

CREDIT OPINION

10 January 2022



Contacts

Coley J Anderson +1.312.706.9961

AVP-Analyst

coley.anderson@moodys.com

Rachel Cortez +1.312.706.9956

Associate Managing Director
rachel.cortez@moodys.com

CLIENT SERVICES

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

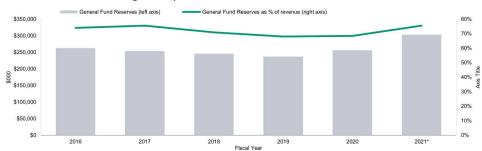
Metro. Water Reclam. Dist. of Greater Chicago

Update to credit analysis

Summary

The Metropolitan Water Reclamation District of Greater Chicago, IL's (Aa2 stable) credit profile is supported by its substantial and largely stable financial position that has benefited from high levels of revenue predictability and strong expenditure control. While the district is coterminous with Cook County (A2 stable), its governance is independent from other local governments. The district benefits from a very large tax base and diverse economic composition that serves as the largest regional economic center in the Midwest. The district's challenges include elevated debt and pension burdens of the district and overlapping local governments.

Exhibit 1
District reserves are strong and expected to remain stable



Fiscal 2021 reflects projected results Source: Audited financial statements, Moody's Investors Service

Credit strengths

- » Large diverse economy anchored by <u>Chicago</u> (Ba1 stable)
- » Healthy financial operations with ample fund balance and liquidity
- » Governance structure is independent from other local governments

Credit challenges

- » Property taxes, the district's key revenue source, are subject to caps on rates and annual levy increases
- » Elevated direct and overall debt and pension burdens

MOODY'S INVESTORS SERVICE U.S. PUBLIC FINANCE

» Fixed costs comprise a high percentage of the operating budget

Rating outlook

The stable outlook reflects the district's ability to maintain reserves while absorbing growing fixed costs into its budget. Revenue and expenditure pressures related to the pandemic have been minor and are expected to remain so.

Factors that could lead to an upgrade

» Moderation of the direct and overlapping debt and pension burdens

Factors that could lead to a downgrade

- » Declines in operating reserves or liquidity
- » Growth in the direct or overlapping debt or pension burdens

Key indicators

Exhibit 2

Metropolitan Water Reclamation District of Chicago	2016	2017	2018	2019	2020
Economy/Tax Base					
Total Full Value (\$000)	\$529,670,327	\$559,685,160	\$585,788,374	\$609,562,341	\$609,562,341
Population	5,227,575	5,238,541	5,223,719	5,198,275	5,198,275
Full Value Per Capita	\$101,322	\$106,840	\$112,140	\$117,262	\$117,262
Median Family Income (% of US Median)	103.2%	103.1%	103.2%	104.5%	104.5%
Finances					
Operating Revenue (\$000)	\$713,250	\$675,381	\$738,590	\$695,845	\$763,825
Fund Balance (\$000)	\$471,809	\$469,531	\$469,326	\$432,908	\$447,076
Cash Balance (\$000)	\$389,200	\$412,433	\$395,097	\$417,152	\$435,492
Fund Balance as a % of Revenues	66.1%	69.5%	63.5%	62.2%	58.5%
Cash Balance as a % of Revenues	54.6%	61.1%	53.5%	59.9%	57.0%
Debt/Pensions					
Net Direct Debt (\$000)	\$2,968,045	\$3,032,770	\$2,956,022	\$2,861,341	\$2,801,370
3-Year Average of Moody's ANPL (\$000)	\$1,921,929	\$2,095,119	\$2,172,533	\$2,234,710	\$2,374,718
Net Direct Debt / Full Value (%)	0.6%	0.5%	0.5%	0.5%	0.5%
Net Direct Debt / Operating Revenues (x)	4.2x	4.5x	4.0x	4.1x	3.7x
Moody's - adjusted Net Pension Liability (3-yr average) to Full Value (%)	0.4%	0.4%	0.4%	0.4%	0.4%
Moody's - adjusted Net Pension Liability (3-yr average) to Revenues (x)	2.7x	3.1x	2.9x	3.2x	3.1x

Full valuation and population are not currently available for 2020 and are carried forward from the prior year. Full valuation is displayed on an estimated fiscal year basis. Source: Audited Financial Statements, US Census, Moody's Investors Service

Profile

The Metropolitan Water Reclamation District of Greater Chicago is the sanitary district for nearly all of Cook County. It provides collection and treatment services for approximately 5.2 million people over 882 square miles, including residents of the City of Chicago and 129 suburban communities.

