

*In the opinion of Co-Bond Counsel, under existing statutes, regulations, rulings and court decisions, interest on the 2017A Bonds is not includible in gross income of the holders thereof for federal income tax purposes, assuming continuing compliance by the Commission with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"). Interest on the 2017A Bonds will not be a specific preference item for purposes of computing the federal alternative minimum tax (the "AMT"); however, interest on the 2017A Bonds held by corporations is included in the computation of "adjusted current earnings", a portion of which is taken into account in determining the AMT imposed on such corporations. Under laws of the Commonwealth of Pennsylvania, as enacted and construed on the date hereof, interest on the 2017A Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax, and the 2017A Bonds are exempt from personal property taxes in Pennsylvania. See "TAX MATTERS" herein.*

**\$498,955,000**

**PENNSYLVANIA TURNPIKE COMMISSION  
TURNPIKE REVENUE BONDS, SERIES A OF 2017  
consisting of**

**\$365,895,000 Pennsylvania Turnpike Revenue Bonds, Series A-1 of 2017****\$133,060,000 Pennsylvania Turnpike Revenue Refunding Bonds, Series A-2 of 2017****Dated: Date of Delivery****Due: As shown on Inside Front Cover**

The Pennsylvania Turnpike Commission Turnpike Revenue Bonds, Series A-1 of 2017 (the "**2017A-1 Bonds**") and the Pennsylvania Turnpike Commission Turnpike Revenue Refunding Bonds, Series A-2 of 2017 (the "**2017A-2 Bonds**" and, together with the 2017A-1 Bonds, the "**2017A Bonds**"), are being issued pursuant to a Supplemental Trust Indenture No. 42 dated as of October 1, 2017 ("**Supplemental Indenture No. 42**") to the Amended and Restated Trust Indenture dated as of March 1, 2001, as previously amended and supplemented (the "**Restated Indenture**") and together with Supplemental Indenture No. 42, the "**Senior Indenture**"), between the Pennsylvania Turnpike Commission (the "**Commission**") and U.S. Bank National Association, as successor trustee (the "**Trustee**"). The 2017A-1 Bonds are being issued for the purpose of financing the costs of (i) various capital expenditures set forth in the Commission's current or any prior ten year capital plan, including but not limited to the reconstruction of roadbed and roadway, the widening, replacing and redecking of certain bridges and/or the rehabilitation of certain interchanges, (ii) making a required deposit to the Debt Service Reserve Fund, and (iii) paying the costs of issuing the 2017A-1 Bonds. The 2017A-2 Bonds are being issued to (i) provide funds to finance a portion of the costs of the advance refunding and redemption of all or a portion of certain maturities of the Commission's outstanding: (a) Turnpike Revenue Bonds, Series C of 2014, (b) Turnpike Revenue Bonds, Series A of 2014, (c) Turnpike Revenue Bonds, Series C of 2013, (d) Turnpike Revenue Bonds, Series A of 2012, and (e) Turnpike Revenue Bonds, Series E of 2011, and (ii) paying the costs of issuing the 2017A-2 Bonds.

The 2017A Bonds will be dated the date of initial issuance and delivery thereof. The 2017A Bonds will mature on December 1 of the years and bear interest from their delivery date at the rates shown on the inside cover page hereof, calculated on the basis of a year of 360 days consisting of twelve 30-day months. Interest on the 2017A Bonds will be payable on each June 1 and December 1, commencing December 1, 2017.

The 2017A Bonds are deliverable in fully registered form and, when issued, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York, which will act as securities depository for the 2017A Bonds. Beneficial ownership interests in the 2017A Bonds will be recorded in book-entry only form in denominations of \$5,000 or any multiple thereof. Purchasers of the 2017A Bonds will not receive bonds representing their beneficial ownership in the 2017A Bonds, but will receive a credit balance on the books of their respective DTC Participants or DTC Indirect Participants. So long as Cede & Co. is the registered owner of the 2017A Bonds, principal of and interest on the 2017A Bonds will be paid to Cede & Co., as nominee of DTC, which will, in turn, remit such principal and interest to the Participants and Indirect Participants for subsequent disbursement to the Beneficial Owners, as described herein. The 2017A Bonds will be transferable or exchangeable to another nominee of The Depository Trust Company or as otherwise described herein. So long as Cede & Co. is the registered owner of the 2017A Bonds, payments of principal and interest on the 2017A Bonds will be made directly by the Trustee under the Senior Indenture, as described herein. See "DESCRIPTION OF THE 2017A Bonds - Book-Entry Only System."

The 2017A-1 Bonds will be subject to optional and mandatory sinking fund redemption prior to maturity as described herein. The 2017A-2 Bonds will be subject to optional redemption prior to maturity.

**THE 2017A BONDS ARE LIMITED OBLIGATIONS OF THE COMMISSION AND SHALL NOT BE DEEMED TO BE A DEBT OF THE COMMONWEALTH OF PENNSYLVANIA (THE "COMMONWEALTH") OR A PLEDGE OF THE FAITH AND CREDIT OF THE COMMONWEALTH, BUT THE 2017A BONDS SHALL BE PAYABLE SOLELY FROM THE TRUST ESTATE (AS DEFINED HEREIN) WHICH CONSISTS PRIMARILY OF TOLLS FROM THE SYSTEM (AS DEFINED HEREIN). THE COMMONWEALTH IS NOT OBLIGATED TO LEVY OR PLEDGE ANY FORM OF TAXATION WHATSOEVER FOR PAYMENT OF THE 2017A BONDS OR TO MAKE ANY APPROPRIATION FOR THE PAYMENT OF THE 2017A BONDS. THE COMMISSION HAS NO TAXING POWER.**

THIS COVER PAGE CONTAINS CERTAIN INFORMATION FOR QUICK REFERENCE ONLY IT IS NOT A SUMMARY OF THIS ISSUE INVESTORS MUST READ THE ENTIRE OFFICIAL STATEMENT TO OBTAIN INFORMATION ESSENTIAL TO THE MAKING OF AN INFORMED INVESTMENT DECISION.

The 2017A Bonds are being offered when, as and if issued and accepted by the Underwriters, subject to prior sale, withdrawal or modification of the offer without notice, to certain legal matters being passed upon by Eckert Seamans Cherin & Mellott, LLC, Harrisburg, Pennsylvania and Bruce E. Dice & Associates, P.C. Public Finance Group, Pittsburgh, Pennsylvania, Co-Bond Counsel, and to certain other conditions. Certain legal matters will be passed upon for the Underwriters by Stradley Ronon Stevens & Young, LLP, Philadelphia, Pennsylvania, Counsel for the Underwriters. Certain legal matters will be passed upon for the Commission by its Chief Counsel, Doreen A. McCall, Esquire, and by Buchanan Ingersoll & Rooney PC, Pittsburgh, Pennsylvania, Disclosure Counsel to the Commission. It is anticipated that delivery of the 2017A Bonds in book-entry form will be made through the facilities of DTC in New York, New York on or about October 11, 2017.

**Piper Jaffray & Co.****J.P. Morgan****Siebert Cisneros Shank & Co., L.L.C.****Boenning & Scattergood Inc.****Ramirez & Co., Inc.****Robert W. Baird & Co. Incorporated**

**\$365,895,000**

**PENNSYLVANIA TURNPIKE COMMISSION  
TURNPIKE REVENUE BONDS  
SERIES A-1 OF 2017**

**MATURITY SCHEDULE**

<b>Maturity Date (December 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>Price</b>	<b>CUSIP<sup>†</sup> No. (709224)</b>
2018	\$ 5,765,000	3.000%	0.960%	102.304	YG8
2019	5,925,000	5.000%	1.000%	108.442	YH6
2020	6,210,000	5.000%	1.150%	111.834	YJ2
2021	6,510,000	5.000%	1.330%	114.729	YK9
2022	6,820,000	5.000%	1.540%	117.030	YL7
2023	7,150,000	5.000%	1.720%	119.029	YM5
2024	7,495,000	5.000%	1.960%	120.157	YN3
2025	7,855,000	5.000%	2.160%	121.089	YP8
2026	8,235,000	5.000%	2.300%	122.137	YQ6
2027	8,635,000	5.000%	2.430%	122.969	YR4
2028	9,055,000	5.000%	2.540%	121.864*	YS2
2029	9,495,000	5.000%	2.640%	120.869*	YT0
2030	9,955,000	5.000%	2.720%	120.081*	YU7
2031	10,440,000	5.000%	2.780%	119.493*	YV5
2032	10,945,000	5.000%	2.850%	118.812*	YW3
2033	11,480,000	5.000%	2.920%	118.136*	YX1
2034	12,040,000	5.000%	2.980%	117.560*	YY9
2035	12,625,000	5.000%	3.030%	117.082*	YZ6
2036	13,240,000	5.000%	3.080%	116.607*	ZA0
2037	13,885,000	5.000%	3.120%	116.229*	ZB8

\$80,255,000 5.000% Term Bonds maturing December 1, 2042; Yield 3.250%; Priced at 115.009\* (CUSIP 709224 ZC6)

\$101,880,000 5.000% Term Bonds maturing December 1, 2047; Yield 3.310%; Priced at 114.451\* (CUSIP 709224 ZD4)

\*Priced to the first optional redemption date of December 1, 2027.

<sup>†</sup> The above CUSIP (Committee on Uniform Securities Identification Procedures) numbers have been assigned by an organization not affiliated with the Commission or the Underwriters, and such parties are not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders and no representation is made as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such issue or the use of secondary market financial products. None of the Commission or the Underwriters has agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers set forth above.

**\$133,060,000**

**PENNSYLVANIA TURNPIKE COMMISSION  
TURNPIKE REVENUE REFUNDING BONDS  
SERIES A-2 OF 2017**

**MATURITY SCHEDULE**

<b>Maturity Date (December 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>Price</b>	<b>CUSIP<sup>†</sup> No. (709224)</b>
2024	\$23,295,000	5.000%	1.960%	120.157	ZE2
2025	28,150,000	5.000%	2.160%	121.089	ZF9
2026	29,910,000	5.000%	2.300%	122.137	ZG7
2027	21,000,000	5.000%	2.430%	122.969	ZH5
2028	8,720,000	5.000%	2.540%	121.864*	ZJ1
2029	11,420,000	5.000%	2.640%	120.869*	ZK8
2030	10,565,000	5.000%	2.720%	120.081*	ZL6

\*Priced to the first optional redemption date of December 1, 2027.

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<sup>†</sup> The above CUSIP (Committee on Uniform Securities Identification Procedures) numbers have been assigned by an organization not affiliated with the Commission or the Underwriters, and such parties are not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders and no representation is made as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such issue or the use of secondary market financial products. None of the Commission or the Underwriters has agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers set forth above.

# **PENNSYLVANIA TURNPIKE COMMISSION**

## **COMMISSIONERS**

LESLIE S. RICHARDS  
Secretary of Transportation  
Chair

WILLIAM K. LIEBERMAN  
Vice Chairman

BARRY T. DREW  
Secretary/Treasurer

PASQUALE T. DEON, SR  
Commissioner

JOHN WOZNIAK  
Commissioner

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## **ADMINISTRATION**

MARK COMPTON  
Chief Executive Officer

CRAIG R. SHUEY  
Chief Operating Officer

NIKOLAUS H. GRIESHABER  
Chief Financial Officer

BRADLEY J. HEIGEL  
Chief Engineer

DOREEN A. MCCALL  
Chief Counsel

RAY A. MORROW  
Chief Compliance Officer

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U.S. BANK NATIONAL ASSOCIATION  
Trustee, Authenticating Agent and Escrow Agent

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PFM FINANCIAL ADVISORS LLC  
Financial Advisor

G-ENTRY PRINCIPLE, P.C.  
Co-Financial Advisor

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No dealer, broker, salesman or other person has been authorized by the Commission or the Underwriters to give any information or to make any representations, other than those contained in this Official Statement, and if given or made, such other information or representations must not be relied upon as having been authorized by any or either of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the 2017A Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been obtained from the Commission and other sources which are believed to be reliable but is not guaranteed as to accuracy or completeness by, and is not to be construed as representations by, the Underwriters. The information and expressions of opinion contained herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in any of the information set forth herein since the date hereof. This Official Statement will be made available through the Electronic Municipal Market Access System (“*EMMA*”), which is the sole Nationally Recognized Municipal Securities Information Repository.

The 2017A Bonds are not and will not be registered under the Securities Act of 1933, or under any state securities laws, and the Senior Indenture has not been and will not be qualified under the Trust Indenture Act of 1939, as amended, because of available exemptions therefrom. Neither the United States Securities and Exchange Commission (the “*SEC*”) nor any federal, state, municipal, or other governmental agency will pass upon the accuracy, completeness, or adequacy of this Official Statement.

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

No quotations from or summaries or explanations of provisions of law and documents herein purport to be complete and reference is made to such laws and documents for full and complete statements of their provisions. This Official Statement is not to be construed as a contract or agreement between the Commission and the purchasers or holders of any of the securities described herein. Any statements made in this Official Statement involving estimates or matters of opinion, whether or not expressly, so stated, are intended merely as estimates or opinions and not as representations of fact. The cover page hereof, list of officials, this page and the Appendices attached hereto are part of this Official Statement.

If and when included in this Official Statement, the words “expects,” “forecasts,” “projects,” “intends,” “anticipates,” “estimates,” “assumes” and analogous expressions are intended to identify forward-looking statements, and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those that have been projected. Such risks and uncertainties, which could affect the amount of tolls and other revenue collected by the Commission, include, among others, changes in economic conditions and various other events, conditions and circumstances, many of which are beyond the control of the Commission. Such forward-looking statements speak only as of the date of this Official Statement. The Commission disclaims any obligation or undertaking to release publicly any updates or revision to any forward-looking statement contained herein to reflect any changes in the Commission’s expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

**IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF THE 2017A BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED**

**AT ANY TIME WITHOUT NOTICE. THE COMMISSION RESERVES THE RIGHT TO INCREASE THE SIZE OF THIS OFFERING SUBJECT TO PREVAILING MARKET CONDITIONS.**

**THE ORDER AND PLACEMENT OF MATERIALS IN THIS OFFICIAL STATEMENT, INCLUDING THE APPENDICES, ARE NOT TO BE DEEMED TO BE A DETERMINATION OF RELEVANCE, MATERIALITY, OR IMPORTANCE, AND THIS OFFICIAL STATEMENT, INCLUDING THE APPENDICES, MUST BE CONSIDERED IN ITS ENTIRETY. THE OFFERING OF THE 2017A BONDS IS MADE ONLY BY MEANS OF THIS ENTIRE OFFICIAL STATEMENT.**

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**\$498,955,000**  
**PENNSYLVANIA TURNPIKE COMMISSION**  
**TURNPIKE REVENUE BONDS, SERIES A OF 2017**  
consisting of  
**\$365,895,000 Pennsylvania Turnpike Commission Turnpike Revenue Bonds, Series A-1**  
**\$133,060,000 Pennsylvania Turnpike Commission Turnpike Revenue Refunding Bonds, Series A-2**

**INTRODUCTION**

This Official Statement, which includes the cover page, the inside front cover and the Appendices hereto, is furnished by the Pennsylvania Turnpike Commission (the “**Commission**”) in connection with the issuance of \$498,955,000 aggregate principal amount of Pennsylvania Turnpike Commission Turnpike Revenue Bonds, Series A of 2017, consisting of \$365,895,000 aggregate principal amount of Pennsylvania Turnpike Commission Turnpike Revenue Bonds, Series A-1 of 2017 (the “**2017A-1 Bonds**”) and \$133,060,000 aggregate principal amount of Pennsylvania Turnpike Commission Turnpike Revenue Refunding Bonds, Series A-2 of 2017 (the “**2017A-2 Bonds**” and, together with the 2017A-1 Bonds, the “**2017A Bonds**”).

Certain information concerning the Commission is attached hereto as APPENDIX A. Audited financial statements of the Commission for the years ended May 31, 2017 and May 31, 2016 are attached hereto as APPENDIX B. A summary of certain provisions of the Senior Indenture (as defined below) is attached hereto as APPENDIX C. A form of the opinion of Co-Bond Counsel to be delivered in connection with the issuance of the 2017A Bonds is attached hereto as APPENDIX D. A table setting forth the total debt service requirements for the Turnpike Revenue Bonds (as defined below), the Subordinate Revenue Bonds (as defined below) and the Special Revenue Bonds (as defined below) is attached hereto as APPENDIX E.

The Pennsylvania Turnpike 2015 Traffic and Revenue Forecast Study (the “**2015 Traffic Study**”) prepared by CDM Smith dated March 17, 2015, together with a “bring down” letter developed by CDM Smith dated March 4, 2016 (the “**2016 Bring Down Letter**,” as updated by a “bring down” letter developed by CDM Smith dated May, 3, 2017 (the “**2017 Bring Down Letter**”), and together with the 2015 Traffic Study, the “**Traffic Study**”) is attached hereto as APPENDIX F. The Traffic Study, which should be reviewed in its entirety, updates the study conducted by CDM Smith (formerly Wilbur Smith Associates) in March 2012 (the “**2012 Traffic Study**”), together with “bring down” letters developed by CDM Smith in March 2013 and February 2014, updating forecasts developed in the 2012 Traffic Study.

All capitalized terms not otherwise defined herein shall have the same meanings ascribed to them in the definitions set forth in APPENDIX C - “SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE—DEFINITIONS OF CERTAIN TERMS.” All references herein to the Enabling Acts (as defined below), the 2017A Bonds, the Senior Indenture and the Continuing Disclosure Agreement are qualified in their entirety by reference to the complete texts thereof. Copies of drafts of such documents, except for the Enabling Acts, may be obtained during the initial offering period from the principal offices of the Underwriters and, thereafter, executed copies may be obtained from U.S. Bank, National Association, as successor trustee (the “**Trustee**”). All statements in this Official Statement involving matters of opinion, estimates, forecasts, projections or the like, whether or not expressly so stated, are intended as such and not as representations of fact. No representation is made that any of such statements will be realized.

## Pennsylvania Turnpike Commission

The Commission is an instrumentality of the Commonwealth of Pennsylvania (the “**Commonwealth**”) created by the Enabling Acts (as defined below), with the power to construct, operate and maintain the System (as defined below) and to perform other functions authorized by Act 44 (as defined below). Its composition, powers, duties, functions, duration and all other attributes are derived from the Enabling Acts as amended and supplemented from time to time. See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION” herein. Except as provided therein, the Enabling Acts may be modified, extended, suspended or terminated at any time by further legislation.

## Senior Indenture and Enabling Acts

The 2017A Bonds are being issued pursuant to a Supplemental Trust Indenture No. 42 dated as of October 1, 2017 (“**Supplemental Indenture No. 42**”) to the Amended and Restated Trust Indenture dated as of March 1, 2001, as previously amended and supplemented (the “**Restated Indenture**” and together with Supplemental Indenture No. 42, the “**Senior Indenture**”), between the Commission and the Trustee, all pursuant to and authorized by an Act of the General Assembly of Pennsylvania approved July 18, 2007, P. L. 169, No. 44 (“**Act 44**”), and various Acts of the General Assembly approved on several dates, including the Act of May 21, 1937, P. L. 774, Act 211; the Act of May 24, 1945, P. L. 972; the Act of February 26, 1947, P. L. 17; the Act of May 23, 1951, P. L. 335; the Act of August 14, 1951, P. L. 1232; and the Act of September 30, 1985, P. L. 240, No. 61 (“**Act 61**”) to the extent not repealed by Act 44, and the Act of November 25, 2013, P.L. 974, No. 89 (“**Act 89**”) (collectively, the “**Enabling Acts**”), and the Resolution adopted by the Commission on March 21, 2017 (the “**Bond Resolution**”).

## Plan of Financing

The 2017A-1 Bonds are being issued for the purpose of financing the costs of (i) various capital expenditures set forth in the Commission’s current or any prior ten year capital plan, including but not limited to the reconstruction of roadbed and roadway, the widening, replacing and redecking of certain bridges and/or the rehabilitation of certain interchanges, (ii) making a required deposit to the Debt Service Reserve Fund, and (iii) paying the costs of issuing the 2017A-1 Bonds.

The 2017A-2 Bonds are being issued to provide funds to finance (i) the advance refunding of the following outstanding bonds of the Commission (the “**Refunded Bonds**”): (a) all of the Commission’s outstanding: (1) Turnpike Revenue Bonds, Series C of 2014, maturing on December 1, 2027, bearing interest at 5.00% (the “**Refunded 2014C Bonds**”), (2) Turnpike Revenue Bonds, Series A of 2014, maturing on December 1, 2027, bearing interest at 5.00% (the “**Refunded 2014A Bonds**”), (3) Turnpike Revenue Bonds, Series C of 2013, maturing on December 1, 2025, December 1, 2026, December 1, 2027, and December 1, 2028 each bearing interest at 5.50% (the “**Refunded 2013C Bonds**”), (4) Turnpike Revenue Bonds, Series A of 2012, maturing December 1, 2024, December 1, 2025, December 1, 2026, December 1, 2027, and December 1, 2028 each bearing interest at 5.00% (the “**Refunded 2012A Bonds**”), and (5) Turnpike Revenue Bonds, Series E of 2011, maturing on December 1, 2024 bearing interest at 5.00%, December 1, 2024 bearing interest at 3.625%, December 1, 2025 bearing interest at 5.00%, December 1, 2025 bearing interest at 3.80%, December 1, 2026 bearing interest at 5.00%, December 1, 2026 bearing interest at 4.00%, December 1, 2029 bearing interest at 5.00% and December 1, 2030 bearing interest at 5.00% (the “**Refunded 2011E Bonds**”); and (ii) paying the costs of issuing the 2017A-2 Bonds.

The Refunded Bonds will be called for optional redemption at the redemption price of 100% of the principal amount of bonds to be redeemed, plus accrued interest to the following redemption dates (each a “**Redemption Date**”): (i) the Refunded 2014C Bonds will be called for optional redemption on

December 1, 2024 (ii) the Refunded 2014A Bonds will be called for optional redemption on December 1, 2024 (iii) the Refunded 2013C Bonds will be called for optional redemption on December 1, 2023 (iv) the Refunded 2012A Bonds will be called for Optional Redemption on December 1, 2022; and (v) the Refunded 2011E Bonds will be called for optional redemption on December 1, 2021.

### Summary of Turnpike Revenue Refunded Bonds

<u>Series</u>	<u>Maturity/Sinking Fund Redemption Date</u>	<u>Coupon</u>	<u>Principal Amount</u>	<u>Call Date</u>	<u>CUSIP</u>
<b>Series E of 2011</b>					
Series E of 2011	12/1/2024	5.000%	11,070,000	12/1/2021	709223R60
Series E of 2011	12/1/2024	3.625%	7,975,000	12/1/2021	709223Q95
Series E of 2011	12/1/2025	5.000%	19,585,000	12/1/2021	709223R78
Series E of 2011	12/1/2025	3.800%	300,000	12/1/2021	709223R29
Series E of 2011	12/1/2026	5.000%	20,420,000	12/1/2021	709223R86
Series E of 2011	12/1/2026	4.000%	460,000	12/1/2021	709223R37
Series E of 2011	12/1/2029	5.000%	12,640,000	12/1/2021	709223R94
Series E of 2011	12/1/2030	5.000%	11,845,000	12/1/2021	709223S28
<b>Series A of 2012</b>					
Series A of 2012	12/1/2024	5.000%	5,240,000	12/1/2022	7092232C4
Series A of 2012	12/1/2025	5.000%	5,500,000	12/1/2022	7092232D2
Series A of 2012	12/1/2026	5.000%	5,775,000	12/1/2022	7092232E0
Series A of 2012	12/1/2027	5.000%	6,065,000	12/1/2022	7092232F7
Series A of 2012	12/1/2028	5.000%	4,390,000	12/1/2022	7092232P5
<b>Series C of 2013</b>					
Series C of 2013	12/1/2025	5.500%	3,695,000	12/1/2023	7092237E5
Series C of 2013	12/1/2026	5.500%	4,245,000	12/1/2023	7092237F2
Series C of 2013	12/1/2027	5.500%	4,835,000	12/1/2023	7092237G0
Series C of 2013	12/1/2028	5.500%	5,465,000	12/1/2023	7092237H8
<b>Series A of 2014</b>					
Series A of 2014	12/1/2027	5.000%	4,145,000	12/1/2024	709224CJ6
<b>Series C of 2014</b>					
Series C of 2014	12/1/2027	5.000%	7,015,000	12/1/2024	709224FJ3

A portion of the proceeds of the 2017A-2 Bonds will be deposited with the Trustee who will, immediately upon deposit thereof, transfer and deposit a portion thereof, together with other available funds, in one or more escrow accounts to be held by U.S Bank National Association, as escrow agent for the Refunded Bonds (the “Escrow Agent”) and will be invested in certain permitted investment securities (“Open Market Securities”), which Open Market Securities, together with uninvested cash, will bear interest at such rates and will mature at such times and in such amounts so that, when paid in accordance with their terms, sufficient moneys will be available to pay the principal of, plus interest accrued and to accrue on the Refunded Bonds, to and including each such Refunded Bonds respective Redemption Date.

The Escrow Agent and the Commission will enter into an Escrow Deposit Agreement, dated as of October 1, 2017 (the “Escrow Deposit Agreement”), pursuant to which there will be created a special and

irrevocable escrow trust fund to be held by the Escrow Agent in trust for the payment of the principal of, and redemption premium, if any, and interest on all of the Refunded Bonds to be refunded with a portion of the proceeds of the 2017A-2 Bonds.

The mathematical calculation of the adequacy of the deposit to provide for the payment of the Refunded Bonds on the date of issuance of the 2017A-2 Bonds will be verified by BondResource Partners LP at the time of delivery of the 2017A-2 Bonds. See “VERIFICATION OF MATHEMATICAL COMPUTATIONS” herein.

## DESCRIPTION OF THE 2017A BONDS

### General

The 2017A Bonds will bear interest at fixed rates and will mature, subject to prior redemption, on the dates and in the amounts set forth on the inside front cover page of this Official Statement. Interest on the 2017A Bonds will accrue from the Dated Date (as defined below) and will be payable semi-annually to maturity (or earlier redemption) on each June 1 and December 1, commencing on December 1, 2017 (each, an “*Interest Payment Date*”).

The 2017A Bonds shall have a Series Issue Date which shall be the date of their original issuance and first authentication and delivery against payment therefor. 2017A Bonds issued prior to the first Interest Payment Date shall have a “Dated Date” that is the same as the Series Issue Date.

**Payment of Principal of and Interest on the 2017A Bonds.** So long as the 2017A Bonds are in book-entry only form, the principal and redemption price of, and interest on, such 2017A Bonds is payable by check mailed or wire transferred to Cede & Co., as nominee for DTC and Registered Owner of the 2017A Bonds, for redistribution by DTC to its Participants and in turn to Beneficial Owners as described under “DESCRIPTION OF THE 2017A Bonds - Book-Entry Only System.”

The interest payable on each 2017A Bond on any Interest Payment Date shall be paid by the Trustee to the Person in whose name such Bond is registered on the Bond Register at the close of business on the Record Date (as defined below) for such interest, such payment to be made (i) by check or draft mailed on the applicable Interest Payment Date to such Registered Owner at the address as it appears on such Bond Register or at such other address as is furnished to the Trustee in writing by such Owner or (ii) by electronic transfer in immediately available funds, if the 2017A Bonds are held by a Securities Depository, or at the written request addressed to the Trustee by any Owner of 2017A Bonds of a series in the aggregate principal amount of not less than \$1,000,000, such request to be signed by such Owner, and containing the name of the bank (which shall be in the continental United States), its address, its ABA routing number, the name and account number to which credit shall be made and an acknowledgment by the Owner that an electronic transfer fee is payable. Any such written request must be filed with the Trustee no later than ten (10) Business Days before the applicable Record Date preceding such Interest Payment Date.

The “**Record Date**” for determining the Owner entitled to payment of interest with respect to the 2017A Bonds on any given Interest Payment Date is the fifteenth (15<sup>th</sup>) day (whether or not a Business Day) of the month immediately preceding such Interest Payment Date.

In the event interest on any 2017A Bond is not paid when due (“**Defaulted Interest**”), the provisions relating to Defaulted Interest under Supplemental Indenture No. 42 shall apply. See APPENDIX C - “SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE - THE SENIOR INDENTURE” for information with respect to the payment of Defaulted Interest.

**Authorized Denominations.** The 2017A Bonds will be issued as fully registered bonds in authorized denominations of \$5,000 and any multiple thereof.

