

## CREDIT OPINION

31 May 2016

New Issue

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## Pennsylvania Turnpike Commission

New Issue: Moody's assigns A1 to PTC's \$411 million Senior Turnpike Revenue Bonds, Series A of 2016; outlook stable

Moody's Investors Service has assigned an A1 rating to the Pennsylvania Turnpike Commission's (PTC or Commission) \$411 million Senior Turnpike Revenue Bonds, Series 2016A, consisting of Series 2016A-1 for \$269.8 million to fund general capital improvements and Series 2016A-2 for \$140.8 million to refinance the outstanding 2012B, 2014B-1, and 2014B-2 fixed rate note maturities. Concurrently, Moody's has affirmed PTC's outstanding A1 senior lien and A3 subordinate lien revenue bond ratings. The rating outlook is stable.

### Summary Rating Rationale

The A1 senior and A3 subordinate revenue bond ratings reflect the Commission's strong and well-established market position, relatively inelastic historic demand in response to annual rate increases and proven willingness to annually raise toll rates since 2009 to meet targeted financial metrics. The Pennsylvania turnpike system is an essential east-west transportation corridor in the eastern US with a long operating history and well-managed financial operations, consistently strong senior lien debt service coverage ratios (DSCRs) and a satisfactory liquidity position. The ratings incorporate a degree of expected traffic and revenue (T&R) underperformance over the long-term, albeit not material given increasingly strong traffic and revenue growth over the last 24 months related to low gas prices. We expect traffic and revenue to outperform updated near-term forecasts. Over the long-term we expect minimal traffic growth due to shifting service area demographics including an aging population, weak population growth, urbanization and out migration of native residents.

The A3 subordinate lien rating reflects the weaker legal security with no legal claim on turnpike revenues other than deposits into the General Reserve Fund. This lien will be heavily leveraged to make payments to the Pennsylvania Department of Transportation (PennDOT) as required under Pennsylvania Act 44 of 2007. The subordinate lien will be leveraged for an additional \$2.7 billion in debt for Act 44 payments over the next 7 years.

We note that there may be adverse developments outside of the commission's control that could limit its ability to increase toll revenues to levels necessary to achieve its long-term forecast revenue targets. These include changes in user elasticity as toll increases accumulate over time, economic softening, volatile fuel prices, political interference to limit toll rate increases, and changing demographics impacting driving patterns and transaction volumes that could converge to undermine the Commission's current leverage strategy, which is reliant on annual toll increases and assumed steady traffic volume and revenue growth.

## Rating Outlook

The stable outlook reflects our belief that the Pennsylvania economy will continue to experience both slow long-term growth and shifting socio demographics, which when coupled with rising toll rates, will lead to limited traffic growth over the long-term, despite recent strong growth related to low gas prices. The outlook also reflects our expectation that the Commission will continue to implement annual toll rate increases to achieve forecast minimum DSCRs above 2.0 times for senior revenue bonds, 1.3 times for subordinate revenue bonds and 1.2 times for subordinate special revenue bonds, including the separately secured Motor License Fund (MLF) Enhanced subordinate special revenue bonds while maintaining recently improved liquidity levels despite rising system leverage.

