

Global Credit Research - 01 Jul 2016

United Kingdom

Ratings

Category	Moody's Rating
Outlook	Negative
Senior Unsecured -Dom Curr	Aa2
Commercial Paper -Dom Curr	P-1

Contacts

Analyst	Phone
Jennifer A. Wong/Moody's Investors Service EMEA LTD	44.20.7772.5454
Amir Girgis/Moody's Investors Service EMEA LTD	
David Rubinoff/Moody's Investors Service EMEA LTD	

Key Indicators

Transport for London

	2010/11	2011/12	2012/13	2013/14	2014/15
Own Source Revenues / Total Revenues (%) [1]	45.3	46.4	45.1	47.3	52.4
Grants / Total Revenues (%)	54.4	53.4	54.7	52.4	47.3
Surplus / (Deficit) of the year before capex / Total Revenues (%)	20.6	25.2	31.1	28.4	23.1
Interest Payables / Total Revenues (%)	4.8	5.9	3.9	4.2	4.4
Direct and indirect debt / Total Revenues (%)	91.1	90.4	84.4	85.8	96.2
Short-term debt / Total Debt (%)	7.2	27.6	14.3	9.0	9.4
Current Assets / Current Liabilities (%)	97.9	74.2	125.3	172.4	179.1

[1] For all ratios, Total Revenues include grants, including those ring-fenced for Crossrail.

Opinion

Rating Rationale

The Aa2 debt rating of Transport for London (TfL), with negative outlook reflects the essential nature of TfL's services as the dominant provider of urban transport in London and its strong practical links to the government via its institutional and long-term funding frameworks. The rating also reflects TfL's operating risk from the wide scale of its services, its large and expanding investment plans and growing debt. TfL functions in a highly politicised environment, which may affect the levels at which fares are set, the levels of service that it provides and the amount of investments it undertakes. Moody's also assigns a Prime-1 (P-1) rating to TfL's commercial paper programme.

Credit Strengths

- Strategic importance for national transport plans

- Strong demand for TfL's essential services expected to continue
- The strong framework providing a high level of transparency
- Record of meeting operational and investment goals

Credit Challenges

- Decreasing operating support from the government and limited revenue flexibility
- Crossrail drives substantial capital plan
- Debt levels will remain high but predictable given borrowing limits

Rating Outlook

The negative outlook on TfL's rating reflects the likely impact of the vote to leave the European Union on the revenues of TfL, which would be affected by slowing growth in the economy and population in London as well as any loss of EU funding for capital programmes. The negative outlook also mirrors the negative outlook on the UK sovereign rating, reflecting the close economic, fiscal and institutional ties between TfL and the sovereign.

What Could Change the Rating - Up

Whilst unlikely in the near term, there could be upward pressure on the rating in the following instances: a significant and sustained improvement in TfL's financial position, including a substantial decrease in its debt burden and lower interest payments. Furthermore, materially improved revenue and spending flexibility or an upgrade of the UK sovereign rating could also put upward pressure on the rating.

What Could Change the Rating - Down

Downward pressure could result from TfL's under-performance in meeting operational or financial goals, specifically if fare revenue growth is materially slower than projected levels, new revenue sources fail to contribute to the revenue gap or planned expenditure savings do not materialise. Further, if the UK government were to signal a clear dilution of its support for TfL's capital plan or the UK sovereign rating were to be downgraded, this would also put downward pressure on the rating given the strong linkages in funding and support of the sovereign.

Recent Developments

On 23 June 2016, the UK voted to leave the European Union in a referendum and on 24 June 2016, a negative outlook was placed on the UK's Aa1 sovereign rating. We expect protracted trade negotiations, resulting in a high level of uncertainty in the medium term which will manifest in slower economic growth. On 29 June 2016, the outlook on TfL's rating was changed to negative from stable and the Aa2 rating affirmed, reflecting the impact of the vote to leave the European Union on the revenues of TfL, which would be affected by slowing growth in the economy and population in London as well as any loss of EU funding for capital programmes. The outlook change also reflects the outlook change on the sovereign rating to negative from stable, reflecting the close institutional, operational and financial linkages between the central government and TfL.

