

CREDIT OPINION

9 March 2022



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Detroit (City of) MI

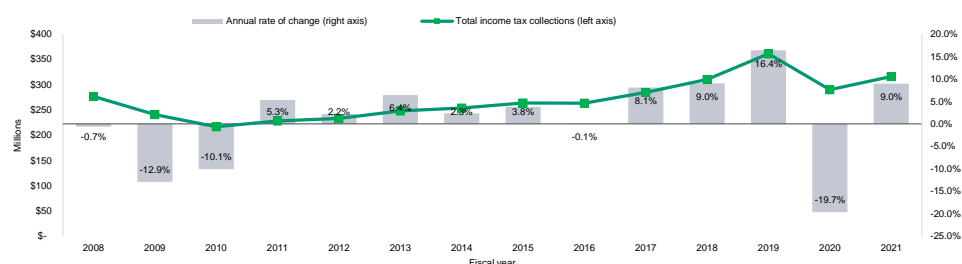
Update to credit analysis following upgrade to Ba2 positive

Summary

[Detroit's](#) (Ba2 positive) revenue base was exposed to the pandemic driven economic disruptions. Income taxes dropped because of nonresidents working remotely (see Exhibit 1) and wagering taxes were halted as casinos closed. Despite those pressures, Detroit posted its sixth consecutive operating surplus in fiscal 2021 and is on pace for another strong year in fiscal 2022. To maintain the financial momentum, the city will need either steady revenue growth or further budgetary action to accommodate growth in pension expenses. The city has been setting aside funds to prepare for fixed cost growth, but the scale of the city's pension contribution challenges will be heavily influenced by the investment returns of its pension systems and length of amortization, which was recently shortened in one plan to 20 years from 30 years and part of our baseline assumption. The city's economic base is a credit constraint with low resident income, depressed tax base wealth and elevated unemployment.

Exhibit 1

Income taxes took a significant hit during 2020
Detroit income tax collections



2019 includes some one-time payments, organic growth was approximately 5%

Source: Detroit (City of) MI's financial statements, Detroit revenue estimates and Moody's Investors Service

On March 9, we upgraded the underlying rating on the city's general obligation to Ba2 rating and maintained the positive outlook.

Credit strengths

- » Despite disruptions, the trajectory of the city's job base and income tax receipts is positive
- » Reserve position is quite healthy and growing
- » Very strong financial planning practices include annual conference to estimate revenues, long-range financial planning and conservative budgetary assumptions

Credit challenges

- » Budgetary risk stemming from a pending spike in pension contributions, exposure to pension asset return fluctuations and volatile revenue structure
- » Median family income and full value per capita is among the lowest of large US cities and the economy is concentrated in auto manufacturing
- » Direct and overlapping leverage is very high relative to the tax base

Rating outlook

Factors that could lead to an upgrade

- » Robust revenue growth that makes rising fixed costs easier to accommodate
- » Strengthening of full value per capita, median family income and population trends
- » Accumulation of additional resources in an irrevocable trust to reduce budgetary risk of rising pension costs

Factors that could lead to a downgrade

- » Material growth in leverage, fixed costs or capital needs, or draws on operating reserves that leave inadequate reserves to mitigate challenges
- » Failure to sustain progress towards meeting future increases in pension contributions
- » Negative changes in the city's economic profile, weakening of labor market trends, or an acceleration of depopulation

