

## CREDIT ANALYSIS

### Table of Contents:

RATINGS	1
SUMMARY RATING RATIONALE	1
NATIONAL PEER COMPARISONS	1
RATING OUTLOOK	1
WHAT COULD CHANGE THE RATING - DOWN	1
KEY RATING CONSIDERATIONS	2
Financial Performance and Debt Profile	2
Governance and Management	4
Economic Fundamentals	4
Institutional Framework	5
Extraordinary Support Considerations	5
RATING HISTORY	6
ANNUAL STATISTICS	6
MOODY'S RELATED RESEARCH	10

### Analyst Contacts:

<b>TORONTO</b>		+1.416.214.1635
Jennifer A. Wong	+1.416.214.3854	
<i>Assistant Vice President - Analyst</i>		
jennifera.wong@moodys.com		
Michael Yake	+1.416.214.3865	
<i>Assistant Vice President - Analyst</i>		
michael.yake@moodys.com		
Aaron Wong	+1.416.214.3633	
<i>Associate Analyst</i>		
aaron.wong@moodys.com		
<b>LONDON</b>		+44.20.7772.5454
David Rubinoff	+44.20.7772.1398	
<i>Managing Director - Sub Sovereigns</i>		
david.rubinoff@moodys.com		

This Credit Analysis provides an in-depth discussion of credit rating(s) for Waterloo, Regional Municipality of and should be read in conjunction with Moody's most recent Credit Opinion and rating information available on [Moody's website](#).

# Waterloo, Regional Municipality of

Ontario, Canada

## Ratings

### Waterloo, Regional Municipality of

Category	Moody's Rating
Outlook	Stable
Bonds	Aaa

## Summary Rating Rationale

The Regional Municipality of Waterloo's Aaa debt rating and stable outlook reflect sound financial management, consistent operating outcomes, a low debt burden and a strong liquidity position. While Waterloo's debt burden, which stood at 40.6% of total revenues at December 31, 2011, is expected to increase over the medium-term, the regional municipality's substantial cash and investments, which totaled roughly C\$294 million at December 31, 2011, provide considerable liquidity and a measure of safety for debenture holders, supporting the Aaa rating. The rating also takes into consideration Waterloo's diverse and wealthy economic base.

## National Peer Comparisons

The Regional Municipality of Waterloo is rated at the high end of Canadian municipalities, whose ratings remain in the narrow range of Aaa to Aa2. Waterloo's position at the high end of the range reflects its low debt burden when compared to other national peers as well as its higher-than-average levels of liquidity. The institutional framework governing municipalities in Ontario is mature and well-developed, similar to that in other Canadian municipalities where Moody's rates municipal governments.

## Rating Outlook

The outlook is stable.

## What Could Change the Rating - Down

Given the discipline displayed by the regional administration in keeping spending and debt under control, it is highly unlikely that conditions could deteriorate by a large enough margin, in the near term, to trigger a downgrade. Nonetheless, a sustained loss of discipline leading to a significant increase in debt beyond current expectations, combined with a decrease in the region's liquidity, could apply downward pressure on the rating.

## Key Rating Considerations

### Financial Performance and Debt Profile

#### Prudent Financial Management Helps Generate Positive Results

Waterloo's multi-year strategic plans and annual budget process, which includes 10-year capital expenditure projections, have helped the region generate positive operating outcomes. Though accounting changes introduced in recent years make comparisons to prior years difficult, from 2007-2011, the region registered gross operating balances averaging roughly 8.5% of operating revenues, as well as overall surpluses averaging 5.7% of total revenues.

Waterloo's revenue base is predictable and has provided stable cash flows to the region. In 2011, property taxes comprised about 44% of the regional municipality's total revenues, while provincial grants and user rates each accounted for roughly 21% of total revenues.

The region's expenditures are also stable and predictable. In 2011, spending on social and family services accounted for 24% of total expenditures, while spending on transportation, environmental services and public safety collectively accounted for about 54% of total expenditures.