## Factors that Could Lead to an Upgrade

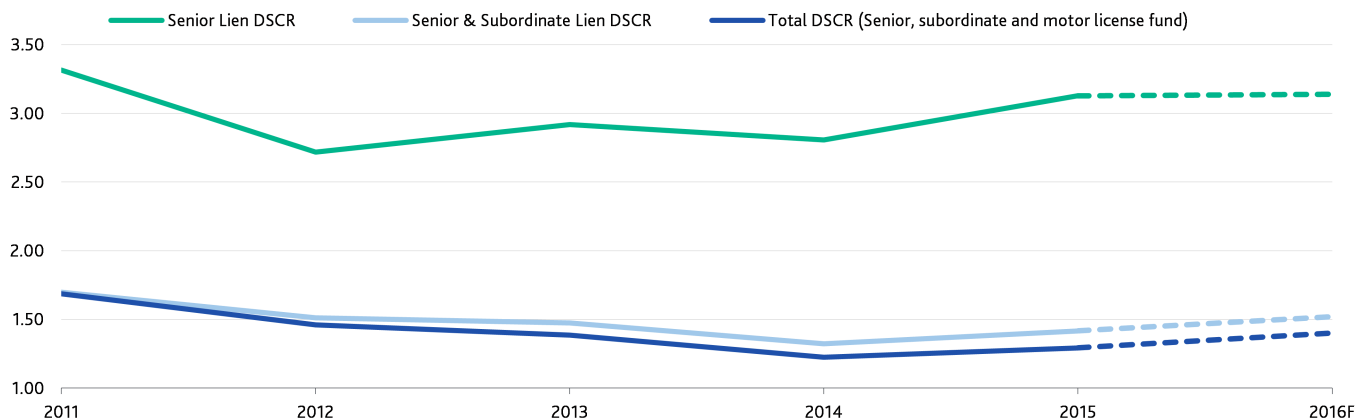
- » Unlikely to face upward pressure given stated plans for significant amounts of additional debt that are expected to pressure traffic growth and the system's customer base for many years.
- » In the long-term, if traffic levels consistently exceed 200 million transactions a year, liquidity improves and is sustained at higher levels, and total leverage begins to decline or stabilize.

## Factors that Could Lead to a Downgrade

- » If toll increases are not implemented as planned or if traffic, revenues, or liquidity levels fall short of forecast levels.
- » If the senior lien net revenue DSCR falls below 2.0 times and if the subordinate lien net revenue DSCR falls below 1.3 times.
- » Increased state payments or materially higher than anticipated financing costs for Act 44 payments and capital improvements or from the increasing use of aggressive financing structures.

Exhibit 1

### Debt Service Coverage Ratios (DSCRs) decline as debt is issued but remains relatively stable



Source: Pennsylvania Turnpike Commission Audited Financial Statements and Moody's

## Credit Strengths

- » Turnpike system is an essential east-west intra and interstate transportation corridor in eastern US with a long history of well-managed financial operations
- » Demonstrated willingness to raise toll rates evidenced by annual toll rate increases since 2009
- » Demand has proven to be resilient to-date and relatively inelastic, allowing the Commission to grow revenue through toll rate increases while traffic has remained relatively flat

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- » Strong historical and forecast DSCRs above 2.0 times for senior bonds; adequate forecast DSCRs above 1.3 times for subordinate bonds and above 1.2 times for Motor License Fuel (MLF) Enhanced subordinate special revenue bonds under management's base case
- » Flexibility to delay or scale back portions of the CIP and reduce borrowing amounts, though no flexibility to reduce annual Act 44 payments below \$450 million through fiscal year 2022
- » Required public annual update of Act 44 Financial Plan to Commonwealth Budget Secretary provides transparency and accountability
- » Above-average Other Post-Employment Benefits (OPEB) funded ratio of 95.8% at the end of FY 2014, up from 60% at the end of FY 2012, which is much stronger relative to other statewide turnpike systems

## Credit Challenges

- » Demand has been essentially flat since 2004 with a 0.2% 11 year CAGR through 2015 given a recession, volatile fuel prices, weather events, shifting socioeconomic demographics, and the impact of toll rate increases
- » Revenue growth requires toll rate increases to meet targeted metrics, pressuring user affordability and dampening future growth as users divert to free alternatives or drive less often
- » Risk of political opposition to annual toll rate increases coupled with an increase in the elasticity of demand as users experience rate fatigue and seek alternative routes or utilize the turnpike less
- » Significant 10-year CIP plan will increase the Commission's senior and subordinate revenue bond debt levels by about 40% to a total peak of about \$13.5 billion in 10 years as bonds are issued to fund capital expenditures and Act 44 payments
- » No flexibility to reduce annual Act 44 payments below \$450 million through FY 2022 irrespective of the actual performance of the turnpike and Act 44 payments are not secured by a lien on toll revenues
- » Political risk remains that the Commission could be tapped to shoulder more of the state's growing unfunded transportation infrastructure needs, though less likely now due to public recognition of the Commission's financial limits and the state increased transportation funding from other sources under Act 89
- » Relatively complex debt profile with floating rate notes, numerous derivative agreements, and increasingly more bullet maturities or hard puts for floating rate note obligations with a rising debt service amortization schedule