Key indicators

Exhibit 2

Detroit (City of) MI

	2017	2018	2019	2020	2021
Economy/Tax Base					
Total Full Value (\$000)	\$13,903,689	\$13,742,422	\$14,662,922	\$19,428,551	\$21,269,506
Population	679,865	677,155	674,841	674,841	674,841
Full Value Per Capita	\$20,451	\$20,294	\$21,728	\$28,790	\$31,518
Median Family Income (% of US Median)	47.2%	47.3%	47.7%	47.7%	47.7%
Finances					
Operating Revenue (\$000)	\$1,332,096	\$1,358,966	\$1,473,059	\$1,436,706	\$1,484,560
Fund Balance (\$000)	\$590,743	\$647,295	\$703,636	\$713,349	\$753,510
Cash Balance (\$000)	\$846,369	\$909,393	\$961,988	\$1,055,681	\$1,160,875
Fund Balance as a % of Revenues	44.3%	47.6%	47.8%	49.7%	50.8%
Cash Balance as a % of Revenues	63.5%	66.9%	65.3%	73.5%	78.2%
Debt/Pensions					
Net Direct Debt (\$000)	\$1,833,414	\$1,707,018	\$1,828,161	\$1,770,074	\$1,972,873
3-Year Average of Moody's ANPL (\$000)	\$3,901,422	\$3,516,302	\$3,697,896	\$3,593,563	\$3,934,030
Net Direct Debt / Full Value (%)	13.2%	12.4%	12.5%	9.1%	9.3%
Net Direct Debt / Operating Revenues (x)	1.4x	1.3x	1.2x	1.2x	1.3x
Moody's - ANPL (3-yr average) to Full Value (%)	28.1%	25.6%	25.2%	18.5%	18.5%
Moody's - ANPL (3-yr average) to Revenues (x)	2.9x	2.6x	2.5x	2.5x	2.6x

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.moody's.com for the most updated credit rating action information and rating history.

Population data is from American Community Survey.

Sources: US Census Bureau, [Detroit \(City of\) MI's financial statements](#) and [Moody's Investors Service](#)

Profile

According to the 2020 census, the city has a population of just under 640,000, making it one of the 30 largest cities in the US and the largest city in [Michigan](#) (Aa1 stable). The city emerged from bankruptcy in 2014.

Detailed credit considerations

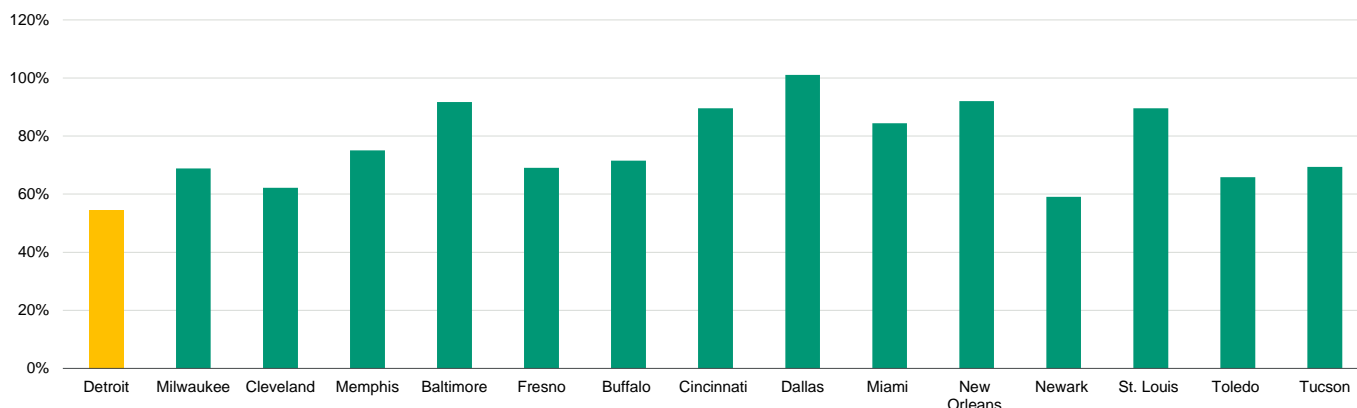
Economy and tax base: economic base is improving, but continues to trail peers

Detroit is particularly susceptible to economic contractions because it is heavily tied to the domestic auto industry and resident incomes are very low. The city's employment base has been improving over the past decade and will be further boosted as the city is attracting new and expanded manufacturing facilities. Notwithstanding that improvement, resident income (see Exhibit 3) and property tax wealth will remain very low relative to peers and sector medians.