#### Surpluses Continued in 2011; Budgetary Pressures Manageable

In 2011, Waterloo's surplus increased to C\$115 million (12.9% of total revenues), compared to C\$71 million a year ago (8.4% of total revenues). While government grants for capital projects decreased from 2010 as various infrastructure stimulus programs came to an end, revenues from taxation and user fees rose by over C\$29 million, contributing to a 6% increase in total revenues. On the expenditure side, a 0.9% increase was driven mostly by higher costs related to transportation, protection and administration, which were partially offset by lower social and environmental expenses. Expenditures were roughly in-line with budgeted levels, and on an operating basis, excluding amortization expenses and revenues related to capital expenditures and development charges, the region's gross operating balance was equivalent to 11% of operating revenues, consistent with the results registered in recent years.

The region's 2012 budget approved a property tax increase of 2.53% and increases in utility rates to balance operations, and the 2013 budget was also finalized in January 2013.<sup>1</sup> Similar to other growing regions, operational cost pressures and infrastructure needs will continue to challenge Waterloo's ability to limit future increases in tax and utility rates. With a number of labor contracts set to expire in 2012 and 2013, increases in wages and benefits beyond levels anticipated in the budget could also lead to additional financial pressures. Nevertheless, Waterloo's prudent management practices should help the region manage financial challenges through the budgetary process. Additionally, pressures on Waterloo's social assistance budget are being mitigated as the provincial government continues to gradually take over the financial responsibilities of certain social assistance programs, providing Waterloo with additional budgetary flexibility. Given the region's record of generating positive outcomes, it is expected to continue to post positive operating results in the future.

<sup>1</sup> Waterloo's 2013 budget approved a budgetary impact of 2.74%. A final budget book will be released later in the year.

### Low Debt Burden to Rise but Remain Manageable

Waterloo's net direct and indirect debt has increased moderately in recent years, rising to 40.6% of total revenues at December 31, 2011, from 28.6% five years earlier. Relative to other Canadian peers, which tend to exhibit moderate debt ratios, Waterloo's debt burden is considered low, and interest payments consumed only 1.5% of operating revenues in 2011. These low debt and debt servicing ratios illustrate the regional municipality's high degree of fiscal flexibility and successful fiscal track record – two key characteristics supporting the Aaa rating.

Waterloo's 2012-21 ten-year capital plan calls for total capital expenditures of C\$3.9 billion, compared to C\$3.1 billion in the previous capital plan, due mainly to the addition of the rapid transit project (discussed below). Of the C\$3.9 billion in planned expenditures, C\$2.7 billion is identified for tax-supported expenditures (primarily transportation) and C\$1.2 billion is identified for rate-supported expenditures (primarily water and sewer). The bulk of the proposed expenditures will rely on pay-as-you-go financing, while debt-financing is anticipated to be roughly C\$1.1 billion (or around 28% of total capital expenditures).

If the current capital plan comes to fruition, we anticipate that net direct and indirect debt would peak at roughly 100% of total revenues around 2018 and then stabilize gradually thereafter. In our view, the projected debt levels would not alter the regional municipality's credit profile materially, as debt servicing expenses would remain low, preserving fiscal flexibility. Additionally, the region typically underspends its capital budget by a significant margin and issues less debt than planned, and the region's medium-term debt burden could be lower than called for in the capital plan.

### Financial Profile Supported by Substantial Liquidity

While Waterloo's debt burden is anticipated to increase, the region's financial profile is supported by a high level of cash and investments. At December 31, 2011, cash and investments measured C\$294 million (81% of net direct and indirect debt), a level that has remained relatively stable in recent years. Although a portion of these funds are earmarked for specific future expenditures, they provide liquidity and strengthen Waterloo's credit profile. Waterloo's surplus cash and investments are invested conservatively in money market and debt securities issued by highly-rated Canadian federal, provincial and municipal governments as well as chartered banks, ensuring that their value and liquidity do not fluctuate significantly.

Reserve levels are expected to decline in the medium-term as the region funds its capital plan. However, liquidity is expected to remain more than adequate over the forecast horizon. The accumulation of large cash and investment balances also reflects Waterloo's forward-looking planning practice of building up cash reserves in anticipation of future obligations, which we consider prudent and conservative.