On June 8 2016, following London mayoral elections, TfL announced a plan to freeze fares for the next four years at an estimated cost of £640 million, exerting additional pressure on TfL's operating results and prompting an ambitious savings plan. On March 2, 2015 TfL received its funding agreement to 2020-21 from the Secretary of State. The agreement moved TfL further down a path towards self-sufficiency in that it ended operating grant starting in 2018-19. The 2016-17 budget was published in March 2016 with an updated five-year medium term plan expected later in the year following the mayoral elections. We see the loss of operating grant as credit negative for TfL given the budget gap it creates, which will need to be met by a package of cost reductions and new revenues.

Issuer Profile

TfL is the dominant provider of urban transport for London and is a statutory corporation established by the Greater London Authority (GLA) Act 1999. Operations include the tube, bus networks, above-ground rail within London (Overground and Dockland Light Railway) and strategic portions of the road system. TfL also

manages the congestion-charging system and wholly owns Crossrail Limited.

Most trips to the central business district (CBD) of London are provided for by TfL's services, which delivered approximately 4 billion passenger journeys in 2014-15. In practice, the segments not under TfL control are either very small or, like the large share of surface rail outside of TfL's control, are effectively at-or-close-to capacity and cannot strongly compete with TfL's services.

DETAILED RATING CONSIDERATIONS

Transport for London's rating combines (1) a baseline credit assessment (BCA) for the entity of a1 and (2) a very high likelihood of extraordinary support coming from the UK government in the event that the entity faced acute liquidity stress.

Baseline Credit Assessment

STRATEGIC IMPORTANCE FOR NATIONAL TRANSPORT PLANS

Transport for London is a key component of the regional government of greater London (Greater London Authority) and reports to the Mayor of London. Future growth in London and the capacity of the public transport system are closely linked and are significant policy concerns to citizens, businesses and the local and national levels of government.

Transport for London is the largest transit system in the United Kingdom, and one of the largest ones in the world. It serves a large population (8.3 million in London) and benefits from very strong ridership. TfL's tube, buses and overground network provide just over 4 billion rides annually. TfL's very strong 474 utilization ratio (number annual ridership relative to the service area population) is the highest of any system we rate under the Global Mass Transit Enterprises Methodology, reflecting the pervasiveness of transit and its importance to the London economy.

The scope of operations continues to grow. In May 2015 TfL became responsible for providing rail service on the West Anglia Inner lines. And in January of 2016 TfL and The Department for Transportation released a joint proposal contemplating TfL taking a larger role in London's commuter rail lines, including the possibility that TfL would become the contract manager for a number of rail lines in the southeast. We cannot evaluate any potential credit impact until details of such an agreement are available.

STRONG DEMAND FOR TFL'S ESSENTIAL SERVICES

The demand for TfL's services over the past years has continued to strengthen, with passenger journeys in fiscal year 2014-15 increasing by 3.2% for the London Underground, essentially flat for London buses, 8.5% for the Docklands Light Railway and 3% for the London Overground, compared to the previous fiscal year. Ridership has grown at an estimated compound annual growth rate (CAGR) of 2.4% since 2010-11.

The 2014 Business Plan anticipated the population will continue to grow at 2% annually. The population in London is growing and projected to continue to grow robustly, with the Office for National Statistics projecting a 11.9% population increase between 2015 and 2025, based on its 2012 mid-year population estimates. Crossrail will add further capacity to absorb growing demand and will represent a 10% increase in London's rail capacity; it will increase the number of people within a 45 minute commuting distance of London's key business districts by 1.5 million. Continued growth in ridership is important to TfL's ability to affect balanced budgets, a stagnant population and/or slowdown in the economy could present a challenge to TfL's financial health.