Exhibit 3

Detroit income levels are below peers

Per capita income as a percent of the US



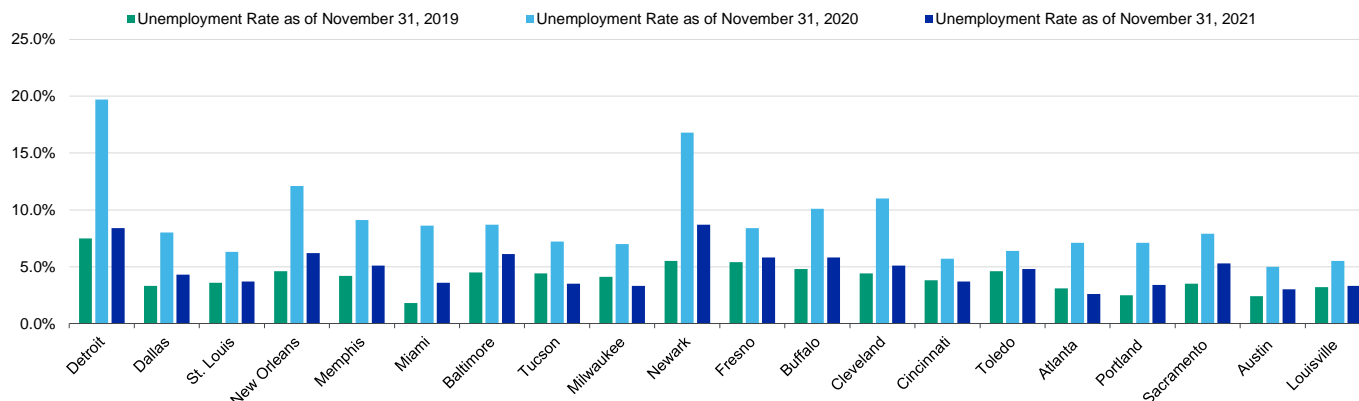
Source: American Community Survey 5 year estimates

Detroit's unemployment rate was much higher than its peers during the peak economic pressures from the pandemic and remains higher than most as the economy has recovered (see Exhibit 4). While still susceptible to economic fluctuations, the employment trajectory of the city is fundamentally improved. Prior to the 2007-09 recession, Detroit was losing jobs even as the rest of the nation expanded (see Exhibit 5). That pattern has changed, with job growth in the city more closely following the nation during times of economic expansion.

Exhibit 4

Detroit's unemployment rate is elevated relative to peers

Unemployment rate

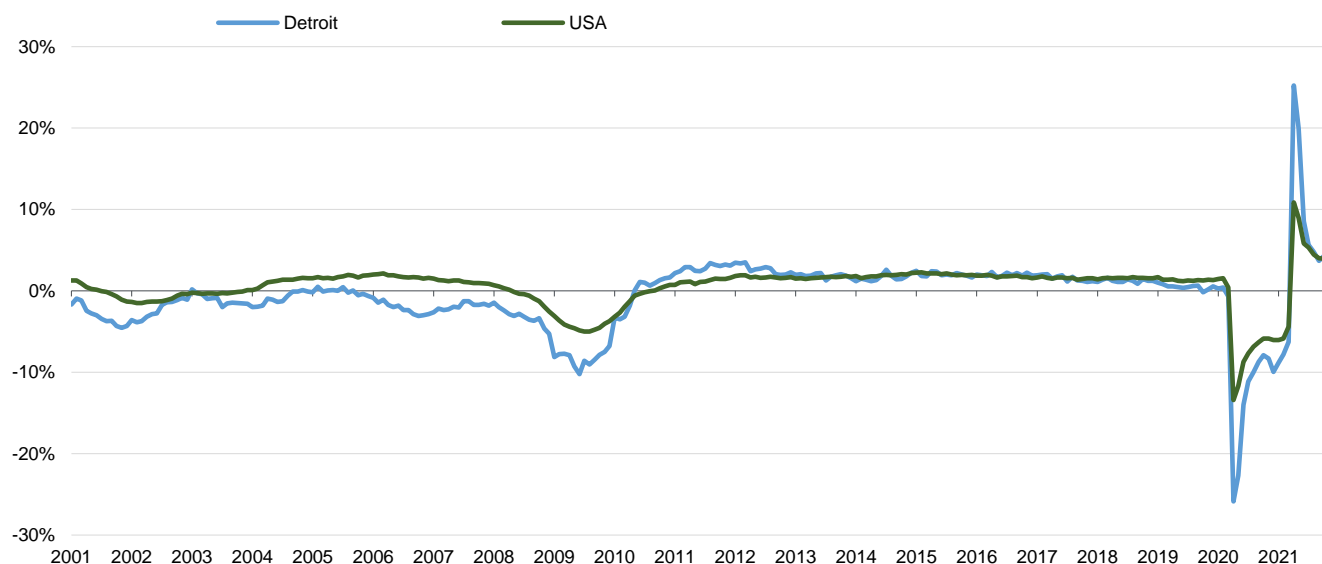


Source: US Bureau of Labor Statistics

Exhibit 5

Detroit's labor force trajectory is fundamentally improved, but more volatile than the nation