**Registration, Transfer and Exchange.** The Trustee has been appointed Bond Registrar and as such shall keep the Bond Register at its Principal Office. The Person in whose name any 2017A Bond shall be registered on the Bond Register shall be deemed and regarded as the absolute owner of such 2017A Bond for all purposes, and payment of or on account of the principal and interest on any such 2017A Bond shall be made only to or upon the order of the Registered Owner thereof or his legal representative. All such payments shall be valid and effectual to satisfy and discharge the liability upon such 2017A Bond, including the interest thereon, to the extent of the sum or sums so paid.

Any 2017A Bond may be transferred only upon the Bond Register upon surrender thereof to the Trustee duly endorsed for transfer or accompanied by an assignment duly executed by the Registered Owner or his attorney or legal representative in such form as shall be satisfactory to the Trustee. Upon any such transfer, the Commission shall execute and the Trustee shall authenticate and deliver in exchange for such 2017A Bond a new 2017A Bond or 2017A Bonds, registered in the name of the transferee, of any Authorized Denomination and of the same maturity and series and bearing interest at the same rate.

The Commission, the Securities Depository or the Trustee may charge an amount sufficient to reimburse it for any tax, fee or other governmental charge required to be paid in connection with any such transfer or exchange. The Trustee shall not be required to (i) transfer or exchange any 2017A Bond of a series during a period beginning at the opening of business fifteen (15) days before the day of the mailing of a notice of redemption of such series and ending at the close of business on the day of such mailing, or (ii) transfer or exchange any 2017A Bond so selected for redemption in whole or in part, or (iii) transfer or exchange any 2017A Bond during a period beginning at the opening of business on any Record Date for such 2017A Bond and ending at the close of business on the relevant Interest Payment Date therefor. See also “DESCRIPTION OF THE 2017A BONDS - Book-Entry Only System” herein for further information regarding registration, transfer and exchange of the 2017A Bonds.

The 2017A Bonds provide that each Registered Owner, Beneficial Owner, Participant or Indirect Participant (as such terms are defined hereinafter), by acceptance of a 2017A Bond (including receipt of a book-entry credit evidencing an interest therein), assents to all of the provisions of the Senior Indenture.

### **Redemption of 2017A Bonds**

**Optional Redemption.** The 2017A Bonds maturing on or after December 1, 2028 are subject to optional redemption by the Commission, in whole or in part on or after December 1, 2027 at any time and from time to time, at a redemption price of 100% of the principal amount thereof to be redeemed plus, in each case, accrued interest on the 2017A Bonds to be redeemed to the redemption date.

**Mandatory Sinking Fund Redemption.** The 2017A-I Bonds maturing December 1, 2042 and December 1, 2047 shall be subject to mandatory sinking fund redemption prior to maturity by the Commission in part on December 1 of the respective years and in the amount set forth below, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date:

**2017A-1 Bonds Maturing December 1, 2042**

<u>Year</u>	<u>Principal Amount</u>
2038	\$14,560,000
2039	15,270,000
2040	16,015,000
2041	16,795,000
2042*	17,615,000

**2017A-1 Bonds Maturing December 1, 2047**

<u>Year</u>	<u>Principal Amount</u>
2043	\$18,480,000
2044	19,380,000
2045	20,330,000
2046	21,325,000
2047*	22,365,000

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\*Final Maturity

The 2017A-2 Bonds are **not** subject to mandatory sinking fund redemption prior to maturity.

See also APPENDIX C - “SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE—THE SENIOR INDENTURE - REDEMPTION OF BONDS.”

**Selection of 2017A Bonds to Be Redeemed.** 2017A Bonds shall be redeemed only in Authorized Denominations. Any partial optional redemption of the 2017A Bonds may be made in any order of maturity and in any principal amount within a series and maturity as designated by the Commission. The particular 2017A Bonds within a maturity of a particular series to be redeemed shall be determined by the Trustee by lot or by such other method as the Trustee deems fair and appropriate.

When 2017A Bonds of denominations greater than the minimum Authorized Denomination are then Outstanding, then for all purposes in connection with such redemption each principal amount equal to the minimum Authorized Denomination shall be treated as though it was a separate 2017A Bond of the minimum Authorized Denomination. If it is determined that a portion, but not all, of the principal amount represented by any 2017A Bond is to be selected for redemption, then upon notice of intention to redeem such portion, the Owner of such 2017A Bond or such Owner’s attorney or legal representative shall forthwith present and surrender such 2017A Bond to the Trustee (1) for payment of the redemption price (including interest to the date fixed for redemption) of the principal amount called for redemption, and (2) for exchange, without charge to the Owner thereof for a new 2017A Bond or 2017A Bonds of the same series and maturity, and of the aggregate principal amount of the unredeemed portion of the principal amount of such 2017A Bond. If the Owner of any such 2017A Bond shall fail to present such 2017A Bond to the Trustee for payment and exchange as aforesaid, said 2017A Bond shall, nevertheless, become due and payable on the redemption date to the extent of the principal amount called for redemption (and to that extent only).

**Notice and Effect of Call for Redemption.** Official notice of any such redemption shall be given by the Trustee on behalf of the Commission by mailing a copy of an official redemption notice by first class mail at least thirty (30) days and not more than sixty (60) days prior to the redemption date to each Registered Owner of the 2017A Bonds to be redeemed at the address shown on the Bond Register or at such other address as is furnished in writing by such Registered Owner to the Trustee. Official notice of redemption having been given as aforesaid, the 2017A Bonds or portions of 2017A Bonds so to be redeemed shall, on the redemption date, become due and payable at the redemption price specified therein, and from and after such date (unless the Commission shall default in the payment of the redemption price) such 2017A Bonds or portions of 2017A Bonds shall cease to bear interest.

As long as DTC remains the sole Registered Owner of the 2017A Bonds, notice of redemption shall be sent to DTC as provided in the Senior Indenture. Any failure of DTC to advise any DTC Participant, or of any DTC Participant, Indirect Participant or nominee to notify the Beneficial Owner, of any such notice and its content or effect will not affect the validity of the redemption of the 2017A Bonds called for redemption. See “Book-Entry Only System” below.

An optional redemption notice may state (1) that it is conditioned upon the deposit of moneys, in an amount equal to the amount necessary to effect the redemption, with the Trustee no later than the redemption date and/or (2) that the Commission retains the right to rescind such notice at any time prior to the scheduled redemption date if the Commission delivers a certificate of a Commission Official to the Trustee instructing the Trustee to rescind the redemption notice (in either case, a “**Conditional Redemption**”), and such notice and redemption shall be of no effect if such moneys are not so deposited or if the notice is rescinded as described below.

Any Conditional Redemption may be rescinded in whole or in part at any time prior to the redemption date if the Commission delivers a certificate of a Commission Official to the Trustee instructing the Trustee to rescind the redemption notice. The Trustee shall give prompt notice of such rescission to the affected Bondholders. Any Bonds subject to Conditional Redemption where redemption has been rescinded shall remain Outstanding, and the rescission shall not constitute an Event of Default.

Further, in the case of a Conditional Redemption, the failure of the Commission to make funds available in part or in whole on or before the redemption date shall not constitute an Event of Default.

Failure to give any notice to any Owner, or any defect therein, shall not affect the validity of any proceedings for the redemption of any other 2017A Bonds. Any notice mailed shall be conclusively presumed to have been duly given and shall become effective upon mailing, whether or not any Owner receives the notice.

### **Book-Entry Only System**

The Depository Trust Company (“**DTC**”), New York, New York, will act as securities depository for the 2017A Bonds. The 2017A Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered 2017A Bond certificate will be issued in the aggregate principal amount of each maturity of each series of the 2017A Bonds, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.6 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“**Direct Participants**”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“**DTCC**”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“**Indirect Participants**”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of 2017A Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2017A Bonds on DTC's records. The ownership interest of each actual purchaser of each 2017A Bond ("**Beneficial Owner**") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2017A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in 2017A Bonds, except in the event that use of the book-entry system for the 2017A Bonds is discontinued.

To facilitate subsequent transfers, all 2017A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of 2017A Bonds with DTC and their registration in the name of Cede & Co. or such other nominee do not affect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2017A Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2017A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of 2017A Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the 2017A Bonds, such as redemptions, defaults, and proposed amendments to the security documents. For example, Beneficial Owners of 2017A Bonds may wish to ascertain that the nominee holding the 2017A Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2017A Bonds within a maturity and series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the 2017A Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Commission as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 2017A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Payments of principal, of premium, if any, and of interest on the 2017A Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts, upon DTC's receipt of funds and corresponding detail information from the Commission or the Trustee on payable dates in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC (nor its nominee), the Trustee, or the Commission, subject to any statutory or regulatory



requirements as may be in effect from time to time. Payments of principal, premium, if any, and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) are the responsibility of the Commission or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the 2017A Bonds at any time by giving reasonable notice to the Commission or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, 2017A Bond certificates are required to be printed and delivered.

The Commission may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, 2017A Bond certificates will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Commission believes to be reliable, but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation by, the Underwriters, the Trustee, or the Commission.

NEITHER THE COMMISSION NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DIRECT OR INDIRECT PARTICIPANTS, BENEFICIAL OWNERS OR OTHER NOMINEES OF SUCH BENEFICIAL OWNERS FOR: (1) SENDING TRANSACTION STATEMENTS; (2) MAINTAINING, SUPERVISING OR REVIEWING, OR THE ACCURACY OF, ANY RECORDS MAINTAINED BY DTC OR ANY DIRECT OR INDIRECT PARTICIPANT OR OTHER NOMINEES OF SUCH BENEFICIAL OWNERS; (3) PAYMENT OR THE TIMELINESS OF PAYMENT BY DTC TO ANY DIRECT PARTICIPANT, OR BY ANY DIRECT OR INDIRECT PARTICIPANT OR OTHER NOMINEES OF BENEFICIAL OWNERS TO ANY BENEFICIAL OWNER, OF ANY AMOUNT DUE IN RESPECT OF THE PRINCIPAL OF OR REDEMPTION PREMIUM, IF ANY, OR INTEREST ON BOOK-ENTRY 2017A BONDS; (4) DELIVERY OR TIMELY DELIVERY BY DTC TO ANY DIRECT PARTICIPANT, OR BY ANY DIRECT OR INDIRECT PARTICIPANT OR OTHER NOMINEES OF BENEFICIAL OWNERS TO ANY BENEFICIAL OWNERS, OF ANY NOTICE (INCLUDING NOTICE OF REDEMPTION) OR OTHER COMMUNICATION WHICH IS REQUIRED OR PERMITTED UNDER THE TERMS OF THE SENIOR INDENTURE TO BE GIVEN HOLDERS OR OWNERS OF BOOK-ENTRY 2017A BONDS; (5) THE SELECTION OF THE BENEFICIAL OWNERS TO RECEIVE PAYMENT IN THE EVENT OF ANY PARTIAL REDEMPTION OF BOOK-ENTRY 2017A BONDS; OR (6) ANY ACTION TAKEN BY DTC OR ITS NOMINEE AS THE REGISTERED OWNER OF BOOK-ENTRY 2017A BONDS.

In the event that the Book-Entry Only System is discontinued and the Beneficial Owners become Registered Owners of the 2017A Bonds, the 2017A Bonds will be transferable in accordance with the provisions of the Senior Indenture.

## **PENNSYLVANIA TURNPIKE SYSTEM**

*The following provides a general description of the Pennsylvania Turnpike System and certain other information relating to operations of the Commission. Such information is not complete and is qualified by reference to the more complete information set forth in this Official Statement in APPENDIX A – "THE PENNSYLVANIA TURNPIKE COMMISSION."*

The present Pennsylvania Turnpike System is composed of the following: (i) the 359 mile Turnpike Mainline traversing the southern portion of Pennsylvania from east to west; (ii) the 110 mile north-south section identified as the Northeast Extension; (iii) the approximately 16 mile north-south connection, known as the Beaver Valley Expressway which intersects the Turnpike Mainline in the southwestern portion of the Commonwealth; (iv) the approximately 13 mile Amos K. Hutchinson Bypass, which adjoins the Turnpike Mainline near the New Stanton Interchange; (v) completed segments of the Mon/Fayette Expressway project totaling approximately 48 miles; and (vi) a 6 mile Southern Beltway project from PA 60 to US 22, near the Pittsburgh International Airport. Such roads, together with any other roads for which the Commission has operational responsibility and is collecting Tolls (as defined below), presently constitute the “*System.*”

The Turnpike Mainline connects with the Ohio Turnpike at its western terminus and with the New Jersey Turnpike at its eastern terminus. The Turnpike Mainline commences on the eastern boundary of Pennsylvania at the Delaware River Bridge which connects the System to the New Jersey Turnpike. The Turnpike Mainline traverses the state in a westerly direction generally paralleling the southern border of the state immediately north of Philadelphia and south of Harrisburg to the vicinity of Somerset. West of Somerset, the highway follows a northwesterly direction to the northeast of Pittsburgh and to the Ohio state line, south of Youngstown, Ohio.

The System has a total of 68 toll interchanges which connect it with major arteries and population centers in its 552 mile traffic corridor. Thirty-two of the interchanges are located on the Turnpike Mainline, including barriers at the New Jersey and Ohio state lines, and 11 interchanges are situated on the Northeast Extension. The additional 25 interchanges are located on the three extensions noted in clauses (iii), (iv) and (v) above. There are 17 service plazas along the System providing gasoline and diesel fuel, other automotive supplies and services, and restaurant services. In addition to the toll interchanges, the Commission has also constructed four E-ZPass Only interchanges which are designed for the exclusive use of E-ZPass customers, located at Virginia Drive (east of the Fort Washington interchange); Street Road (west of the Bensalem interchange); Route 29 (west of the Valley Forge Interchange) and at Route 903 in Carbon County. In addition, a cashless tolling location, which uses an overhead gantry to assess tolls while allowing vehicles to pass at highway speed without stopping, has been constructed and is operational at the Delaware River Bridge (westbound) which is part of the I-95 Connector in Bucks County.

## **Revenue Sources of the Commission**

The Commission’s revenues are principally derived from three separate sources: toll revenues from the operation of the System; revenue derived from a portion of the Commonwealth’s Oil Franchise Tax; and revenue derived from a portion of the Commonwealth’s vehicle registration fee revenues.

**Tolls.** The largest part of the Commission’s revenues is derived from the collection of all rates, rents, fees, charges, fines or other income derived by the Commission from the vehicular usage of the System and all rights to receive the same (as defined in the Senior Indenture, collectively the “*Tolls*”). The Tolls are pledged to secure the Commission’s outstanding turnpike revenue bonds issued under the Senior Indenture (collectively, the “*Turnpike Revenue Bonds*” or “*Senior Revenue Bonds*”) and other parity and subordinate obligations under the Senior Indenture (including certain interest rate swap agreements), which are subject to or may be issued under the terms of the Senior Indenture. Upon delivery of the 2017A Bonds, and the refunding of the Refunded Bonds, the Commission will have \$5,254,140,000 aggregate principal amount of Turnpike Revenue Bonds outstanding under the Senior Indenture. The foregoing amount includes certain notes evidencing and securing \$200,000,000 in loans (issued in four tranches) through the Immigrant Investor Program (known as the EB-5 visa program) administered by U.S. Citizenship and Immigration Services, the proceeds of which are being used to fund

a portion of the I-95 Interchange project (the “**EB-5 Loans**”). See APPENDIX A - “THE TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION” for additional information on the EB-5 Loans. Also included in the principal amount outstanding under the Senior Indenture is \$1,010,815,000 aggregate principal amount of floating rate notes (“**FRNs**”). Other obligations issued and Outstanding under the Senior Indenture include the Commission’s obligations under various interest rate swap agreements having a total current notional amount of \$978,836,000. See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Financial Policies and Guidelines.” The Tolls are not pledged to secure the Subordinate Revenue Bonds (as defined below), the Special Revenue Bonds (as defined below), the Oil Franchise Tax Revenue Bonds (as defined below) and the Registration Fee Revenue Bonds (as defined below). Certain payments made from moneys in the General Reserve Fund which are derived from Tolls are, however, pledged on a wholly subordinate basis to secure payments due on Subordinate Revenue Bonds and Special Revenue Bonds.

Since 2009, the Commission has implemented annual increases in toll rates and other charges, as well as modifications to its commercial discounts, and expects to continue to implement future toll increases as determined by the Commission to be necessary to meet the then existing debt, capital and operational obligations of the Commission, including its payment obligations under Act 44. For a discussion of the Commission’s revenue sources, including current rates and tolls and toll increases, see APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Revenue Sources of the Commission,” and “- Toll Schedule and Rates.”

The Commission is permitted under the terms of the Senior Indenture to exclude certain roads, other than the Turnpike Mainline and the Northeast Extension, from the System for the purposes of the Senior Indenture which would eliminate toll revenues from such roads from the definition of Tolls under the Senior Indenture. However, the Commission currently has no plans to remove any roads from the System. In addition, under the Senior Indenture, the Commission has covenanted that it will not sell, lease or otherwise dispose of real estate or personal property comprising a portion of the System except upon compliance with the provisions of the Senior Indenture, including a determination by resolution that the Net Revenues of the Commission will not be materially adversely affected. The Commission from time to time may consider various proposals that could involve the transfer or other disposition of Commission property. Any such transfer or disposition would be required to comply with the provisions of the Senior Indenture.

**Oil Franchise Tax Revenues.** The Commission’s second principal stream of revenues consists of that portion of the Commonwealth’s oil franchise tax revenues (the “**Oil Franchise Tax Revenues**”) allocated by statute to the Commission or the holders of the Commission’s Oil Franchise Tax Revenue Bonds (the “**Oil Franchise Tax Revenue Bonds**”), \$647,260,866.80 of which are outstanding as of the date of this Official Statement (including compounded amounts as of June 1, 2017 for capital appreciation bonds). The Oil Franchise Tax Revenue Bonds, the proceeds of which were spent on portions of the Mon/Fayette Expressway and the Southern Beltway, are secured solely by Oil Franchise Tax Revenues. **The Oil Franchise Tax Revenues are not pledged to secure the 2017A Bonds, other Turnpike Revenue Bonds, other obligations under the Senior Indenture, the Subordinate Indenture Bonds or the Registration Fee Revenue Bonds.**

**Registration Fee Revenues.** The Commission’s third principal stream of revenues consists of that portion of the Commonwealth’s vehicle registration fee revenues (the “**Registration Fee Revenues**”) allocated by statute to the Commission or the holders of any of the Commission’s Registration Fee Revenue Bonds (the “**Registration Fee Revenue Bonds**”), \$386,510,000 of which are outstanding as of the date of this Official Statement. The Registration Fee Revenue Bonds, the proceeds of which were spent on portions of the Mon/Fayette Expressway and the Southern Beltway, are secured by Registration Fee Revenues. Registration Fee Revenue Bonds are to be paid solely from the Registration Fee

Revenues. **The Registration Fee Revenues are not pledged to secure the 2017A Bonds, other Turnpike Revenue Bonds, other obligations under the Senior Indenture, the Subordinate Indenture Bonds or the Oil Franchise Tax Revenue Bonds.**

Neither the Subordinate Indenture Bonds, the Oil Franchise Tax Revenue Bonds nor the Registration Fee Revenue Bonds are secured by or have any interest in the Trust Estate.

### **Pennsylvania Legislation Affecting Transportation Funding**

Pursuant to Act 89, the comprehensive transportation legislation enacted by the Pennsylvania legislature, the Commission's funding obligations under Act 44 have significantly changed. For a discussion of such legislative changes and their impact on Act 44 and the Commission generally, see APPENDIX A - "THE PENNSYLVANIA TURNPIKE COMMISSION—THE COMMISSION - Enabling Acts."

### **Traffic and Revenue Study**

Attached hereto as APPENDIX F is the Pennsylvania Turnpike 2015 Traffic and Revenue Forecast Study (the "**2015 Traffic Study**") prepared by CDM Smith, together with a "bring down" letter developed by CDM Smith dated March 4, 2016 (the "**2016 Bring Down Letter**"), as updated by a "bring down" letter developed by CDM Smith dated May 3, 2017 (the "**2017 Bring Down Letter**," and together with the 2015 Traffic Study and the 2016 Bring Down Letter, the "**Traffic Study**"). The Traffic Study, which should be reviewed in its entirety, updates the study conducted by CDM Smith (formerly Wilbur Smith Associates) in March 2012 (the "**2012 Traffic Study**"), together with "bring down" letters developed by CDM Smith in March 2013 and February 2014, updating forecasts developed in the 2012 Traffic Study.

Total adjusted gross toll revenue is estimated to increase from \$1.03 billion in Fiscal Year 2015-16 to \$4.3 billion by Fiscal Year 2044-45, representing 5.6% average annualized growth. Traffic data for the Fiscal Year ended May 31, 2017 indicates a 7.9% increase in adjusted gross toll revenue, with an increase in traffic volume of 0.7%, as compared to the same period in Fiscal Year ended May 31, 2016. See APPENDIX A - "THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Five-Year Financial History." The Traffic Study should be read in its entirety for a full description of the assumptions and methodologies used to develop such forecasts. The Commission believes that it will have sufficient revenue to meet the debt, capital and operational obligations of the Commission in future years. See "CERTAIN RISK FACTORS" and APPENDIX F -"TRAFFIC AND REVENUE STUDY."

## **PLAN OF FINANCING**

The 2017A-1 Bonds are being issued for the purpose of financing the costs of (i) various capital expenditures set forth in the Commission's current or any prior ten year capital plan, including but not limited to the reconstruction of roadbed and roadway, the widening, replacing and redecking of certain bridges and/or the rehabilitation of certain interchanges, (ii) a required deposit to the Debt Service Reserve Fund, and (iii) the costs of issuing the 2017A-1 Bonds.

The 2017A-2 Bonds are being issued to provide funds to finance the costs of (i) the advance refunding of the outstanding Refunded Bonds, and (ii) the costs of issuing the 2017A-2 Bonds.

## ESTIMATED SOURCES AND USES OF FUNDS

### SOURCES OF FUNDS

Par Amount of 2017A Bonds	\$498,955,000.00
Original Issue Premium	87,938,135.10
Release of funds from the Debt Service Fund	2,530,158.85
<b>TOTAL SOURCES</b>	<b><u>\$589,423,293.95</u></b>

### USES OF FUNDS

Deposit to 2017A-1 Account of the Construction Fund	\$405,000,000.00
Deposit to 2017A-2 Redemption Requirement of the Refunded Bonds	163,441,724.93
Deposit to 2017A Account of the Debt Service Reserve Fund	18,543,650.35
Costs of Issuance <sup>(1)</sup>	2,437,918.67
<b>TOTAL USES</b>	<b><u>\$589,423,293.95</u></b>

<sup>(1)</sup> Costs of Issuance include, but are not limited to, Underwriters' discount, legal fees, rating agency fees, printing expenses, Financial Advisor fees, Trustee's fees, Escrow Agent fees, Verification and other miscellaneous costs and expenses.

## SECURITY FOR THE 2017A BONDS

### Security

The 2017A Bonds are limited obligations of the Commission. They are secured, along with the other outstanding Bonds and certain other Parity Obligations, under the Senior Indenture, by the pledge by the Commission to the Trustee of (1) all Revenues (which includes all Tolls), (2) all moneys deposited into accounts or funds, other than the Rebate Fund, created by the Senior Indenture, (3) any insurance proceeds required to be deposited under the Senior Indenture, (4) all payments received pursuant to Parity Swap Agreements, and (5) all investment earnings on all moneys held in accounts and funds, other than the Rebate Fund, established by the Senior Indenture (all five of these items being collectively referred to as the "**Trust Estate**").

OIL FRANCHISE TAX REVENUES AND REGISTRATION FEE REVENUES, AS WELL AS OTHER SOURCES OF THE COMMISSION'S REVENUES NOT DERIVED FROM TOLLS, INCLUDING CONCESSION REVENUE, ARE EXCLUDED FROM THE TRUST ESTATE. THE TRUST ESTATE ALSO EXCLUDES ALL MONEYS HELD IN THE REBATE FUND. ANY ADDITIONAL BONDS AND PARITY OBLIGATIONS ISSUED PURSUANT TO THE SENIOR INDENTURE (OTHER THAN SUBORDINATED INDEBTEDNESS) WILL BE EQUALLY AND RATABLY SECURED UNDER THE SENIOR INDENTURE, EXCEPT TO THE EXTENT SUCH ADDITIONAL BONDS ARE NOT DEBT SERVICE RESERVE FUND BONDS.

**THE 2017A BONDS SHALL NOT BE DEEMED TO BE A DEBT OF THE COMMONWEALTH OR A PLEDGE OF THE FAITH AND CREDIT OF THE COMMONWEALTH. THE COMMONWEALTH IS NOT OBLIGATED TO LEVY OR PLEDGE ANY FORM OF TAXATION WHATSOEVER THEREFOR OR TO MAKE ANY APPROPRIATION FOR THE PAYMENT OF ANY OF THE 2017A BONDS.**

Payments of the principal of and the interest on the Turnpike Revenue Bonds, including the 2017A Bonds and any Additional Bonds and payments on certain other Parity Obligations, are secured, pro rata and without preference or priority of one Turnpike Revenue Bond or Parity Obligation over another, by a valid pledge of the Trust Estate and by the Senior Indenture, except to the extent that such Bonds are not Debt Service Reserve Fund Bonds. **The 2017A Bonds have been designated by the Commission as Debt Service Reserve Fund Bonds.** See "Debt Service Reserve Fund" below.

The Senior Indenture further provides that the Commission may not issue Additional Bonds or incur other Parity Obligations except upon satisfaction of various requirements as expressly provided in the Senior Indenture. See “SECURITY FOR THE 2017A BONDS - Additional Bonds Test” and APPENDIX C - “SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE.”

### **Rate Covenant**

The Commission has agreed in the Senior Indenture that it will at all times establish and maintain schedules of Tolls for traffic over the System so that the Net Revenues of the System in each Fiscal Year will at all times be at least sufficient to provide funds in an amount not less than (1) the greater of (i) 130% of the Annual Debt Service for such Fiscal Year on account of all Applicable Long-Term Indebtedness then outstanding under the provisions of the Senior Indenture; or (ii) 100% of the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness, plus (a) the amount of required transfers from the Revenue Fund to the credit of the Reserve Maintenance Fund pursuant to the Annual Capital Budget, and (b) an amount sufficient to restore any deficiency in the Debt Service Reserve Fund, if applicable, within an 18-month period; plus (2) the amount of any Short-Term Indebtedness outstanding pursuant to the Senior Indenture for more than 365 consecutive days. In addition, the amount of Net Revenues in excess of the sum of the amounts set forth in clauses (1) and (2) above, together with Other Revenues pledged to the payment of Subordinated Indebtedness, shall be sufficient to pay the Annual Debt Service for any Subordinated Indebtedness. See also “SECURITY FOR THE 2017A BONDS - General Reserve Fund” below for discussion of the rate covenant applicable to Subordinate Indenture Bonds under the Subordinate Trust Indenture, dated as of April 1, 2008, between the Commission and TD Bank, National Association, as successor trustee, as heretofore amended and supplemented (the “*Subordinate Indenture*”).

The Commission’s failure to meet the Rate Covenant shall not constitute an Event of Default under the Senior Indenture if (i) no Event of Default occurred in debt service payments on Bonds or other Parity Obligations as a result of such failure and (ii) the Commission promptly after determining that the Rate Covenant was not met retains a Consultant to make written recommendations as to appropriate revisions to the schedules of Tolls necessary or appropriate to meet the Rate Covenant and advises the Trustee in writing of such retention. Anything in the Senior Indenture to the contrary notwithstanding, if the Commission shall comply with the recommendations of the Consultant in respect of Tolls, it will not constitute an Event of Default under the provisions of the Senior Indenture if the Commission fails to meet the Rate Covenant during the succeeding Fiscal Year as long as no Event of Default has occurred in debt service payments on Bonds or other Parity Obligations. If the Commission does not comply with the recommendations of the Consultant in respect of Tolls, the Trustee may, and upon the request of the holders of not less than 25% in Principal Amount of the Bonds then outstanding and upon being indemnified to its satisfaction shall, institute and prosecute in a court of competent jurisdiction any appropriate action to compel the Commission to revise the schedules of Tolls. The Commission covenants that it will adopt and charge Tolls in compliance with any final order or decree entered in any such proceeding.

In the event that the Consultant shall fail to file with the Commission such recommendations in writing within sixty (60) days after such retention, the Trustee may designate and appoint a different Consultant to make recommendations as to an adjustment of the schedules of Tolls, which recommendations shall be reported in writing to the Commission and to the Trustee within sixty (60) days after such retention. Such written report shall for all purposes be considered to be the equivalent of and substitute for the recommendations of the Consultant retained by the Commission.

