APPENDIX D

Capital Regional District
DBRS Rating Methodology

British Columbia, Canada
Fiscal year ended December 31, 2023

CRD
Making a difference...together

Methodology
Rating Canadian Municipal Governments

DBRS Morningstar
April 2023

Previous Release
April 2022

Travis Shaw
Senior Vice President, Public Finance
Global Sovereign Ratings
+1 416 597-7582
travis.shaw@dbrsmorningstar.com

Thomas Torgerson
Managing Director,
Co-Head of Sovereign Ratings
+1 212 806-3218
thomas.torgerson@dbrsmorningstar.com

Nichola James
Managing Director,
Co-Head of Sovereign Ratings
+49 69 8088 3689
nichola.james@dbrsmorningstar.com

Alan Reid
Group Managing Director, Global Head of
Fundamental Credit Ratings
+1 212 806-3232
alan.reid@dbrsmorningstar.com

Related Research

DBRS Morningstar is a full-service credit rating agency established in 1976. Spanning North America, Europe, and Asia, DBRS Morningstar is respected for its independent, third-party evaluations of corporate and government issuers. DBRS Morningstar's extensive coverage of securitizations and structured finance transactions solidifies its standing as a leading provider of comprehensive, in-depth credit analysis.

All DBRS Morningstar ratings and research are available in hard-copy format and electronically on Bloomberg and at dbrsmorningstar.com, DBRS Morningstar's lead delivery tool for organized, web-based, up-to-the-minute information. DBRS Morningstar remains committed to continuously refining its expertise in the analysis of credit quality and is dedicated to maintaining objective and credible opinions within the global financial marketplace.

Scope and Limitations

This methodology represents the current DBRS Morningstar approach for rating Canadian municipal governments, including government bodies that have municipal-like taxing authority and provide municipal-like services (e.g., public transportation). It includes consideration of historical and expected business and financial risk factors as well as sector-specific issues, regional nuances, and other subjective factors and intangible considerations. DBRS Morningstar's approach incorporates a combination of both quantitative and qualitative factors. This methodology provides guidance regarding the DBRS Morningstar methods used in the sector and should not be interpreted with formulaic inflexibility, but rather should be understood in the context of the dynamic environment in which it is intended to be applied. The methods described herein may not be applicable in all cases; the considerations outlined in DBRS Morningstar methodologies are not exhaustive and the relative importance of any specific consideration can vary by issuer. In certain cases, a major strength can compensate for a weakness and, conversely, a single weakness can override major strengths of the issuer in other areas.

Introduction to DBRS Morningstar Methodologies

DBRS Morningstar publishes rating methodologies to give issuers and investors insight into the rationale behind DBRS Morningstar's rating opinions. In general terms, DBRS Morningstar ratings are opinions that reflect the creditworthiness of an issuer, a security, or an obligation. DBRS Morningstar ratings assess an issuer's ability to make timely payments on outstanding obligations (whether principal or interest), consistent with the terms of those obligations.

Contents

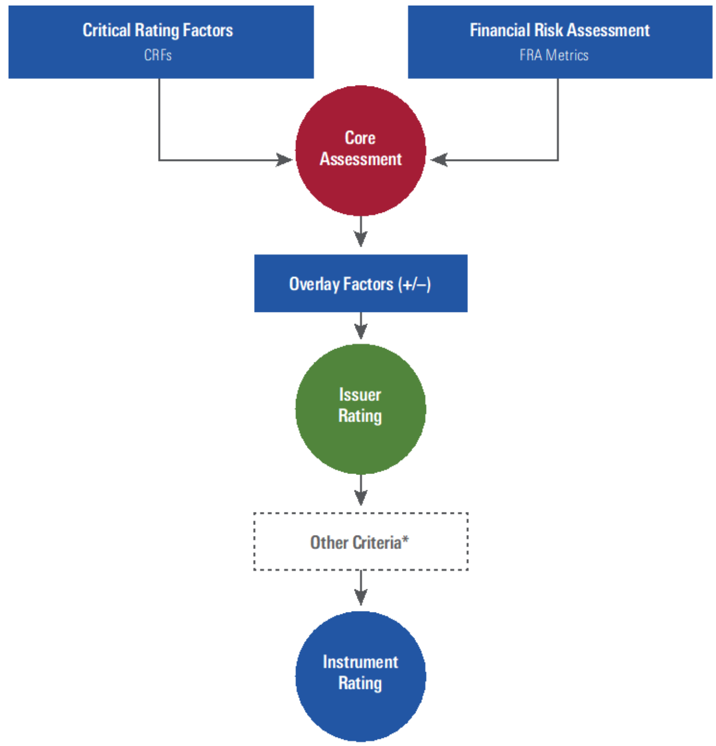
DBRS Morningstar operates with a stable rating philosophy; in other words, DBRS Morningstar strives to factor the impact of a cyclical economic environment into its ratings wherever possible, which minimizes rating changes caused by economic cycles. Rating revisions do occur, however, when more structural changes, either positive or negative, have occurred or appear likely to occur in the foreseeable future. DBRS Morningstar also publishes criteria, which are an important part of the rating process. Criteria typically cover areas that apply to more than one sector. Both methodologies and criteria are publicly available on DBRS Morningstar's website.

DBRS Morningstar Criteria: Approach to Environmental, Social, and Governance Risk Factors in Credit Ratings is incorporated by reference into this methodology.