Detailed credit considerations

Economy and tax base: large, diverse tax base with substantial tax rate headroom

The district's tax base, which is largely coterminous with the county, serves as the economic center for a large portion of the Midwest and the third largest regional economy in the country. Chicago comprises about half of the population and tax base of the county. The 2020 census reflected a 2% increase in population from 2010 to 5.3 million residents. Unemployment has improved from last year but remains high, similar to other large metropolitan areas.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

MOODY'S INVESTORS SERVICE U.S. PUBLIC FINANCE

The district's tax base, valued at \$609 billion, has grown steadily at an annual average rate of 5.8% over the last five years, driven by appreciation of existing property and substantial construction activity in and around Chicago. Although residential housing values (about 75% of equalized valuation) will likely strengthen, commercial values could face some headwinds. This could result in a shift in the property tax burden among taxpayers, but the district is unlikely to see a decline in tax revenue even if there is a decline in valuations. The district has ample headroom under tax rate limitations. For example, in 2020 the corporate fund tax rate was 0.158 compared with a statutory cap of 0.410. The district sets its annual levy at a dollar amount, which the Cook County assessor distributes among taxpayers and applies the applicable tax rate up to the statutory limits.

Financial operations and reserves: strong reserve position with limited financial impact from the pandemic

The district is experiencing minimal financial impacts from the pandemic, given strong expenditure control and a revenue base that is heavily reliant on predictable property taxes. For fiscal 2021, the district expects to close the year with an increase in general fund reserves of approximately \$50 million. The projected results are supported by stability in property tax receipts, the district's largest revenue source, favorable variances in personal property replacement taxes (PPRT) and holding the line on expenditures. The district has collected over 100% of its debt service levy for the past nine consecutive years. As of October 2021, the district had collected 95% of its annual debt service levy and another year of full collections is anticipated. The district's recommended budget for fiscal 2022 is balanced based on reasonable assumptions for revenue and expenditures and we expect reserves to increase slightly given its history of strong budget to actual performance. For fiscal 2020, the district closed the year with an increase in general fund reserves of \$20 million, which was also supported by lower than budgeted spending and ongoing stability of property tax revenue. The district was not eligible for federal relief aid as a result of the pandemic.

The district is primarily reliant on property taxes, which accounted for 85% of operating revenue in fiscal 2020. Property taxes revenue is typically stable from year to year, as the district maintains room under statutory rate caps and typically increases the levy by the amount allowed under the Property Tax Limitation Law (PTELL). Charges for services represents the district's second largest revenue source at approximately 10% of operating revenue. Revenue generation from charges for services has not materially changed over the last five years.

Liquidity

Net cash across district operating funds is expected to remain strong. At the close of fiscal 2020 net cash totaled \$435 million, equal to a healthy 59% of operating revenue.

Debt, pensions and OPEB: long-term leverage is primary credit challenge

Long-term leverage related to debt and pensions will remain the district's primary credit challenge. As of fiscal 2020, the district's direct debt burden was low relative to tax base valuation at 0.5%. However, the direct debt burden was elevated when compared to operating revenue at 3.7x. Debt service accounted for a high 31% of operating revenues in fiscal 2020. The district's high debt service costs are largely attributable to the capital intensive nature of the district. The capital program calls for approximately \$1 billion in system improvements over the next five years. The district's debt burden will remain high, but the use of grants and pay-go capital financing should prevent material growth in the debt burden.

Overall fixed costs (combined debt service, pension and other post-employment benefits) equaled a very high 45% of operating revenue. Pension liabilities are above average. As of fiscal 2020, the district's three year average Moody's adjusted net pension liability (ANPL) totaled \$2.4 billion, equal to a significant 3.1x operating revenue and 0.4% of full valuation.