## Recent Developments

The FY 2017 Act 44 long-term financial plan dated May 18, 2016 does not have material changes from the prior FY 2016 Act 44 plan. The senior lien DSCR is still forecast to decline to about 2.5 times over time, but is now anticipated to happen a few years earlier as the Commission amortizes more debt service earlier as a result of higher than forecast revenue growth while taking advantage of lower shorter term interest rates. The remaining updates to the forecast DSCRs for all liens are similar to prior Act 44 plans in Moody's view.

The FY 2017 Act 44 plan includes a forecast toll rate increase of 6% in January 2017, generating 8.8% higher toll revenues in FY 2017 compared to FY 2016 and operating expense growth of 4% annually. Should PTC achieve its 2017 budget, FY 2017 year-end DSCRs would be about 2.80 times for the senior lien, 1.46 times for the subordinate lien and 1.34 times for the MLF bonds. Moody's continues to monitor these annual updated plans as the key inputs to the plan evolve, including the CDM Smith traffic and revenue report, the 10-year capital improvement plan and forecast expenses, toll rates and revenues.

PTC experienced strong year-over-year revenue growth of 11% through the first 11 months of PTC's FY 2016 that ends May 31, 2016. This substantial revenue growth is primarily due toll rate increases, but also incorporates higher than expected transaction growth related to low fuel prices as total vehicle transactions increased by a sound 3.3% year-over-year through the first 11 months of FY 2016. These figures are higher than the 8% total revenue growth and 2% total transaction growth experienced year-over-year through the first 11 months of FY 2015, evidencing accelerating growth over the last two years.

In January 2016, the PTC implemented a 6% toll increase for both E-ZPass customers and cash customers, excluding turnpike 576, which followed a modestly lower 5% toll increase the year before. As such, we expect strong revenue growth to continue in FY 2017 as well.

Given rising revenues and debt service costs, Moody's net revenue DSCR for fiscal 2016 ending May 31, 2016 is expected to be at least 3.1 times for the senior bonds, 1.5 times for the subordinate bonds, and 1.4 times for all debt including the MLF bonds. The senior DSCR is about the same as the 3.13 times experienced in 2015, but the subordinate and total DSCRs are projected to be above 2015 levels.

## Detailed Rating Considerations

### Revenue Generating Base

The PTC charges tolls for passenger and commercial vehicles that travel on their system with the mainline accounting for the majority of annual transactions at about 85%. The system consistently recorded about 188 million transactions annually from 2004 to 2014, but traffic growth has notably improved since the second half of 2014 due to lower gas prices and economic growth. As a result, total transactions increased by 1.9% to 192 million in FY 2015 and are expected to approach 195 million for FY 2016.

Revenue growth has outpaced traffic growth as the result of toll rate increases for both E-ZPass and cash customers. The toll increases were notably higher on cash customers than E-ZPass customers from 2011 to 2014 to encourage more E-ZPass usage. This was successful and the E-ZPass penetration rate has risen and as cash paying customers continue to pay 40% more than E-ZPass customers, we expect the E-ZPass penetration rate to continue to improve.

CDM Smith completed a new Bring Down Letter in March 2016 for the PTC. Projected traffic levels were revised upward by an average of 1.9% annually through 2041. Future T&R studies could potentially revise traffic forecast downward as traffic levels have been essentially flat since 2004 and user demand elasticity will slowly increase as toll rate increases pressure affordability and hamper traffic growth.

In line with traffic forecast, the 2016 T&R study increased the forecast for revenue growth by an average of 1.5% annually through 2041 compared to the 2015 study. The better than actual experience in the last couple of years supports this higher revenue forecast in the near term as the economy continues to improve and lower gas prices helps users more readily absorb the toll rate increases.

Overall, the updated T&R base forecast assumptions post 2018 remained the same, but absolute T&R forecast is 1.9% higher on average every year due to higher near-term forecast growth through 2018. Long-term macroeconomic assumptions were not updated in the 2016 Bring Down Letter. There was also no change to the forecast annual toll rate increase schedule and there was a slight increase to the EZ Pass penetration rate, reflecting higher actual experience. These modest changes resulted in an increased forecast for revenue growth by an average of 1.5% annually through 2041 over to the 2015 study forecast.