Overview of the DBRS Morningstar Rating Process

- As illustrated below, there are generally four key components to the DBRS Morningstar corporate rating process: (1) Critical Rating Factors (CRFs), (2) the Financial Risk Assessment (FRA), (3) overlay considerations, and (4) specific instrument considerations.
- The CRFs capture the major business risk aspects of the issuer and are determined by assessing each of the CRFs outlined in the industry-specific grid. The FRA pertains to financial soundness and is determined by assessing each of the FRA metrics. Throughout the FRA and CRF determination process, DBRS Morningstar performs a consistency check of these factors relative to the issuer's rated industry peers.
- The CRFs and FRA are then combined to derive the issuer's core assessment. For investment-grade credits, the CRFs will have greater weight than the FRA in determining the core assessment.
- The core assessment may then be adjusted up or down, as applicable, if any overlay factors are deemed applicable and material to the credit profile in order to arrive at the issuer rating, which represents DBRS Morningstar's assessment of the issuer's likelihood of default.
- The issuer rating is then used as the basis for specific instrument ratings, which may differ from the issuer rating because of seniority or, in the case of non-investment-grade issuers, expected recovery considerations. (See the Rating the Specific Instrument and Other Criteria section below.)

DBRS Morningstar Rating Analysis Process



* Depending on the instrument, "other criteria" may include *DBRS Morningstar Global Criteria: Recovery Ratings for Non-Investment-Grade Corporate Issuers* or *DBRS Morningstar Global Criteria: Preferred Share and Hybrid Security Criteria for Corporate Issuers*, for example. Please refer to the Rating the Specific Instrument and Other Criteria section below for a list of these criteria, as well as other criteria that may be applicable at any stage of the rating process.

Rating Canadian Municipalities—Overview

- This methodology applies to Canadian municipalities rated by DBRS Morningstar. Large local governments generally have a stable revenue base owing to well-defined though limited taxing powers, a basket of responsibilities for the provision of customary public services, developed and diverse economic and taxable assessment bases, and relatively supportive senior governments, which lend support to their credit ratings.
- Nonetheless, economic disparities, varying approaches to fiscal and financial management, capital investment requirements, and debt levels are only a few of the considerations that lead to differing credit quality among major Canadian cities. Overall, large Canadian municipalities currently rank solidly in the investment-grade category.
- While municipalities benefit from their relationship with senior governments, municipal governments are primarily rated based on their own merits, and DBRS Morningstar does not assume any implicit senior government support.

Critical Rating Factors

The table below presents the primary factors (and various subfactors) DBRS Morningstar uses in determining the overall critical rating assessment. Although they are important considerations in the determination of a municipality's rating, these factors only represent a portion of considerations factored into the assessment process, as explained throughout this methodology. While these CRFs are shown in general order of importance, depending upon a specific issuer's situation, this ranking can vary by issuer. The table is followed by a brief discussion of the characteristics of each factor.

Exhibit 1 Critical Rating Factors

	AAA	AA	A	BBB
Economic Structure The economic structure of a municipality constitutes a key consideration in the credit assessment of its government, as it is the primary determinant of the capacity of a government to raise the revenue necessary to deliver services and support its debt. This factor evaluates the municipality's economic diversification, volatility, growth potential, and propensity to create jobs and generate wealth.				
Economic Diversification and Volatility	• The economy is viewed as highly dynamic and comprises a broad mix of industries, with no undue reliance on any single sector, which helps reduce volatility and cyclicality in GDP growth.	• The economy is viewed as dynamic and boasts a relatively diversified mix of industries but may be influenced by a few large industries, resulting in average volatility overall.	• The economy may be relatively small or reliant on seasonal industries, with a limited number of key industries accounting for a substantial portion of economic activity, resulting in above-average volatility.	• The economy is relatively small or located far from a major urban centre, with one seasonal or challenged industry accounting for a substantial portion of economic activity.
Population and Taxable Assessment Growth	• Population and taxable assessment growth have been consistently above the provincial average over the last five to 10 years.	• Population and taxable assessment growth are sound and fairly consistent with the provincial average year over year.	• Population and/or taxable assessment growth has been steadily below the provincial average or inconsistent in recent years.	• Population is small and/or has been steadily declining in recent years. Assessment growth has been limited.
Income and Wealth of Local Economy	• Income and taxable assessment per capita are above average relative to comparable issuers.	• Income and taxable assessment per capita are consistent with other comparable issuers.	• Income and taxable assessment per capita may be below the average of comparable issuers.	• Income and taxable assessment per capita are markedly below the average of comparable issuers, indicative of lower wealth levels and income potential.
Labour Market	• The labour force is highly skilled, and unemployment is below average. • The labour force is growing above the rate of population growth.	• The labour force is skilled, and unemployment is low and stable. • The labour force is growing in line with average population growth.	• The job market is somewhat dynamic, although the unemployment rate may be somewhat above average. • The labour force is growing below the average population growth.	• The job market is less dynamic and is characterized by an unemployment rate that may be notably above the provincial average. • The labour force is growing notably below the average population growth or contracting.

Fiscal Management

The review of a municipality's fiscal management framework assesses the government's commitment to fiscal sustainability, volatility of fiscal performance, budget management and prudence, relative tax competitiveness, and the transparency, timeliness, and quality of reporting. DBRS Morningstar evaluates municipal service responsibilities, revenue potential, expenditure management capacity, and the broader coherence of the strategies, policies, and political processes governing the allocation of public funds.