### Construction of Rapid Transit Project to Commence in 2014

In 2009, the regional municipality approved the technology and route of a light rail transit (LRT) project that is expected to improve transportation and increase the population density in the core areas of the region. Approved again by the regional council in June 2011 after public consultations, the project will be completed in two stages. Construction for Stage 1, a 19 kilometre LRT route, is expected to begin in 2014, with the system operational by 2017. Stage 1 of the project also includes a new 17 kilometre rapid bus line, which is expected to be converted into an LRT route during Stage 2 of the project. The entire project is estimated to cost roughly C\$818 million, of which C\$300 million

and C\$265 million will be funded by, respectively, the provincial and federal governments.<sup>2</sup> The region would finance the balance of costs through tax increase and debenture issuances, which have been reflected in the region's budget and capital plan. Structured as a public-private partnership (P3), the Request for Qualification (RFQ) to design, build, finance, operate and maintain the light rail portion of the project was released in October 2012, with a plan for a Request for Proposal in the spring of 2013.

---

### Governance and Management

Similar to other highly rated municipalities in Ontario, Waterloo displays strong governance and management characteristics. In addition to long-term planning for capital and operating budgets and a history of meeting fiscal targets, management adheres to conservative debt and investment management policies, thus limiting the region's exposure to market-related risks and ensuring relatively smooth debt servicing costs. These fiscal management measures are also supported by comprehensive, transparent and timely financial reporting.

---

### Economic Fundamentals

The Regional Municipality of Waterloo is comprised of three cities: Cambridge, Kitchener and Waterloo; and four townships: North Dumfries, Wellesley, Wilmot and Woolwich. With a population of about 550,000, the Regional Municipality of Waterloo is the fourth largest urban area in Ontario and 10th largest in Canada. Waterloo's population has grown steadily since 2003 by about 1.8% per year, and is projected to exceed 700,000 by 2031. Located in Southern Ontario, approximately 100 kilometers from the City of Toronto, Waterloo is connected to major North American markets via a well developed road network. The Region of Waterloo International Airport, which is owned and operated by the regional municipality, also provides daily direct flights to a few selected North American destinations, and is ranked as the tenth busiest airport in Canada.

Waterloo's economy is diversified and benefits from a strong institutional base and a skilled labour force. The presence of several post-secondary institutions, which offer various programs tailored to local labour market needs, including a highly regarded engineering program at the University of Waterloo, has supported the development of a technology sector. While Research in Motion, the maker of the Blackberry communications device headquartered in Waterloo, has laid off employees in the past year, the region's technology sector remains strong, and the manufacturing sector is also expected to continue to expand in 2012. Toyota Canada, which has a presence in the region, has also announced a plan to increase production of its Lexus RX vehicle at its Cambridge facility by 2014.

While the prominence of the manufacturing sector remains a key characteristic of the local economy, the insurance, business services, health care and higher education sectors all contribute to economic diversity, and the region has historically outperformed Ontario on a number of economic and labour market indicators. In 2011, the region's unemployment rate measured 6.8%, below the provincial average of 7.8%.

---

<sup>2</sup> In September 2010, the federal government announced it would fund one-third of eligible construction costs, up to C\$265 million.

---

### Institutional Framework

The institutional framework governing municipalities in Ontario is mature and highly developed. The division of roles and responsibilities between the province and municipalities is clearly articulated. Historically, changes to the institutional framework have occurred at a measured, evolutionary pace, following discussions between both parties. Nevertheless, in certain cases, changes have occurred more rapidly.

Waterloo's creditworthiness benefits from the stability inherent in the provincial institutional framework. Provincial legislation dictates a high degree of oversight, including limits on debt servicing costs, while policy flexibility on both the revenue and expenditure sides of the ledger helps Waterloo manage pressures as they arise.

---

### Extraordinary Support Considerations

The application of Moody's joint-default analysis methodology to regional and local governments (RLGs) requires two principal inputs: a baseline credit assessment (BCA), which is a measure of the RLG's standalone credit strength, and an assessment of the likelihood that the higher-tier government would act to prevent a default by the RLG. In the case of the Regional Municipality of Waterloo, Moody's assigns a BCA of aaa, which already places the regional municipality in the Aaa rating category before any consideration of the likelihood that the Province of Ontario (Aa2, stable) would act to prevent a default by Waterloo. To complete the analysis, Moody's assigns a high likelihood of extraordinary support from the provincial government, reflecting Moody's assessment of the risk to the province's reputation as a regulator of municipalities and incentive for the provincial government to minimize the risk of potential disruptions to capital markets if Waterloo, or any other municipality were allowed to default.