While GDP and GSP are usually a good indicator of traffic performance, this was not the case in 2015. The actual GDP and GSP performance in 2015 was below CDM Smith's forecast in the 2015 T&R study, yet actual T&R increased rather than declined. CDM Smith attributes the reversal in this historical relationship due to unusually lower gas prices, which also underpins Moody's positive outlook for the Toll Road sector in the US. Both passenger and commercial transactions exceeded forecast for 2015, but commercial vehicles had the strongest performance relative to original expectations. This trend is forecast to continue in the near-term.

### Operational and Financial Performance

PTC experienced strong year-over-year revenue growth of 11% through the first 11 months of PTC's FY 2016 that ends May 31, 2016. This substantial revenue growth is primarily due to toll rate increases, but also incorporates higher than expected transaction growth related to low fuel prices as total vehicle transactions increased by a sound 3.3% year-over-year through the first 11 months of FY 2016. In January 2016, the PTC implemented a 6% toll increase for both E-ZPass customers and cash customers, excluding turnpike 576.

FY 2015 (ended May 31, 2015) total operating revenue was 8.1% higher than FY 2014, primarily due to toll rate increases given traffic volumes only increased by 1.94% year-over-year for the same time period. In January 2015, the PTC implemented a 5% toll increase for both E-ZPass customers and cash customers, excluding turnpike 576.

Despite essentially flat historical traffic growth over the last decade with a 0.6% 10 year total traffic CAGR since 2005, total transactions grew by 1.94% in FY 2015 reflecting the improving economy with strong commercial volume growth and lower gas prices leading to higher passenger volumes. Commercial traffic outgrew passenger traffic as year-over-year increases were 5.0% and 1.5% respectively. Despite the uptick in traffic, revenues continue to be driven by toll rate increases. Total toll revenues grew by 8.15% year-over-year to \$932 million in FY 2015.

As of the audited FY 2015 financial statements, the Commission's audit now includes compliance with GASB 68, changing the reporting of pension expenses. As a result, there was a one-time balance sheet and income statement adjustment to account for the Commission's share of the outstanding net pension liability of the multi-employer SERS pension plan. These one-time adjustments do not impact our key financial metrics. Conversely, there was also a change to the reported annual pension expense that now includes a non-cash component. As such, Moody's adjusts the Commission's expenses to exclude this noncash item. Per the FY 2015 audit Note 8, the pension accrued expense reported on the FY 2015 income statement was \$34.1 million, but actual pension contributions were \$22.6 million. Moody's has reduced total expenses by the \$11.5 million noncash portion of the pension expense. The DSCR impact of this adjustment is modest at about three basis points.

Higher forecast toll revenues offset forecast growth in both operating expenses and debt service. The Commission's debt service profile will continue to rise as additional debt is issued to fund both capital expenditures and Act 44 payments moving forward. Moody's calculated DSCR on the senior lien for 2015 increased to 3.13 times from 2.81 times in 2014. The subordinate lien DSCR and total all-in DSCR including the Motor License Fund (MLF) lien, increased to 1.42 times and 1.29 times, respectively in 2015 compared to 1.32 times and 1.23 times in 2014.

Despite this uptick, Moody's expects the senior lien DSCR for the Commission to decrease over time as debt service costs continue to rise, but we expect it to remain above 2.0 times. Subordinate DSCRs and all-in DSCRs, including the MLF lien, are expected to be about 1.3 times and 1.2 times, respectively. Additional debt will continue to be issued to pay the Act 44 payments which in turn will increase debt service costs, most notably through 2022 when payments are highest. Higher capital expenditures will be incurred to expand and maintain the turnpike, which will yield higher operating expenses to maintain the expanded road in good condition

#### LIQUIDITY

Days cash on hand improved to 309 days in FY 2015 from 281 in FY 2014 due to an increase in cash reserves following higher toll revenues during the operating period.