In preparing its recommendations, the Consultant may rely upon written estimates of Revenues prepared by the other Consultants of the Commission. Copies of such written estimates signed by such

Consultants shall be attached to such recommendations. The Commission covenants that promptly after receipt of such recommendations and the adoption of any revised schedules of Tolls, certified copies thereof will be filed with the Trustee. The ability of the Commission to collect Tolls in an amount sufficient to comply with the Rate Covenant could be adversely affected by many factors, some of which are beyond the Commission's control.

The Commission covenanted in the Senior Indenture that Tolls will be classified in a reasonable way to cover all traffic, so that the Tolls may be uniform in application to all traffic falling within any reasonable class regardless of the status or character of any person, firm or corporation participating in the traffic; provided, however, that the foregoing shall not be interpreted to restrict the Commission's right, in its discretion in connection with its management of the System, to establish and maintain flexible Toll schedules including, but not limited to, provisions for, utilizing or otherwise taking into account, peak and nonpeak pricing, introductory pricing, weight, method of payment, frequency, carpooling, electronic or other Toll collection technologies, traffic management systems, and similar classifications. The Commission has covenanted in the Senior Indenture that it shall not grant free passage or reduced Tolls within a class, except in the limited manner permitted by the Senior Indenture, which includes, among others, for operational or safety reasons including, but not limited to, reasons arising out of a work stoppage, work slowdown or work action, and for use by Commission employees and the Army, Air Force, Navy, Coast Guard, Marine Corps or militia or any branch thereof in time of war or other emergency. Any reduced Toll or grant of free passage shall be reviewed by the Commission with a Consultant before implementing the same unless the same is temporary (e.g., having a duration of less than one year).

In the event the Commission does not meet the Rate Covenant for the preceding Fiscal Year, any classification resulting in a reduced Toll or new classification shall be subject to a Consultant approving the same before it is implemented. In all events, the Commission shall not make a change in classification or any new classification which would cause the Commission to fail to meet the Rate Covenant.

In addition, in the event the Commission does not meet the Rate Covenant for the preceding Fiscal Year, any reduced Toll or free passage shall be subject to a Consultant approving the same before it is implemented by the Commission unless the circumstances require immediate implementation, in which event the Commission shall obtain such approval promptly following implementation. In all events, the Commission shall not reduce Tolls or grant free passage if it would cause the Commission to fail to meet the Rate Covenant.

The Commission's covenant as to uniformity of Tolls shall not be construed as requiring that Tolls for any given class of traffic be identical in amount throughout the entire System for trips of approximately identical lengths. The Commission may fix and place in effect schedules of Tolls for any given class of traffic wherein the Tolls charged for travel on a given section of the System shall be different from the Tolls charged on another section of the System notwithstanding the fact that both of said sections may be of identical or approximately identical length.

## **Revenue Fund**

All Revenues will be deposited daily, as near as practicable, with the Trustee or in the name of the Trustee with a depository or depositories designated by the Commission and approved by the Trustee, to the credit of the Revenue Fund. The moneys in the Revenue Fund are to be held by the Trustee in trust and applied in accordance with the Senior Indenture.

Except as otherwise provided in the Senior Indenture, transfers from the Revenue Fund shall be made to the following funds and in the following order of priority:

- (a) Rebate Fund;
- (b) Operating Account;
- (c) Debt Service Fund;
- (d) Reserve Maintenance Fund;
- (e) Debt Service Reserve Fund, if applicable; and
- (f) General Reserve Fund.

### **Operating Account**

The Commission shall establish an account known as the Operating Account which shall be held by the Commission in the name of the Commission outside of the Senior Indenture until applied as set forth in the Senior Indenture. The Trustee shall transfer from the Revenue Fund on or before the last Business Day of each month to the credit of the Operating Account an amount equal to (a) the amount shown by the Annual Operating Budget to be necessary to pay Current Expenses for the ensuing month and (b) an amount certified by a Commission Official as being reasonably necessary to pay Current Expenses which are expected for such month, after taking into account the amount on deposit in the Operating Account (including the amount described in clause (a) above).

### **Debt Service Fund**

After first having made the foregoing specified deposits to the Operating Account, the Trustee is required to withdraw from the Revenue Fund and deposit to the applicable account in the Debt Service Fund held by the Trustee under the Senior Indenture, the amounts hereinafter specified which shall be applied by the Trustee for the purposes for which the same shall be deposited:

(a) On or before the last Business Day preceding an Interest Payment Date, an amount which equals the interest due on such Interest Payment Date on any Bonds or Parity Obligations; provided, however, that in the case of any fixed rate bonds, term mode bonds and multi-modal fixed mode bonds (collectively, “***Fixed Rate Bonds***”), the withdrawal from the Revenue Fund and deposit to the Debt Service Fund shall be made on or before the first Business Day of each calendar month in an amount which equals the amount necessary to pay, and for the purpose of paying, one-sixth (1/6) of the interest due on any Fixed Rate Bonds issued under the Senior Indenture on the next succeeding Interest Payment Date (or, in the case of the period from the date of issuance of such Fixed Rate Bonds to the first Interest Payment Date for the applicable Fixed Rate Bonds, a monthly amount equal to the interest amount owed on such first Interest Payment Date divided by the number of months from the date of issuance of such Fixed Rate Bond to such first Interest Payment Date) plus any accumulated unfunded balance relating to prior months’ deposit requirements;

(b) On or before the last Business Day preceding a principal payment date, an amount which equals the principal amount of the Bonds or Parity Obligations maturing on such principal payment date; provided, however, that in the case of any Fixed Rate Bonds, the withdrawal from the Revenue Fund and deposit to the Debt Service Fund shall be made on or



before the first Business Day of each calendar month in an amount which equals one-twelfth (1/12) of the amount necessary to pay and for the purpose of paying the principal amount of any Fixed Rate Bonds issued under the Senior Indenture maturing (including mandatory sinking fund installments) on the next succeeding principal payment date (or, in the case of the period from the date of issuance of such Fixed Rate Bonds to the first date on which principal is due on such Fixed Rate Bonds, a monthly amount equal to the principal amount owed on such first principal maturity date divided by the number of months from the date of issuance of such Fixed Rate Bond to such first principal maturity date) plus any accumulated unfunded balance relating to prior months' deposit requirements; and

(c) On the dates specified in any Supplemental Indenture relating to Additional Bonds or Parity Obligations, the amounts required to be deposited on said dates to the credit of the Interest Account or Principal Account pursuant to the provisions of such Supplemental Indenture for the purpose of paying the interest on and the principal of such Additional Bonds.

The Trustee is required to pay out of the Interest Account, from time to time, without further authorization from the Commission, and as the same shall become due and payable, the interest upon the Bonds, except to the extent payable from funds and accounts other than the Debt Service Fund, as provided in any Supplemental Indenture. The Trustee is required likewise to pay out of the Principal Account, from time to time, without further authorization from the Commission, as the same shall become due and payable, the principal of the Bonds, except to the extent payable from funds and accounts other than the Debt Service Fund, as provided in any Supplemental Indenture.

If at the time the Trustee is required to make a withdrawal from the Debt Service Fund and the moneys therein shall not be sufficient for such purpose, the Trustee shall withdraw the amount of such deficiency from the moneys on deposit in the following funds or accounts and transfer the same to the Debt Service Fund in the following order: the Debt Service Reserve Fund, if applicable, the General Reserve Fund, and the Reserve Maintenance Fund.

#### **The 2017A Bonds are Fixed Rate Bonds.**

#### **Reserve Maintenance Fund**

In each Fiscal Year, after first having made the deposits provided by the Senior Indenture with respect to the Rebate Fund, the Operating Account and the Debt Service Fund, the Trustee shall transfer from the Revenue Fund on or before the last Business Day of each month to the credit of the Reserve Maintenance Fund the amount shown in the Annual Capital Budget for the ensuing month.

Except as otherwise provided in the Senior Indenture, or except in case of an emergency, as characterized in a certificate signed by a Commission Official stating that the moneys to the credit of the Operating Account are insufficient to meet such emergency, moneys in the Reserve Maintenance Fund shall be disbursed to pay current capital expenditures shown in the Annual Capital Budget for the System, plus the cost of unusual or extraordinary maintenance (as determined solely by the Commission) and shall be disbursed only for such purposes, except to the extent hereinafter provided. Such purposes shall include, but not be limited to, paying the cost of constructing, improving and reconstructing improvements and betterments to all parts of the System now or hereafter open to vehicular traffic, including, without limitation, additional lanes, tunnels, interchanges, toll plazas, bridges and connecting roads, transit interface facilities and any other improvements deemed necessary or desirable by the Commission.

Payments from the Reserve Maintenance Fund, except the transfers which the Trustee is authorized to make, shall be made pursuant to a requisition process which follows the process described in the Senior Indenture for payments from the Construction Fund.

The Trustee shall transfer any moneys from the Reserve Maintenance Fund to the credit of the General Reserve Fund from time to time upon the receipt of a certificate of a Commission Official certifying that the amount so to be transferred is not required for the purposes for which the Reserve Maintenance Fund has been created.

### **Debt Service Reserve Fund**

A Debt Service Reserve Fund has been established under the Senior Indenture to provide additional security for Debt Service Reserve Fund Bonds. **The 2017A Bonds have been designated by the Commission as Debt Service Reserve Fund Bonds and are secured by moneys in the Debt Service Reserve Fund.**

The Senior Indenture requires that the balance in the Debt Service Reserve Fund be maintained at the Debt Service Reserve Requirement, which is an amount equal to the Maximum Annual Debt Service on account of all the Debt Service Reserve Fund Bonds. Debt Service Reserve Fund Bonds include Long-Term Indebtedness specified by the Commission in a Supplemental Indenture as being secured by the Debt Service Reserve Fund. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE—THE SENIOR INDENTURE - Debt Service Reserve Fund" for information with respect to the Debt Service Reserve Fund under the Senior Indenture.

Following the issuance of the 2017A Bonds and the deposit into the Debt Service Reserve Fund described above under "ESTIMATED SOURCES AND USES OF FUNDS," funds on deposit in the Debt Service Reserve Fund will be sufficient, in the aggregate, to meet the Debt Service Reserve Requirement under the Senior Indenture, taking into account the 2017A Bonds.

### **General Reserve Fund**

After first having made the above specified deposits to the Operating Account, the Debt Service Fund, the Reserve Maintenance Fund and the Debt Service Reserve Fund, and while any Bonds are outstanding, the Trustee is required to transfer from the Revenue Fund on or before the last Business Day of each Fiscal Year (or more frequently if requested by a Commission Official) to the credit of the General Reserve Fund any funds which a Commission Official determines to be in excess of the amount required to be reserved therein for future transfers to the Debt Service Fund. Moneys in the General Reserve Fund may be expended by the Commission to restore deficiencies in any funds or accounts created under the Senior Indenture, and absent any such deficiency, for any of the following purposes, with no one item having priority over any of the others:

- (a) to purchase or redeem Bonds;
- (b) to secure and pay the principal or redemption price of, and interest on, any Subordinated Indebtedness;
- (c) to make payments into the Construction Fund;
- (d) to fund improvements, extensions and replacements of the System; or
- (e) to further any corporate purpose.

The Trustee has been directed to disburse from the General Reserve Fund, to the trustee under the Subordinate Indenture, funds sufficient to meet debt service requirements on the Subordinate Indenture Bonds. Under the Subordinate Indenture, the Commission has agreed that it will at all times establish and maintain Tolls for traffic over the System so that the amount paid into the General Reserve Fund in each Fiscal Year after deducting any liquidity reserve or other required holdback or deposit then in effect will be at least sufficient to provide funds in an amount not less than (i) 115% of the annual debt service on Subordinate Revenue Bonds (and obligations on parity with Subordinate Revenue Bonds), plus (ii) 100% of the annual debt service on Special Revenue Bonds (and obligations on a parity with Special Revenue Bonds and certain further subordinated bonds), plus (iii) any amount required under the Subordinate Indenture to restore within eighteen (18) months any deficiency in the debt service reserve fund held under the Subordinate Indenture. Failure to meet this covenant will not constitute a default under the Subordinate Indenture (or the Senior Indenture), but will require the Commission to retain a consultant to advise with respect to schedules of Tolls in order to bring the Commission into compliance. The Trustee has never withdrawn funds from the General Reserve Fund to meet regularly scheduled debt service payments on Bonds outstanding under the Senior Indenture nor has the General Reserve Fund been used to restore any shortfalls in any Debt Service Reserve Fund for any Bonds. See also "ADDITIONAL INDEBTEDNESS OF THE COMMISSION - Subordinate Indenture Bonds."

### **Additional Bonds Test**

The Commission is permitted to issue Additional Bonds and other Indebtedness under the terms of the Senior Indenture, having a lien on the Trust Estate, in the form of Short-Term Indebtedness, Long-Term Indebtedness, Subordinated Indebtedness and Approved Swap Agreements, provided that there is no default, that certain resolutions, opinions, supplemental indentures, certifications and moneys and securities, if necessary, are delivered to the Trustee and that the following conditions are met:

(a) with respect to Short-Term Indebtedness, (1) immediately after the incurrence of such Short-Term Indebtedness, the outstanding principal amount of all Short-Term Indebtedness issued pursuant to the Senior Indenture may not exceed 30% of the Revenues for the most recent Fiscal Year for which audited financial statements are available; and (2) for a period of not fewer than seven consecutive days within each Fiscal Year, commencing with the Fiscal Year following the issuance of such Short-Term Indebtedness, the aggregate principal amount of all outstanding Short-Term Indebtedness is reduced to less than 5% of the Revenues for the immediately preceding Fiscal Year for which audited financial statements are available. Short-Term Indebtedness issued pursuant to the Senior Indenture will be on a parity with other Additional Bonds;

(b) with respect to Long-Term Indebtedness, prior to or contemporaneously with the incurrence thereof (1) a certificate of a Commission Official certifying that the Historical Pro Forma Debt Service Coverage Ratio for the most recent Fiscal Year preceding the delivery of such certificate for which audited financial statements are available was not less than 1.75; or (2) a report of a Consultant to the effect that (i) the Net Revenues of the Commission during the preceding Fiscal Year were at least 130% of the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness then Outstanding and on any Applicable Long-Term Indebtedness proposed to be issued (which report may assume any revisions of the Tolls which have been approved by the Commission after the beginning of such Fiscal Year were in effect for the entire Fiscal Year) and (ii) the Projected Debt Service Coverage Ratio is not less than 1.30; or (3) if the Long-Term Indebtedness is being incurred solely for the purpose of refunding, repurchasing or refinancing (whether in advance or otherwise) any outstanding Long-Term Indebtedness, a certificate of a Commission Official certifying the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness prior to the issuance of the proposed Long-

Term Indebtedness is greater than the Maximum Annual Debt Service on all Applicable Long-Term Indebtedness after the issuance of such proposed Long-Term Indebtedness;

(c) with respect to Subordinated Indebtedness, there is no limit, provided that the Subordinate Indebtedness is subordinate and junior in all respect to payment of all Bonds and other Parity Obligations incurred under the Senior Indenture so that the same is payable as to principal and interest once all other payments have been made under the Senior Indenture from amounts on deposit to the credit of the General Reserve Fund as long as prior to or contemporaneously with the incurrence there is delivered to the Trustee, a certificate of a Commission Official certifying that the Rate Covenant would have been met during the preceding Fiscal Year taking into account the Maximum Annual Debt Service on such Subordinated Indebtedness. Such Subordinated Indebtedness and the payment thereof may be secured by a lien and pledge (a) subordinate to that of the Bonds on the Revenues or (b) prior to, on a parity with or subordinate to, that of the Bonds on Other Revenues, in which event the Commission and the Trustee may establish such other accounts under the Senior Indenture as they deem necessary or appropriate; and

(d) with respect to Approved Swap Agreements, no Approved Swap Agreement will be entered into unless prior to or contemporaneously with the incurrence thereof, a certificate of a Commission Official as described in (b)(1) above, or a report of a Consultant as described in (b)(2) above, which takes into account the expected payments by and to the Commission pursuant to such Approved Swap Agreement in calculating Annual Debt Service is delivered.

## **ADDITIONAL INDEBTEDNESS OF THE COMMISSION**

### **Bonds and Other Parity Obligations**

The Commission has previously issued Bonds and Notes under the terms of the Senior Indenture that have an equal claim to the Trust Estate with the 2017A Bonds. Upon delivery of the 2017A Bonds, and the refunding of the Refunded Bonds, the Commission will have \$5,254,140,000 aggregate principal amount of Turnpike Revenue Bonds outstanding under the Senior Indenture. See APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE." The foregoing amount includes certain notes evidencing and securing \$200,000,000 in EB-5 Loans. See APPENDIX A - "THE TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION" for additional information on the EB-5 Loans. Also included in the principal amount outstanding under the Senior Indenture is \$1,010,815,000 aggregate principal amount of FRNs.

In addition to the Outstanding Bonds, the Commission has entered into various interest rate swap agreements with a total current notional amount of \$978,836,000 that constitute Parity Swap Agreements under the Senior Indenture. Under the terms of the Senior Indenture, regularly scheduled amounts payable under Parity Swap Agreements, and in certain cases termination payments, are secured on a parity with the Bonds by the Trust Estate. See APPENDIX A - "THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Financial Policies and Guidelines" and APPENDIX C - "SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE."

### **Subordinate Indenture Bonds**

Act 44 authorizes the Commission to issue bonds for the purpose of paying costs of PennDOT and bond-related expenses. Proceeds of such bonds may be applied toward the satisfaction of the Commission's annual payment obligations to PennDOT under the Funding Agreement. As of the date of this Official Statement, the Commission has \$5,169,062,508.05 aggregate principal amount outstanding (including compounded amounts as of June 1, 2017 for the Commission's outstanding capital

appreciation bonds) of Subordinate Revenue Bonds (the “*Subordinate Revenue Bonds*”) under the Subordinate Indenture under the authorization of Act 44 to be paid solely from moneys released from the General Reserve Fund (such bonds are therefore subordinate to Bonds and other Parity Obligations under the Senior Indenture). Other obligations issued and outstanding under the Subordinate Indenture include the Commission’s obligations under one or more interest rate swap agreements having a total current notional amount of \$291,850,000. See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Financial Policies and Guidelines” for additional information relating to swaps.

Upon fulfillment of conditions set forth in the Subordinate Indenture, the Commission may issue additional Subordinate Revenue Bonds under the terms of the Subordinate Indenture. In addition to any Subordinate Revenue Bonds, the Commission is authorized under the terms of the Subordinate Indenture to enter into various interest rate exchange agreements that will constitute parity swap agreements under the Subordinate Indenture. Under the terms of the Subordinate Indenture, amounts payable under parity swap agreements, including termination payments, may be secured on a parity with the Subordinate Revenue Bonds. The Commission has not entered into any parity swap agreements under the Subordinate Indenture.

There is no statutory limit on the amount of Subordinate Revenue Bonds that may be issued by the Commission. To date, the Commission has issued Subordinate Revenue Bonds under the Subordinate Indenture, but has not issued any Subordinated Indebtedness under the Senior Indenture. The Commission has no plans to issue any Subordinated Indebtedness under the Senior Indenture.

Previously, under Act 44, the Commission was able to issue up to \$5 billion of Special Revenue Bonds guaranteed by the Motor License Fund under Act 44 (the “*Special Revenue Bonds*” and, together with the Subordinate Revenue Bonds, the “*Subordinate Indenture Bonds*”) which are subordinate to Parity Obligations issued under the Senior Indenture and to the Subordinate Revenue Bonds issued under the Subordinate Indenture. However, other than bonds issued to refund outstanding Special Revenue Bonds, pursuant to Act 89, effective July 1, 2014, Special Revenue Bonds may no longer be issued by the Commission to fund any portion of its payment obligation under the Funding Agreement. The Commission has issued Special Revenue Bonds currently outstanding in the aggregate principal amount of \$992,602,875.85 (inclusive of compounded amounts as of June 1, 2017 for capital appreciation bonds). Debt service on the Special Revenue Bonds shall be payable from any available funds of the Commission, but are additionally secured by amounts payable from the Motor License Fund created under Act 44 required to pay any debt service shortfall; all such debt service payments are subordinate obligations of the Commission payable solely from certain money in, or periodically released from, the General Reserve Fund after meeting all other Commission requirements pursuant to any financial documents, financial covenants, insurance policies, liquidity policies or agreements in effect at the Commission; and the proceeds from the issuance of the Special Revenue Bonds may only be used for roads and bridges. The Amended Funding Agreement provides that the Commission is obligated to pay all debt service due with respect to the Special Revenue Bonds. See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—THE COMMISSION - Enabling Acts,” for a description of the Subordinate Revenue Bonds and Special Revenue Bonds which the Commission is authorized to issue under the Enabling Acts.

#### **Other Bonds Issued by Commission - No Claim on Trust Estate**

The Commission has also issued Oil Franchise Tax Revenue Bonds that are currently outstanding in the aggregate principal amount of \$647,260,866.80 (inclusive of compounded amounts as of June 1, 2017 for capital appreciation bonds) and Registration Fee Revenue Bonds that are currently outstanding in the aggregate principal amount of \$386,510,000. The Commission has entered into various interest rate exchange agreements (swaps) with respect to certain of the Oil Franchise Tax Revenue Bonds and

Registration Fee Revenue Bonds. Neither the Oil Franchise Tax Revenue Bonds nor the Registration Fee Revenue Bonds or any of the various swaps with respect to the Oil Franchise Tax Revenue Bonds and Registration Fee Revenue Bonds are secured by or have any interest in the Trust Estate. Furthermore, neither the Oil Franchise Tax Revenues nor the Registration Fee Revenues are pledged to secure the 2017A Bonds.

### **Future Commission Financings**

See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION - Future Financing Considerations” for a discussion of future financings planned or contemplated by the Commission.

### **CERTAIN RISK FACTORS**

There are various factors which could adversely affect the sufficiency of the Trust Estate and which, if present, may result in an inability to meet the debt service requirements on the 2017A Bonds. The following is intended only as a summary of certain risk factors attendant to an investment in the 2017A Bonds and is not intended to be exhaustive. In order to identify risk factors and make informed investment decisions, potential investors should be thoroughly familiar with the entire Official Statement (including each Appendix hereto), and the Bond Documents in order to make a judgment as to whether the 2017A Bonds are an appropriate investment. The following risk factors are among those which should be considered by a potential investor:

#### **Commission Revenues may decline**

The actual amount of future toll revenues collected by the Commission depends upon a number of factors, including rates established by the Commission and the level and composition of traffic on the System. Many of these factors are beyond the control of the Commission. The Commission is obligated under the terms of the Funding Agreement, Act 44, the Senior Indenture and the Subordinate Indenture to fix and revise tolls at levels that will generate revenues (together with other available moneys) sufficient to pay all of its obligations under the Funding Agreement, to construct and maintain the System and to pay debt service obligations and other amounts payable to PennDOT or the Commonwealth. However, the amount of traffic on the System cannot be predicted with certainty and may decline due to general economic conditions, diversion of some traffic to alternative non-toll routes to avoid toll rate increases or because of increased fuel costs, increased mileage standards, higher fuel taxes or other factors. There is insufficient data to assess these risk factors fully. However, based on historical variations in such factors and the recent toll increases, the Commission reasonably expects to have sufficient revenues to meet its payment obligations, including payment obligations with respect to the 2017A Bonds. But see Appendix A – “THE PENNSYLVANIA TURNPIKE COMMISSION – CERTAIN FINANCIAL INFORMATION – Performance Audit by the Auditor General.”

In addition, as set forth in the Traffic Study, there is considerable uncertainty inherent in future traffic and revenue

forecasts for any toll facility, and differences between forecasted and actual results (which may be material) may occur due to events and circumstances beyond the control of the forecasters, including without limitation, economic conditions and other factors. See APPENDIX F - “TRAFFIC AND REVENUE STUDY.” While future traffic volume and revenues cannot be predicted with certainty, the Commission reasonably expects that it will have sufficient revenue to meet the then existing debt and operational obligations of the Commission. But see APPENDIX A – “THE PENNSYLVANIA TURNPIKE COMMISSION – CERTAIN FINANCIAL INFORMATION – Performance Audit by the Auditor General.”

**If Commission experiences financial problems, delays in payment or losses on the 2017A Bonds may result**

Adverse changes in the financial condition could result in a failure to make its payments, or a delay in payments, to the Trustee with respect to the 2017A Bonds. In addition to a potential decline in revenues, the Commission’s financial condition could be adversely affected by a number of factors including, but not limited to:

- Increased and/or unanticipated costs of operation and maintenance of the System;
- Decreased toll revenues due to declines in usage or otherwise;
- Increased use of mass transit systems;
- Work stoppage, slowdown or action by unionized employees;
- Complete or partial destruction or temporary closure of the System due to events beyond the control of the Commission;
- Increased unfunded pension benefits;
- Increased unfunded healthcare and other non-pension post-employment benefits;
- Failure to pay the purchase price on outstanding floating rate notes or other variable rate obligations issued by the Commission subject to maturity or mandatory tender; and
- Increased fuel costs.

**The Commission’s financial condition may be adversely affected as a consequence of adverse changes in the financial condition of third-party financial institutions**

Adverse changes in the financial condition of certain third-party financial institutions may adversely affect the Commission’s financial position. Different types of investment and contractual arrangements may create exposure for the Commission to such institutions including:

- Risk to the Commission’s investment portfolio due to defaults or changes in market valuation of the debt securities of such institutions; and

## **Litigation and Other Actions Against the Commission**

- Counterparty risk related to swaps used by the Commission to hedge its cost of funds.

The Commission is subject to litigation from time to time and may be subject to litigation and other actions in the future which could adversely affect the financial position of the Commission. The Commission cannot predict when or if any action will be brought against the Commission in the future, and, if brought, whether any action would be successful or result in monetary damages or other relief being imposed upon the Commission. See “LITIGATION” below. See also APPENDIX A — “THE PENNSYLVANIA TURNPIKE COMMISSION — THE COMMISSION – Recent Developments and Pending Legislation - Recent Judicial Holding in the United States District Court, Southern District of New York” and “–Statewide Investigating Grand Jury and Recent Criminal Charges.” See also “CERTAIN RISK FACTORS – Recent Developments and Pending Legislation – Recent Judicial Holding in the United States District Court, Southern District of New York” below.

## **Recent Judicial Holding in the United States District Court, Southern District of New York**

On August 10, 2016, several plaintiffs, including the American Trucking Associations, Inc., were successful in challenging the constitutionality of the New York State Thruway Authority’s use of New York Thruway toll revenue to maintain a canal system holding that “to the extent that toll revenues collected from interstate truckers are used to maintain the Canal System - which has great economic, historic and recreational value for the State of New York and many of its constituent communities, but no transportation or other associated value to plaintiffs—the incorporation of those expenses into the Thruway’s toll rates, and their collection from the plaintiffs, violates the Dormant Commerce Clause” of the United States Constitution.

On February 28, 2017, the above referenced ruling was reversed after the New York State Thruway Authority moved to dismiss based on new arguments, including that the Intermodal Surface Transportation Efficiency Act of 1991 enacted by the United States Congress authorizes the use of Thruway toll revenue to maintain the canal system. In vacating its original ruling and granting the dismissal, the court held, among other things, that the “Authority’s expenditure of excess funds on canal development project was authorized by Congress and so did not violate Dormant Commerce Clause” citing that where “state or local government action is specifically authorized by Congress, it is not subject to the Commerce Clause even if it interferes with interstate commerce.” An appeal of the February 28, 2017 judgment was filed by plaintiffs on March 15, 2017.

In an August 29, 2016 newspaper article in the Pittsburgh Post-Gazette, the acting general counsel for the American



Trucking Associations is reported as saying that “[w]e will be aggressively looking at these situations across the country to see what other action we might take.” The article also reported that “he said, the association will look at whether truckers receive any direct benefit when tolls are used for projects other than roads and bridges.”

The Commission cannot predict whether any similar action would be brought in other jurisdictions (including in Pennsylvania), or if brought, whether any such action would be successful, would result in monetary damages or other relief being imposed on the Commission, or would otherwise adversely affect the Commission’s ability to repay its debt obligations, including the 2017A Bonds.

See APPENDIX A “THE PENNSYLVANIA TURNPIKE COMMISSION - THE COMMISSION – Recent Developments and Pending Legislation Recent Judicial Holding in the United States District Court, Southern District of New York.”