## Rating History

### Waterloo, Regional Municipality of

Date	Rating
December 2000	Aaa
August 1998	Aa1
November 1995	Aa2

## Annual Statistics

### Waterloo, Regional Municipality of

Debt Statement (C\$000, as at 12/31)	2007	2008	2009	2010	2011
<b>Debt Issued For</b>					
Regional Municipality	150,511	174,180	200,261	231,734	248,466
Member Cities	75,440	83,304	99,574	128,142	146,532
School Boards	103,211	99,000	94,557	89,869	84,924
Assumed Debt	155	146	109	92	75
<b>Total Direct and Indirect Debt</b>	<b>329,318</b>	<b>356,629</b>	<b>394,500</b>	<b>449,836</b>	<b>479,997</b>
Sinking Funds	15,339	19,147	23,176	27,345	31,590
School Board Debt Net of Sinking Funds	103,211	99,000	94,557	89,869	84,924
<b>Net Direct and Indirect Debt</b>	<b>210,767</b>	<b>238,482</b>	<b>276,768</b>	<b>332,622</b>	<b>363,483</b>

Debt Trends (as at 12/31)	2007	2008	2009	2010	2011
Total Direct and Indirect Debt (C\$000)	329,318	356,629	394,500	449,836	479,997
<b>As % of Total Direct and Indirect Debt</b>					
Regional Municipality Purposes	45.7	48.8	50.8	51.5	51.8
Member Cities and School Boards	54.2	51.1	49.2	48.5	48.2
Sinking Funds	4.7	5.4	5.9	6.1	6.6
Net Direct and Indirect Debt (C\$000)	210,767	238,482	276,768	332,622	363,483
As % Operating Revenues	33.9	34.1	38.9	43.5	46.3
As % Total Revenues	30.5	31.7	35.1	39.4	40.6
As % of Taxable Assessments	0.5	0.6	0.6	0.7	0.7
Debt Per Capita (C\$)	412	447	517	612	657
Net Debt Issuances (C\$000)	38,093	50,209	64,991	88,640	74,304
Own Purposes (C\$000)	22,522	34,567	40,387	49,769	40,502
Member Municipality/School Boards (C\$000)	15,571	15,642	24,604	38,871	33,802

[1] Net direct and indirect debt as a percent of full value of taxable assessments.

[2] Accounting changes were introduced in 2009 and 2008 figures restated; figures are not directly comparable to prior years.

**Waterloo, Regional Municipality of**

<b>Statement of Revenues and Expenses (C\$000, Year Ending 12/31)</b>	<b>2007</b>	<b>2008 [1]</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Revenues</b>					
Taxation	330,074	346,964	364,024	383,587	396,244
User Fees and Services	81,514	160,506	163,375	169,662	186,526
Provincial Grants	131,252	154,294	158,643	173,427	179,606
Federal Grants		19,572	11,629	25,639	10,871
Investment Income		12,992	11,411	10,783	11,157
Other Revenues	147,837	4,031	2,529	1,339	1,492
Provincial and Federal Capital Grants		31,304	46,959	43,650	38,088
Gain/Loss on Sale of Land/Capital Assets		(697)	(633)	(421)	273
Development Charges		22,521	31,637	37,512	71,894
<b>Total Revenues</b>	<b>690,677</b>	<b>751,487</b>	<b>789,573</b>	<b>845,178</b>	<b>896,150</b>
<b>Expenses</b>					
General Administration	15,423	37,491	49,361	45,083	50,047
Protection to Persons and Property	113,744	122,200	130,651	133,977	141,358
Transportation Services	83,555	136,794	153,412	136,789	149,706
Environmental Services	64,766	107,938	127,085	132,641	128,197
Health Services	43,442	50,535	49,726	56,122	51,025
Social and Family Services	162,965	170,286	187,027	190,288	184,685
Social Housing	47,927	59,438	66,669	66,498	60,098
Recreation/Culture	5,115	5,410	5,818	7,155	9,105
Planning and Development	4,591	4,854	4,842	5,252	6,665
Interest Payments [2]	8,203				
Principal Payments	12,052				
Other Expenses	145,491				
<b>Total Expenses</b>	<b>707,273</b>	<b>694,944</b>	<b>774,590</b>	<b>773,805</b>	<b>780,887</b>
<b>Surplus (Deficit)</b>	<b>(16,596)</b>	<b>56,542</b>	<b>14,983</b>	<b>71,373</b>	<b>115,264</b>
<b>Cash Financing Surplus/(Requirement)</b>	<b>8,198</b>	<b>20,709</b>	<b>(66,925)</b>	<b>(4,714)</b>	<b>(33,196)</b>
Cash Financing Surplus/(Requirement) net of CAPEX	156,918	184,404	94,561	158,706	179,637
Capital Expenditures	148,719	163,695	161,485	163,420	212,833
Principal Payments	12,052	13,786	18,451	22,574	28,014
Amortization [2]		69,486	69,386	75,843	81,067
Interest Payments [2]		9,301	10,163	10,420	11,728