STRONG OPERATING FRAMEWORK PROVIDES A HIGH LEVEL OF TRANSPARENCY

Since 2003, TfL, the Mayor of London and the Department for Transport have agreed long-term funding and planning frameworks. These frameworks take into account a combination of TfL's own resources - mostly fare revenues - and grants from the government, which are balanced against spending in the TfL Business Plan. Overall funding stability has allowed for investment stability, which has been matched by good service delivery and, generally, both local and national political support. Following the 2015 Spending Review, the Secretary of State and TfL have agreed medium term grant levels as set out in a funding agreement. General operating grant will be terminated in 2018-19. In the same agreement, the government provided clarity on capital funding commitments indicating that capital grants will be flat through 2020-21. The Chancellor's Budget in March 2016 announced further devolution of business rates to local government and a pilot to replace the capital grant paid to TfL by central government with business rates from April 2017. While we view the loss of operating grant as

a credit challenge, we do view positively the government's continued commitment to ensure that TfL has sufficient resources for its tube lines upgrade and Crossrail project, whilst maintaining London's extensive bus network.

Historically, the links between the Mayor and TfL have been very strong and well co-ordinated on key matters of operations and funding. The Mayor develops London's Transport Strategy, which is the guiding document for TfL's specific programmes of operation and investment, appoints TfL's Board and sets fare levels. The London Assembly, in turn, holds the Mayor democratically accountable and oversees the Mayor's budget. TfL's Board approves the Commissioner for Transport, the executive head of TfL. It also oversees the creation and delivery of the multi-year business plan and annual budgets through various committees, including the Remuneration Committee, the Finance and Policy Committee and the Audit and Assurance committee. TfL also has an external benchmarking body, the Independent Investment Programme Advisory Group.

Under the Prudential Code, TfL may borrow for capital purposes up to a level agreed with the Mayor, subject to reserve powers retained by the government. Borrowing limits are also agreed within the multi-year funding agreements with the national government. Local finance law imposes statutory obligations upon officers and permits government intervention in cases of mismanagement or financial failure. Accounting standards are high. Audited financials are produced under IFRS accrual formats, but, as with UK local authorities also using this system, can be difficult to reconcile to the more cash-based systems used for budgets and long-term planning.

A RECORD OF MEETING OPERATIONAL AND INVESTMENT GOALS

In fiscal year 2014-15 gross fare income, which constitutes the bulk of TfL's own-sourced revenue, increased by 4.8% reflecting both rising demand (3.2% higher across the whole network) and fare increases at the retail price index. We believe that TfL has managed its finances very efficiently in the last few years, meeting targeted spending and fare levels. This success is particularly significant when taking into account civil disturbances in the Summer of 2011, the 2012 Olympic Games and more generally the substantial construction work having occurred over the years, and which continues to gain pace. Crossrail is now 70% complete and on schedule and on budget. Going forward, we believe that TfL's future revenue growth will depend largely on continued population growth as well as the successful delivery of capacity improvements from large capital projects, particularly Crossrail. TfL is currently undergoing a comprehensive cost review in order to maximize value for money.

DECREASING OPERATING SUPPORT FROM THE GOVERNMENT AND LIMITED REVENUE FLEXIBILITY

The majority of operating costs are financed by fares. The farebox recovery ratio (fare revenues/operating expenditures) is high at 61.7% in fiscal year 2014-15. Following population growth and fare increases fare revenue has increased estimated compound annual growth rate (CAGR) 4.6% over the last five years.

Total revenues (on an accounting basis) were £9.6 billion in 2014-15 and are comprised of the following major sources; fares are 41.4%, 36% grants allocated for capital, revenue grants 11%, and 11% other own source revenues. Total revenues exceed operating expenditure by £2.2 billion, which was allocated to the capital programme.

TfL has started to diversify its revenues. Part of the previous general grant provided by the GLA has been replaced by Business Rates Retention; though this could mean greater variability in these revenues, the GLA has made a commitment to grow these transfers in line with RPI. TfL also plans to increase revenues from commercial activities to leverage its considerable property portfolio, especially Underground stations, to generate revenues. It projects raising about £3.5 billion from commercial strategies over the next 10 years, including residential property development. The first major such endeavour is a joint venture property development at Earl's Court. While these projects have considerable upside potential and are a promising source for replacing lost government revenues, they also introduce increased volatility and the potential downside risk, particularly in terms of residential property development. We will continue to monitor the impact of these revenues on TfL's budget planning, though TfL has not incorporated very large increases in revenues from commercial activities.