#### Debt and Other Liabilities

##### DEBT STRUCTURE

The PTC's new 10-year capital improvement plan (CIP) for FY 2017 is significantly lower than previous plans as the Commission has decided to defer certain capital projects in favor of escalated senior debt repayment. Deferred capital projects are not considered material to the ongoing maintenance or condition of the toll road.

The PTC is an active annual issuer in the market and are anticipated to borrow over \$1 billion in calendar year 2016 after borrowing close to \$1.33 billion in 2015, both with a combination of senior and subordinate debt. The new senior debt will be used to fund capital expenditures while the new subordinate debt will be used to fund Act 44 payments. Given annual amortization and the forecast new debt, total leverage is expected to rise to about \$14 billion by about 2022.

The Commission closed on its full \$200 million authorization of EB-5 loans with \$150 million closed on March 18, 2016 and \$50 million closed on May 11, 2016. The Commission's EB-5 loans are not rated by Moody's. The EB-5 loan proceeds will be used for the I-95 Interchange Project.

The EB-5 loan has the same senior security and financial covenants as the senior lien turnpike revenue bonds, except it does not have a debt service reserve fund and there are certain performance conditions of the EB-5 loan program that could require PTC to early redeem a portion of the EB-5 loan prior to their final maturity. The loan is structured as a bullet maturity due in 2021.

The EB-5 loan is part of the US Immigrant Investor Program that is administered by the US Citizenship and Immigration Services (USCIS) and was created via federal legislation in 1990 to enable foreign citizens to obtain permanent US residency in exchange for making a minimum investment of \$500,000 in a new commercial enterprise that will create at least 10 direct or indirect full-time

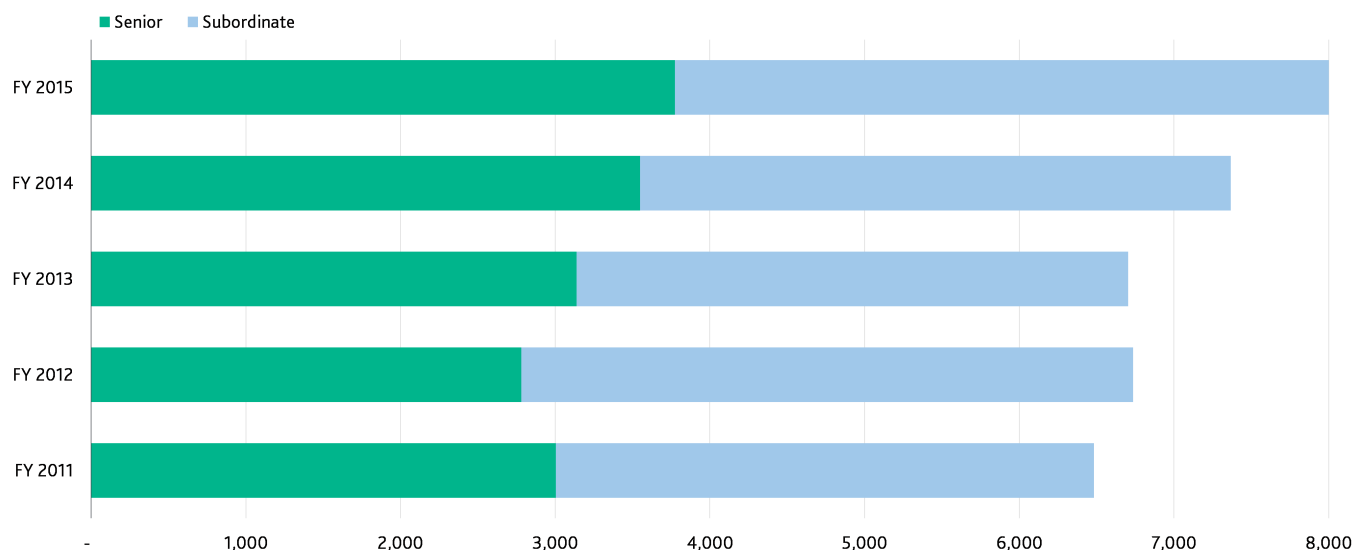
jobs per \$500,000 of investment in an area the USCIS classifies as a regional center. The project currently anticipates the creation of 5,368 permanent jobs between direct and indirect positions, more than the 4,000 it would be required to create for the loan value of \$200 million. The Delaware Valley Regional Center (DVRC) is the "regional center" administering the loan given its area covers the surrounding counties where the I-95 Interchange Project is located. The Lender is DVRC Pennsylvania Turnpike, LP.