	AAA	AA	A	BBB
Fiscal Sustainability and Performance	• Fiscal sustainability is a core political and administrative priority, with minimal	• Fiscal sustainability is emphasized by the government, but reliance on	• Fiscal sustainability is an objective of the government, but reliance on one-time	• Fiscal sustainability is not emphasized by the government, and reliance on

	reliance on one-time measures or sizable tax and fee increases to balance the budget. • Volatile or uncertain revenue sources account for a negligible share of the operating budget (<2%). • Consistent record of fiscal surpluses as measured by DBRS Morningstar.	one-time measures or sizable tax and fee increases may be exhibited periodically to balance the budget. • Volatile or uncertain revenue sources account for a low share of the operating budget (<5%) but may be rising gradually. • Fiscal results, as measured by DBRS Morningstar, generally maintain a balanced position year over year.	measures or sizable tax and fee increases to balance the budget is more frequent. • Volatile or uncertain revenue sources are moderate as a share of the operating budget (<10%) or are rising rapidly. • Fiscal results, as measured by DBRS Morningstar, may exhibit greater volatility because of a lower ability to manage in-year budgetary pressures.	one-time measures to achieve budget balance is high. • Volatile or uncertain revenue sources account for a material share of the operating budget (>10%) or are rising rapidly, and this poses greater risks to the budget framework. • Fiscal results exhibit greater volatility and weakness because of a lower ability to manage in-year budgetary pressures. • Fiscal results, as measured by DBRS Morningstar, have generally been weaker and deficits more frequent.
Budget Management and Prudence	• Budgets are consistently balanced using very conservative assumptions and incorporating meaningful contingencies to help manage unforeseen events. • Demonstrated ability to address unexpected adverse budget deviations to protect fiscal balance. • Budget pressures are managed responsively through very tight expenditure controls or revenue-raising initiatives.	• Budget contingencies vary year to year, although assumptions are generally conservative. • Demonstrated ability to address most unexpected adverse budget deviations to protect fiscal balance. • Budget pressures are managed over time through generally prudent expenditure management or revenue-raising initiatives.	• Budget pressures tend to linger but are viewed as sustainable, although reliance on one-time funding and/or sizable tax increases to balance the budget is high. • Budget assumptions are considered to be adequately prudent, although the use of contingencies may be limited. • Reduced ability and/or willingness to manage budget pressures through meaningful expenditure restraint or revenue-raising initiatives.	• Budget pressures tend to linger and are viewed as potentially unsustainable, resulting in steady reliance on one-time funding and/or sizable tax increases to balance the budget. • Budget assumptions are considered to be less prudent, resulting in more significant variances and use of contingencies. • Limited ability and/or willingness to manage budget pressures through meaningful expenditure restraint or revenue-raising initiatives.
Tax Competitiveness	• Property taxes and user fees are low, providing ample room to raise taxes if necessary. • Political willingness to raise taxes and fees to cover inflationary operating pressures and future capital investment needs.	• Property taxes and user fees are in line with peers, providing moderate flexibility to raise taxes. • Political willingness to raise taxes and fees to cover inflationary operating pressures, but future capital investment needs may remain unfunded.	• Property tax and user-fee burdens may already be somewhat high, limiting the ability to further raise taxes and fees if needed. • Limited political willingness to raise taxes and fees to cover either inflationary operating pressures or capital investment.	• Tax and user-fee burdens are high, and delinquencies are building up. • Political resistance to raising taxes and fees to cover either inflationary operating pressures or capital investment.
Transparency and Reporting	• Fiscal management framework is very well developed and responsive, with detailed planning documents and clear presentation. • Budget documents are clearly comparable to reported financial results.	• Fiscal management framework is well developed, with detailed planning documents. • Budget documents are somewhat comparable to reported financial results. • Transparency is good, and financial reporting is timely.	• The fiscal management framework is well developed, but some key planning documents or reports may lack details. • Budget documents are somewhat comparable to reported financial results.	• The fiscal management framework lacks structure. • Budget documents are not comparable with reported financial results. • Transparency and timeliness of financial reporting are weaker, with only limited planning documents.

	• Transparency and timeliness in financial reporting are exemplary.		• Transparency and timeliness of financial reporting are considered adequate.	

Debt and Liquidity Management

The financial management strategy and practices of a municipal government, including the requirements and financing strategy for capital investment, sophistication of debt and liquidity practices, debt structure and maturity profile, and other unfunded liabilities are central considerations in the determination of a municipal government rating.

	AAA	AA	A	BBB
Capital Investment Outlook	• Capital investment requirements for the foreseeable future are manageable and are not expected to pressure debt materially.	• Capital investment requirements may be sizable, but they are not expected to put excessive pressure on debt.	• Significant capital investment requirements have the potential to lead to significant increases in debt going forward, although management may have been successful at containing upward pressure in recent years.	• Large current and future capital needs are expected to lead to rising debt.
Debt and Liquidity Management Practices	• Debt and liquidity management practices are highly sophisticated and very conservative.	• Debt and liquidity management practices are sophisticated and conservative.	• Debt and liquidity management practices are conservative but may lack formality or sophistication relative to those of frequent borrowers.	• Debt and liquidity management practices are lacking structure and sophistication relative to those of frequent borrowers.
Debt Structure and Maturity Profile	• The debt structure is very prudent, with low refinancing risk, a smooth maturity profile, and minimal unhedged exposure to interest rate reset risk and foreign currency fluctuations.	• The debt structure is prudent but may at times entail sizable refinancing needs, an uneven maturity profile, or modest exposure to interest rate reset risk.	• The debt structure is prudent but may at times entail sizable refinancing because of an uneven maturity profile or moderate exposure to interest rate reset risk.	• The debt structure is less prudent and at times entails sizable refinancing because of an uneven maturity profile or more material exposure to interest rate reset risk.
Pension and Benefits Liabilities	• Unfunded pension and postemployment benefit liabilities, if any, are low and being addressed.	• Unfunded pension and postemployment benefit liabilities may be sizable but are being addressed.	• Unfunded pension and postemployment benefit liabilities may be considerable and steadily growing.	• Unfunded pension and postemployment benefit liabilities may be considerable and steadily growing, leading to pressure on operating results.