[1] Accounting changes were introduced in 2009; 2009 and restated 2008 figures are not directly comparable to prior years. Accounting changes in 2009 include the adoption of PSAB section 3150 Tangible Capital Assets and changes in the presentation of financial statements, including the elimination of fund accounting.

[2] Subsumed in other expense categories beginning in 2008.

**Waterloo, Regional Municipality of**

<b>Financial Trends (as of 12/31)</b>	<b>2007</b>	<b>2008 [1]</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Operating Revenues [2]	621,147	698,359	711,610	764,436	785,896
Operating Expenses [3]	561,782	625,458	705,203	697,962	699,820
<b>Gross Operating Balance [4]</b>	<b>71,418</b>	<b>72,901</b>	<b>6,407</b>	<b>66,475</b>	<b>86,076</b>
<b>% Change in Total Revenues</b>	<b>2.8</b>	<b>8.8</b>	<b>5.1</b>	<b>7.0</b>	<b>6.0</b>
<b>As % Operating Revenues</b>					
Taxation	53.1	49.7	51.2	50.2	50.4
Provincial Grants	21.1	22.1	22.3	22.7	22.9
User Fees and Services	13.1	23.0	23.0	22.2	23.7
Interest Expense [5]	1.3	1.3	1.4	1.4	1.5
Gross Operating Balance	11.5	10.4	0.9	8.7	11.0
<b>As % Total Revenues</b>					
Surplus/ (Deficit)	(2.4)	7.5	1.9	8.4	12.9
Financing Surplus/(Requirement)	1.2	2.8	(8.5)	(0.6)	(3.7)
Debt Service [6]	2.9	3.1	3.6	3.9	4.4
<b>% Change in Total Expenses</b>	<b>5.7</b>	<b>(1.7)</b>	<b>11.5</b>	<b>(0.1)</b>	<b>0.9</b>
<b>As % Operating expense</b>					
Public Safety	20.2	19.5	18.5	19.2	20.2
Transportation Services	14.9	21.9	21.8	19.6	21.4
Environmental Services	11.5	17.3	18.0	19.0	18.3
Social and Family Services	29.0	27.2	26.5	27.3	26.4
Social Housing	8.5	9.5	9.5	9.5	8.6

[1] Accounting changes were introduced in 2009; 2009 and restated 2008 figures are not directly comparable to prior years. Accounting changes in 2009 include the adoption of PSAB section 3150 Tangible Capital Assets and changes in the presentation of financial statements, including the elimination of fund accounting.

[2] Starting in 2008, total revenues less development charges, government capital grants, gains/losses on sale of land/capital assets and developer contributions of tangible capital assets is used as a proxy for operating revenues.

[3] Starting in 2008, total expenses less amortization is used as a proxy for operating expenses. Prior to 2008, includes principal payments.