**Certain legislative actions may result in adverse changes to the Commission, Act 44 or Act 89**

From time to time legislation is introduced in the Pennsylvania General Assembly which may affect the Commission and therefore may affect certain of the assumptions made in this Official Statement. The Commission cannot predict if any of such bills or other legislation will be enacted into law, or how any such legislation may affect the Commission’s ability to timely pay the 2017A Bonds. See APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—THE COMMISSION - Recent Developments and Pending Legislation.”

**Bankruptcy risk; Lien position**

The rights and remedies of Bondholders could be limited by the provisions of the Federal Bankruptcy Code, as now or hereafter enacted (the “*Bankruptcy Code*”), or by other laws or legal or equitable principles which may affect the enforcement of creditors’ rights. Chapter 9 of the Bankruptcy Code permits, under prescribed circumstances, a political subdivision or public agency or instrumentality of a state, such as the Commission, to commence a voluntary bankruptcy proceeding and to file a plan of adjustment in the repayment of its debts, if such entity is generally not paying its debts as they become due (unless such debts are the subject of a bona fide dispute), or is unable to pay its debts as they become due. Under the Bankruptcy Code, an involuntary petition cannot be filed against a political subdivision, public agency or instrumentality of a state.

In order to proceed under Chapter 9 of the Bankruptcy Code, state law must authorize the political subdivision, public agency or instrumentality to file a petition under the Bankruptcy Code. THE ENABLING ACTS DO NOT

CURRENTLY AUTHORIZE THE COMMISSION TO FILE  
A PETITION UNDER THE BANKRUPTCY CODE.

**Reductions in federal subsidy  
payable to the Commission for its  
outstanding Build America Bonds  
due to sequestration**

A series of automatic federal deficit reduction spending cuts known as “sequestration” became effective on March 1, 2013 as a result of the failure by Congress to adopt alternative deficit reduction legislation; recent legislation has extended sequestration through the 2024 federal fiscal year. Sequestration will affect the federal subsidy payable to the Commission with respect to its outstanding Build America Bonds. The Commission currently has \$1,104,675,000 in principal amount of Build America Bonds outstanding, and is entitled to receive approximately \$22,387,000 in federal subsidy annually with respect to such Build America Bonds. Based on guidance issued by the Internal Revenue Service (the “*IRS*”) in March 2013, the amount of such federal subsidy payable to the Commission was reduced by 8.7% or approximately \$1,947,699 for payments through September 30, 2013. Pursuant to the Bipartisan Budget Act of 2013 (Public Law 113-67), such federal subsidy was reduced by 7.2% or approximately \$1,611,864 for payments through September 30, 2014. Based on guidance issued by the IRS in October 2014, such federal subsidy was reduced by 7.3% or \$1,634,251 for payments from October 1, 2014 through September 30, 2015. Based on guidance issued by the IRS in August 2015, such federal subsidy will be reduced by 6.8% or \$1,522,307 for payments from October 1, 2015 through September 30, 2016. Based on guidance issued by the IRS in August 2016, such federal subsidy will be reduced by 6.9% or \$1,544,694 for payments from October 1, 2016 through September 30, 2017. Based on guidance issued by the IRS in August 2017, such federal subsidy will be reduced by 6.6% or \$1,477,533 for payments from October 1, 2017 through September 30, 2018. The sequestration reduction rate will be applied unless and until a law is enacted that cancels or otherwise impacts the sequester, at which time the sequestration reduction rate is subject to change. Reductions in future federal fiscal years are currently unknown. Adverse changes in the amount of the federal subsidy the Commission receives on its Build America Bonds will require the Commission to use other funds to offset the loss of this subsidy.

**Possible changes in federal tax laws  
could affect the excludability or  
deductibility of interest on tax-  
exempt bonds such as the 2017A  
Bonds**

Current and future legislative proposals, if enacted into law, could cause interest on the 2017A Bonds to be subject, directly or indirectly, to federal income taxation, or to be subject to or not be exempted from state income taxation, or otherwise prevent the owners of the 2017A Bonds from realizing the full current benefit of the tax status of such interest. The introduction and/or enactment of any such legislative proposals may also affect the market price for, or marketability of, the 2017A Bonds. Prospective purchasers of

the 2017A Bonds should consult their own tax advisors regarding any pending or proposed federal tax legislation, as to which Co-Bond Counsel will express no opinion. See “TAX MATTERS.”

**The 2017A Bonds may be repaid early due to the exercise of the redemption option. If this happens, yield may be affected and 2017A Bondholders will bear reinvestment risk**

The 2017A Bonds may be redeemed prior to their final maturity if the Commission exercises its option to redeem the 2017A Bonds. Bondholders bear the risk that monies received upon such redemption cannot be reinvested in comparable securities or at comparable yields.

**Uncertainty as to available remedies**

The remedies available to owners of the 2017A Bonds upon an Event of Default under the Senior Indenture or other documents described herein are in many respects dependent upon regulatory and judicial actions which often are subject to discretion and delay. Under existing constitutional and statutory law and judicial decisions, the remedies specified by the Senior Indenture and such other documents may not be readily available or may be limited. The various legal opinions to be delivered concurrently with the issuance of the 2017A Bonds will be qualified, as to the enforceability of the various legal instruments, by limitations imposed by bankruptcy, reorganization, insolvency or other similar laws affecting the rights of creditors generally.

**The FCA Announcement, changes to LIBOR determination methods or other reforms to LIBOR could increase debt service and other payment obligations under the Commission’s FRNs and Swaps.**

On July 27, 2017, the Financial Conduct Authority announced that it will no longer persuade or compel banks to submit rates for the calculation of LIBOR rates after 2021 (the “*FCA Announcement*”). Many of the Commission’s Swaps and FRNs use a LIBOR based rate as a reference rate for determining the interest rate and/or other payment obligations thereunder. It is not possible to predict the effect of the FCA Announcement, any changes in the methods pursuant to which LIBOR rates are determined, or any other reforms to LIBOR that may be enacted, any of which may adversely affect the determination of LIBOR rates or result in the phasing out of LIBOR as a reference rate. Any such effects could result in a sudden or prolonged increase or decrease in reported LIBOR rates, or result in the replacement of LIBOR with other reference rates, and could significantly increase debt service payable on the Commission’s FRNs and/or have a negative impact on the market value of the Commission’s Swaps and payment obligations thereunder.

## **AUDITED FINANCIAL STATEMENTS**

The financial statements of the Commission for the years ended May 31, 2017 and May 31, 2016 are set forth in APPENDIX B - “AUDITED 2017 AND 2016 FINANCIAL STATEMENTS.” The audited 2017 Financial Statement is certified by Mitchell Titus, LLP in its capacity as Independent Auditor and the 2016 Financial Statement is certified by Zelenkofske Axelrod, LLC in its capacity as

Independent Auditor. The Commission has not asked Mitchell Titus, LLP or Zelenkofske Axelrod, LLC to perform any additional review procedures in connection with this Official Statement.

### CONTINUING DISCLOSURE

The Commission will enter into a Continuing Disclosure Agreement for the benefit of the Registered Owners from time to time of the 2017A Bonds (the “**Disclosure Agreement**”) pursuant to Rule 15c2-12 promulgated by the Securities and Exchange Commission (the “**SEC**”) under the Securities Act of 1934, as amended (the “**Rule**”).

Pursuant to the Disclosure Agreement, the Commission will provide or cause to be provided to the Municipal Securities Rulemaking Board (the “**MSRB**”), which is currently the sole nationally recognized municipal securities information repository (“**Repository**”) under the Rule, via electronic transmissions pursuant to the MSRB’s Electronic Municipal Market Access System (“**EMMA**”), accessible at <http://emma.msrb.org>, the following information and notices:

(a) Within one hundred eighty (180) days of the end of each fiscal year of the Commission commencing with the fiscal year ending May 31, 2017, annual financial information (collectively, the “**Annual Financial Information**”), consisting of: (i) financial and operating data of the type set forth in this Official Statement in Tables I, II and III contained in APPENDIX A - “THE PENNSYLVANIA TURNPIKE COMMISSION—CERTAIN FINANCIAL INFORMATION”; (ii) the Commission’s audited financial statements for such fiscal year; and (iii) a summary of any material legislative or regulatory developments affecting Act 44 or Act 89 since the Commission’s most recent annual financial information filing. In the event that the Commission’s audited financial statements are not available within one hundred eighty (180) days of the close of the applicable fiscal year, the Annual Financial Information will contain unaudited financial statements and the audited financial statements will be provided for filing when available.

(b) Notice of the occurrence of any of the following events with respect to the 2017A Bonds, within ten (10) business days after the occurrence of such event: (i) principal and interest payment delinquencies; (ii) non-payment related defaults, if material; (iii) unscheduled draws on debt service reserves reflecting financial difficulties; (iv) unscheduled draws on credit enhancements reflecting financial difficulties; (v) substitution of credit or liquidity providers, or their failure to perform; (vi) adverse tax opinions, the issuance by the IRS of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the 2017A Bonds or other material events affecting the tax status of the 2017A Bonds; (vii) modifications to rights of holders of the 2017A Bonds, if material; (viii) optional or unscheduled 2017A Bond calls, if material, and tender offers; (ix) defeasances; (x) release, substitution, or sale of property securing repayment of the 2017A Bonds, if material; (xi) rating changes; (xii) bankruptcy, insolvency, receivership or similar proceedings or events of the Commission; (xiii) consummation of a merger, consolidation or acquisition involving the Commission or the sale of all or substantially all of the assets of the Commission, other than in the ordinary course of business, the entry of a definitive agreement to undertake such an action or the termination of a definitive agreement relating to such actions, other than pursuant to its terms, if material; and (xiv) appointment of a successor or additional trustee or the change of name of a trustee, if material.

The foregoing fourteen (14) events are quoted from the Rule. The SEC requires the listing of the events listed in clauses (i) through (xiv) above, although some of such events may not be applicable to the 2017A Bonds. For example, the events listed in clauses (iv) and (v) are

not applicable to the 2017A Bonds because there is no credit or liquidity enhancement providing for the payment of the 2017A Bonds.

The Commission may amend the Disclosure Agreement and waive any of the provisions thereof, but no such amendment or waiver shall be executed and effective unless: (i) the amendment or waiver is made in connection with a change in legal requirements, change in law or change in the identity, nature or status of the Commission or the governmental operations conducted by the Commission; (ii) the Disclosure Agreement, as modified by the amendment or waiver, would have been the written undertaking contemplated by the Rule at the time of original issuance of the 2017A Bonds, taking into account any amendments or interpretations of the Rule; and (iii) the amendment or waiver does not materially impair the interests of the Registered Owners of the 2017A Bonds. Evidence of compliance with the foregoing conditions shall be satisfied by delivery to the Commission of an opinion of counsel having recognized skill and experience in the issuance of municipal securities and federal securities law to the effect that the amendment or waiver satisfies the conditions set forth in the preceding sentence. Notice of any amendment or waiver shall be filed by the Commission with the MSRB via EMMA and shall be sent to the Registered Owners of the 2017A Bonds.

The Disclosure Agreement will recite that it is entered into for the benefit of the Registered Owners from time to time of the 2017A Bonds. For the purposes of the Disclosure Agreement, for so long as the 2017A Bonds are registered in the name of DTC or its nominee, “**Registered Owner**” shall mean and include the holder of a book-entry credit evidencing an interest in the 2017A Bonds. Holders of book-entity credits may file their names and addresses with the Commission for the purposes of receiving notices or giving direction under the Disclosure Agreement.

A default under the Disclosure Agreement shall not be deemed to be a default under the 2017A Bonds or the Senior Indenture, and the sole remedy to enforce the provisions of the Disclosure Agreement shall be the right of any Registered Owner, by mandamus, suit, action or proceeding at law or in equity, to compel the Commission to perform the provisions and covenants contained in the Disclosure Agreement.

The Disclosure Agreement will terminate (1) upon payment or provision for payment in full of the 2017A Bonds, (2) upon repeal or rescission of Section (b)(5) of the Rule, or (3) upon a final determination that Section (b)(5) of the Rule is invalid or unenforceable. A copy of the Disclosure Agreement is on file at the principal office of the Commission.

Approximately 55 separate continuing disclosure undertakings were in effect during the five (5) year period preceding the date of this Official Statement relating to over 100 series and subseries of bonds issued by the Commission. During such five (5) year period, in connection with approximately five (5) of those undertakings (which cover approximately eighteen (18) series and subseries of bonds), the Commission failed to provide (on or before the required deadlines) certain annual disclosure concerning either Act 3 Registration Fee Revenue or Oil Franchise Tax Revenue collected by the Commonwealth for fiscal years ending 2012-2014, as applicable.

Each of the foregoing described disclosures was subsequently filed through EMMA on or about September 30, 2015. Notice of the failure to timely provide such disclosures was filed with the MSRB (via EMMA) on July 22, 2016. Additionally, a notice of change in trustee in April of 2012 was filed approximately 16 days late. None of the foregoing described instances of late filings should be construed as an acknowledgement by the Commission that any such instance was material.

Except as may be otherwise described herein, during the five (5) year period preceding the date of this Official Statement, the Commission has complied in all material respects with all of its continuing disclosure undertakings entered into pursuant to the Rule in connection with its other series of bonds.

## RELATIONSHIPS OF CERTAIN PARTIES

PFM Financial Advisors LLC, Financial Advisor to the Commission and its affiliate PFM Asset Management, LLC are engaged to provide other services to the Commission.

J.P. Morgan Securities is serving as underwriter to the Commission on the 2017A Bonds. JPMorgan Chase Bank, National Association is acting as a counterparty under certain interest rate swap agreements with the Commission. In addition, it is also acting as credit provider. J.P. Morgan Securities LLC is an affiliate of JPMorgan Chase Bank, National Association.

Buchanan Ingersoll & Rooney PC, Disclosure Counsel, is engaged from time to time to provide certain other services to the Commission.

## UNDERWRITING

Piper Jaffray & Co., on behalf of itself and the other Underwriters shown on the cover page hereof (the “**Underwriters**”), are expected to enter into a purchase contract (the “**Purchase Contract**”) with the Commission pursuant to which the Underwriters will agree, subject to certain customary conditions precedent to closing, to purchase the 2017A Bonds from the Commission at a purchase price equal to \$585,066,385.66 (representing the par amount of the 2017A Bonds, plus/minus net original issue premium/discount of \$87,938,135.10 and less an Underwriters’ discount of \$1,826,749.44).

Pursuant to the Purchase Contract, the Underwriters will be obligated to purchase all of the 2017A Bonds if any of such 2017A Bonds are purchased. The 2017A Bonds may be offered and sold to certain dealers (including the Underwriters and other dealers depositing such 2017A Bonds into investment trusts) at prices lower than such public offering prices (and such public offering prices may be changed, from time to time, by the Underwriters) only after a public offering of the 2017A Bonds at the initial offering price. The Commission has agreed to be liable to the Underwriters to the extent of all losses, claims, damages and liabilities arising out of incorrect statements or information contained in this Official Statement or material omissions therein, except for information furnished by the Underwriters, and with respect to certain other matters.

J.P. Morgan Securities LLC (“**JPMS**”), one of the Underwriters of the 2017A Bonds, has entered into negotiated dealer agreements (each, a “**Dealer Agreement**”) with each of Charles Schwab & Co., Inc. (“**CS&Co.**”) and LPL Financial LLC (“**LPL**”) for the retail distribution of certain securities offerings at the original issue prices. Pursuant to each Dealer Agreement, each of CS&Co. and LPL may purchase 2017A Bonds from JPMS at the original issue price less a negotiated portion of the selling concession applicable to any 2017A Bonds that such firm sells.

The obligation of the Underwriters to accept delivery of the 2017A Bonds is subject to the terms and conditions set forth in the Purchase Contract, the approval of legal matters by counsel and other conditions. The Underwriters may over-allot or effect transactions which stabilize or maintain the market price of the 2017A Bonds at levels above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage services. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for the Commission, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities, which may include credit default swaps) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Commission.

The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

The Commission has recommended and the Underwriters have accepted the appointment of Stradley Ronon Stevens & Young, LLP as counsel to the Underwriters in connection with the purchase of the 2017A Bonds.

### VERIFICATION OF MATHEMATICAL COMPUTATIONS

BondResource Partners LP (“Verification Agent”), at the time of issuance of the 2017A Bonds, will verify from the information provided to it the mathematical accuracy as of the date of the closing on the 2017A-2 Bonds of the computations contained in such information to determine that the securities and cash deposits listed in the applicable schedules, to be deposited in the respective escrow trust funds established in connection with the Refunded Bonds, will be sufficient to pay, when due, the principal, interest and call premium payment requirements, if any, of the Refunded Bonds. The Verification Agent expressed no opinion on the assumptions provided to it, nor as to the exemption from taxation of the interest on the 2017A Bonds.

### RATINGS

Moody’s Investors Service, Inc. (**Moody’s**), Fitch Ratings (**Fitch**), and Kroll Bond Rating Agency (**Kroll**) have assigned their municipal bond ratings of “A1” (stable outlook), “A+” (stable outlook), and “AA-” (stable outlook), respectively, to the 2017A Bonds.

An explanation of the significance of each of such ratings and any outlook may be obtained from the rating agency furnishing the same at the following addresses: Moody’s Investors Service, Inc., 7 World Trade Center at 250 Greenwich Street, New York, New York 10007; Fitch Ratings, 33 Whitehall Street New York, New York 10004 and Kroll Bond Rating Agency, 845 Third Avenue, New York, New York 10022. Certain materials and information not included in this Official Statement may have been furnished to such rating agencies. A rating is not a recommendation to buy, sell or hold securities. There is no assurance that such ratings will continue for any given period of time or that they may not be lowered or withdrawn entirely by the rating agencies, or either of them, if, in their or its judgment, circumstances so warrant. Any such downward change in or withdrawal of such ratings, or any of them, may have an adverse effect on the market price of the 2017A Bonds.

Except as provided in the Disclosure Agreement, neither the Underwriters nor the Commission have undertaken any responsibility to bring to the attention of the holders of the 2017A Bonds any proposed or actual change in or withdrawal of any rating and neither the Underwriters nor the Commission have undertaken any responsibility to oppose any proposed change or withdrawal. See “CONTINUING DISCLOSURE” above.

## **LITIGATION**

There is no controversy or litigation of any nature now pending or threatened restraining or enjoining the issuance, sale, execution or delivery of the 2017A Bonds, or in any way contesting or affecting the validity of the 2017A Bonds or any proceedings of the Commission taken with respect to the offer or sale thereof, or the pledge or application of any monies or security provided for the payment of the 2017A Bonds, the existence or powers of the Commission or the construction of the Commission's Capital Improvement Program.

The Commission is covered by Act No. 152, approved September 28, 1978, which provides for a limited waiver of sovereign immunity by the Commonwealth. Damages for any loss are limited to \$250,000 for each plaintiff or \$1,000,000 in the aggregate.

The Commission is subject to claims for personal injury and/or property damage pending against the Commission pertaining to matters normally incidental to routine operations. Currently, none of such claims, individually or in the aggregate, are deemed to expose the Commission to a material risk of loss.

The Commission may be subject to additional litigation or other actions from time to time in the future which cannot be predicted at this time. See "CERTAIN RISK FACTORS – Litigation and Other Actions Against the Commission" and "CERTAIN RISK FACTORS – Recent Judicial Holding in the United States District Court, Southern District of New York" herein.

On March 13, 2013, as a result of a statewide grand jury investigation, the Pennsylvania Attorney General filed criminal charges against a former Commission Chairman, the former Chief Executive Officer and Chief Operating Officer of the Commission, two individuals at companies doing business with the Commission and two former Commission employees. These individuals were charged with a variety of offenses, including conspiracy, commercial bribery, bid-rigging, theft, conflict of interest and corrupt organization violations. No criminal charges have been filed against current Commissioners, senior executives or employees of the Commission. See APPENDIX A – "THE PENNSYLVANIA TURNPIKE COMMISSION - THE COMMISSION – Recent Developments and Pending Legislation -- *Statewide Investigating Grand Jury and Recent Criminal Charges*" in APPENDIX A hereto for a detailed discussion of the matters summarized above.

## **LEGAL MATTERS**

Certain legal matters with respect to the 2017A Bonds will be passed upon by Eckert Seamans Cherin & Mellott, LLC, Harrisburg, Pennsylvania and Bruce E. Dice & Associates, P.C. Public Finance Group, Pittsburgh, Pennsylvania, Co-Bond Counsel. A copy of the proposed form of opinion of Co-Bond Counsel which will be delivered on the date of issuance and delivery of the 2017A Bonds is set forth in APPENDIX D - "FORM OF OPINION OF CO-BOND COUNSEL." Certain other legal matters will be passed upon for the Underwriters by their Counsel, Stradley Ronon Stevens & Young, LLP, Philadelphia, Pennsylvania, and for the Commission by its Chief Counsel, Doreen A. McCall, Esquire, and Buchanan Ingersoll & Rooney PC, Pittsburgh, Pennsylvania, Disclosure Counsel to the Commission.

The various legal opinions to be delivered concurrently with the delivery of the 2017A Bonds express the professional judgment of the attorneys rendering the opinion as to the legal issues explicitly addressed therein. In rendering a legal opinion, the attorney does not become an insurer or guarantor of that expression of professional judgment, of the transaction opined upon, or the future performance of the parties to the transaction. In addition, the rendering of an opinion does not guarantee the outcome of any legal dispute that may arise out of the transaction.



## **FINANCIAL ADVISORS**

The Commission has retained PFM Financial Advisors LLC, Philadelphia, Pennsylvania, and G-Entry Principle, P.C. as Co-Financial Advisors with respect to the authorization and issuance of the 2017A Bonds. The Co-Financial Advisors are not obligated to undertake or assume responsibility for, nor have they undertaken or assumed responsibility for, an independent verification of the accuracy, completeness or fairness of the information contained in this Official Statement. Each of the Co-Financial Advisors is a registered independent advisory firm and is not engaged in the business of underwriting, trading, or distributing municipal securities or other public securities.

## **TRUSTEE AND ESCROW AGENT**

The Commission has appointed U.S. Bank National Association, Philadelphia, Pennsylvania, as the Trustee and Authenticating Agent under the Senior Indenture. The obligations and duties of the Trustee are as described in the Senior Indenture. The Trustee has not evaluated the risks, benefits or propriety of any investment in the 2017A Bonds, and makes no representation, and has reached no conclusions, regarding the validity of the 2017A Bonds, the security therefor, the adequacy of the provisions for payment thereof or the tax status of the interest on the 2017A Bonds. The Trustee has relied upon the opinion of Co-Bond Counsel for the validity and tax status of the interest on the 2017A Bonds as well as other matters set out in that opinion. Furthermore, the Trustee has no oversight responsibility, and is not accountable, for the use or application by the Commission of any of the 2017A Bonds authenticated or delivered pursuant to the Senior Indenture or for the use or application of the proceeds of such 2017A Bonds by the Commission.

Under the terms of the Senior Indenture, the Trustee shall not be responsible for any loss or damage resulting from any action or inaction taken in good faith in reliance upon an opinion of counsel and the Trustee is liable only for those damages caused by its gross negligence or willful misconduct.

Under the Senior Indenture, the Trustee is not required to take notice, and is not deemed to have notice, of any default under the Senior Indenture (except for defaults in payment of debt service by the Commission), unless the Trustee has been specifically notified in writing of such default by the owners of at least 25% in aggregate principal amount of the Outstanding Bonds. In the absence of any such notice, the Trustee may conclusively assume no Event of Default exists. The summary of the Trustee's rights, duties, obligations and immunities is not intended to be a complete summary and reference must be made to the Senior Indenture for a complete statement of the Trustee's rights, duties, obligations and immunities.

U.S. Bank National Association is also the escrow agent under the Escrow Deposit Agreement, the obligations and duties of which are described in the Escrow Deposit Agreement.

## **TAX MATTERS**

### **Federal**

#### ***Exclusion of Interest from Gross Income***

In the opinion of Co-Bond Counsel, under existing statutes, regulations, rulings and court decisions, interest on the 2017A Bonds is not includible in gross income of the holders thereof for federal income tax purposes assuming continuing compliance by the Commission with the requirements of the Internal Revenue Code of 1986, as amended (the "**Code**"). Interest on the 2017A Bonds will not be a specific preference item for purposes of computing the federal alternative minimum tax (the "**AMT**");

however, interest on the 2017A Bonds held by corporations is included in the computation of “adjusted current earnings,” a portion of which is taken into account in determining the AMT imposed on such corporations.

In rendering its opinion, Co-Bond Counsel has assumed compliance by the Commission with its covenants contained in the Indenture and its representations in the Tax Certificate executed by the Commission on the date of issuance of the 2017A Bonds relating to actions to be taken by the Commission after issuance of the 2017A Bonds necessary to effect or maintain the exclusion from gross income of the interest on the 2017A Bonds for federal income tax purposes. These covenants and representations relate to, inter alia, the use and investment of proceeds of the 2017A Bonds, and the rebate to the United States Department of Treasury of specified arbitrage earnings, if any. Failure to comply with such covenants could result in interest on the 2017A Bonds becoming includible in gross income for federal income tax purposes from the date of issuance of the 2017A Bonds.

### ***Other Federal Tax Matters***

Ownership or disposition of the 2017A Bonds may result in other federal tax consequences to certain taxpayers, including, without limitation, certain S corporations, foreign corporations with branches in the United States, property and casualty insurance companies, taxpayers who have an initial basis in the 2017A Bonds greater or less than the principal amount thereof, individual recipients of Social Security or Railroad Retirement benefits, and taxpayers, including banks, thrift institutions and other financial institutions subject to Section 265 of the Code, who may be deemed to have incurred or continued indebtedness to purchase or to carry the 2017A Bonds. **Co-Bond Counsel are not rendering any opinion regarding any federal tax matters other than as described under the caption “Exclusion of Interest From Gross Income” and expressly stated in the form of the opinions of Co-Bond Counsel included as Appendix D. Prospective purchasers of the 2017A Bonds should consult their independent tax advisors with regard to all federal tax matters.**

### **Pennsylvania**

In the opinion of Co-Bond Counsel, under the laws of the Commonwealth as enacted and construed on the date hereof, interest on the 2017A Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax, and the 2017A Bonds are exempt from personal property taxes in Pennsylvania; however, under the laws of the Commonwealth, as enacted and construed on the date hereof, any profits, gains or income derived from the sale, exchange or other disposition of the 2017A Bonds will be subject to Pennsylvania taxes and local taxes within the Commonwealth.

Co-Bond Counsel are not rendering any opinion as to any Commonwealth of Pennsylvania tax matters other than those described under the caption “TAX MATTERS – Pennsylvania” and expressly stated in the form of the opinions of Co-Bond Counsel included as APPENDIX D. hereto. Prospective purchasers of the 2017A Bonds should consult their independent tax advisors with regard to all Commonwealth of Pennsylvania tax matters.

### **Other**

The 2017A Bonds and the interest thereon may be subject to state and local taxes in jurisdictions other than the Commonwealth under applicable state or local tax laws.

**Purchasers of the 2017A Bonds should consult their independent tax advisors with regard to all state and local tax matters that may affect them.**

## **Changes in Federal and Pennsylvania Tax Law**

From time to time, there are legislative proposals in the Congress and in state legislatures that, if enacted, could alter or amend the treatment of the 2017A Bonds for federal and state tax purposes or adversely affect the market value or marketability of the 2017A Bonds. It cannot be predicted whether or in what form any such proposal might be enacted or whether, if enacted, it would apply to bonds issued prior to enactment. In addition, from time to time regulatory actions are announced or proposed, and litigation is threatened or commenced, which, if implemented or concluded in a particular manner, could adversely affect the market value or marketability of the 2017A Bonds. It cannot be predicted whether any such regulatory action will be implemented, whether any particular litigation or judicial action will be commenced or, if commenced, how it will be resolved, or whether the 2017A Bonds or the market value or marketability thereof would be affected thereby.

## **MISCELLANEOUS**

The financial data and other information contained herein have been obtained from the Commission's records, audited financial statements and other sources which are believed to be reliable. No guarantee is given that any of the assumptions, forecasts or estimates contained herein will be realized.

The references herein to the Enabling Acts, the 2017A Bonds, the Senior Indenture, Supplemental Indenture No. 42, the Subordinate Indenture, and the Disclosure Agreement are brief summaries of certain provisions thereof. Such summaries do not purport to be complete and, accordingly, are qualified by reference and are subject to the full texts thereof.

*[Remainder of Page Intentionally Left Blank]*

Neither this Official Statement nor any other disclosure in connection with the 2017A Bonds is to be construed as a contract with the holders of the 2017A Bonds. Any statements made in this Official Statement involving matters of opinion or estimates, whether or not expressly so identified, are intended merely as such and not as representations of fact.