Relations with Senior Governments

Relations with senior governments influence the rating of municipal governments, as municipalities receive substantial senior government funding for capital projects and the delivery of certain programs from provincial and federal sources, share their tax base with their provincial and federal counterparts, and are bound by the broader legislative and regulatory frameworks set by provincial and federal governments in areas such as revenue-generating powers and service responsibilities.

	AAA	AA	A	BBB
Municipal Legislative Framework	• The legislative framework defining municipal responsibilities and revenue-generating powers is supportive and fosters financial sustainability. • Adequate provincial monitoring is provided.	• The legislative framework defining municipal responsibilities and revenue-generating powers is supportive and fosters financial sustainability. • Adequate provincial monitoring is provided.	• The legislative framework defining municipal responsibilities and revenue-generating powers is rigid and may lack the guidelines necessary to foster financial sustainability. • Provincial monitoring is more limited.	• The legislative framework defining municipal responsibilities and revenue-generating powers is weak and lacks the guidelines necessary to foster financial sustainability. • Provincial monitoring is potentially insufficient.

Senior Government Funding	• Sizable and reliable funding support is provided by senior governments, particularly for major capital investments and social services.	• Senior government funding support is meaningful and relatively reliable but may display volatility depending on the economic and fiscal environment.	• Senior government funding support is somewhat less meaningful as a share of revenue and is less reliable and predictable. • Funding displays greater volatility depending on the economic and fiscal environment.	• Senior government funding support is viewed as unreliable or inadequate, with a higher level of volatility depending on the economic and fiscal environment.
Relations with Senior Governments	• Co-operative relationship with senior governments and record of supportive tax and program policy objectives. • Limited interference by senior governments in traditional areas of municipal responsibility.	• Reasonable level of co-operation with senior governments, although policy objectives may diverge in some areas. • Some interference by senior governments in traditional areas of municipal responsibility.	• Less co-operative relationships with senior governments. • Direct but infrequent interference by senior governments in traditional areas of municipal responsibility. • History of downloading of service responsibilities with little accompanying fiscal support from senior governments.	• Contentious relationships with senior governments. • Direct interference by senior governments in traditional areas of municipal responsibility. • History of downloading of service responsibilities with no accompanying fiscal support from senior governments.

Discussion of Critical Rating Factors

Economic Structure

- The economic structure of a municipality constitutes an important consideration in the credit assessment of its government, as it is the primary determinant of the capacity of a government to raise the revenue necessary to fulfill its service responsibilities and support its debt.
- A large and diversified economy that is well integrated into the provincial transportation network will generally tend to experience more consistent growth in GDP, a steady population, and taxable assessment growth over the longer term, and it will display better labour market outcomes than smaller, more isolated commodity-based or seasonal municipal economies.
- In the analysis of a suburban commuter municipality highly reliant on a neighbouring urban municipality for employment, DBRS Morningstar may consider some of the larger city's economic fundamentals, provided the municipality being rated is strongly integrated into its larger neighbour and is likely to retain this relationship over time because of its proximity, competitive taxes, and/or considerable availability of land for development, among other factors.

Fiscal Management

- DBRS Morningstar considers the political and administrative commitment to fiscal sustainability, as evidenced by public statements, strategy documents, political/administrative policies, processes, or commitments. Strategies employed to maintain fiscal balance are considered, with one-time measures, deferrals, reserve draws, or reliance on volatile or uncertain revenue sources (e.g., real estate/land transfer taxes) generally viewed as weaknesses in the municipal fiscal management framework. DBRS Morningstar analyzes the volatility of fiscal results, which provides an indication of the government's commitment to maintaining a sound fiscal position.

- DBRS Morningstar evaluates budget management practices and prudence, including the conservatism of assumptions contained within operating/capital budgets, the presence of budget contingencies, and other forms of flexibility to respond to in-year pressures. DBRS Morningstar compares recent years' fiscal results with original budget estimates, examining the frequency and extent of major budget deviations.
- The municipality's fiscal capacity and relative tax and user-fee burdens are considered in relation to peers locally and nationally, as well as the willingness of political and administrative leaders to respond to both operating and capital pressures considering available revenue tools and provincially mandated service responsibilities.
- DBRS Morningstar considers the timeliness, breadth, and transparency of municipal budgeting and financial reporting as an indicator of the quality of the municipal fiscal framework.

Debt and Liquidity Management

- The financial management strategy and practices of a municipal government, including the requirements and financing strategy for capital investment, sophistication of its debt and liquidity management practices, debt structure and maturity profile, and other unfunded liabilities are central considerations in the determination of a municipal government rating.
- DBRS Morningstar examines current and projected levels of capital investments, as investment in physical infrastructure is the primary driver of borrowing needs based on provincial government prohibitions on debt for operating purposes.
- The government's financial management strategy, including the level of sophistication of its borrowing practices and overall debt structure, helps assess the potential volatility of debt-servicing requirements.
- DBRS Morningstar assesses the composition and maturity structure of the debt stock and its sensitivity to changes in interest and exchange rates (if applicable) and considers the full range of factors that could affect the debt burden and related servicing requirements to assess overall affordability. (See Appendix 1 for DBRS Morningstar's definition of tax-supported and self-supported debt).
- Although pension and employee future benefit liabilities are not included in the calculation of tax-supported debt for municipal governments, they are considered in the analysis of debt affordability to the extent that they will drive future cash funding requirements.