Year-over-year growth, total nonfarm employment (seasonally adjusted), Detroit-Warren-Dearborn



Source: US Bureau of Labor Statistic

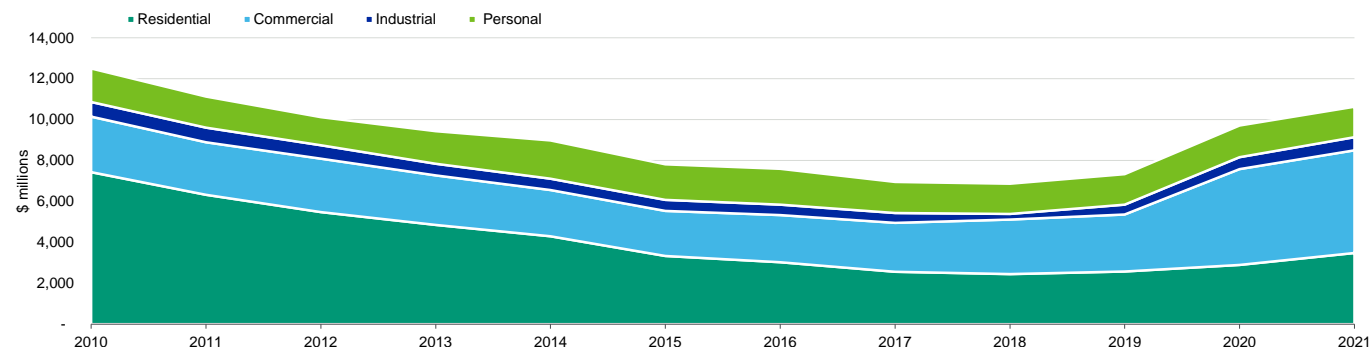
Detroit is poised to further expand its employment base with [General Motors Company](#) (Baa3 stable), [Ford Motor Company](#) (Ba2 stable), [Stellantis N.V.](#) (Baa3 stable) and a number of auto suppliers making major investments in the city that are creating thousands of jobs. Detroit is also a logistics hub, a position that will be bolstered by a second international crossing that is being constructed, the Gordie Howe International Bridge. Huntington Bank, which recently absorbed Chemical Bank and TCF bank, is making Detroit its commercial banking headquarters with a new 20-story building that is under construction.

Commercial property, which could see the most significant lingering impact of the pandemic, comprises just under half of the city's property tax base following substantial growth last year (see Exhibit). Recent trends have been favorable due to appreciation and a reassessment. Residential property which is benefitting from a booming housing market, comprises just under a third of valuation. The city has been targeting strengthening of neighborhoods outside of downtown. Voters approved bonding that will support those efforts by combating blight. The city has a number of large development projects underway, including a billion dollar hotel and condo development.

Exhibit 6

Detroit's tax base is growing led by commercial properties

State equalized valuation (50% of market values) by class



Source: Official statements, City of Detroit, Wayne County

Financial operations and reserves: federal funds and early management response mitigated pandemic driven revenue losses

The city's reserves will remain stable to growing for another couple of years because of an influx of federal aid and recovering revenue. In fiscal 2024, the city will face rising pension contributions and federal aid will have to have been completely allocated. The city's capacity to absorb increasing fixed costs will largely be determined by trends in the city's revenues, which are subject to volatility.