CROSSRAIL DRIVES SUBSTANTIAL CAPITAL PLAN

Transport for London, along with the Department for Transport, is a sponsor of the Crossrail project, a £14.8 billion expansion of London's rail system. It is funded from a mix of government grants, new borrowing and other contributions. TfL's direct funding for Crossrail represents £2.4 billion, and its total funding contribution for the project is capped at £7.1 billion. While TfL has conservatively budgeted cost commitments for Crossrail

and costs have so far remained within budget, should costs for Crossrail exceed £14.8 billion during the construction period, TfL has the option to transfer the project ownership to the Department for Transport, thereby mitigating risks for TfL.

The first stage of Crossrail was put into place when the Greater Anglia franchise between Liverpool Street and Shenfield transferred to TfL. The project is currently 75% complete and the first trains are expected to run in early 2019. While the recent funding letter includes no commitment for the proposed Crossrail 2, which would transverse London north to south, it advises any contribution would come from the £300 million Transport Development Fund. In addition, in the 2016 Budget, the government committed to provide £80m to the Crossrail 2 project, to be matched by TfL, in order to develop the project.

Capital spending will amount to nearly £17 billion over the next 5 years, with capex spending peaking in 2015-16 at £4.8 billion as Crossrail is completed. Capital support from the government will continue at approximately £1 billion a year, essentially the same levels as agreed in the 2013 funding agreement and a reduction from the £1.7 billion average over the last five years, but will be funded directly from business rates from April 2017. Borrowing limits over the next five years are essentially the same level as in the previous agreement, averaging £640 million.

DEBT LEVELS WILL REMAIN HIGH BUT PREDICTABLE GIVEN BORROWING LIMITS

TfL's debt levels is high, but stable and predictable. TfL's debt levels rose to £9.2 billion at the end of fiscal year 2014-15, or 151% of operating revenue, from £8.7 billion the previous year. Increases in debt are agreed in the multi-year funding settlements with the Department for Transport (DfT). DfT approves and establishes limits for TfL's debt projections, subject to requirements of prudence and affordability required under the Prudential Code. Between 2016-17 and 2020-21 TfL can borrow £3.2 billion. Favourably, the most recent funding settlement gives TfL flexibility to roll borrowing capacity into future years, meaning debt will grow only when fund are required. In the past each year's borrowing cap was 'use it or lose it', meaning that TfL would borrow regardless of current cash need, incurring unnecessary interest costs.

TfL guaranteed a number of loans linked to Public-Private Partnership (PPP) contracts, in the last few years its policy has been to bring these PPP contracts back "in-house." TfL's project management exposure has substantially decreased as a result. TfL's total retirement benefit obligations, which currently are not included in TfL's debt stock, were at £2.9 billion in 2014-15, or approximately 73 % of total revenue. The latest full actuarial valuation of the TfL Pension Fund was carried out as at 31 March 2015, which showed a deficit for funding purposes of £396 million.

TfL benefits from a diverse investor base and may borrow from the Public Works Loan Board (PWLb, statutory body operating within the UK Debt Management Office and an executive agency of the UK Government's Treasury Department), which could also act as a lender of last resort for the entity and hence mitigate the threat of liquidity shocks. TfL has a £5 billion European Medium Term Note (EMTN) programme, updated in July 2015, of which £3.6 billion was outstanding as of May 2015. In April 2015, TfL issued its first green bond (£400 million) under the EMTN programme. For short-term liquidity needs, its European Commercial Paper programme of £2 billion allows for rapid and flexible access to liquidity at rates under LIBOR.