Debt structure

All of the district's debt is fixed rate. Amortization of debt is moderate, with 44% of principal set to be retired over the next ten years. The district's \$2.9 billion in debt includes state revolving fund (SRF) loans, general obligation unlimited tax (GOULT) bonds, general obligation limited tax (GOLT) debt service extension base (DSEB) bonds, bond anticipation notes (BANs) and capital leases. GOLT DSEB debt is paid from the district's DSEB, which totaled \$169 million in fiscal 2019. The DSEB provides sufficient coverage on outstanding GOLT debt, assuming no growth in the DSEB.

Debt-related derivatives

The district is not a party to any derivative agreements.

MOODY'S INVESTORS SERVICE U.S. PUBLIC FINANCE

Pensions and OPEB

Eligible district employees participate in the Metropolitan Water Reclamation District Retirement Fund, a single-employer defined benefit pension plan. Employee and employer contribution levels are defined by state statute and have historically been insufficient to reduce unfunded liabilities. In August 2012, the Illinois General Assembly passed Public Act 97-0894, which provides for additional pension funding through increased employer and employee contributions. As a result, the district's statutory employer multiplier was increased to 4.19 times from 2.19 times. The reform increased employee contributions by 1% annually for three years, going from 9% to its current 12%. The reform requires the district to contribute the lesser of 4.19 times the employee contribution or the actuarially determined amount. However, Section 5.9 of 70 ILCS 2605 also allows the district, by a vote of two-thirds of its board members, to contribute interest earnings from some of the district's operating funds to the Retirement Fund. Beginning January 1, 2022, the district will be allowed to make contributions from a wider swath of operating revenue, upon a two-thirds vote by the District's Board of Commissioners, given the recent passage of P.A. 101-0670. In addition to its legislated pension reform, in September 2014, the district adopted a new funding policy that directs it to contribute an annual amount to the fund that will result in a funded ratio of 100% by 2050.

Due to these changes, the district's pension contributions have increased significantly in recent years. In fiscal 2020, district contributions were \$107 million and 14% of operating fund revenues, up from \$30 million and 6% revenues in fiscal 2010. Fiscal 2020 contributions were equivalent to a strong 113% of tread water. The district has budgeted for an additional one-time \$30 million pension contribution from the corporate fund in fiscal 2022.

The district's reported unfunded other post employment benefit (OPEB) liability as of December 31, 2020, the most recent actuarial valuation date, was \$72 million or a minimal 0.1x operating revenue. The district recently amended its funding policy to achieve a 100% funding level by 2027, using an assumed discount rate of 6.5%.

ESG considerations

Environmental

Environmental considerations are driving the system's extensive capital needs and high debt burden. According to data of Moody's ESG Solutions, Cook County is at high risk for extreme rainfall events relative to counties nationally. The system's Tunnel and Reservoir Plan (TARP, deep tunnel) aims to reduce flooding and protect waterways by substantially increasing reservoir capacity. MWRD is currently in phase two, which is expected to be completed in 2029. TARP is one of the country's largest public works projects for pollution and flood control.

Social

The system's local economy benefits from its role as the business, finance, transportation and tourism hub for the Midwest, as detailed in the Economy and Tax Base section. Overall resident income metrics are average, and unemployment rates are on par with the state and median trends.

Governance

The district maintains legal separation of management and governance from other overlapping units of local government. The district's legal separation reduces the risk that financial pressures experienced by the other Chicago area local governments will directly impact the district's financial position. Cook County residents elect the district's Board of Commissioners, a board of nine members who serve six-year terms. The executive director, who is appointed by the Board of Commissioners, manages and controls district operations. Management has demonstrated a willingness to control operating expenditures.

Illinois utility districts have an institutional framework score of "Aa" or strong. We expect property tax revenues to remain largely stable given significant margin under rate limits to adjust for fluctuations in the tax base. However, in addition to rate caps, the district is subject to the PTELL, which limits growth in property tax extensions to the lesser of 5% or the CPI.

© 2022 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 BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") 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 PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS 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 PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 ITS PUBLICATIONS 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 PUBLICATIONS 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 PUBLICATIONS 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.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 rating process or in preparing its Publications.

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 fees ranging from \$1,000 to approximately \$5,000,000. 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 and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

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 Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

 $MJKK\ and\ MSFJ\ also\ maintain\ policies\ and\ procedures\ to\ address\ Japanese\ regulatory\ requirements.$

REPORT NUMBER 1310339