**PENNSYLVANIA TURNPIKE COMMISSION**

By: /s/Nikolaus H. Grieshaber  
Nikolaus H. Grieshaber  
Chief Financial Officer

## **APPENDIX A**

### **THE PENNSYLVANIA TURNPIKE COMMISSION**

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## APPENDIX A<sup>1,2</sup>

### THE PENNSYLVANIA TURNPIKE COMMISSION

#### THE COMMISSION

##### General

The Commission is an instrumentality of the Commonwealth existing pursuant to an Act of the General Assembly of Pennsylvania approved on July 18, 2007, P. L. 169, No. 44 ("**Act 44**") and various Acts of the General Assembly approved on several dates, including the Act of May 21, 1937, P.L. 774, Act 211; the Act of May 24, 1945, P.L. 972; the Act of February 26, 1947, P.L. 17; the Act of May 23, 1951, P. L. 335; the Act of August 14, 1951, P.L. 1232; the Act of September 30, 1985, P.L. 240, No. 61 ("**Act 61**") to the extent not repealed by Act 44; and the Act of November 25, 2013, P.L. 974, No. 89 ("**Act 89**") (collectively, the "**Enabling Acts**").

Pursuant to the Enabling Acts, the Commission has the power to construct, operate and maintain the Pennsylvania Turnpike System (as further described herein, the "**System**" or the "**Turnpike System**"). The Commission's composition, powers, duties, functions, duration and all other attributes are derived from the Enabling Acts. The Enabling Acts may be modified, suspended, extended or terminated at any time by further legislation.

The Commission is composed of five members, including one ex officio member, the Secretary of the Department of Transportation of the Commonwealth of Pennsylvania ("**PennDOT**"). Any vacancy in the membership of the Commission (other than the Secretary of Transportation) must be filled by appointment of the Governor, with the advice and consent of two-thirds of the members of the Pennsylvania Senate. Act 89 enacted additional provisions pertaining to membership of the Commission. The term of confirmed members of the Commission (other than the Secretary of Transportation) is a period of four years and members may serve a maximum of two terms. Upon the expiration of a term, a member may continue to hold the office of Commissioner for a period of 90 days or until his or her successor is appointed and qualified, whichever is less. The limitations on Commissioner terms under Act 89 do not apply to members of the Commission originally confirmed prior to Act 89's effective date.

The present members of the Commission and the expiration dates of their respective terms (which, in the case of all of the members of the Commission except Commissioner Drew and Commissioner Wozniak, would be extended until reappointment or until a successor is appointed and confirmed) are as follows:

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<sup>1</sup> Capitalized terms used in this Appendix A and not otherwise defined have the meanings ascribed in the forepart of this Official Statement or in Appendix C of this Official Statement.

<sup>2</sup> Included in this Appendix A are links to certain additional materials. Unless otherwise noted herein, this Appendix A includes by reference the information contained in the linked materials, but only as such information appears on the linked websites as of the date of this Official Statement. The inclusion of these links is not intended to be a republication herein of any information contained on such websites.

*Leslie S. Richards, Chair*, was nominated by Governor Tom Wolf as Acting Secretary of Transportation of the Commonwealth of Pennsylvania in January 2015 and was confirmed as Secretary of Transportation by the State Senate on May 11, 2015. Secretary Richards is a graduate of Brown University, where she concentrated in economics and urban studies. She received a master's of regional planning from the University of Pennsylvania. In the private sector, Ms. Richards served as a senior project manager at a woman-owned civil engineering firm and served as a public involvement specialist at a consulting firm. She is experienced with managing multi-million-dollar infrastructure projects and writing annual and long-range strategic plans. In the public sector, Secretary Richards focused on transportation and planning issues. She served as the vice chair of the Montgomery County Board of Commissioners; served as chair of the Delaware Valley Regional Planning Commission; as well as served on the boards of the Southeastern Pennsylvania Transportation Authority (SEPTA) and the Greater Valley Forge Transportation Management Association (GVFTMA). Before being elected county commissioner, she served as the chair and vice chair of the Whitemarsh Township Board of Supervisors.

*William K. Lieberman, Vice Chair*, was appointed to serve as a Commissioner in July 2010. Mr. Lieberman previously served as Chairman of the Commission from January 2011 until January 2015. Mr. Lieberman has been President of The Lieberman Companies, an insurance and pension provider, since 2003. He serves on the board of AMPCO Pittsburgh. A graduate of The Pennsylvania State University, he is a University of Pittsburgh Trustee and former Chairman of the Manchester-Bidwell Corp., Pittsburgh, Pennsylvania. He was reappointed to serve as a Commissioner in January 2015. Mr. Lieberman received a unanimous recommendation for confirmation by the Senate Transportation Committee in April 2015 and was confirmed in May 2015 by the Senate. His term expires in May 2019.

*Barry Drew, Secretary/Treasurer*, was nominated in September 2015 by Governor Tom Wolf and confirmed by the State Senate in December 2015 to serve as a Commissioner. Mr. Drew previously served as the Deputy Secretary of Administration at the Pennsylvania Department of Revenue from 1995 until 2011. Prior to that, he was Solicitor for the City of Erie, Pennsylvania, then Director of Administration for the County of Erie. Mr. Drew is a Vietnam War veteran who served as a Sergeant in the United States Air Force. He holds a Bachelor of Science in Accounting from Gannon University and a Juris Doctor from the Western New England College School of Law. His term expires in December 2019.

*Pasquale T. Deon, Sr.*, an established businessman and lifelong resident of Bucks County, Pennsylvania has served as a member of the Commission since 2002. Commissioner Deon was reappointed to the Commission in December 2013. Mr. Deon is Chairman of the Board of Directors of the Southeastern Pennsylvania Transportation Authority (SEPTA). He is also a service-industry entrepreneur involved in real-estate development, beverage distribution and construction services. He is the owner of WBCB-1490AM Radio, Levittown, Pennsylvania. His term expires in December 2017.

*John N. Wozniak* was nominated by Governor Tom Wolf on March 30, 2017 and confirmed by the State Senate on July 8, 2017 to serve as a Commissioner. Mr. Wozniak served as a Pennsylvania State Senator from the 35<sup>th</sup> District from 1997 to 2016. Prior to that, he served as a member of the Pennsylvania House of Representatives from the 71<sup>st</sup> District from 1981 to



1996. Mr. Wozniak graduated from the University of Pittsburgh at Johnstown in 1978 with a B.A. in Economics. His term expires in July 2021.

## **Executive Personnel**

*Mark P. Compton* assumed the position of Chief Executive Officer of the Commission on February 1, 2013. Mr. Compton previously served as Deputy Secretary of Administration of PennDOT, overseeing eight bureaus within the agency, including: human resources, information systems governance, business solutions and services, infrastructure and operations, and fiscal management. Before joining PennDOT, Mr. Compton served as Director of Government Affairs for all four companies of American Infrastructure, a heavy duty civil construction company headquartered in Worcester, Pennsylvania. Prior to that, he worked in various public and private operations, focusing largely on transportation, construction and economic development.

*Craig R. Shuey* is the Chief Operating Officer of the Commission. He joined the Commission in August 2009 as Director of Government Affairs and was named Chief Operating Officer in January 2011. Mr. Shuey served as Acting Chief Executive Officer from October 2012 to February 2013. Prior to joining the Commission, Mr. Shuey was executive director of the Pennsylvania Senate Transportation Committee from 2001 to 2009. He also served as a representative on the Senate Transportation Commission and on various advisory committees in areas such as air, rail, freight movement and safety.

*Nikolaus H. Grieshaber* was named Chief Financial Officer in June 2008. Prior to that, he held positions of Director of Treasury Management and Treasury Manager with the Commission. Before joining the Commission in 2000, he was a finance manager and portfolio manager for ADP Capital Management, assistant treasurer for BTR Dunlop Finance, cash manager for Silo, Inc. and investment analyst for American Life Insurance Company.

*Bradley J. Heigel, P.E.*, was named Chief Engineer in April 2012. He was previously employed by the Commission from 1990 to 2010, and served as the Total Reconstruction Program Manager from 2000 to 2010. From 2010 to 2012, he was employed as a Vice President with Michael Baker, Jr., Inc., an engineering unit of Michael Baker Corporation.

*Doreen A. McCall, Esq.*, has been the Chief Counsel since July 2005. Prior to that time, she served as Chief Counsel to the Pennsylvania Historical and Museum Commission from February 2003 to July 2005 and as Deputy General Counsel in the Governor's Office of General Counsel from April 2000 to January 2003. From September 1996 to April 2000, she was an Assistant General Counsel and from November 1993 to August 1996, she was a staff attorney in the Office of Inspector General.

*Ray A. Morrow* was named the Chief Compliance Officer in July 2014. Prior to being named the Chief Compliance Officer, Mr. Morrow served the Commission as its Acting Chief Compliance Officer and Inspector General. Mr. Morrow joined the Commission in January 2014. Prior to joining the Commission, Mr. Morrow had an extensive career with the Federal Bureau of Investigation (FBI) first from 1977 to 1978. From 1978 to 1980, Mr. Morrow served with the U.S. Secret Service Uniformed Division assigned to the White House and the Presidential Protective Detail. From 1980 to 1987, Mr. Morrow served as an Executive Protection Specialist for Allegheny International ("AI"), a Fortune 500 company, assigned to protect the President of

AI. Then, from 1987 to 2007, Mr. Morrow once again joined the FBI as a Special Agent culminating his career as the Special Agent in Charge of the FBI's Pittsburgh Field Office. Mr. Morrow served as a Senior Compliance Investigator for the Siemens Corporation from 2010-2013.

## **Enabling Acts**

### *Act 44 and the Act 44 Funding Agreement*

On July 18, 2007, Act 44 was enacted, creating a “public-public partnership” between the Commission and PennDOT to provide funding for roads, bridges and transit throughout the Commonwealth. Subsequently, in order to, among other things, effectuate the provisions of Act 44 requiring the Commission to make substantial annual payments to PennDOT as described below, the Commission and PennDOT entered into a Lease and Funding Agreement (the “**Act 44 Funding Agreement**”), incorporating many of the terms of Act 44.

The Act 44 Funding Agreement also granted the Commission the option to lease the portion of Interstate I-80 (“**I-80**”) located in the Commonwealth from PennDOT upon, among other things, the approval of the Federal Highway Administration (“**FHWA**”) of the conversion of such portion into a toll road (the “**Conversion**”). The Conversion was not approved by FHWA and neither the Commission nor PennDOT appealed the decision. The Commission did not exercise its option to lease such portion of I-80, and the period during which the Commission could exercise its option under the Act 44 Funding Agreement lapsed on October 14, 2010 without the Commission effectuating Conversion or having the ability to do so in the future. Under existing law, including Act 89, all legal, financial and operational responsibility for I-80 remains with PennDOT.

Pursuant to Act 44 and the Act 44 Funding Agreement, because the Conversion did not occur, the Commission was obligated to make scheduled annual payments, payable in equal quarterly installments, of \$450 million to PennDOT through 2057 with \$200 million of the scheduled annual payment supporting road and bridge projects and \$250 million supporting transit projects throughout the Commonwealth. But see “*Act 89 and Act 89 Amendment*” below as to subsequent changes to such annual payments.

### *Act 89 and the Act 89 Amendment*

On November 25, 2013, Act 89 was enacted to provide substantial additional and sustained investment in the Commonwealth's aging transportation infrastructure. Once fully implemented by Fiscal Year 2018, the revenue enhancements enacted in Act 89 are projected to generate substantial additional funds each year for investment in the Commonwealth's transportation infrastructure.

Act 89 also enacted substantial revisions to the Commission's transportation funding obligations under Act 44 and authorized the Commission and PennDOT to immediately amend the Act 44 Funding Agreement to reflect the statutory provisions of Act 89. On April 4, 2014 the Commission and PennDOT executed Amendment Number One to Lease and Funding Agreement (the “**Act 89 Amendment**” and together with the Act 44 Funding Agreement, the “**Amended Funding Agreement**”). The Amended Funding Agreement terminates on October 14, 2057.

In accordance with Act 89 and the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT for Fiscal Year 2013-2014 through Fiscal Year 2021-2022 is \$450 million and, in accordance with Act 89, the Commission must pay at least \$30 million of such amount from current revenues. Commencing in Fiscal Year 2022-2023 through the term of the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT is \$50 million, which amount shall be paid from then current revenues of the Commission. Act 89 relieves the Commission from over \$15 billion in future transfers to PennDOT during Fiscal Years 2023 through 2057. Further, Act 89 revises the use of the Commission's scheduled annual payments. Effective on July 1, 2014, none of the Commission's scheduled annual payments may be used to support Commonwealth road and bridge projects. Instead, \$420 million of the scheduled annual payment may be used to support mass transit capital and operating needs, alternative energy transportation capital projects and other transportation programs of statewide significance, and \$30 million shall be used to support multi-modal projects, which may include: aviation projects; rail freight projects; port projects; bicycle projects and pedestrian projects. The Commission's \$50 million scheduled annual payment, which commences in Fiscal Year 2022-2023, will support mass transit capital and operating needs. The table under "*Act 44 Payments to PennDOT for Roads, Bridges and Transit*" below indicates the amounts that have been paid to date by the Commission. The Commission's obligation to pay the annual debt service on any Special Revenue Bonds on a timely basis continues to be part of its payment obligation under the Amended Funding Agreement.

The Enabling Acts provide that if the Secretary of the Budget notifies the Commission of a failure to make a payment to PennDOT under the Amended Funding Agreement, all actions of the Commission taken by a vote of the Commissioners thereafter must be approved by a unanimous vote of all Commissioners until such time as the payment is made. However, a unanimous vote is not required if it would prevent the Commission from complying with covenants with "current bondholders, debt holders or creditors." The Amended Funding Agreement does not refer to "current bondholders, debt holders or creditors," but provides that a unanimous vote is not required if it would prevent the Commission from complying with covenants with "bondholders, debt holders or creditors having such status as of the Effective Date," which under the Amended Funding Agreement is defined as October 14, 2007. These voting procedures have not become effective as the Commission has not missed any payments under the Amended Funding Agreement.

The Commission is required by the terms of the Amended Funding Agreement and Act 44 to fix and adjust tolls at levels that will generate revenues (together with other available moneys) sufficient to pay, among other things, amounts to PennDOT pursuant to the Amended Funding Agreement when due and other obligations of the Commission, and the Commission has covenanted in the Subordinate Indenture to set tolls at a level sufficient to meet its coverage obligations taking into account any additional debt incurred in order to make such payments. The Commission believes that System revenues should enable it to satisfy its reduced payment obligations as set forth in the Amended Funding Agreement.

*Act 44 Payments to PennDOT for Roads, Bridges and Transit*

The Enabling Acts provide that all required payments under the Amended Funding Agreement or as required by the Enabling Acts shall be subordinate obligations of the Commission payable solely from the General Reserve Fund after meeting all other Commission requirements pursuant to any financial documents, financial covenants, liquidity policies or agreements in effect at the Commission. Pursuant to Act 44 and the Act 44 Funding Agreement, the Commission's payments to PennDOT over the seven fiscal years ended May 31, 2014 were allocated between deposits to the Commonwealth Motor License Fund (the "***Motor License Fund***") for road and bridge work and deposits into the Public Transportation Trust Fund for distribution to Pennsylvania's local and regional public transportation agencies for operating and capital purposes.

No portion of the payments of the Commission to be deposited into the Public Transportation Trust Fund may be made with proceeds of Special Revenue Bonds. In accordance with Act 89 and the Amended Funding Agreement, effective July 1, 2014, 100 percent of the scheduled annual payments of the Commission to PennDOT is being deposited into the Public Transportation Trust Fund and may be used to support transit operating and capital costs, multi-modal transportation capital project costs and alternative energy transportation capital project costs.

To date the Commission has paid a total amount of \$5,762,500,000 under the Amended Funding Agreement, as set forth in the following table (dollar amounts in millions).

<u>Fiscal Year Ended May 31,</u>	<u>Payments to Motor License Fund</u>	<u>Payments to Public Transportation Trust Fund</u>	<u>Total</u>
2008	\$450.0	\$300.0	\$750.0
2009	500.0	350.0	850.0
2010	500.0	400.0	900.0
2011	200.0	250.0	450.0
2012	200.0	250.0	450.0
2013	200.0	250.0	450.0
2014	200.0	250.0	450.0
2015	0.0	450.0	450.0
2016	0.0	450.0	450.0
2017	0.0	450.0	450.0
2018	0.0	112.5	112.5

## *Issuance of Bonds; Commission Payments*

Under the Enabling Acts, the Commission is authorized and empowered, among other things, to issue turnpike revenue bonds, notes or other obligations (either senior on a parity basis or subordinate) to pay (i) pursuant to the Amended Funding Agreement, if applicable, the costs of construction, reconstructing, widening, expanding or extending I-80 or any other costs of I-80 and the System, (ii) certain amounts to PennDOT pursuant to the Amended Funding Agreement for purposes of funding PennDOT highway, road and bridge construction and maintenance programs in the Commonwealth (provided that, commencing in Fiscal Year 2014-2015, all payments to PennDOT under the Amended Funding Agreement will be deposited into the Public Transportation Trust Fund), (iii) costs of improvements to the System, and (iv) certain amounts into a Public Transportation Trust Fund pursuant to the Amended Funding Agreement, to be used for mass transit programs, multi-modal transportation programs, other transportation programs of statewide significance, and alternative energy transportation programs (provided that, pursuant to the terms of the Amended Funding Agreement, the proceeds of any Special Revenue Bonds may not be applied for payments to mass transit programs, multi-modal transportation programs or alternative energy transportation programs).

The bonds authorized to be issued by the Commission under Act 44 include up to \$5 billion of Special Revenue Bonds, as described below. Proceeds of such bonds may be applied toward the satisfaction of the Commission's scheduled annual payment obligations under the Amended Funding Agreement and the Enabling Acts, except for that portion of the annual payment obligations to be deposited in the Public Transportation Trust Fund pursuant to the terms of the Amended Funding Agreement. Since all of the Commission's payments to PennDOT under the Amended Funding Agreement are being deposited into the Public Transportation Trust Fund commencing July 1, 2014, as of such date, the Commission is no longer issuing Special Revenue Bonds to fund its obligations under the Amended Funding Agreement. See "*Statutory Limitations on the Incurrence of Special Revenue Bonds*" below. The Amended Funding Agreement provides that the Commission is obligated to pay all debt service due with respect to the Special Revenue Bonds.

Pursuant to the terms of the Subordinate Indenture, the Commission has covenanted to pay to the trustee under the Subordinate Indenture (the "***Subordinate Indenture Trustee***"), and it has instructed the trustee under the Senior Indenture (the "***Senior Indenture Trustee***") to pay to the Subordinate Indenture Trustee, after payment of all required debt service on all Senior Indenture Obligations (defined below) and subject to the provisions of the Senior Indenture, out of the General Reserve Fund established under the Senior Indenture, such amounts as are required by the Subordinate Indenture, by a supplemental indenture to the Subordinate Indenture or by a parity swap agreement to pay, at the times specified, all amounts due in respect of the Subordinate Indenture Obligations (defined below) outstanding under the Subordinate Indenture or under a parity swap agreement.

Accordingly, the Commission is required to instruct and furnish a debt service schedule to the Senior Indenture Trustee providing (i) for the payment to the Subordinate Indenture Trustee out of available funds held in the General Reserve Fund of the amount from time to time necessary to satisfy all required deposits under the Subordinate Indenture to the Commission Payments Fund established under the Subordinate Indenture and (ii) for the payment of debt service on the outstanding Subordinate Indenture Obligations and all other payments required

from time to time under the Subordinate Indenture and in any supplemental indenture to the Subordinate Indenture (collectively, the “*Commission Payments*”).

Under the Subordinate Indenture, the Commission may, from time to time, issue additional bonds, including Subordinate Revenue Bonds and Special Revenue Bonds, to satisfy its payment obligations under the Enabling Acts. But see “*Statutory Limitations on the Incurrence of Special Revenue Bonds*” below. The Commission intends that any long-term indebtedness to be issued under the Subordinate Indenture is to be paid solely from Commission Payments. Such obligations, if issued, are subordinate to the Turnpike Revenue Bonds issued under the Senior Indenture. Such Subordinate Revenue Bonds will be parity obligations with the outstanding Subordinate Revenue Bonds already issued under the Subordinate Indenture. As of the date of this Official Statement, there is \$5,169,062,508.05 aggregate principal amount of Subordinate Revenue Bonds outstanding under the Subordinate Indenture (including compounded amounts as of June 1, 2017 for outstanding capital appreciation bonds). The foregoing amounts include \$341,850,000,000 aggregate principal amount of floating rate notes (FRNs). Other obligations incurred and outstanding under the Subordinate Indenture include the Commission’s obligations under various interest rate swap agreements having a total current notional amount of \$291,850,000. Special Revenue Bonds have a right to payment from Commission Payments that is subordinate to the rights of payment of the holders of Subordinate Revenue Bonds issued under the Subordinate Indenture. APPENDIX F sets forth the existing debt service schedule for the Turnpike Revenue Bonds issued under the Senior Indenture and for the Subordinate Revenue Bonds issued under the Subordinate Indenture.

#### *Statutory Limitations on the Incurrence of Special Revenue Bonds*

Under the Enabling Acts, the Commission is authorized to issue, by resolution, Special Revenue Bonds (as defined in § 9511.2 of Act 44) up to an aggregate principal amount of \$5 billion, exclusive of original issue discount, for the purpose of paying bond related expenses and costs of PennDOT, including the costs of highway, road, tunnel and bridge construction, renovation and expansion, including acquisition of land, rights, machinery and equipment and certain finance charges relating thereto, planning, engineering, administrative and other expenses, and debt service. No more than \$600 million in aggregate principal amount of such Special Revenue Bonds, exclusive of original issue discount, may be issued in any calendar year. No such bonds may be issued unless the Amended Funding Agreement is in effect, and no such bonds may be outstanding beyond the stated term of the Amended Funding Agreement at the time of issuance. Special Revenue Refunding Bonds (as defined in § 9511.2 of Act 44) shall not be deemed to count against the total or annual maximum issuance volume under Act 44. Pursuant to Act 89, Special Revenue Bonds may not be issued by the Commission to fund any portion of its annual payment obligation commencing July 1, 2014, as all of such annual payment obligation is to be deposited in the Public Transportation Trust Fund after such date, although Special Revenue Refunding Bonds could be issued.

Special Revenue Bonds have been issued under the Subordinate Indenture. As of the date of this Official Statement, there is \$992,602,875.85 aggregate principal amount of Special Revenue Bonds outstanding under the Subordinate Indenture (including compounded amounts as of June 1, 2017 for outstanding capital appreciation bonds).

Should the Commission fail to timely make required debt service deposits for Special Revenue Bonds, the Subordinate Indenture Trustee shall proceed under the terms of Act 44 and a Memorandum of Agreement between PennDOT, the Office of the Budget of the Commonwealth and the Pennsylvania State Treasurer, dated July 16, 2010 (the “**MOA**”), to notify PennDOT of such default, and thereafter, PennDOT shall give notice to the Office of the Budget of the Commonwealth of such deficiency, the Office of the Budget of the Commonwealth shall request that the Treasurer of the Commonwealth transfer funds to the Subordinate Indenture Trustee in an amount necessary to cure such deficiency, and the Treasurer of the Commonwealth shall transfer such funds to the Subordinate Indenture Trustee but only from amounts available for such purpose in the Motor License Fund. The appropriation of money in the Commonwealth’s Motor License Fund in respect of Special Revenue Bonds issued by the Commission under Act 44 is continuing and non-lapsing. The Commonwealth has no obligation to appropriate any funds, other than available funds on deposit in the Motor License Fund, for the payment of any such Special Revenue Bonds. Pursuant to the MOA, certain funds equal to the maximum annual debt service on outstanding Special Revenue Bonds are to be set aside (but not pledged) in the Motor License Fund for this purpose upon the issuance of Special Revenue Bonds. Funds in such amounts were set aside in the Motor License Fund in connection with the issuance of the Commission’s Motor License Fund-Enhanced Turnpike Subordinate Special Revenue Bonds, Series A of 2010, Series B of 2010, Series A of 2011, Series B of 2011, Series A of 2012, Series B of 2012, Series A of 2013, Series B of 2013, Series A of 2014, First Series of 2016 and First Series of 2017. The Commission is obligated pursuant to the Amended Funding Agreement to reimburse the Treasurer of the Commonwealth for any amounts withdrawn from the Motor License Fund in order to cure a default in the payment by the Commission with respect to the annual debt service on any such Special Revenue Bonds. This reimbursement obligation is subject to and junior to the payment obligations of the Commission under the Special Revenue Bonds.

#### *Rules Relating to Governance and Accountability Under the Enabling Acts*

The Enabling Acts sets forth certain rules relating to governance and accountability of the Commission, including, but not limited to: requiring the Commission to file an annual financial plan with the Pennsylvania Secretary of the Budget no later than June 1 of each year; to have an audit of the Commission’s finances (including a review of its performance, procedures, operating budget, capital budget and debt) conducted by the Auditor General every two years (such audit to be paid for by the Commission); to adopt a comprehensive code of conduct for Commissioners and executive-level employees, which the Commission adopted on October 31, 2007 and further expanded and strengthened on January 7, 2014 and January 28, 2015; and upon request, at least one Commission member shall testify annually before the appropriations committee of the Pennsylvania House of Representatives and the Senate of Pennsylvania.

On June 1, 2017, the Commission submitted its financial plan for Fiscal Year 2018 (the “**Financial Plan**”) which incorporates certain information from the Commission’s Ten Year Capital Plan (the “**Capital Plan**”). The Financial Plan indicates that in Fiscal Year 2017 the Commission was able to meet all of its financial covenants and obligations under the Enabling Acts and was able to progress with its Capital Plan. Given the ongoing and moderate recovery of both the national and state economies, the Commission plans to continue the cost containment and efficiency measures it implemented within the past few years. These measures, together with future toll increases, are expected to allow the Commission to meet its financial covenants,

obligations under the Enabling Acts, and capital needs during Fiscal Year 2018. See “THE COMMISSION – Recent Developments and Pending Legislation – Federal Surface Transportation Reauthorization” for discussion of the 2015 Transportation Act and federal reimbursements thereunder.

The Financial Plan for Fiscal Year 2018 includes modestly higher estimated toll revenue and traffic, based on CDM Smith's 2017 Bring Down Letter, than what was included in the prior year's financial plan. Fiscal Year 2018 operating expenses are projected to increase by 5.7% (\$21.7 million) to \$399.6 million. From Fiscal Year 2019 onward, the financial plan assumes the Commission will work to achieve the PTC's financial planning goal of 4% annual growth in operating expenses. Where possible, the Commission is actively managing its operations to limit the rate of growth in those operating costs directly under its control. However, significant portions of the Commission's operating budget are beyond its ability to control. These external cost drivers include the Commission's pension expense related to the State Employees Retirement System (“SERS”) and the Commission's projected expense for the Pennsylvania State Police. With respect to specific operating expenses that are under the control of the Commission, such costs are projected to increase 1.9% (\$5.7 million) in Fiscal Year 2018 while the Commission's pension expense related to SERS is estimated to increase 33.3% (\$12.0 million) and the Commission's projected expense for the Pennsylvania State Police is estimated to increase 8.9% (\$4.0 million). The Financial Plan also continues to include more conservative debt structuring assumptions, first included in the Fiscal Year 2017 Financial Plan, to reduce the Commission's interest costs. These include assuming 30 year terms versus 40 year terms to amortize principal more quickly, eliminating the planned use of capital appreciation bonds and other deferred interest products in the future, and assuming future debt issuances based on level debt service assumptions rather than on escalating debt service. Finally, the Financial Plan for Fiscal Year 2018 maintains debt service coverage ratios for all toll revenue supported debt above policy level constraints.

The Financial Plan concludes that the Commission will continue to meet all of its indenture covenants and all of its other obligations through the Fiscal Year 2057. However, as a forward-looking report, the Financial Plan makes certain assumptions, including future toll increases, to reach its conclusion that the financial covenants, obligations under the Enabling Acts, and capital needs will be met beyond Fiscal Year 2017. Key among these assumptions is the Commission's ability to raise all tolls throughout the System. The Financial Plan reflects the full year effects of the January 2017 toll increase and the partial year impacts of an expected January 2018 toll increase. The Financial Plan assumes the \$450 million reduced level of funding obligations required by the Enabling Acts through Fiscal Year 2022 and the \$50 million funding level from Fiscal 2023 through Fiscal Year 2057. No assurances can be made by the Commission with respect to the assumptions made or conclusions reached in the Financial Plan. A complete copy of the Financial Plan is available on the Commission's website at [https://www.paturnpike.com/pdfs/business/finance/PTC\\_Fiscal\\_2018\\_Act\\_44\\_Financial\\_Plan.pdf](https://www.paturnpike.com/pdfs/business/finance/PTC_Fiscal_2018_Act_44_Financial_Plan.pdf). See “THE COMMISSION – Enabling Acts” above.