Relations with Senior Governments

- While the creditworthiness of a Canadian municipality is primarily driven by the fundamentals of that municipality, relations with the provincial and federal government may also have an influence on the rating.
- Municipalities receive substantial senior government funding for capital projects and the delivery of certain programs, share their tax base with their provincial and federal counterparts, and are bound by the broader legislative and regulatory frameworks set by the provincial government for revenue-generating powers and service responsibilities. Given these linkages, a stronger provincial and federal government credit profile implies a higher level and consistency of funding support to municipal governments.
- Service responsibilities, revenue-generating powers, and all other determining features of the operating framework of municipalities are defined by provincial governments. As a result, the responsiveness of a provincial government to the realities faced by municipal governments, as well as the various constraints

or flexibilities provided through the legislated framework, may also have significant implications for the credit profile of municipalities, highlighting the importance of considering the dynamic between municipalities and their respective provincial governments.

- DBRS Morningstar considers the current state and history of intergovernmental relations between municipalities and senior governments. The degree of intergovernmental co-operation and policy alignment, including potential interference by senior governments in areas of traditional municipal responsibility or the downloading of services with or without accompanying fiscal support, can have implications for the municipal government's financial outlook.

Financial Risk Assessment Factors

Primary FRA Factors

- Recognizing that any analysis of financial metrics may be prone to misplaced precision, DBRS Morningstar has limited its matrix of the key metrics below to a small sample of critical ratios. For each of these ratios, DBRS Morningstar provides a range within which the issuer's financial risk would be considered as supportive for the rating category. However, the wide range of municipalities in existence throughout Canada, especially in terms of size, location, economic diversification, and wealth, makes any attempt at generalization challenging and potentially misleading. As such, the values provided below are for Canada's larger cities with populations exceeding 300,000, as their credit profiles are generally supported by diversified economies and sophisticated management frameworks.
- This rating methodology can be used for smaller municipalities, although unique strengths or weaknesses such as overreliance on a single industry or location in a shrinking, economically challenged region may distort the analysis and reduce the relevance of the guidelines significantly, requiring financial metrics considerably stronger than noted below for a rating category.
- Furthermore, the ratings in the matrix below should not be understood as the final rating for a large city with matching metrics. The final rating is a blend of both the operating risk and financial risk considerations in their entirety.
- DBRS Morningstar ratings are based heavily on future performance expectations, so while past metrics are important, any final rating will incorporate DBRS Morningstar's opinion on future metrics based on the best available projections and assumptions of a government's future debt burden.
- It is also not uncommon for a government's key ratios to move in and out of the ranges noted in the ratio matrix above. In the application of this matrix, DBRS Morningstar looks beyond the point-in-time ratio.

Exhibit 2 Canadian Municipal Government Financial Risk Assessment Metrics

Key Ratio	AAA	AA	A	BBB
Net tax-supported debt per capita ($)[1]	< 700	700 to 3,500	3,500 to 5,500	> 5,500
Net tax-supported debt as a percentage of taxable assessment (%)	< 0.5	0.5 to 2.0	2.0 to 6.0	> 6.0
Interest costs as a percentage of total revenue (%)	< 1.5	1.5 to 9.0	9.0 to 15.0	> 15.0
Net post-capital-expenditure surplus (deficit) as a share of total revenue (five-year average; %)	> 5.0	5.0 to 0.0	0.0 to (5.0)	> (5.0)

1 Refer to Appendix 1 for an explanation of DBRS Morningstar adjustments to reported financial figures. DBRS Morningstar notes that this metric is adjusted periodically for inflation.

General Considerations in Evaluating a Canadian Municipal Government's Credit Profile

Fiscal Balance

- DBRS Morningstar views fiscal results as an indicator of management proficiency and commitment to fiscal sustainability. A municipal government's operating balance (operating revenue excluding capital revenue minus program expenditures excluding amortization expense) is an indicator of fiscal flexibility, while the net post-capital-expenditure (capex) surplus (deficit) (operating balance minus net capex) better reflects overall fiscal sustainability and the potential financing requirements in each year.
- DBRS Morningstar notes that Canadian municipalities are required under legislation to balance their operating budgets, although capital investment and accounting consolidation may at times translate into sizable postcapex deficits and upward pressure on debt and tax rates.
- DBRS Morningstar views operating deficits negatively but will generally discount them if they are the result of nonrecurring events rather than a structural imbalance that the government shows little initiative in addressing. DBRS Morningstar refers to this practice as rating through the cycle.

Revenue

- The primary source of revenue for municipal governments is residential, commercial, and industrial property taxation. Other sources include user fees for services such as water and waste management, senior government grants, and earnings from government enterprises.
- While property tax revenue is subject to seasonal fluctuations based on tax collection dates, these dynamics are well understood and accounted for by municipal governments. Because Canadian municipalities do not tax income or consumption, they generally benefit from a more stable revenue base than provincial governments, as property taxation is also generally insulated from economic and home price cyclicality.
- Emphasis is placed on the resilience of major revenue sources, reliance on provincial government transfers, and competitiveness of the city's tax rates relative to neighbouring jurisdictions. DBRS Morningstar considers overreliance on uncertain or volatile revenue sources (e.g., real estate transfer taxes) to be a weakness in the fiscal management framework.
- Constraints in revenue-generating powers such as legislated caps on certain property tax rates, political willingness to raise taxes, and structural weaknesses in the government's tax system are also considered, including the ability of municipal revenue tools to adequately address inflationary pressures such as salary and benefit escalation and long-term capital investment requirements.
- DBRS Morningstar may make certain adjustments to reported revenue figures to exclude nonrecurring items and ultimately better reflect the underlying fiscal situation of a municipality.