If the permanent citizenship is not received and the loan has been disbursed to PTC, then PTC is required have to return those funds to the Lender. Each individual investment is for \$500,000 and there is a six month window to repay the funds. This provides adequate time for PTC to either fund in cash or access the capital markets to early redeem these funds if required.

In addition, if after 2.5 years post financial close on the EB-5 loan there is not adequate evidence of the creation of 10 direct or indirect jobs per \$500,000 invested, then PTC is required to repay the loan principal plus interest and penalties within 30 days of receiving notice of the failing to the requirement. While the 30-day window is short, PTC's solid liquidity and demonstrated history of strong market access help mitigate the potential for required mandatory early redemptions.

Exhibit 2

### PA Turnpike Senior and Subordinate Revenue Bond debt rising over time



Source: Pennsylvania Turnpike Commission Audited Financial Statements

### DEBT-RELATED DERIVATIVES

The PTC has about \$1.03 billion of outstanding senior lien variable interest rate bonds and \$50 million of subordinate lien variable interest rate bonds, equal to about 12.2% of total toll revenue secured debt. This includes the 2012B, 2013A-B, 2014B-1, 2014B-2 and the 2015A-2 senior floating rate notes and the 2015A-2 subordinate floating rate notes. The interest rate on \$454 million of these bonds (2012B, 2013B, 2014B-1, 2014B-2) is synthetically fixed via floating-to-fixed rate swaps while the other variable rate notes are unhedged.

The PTC has swap agreements on a total current notional amount of \$0.98 billion of mainline turnpike senior revenue bonds. There are no interest rate swap agreements associated with the subordinate lien bonds. About 46% of the swap portfolio is to hedge interest rate exposure on variable interest rate debt, yet the majority of the notional value (\$524.8 million or about 54%) are constant maturity and basis swaps associated with bond series 2009A, 2010B, 2012B, 2013B and 2014B-2 bonds. As of May 9, 2016, the total net mark-to-market (MTM) of the senior lien swaps was a negative \$188.1 million, despite the positive \$15.9 million mark-to-market value of the constant maturity and basis swaps.

### PENSIONS AND OPEB

The financial impact of any unfunded pension and OPEB obligations of this issuer are minor and thus not currently a major factor in our assessment of its credit profile. However, the PTC does have a strong Other Post-Employment Benefits (OPEB) funded ratio of

95.8% as of the end of FY 2014, a notable improvement from 60% at the end of FY 2012, which is much stronger than other statewide turnpike systems.

### Management and Governance

The Pennsylvania Turnpike Commission is an instrumentality of the Commonwealth created by the Enabling Acts with the power to construct, operate, and maintain the Turnpike System and to perform other functions authorized by Act 44. The Commission is composed of five members, including one ex officio member, the Pennsylvania Secretary of Transportation. The Chief Executive Officer is responsible for managing the PTC's day to day operations and is supported by the Chief Operating Officer, Chief Financial Officer, Chief Engineer, Chief Counsel and Chief Compliance Officer.

### Legal Security

The senior lien bonds are secured by a first lien on net toll revenues of the turnpike after payment of operations and maintenance expenses and by the debt service reserve fund. The rate covenant for the senior bonds is the greater of 130% senior debt service or 100% of maximum annual debt service plus required transfers to the reserve maintenance fund, debt service reserve fund replenishment and certain short term debt. Currently, all of the PTC's senior lien fixed rate bonds have debt service reserve funds equal to maximum annual debt service (MADS) while the outstanding variable rate bonds and notes do not have a debt service reserve fund. The senior lien additional bonds test is at least 1.75 times prior year debt service, or at least 1.30 times projected MADS and at least 1.30 times projected debt service for two years after end of capitalized interest.