See “CAPITAL IMPROVEMENTS – Ten-Year Capital Plan” for additional information on the Capital Plan.



For information on the most recent performance audit by the Auditor General, see “CERTAIN FINANCIAL INFORMATION – Performance Audit by the Auditor General” below.

### **Recent Developments and Pending Legislation**

Act 88 of 2012 (formerly House Bill 3 and Senate Bill 344) (“**Act 88**”) was signed into law on July 5, 2012. Act 88 authorizes “public-private” transportation partnership arrangements in the Commonwealth. The law allows the Commission, among other public entities, to enter into public-private partnerships for the construction of transportation infrastructure and facilities and for the lease of such facilities through long-term agreements. Act 88 prohibits a lease of the Turnpike Mainline without the further express approval of the General Assembly. However, the law does not restrict the Commission from entering into public-private partnership agreements which do not involve granting substantial oversight and control over the Turnpike Mainline to another entity, nor does it limit or preempt in any way the Commission’s ability to enter into certain types of public-private partnership agreements currently allowed under its Enabling Acts. The Public Private Transportation Partnership Board, established pursuant to Act 88, has issued an Implementation Manual & Guidelines for Public-Private Transportation Partnerships.

Act 165 of 2016 (formerly House Bill 2025) (“**Act 165**”) was signed into law on November 4, 2016. Act 165, among other things, allows for the suspension of vehicle registration for unpaid tolls. Specifically, the vehicle suspension process is triggered by the failure to pay six (6) or more violations or incurring unpaid tolls or administrative fees of \$500. Additionally, Act 165 allows the Commission to collect unpaid out-of-state tolls after having entered into a reciprocity agreement with another state or tolling entity.

### *Pennsylvania Legislative Proposals*

From time to time, legislation is introduced in the Pennsylvania General Assembly (with respect to the Enabling Acts and otherwise) and in the United States Congress, the nature and content of which may affect the Commission. The Commission cannot predict whether any such legislation will be enacted into law, or how any such legislation may affect the Commission’s ability to pay the Senior Indenture Obligations, the Subordinate Indenture Obligations, the Oil Franchise Tax Revenue Bonds or the Registration Fee Revenue Bonds, or to perform its financial obligations pursuant to the Enabling Acts.

The Pennsylvania House of Representatives and the Pennsylvania Senate convene for a two-year session on the first Tuesday after New Year’s in odd numbered years and adjourn (Sine Die) on November 30 of the next even numbered year. Proposed legislation which was not enacted by November 30, 2016 expired, but may be reintroduced during the 2017-18 legislative session, which began on January 3, 2017.

Legislation either in discussion or introduced in the General Assembly during the 2017-18 legislative session, that if enacted would materially affect the Commission, includes the following:

- Similar to legislation that was introduced but not enacted during the last legislative session, Senate Bill 171 which would require a majority vote of the Pennsylvania

Senate to confirm the Chief Executive Officer of the Commission passed the Senate and was referred to the House Transportation committee.

- Similar to legislation that was introduced but not enacted during several prior legislative sessions, Senate Bill 39, which would abolish the Commission and shift all of the Commission's operations, maintenance, construction and reconstruction powers and duties to PennDOT and shift the issuance and payment of bonds to the State Treasurer's office, was introduced and referred to the Senate Transportation Committee.
- Similar to legislation that was introduced but not enacted during several prior legislative sessions, a co-sponsorship memo has been circulated for legislation that would reduce the Commission's Act 44 obligations commencing immediately, and gradually step down such obligations until completely eliminated after 2022.
- The House of Representatives approved amendments to House Bill 453 on September 13, 2017 to address a portion of the Commonwealth of Pennsylvania's unfinished General Fund operating budget for FY 2018. The bill would, among other actions, transfer certain moneys from the Commonwealth's Public Transportation Trust Fund (PTTF) and the Multi-Modal Transportation Fund (MMTF) to the Commonwealth's General Fund for use in paying the Commonwealth's FY 2018 operating expenses. Proceeds of Commission Subordinate Revenue Bonds are deposited in the PTTF and MMTF quarterly per the provisions of the Enabling Act for further application to transportation related projects. As such, the PTTF and MMTF could contain proceeds of Commission Subordinate Revenue Bonds at the time of any such transfer. Additional information from Penn DOT and the State Treasurer would be necessary for the Commission to be able to analyze what, if any, impact the proposed action may have on the Commission at that time. On September 20, 2017 the Pennsylvania Senate voted to non-concur with the House amendments to House Bill 453. As a result, negotiations continue between the legislative houses and the executive branch as to how to resolve the Commonwealth's unfinished General Fund operating budget.

The Commission cannot predict what other legislation may be considered by the General Assembly during the 2017-2018 or future legislative sessions or if any other proposals or initiatives may lead to the adoption of legislation that may affect the Commission.

#### *Federal Surface Transportation Reauthorization*

On December 4, 2015, President Obama signed into law a five-year \$305 billion federal transportation funding bill (the "**2015 Transportation Act**"). The 2015 Transportation Act provides continued funding for federal transportation programs at approximately \$61 billion per year. While the operations of the Commission do not depend, significantly, upon the continued availability of federal funding, the Commission does, however, anticipate receiving a significant amount of reimbursement from the Federal Highway Trust Fund related to its I-95 Connector project.

### *Recent Judicial Holding in the United States District Court, Southern District of New York*

Several plaintiffs, including the American Trucking Associations, Inc., challenged the constitutionality of the New York State Thruway Authority's use of New York Thruway toll revenue to maintain a canal system. The United States District Court, Southern District of New York granted a partial summary judgment for the plaintiffs on August 10, 2016 holding that "to the extent that toll revenues collected from interstate truckers are used to maintain the Canal System—which has great economic, historic and recreational value for the State of New York and many of its constituent communities, but no transportation or other associated value to plaintiffs—the incorporation of those expenses into the Thruway's toll rates, and their collection from the plaintiffs, violates the Dormant Commerce Clause" of the United States Constitution. The court was not tasked with determining whether any damages or other relief would be imposed in connection with the above proceedings, and stated that the plaintiffs are seeking a separate trial for damages in the amount of tolls paid in violation of the Dormant Commerce Clause for a three year period, and an injunction against future highway toll revenue being used in a manner that violates the Dormant Commerce Clause.

On February 28, 2017, the above referenced ruling was reversed after the New York State Thruway Authority moved to dismiss based on new arguments, including that the Intermodal Surface Transportation Efficiency Act of 1991 enacted by the United States Congress authorizes the use of Thruway toll revenue to maintain the canal system. In vacating its original ruling and granting the dismissal, the court held, among other things, that the "Authority's expenditure of excess funds on canal development project was authorized by Congress and so did not violate Dormant Commerce Clause" citing that where "state or local government action is specifically authorized by Congress, it is not subject to the Commerce Clause even if it interferes with interstate commerce." An appeal of the February 28, 2017 judgment was filed by plaintiffs on March 15, 2017.

In an August 29, 2016 newspaper article in the *Pittsburgh Post-Gazette*, the acting general counsel for the American Trucking Associations is reported as saying that "[w]e will be aggressively looking at these situations across the country to see what other action we might take." The article also reported that "he said, the association will look at whether truckers receive any direct benefit when tolls are used for projects other than roads and bridges."

The Commission cannot predict whether any similar action would be brought in other jurisdictions (including in Pennsylvania), or if brought, whether any such action would be successful, would result in monetary damages or other relief being imposed on the Commission, or would otherwise adversely affect the Commission's ability to repay its debt obligations, including the 2017A Bonds.

### *Statewide Investigating Grand Jury and Related Criminal Charges*

In May, 2009, a statewide grand jury investigation was commenced as a result of public allegations of potential public corruption and criminal misconduct within the Commission (the "**Grand Jury Investigation**").<sup>3</sup> As part of this investigation, covering Turnpike System

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<sup>3</sup> The Grand Jury investigation was initially commenced before the 31<sup>st</sup> Statewide Investigating Grand Jury in May of 2009. Upon the expiration of that Grand Jury, the investigation was transferred to the 33<sup>rd</sup> Statewide Investigating

operations during an approximate period from February 2000 through early 2013, the Grand Jury heard testimony from hundreds of witnesses and reviewed numerous exhibits, including correspondence, e-mails, campaign contribution records, audio recordings, invoices, bank records, internal Commission policies and memoranda, and expense reports, among other items. The Grand Jury Investigation spanned forty-four months and culminated on March 13, 2013, when the Grand Jury issued its 85-page Presentment (the “*Grand Jury Presentment*”), detailing its findings of fact, conclusions, and recommendations of charges.

The Grand Jury found that certain elected state officials, a former Commissioner, officials, and employees, and vendors and consultants that had business dealings with the Commission engaged and attempted to engage in systemic illegal bid-rigging, commercial bribery, conflict of interest crimes, theft by unlawful taking, theft by deception, criminal conspiracy and corrupt organization crimes. The former Commissioner, who resigned, was granted immunity in connection with his testimony before the Grand Jury. The Grand Jury concluded that these criminal acts resulted in the public losing millions of dollars. The Grand Jury further concluded that the Commission had been corrupted by improper political influence from certain of its own former officials as well as politicians in state government.

The Grand Jury identified a former Pennsylvania state senator, a former chairman of the Commission, a former Chief Executive Officer of the Commission, a former Chief Operating Officer of the Commission, two other Commission employees and two individuals associated with vendors providing services to the Commission as having criminal responsibility for the crimes outlined in its Presentment.

In addition, the Grand Jury found that during the time that the eight identified individuals were employed by or served at the Commission, the Commission operated under a system that rewarded vendors with multi-million dollar contracts in exchange for the payment of political contributions to public officials and political organizations and the payment of gifts and entertainment expenses. In particular, the Grand Jury found that the named former state senator, during his tenure as Democratic Floor Leader, was actively involved in securing Commission contracts for key contributors and supporters, and imposing fundraising participation on individuals at the Commission to provide political support and raise campaign funds on his behalf.

The Grand Jury cited specific political contributions that were allegedly solicited in exchange for awarding various contracts with the Commission. These campaign contributions were allegedly made during the approximate period of February, 2000 through October, 2010. The Grand Jury also identified specific contracts that it determined were awarded to vendors as a result of their political contributions and other payments.

On March 13, 2013, the Pennsylvania Attorney General filed criminal charges against the individuals referred to above. These individuals were charged with a variety of offenses, including conspiracy, commercial bribery, bid-rigging, theft, conflict of interest, and corrupt organization violations. No criminal charges were filed against current Commissioners, senior management, or employees. All Commission employees and officials against whom criminal

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Grand Jury in June of 2011. For purposes of this disclosure, the 31<sup>st</sup> Statewide Investigating Grand Jury together with the 33<sup>rd</sup> Statewide Investigating Grand Jury, will be referred to as the “*Grand Jury*”.

charges were filed left the Commission between March 2009 and November 2011. Of the eight individuals charged, a Dauphin County Court Judge on September 30, 2014, approved admission of the two individuals associated with vendors into the county's Accelerated Rehabilitative Disposition Program. The Attorney General's Office ultimately dismissed all charges against the former state senator. On November 13, 2014, the former Commission chairman pled guilty to one misdemeanor count of commercial bribery and was sentenced to 24 months of probation, 100 hours of community service, and fined \$2,500. The remaining charges against him were dismissed. On November 20, 2014, the former Chief Executive Officer and the former Chief Operating Officer pled guilty to a single felony count of conflict of interest and each received five years' probation, 250 hours of community service, and a fine of \$2,500.

With respect to the "two other former Commission employees", one was sentenced to two years' probation and ordered to pay restitution and the other pled guilty and was sentenced to eighteen months' probation, ordered to pay restitution and fines and perform 50 hours of community service.

The Commission's current Chief Executive Officer, Mark Compton, issued a statement following the publication of the Grand Jury Presentment. Mr. Compton explained that the Commission began revamping its procurement process resulting in more transparency and greater accountability two years prior to the Grand Jury Presentment. Moreover, the Commission continues to evaluate the procurement process and is committed to making improvements where needed. Mr. Compton also announced that he directed the Commission's Office of Compliance to launch a thorough review of every professional-services contract cited in the Grand Jury Presentment, and provide each of the Commission's professional-service providers a copy of the Commission's employee code of conduct and the professional services procurement policy that was enacted in April 2012. Additionally, the Commission initiated a comprehensive, mandatory code of conduct and ethics training program for its employees which commenced as of September 2013. Further, on January 7, 2014, the Commission adopted an expanded and more comprehensive code of conduct for all Commission employees which included, among other revisions, required participation in annual training. The code of conduct and procurement policies have since been, and continue to be, updated. The most recent update to the code of conduct was approved on January 28, 2015 with the addition of a complete ban on all gifts to any Commissioners or Commission employees. Finally, the Commissioners directed Mr. Compton to convene a special advisory group to review and critique Commission policies and procedures relating to contracting and other business practices to make improvements to the Commission's existing practices.

A special independent advisory committee (the "***Advisory Committee***") composed of three members was appointed by the Chief Executive Officer of the Commission in the spring of 2013. The members were a retired Judge of the Superior Court of the Commonwealth and member of the Board of Education of the Commonwealth, a former PennDOT Chief Highway Engineer and construction company executive, and a former Vice-Dean of Widener University School of Law and a retired law professor. The Advisory Committee members initially met monthly with the Commission's executive staff and additionally met independently to review and critique Commission procurement and business practices and to research best-practices at comparable agencies to determine where further improvements could be made.

After 12 months of review, the Advisory Committee submitted to the Commission its formal report, which focused primarily on the Commission's contracting and professional services procurement procedures. The report, which the Commissioners accepted on October 21, 2014, commended the Commission's implementation and continued consideration of significant reforms and made recommendations for the enhancement and establishment of policies and procedures in the areas of ethics, procurements, transparency and accountability, and governance. The Advisory Committee continued to meet on a quarterly basis for one year following the submission of the report, after which it is scheduled to meet once every three years. Among some of the reforms and recommendations implemented to date include: 1) a revised employee code of conduct has been adopted; 2) business/vendor code of conduct has been adopted; and 3) all Commission employees have been trained on the employee code of conduct and all Commission vendors of construction related services have received training on both codes of conduct. Additionally, the Commission will conduct periodic policy reviews for ethics, procurement and transparency matters.

The complete report of the Advisory Committee is available on the Commission's website at [https://www.paturnpike.com/pdfs/about/Advisory\\_Committee\\_Report.pdf](https://www.paturnpike.com/pdfs/about/Advisory_Committee_Report.pdf). See "Commission Compliance Department" under "CERTAIN OTHER INFORMATION" for additional information.

#### *Status of Delaware River Bridge*

On January 20, 2017, the Delaware River Bridge was closed following the discovery of a fracture in a steel truss. Phase I of the work to stabilize the bridge was completed on January 23, 2017 while structural engineers engaged in a more comprehensive assessment and structural analysis to determine a permanent repair strategy. After the completion of certain repairs and extensive examination and testing of the bridge over several weeks by the Commission, the New Jersey Turnpike Authority ("Authority") and the Federal Highway Administration and their respective experts and consultants, the bridge was fully reopened to traffic on March 9, 2017. Although further minor repairs will be performed on the bridge in the coming months, it is anticipated that the bridge will remain open while such future repairs are being made.

The bridge is jointly owned and maintained by the Commission and the Authority and all costs of operation, maintenance and repair of the bridge are shared equally by the Commission and the Authority. The Commission estimates that its 50% share of the costs of the repair, examination and testing of the bridge will be approximately \$10,000,000, which will be paid by the Commission from bond proceeds as part of its 10 Year Capital Plan. The Commission's Traffic and Revenue consultant has projected that the closure of the bridge resulted in the Commission incurring a loss of toll revenue on the Turnpike during the period between January 20, 2017 and March 9, 2017 of approximately \$12,100,000 (1.8 million transactions). The effect of the estimated lost revenues has been included, by the Commission's Traffic and Revenue Consultant, in the projections of the Commission's toll revenues and traffic volume for Fiscal Year 2017.

In connection with the foregoing, the Commission is exploring whether costs associated with the bridge repairs along with lost revenues relating to the bridge closure, would be covered under its All Risk insurance policy (subject to applicable deductibles). The Commission maintains a \$200 million (per occurrence) All Risk insurance policy including loss of business

income coverage as further described under "CERTAIN OTHER INFORMATION Insurance" below. To the extent costs associated with the bridge closure and repairs are not so covered; the Commission would expect to reprioritize projects in its Ten-Year Capital Plan to accommodate the bridge repair project.

#### *Additional Matters*

Consistent with recommendations of the Commonwealth's Transportation Funding Advisory Commission, the Commission continues to be actively engaged with other Commonwealth administrative agencies in initiatives to streamline project delivery and increase operational efficiencies. Among such undertakings are a number of collaborative programs with PennDOT in various administrative and technical areas, including integration of communication and information systems, standardization of manuals and publications, and coordination of training, operations, project planning and construction phasing (all as outlined in an August 2011 report entitled *Mapping the Future between the Pennsylvania Turnpike Commission and the Pennsylvania Department of Transportation*). Meetings of Commission management with executives of both Pennsylvania Department of Environmental Protection and PennDOT continue to be held on a regular basis to discuss issues, define direction and explore future collaborative initiatives.

## **THE TURNPIKE SYSTEM**

### **General**

The present Turnpike System is composed of:

- the 359-mile Turnpike Mainline traversing the southern portion of Pennsylvania from east to west;
- the 110-mile north/south section identified as the Northeast Extension;
- the approximately 16-mile north/south connection, known as the Beaver Valley Expressway, which intersects the Turnpike Mainline in the southwestern portion of the Commonwealth;
- the approximately 13-mile Amos K. Hutchinson Bypass which adjoins the Turnpike Mainline near the New Stanton Interchange;
- the completed portion of the Mon/Fayette Expressway project totaling approximately 48 miles; and
- a 6-mile section of the Southern Beltway project from PA 60 to US 22.

For a more complete description of the Mon/Fayette Expressway and Southern Beltway projects, see "CAPITAL IMPROVEMENTS – Mon/Fayette Expressway and Southern Beltway" herein.

The Turnpike Mainline connects with the Ohio Turnpike at its western terminus and with the New Jersey Turnpike at its eastern terminus. The Turnpike Mainline commences on the

eastern boundary of Pennsylvania at the Delaware River Bridge which connects the System to the New Jersey Turnpike. The Turnpike Mainline traverses the state in a westerly direction generally paralleling the southern border of the state immediately north of Philadelphia and south of Harrisburg to the vicinity of Somerset. West of Somerset, the highway follows a northwesterly direction to the northeast of Pittsburgh and to the Ohio state line, south of Youngstown, Ohio.

The System was constructed prior to the development of the National Interstate Highway System and no Federal Highway Trust Fund monies have been utilized in the construction of the Turnpike Mainline, Northeast Extension, Beaver Valley Expressway or Amos K. Hutchinson Bypass section of the Turnpike System. However, portions of the System have been designated as Interstate Routes. The Turnpike Mainline has been designated as Interstate Route 276 between the area where Interstate Route 95 crosses the System and the Valley Forge Interchange. The portion of the Turnpike Mainline west of the Valley Forge Interchange to the western terminus at the Ohio state line has been designated as Interstate Route 76. In addition, the Turnpike Mainline between the New Stanton and Breezewood Interchanges has been designated as Interstate Route 70. The Northeast Extension has been designated as Interstate Route 476. Portions of the Beaver Valley Expressway are designated as Interstate Route 376.

The System was constructed and opened to traffic in sections. The original Turnpike Mainline segment between Irwin and Carlisle was opened in 1940. Ten years later, in 1950, the 100-mile section between Carlisle and King of Prussia was completed and opened. After 1950, construction of new segments of the System occurred at more frequent intervals with the Turnpike Mainline segment placed in service as of May 1956. The initial segment of the Northeast Extension between the Turnpike Mainline and the temporary interchange just south of the Lehigh Tunnel was opened in 1955. The final segment, from the temporary interchange to Scranton, was completed and opened for traffic in November 1957.

The Delaware River Bridge, which connects the Turnpike Mainline with the New Jersey Turnpike System, is owned jointly by the Commission and the New Jersey Turnpike Authority.

### **Interchanges and Service Plazas**

The System has a total of 68 toll interchanges which connect it with major arteries and population centers along its 552-mile traffic corridor. Thirty-two of the interchanges are located on the Turnpike Mainline, including Turnpike Mainline barriers at the New Jersey and Ohio state lines, and 11 interchanges are situated on the Northeast Extension. The additional 25 interchanges are located on the Beaver Valley Expressway, Amos K. Hutchinson Bypass, and completed segments of the Mon/Fayette Expressway and Southern Beltway. In addition, the System also has four E-ZPass Only interchanges as discussed below under “E-ZPass Only”.

There are 17 service plazas along the System providing gasoline and diesel fuel, other automotive supplies and services, and restaurant services. The Commission has entered into long term service plaza redevelopment agreements with HMSHost Restaurants, LLC and Sunoco, Inc. to design, reconstruct, finance, operate and maintain all of the service plazas. The Commission has no responsibility for maintaining the service plazas under the agreements. Since the Commission entered into the agreements in 2005, all 17 rebuilt service plazas have opened. Cumulatively, the two companies have invested approximately \$190 million in service renovation projects, at no cost to the Commission. The Commission recorded income of



approximately \$4.1 million and \$3.9 million under the service plaza agreements in Fiscal Years 2016-2017 and 2015-2016, respectively, which is based on volume rental payments plus a percentage of revenue generated.

### **Additional Services**

In addition to 785 field personnel in 22 facilities available to keep the roadway open and safe in the event of unfavorable road conditions, the Commission has a 24/7 Traffic Operations Center which monitors conditions on the System and provides emergency dispatch.

A Turnpike Roadway Information Program provides real-time data to drivers. Travelers are alerted to roadway conditions via Variable Message Signs, Highway Advisory Radio and alerts via e-mail and mobile phone.

In September 2011, Commission officials along with representatives from sponsor State Farm Insurance released a smartphone application that enhances safety for those traveling the System. The free iPhone and Android application is an innovative method for travelers to keep up-to-date on current conditions on the roadway.

In December 2011, the Pennsylvania Department of Environmental Protection announced a \$1 million grant award to help develop electric vehicle infrastructure on the System. The grant recipient, Car Charging Group Inc. (CCGI) was to install charging stations at 15 of the System's mainline service plazas (the Project). The Commission committed additional funding of up to \$500,000 to upgrade the electrical systems at the plazas to accommodate the charging stations. The first three phases of the work have been completed. Electric vehicle charging stations are currently installed at the following service plazas: New Stanton, Oakmont, King of Prussia, Bowmansville and Peter J. Camiel. CCGI is unable to complete the Project. As a result, on April 19, 2017, DEP terminated the grant and revoked further funding under the grant. The Commission is in the process of terminating its agreement with CCGI and looking for alternative options to complete the Project.

In February 2013, the Commission announced that free Wi-Fi service is available at all operational service plazas. The amenity was added to accommodate Turnpike System customers who want to use smartphones, tablets, laptops or other portable devices to access the internet while traveling.

In September 2013, the Commonwealth Financing Authority announced a \$500,000 grant to Sunoco, Inc., a portion of which was used to partially fund a compressed natural gas refueling station located at the New Stanton service plaza, the first natural gas refueling station on the System. Construction was completed and the refueling station opened in November 2014.

In October 2016, the Commission authorized the award of contracts to legal firms and financial consultants to assist in exploring a broadband network public-private partnership (P3) project, including the designing, building, financing, operating and maintenance of a fiber network for Commission data communications and the marketing and leasing of excess network capacity to private users along the System. The new system would replace an existing digital microwave network.

## E-ZPass Lanes

The Commission has installed E-ZPass, a form of electronic toll collection, throughout the System. Not only has E-ZPass enhanced safety and convenience for users of the System, but the technology has improved traffic flow and reduced congestion at the System's busiest interchanges, especially in southeastern Pennsylvania. The use of electronic tolling has enhanced the overall efficiency of the Commission's toll collections operations and has resulted in a reduction in the number of required full-time and part-time toll collectors. Express E-ZPass lanes have been constructed at seven interchanges and permit E-ZPass customers to travel through the toll plaza at highway speeds. In addition, E-ZPass customers traveling in 16 other states that have implemented E-ZPass technology are able to use E-ZPass in those states. Currently, E-ZPass is available on the entire System, including the western extensions. The Commission has not experienced any material problems in connection with the installation or operation of the E-ZPass system.

To help ensure, protect and preserve the collection of toll revenue due to the Commission, a violation enforcement system ("**VES**") has been installed at all interchanges where E-ZPass has been installed to identify violators (customers who travel through E-ZPass lanes and do not have E-ZPass) and motorists with problem tags that are unreadable. VES enables the Commission to collect appropriate tolls and other additional fees relating to violations. Legislation passed in 2000 included enforcement provisions for E-ZPass, including, among other things, certain evidentiary presumptions with respect to whether the registered vehicle owner was the operator of the vehicle, procedures for notifying the vehicle owner of the violation charged and the imposition upon the vehicle owner of civil penalties for violations. Act 89 included enhanced fare evasion measures and criminal penalties pertaining to E-ZPass violators. Under Act 89, motorists who commit or attempt to commit fare evasion on the System shall have committed a summary offense and upon conviction, shall be fined a sum between \$100 and \$1,000 in addition to civil penalties that are already in place. Further, motorists who take affirmative action to evade a System fare shall, upon conviction, have committed a misdemeanor of the third degree which will be punishable by fines ranging from \$3,000 to \$6,500 (depending on the number of offenses) and imprisonment of not more than six months for a second offense. Revenue generated from the additional fare evasion fines imposed by Act 89 is to be deposited in the Commonwealth's Motor License Fund rather than with the Commission; however, restitution for the full fare is due to the Commission. See "CERTAIN FINANCIAL INFORMATION - Performance Audit by the Auditor General" below for Auditor General findings with respect to enforcement powers of Commission. Subsequent to the Auditor General's Performance Audit, Act 165 was signed into law which, among other things, allows for the suspension of vehicle registration for unpaid tolls. See "THE COMMISSION - Recent Developments and Pending Legislation" above for additional information on Act 165.

The Commission's annual revenues from Electronic Toll Collection (ETC – which includes revenues from E-ZPass, VES and Toll by Plate) have increased to \$860.1 million during the Fiscal Year ended May 31, 2017 from \$769.0 million during the Fiscal Year ended May 31, 2016. The Commission's annual revenues from ticketed drivers (i.e., not using ETC) decreased to \$254.9 million during the Fiscal Year ended May 31, 2017 from \$262.6 million for the Fiscal Year ended May 31, 2016. The Commission expects that E-ZPass usage will continue to increase. The following table summarizes the Commission's ETC penetration rates among passenger, commercial and total users for Fiscal Years 2012-2016.

## ETC Penetration Rates

<u>Fiscal</u> <u>Year</u>	<u>Passenger</u>	<u>Commercial</u>	<u>Total</u>
2013	66%	83%	68%
2014	70%	85%	72%
2015	73%	87%	75%
2016	75%	89%	77%
2017	78%	90%	79%

The Commission is a member of the E-ZPass Interagency Group (“**IAG**”), a coalition of toll authorities throughout the United States. IAG includes the following agencies: Buffalo and Fort Erie Public Bridge Authority (Peace Bridge); Burlington County Bridge Commission; Delaware Department of Transportation; Delaware River and Bay Authority; Delaware River Joint Toll Bridge Commission; Delaware River Port Authority; Illinois State Toll Highway Authority; Indiana Toll Road Concession Company; Maine Turnpike Authority; Maryland Transportation Authority; Massachusetts Department of Transportation; Metropolitan Transportation Authority Bridges & Tunnels; New Hampshire Department of Transportation; New Jersey Turnpike Authority; New York State Bridge Authority; New York State Thruway Authority; North Carolina Turnpike Authority; Ohio Turnpike & Infrastructure Commission; Port Authority of New York and New Jersey; Rhode Island Turnpike and Bridge Authority; South Jersey Transportation Authority; Thousand Island Bridge Authority; Virginia Department of Transportation; West Virginia Parkway Authority; Skyway Concession Co. LLC; Niagara Falls Bridge Commission; and Kentucky Public Transportation Infrastructure Authority. IAG’s stated mission is “to enable E-ZPass members and affiliated toll operators to provide the public with a seamless, accurate, interoperable electronic method of paying tolls and fees while preserving and enhancing the E-ZPass program.”