Expenditures

- Municipal government expenditures are also generally predictable and considerably less exposed to demand pressures relative to provincial governments. They also follow patterns that do not vary significantly year to year.
- DBRS Morningstar distinguishes between three major types of expenditures: service and program expenses; capital investments and debt servicing, with an emphasis placed on identifying major trends; and actual and potential areas of pressures and sources of rigidities.

- In its analysis of program expenditures, DBRS Morningstar focuses on the government's primary service responsibilities and the relationship between key expenditure items and factors such as demographics and economic conditions to identify potential sources of fiscal volatility and pressure. Analysts review major program responsibilities established by the provincial government, focusing on the coherence and sustainability of programs and expected cost implications in relation to external revenue sources, if any, such as senior government grants.
- Capital investment accounts for a considerable portion of municipal spending. Municipal governments have some flexibility to manage and partially defer capital spending in the near term in response to both internal budget pressures and external factors, including variability in senior government capital funding. This has contributed to the buildup of significant deferred maintenance deficits in most large Canadian municipalities. However, over the long term, capital investment requirements represent the key driver of debt growth for municipal governments, which are only permitted to borrow for capital purposes.
- DBRS Morningstar considers the capital investment requirements faced by the municipality, including for the state of good repair of public infrastructure and for growth-related investments. This typically includes major public transit infrastructure, roadways and bridges, and municipal water and sewer systems. Financing methods and accounting rules for capital spending are also reviewed to understand the debt implications of projected capital needs.
- Debt servicing is the most rigid expenditure category and can constitute a meaningful portion of a government's budget. Therefore, the stability and trend of a municipality's debt-servicing requirements are important considerations

Balance Sheet and Financial Flexibility Considerations

- The sustainability of a municipality's debt burden and balance sheet flexibility are central considerations in the determination of a credit rating. DBRS Morningstar examines current and projected levels of indebtedness and considers the full range of factors that could affect the debt burden and related servicing requirements.
- The primary focus is on tax-supported debt, which includes financial obligations for which taxpayers are directly accountable. This concept captures tax-supported debt directly issued by the municipality as well as the financial obligations of any other related tax-supported organization that is within municipal jurisdiction (e.g., transit authorities).
- Debt is measured by DBRS Morningstar net of sinking funds and other quality assets set aside explicitly for debt-retirement purposes. The tax-supported debt figure is compared with the municipality's taxable assessment base and on a per-capita basis to assess debt affordability. (See Appendix 1 for DBRS Morningstar's definition of tax-supported debt.)
- Self-supporting debt, which is issued by or for commercial or potentially commercial municipal government enterprises or assets and serviced by a distinct revenue stream (e.g., electric utilities or water services), is analyzed separately by DBRS Morningstar for its affordability and is generally allocated a lesser weighting in the credit review. (See Appendix 1 for DBRS Morningstar's definition of self-supporting debt.)
- Because of the general stability and predictability of revenue and expenditures, liquidity is typically not a material source of concern for Canada's major municipalities, but DBRS Morningstar conducts an

assessment to identify potential liquidity vulnerabilities (see the Overlay Factors: Liquidity section for more information).

Blending the CRFs and FRA into an Issuer Rating

- The core assessment is a blend of the CRFs and FRA. In most cases, the CRFs will have greater weight than the FRA in determining the issuer rating.
- At the low end of the rating scale, however, particularly in the B range and below, the FRA and liquidity factors play a much larger role. The CRFs would, therefore, receive a lower weighting than they would at higher rating levels.
- In addition, DBRS Morningstar also takes into consideration the volatility of an issuer's FRA in arriving at the final rating. An issuer with more volatile credit metrics than its industry peers may be rated lower than it would otherwise be based on a blend of the CRFs and FRA. The lower rating reflects the higher risk, especially in a downturn, associated with the increased volatility.

Overlay Factors

Liquidity

- Given the stability and predictability of municipal government revenue and expenditures, combined with legislative requirements to balance operating budgets, liquidity is typically not a material source of concern for Canada's major municipalities.
- External financing requirements for capital investment and refinancing needs have the potential to create liquidity pressures, although DBRS Morningstar notes that Canadian municipalities generally benefit from (1) access to the lending programs of provincially created municipal finance agencies (Municipal Finance Authority of B.C., Infrastructure Ontario, Alberta Capital Finance Authority, etc.); (2) widespread of sinking funds to retire maturing bullet debentures, largely eliminating refinancing risk for many municipalities and resulting in significant pools of available liquidity; and (3) the ability to partially defer or curtail capital investment in the near term to preserve cash and reserves, which combine to further mitigate concerns with respect to liquidity.
- Nonetheless, similar to other rated sectors, DBRS Morningstar conducts a qualitative liquidity assessment based on four key liquidity determinants (i.e., liquid reserves, capex financing, refinancing needs (if any), and access to external financing) in order to identify potential vulnerabilities in an issuer's liquidity profile.
- Material deficiencies identified in the liquidity assessment may exert downward pressure on the rating.

Ownership of Valuable Municipal Corporations

- DBRS Morningstar considers material benefits generated by the municipal ownership of self-supporting corporations as fulfilling commercial mandates. Electricity-generating utilities are the most common type of valuable corporations owned by major Canadian municipalities. These entities often generate steady dividend streams that contribute positively to fiscal results and could be monetized, if needed, to significantly reduce debt. However, ownership of poorly performing corporations can represent a drain on municipal resources and potentially add to tax-supported debt obligations.