The subordinate lien bonds have weaker legal covenants compared to the senior lien bonds. The subordinate lien bonds are secured only by PTC payments from funds on deposit in the General Reserve Fund, created in the senior lien bond indenture. The subordinate lien bonds do not have a lien on toll revenues or other funds created in the senior indenture. The subordinate lien debt service reserve fund requirement is cash funded at the standard three prong test sized at the lesser of MADS, 10% of proceeds, or 125% average annual debt service. The rate covenant for the subordinate bonds is at least 1.15 times annual subordinate debt service and 1.00 times combined subordinate and special revenue debt service. The subordinate lien is expected to be leveraged to fund the majority of the \$450 million annual required payments to the state under Act 44 through FY 2022.

### Use of Proceeds

The proceeds of the senior lien sale, Series 2016A, consists of two series. The Series 2016A-1 \$269.8 million bond proceeds will fund general capital improvements and the \$140.8 million Series 2016A-2 bond proceeds will refinance the outstanding 2012B, 2014B-1, and 2014B-2 fixed rate note maturities. Proceeds will also fund issuance costs related to both series and a debt service reserve fund for Series 2016A-1.

### Obligor Profile

The Pennsylvania Turnpike Commission is an instrumentality of the Commonwealth of Pennsylvania with the power to construct, operate and maintain the turnpike system and to perform other functions authorized by Act 44.

### Other Considerations: Mapping to the Grid

The scorecard inputs are based on an analysis of consolidated debt, including senior and subordinate lien bonds, calculated on a Moody's net revenue debt service coverage basis. The grid indicated rating is one notch above the rating assigned to the Pennsylvania Turnpike Subordinate Revenue Bonds reflecting the weaker security for the subordinate lien bonds and the fact that additional leverage is expected that may result in lower scoring for the debt to operating revenue ratio in the future. The assigned rating is lower as more leverage is coming that could result in a lower scoring for leverage.

The grid is a reference tool that can be used to approximate credit profiles for Government Owned Toll Roads in most cases. However, the grid is a summary that does not include every rating consideration. Please see Government Owned Toll Roads Methodology published in October 2012 for more information about the limitations inherent to grid.

Exhibit 3

## Moody's Government Owned Toll Road Methodology Scorecard for Pennsylvania Turnpike Commission

Factor	Subfactor	Score	Metric
1. Market Position	a) Asset Type	Aaa	
	b) Operating History	Aaa	
	c) Competition	Aa	
	d) Service Area Characteristics	Aa	
2. Performance Trends	a) Annual Traffic Transactions	Aa	192,336,000
	b) Traffic Profile	Aa	
	c) Five Year Traffic CAGR	Baa	0.60%
	d) Ability and Willingness to Increase Toll Rates	Aa	
3. Financial Metrics	a) Debt Service Coverage Ratio	Baa	1.4x (sr + sub) 1.3x (sr + sub + MLF)
	b) Debt to Operating Revenue	B	9.32x
4. Capacity, Capital Plan and Leverage	a) Asset Condition/Capital Needs	A	
	b) Limitations to Growth/Operational Restrictions	A	
<b>Notching Considerations</b>		<b>Notch</b>	
	1 - Debt Service Reserve Fund level		
	2 - Open/Closed Flow of Funds	-0.5	
	3 - Days Cash on Hand	-0.5	309
	4 - Other Financial, Operating and Debt Factors		
<b>Scorecard Indicated Rating:</b>		<b>A2</b>	

Source: Moody's

## Methodology

The principal methodology used in this rating was Government Owned Toll Roads published in October 2012. Please see the Ratings Methodologies page on [www.moody.com](http://www.moody.com) for a copy of this methodology.



## Ratings

Exhibit 4

### Pennsylvania Turnpike Commission

Issue	Rating
Turnpike Revenue Bonds, Series A -2 of 2016	A1
Rating Type	Underlying LT
Sale Amount	\$140,780,000
Expected Sale Date	06/08/2016
Rating Description	Revenue: Government Enterprise
Turnpike Revenue Bonds, Series A -1 of 2016	A1
Rating Type	Underlying LT
Sale Amount	\$269,820,000
Expected Sale Date	06/08/2016
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

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