New highway construction projects, such as the Mon/Fayette Expressway and Southern Beltway, are being designed and built to be compatible with the E-ZPass system. The installation of the E-ZPass system has required the incorporation of innovative technologies into a single toll system that uses hardware and software adaptable to future technologies. The Commission has a contract, extending through 2019, with TransCore Company for the design, installation and maintenance of the E-ZPass system software and hardware and the operation of the E-ZPass Customer Service and Violations Processing Centers. The E-ZPass system implementation is a major component of the Commission’s Ten-Year Capital Plan. For a more complete description of the Commission’s Capital Plan, see “CAPITAL IMPROVEMENTS – Ten-Year Capital Plan” herein. Plans call for enhancements to E-ZPass lane signage and the design of additional Express E-ZPass lanes.

See “CERTAIN FINANCIAL INFORMATION – Toll Schedule and Rates” below for a discussion of the Commission’s toll rates, including recent revisions for E-ZPass customers.

### **E-ZPass Plus**

In November 2009, the Commission began offering E-ZPass customers who meet specific criteria the ability to participate in E-ZPass Plus. E-ZPass Plus allows E-ZPass

customers to use their transponder to pay for parking fees at participating facilities displaying the E-ZPass Plus logo.

### **E-ZPass Only**

The Commission has constructed four E-ZPass Only interchanges which are designed for the exclusive use of E-ZPass customers: Virginia Drive (located east of the Fort Washington interchange); Street Road (located west of the Bensalem interchange); Route 29 (located west of the Valley Forge Interchange) and at Route 903 in Carbon County. In addition, a cashless tolling location has been constructed and is operational at the Delaware River Bridge (westbound) which is part of the I-95 Connector in Bucks County. This cashless tolling location is one of the “pilot projects” converting segments of the Commission system to cashless technology. These E-ZPass Only interchanges, cashless tolling and other similarly planned interchanges are expected to reduce congestion at the System’s busier interchanges and provide convenient access to industrial parks and job centers.

### **Cashless Tolling**

Early in 2011, the Commission initiated a feasibility study to examine the benefits and potential issues associated with converting the toll road to a cashless system. The team of McCormick Taylor/CDM Smith (formerly Wilbur Smith Associates) was selected to conduct the study which included an overview of the existing toll collection system and an analysis of cashless systems throughout the United States, comparing the costs and benefits of various electronic tolling options. The feasibility report (the “*Feasibility Report*”) was completed in March 2012, and at that time the Commission determined, based on the assumptions in the Feasibility Report, that conversion to a cashless system was technically feasible from both a financial and physical perspective. In July 2012, the Commission selected HNTB Corporation to act as its Program Manager to lead and direct the multi-disciplinary efforts required to manage and coordinate the design and implementation of a cashless system. The Conceptual Implementation Plan report, including a schedule for conversion, was issued in October 2014.

Following the enactment of Act 89, the Commission reevaluated the schedule, which had contemplated full conversion to a cashless, non-stop system by 2018, and determined that a modified schedule for implementation would be necessary. Further consideration resulted in an approach whereby the existing toll lanes would be equipped with the necessary technology to allow for cashless tolling to occur at the existing plaza locations. At present, the Commission has only authorized the deployment of a “pilot project” involving four segments of the cashless system consisting of the Delaware River Bridge, which went into operation in January 2016, the Beaver Valley Expressway, which went into operation in April of 2017, Keyser Avenue/Clarks Summit which is planned for the spring of 2018, and the Findley Connector, which is also planned for the spring of 2018. Cashless tolling is being implemented, in part, by a new “TOLL BY PLATE” system. TOLL BY PLATE is a new license plate tolling system installed on overhead gantries at the Delaware River Bridge cashless tolling point and on the Beaver Valley Expressway (Toll 376). Non-E-ZPass customers are invoiced for assessed tolls. Cameras on overhead gantries capture a vehicle’s license plate at highway speed, and a toll invoice is mailed to the vehicle’s registered owner. Although existing toll booths would be removed from service at locations where TOLL BY PLATE is implemented, E-ZPass customers will still use transponders to pay tolls at such locations as overhead gantries are equipped to read E-ZPass

transponders. Additional information regarding a cashless tolling system is available on the Commission's website at <http://www.paturnpike.com/cashlesstolling/cashlesstolling.asp>.<sup>4</sup>

## **CAPITAL IMPROVEMENTS**

### **Act 61 Projects**

In 1985, the General Assembly of the Commonwealth enacted Act 61. Act 61, among other things, authorized and empowered the Commission to undertake the construction of new projects and to operate them as part of the System. Although Act 44 repealed Act 61, it provides that all activities initiated under Act 61 shall continue and remain in full force and effect and may be completed under Act 44.

### **System Maintenance and Inspection**

The Commission's engineering and maintenance staff performs maintenance on, and repairs to, the System. In addition, the Commission also uses staff and consultants to perform periodic inspections of the System. Pursuant to the terms of the Senior Indenture, the Commission must arrange for the System to be inspected at least once every three years by engaging one or more consultants to conduct inspections and prepare a report. The report must state (a) whether the System has been maintained in good repair, working order and condition since the last inspection report and (b) any recommendations which such consultants may have as to revisions or additions to the Commission's annual capital budget. The most recent inspection report, the Pennsylvania Turnpike Condition Assessment Report 2014 (submitted to the Commission in February 2015), was prepared by Michael Baker International (the "*Condition Assessment Report*"). The next Turnpike Condition Assessment Report is scheduled for completion during 2017 and the Commission anticipates receiving the report in either late 2017 or early 2018.

Based on reviews performed by others as well as their own observations, the authors of the Condition Assessment Report found that, "the overall condition of the System is good except for specific areas noted in the report."

The following summarizes certain information found in the Condition Assessment Report, including certain of the "specific areas" referred to in the preceding paragraph, and in inspection data gathered in 2014. Three of the four asset groups, including Roadway, Structures and Facilities are rated "Good" overall. The asset group Technology, which only included Intelligent Transportation Systems is rated "Fair" to "Good." Each of the asset groups is in working order based on the condition ratings of the individual assets within the asset group. The individual asset condition rating was developed through an extensive evaluation of available performance data that was both qualitative and quantitative. There were several different evaluation measures used across the array of Commission assets. The derivation of the individual asset rating is detailed in each section of the report. The following is an overall summary for each of the four asset groups.

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<sup>4</sup> The information contained on such website link is not incorporated by reference in this Appendix A.

## *Roadway*

The recent roadway pavement inspection data indicate that the overall condition of the Commission pavement meets or exceeds established criteria. The supporting roadway features guiderail, attenuators, and median barrier are generally in Fair to Good condition. These assets require regular inspection and prompt repair when damaged for the safety of the Commission customers. Stormwater/Best Management Practices facilities are in Good condition and are being inspected in accordance with permitting requirements; however, a continued focus on regular maintenance or repair of these facilities is needed to keep them functioning as intended. The roadway drainage system seems to be in Fair condition based on qualitative approach used to evaluate this asset. More detailed inspections would be needed to verify the condition of drainage facilities and to establish necessary maintenance activities beyond the routine annual maintenance that the Commission currently performs. Based on a recent visual inspection and a comparative analysis from the 2011 Rock Cut Evaluation, the rock cuts appear to be in Good condition. The overall condition of signs is Good, and is being maintained adequately. Recent field evaluations of the Commission's highly reflective and pavement markings and waterborne pavement markings at selected locations indicate that the Commission's pavement markings are in Good condition.

## *Structures*

The Turnpike's bridges and culverts are in Good condition with about 3.8 percent noted (as updated in the Fiscal Year 2016 Strategic Performance Report) as structurally deficient and 61 percent exceeding 50 years in age. Condition ratings are being uploaded to Pontis, a bridge management software tool, for the 233 sign structures and detailed information is provided in the inspection reports with the overall condition being Good. Retaining walls/noise barriers are in Good condition overall, with only minor areas of concern and no loss of structural integrity. High mast light poles appear to be in Fair condition. High mast light poles are being removed with construction projects that impact them, and will ultimately be phased out. Turnpike tunnels are generally in Fair to Good condition with special attention to be given to structural elements (i.e., ceiling slabs, hanger rods) for corrective action, if needed.

## *Facilities*

Facility condition reports are shared with HMS/Host and Sunoco, who are contractually obligated to operate and maintain the service plazas, to assist with their maintenance responsibilities and capital plans reflecting maintenance needs. Annual facility condition assessments are completed by the Commission and shared with HMS/Host. HMS/Host takes corrective actions on deficiencies and informs the Commission when corrected. The Commission does monthly inspections to ensure deficiencies have been corrected. Issues raised regarding the service plaza conditions have been resolved by HMS/Host and there are no current issues regarding the conditions of the service plazas. Maintenance buildings are in Fair condition with a number of these buildings requiring maintenance. Projects are being developed based on Condition Assessment reports with money being allocated to the Proposed Capital Plan to support these projects. The overall condition for the following facilities types, Interchange buildings, Administration buildings, District Fare Collection buildings, and Stockpiles are Good. The State Police Station facilities are rated Good based on the available condition data. An overall condition for Communication Towers is not provided due to a limited amount of

available inspection data. Since taking responsibility for inspection and maintenance of the communication towers in 2012, Facilities and Energy Management Operations has advanced a structural analysis review program to assess the condition of Communications Towers to identify and fix deficiencies.

### *Technology*

Intelligent Transportation System devices were the sole Commission technology that was included in the Condition Assessment. The overall condition of the ITS devices that were evaluated is Fair to Good. The Commission's Information Technology Department continually monitors the virtual network and provides support in troubleshooting issues as needed. The Commission's ITS contractor maintains the ITS equipment through preventative and response maintenance plans.

### **Ten-Year Capital Plan**

The Commission prepares the Capital Plan for its facilities and equipment (exclusive of the Mon/Fayette and Southern Beltway projects), consisting of the Highway Program, the Technology Program, Fleet Equipment, and Facilities and Energy Management Operations, which it updates each year. All capital projects are reviewed and prioritized and the most critical and important projects necessary to maintain the System in a state of good repair are pursued. The Commission undertook a five-year program of enhanced capital spending, initiated in 2012, to address critical needs of the System such as structurally deficient bridges and total reconstruction projects on the Turnpike Mainline. As a result of the five years of enhanced capital spending, the Commission's percentage of structurally deficient bridges (by count) decreased from 8.1% to 3.8% and the Commission's International Roughness Index improved from 84 to 73 (lower is preferable). Also, the enhanced capital spending enabled the construction of the I-95 toll modifications and primary connections (north/east and west/south, also known as Sections D10 and D20) between I-95 and the Turnpike Mainline.

The Capital Plan for Fiscal Year 2018 was adopted by the Commission on June 6, 2017. The adopted Capital Plan calls for investment of approximately \$5.62 billion, net of federal reimbursements, over the coming decade and is estimated to support approximately 32,000 jobs from Fiscal Year 2016 to Fiscal Year 2020. The Capital Plan enables the Commission to undertake a number of capital improvements and to pursue new initiatives to maintain and improve the System ensuring that it remains in a state of good repair. The Capital Plan provides continued investment into the System, with an emphasis on the total reconstruction of the Turnpike Mainline and Northeast Extension, addressing structurally deficient bridges and the protection of the infrastructure assets of the Commission. The Capital Plan for Fiscal Year 2018, at approximately \$5.62 billion, represents a constant level of anticipated spending from the capital plan last adopted in May 2016 which also totaled \$5.62 billion. The Capital Plan for Fiscal Year 2018 represents continued investment in critical capital projects and therefore aids in the protection of Commission assets. Deferred capital projects are not of a critical nature and will likely result in a reduction of total miles reconstructed from an average of eight miles annually to seven miles annually. The Fiscal Year 2018 Capital Plan represents a return by the Commission to its historic levels of capital investment.

The Fiscal Year 2018 Capital Plan will require the issuance of additional debt throughout the ten-year period; however, such additional debt issuance is projected to be over \$2 billion lower over the ten-year period (2018-2027) than previously anticipated as part of the FY 2016 Capital Plan. The reduced level of debt issuances is attributable to a \$777 million projected increase in Commission funded pay as you go capital and a \$965 million reduction in overall ten year capital spending. The Commission believes that the capital spending and additional debt issuance, along with the continuing burden of Act 44 obligations to PennDOT, will require the imposition of annual toll increases throughout the ten-year period and beyond. The Traffic Study prepared by CDM Smith (formerly Wilbur Smith Associates) contemplates toll increases of 3.0% to 6.0% in each year.

Exhibit I attached to this Appendix A indicates budget allocations by program for the Fiscal Year 2018 Capital Plan.

The Highway Program consists of roadway, bridge, tunnel and toll plaza/interchange projects. The Technology Program consists of toll collection, communication, and other electronic information management projects. The Fleet Program funds rolling stock that is required to maintain the System. The Facilities and Energy Management Program consists of buildings and large, heavy or high value equipment needs.

The highest priority highway project for the Commission is the ongoing full depth roadway total reconstruction of the east/west Turnpike Mainline and Northeast Extension. This work includes the reconstruction and widening of the roadway, the widening of the median, and the replacement of both Mainline and overhead bridges. To date, approximately 120 miles of total reconstruction have been completed and approximately 21 miles are currently in construction. Total reconstruction projects from Milepost 202 to 206, Milepost 220 to 227, Milepost 242 to 245, and Milepost A-26 to A-31 are in construction. Currently, approximately 115 miles are in design.

Based on the Fiscal Year 2018 Capital Plan, the Commission plans to spend approximately \$2.36 billion on total reconstruction projects and approximately \$0.6 billion on various bridge and tunnel projects over the next ten years. In total, the Highway Program includes funding of approximately \$4.579 billion, net of federal reimbursements, over the next ten years.

The Technology Program includes funding of approximately \$177 million over the next ten years to address the Commission's technology needs including toll collection projects, communication, application development and technical operational needs. The Commission has implemented SAP ERP to provide a set of integrated business processes supported by multi-module application software with a centralized data repository.

The Fleet Program includes funding of approximately \$185 million to purchase rolling stock to insure adequate maintenance of the roadway system.

The Facilities and Energy Management Program includes funding of approximately \$372 million to repair and replace the aging facilities of the Commission. This commitment will ensure that major equipment and facilities are in good repair to support ongoing Turnpike System operations.



The implementation of and the potential conversion to a cashless tolling system is estimated to require approximately \$447 million in capital funding over the next ten years. At present, as described above, the Commission has approved a pilot-program for cashless tolling implementation limited to three locations. See “THE TURNPIKE SYSTEM – Cashless Tolling” for additional information.

### **Mon/Fayette Expressway and Southern Beltway**

Four projects constructed as part of the Mon/Fayette Expressway are now in operation. One is an approximately six-mile toll road between Interstate Route 70 and U.S. Route 40 in Washington County. This project was built by PennDOT and turned over to the Commission upon its opening in 1990. The second is an approximately twelve-mile section of toll road from I-68 near Morgantown, West Virginia, to Fairchance, Pennsylvania, which is located just south of Uniontown. The third project is an approximately sixteen-mile section of the Mon/Fayette Expressway from Interstate Route 70 in Washington County to Pennsylvania Route 51 in Allegheny County, which opened in April 2002. The fourth is an approximately fifteen-mile section from Uniontown to Brownsville, including a 3,022-foot bridge over the Monongahela River, which opened to traffic in July 2012. These four contiguous projects, which total 48 miles from Morgantown, West Virginia to PA Route 51 south of Pittsburgh, are now part of the System. On March 21, 2017, the Commission announced that it would stop engineering-design activities on the final 14-mile section of the Mon/Fayette Expressway, extending from PA Route 51 to Interstate Route 376 near Monroeville east of Pittsburgh, in light of the Southwestern Pennsylvania Commission’s recent decision to table the project. On June 26, 2017, the Southwestern Planning Commission voted to add the final 14-mile segment of the Mon/Fayette Expressway to its long range plan. This action will allow the Federal Highway Administration to approve changes to the environmental impact statement, a requirement for construction to commence. The current estimates to complete the final 14 miles of the Mon/Fayette Expressway to Interstate Route 376 are in excess of \$2 billion.

When eventually completed, the Mon/Fayette Expressway would extend from Interstate 68 in West Virginia to Interstate Route 376 in Monroeville, which is east of Pittsburgh.

The proposed Southern Beltway is to be constructed from the Mon/Fayette Expressway, near Finleyville, extending as part of a beltway south of Pittsburgh to Interstate 376 at the Pittsburgh International Airport. It is comprised of three distinct projects. The six-mile project from I-376 to U.S. 22 (also known as the Findlay Connector) opened to traffic in October 2006. The project from U.S. 22 to I-79, received environmental clearance for its 13 miles in September, 2008 and is in final design. Two of the seven roadway sections were bid in 2016. Section 55A1 was awarded at the December 6, 2016 Commission meeting. When completed in late 2019 or early 2020, the U.S. 22 to I-79 portion of the Southern Beltway will be a cashless tolling facility. The remaining Southern Beltway project, from I-79 to the Mon/Fayette Expressway, received environmental clearance in May 2009. The final portion of the Southern Beltway is currently estimated to cost approximately \$788 million. The proceeds of the Commission’s Oil Franchise Tax Revenue Bonds, Series A and B of 1998, Oil Franchise Tax Revenue Bonds, Series A, B and C of 2003, and Oil Franchise Tax Revenue Bonds, Series A-1, B, C, D-2 and E of 2009, and Registration Fee Revenue Bonds, Series of 2001, were applied to fund the construction of the Mon/Fayette and Southern Beltway projects that have been completed to date. It is anticipated that the remaining costs to complete the Mon/Fayette

Expressway and the Southern Beltway will be financed with Oil Franchise Tax Revenues (as defined herein) and Registration Fee Revenues (as defined herein) along with other funding sources. Although the open sections of the Mon/Fayette Expressway and the Southern Beltway are toll roads, the Tolls (as defined herein) pledged for the repayment of Turnpike Revenue Bonds will not be pledged for the financing of their construction, which will be funded by Oil Franchise Tax Revenues and Registration Fee Revenues.

The Commission has no legal obligation to complete the unfinished portions of the Mon/Fayette Expressway and Southern Beltway projects at this time. However, Act 89 is expected to generate an estimated \$143.3 million in annual Oil Franchise Tax revenues for the Commission by Fiscal Year 2017-2018. With additional Oil Franchise Tax revenues, the Commission is proceeding with the U.S. 22 to I-79 portion of the Southern Beltway as well as actively evaluating financing options to complete additional portions of the Southern Beltway.

### **I-95 Interchange**

I-95 was completed in 1969 without an interchange connecting it to the Turnpike Mainline. Interstate travelers must either by-pass the Philadelphia area entirely or exit the interstate system and navigate a complex system of local roadways to access I-95 again in New Jersey.

The Commission is currently in the first of three phases of its Pennsylvania Turnpike/I-95 Interchange Project (the “*Interchange Project*”). The main objectives of the Interchange Project are to improve the linkage between I-95 and the Turnpike Mainline to create continuity in the interstate system, relieve congestion on local roads which are currently used by travelers to make the connection between I-95 and the Turnpike Mainline, create additional capacity on the Turnpike Mainline and I-95 to accommodate the transfer of traffic from the local roadway system, and improve travel times through the interchange area.

The first phase of the Interchange Project includes preparatory work and construction of a portion of the interchange between I-95 and the Turnpike Mainline, including northbound I-95 to the eastbound Turnpike Mainline and southbound I-95 to the westbound Turnpike Mainline, and is currently under construction. This phase, which included construction of a new mainline toll plaza and a cashless tolling plaza westbound, opened in January 2016. The next construction contract, covering Turnpike Mainline Section D10, was bid on June 5, 2014 and construction commenced in September 2014 and is expected to continue through 2017. The final contract in the first phase, covering Turnpike Mainline Section D20, was bid in the Summer 2015 and construction will continue through 2018. The second phase will include the completion of the reconstruction and widening of the remaining interchange connectors. The third phase will be the construction of an additional bridge over the Delaware River. Funding for construction of the first phase is included in the Capital Plan.

## **CERTAIN FINANCIAL INFORMATION**

### **Revenue Sources of the Commission**

The Commission’s revenues are principally derived from three separate sources: toll revenues from the operation of the System, revenue derived from a portion of the

Commonwealth's Oil Franchise Tax, and revenue derived from a portion of the Commonwealth's vehicle registration fee revenues.

### *Toll Revenues*

The largest part of the Commission's revenues is derived from the collection of all rates, rents, fees, charges, fines and other income derived by the Commission from the vehicular usage of the System and all rights to receive the same (the "**Tolls**"). The Tolls are presently pledged to secure the Commission's Turnpike Revenue Bonds, other Senior Indenture Parity Obligations, as well as any subordinated indebtedness that may be issued under the Senior Indenture (collectively, the "**Senior Indenture Obligations**"). As of the date of this Official Statement, the Commission has \$4,895,850,000 aggregate principal amount of fixed and variable rate Turnpike Revenue Bonds outstanding under the Senior Indenture. Upon delivery of the 2017A Bonds, and the refunding of the Refunded Bonds, the Commission will have \$5,254,140,000 aggregate principal amount of Turnpike Revenue Bonds outstanding under the Senior Indenture. The foregoing amount includes certain notes evidencing and securing \$200,000,000 in loans through the Immigrant Investor Program (known as the EB-5 visa program) administered by the U.S. Citizenship and Immigration Services, the proceeds of which are being used to fund a portion of the I-95 Interchange Project (the "EB-5 Loans"). The EB-5 Loans were issued in four tranches (3 tranches on March 18, 2016 and the fourth tranche on May 11, 2016), each having a five year term. At the end of each five year term, the Commission will evaluate market conditions to determine whether to refinance the loans into either long term, privately placed or publicly offered Turnpike Revenue Bonds, based on numerous factors including the lowest available interest rates.

See <http://emma.msrb.org/IssueView/NonCUSIP9IssueDetails.aspx?id=ES361429><sup>5</sup> and <http://emma.msrb.org/IssueView/NonCUSIP9IssueDetails.aspx?id=EP372321><sup>5</sup> for additional information on the EB-5 Loans.

Also included in the principal amount outstanding under the Senior Indenture is \$1,010,815,000 aggregate principal amount of floating rate notes (FRNs). Other obligations incurred and outstanding under the Senior Indenture include the Commission's obligations under various interest rate swap agreements having a total current notional amount of \$978,836,000. The Tolls are not pledged to secure the Oil Franchise Tax Revenue Bonds (as defined below), the Registration Fee Revenue Bonds (as defined below) or the bonds and other obligations issued (or otherwise secured) under the Subordinate Indenture (the "**Subordinate Indenture Obligations**"). All Subordinate Indenture Obligations are subordinated to the payment of the Senior Indenture Obligations issued under the Senior Indenture. See "THE COMMISSION – Enabling Acts - *Issuance of Bonds; Commission Payments.*"

**Neither the Subordinate Indenture Obligations, the Oil Franchise Tax Revenue Bonds, nor the Registration Fee Revenue Bonds are secured by or have any interest in the trust estate established pursuant to the Senior Indenture.**

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<sup>5</sup> The information contained on such website link is not incorporated by reference in this Appendix A.

The Commission may in the future, under the terms of the Senior Indenture, identify in writing certain roads, other than the Turnpike Mainline and the Northeast Extension, as not being part of the System for the purposes of the Senior Indenture which would eliminate toll revenues from these portions from the definition of Tolls under the Senior Indenture. The Commission currently has no plans to remove any roads from the System. In addition, under the Senior Indenture, the Commission has covenanted that it will not sell, lease or otherwise dispose of real estate or personal property comprising a portion of the System except upon compliance with the provisions of the Senior Indenture, including a determination by resolution that the Net Revenues of the Commission will not be materially adversely affected. The Commission from time to time may consider various proposals that could involve the transfer or other disposition of Commission property. Any such transfer or disposition would be required to comply with the provisions of the Senior Indenture.

### *Oil Franchise Tax Revenues*

The Commission's second principal stream of revenues consists of that portion of the Commonwealth's oil company franchise tax revenues (the "***Oil Franchise Tax Revenues***") allocated by statute to the Commission and pledged to the holders of the Commission's Oil Franchise Tax Revenue Bonds (the "***Oil Franchise Tax Revenue Bonds***"), of which \$647,260,866.80 aggregate principal amount is outstanding as of the date of this Official Statement (including compounded amounts as of June 1, 2017 for outstanding capital appreciation bonds). The Oil Franchise Tax Revenue Bonds are secured solely by Oil Franchise Tax Revenues received by (or on behalf) of the Commission and pledged therefor. **The Oil Franchise Tax Revenues are not pledged to secure any Senior Indenture Obligations, any Subordinate Indenture Obligations or any Registration Fee Revenue Bonds.** Note, however, that funds in the Oil Franchise Tax General Fund may be used by the Commission for any purpose.

### *Registration Fee Revenues*

The Commission's third principal stream of revenues consists of that portion of the Commonwealth's vehicle registration fee revenues (the "***Registration Fee Revenues***") allocated by statute to the Commission or the holders of any of the Commission's Registration Fee Revenue Bonds (the "***Registration Fee Revenue Bonds***"), of which \$386,510,000 aggregate principal amount is outstanding as of the date of this Official Statement. The Registration Fee Revenue Bonds, the proceeds of which were spent on portions of the Mon/Fayette Expressway and the Southern Beltway, are secured by Registration Fee Revenues. Registration Fee Revenue Bonds are to be paid solely from the Registration Fee Revenues. On October 8, 2015, the Commission converted the interest rate mode of the Series B, C, and D of 2005 Registration Fee Revenue Bonds through a private placement with J.P. Morgan Securities LLC. **The Registration Fee Revenues are not pledged to secure any Senior Indenture Obligations, Subordinate Indenture Obligations or the Oil Franchise Tax Revenue Bonds.**

### **Toll Schedule and Rates**

The current System generally employs a closed or ticket system method for toll collection. Tolls are determined on the basis of the length of the trip and vehicle class. There are nine vehicle classes determined either by axles or, in the case of commercial vehicles, by axles

and weight. Historically, all drivers were issued a ticket upon entering the System and were required to surrender the ticket and pay the appropriate toll upon exiting. Electronic toll collection methods, however, have been implemented throughout the System. See “THE TURNPIKE SYSTEM – E-ZPass Lanes.”

Between 1957 and 2008, the Commission implemented only five revisions in its toll schedule, effective on September 1, 1969, August 1, 1978, January 2, 1987, June 1, 1991 and August 1, 2004. On August 1, 2004, Turnpike System tolls increased by 1.8 cents per mile for passenger vehicles from 4.1 to 5.9 cents per mile. Commercial vehicles had an average increase of 5.3 cents per mile. Such toll increase was consistent with the rate of inflation over the 13 years since the Commission’s prior toll increase in 1991. During such time, all incremental revenue generated by such toll increase was used to fund capital improvements to the System’s roads, tunnels and other upgrades.

Since 2008, the Commission has implemented rate increases as follows:

- On July 22, 2008, the Commission approved a toll increase in the amount of 25% (except for the Southern Beltway and the Mon/Fayette Expressway) which became effective on January 4, 2009, with the expectation that it would implement annual increases thereafter.
- On August 18, 2009, the Commission approved a toll increase in the amount of 3% (except for the Southern Beltway) which became effective on January 3, 2010.
- On July 13, 2010, the Commission adopted several revenue enhancement measures that took effect on January 2, 2011. For E-ZPass users, tolls increased by 3%. For cash customers, tolls increased by 10% (rounded to the nearest \$0.05). (Tolls on the Southern Beltway were not increased.) Annual fees for use of E-ZPass transponders increased from \$3 per transponder to \$6 per transponder. Finally, the commercial discount program, which provided for tiered discounts of 10%, 15% and 20% off published toll rates depending on total monthly fares, was adjusted to provide tiered discounts of 5%, 10% and 15%. These revenue enhancements were used to provide funds for payments under the Amended Funding Agreement and other Act 44 purposes, including funding of the Commission’s capital expenditure program and normal operating expenditures.
- On July 19, 2011, the Commission approved a toll increase (except on the Southern Beltway) which took effect on January 2, 2012. E-ZPass users did not see a toll increase, and cash customers saw an increase of 10%. In addition, commercial discounts were reduced. The 15% volume discount was eliminated and the remaining discounts were set at a 5% discount for \$5,000-\$10,000 in monthly tolls and a 10% discount for more than \$10,000 in monthly tolls. In addition, the Commission also approved approximate overall toll rate increases that among E-ZPass users and cash customers would average 3% annually for each of the 2013 and 2014 calendar years.
- At meetings on July 18, 2012 and September 4, 2012, the Commission approved toll increases which became effective on January 6, 2013. Tolls for cash customers generally increased by 10%, except for the Southern Beltway, and tolls for E-ZPass

users increased by 2%. On the Southern Beltway, cash tolls for all classes (which had never increased since its opening in 2006) increased by 50%, and E-ZPass rates increased by 25%. Annual fees for non-commercial use of E-ZPass transponders decreased from \$6 per transponder to \$3 per transponder due to lower cost from the supplier. Finally, the commercial discount program was further adjusted. The 10% discount was eliminated and the minimum toll amount for discount eligibility increased from \$5,000 to \$10,000. The revised discount program provided for a 5% discount on total monthly fares of \$10,000 or more.