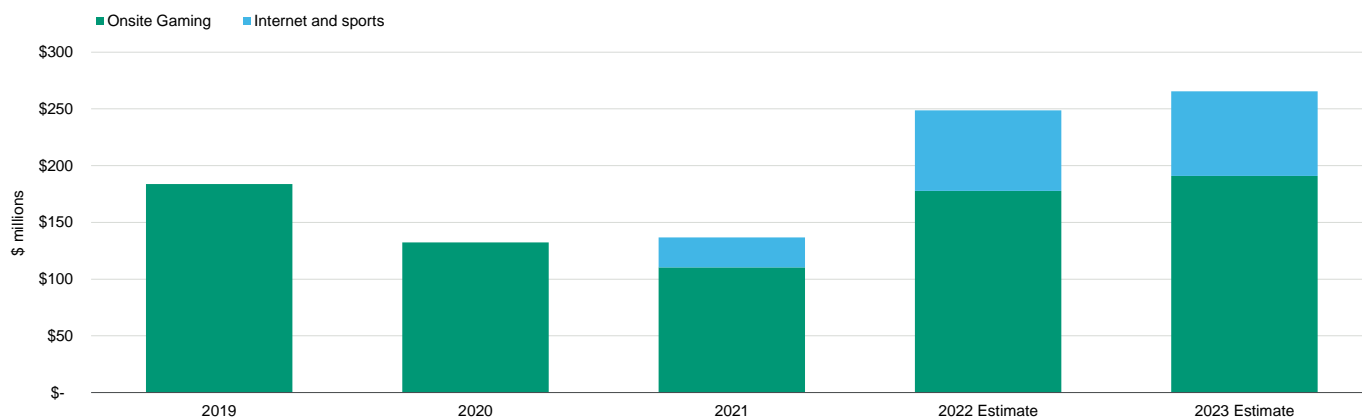
Despite substantial declines in income taxes and wagering taxes caused by the pandemic driven economic disruptions, Detroit continued its long trend of adding to reserves in fiscal 2021 growing available fund balance to \$750 million, which is equal to over a half a year of revenues. The city had been projecting a \$150 million decline in available reserves in fiscal 2021, but reserves increased because revenues came in nearly \$170 million better than projected.

The city is well poised to further strengthening its finances over the next two fiscal years. In fiscal 2022, the city's revenues are on pace to exceed expenditures by \$40 million supported by continued revenue recovery. Revenue growth is likely to continue into next year with a likely boost in state aid, recovering income tax receipts and substantial increases in wagering taxes, which is being bolstered by internet and sports betting (Exhibit 7). The mayor's proposed fiscal 2023 budget includes around \$100 million in one time items that would be paid with reserves, which is partially offset with a \$30.7 million deposit to the rainy day fund (included in assigned fund balance). Given a history of positive variances, any draws in fiscal 2023 are likely to be small. The city is also benefiting from a huge infusion of federal aid with an award of \$826.7 million in American Rescue Plan Act (ARPA) funds, which is being used for a variety of initiatives focused on nonrecurring costs including blight removal, neighborhood investments and park improvements.

Exhibit 7

Wagering taxes getting substantial boost from internet and sport gaming

Detroit wagering tax revenues



Source: Detroit February 2022 revenue estimating report; Moody's Investors Service

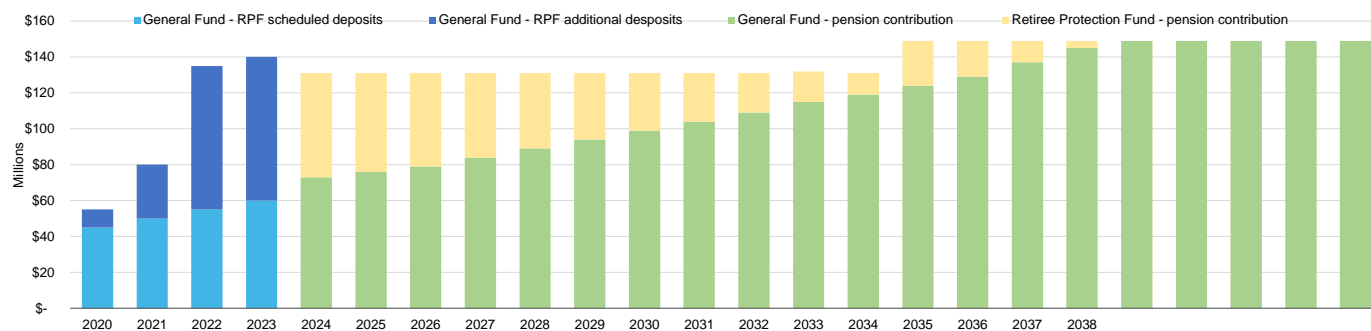
In fiscal 2024 and beyond financial operations may tighten with the potential for reserves to grow more slowly or even begin to moderately decline because federal funds will be exhausted and the city will need to resume pension payments. In addition, the city has long planned to spend down a portion of its assigned fund balance for capital and other uses, a prospect that becomes more likely after federal funds and bond proceeds are exhausted. Given the city's economically sensitive revenue mix, robust revenue growth would decrease the probability of weakening of reserves while and an economic downturn would increase it.