[4] Revenues less expenses, excluding development charges, government capital grants, gains/losses on sale of land/capital assets, developer contributions of tangible capital assets and amortization. Prior to 2008, gross operating balance is calculated as operating revenues less operating expenses excluding principal payments.

[5] Consolidated for all funds prior to 2008.

[6] Principal and interest. Consolidated for all funds prior to 2008.



**Waterloo, Regional Municipality of**

<b>Consolidated Balance Sheet (C\$000, as at 12/31)</b>	<b>2007</b>	<b>2008 [1]</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Cash and Investments	306,479	344,843	299,543	321,649	294,008
Less sinking funds, as % of net debt	145.4	144.6	108.2	96.7	80.9
Receivables	40,059	40,570	53,017	61,455	70,466
Payables	52,219	51,622	49,040	50,111	57,321
Fund Balances					
Reserves	24,101	24,774	27,539	28,790	34,403
Reserve Funds	178,873	214,401	172,147	197,478	189,034
Deferred Revenues (Development Charges)	66,538	74,189	97,899	98,869	69,796

[1] Accounting changes were introduced in 2009; 2009 and restated 2008 figures are not directly comparable to prior years. Accounting changes in 2009 include the adoption of PSAB section 3150 Tangible Capital Assets, changes in the presentation of financial statements, including the elimination of fund accounting.

<b>Economic Trends (Calendar Year)</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Population	511,800	533,700	534,900	543,700	553,000
Full Value of Taxable Assessment (C\$ millions) [1]	40,893	41,691	44,839	48,027	51,647
Per Capita (C\$)	79,901	78,118	83,826	88,334	93,394
Value Building Permits (C\$000)	808,800	1,028,296	876,417	1,468,900	700,603
Housing Starts	3,013	2,976	2,770	4,037	3,341
Unemployment Rate, CMA (%)	5.5	6.0	9.5	8.0	6.8
Unemployment Rate, Province (%)	6.4	6.5	9.0	8.7	7.8

[1] Periodic re-assessments; not all data points are directly comparable.

## Moody's Related Research

### Credit Opinion:

- » [Canada, Government of](#)

### Analysis:

- » [Ontario, Province of, May 2012 \(141981\)](#)

### Special Comments:

- » [Canadian Provinces Consolidating Finances in 2012, March 2012 \(140455\)](#)
- » [Canadian Municipalities: Remaining Strong in Turbulent Times, February 2012 \(139798\)](#)

### Statistical Handbook:

- » [Non-U.S. Regional and Local Governments, June 2012 \(141944\)](#)

### Rating Methodologies:

- » [Regional and Local Governments, January 2013 \(147779\)](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

---

 Report Number: 147340
 

---

**Authors**

 Jennifer A. Wong  
 Aaron Wong

**Production Specialist**

 Cassina Brooks
 

---

© 2013 Moody's Investors Service, Inc. and/or its licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

**CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. ("MIS") AND ITS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND CREDIT RATINGS AND RESEARCH PUBLICATIONS PUBLISHED BY MOODY'S ("MOODY'S PUBLICATIONS") MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. 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. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.**

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.

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. Under no circumstances shall MOODY'S have any liability to any person or entity for (a) any loss or damage in whole or in part caused by, resulting from, or relating to, any error (negligent or otherwise) or other circumstance or contingency within or outside the control of MOODY'S or any of its directors, officers, employees or agents in connection with the procurement, collection, compilation, analysis, interpretation, communication, publication or delivery of any such information, or (b) any direct, indirect, special, consequential, compensatory or incidental damages whatsoever (including without limitation, lost profits), even if MOODY'S is advised in advance of the possibility of such damages, resulting from the use of or inability to use, any such information. The ratings, financial reporting analysis, projections, and other observations, if any, constituting part of the information contained herein are, and must be construed solely as, statements of opinion and not statements of fact or recommendations to purchase, sell or hold any securities. Each user of the information contained herein must make its own study and evaluation of each security it may consider purchasing, holding or selling.

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

MIS, 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 MIS have, prior to assignment of any rating, agreed to pay to MIS for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

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 clients. It would be dangerous for retail clients to make any investment decision based on MOODY'S credit rating. If in doubt you should contact your financial or other professional adviser.