Environmental, Social, and Governance (ESG) Considerations

- ESG factors may affect a credit rating and/or the related credit analysis. The impact of ESG factors may vary across industries, sectors, or asset classes and is described in the *DBRS Morningstar Criteria: Approach to Environmental, Social, and Governance Risk Factors in Credit Ratings*. Where an ESG factor is material to a corporate rating, but is not otherwise addressed in a CRF or FRA factor or other overlay, DBRS Morningstar will reflect the impact of the ESG factor on the rating through this general ESG overlay.

Rating the Specific Instrument and Other Criteria

- The issuer rating (which is an indicator of the probability of default of an issuer's debt) is the basis for rating specific instruments of an issuer, where applicable. DBRS Morningstar uses a hierarchy in rating long-term debt that affects issuers that have classes of debt that do not rank equally. In most cases, lower-ranking classes would receive a lower DBRS Morningstar rating. For more detail on this subject, please refer to the general rating information contained in DBRS Morningstar's *Credit Ratings Global Policy*.
- In addition to this methodology, the following criteria may be used from time to time in determining a rating:
    - For a discussion of the relationship between short- and long-term ratings and more detail on liquidity factors, please refer to the DBRS Morningstar policy *Short-Term and Long-Term Rating Relationships* and *DBRS Morningstar Global Criteria: Commercial Paper Liquidity Support for Nonbank Issuers*.
    - Guarantees and other types of support are discussed in *DBRS Morningstar Global Criteria: Guarantees and Other Forms of Support*.

Appendix 1: DBRS Morningstar Adjustments to Reported Financial Figures

In certain circumstances, DBRS Morningstar may adjust the financial results reported by a municipal government in order to (1) allow for a better comparison among peers, (2) capture all material tax-supported debt, (3) exclude debt deemed to be self-supporting within the reporting entity, and/or (4) present fiscal results that are more reflective of the impact of government activities on indebtedness. The most frequent adjustments relate to the following areas:

1. **Net Tax-Supported Debt:** In an effort to capture the full extent of debt obligations to the account of taxpayers, DBRS Morningstar sums the debt of all activities and entities supported in a significant fashion by tax proceeds, such as public transit, road investments, and general municipal services and operations. Tax-supported debt is measured by DBRS Morningstar net of sinking funds and other quality assets set aside explicitly for debt-retirement purposes.

   Tax-supported debt includes direct debt and other long-term capital obligations such as capital leases or liabilities arising from public-private partnership (also known as Alternative Financing and Procurement) contracts if these obligations are materially supported by tax proceeds.

2. **Self-Supporting Debt:** DBRS Morningstar considers certain debt or long-term capital obligations as self-supporting and separate from the tax-supported debt burden. Debt or long-term capital obligations are considered self-supporting provided that the services or assets have commercial value and are operated on a commercially sustainable basis, are highly unlikely to require government support, and are mostly (if not entirely) supported by user fees, a rate base, a levy, or an otherwise distinct revenue stream (e.g., toll revenue) dedicated to servicing and repaying the associated debt or long-term capital obligation. DBRS Morningstar believes that these services or assets could potentially be monetized to repay the related debt obligations if the municipality faced serious financial stress. These activities may include municipal electricity generation and distribution, water treatment/distribution, and tolled transportation and transit infrastructure. Based on the proportion of the direct debt or long-term capital obligation that is serviced and repaid through a user fee, rate base, levy, or otherwise distinct revenue stream, DBRS Morningstar may, on a case-by-case basis, treat that proportion of the obligation as self-supporting.

   In addition, DBRS Morningstar may consider debt leveraged against long-term senior government grants (e.g., federal fuel tax grants) to be self-supported and may therefore exclude such debt from tax-supported debt calculations provided (A) the grants fully cover debt-servicing requirements of the related debt, (B) the term of the debt does not exceed the useful life of the assets being funded, (C) the municipality discloses the value of such debt in its financial statements, and (D) the commitment from the senior government is secured in legislation or by established government policies.

3. **Capex Treatment:** DBRS Morningstar converts capex from an amortization basis to a pay-as-you-go basis to get fiscal results that are more reflective of the full extent of municipal government spending and of external financing needs for a given year.

4. **Nonrecurring Items:** Fiscal results sometimes include extraordinary items that introduce distortions in results and hinder year-over-year comparisons of results. These may include asset sales performed to boost revenue and balance budgets in challenging fiscal times, restructuring costs, or write-offs of tax receivables. DBRS Morningstar attempts to remove all material nonrecurring items from reported results in order to better understand the underlying fiscal position of a municipality.

Appendix 2: Key Financial Ratios

Exhibit 3 Key Financial Ratios

Net Tax-Supported Debt Per Capita	Net tax-supported debt ÷ Total population of the municipality (as reported in most recent census or population estimate) Where, net tax-supported debt is gross market debt outstanding, less • Self-supporting debt (see Appendix 1) • Dedicated debt retirement/sinking funds and debt reserves • Amounts recoverable from senior governments • Municipal government holdings of its own debt obligations (outside of sinking funds)
Net Tax-Supported Debt as a Percentage of Taxable Assessment	Net tax-supported debt (see definition above) ÷ Total residential, commercial, industrial, and farm assessment value (as reported by the municipality or provincial government)
Interest Costs as a Percentage of Total Revenue	Interest charges on market debt outstanding (net of interest earned on sinking funds) ÷ Total revenue (net of interest earned on sinking funds)
Net Postcapex Surplus (Deficit) as a Share of Total Revenue (Five-Year Average)	Operating surplus (deficit), net of amortization expenses – Net capex (gross capex, minus capital revenue (senior government grants and developer contributions)) ÷ Total revenue

About DBRS Morningstar

DBRS Morningstar is a full-service global credit ratings business with approximately 700 employees around the world. We're a market leader in Canada, and in multiple asset classes across the U.S. and Europe.