Detroit's bankruptcy plan of adjustment (POA) required a modest \$20 million contribution from the general fund to its pension plans through 2019 and no contributions from fiscal 2020 through fiscal 2023. The amount the city will need to contribute is highly sensitive to actuarial assumptions including asset performance, amortization method and length. The city's legacy police and fire pension board moved to a 20 from 30 year amortization, which the city is planning to legally contest. Our credit analysis, however, includes a baseline assumption that the 20 year amortization will remain in place. Currently estimated at \$131 million, projections for the cost spike have fluctuated from a low of \$111 million to a high of \$198 million.

To prepare for the spike in pension contributions, the city has established an irrevocable trust, the Retiree Protection Fund (RPF). The city will draw from RPF starting in 2024 to fund a portion of pension contributions, smoothing the growth in payments made from the operating budget. To date the city has contributed \$369.7 million to the RPF.¹ and the mayor's budget proposal recommends another \$90 million contribution to the RPF in fiscal 2023. If assumptions hold, the trust would be available to smooth payments for fifteen years limiting annual growth in payments to about \$5 million annually. However, Detroit's contribution requirements will be heavily influenced by the investment returns of its two pension systems. For example, in a stress test scenario, we estimate that the city would instead exhaust its RPF assets in just 3 to 4 years if its pension systems were to suffer severe, 25% losses, placing additional burden on the city's general fund. As of their June 30, 2021 financial statements, more than half of the assets in the city's two legacy pension systems were allocated to public and private equity.

Exhibit 8

Detroit has established an irrevocable pension trust to prepare for a large contribution spike
General fund contributions, deposits to RPF and draws from RPF



Source: City of Detroit, Moody's Investors Service

Liquidity

Liquidity is very healthy. The city's cash is higher than fund balance due in large part because of cash held in special revenue funds that will spend down.

Debt and pensions: leverage high relative to full valuation more moderate compared with revenues

Despite deleveraging in bankruptcy, Detroit's long-term liabilities from debt and pensions is very high relative to its tax base. Relative to operations, the obligations are more moderate. The city's bonded debt burden will likely grow somewhat in coming years. In November 2020, voters granted authorization for the city to issue \$250 million in bonds for blight elimination, including housing demolitions and rehabilitations. The city issued \$175 million of bonds using the authorization in 2021 leaving \$75 million in authorization. The city has another \$71 million in voter authorization that it can tap for other capital projects.

Until resumption of actuarially based payments in 2024, contributions to the city's legacy plans are being made primarily from the [Great Lakes Water Authority](#) (GLWA, revenue rated A1 stable), the Foundation for Detroit's Future and other external sources. Total

contributions were short of the amount needed to prevent unfunded liabilities from growing under plan assumptions by around 4% of revenues, a contribution benchmark we call "treading water." Total fixed costs at the "tread water" level, would have consumed 20% of operating revenue.

Legal security

The city's rated GOULT bonds are full faith and credit general obligations secured by the city's pledge to levy property taxes without limitation as to rate or amount as authorized by voters.

A portion of Detroit's outstanding GO debt is also secured by distributable state aid (DSA; enhanced rating of Aa2 on liens one through four and Aa3 on lien five). Outstanding bonds with the enhancement benefit from a strong legal framework that allows the city to issue debt through the Michigan Finance Authority (MFA). Detroit has entered into an intercept agreement that obligates the state treasurer to directly deposit all authorized DSA payments to a third-party trustee to satisfy debt service requirements.