TfL had approximately £3.3 billion of cash and cash equivalents at FY2016, which are primarily held as funding for capital expenditures in the business plan. This cash includes £1.5 billion set aside for Crossrail funding that will be spent over the next couple of years. The reserves are not ring-fenced and may be used for debt service payments or other costs of TfL and its operating subsidiaries. In addition, Internal liquidity has historically been strong, particularly as funds are generally secured in advance of major project expenditures. Furthermore, TfL has a policy of maintaining a minimum of £250 million in cash available on any business day.

Extraordinary Support Considerations

The very high support assessment for TfL reflects the importance of the transport system and infrastructure improvement in London by the UK government (Aa1 negative), as reflected in the multi-year funding settlement and the agreement to proceed with Crossrail and the tube upgrades. The very high support also reflects the reputational risk for the central government, should TfL face acute liquidity tensions, given the overall funding of the system and close oversight from the sovereign. Such event would also call into questions government support for other sectors (such as local authorities) that the national government tightly controls and funds.

Moody's also assigns a very high default dependence between TfL and the UK government, reflecting the high portion of central government funding to TfL and its historical co-ordination with national investment policies.

ABOUT MOODY'S SUB-SOVEREIGN RATINGS

National and Global Scale Ratings

Moody's National Scale Ratings (NSRs) are intended as relative measures of creditworthiness amongst debt issues and issuers within a country, enabling market participants to better differentiate relative risks. NSRs differ from Moody's global scale ratings in that they are not globally comparable with the full universe of Moody's rated entities, but only with NSRs for other rated debt issues and issuers within the same country. NSRs are designated by a ".nn" country modifier signifying the relevant country, as in ".mx" for Mexico. For further information on Moody's approach to national scale ratings, please refer to Moody's Rating Methodology published in May 2016 entitled "Mapping National Scale Ratings from Global Scale Ratings".

The Moody's Global Scale rating for issuers and issues allows investors to compare the issuer's/issue's creditworthiness to all others in the world, rather than merely in one country. It incorporates all risks relating to that country, including the potential volatility of the national economy.

Baseline Credit Assessment

Baseline credit assessments (BCAs) are opinions of entity's standalone intrinsic strength, absent any extraordinary support from a government. Contractual relationships and any expected ongoing annual subsidies from the government are incorporated in BCAs and, therefore, are considered intrinsic to an issuer's standalone financial strength.

BCAs are expressed on a lower-case alpha-numeric scale that corresponds to the alpha-numeric ratings of the global long-term rating scale.

Extraordinary Support

Extraordinary support is defined as action taken by a supporting government to prevent a default by a Government Related Issuer (GRI) and could take different forms, ranging from a formal guarantee to direct cash infusions to facilitating negotiations with lenders to enhance access to needed financing. Extraordinary support is described as either low (0 - 30%), moderate (31 - 50%), strong (51 - 70%), high (71 - 90%) and very high (91 - 100%).

Default Dependence

Default dependence reflects the likelihood that the credit profiles of two obligors may be imperfectly correlated. Such imperfect correlation, if present, has important diversifying effects which can change the joint-default outcome. Intuitively, if two obligors' default risks are imperfectly correlated, the risk that they would simultaneously default is smaller than the risk of either defaulting on its own.

In the application of joint-default analysis to GRIs, default dependence reflects the tendency of the GRI and the supporting government to be jointly susceptible to adverse circumstances leading to defaults. Since the capacity of the government to provide extraordinary support and prevent a default by a GRI is conditional on the solvency of both entities, the more highly dependent -- or correlated -- the two obligors' credit profiles, the lower the benefits achieved from joint support. In most cases GRIs demonstrate moderate to very high degrees of default dependence with their supporting governments, which reflects the existence of institutional linkages and shared exposure to economic conditions that draw credit profiles together.

Default dependence is described as either low (30%), moderate (50%), high (70%) and very high (90%).

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 <http://www.moodys.com> for the most updated credit rating action information and rating history.

MOODY'S
INVESTORS SERVICE

affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") 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. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. 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, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE. MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

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

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

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

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS,

MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. 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.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

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

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

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000. MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.