We rate more than 4,000 issuers and nearly 60,000 securities worldwide, providing independent credit ratings for financial institutions, corporate and sovereign entities, and structured finance products and instruments. Market innovators choose to work with us because of our agility, transparency, and tech-forward approach.

DBRS Morningstar is empowering investor success as the go-to source for independent credit ratings. And we are bringing transparency, responsiveness, and leading-edge technology to the industry.

That's why DBRS Morningstar is the next generation of credit ratings.

Learn more at dbrsmorningstar.com.

The DBRS Morningstar group of companies consists of DBRS, Inc. (Delaware, U.S.)(NRSRO, DRO affiliate); DBRS Limited (Ontario, Canada)(DRO, NRSRO affiliate); DBRS Ratings GmbH (Frankfurt, Germany)(EU CRA, NRSRO affiliate, DRO affiliate); and DBRS Ratings Limited (England and Wales)(UK CRA, NRSRO affiliate, DRO affiliate). DBRS Morningstar does not hold an Australian financial services license. DBRS Morningstar credit ratings, and other types of credit opinions and reports, are not intended for Australian residents or entities. DBRS Morningstar does not authorize their distribution to Australian resident individuals or entities, and accepts no responsibility or liability whatsoever for the actions of third parties in this respect. For more information on regulatory registrations, recognitions and approvals of the DBRS Morningstar group of companies, please see: https://www.dbrsmorningstar.com/research/225752/highlights.pdf.

The DBRS Morningstar group of companies are wholly-owned subsidiaries of Morningstar, Inc.

© 2023 DBRS Morningstar. All Rights Reserved. The information upon which DBRS Morningstar credit ratings and other types of credit opinions and reports are based is obtained by DBRS Morningstar from sources DBRS Morningstar believes to be reliable. DBRS Morningstar does not audit the information it receives in connection with the analytical process, and it does not and cannot independently verify that information in every instance. The extent of any factual investigation or independent verification depends on facts and circumstances. DBRS Morningstar credit ratings, other types of credit opinions, reports and any other information provided by DBRS Morningstar are provided "as is" and without representation or warranty of any kind and DBRS Morningstar assumes no obligation to update any such ratings, opinions, reports or other information. DBRS Morningstar hereby disclaims any representation or warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability, fitness for any particular purpose or non-infringement of any of such information. In no event shall DBRS Morningstar or its directors, officers, employees, independent contractors, agents, affiliates and representatives (collectively, DBRS Morningstar Representatives) be liable (1) for any inaccuracy, delay, loss of data, interruption in service, error or omission or for any damages resulting therefrom, or (2) for any direct, indirect, incidental, special, compensatory or consequential damages arising from any use of credit ratings, other types of credit opinions and reports or arising from any error (negligent or otherwise) or other circumstance or contingency within or outside the control of DBRS Morningstar or any DBRS Morningstar Representative, in connection with or related to obtaining, collecting, compiling, analyzing, interpreting, communicating, publishing or delivering any such information. IN ANY EVENT, TO THE EXTENT PERMITTED BY LAW, THE AGGREGATE LIABILITY OF DBRS MORNINGSTAR AND THE DBRS MORNINGSTAR REPRESENTATIVES FOR ANY REASON WHATSOEVER SHALL NOT EXCEED THE GREATER OF (A) THE TOTAL AMOUNT PAID BY THE USER FOR SERVICES PROVIDED BY DBRS MORNINGSTAR DURING THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE EVENT GIVING RISE TO LIABILITY, AND (B) U.S. $100. DBRS Morningstar does not act as a fiduciary or an investment advisor. DBRS Morningstar does not provide investment, financial or other advice. Credit ratings, other types of credit opinions and other analysis and research issued by DBRS Morningstar (a) are, and must be construed solely as, statements of opinion and not statements of fact as to credit worthiness, investment, financial or other advice or recommendations to purchase, sell or hold any securities; (b) do not take into account your personal objectives, financial situations or needs; (c) should be weighed, if at all, solely as one factor in any investment or credit decision; (d) are not intended for use by retail investors; and (e) address only credit risk and do not address other investment risks, such as liquidity risk or market volatility risk. Accordingly, credit ratings, other types of credit opinions and other analysis and research issued by DBRS Morningstar are not a substitute for due care and the study and evaluation of each investment decision, security or credit that one may consider making, purchasing, holding, selling, or providing, as applicable. A report with respect to a DBRS Morningstar credit rating or other credit opinion is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of the securities. DBRS Morningstar may receive compensation for its credit ratings and other credit opinions from, among others, issuers, insurers, guarantors and/or underwriters of debt securities. This publication may not be reproduced, retransmitted or distributed in any form without the prior written consent of DBRS Morningstar. ALL DBRS MORNINGSTAR CREDIT RATINGS AND OTHER TYPES OF CREDIT OPINIONS ARE SUBJECT TO DEFINITIONS, LIMITATIONS, POLICIES AND METHODOLOGIES THAT ARE AVAILABLE ON https://www.dbrsmorningstar.com. Users may, through hypertext or other computer links, gain access to or from websites operated by persons other than DBRS Morningstar. Such hyperlinks or other computer links are provided for convenience only. DBRS Morningstar does not endorse the content, the operator or operations of third party websites. DBRS Morningstar is not responsible for the content or operation of such third party websites and DBRS Morningstar shall have no liability to you or any other person or entity for the use of third party websites.