The city's \$124.5 million Michigan Transportation Fund Bonds, Series 2017 are secured by the city's Michigan Transportation Fund distributions. The bonds are structured to be drawn on predetermined dates and the city had \$115 million outstanding at the close of fiscal 2021. The bonds were issued by the MFA and sold as a private placement to [JP Morgan Chase Bank, N.A.](#) (senior unsecured rated Aa2 stable). Following an event of default the city would have to pay interest at a stepped up interest rate. Events of default are limited to non payment.

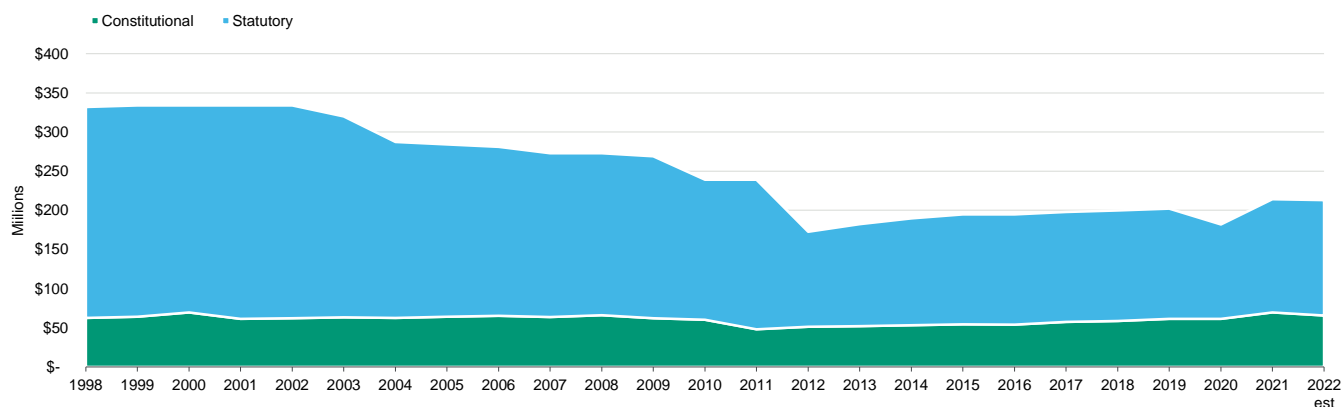
Debt structure

All of the city's debt is fixed rate. Debt service is descending, allowing room for the city to issue additional debt while keeping the millage rate steady. Amortization is somewhat slow with under 50% of debt retired in ten years.

State aid provides ample coverage of debt service across all five liens of DSA bonds at over 2.8x estimated 2022 payments. Distributions are comprised of a mix of constitutional payments and statutory payments. The more reliable constitutional payments provide ample coverage alone for liens one through three, some coverage of fourth lien bonds and fall short of sum sufficient coverage of fifth lien bonds. The fourth and fifth liens require the support of statutory payments to fully cover debt service. While statutory payments can and have been reduced (exhibit 13), there is ample coverage to absorb moderate cuts, and we do not expect state payments to be completely eliminated.

Exhibit 9

Statutory state aid distributions subject to cuts and fluctuations Statutory and constitutional aid distributions to the City of Detroit



The decline in state aid in fiscal 2020 was offset by a state grant from CARES Act funds.

Source: Michigan Department of Revenue, Audited Financial Statements

Debt-related derivatives

The city is not currently a party to any debt related derivative agreements.

Pensions and OPEB

In July 2014, benefit accruals were halted in the city's legacy pension plans, and all eligible employees began participating in one of two new hybrid pension plans. Benefits on the legacy pension plans were reduced in bankruptcy: cost-of-living adjustments (COLAs) were eliminated for members of the city's General Retirement System (GRS) in addition to a 4.5% reduction in base benefits, while members of the Police and Fire Retirement System received a 55% COLA reduction. Detroit's other post-employment benefit (OPEB) health care obligations were largely eliminated in bankruptcy.

Despite the benefit adjustments, Detroit's unfunded pension liabilities remain sizable. The city's reported net pension liability totaled \$1.8 billion at the close of fiscal 2021. Moody's three year average adjusted net pension liability (ANPL), which uses a high-grade corporate bond index as a discount rate to value accrued liabilities, totaled \$3.9 billion, equal to an extremely elevated 19% of full value. The burden is much more moderate compared with the budget at 2.6x revenue.

