benefits from a strong state-wide institutional framework and conservative budgeting that has resulted in stable financial operations. The city also approves and releases its budgets and audited financial statements in a timely manner.

Rating methodology and scorecard factors

The US Cities and Counties Methodology includes a scorecard, which summarizes the rating factors generally most important to city and county credit profiles. Because the scorecard is a summary, and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not map closely to the actual rating assigned.

Exhibit 8

Framingham (City of) MA

	Measure	Weight	Score
Economy			
Resident income ratio	112.8%	10.0%	Aa
Full value per capita	176,035	10.0%	Aa
Economic growth metric	0.7%	10.0%	Aaa
Financial Performance			
Available fund balance ratio	17.1%	20.0%	A
Liquidity ratio	29.5%	10.0%	A
Institutional Framework			
Institutional Framework	Aa	10.0%	Aa
Leverage			
Long-term liabilities ratio	170.2%	20.0%	Aa
Fixed-costs ratio	10.1%	10.0%	Aa
Notching factors			
No notchings applied			
Scorecard-Indicated Outcome			Aa3
Assigned Rating			Aa2

The Economic Growth metric cited above compares the five-year CAGR of real GDP for Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area to the five-year CAGR of real GDP for the US.

Sources: US Census Bureau, Framingham (Town of) MA's financial statements and Moody's Ratings

Appendix

Exhibit 9

Key Indicators Glossary

	Definition	Typical Source*
Economy		
Resident income ratio	Median Household Income (MHI) for the city or county, adjusted for Regional Price Parity (RPP), as a % of the US MHI	MHI: US Census Bureau - American Community Survey 5-Year Estimates RPP: US Bureau of Economic Analysis
Full value	Estimated market value of taxable property in the city or county	State repositories; audited financial statements; continuing disclosures
Population	Population of the city or county	US Census Bureau - American Community Survey 5-Year Estimates
Full value per capita	Full value / population	
Economic growth metric	Five year CAGR of real GDP for Metropolitan Statistical Area or county minus the five-year CAGR of real GDP for the US	Real GDP: US Bureau of Economic Analysis
Financial performance		
Revenue	Sum of revenue from total governmental funds, operating and non-operating revenue from total business-type activities, and non-operating revenue from internal services funds, excluding transfers and one-time revenue, e.g., bond proceeds or capital contributions	Audited financial statements
Available fund balance	Sum of all fund balances that are classified as unassigned, assigned or committed in the total governmental funds, plus unrestricted current assets minus current liabilities from the city's or county's business-type activities and internal services funds	Audited financial statements
Net unrestricted cash	Sum of unrestricted cash in governmental activities, business type activities and internal services fund, net of short-term debt	Audited financial statements
Available fund balance ratio	Available fund balance (including net current assets from business-type activities and internal services funds) / Revenue	
Liquidity ratio	Net unrestricted cash / Revenue	
Leverage		
Debt	Outstanding long-term bonds and all other forms of long-term debt across the governmental and business-type activities, including debt of another entity for which it has provided a guarantee disclosed in its financial statements	Audited financial statements; official statements
Adjusted net pension liabilities (ANPL)	Total primary government's pension liabilities adjusted by Moody's to standardize the discount rate used to compute the present value of accrued benefits	Audited financial statements; Moody's Ratings
Adjusted net OPEB liabilities (ANOL)	Total primary government's net other post-employment benefit (OPEB) liabilities adjusted by Moody's to standardize the discount rate used to compute the present value of accrued benefits	Audited financial statements; Moody's Ratings
Other long-term liabilities (OLTL)	Miscellaneous long-term liabilities reported under the governmental and business-type activities entries	Audited financial statements
Long-term liabilities ratio	Debt + ANPL + ANOL + OLTL / Revenue	
Fixed costs		
Implied debt service	Annual cost to amortize city or county's long-term debt over 20 years with level payments	Audited financial statements; official statements; Moody's Ratings
Pension tread water contribution	Pension contribution necessary to prevent reported unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met	Audited financial statements; Moody's Ratings
OPEB contribution	City or county's actual contribution in a given period	Audited financial statements
Implied cost of OLTL	Annual cost to amortize city or county's other long-term liabilities over 20 years with level payments	Audited financial statements; Moody's Ratings
Fixed-costs ratio	Implied debt service + Pension tread water + OPEB contributions + Implied cost of OLTL / Revenue	

*Note: If typical data source is not available then alternative sources or proxy data may be considered. For more detailed definitions of the metrics listed above please refer to the [US Cities and Counties Methodology](#).

Source: Moody's Ratings

© 2024 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Materials.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody's.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V., I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

CLIENT SERVICES

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