Actuarial reports indicate that unfunded pension liabilities will decline rapidly beginning in fiscal 2024 if the city contributes according to a 30-year level principal method. Under an alternate scenario of 30-year level dollar, liabilities would still peak in 2024, but be paid down more slowly.

ESG considerations

DETROIT (CITY OF) MI's ESG Credit Impact Score is Neutral-to-Low CIS-2

Exhibit 10

ESG Credit Impact Score

CIS-2

Neutral-to-Low

For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.



Source: Moody's Investors Service

Detroit's ESG Credit Impact Score is neutral to low (**CIS-2**), reflecting moderately negative exposure to environmental risks stemming from carbon transition, moderately negative exposure to social risks and positive governance profile.

Exhibit 11

ESG Issuer Profile Scores

ENVIRONMENTAL

E-3

Moderately Negative



SOCIAL

S-3

Moderately Negative



GOVERNANCE

G-1

Positive



Source: Moody's Investors Service

Environmental

The city's E issuer profile score is moderately negative (**E-3**). Detroit has exposure to the carbon transition risks faced by the auto manufacturers and related industrial companies that remain vital components of the local economy. While most auto manufacturers are aggressively working towards vehicle electrification, there is execution risk. The city has neutral to low exposure to other environmental risks, including physical climate risk, natural resources management, and waste and pollution.

Social

The S issuer profile score is moderately negative (**S-3**), reflecting moderately negative considerations related to education, and health and safety. While somewhat improved, the city's population trends continue to be stagnant to declining, poverty is high and the unemployment rate elevated. Risks related to access to basic services have lessened in recent years. Labor, income, and housing considerations pose relatively low risks.

Governance

Detroit's G issuer profile score is positive for (**G-1**), reflecting exceptional management practices, such as regular revenue-estimating conferences at which city and external officials agree to the resources available to appropriate. The city annually adopts a detailed four-year budgetary forecast, which it regularly meets or exceeds. Strong transparency and disclosure practices include regular reporting on year-to-date budget-to-actuals, long-range forecasts, and monthly cash flows. These practices help mitigate institutional constraints on revenue-raising ability.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

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.

Scorecard Factors and Subfactors	Measure	Score
Economy/Tax Base (30%) ^[1]		
Tax Base Size: Full Value (in 000s)	\$21,889,025	Aaa
Full Value Per Capita	\$32,436	Baa
Median Family Income (% of US Median)	47.7%	Ba
Notching Adjustments: ^[2]		
Economic Concentration		Down
Outsized Unemployment or Poverty Levels		Down
Finances (30%)		
Fund Balance as a % of Revenues	50.8%	Aaa
5-Year Dollar Change in Fund Balance as % of Revenues	13.3%	Aa
Cash Balance as a % of Revenues	78.2%	Aaa
5-Year Dollar Change in Cash Balance as % of Revenues	28.0%	Aaa
Notching Adjustments: ^[2]		
Unusually volatile revenue structure		Down
Other Scorecard Adjustment Related to Finances: Reserves will eventually decline from current levels and trends soften		Down
Management (20%)		
Institutional Framework	Aa	Aa
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures (x)	1.0x	Aa
Notching Adjustments: ^[2]		
Unusually Strong or Weak Budgetary Management and Planning		Up
Debt and Pensions (20%)		
Net Direct Debt / Full Value (%)	9.0%	Baa
Net Direct Debt / Operating Revenues (x)	1.3x	A
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value (%)	18.0%	Ba
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues (x)	2.6x	A
Notching Adjustments: ^[2]		
Unusual Risk Posed by Debt/Pension Structure		Down
Other Scorecard Adjustment Related to Debt and Pensions: High overlapping debt burden and capital needs of schools		Down
Scorecard-Indicated Outcome		Ba1
Assigned Rating		Ba2

[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.

[3] Standardized adjustments are outlined in the GO Methodology Scorecard Inputs publication.

Sources: US Census Bureau, {OrgName}'s financial statements and Moody's Investors Service

Endnotes

1 The RFP is recorded as restricted fund balance in the audit and not included in our measure of available reserves.

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