- At its meeting on July 16, 2013, the Commission clarified its previously approved toll increase which was to occur in January 2014. The Commission approved a differential to the toll increases which became effective on January 5, 2014. Tolls (except on the Southern Beltway) increased by 12% for cash customers and by 2% for E-ZPass users. The toll increase differential kept the overall toll revenue increase to approximately 3%, in keeping with previous approvals of the Commission. Additionally, the remaining commercial discount program (5% volume discount on total monthly fares of \$10,000 or more) was approved for elimination, effective January 5, 2014.
- At its meeting on September 20, 2013, the Commission partially reinstated the commercial discount to provide a three percent (3%) discount to Turnpike System commercial E-ZPass account holders that expend \$20,000 or more in tolls per month on the Turnpike System.
- On June 17, 2014, the Commission approved a toll increase (except for the Southern Beltway) in the amount of 5% for both cash and E-ZPass users effective January 4, 2015.
- On July 7, 2015, the Commission approved a toll increase in the amount of 6% for both cash and E-ZPass users effective January 3, 2016.
- On July 19, 2016, the Commission approved a toll increase in the amount of 6% for both cash and E-ZPass users effective January 2017.
- On July 18, 2017, the Commission approved a toll increase in the amount of 6% for both cash and E-ZPass users which will be effective January 2018 and apply to all portions of the Turnpike System, except as follows: (i) no toll increase for Delaware River Bridge EZpass and Toll-By-Plate customers, (ii) Clarks Summit & Keyser Avenue toll rates will increase in April 2018 with the conversion of these locations to Cashless Tolling, and (iii) Findlay Connector toll rates will increase in April 2018 or at the time of conversion to Cashless Tolling if different than April 2018, and will be as follows: (x) E-Zpass - \$1.00 and (y) Toll-By-Plate - \$1.50.

Traffic data for Fiscal Year ended May 31, 2017 indicates a 7.9% increase in adjusted gross toll revenue, with a 0.7% increase in traffic volume, as compared to data for Fiscal Year ended May 31, 2016. Improving economic conditions and gasoline price declines have positively impacted traffic volumes and revenue.

The following Table I illustrates the tolls and per mile rates applicable to each vehicle class for a trip on the Turnpike Mainline from Interchange 1 through Interchange 353 following the toll increase effective January 8, 2017:

TABLE I  
Current Tolls and Per Mile Rates for Mainline  
Roadway East - West Complete Trip  
Neshaminy Falls<sup>1</sup> - Warrendale (Ticket System)

Vehicle Toll Class	Gross Vehicle Weight (Thousand Pound)	Toll Rate Cash Effective 1/2017	Per Mile Cash Rate	Toll Rate EZ-Pass Effective 1/2017	Per Mile EZ-Pass Rate
1	1-7	44.85	0.139	32.14	0.100
2	7-15	65.90	0.204	47.20	0.146
3	15-19	79.55	0.246	56.96	0.176
4	19-30	95.40	0.295	68.37	0.212
5	30-45	133.80	0.414	96.04	0.297
6	45-62	167.80	0.520	120.46	0.373
7	62-80	240.25	0.744	172.54	0.534
8	80-100	314.95	0.975	226.26	0.700
9	Over 100	1732.45	5.364	--- <sup>2</sup>	---

<sup>1</sup> Effective January 3, 2016 the eastern-most terminus of the ticket system was moved about six miles to the west from the former Delaware River Bridge toll plaza to the new Neshaminy Falls toll plaza. As a result of this change, Table I may differ from prior versions issued by the Commission.

<sup>2</sup> No longer available for EZ Pass

Notes:

The above rates represent an "East West" trip for the ticket toll system between the Neshaminy Falls (#353) interchange and Warrendale (#30). The 30-mile Gateway to Warrendale roadway between Warrendale and the Ohio Turnpike has a barrier toll at the Gateway Mainline interchange (#2). For purposes of the Senior Indenture, the Mainline is the entire length of the roadway between Ohio and the Delaware River Bridge. The toll on the Gateway connector is payable only when traveling eastbound and is standard for all vehicles of a class, regardless of distance traveled. The cash rate as of January 3, 2016 is \$6.60 for the first two axles, \$13.00 for three axles, \$19.45 for four axles, \$25.80 for five axles and \$32.20 for six axles. The E-ZPass rate is \$4.61 for the first two axles, \$9.21 for three axles, \$13.82 for four axles, \$18.42 for five axles, and \$23.05 for six axles.

Beginning January 3, 2016 the Commission has implemented a new "cashless tolling" system from the Delaware River Bridge to the new Neshaminy Falls toll plaza. The toll on the Delaware River Bridge to Neshaminy Falls portion is a one-way toll westbound only, and is collected by a new "toll-by-plate" system or by E-ZPass. The toll-by-plate rate as of January 3, 2016 is \$6.75 for the first two axles, \$13.50 for three axles, \$20.25 for four axles, \$27.00 for five axles and \$33.75 for six axles. The E-ZPass rate is \$5.00 for the first two axles, \$10.00 for three axles, \$15.00 for four axles, \$20.00 for five axles, and \$25.00 for six axles. Permits are required for all over-dimensional loads.

Act 44 requires the Commission to fix toll rates such that revenues from tolls and other sources to the Commission are sufficient to pay the cost of the System's operation, construction, expansion and maintenance, all Commission obligations and interest thereon, sinking fund requirements of the Commission, other requirements in any trust indentures, notes or resolutions, and payments to PennDOT under the Amended Funding Agreement.

## Five-Year Financial History

The following Table II summarizes certain operating and revenue information with respect to the System for the Fiscal Years from 2013 to 2017, and for the three-month periods ended August 31, in Fiscal Years 2017 and 2018. The following Table III summarizes certain financial information with respect to the System for the Fiscal Years from 2013 to 2017. This information is derived from the Commission's regularly prepared books and records. The financial information presented in Table III is a combination of cash basis financial statements with certain accruals included. **Such information is not presented in accordance with generally accepted accounting principles and has not been audited.** In the opinion of management of the Commission, the financial information for the three-month period ended August 31, for Fiscal Years 2017 and 2018, is presented on a basis consistent with the presentation of the audited information below. Such interim information is not indicative of the results that may be expected for the entire Fiscal Year.

Tables II and III should be read in conjunction with the financial statements prepared in accordance with generally accepted accounting principles and related notes included in "APPENDIX B – AUDITED 2017 AND 2016 FINANCIAL STATEMENTS" of this Official Statement (the "*Financial Statements*").

The Commission currently makes certain operating and financial information, including its audited annual financial statements and information corresponding to the information set forth below in Tables II and III, available through the Municipal Securities Rulemaking Board - Electronic Municipal Market Access (<http://www.emma.msrb.org>)<sup>6</sup> pursuant to its undertakings in accordance with Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as amended. Information to be provided pursuant to the Commission's undertaking in connection with the bonds offered pursuant to this Official Statement is described in the forepart of this Official Statement under the caption "CONTINUING DISCLOSURE."

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<sup>6</sup> The information contained on such website link is not incorporated by reference in this Appendix A.



**TABLE II**  
**Number of Vehicles and Fare Revenues – Summarized by Fare Classification**  
*(in thousands)*

	Fiscal Year Ended May 31,					Three-Month Ended August 31	
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>FY 2017</u>	<u>FY 2018</u>
<b>Number of Vehicles:*</b>							
Passenger	163,690	163,788	166,192	171,565	172,617	47,183	46,908
Commercial	24,207	24,891	26,144	27,319	27,686	7,595	7,655
Total	187,897	188,679	192,336	198,884	200,303	54,778	54,563
<b>Fare Revenue:**</b>							
Passenger	\$471,514	\$497,671	\$533,054	\$588,295	\$638,787	\$180,428	\$192,210
Commercial	350,226	368,395	401,198	443,325	476,189	126,873	132,800
Total	821,740	866,066	934,252	1,031,620	1,114,976	307,301	325,010
Discount	-10,198	-4,220	-2,106	-1,501	-3,915	-109	-1,274
Net Fare Revenues	\$811,542	\$861,846	\$932,146	\$1,030,115	\$1,111,061	\$307,192	\$323,736

\* Number of vehicles is unaudited.

\*\* Fare revenue is audited, except data for three-month ended August 31 which is unaudited.

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**TABLE III**  
**Summary of System Revenues and Operating Expenditures**  
**Before Interest and Other Charges (1)**  
**(000's Omitted)**

	<b>Fiscal Year Ended May 31,</b>				
	<b><u>2013</u></b>	<b><u>2014</u></b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>
<b>Revenues</b>					
Net Toll Revenues	\$811,542	\$861,846	\$932,146	\$1,030,115	\$1,111,061
Concession Revenues	3,302	3,554	3,722	3,932	4,100
Senior Interest Income	15,107	11,482	9,459	9,511	11,664
Subordinate Interest Income	4,198	3,237	3,384	3,975	4,314
MLF Enhanced Interest Income	192	198	165	190	248
Miscellaneous	16,792	15,355	13,867	18,644	19,235
<b>Total Revenues</b>	<b>\$851,133</b>	<b>\$895,672</b>	<b>\$962,743</b>	<b>\$1,066,367</b>	<b>1,150,622</b>
<b>Operating Expenditures (2)</b>					
General & Administrative	\$41,632	\$39,983	\$39,541	\$40,725	\$47,861
Traffic Engineering and Operations	4,455	3,966	3,986	4,654	3,813
Service Centers	24,480	22,448	24,128	28,304	32,304
Employee Benefits	80,670	83,810	98,475	107,646	113,986
Toll Collection	60,862	59,139	60,429	59,387	60,112
Normal Maintenance	65,924	74,789	73,792	64,545	66,191
Facilities and Energy Mgmt. Operations	8,903	9,850	10,957	10,886	11,266
Turnpike Patrol	36,171	39,818	41,234	46,161	47,223
<b>Total Operating Expenditures</b>	<b>\$323,097</b>	<b>\$333,803</b>	<b>\$352,542</b>	<b>\$362,308</b>	<b>\$382,756</b>
Revenues less Operating Expenditures	\$528,036	\$561,869	\$610,201	\$704,059	\$767,866
Senior Annual Debt Service Requirement	\$142,552	\$158,995	\$170,155	\$215,019	\$237,010
Coverage Ratio (3)	3.67	3.51	3.57	3.26	3.22
Annual Subordinate Debt Service Requirement	\$156,067	\$196,475	\$205,627	\$222,064	\$233,804
Coverage Ratio (4)	1.77	1.58	1.62	1.61	1.63
Annual MLF Enhanced Debt Service Requirement	\$20,305	\$29,632	\$36,027	\$36,525	\$43,348
Coverage Ratio (5)	1.66	1.46	1.48	1.49	1.49

(1) This summary of revenues and operating expenditures is not intended to present results of operations in conformity with generally accepted accounting principles. Debt service is net of capital interest and receipt of Federal Subsidy.

(2) Certain expenditure amounts for Fiscal Years 2013 to 2015 have been reclassified between General & Administrative and Toll Collection. The Commission had a recent reorganization that combined the Fare Collection and ETC departments and created a "Toll Collection" functional area. The reclassifications were necessary so prior year numbers were presented in a manner that is consistent with the modified reporting beginning in FY2016.

(3) Calculated using Senior Interest Income.

(4) Calculated using Senior and Subordinate Interest Income.

(5) Calculated using Senior, Subordinate and MLFE Interest Income.

## **Budget Process**

The Commission's Finance and Administration Department develops preliminary budget information for all Commission departments. This information is provided to each of the respective departments for their review and to enable them to make any proposed revisions for their budget requests. The information is then returned to the Finance and Administration Department and a Commission wide preliminary budget is prepared. This budget is reviewed by senior management and, in cooperation with the respective departments, revisions are made when necessary to conform to the annual financial plan. The final recommended budget is then presented to the Board of Commissioners for formal approval.

In addition, Act 44 requires the Commission to prepare and submit an annual financial plan to the Secretary of the Budget of the Commonwealth no later than June 1 of each year for the ensuing Fiscal Year, describing its proposed operating and capital expenditures, borrowings, liquidity and other financial management covenants and policies, estimated toll rates and all other revenues and expenses. The purpose of the annual financial plan is to demonstrate that the Commission's operation in accordance with such plan can be reasonably anticipated to generate unencumbered funds sufficient to make all payments due to PennDOT under Act 44, Act 89 and the Amended Funding Agreement in the upcoming year after all other Commission obligations and interest thereon, sinking fund requirements of the Commission, and other requirements in any trust indenture, notes or resolutions have been met. Any deviations and the causes therefor in prior year plans must be explained. The Commission delivered to the Secretary of the Budget its Act 44 Financial Plan for Fiscal Year 2018 on June 1, 2017. See "THE COMMISSION – Enabling Acts – *Rules Relating to Governance and Accountability Under the Enabling Acts*" above.

## **Performance Audit by the Auditor General**

The Enabling Acts require the Auditor General of the Commonwealth to conduct an audit of the accounts of the Commission and to review its performance, procedures, operating budget, capital budget and debt every two years. The Act of October 23, 1988, P. L. 1059, No. 122 ("**Act 122**") also requires the Auditor General to conduct a financial audit and a compliance audit of the Commission every four years.

On September 2, 2016, Auditor General Eugene A. DePasquale issued a final report presenting the results of his quadrennial audit of the Commission under Act 44 and Act 122. The financial portion of the audit covered the period from June 1, 2010 to May 31, 2015, and the performance portion of the audit covered the period from June 1, 2014 to July 11, 2016. The Auditor General's office did not conduct its own financial audit but reviewed audits and supporting documentation of the independent firm that audits the Commission's financial statements annually, including working papers for the five fiscal years ended May 31, 2011 through May 31, 2015.

The audit report includes new findings with respect to the following areas:

- Commission's ability to raise toll revenue to cover Act 44/89 payments to PennDOT and expenditures for capital projects is potentially unsustainable;

- rapid increases in toll violations with little enforcement power may lead to additional financial problems for the Commission; and
- compliance with Commission policies and procedures in connection with services and supplies contracts; compliance with Commonwealth's Procurement Code in connection with construction contracts.

The audit report also includes recommendations relating to prior audit findings with respect to the following areas:

- non-revenue use of the Turnpike System by Commission employees;
- non-revenue use of the Turnpike System by nearly 5,000 consultants, contractors, and other state government officials;
- continued or expanded monitoring, review and inspection of the Turnpike System's tunnels; and
- reimbursement of the travel and other expenses of Commissioners.

On August 18, 2016, in response to the release by the Auditor General of a draft report, the Commission's Chief Executive Officer responded by letter to the Auditor General, addressing the proposed recommendations of the Department of Auditor General. The full text of the Department of Auditor General's final report and the Commission's response may be found on the Commission's website at:

<https://www.paturndpike.com/pdfs/business/finance/AuditorGeneralsPerformanceAuditSept2016.pdf>.

## **Financial Policies and Guidelines**

The Commission's Investment Policy and Guidelines, adopted on June 6, 1997 and amended from time to time thereafter (the "***Investment Policy***"), sets forth the purpose, objectives and investment guidelines for eligible securities for the investment of financial assets of the Commission. Eligible securities include those that are consistent with the Senior Indenture. For a discussion of the Commission's concentration of credit risk to particular issuers, see Note 4 to the Financial Statements.

The Investment Policy provides that appropriate benchmarks shall be developed for the various funds invested by the Commission and that the returns of the Commission's individual portfolio segments are to be compared to such benchmarks. Pursuant to the Investment Policy, the Commission's Investment Policy Committee must prepare an investment report for the Commissioners on a quarterly basis, including a management summary that provides a clear picture of the status of the current investment portfolio and transactions made over the latest reporting period. The report is to include investment performance and demonstrate conformity with the Investment Policy.

The Commission adopted three additional financial policies on April 20, 2004: a Liquidity Standard Policy, a Debt Management Policy and an Interest Rate Swap Management Policy (the "***Swap Policy***"). These financial management policies were developed in recognition

of the increasing financial sophistication of the Commission with respect to its debt structure and to provide guidance governing the issuance, management, ongoing evaluation and reporting of all debt obligations.

The Liquidity Standard Policy requires that the Commission maintain sufficient year-end fund balances to ensure levels of uncommitted reserves necessary to secure and protect its long-term debt and other financial obligations. Under this policy, the Commission budgets and maintains cumulative fund balances, including balances in the Reserve Maintenance Fund and the General Reserve Fund, equal to the greater of maximum annual debt service on those bonds not secured by a debt service reserve fund or 10% of annual budgeted revenues.

The Debt Management Policy establishes parameters and provides guidance governing the issuance and management of Commission debt. It addresses such issues as usage of unhedged variable rate debt, rate covenants and limitations on additional bonds and disclosure. Notwithstanding the rate covenants in the Senior Indenture and the Commission's Debt Management Policy, it is the internal policy of the Commission's management to maintain 2.00 debt service coverage on the Turnpike Revenue Bonds, 1.30 debt service coverage on the Subordinate Revenue Bonds and 1.20 debt service coverage on the Special Revenue Bonds. For a discussion of the rate covenant under the Senior Indenture, see "SECURITY FOR THE 2017A BONDS – Rate Covenant" in the forepart of this Official Statement. The Commission's Debt Management Policy is available on the Commission's website at <https://www.patriotturnpike.com/pdfs/business/Debt%20Management%20Policy%20Letter.pdf>.

Currently, approximately 90% of the Commission's outstanding debt is fixed rate, four percent is synthetic fixed and six percent is unhedged variable rate.

The Commission's Swap Policy establishes guidelines for the use and management of all interest rate management agreements, including, but not limited to, interest rate swaps, swaptions, caps, collars and floors (collectively, "*Swaps*") incurred in connection with the incurrence of debt. The Commission's Swap Policy was amended in May 2013 to reflect current regulations and best practices in the derivatives industry, particularly with respect to the selection requirements and on-going monitoring related to swap advisors.

The Swap Policy authorizes the Commission to use Swaps to hedge interest rate movement, basis risk and other risks, to lock in a fixed rate or, alternatively, to create synthetic variable rate debt. Swaps may also be used to produce interest rate savings, limit or hedge variable rate payments, alter the pattern of debt service payments, manage exposure to changing market conditions in advance of anticipated bond issues (through the use of anticipatory hedging instruments) or for asset/liability matching purposes. Key elements of the Swap Policy include the following:

Swap Counterparties – Credit Criteria. The Commission will make its best efforts to work with qualified Swap counterparties that have a general credit rating of: (i) at least "A3" or "A-" by two of the nationally recognized rating agencies and not rated lower than "A3" or "A" by any nationally recognized rating agency, or (ii) have a "non-terminating" "AAA" subsidiary as rated by at least one nationally recognized credit rating agency.

Term and Notional Amount. For Swaps tied to an issued series of bonds, the term of the Swap agreement shall not extend beyond the final maturity date of the related bonds. The total net notional amount of all Swaps related to a bond issue should not exceed the aggregate principal amount of outstanding bonds. In calculating the net notional amount, netting credit shall be given to any Swaps that offset each other for a specific bond transaction.

Security and Source of Repayment. The Commission may use the same security and source of repayment (pledged revenues) for Swaps as is used for bonds that are hedged by the Swap, if any, but shall consider the economic costs and benefits of subordinating the Commission's payments and/or termination payment under the Swap. The Commission shall consult with Bond Counsel regarding the legal requirements associated with making the payments under the Swap on a parity or non-parity basis with outstanding Commission debt.

Prohibited Agreements. The Commission will not use Swaps that:

- Are speculative or create extraordinary leverage as risk;
- Lack adequate liquidity to terminate without incurring a significant bid/ask spread; or
- Provide insufficient price transparency to allow reasonable valuation.

Annual Swap Report. The Commission's Assistant Chief Financial Officer for Financial Management, in consultation with the Commission's Swap Advisor and legal counsel, will evaluate the risks associated with outstanding Swaps at least annually and provide to the senior executives and the Commissioners a written report of the findings based upon criteria set forth in the Swap Policy.

Disclosure and Financial Reporting. The Commission will ensure that there is full and complete disclosure of all Swaps to rating agencies and in disclosure documents. Disclosure in marketing documents, including bond offering documents, shall provide a clear summary of the special risks involved with Swaps and any potential exposure to interest rate volatility or unusually large and rapid changes in market value. With respect to its financial statements, the Commission will adhere to the guidelines for the financial reporting of Swaps, as set forth by the Governmental Accounting Standards Board ("**GASB**"), Commodity Futures Trading Commission, or other applicable regulatory agencies.

The Commission has interest rate exchange agreements with respect to its Turnpike Revenue Bonds, Series 2009A, Series 2010B, Series 2013B, Series 2014B and 2016A-2. In addition, the Commission has interest rate exchange agreements with respect to its Subordinate Revenue Bonds Series 2017R-1, Registration Fee Revenue Bonds, Series 2005, and Oil Franchise Tax Revenue Bonds, Series 2009B and 2016A. The aggregate market value of the swaps to the counterparties thereto from the Commission was calculated as of July 31, 2017 to be approximately (i) \$146,762,324 (negative value to the Commission) with respect to swaps in the current notional amount of \$978,836,000 relating to the Turnpike Revenue Bonds referred to above, (ii) \$4,755,360 (negative value to the Commission ) with respect to swaps in the current notional amount of \$291,850,000 relating to the Subordinate Turnpike Revenue Bonds (iii) \$78,287,589 (negative value to the Commission) with respect to swaps in the current notional amount of \$231,425,000 relating to the Registration Fee Revenue Bonds referred to above; and (iv) \$670,173 (negative value to the Commission) with respect to swaps in the current notional amount of \$400,000,000 relating to the above-referenced Oil Franchise Tax Revenue Bonds.

See Note 4, Note 7 and Note 9 to the Financial Statements for additional information relating to the foregoing. The Commission does not have any interest rate exchange agreements associated with its Special Revenue Bonds.

There are a number of risks associated with Swaps that could affect the value of the Swaps, the ability of the Commission to accomplish its objectives in entering into the Swaps and the ability of the Commission to meet its obligations under the Swaps. These risks include, among others, the following: counterparty risk – the failure of the counterparty to make required payments; credit risk – the occurrence of an event modifying the credit rating of the Commission or its counterparty; termination risk – the need to terminate the transaction in a market that dictates a termination payment by the Commission; tax risk – the risk created by potential tax events that could affect Swap payments; and basis risk – the mismatch between actual variable rate debt service and variable rate indices used to determine Swap payments.

In addition, on July 27, 2017, the Financial Conduct Authority announced that it will no longer persuade or compel banks to submit rates for the calculation of LIBOR rates after 2021 (the “**FCA Announcement**”). Many of the Commission’s Swaps use a LIBOR based rate as a reference rate for determining payments to be received or payments to be made thereunder. It is not possible to predict the effect of the FCA Announcement, any changes in the methods pursuant to which LIBOR rates are determined, or any other reforms to LIBOR that may be enacted, any of which may adversely affect the determination of LIBOR rates or result in the phasing out of LIBOR as a reference rate. Any such effects could result in a sudden or prolonged increase or decrease in reported LIBOR rates, or result in the replacement of LIBOR with other reference rates, and could have a negative impact on the market value of the Commission’s swaps and the payment obligations of the Commission thereunder.

The Commission actively monitors the degree of risk and exposure associated with the Swaps to which it is a party but can offer no assurances that compliance with its Swap Policy will prevent the Commission from suffering adverse financial consequences as a result of these transactions.

More recently, the Commission has adopted additional financial policies related to post issuance compliance procedures and continuing disclosure.

The Tax-Exempt Debt, Build America Bonds and Other Tax-Advantaged Debt Post-Issuance Compliance Policies and Procedures (the “**Post Issuance Compliance Policy**”) became effective on December 21, 2011 and implemented various policies and procedures to ensure that the Commission complies with all applicable federal tax rules related to its tax-exempt debt, Build America Bonds and other tax-advantaged debt issuances. Among other items, the policy requires compliance with all applicable federal tax documentation and filing requirements, yield restriction limitations, arbitrage rebate requirements, use of proceeds and financed projects limitations and recordkeeping requirements.

The Continuing Disclosure Policy was adopted by the Commission on February 2, 2016 and applies to all publicly offered Commission municipal securities that are subject to federal securities laws and/or continuing disclosure agreements. The policy requires the Commission to comply with all applicable securities laws, satisfy in a timely manner all contractual obligations undertaken pursuant to continuing disclosure agreements or otherwise, and to adhere to best

practices for disclosure. The policy also requires the development, establishment and implementation of written procedures necessary to implement the Continuing Disclosure Policy, identifies key Commission participants responsible for disclosure, defines the role of Commission Disclosure Counsel and addresses training and document retention related to disclosure obligations.

Copies of the Commission's Investment Policy, Liquidity Standard Policy, Debt Management Policy, Swap Policy, Post Issuance Compliance Policy and Continuing Disclosure Policy can be found on the Commission's website at: [https://www.paturndpike.com/pdfs/about/Policy\\_Letters.pdf](https://www.paturndpike.com/pdfs/about/Policy_Letters.pdf).

*The policies of the Commission described above may be revised or amended at any time at the discretion of the Commission.*

### **Future Financing Considerations**

The Commission may issue additional bonds under the Senior Indenture and the Subordinate Indenture. In addition, the Commission may, from time to time, issue other notes and bonds payable from such sources as may be available so long as the Tolls, the Oil Franchise Tax Revenues securing the Oil Franchise Tax Revenue Bonds or the Registration Fee Revenues securing the Registration Fee Revenue Bonds are not pledged to such other notes and bonds or, if pledged, are pledged on a subordinate basis. The Commission anticipates that it will borrow substantial additional funds for the purpose of funding capital expenditures for the System pursuant to the Ten-Year Capital Plan. Borrowings for the Ten Year Capital Plan are expected to be undertaken principally under the Senior Indenture. In addition, pursuant to Act 89, the Commission anticipates that it will borrow substantial additional funds for purposes of funding payments under Act 44, Act 89 and the Amended Funding Agreement through Fiscal Year 2021-2022. Such borrowings are expected to be undertaken principally under the Subordinate Indenture. In addition, the Commission may from time to time increase toll rates to meet the debt, capital and operational obligations of the Commission. The most recent toll increase that has gone into effect was on January 8, 2017. See "CERTAIN FINANCIAL INFORMATION – Toll Schedule and Rates" above for further information.

The Commission's Act 44 Financial Plan anticipates multiple funding sources will be utilized to support the estimated \$5.62 billion in net costs associated with its current ten year capital plan. These funding sources will include the use of current revenues (pay-as-you-go), proceeds of Turnpike Revenue Bonds and proceeds of loans issued through the Immigrant Investor Program (known as the EB-5 visa program) administered by the U.S. Citizenship and Immigration Services. The Commission expects to issue one or more additional series of Turnpike Revenue Bonds under the Senior Indenture during 2017 for the purpose of funding costs of capital projects included in the Commission's current ten year capital program. Additionally, the Commission previously entered into a loan agreement dated August 4, 2016, (see <http://emma.msrb.org/ES821235-ES644377-ES1039543.pdf>)<sup>7</sup> for a copy of such agreement) pursuant to which the Commission expects to borrow up to \$800 million (in up to sixteen tranches during the years 2017 through 2024) through the Immigrant Investor Program, the proceeds of which would be used to fund costs of capital projects included in the Commission's

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<sup>7</sup> The information contained on such website link is not incorporated by reference in this Appendix A.



current ten year capital program. Any such debt issued under the Immigrant Investor Program (and the subsequent refinancing thereof) is accounted for in the Commission's current Act 44 Financial Plan and would be issued under the Senior Indenture on parity with the Turnpike Revenue Bonds.

The Commission does not expect to issue any additional bonds under the Subordinate Indenture during the remainder of 2017 to finance all or a portion of its quarterly payments to PennDOT pursuant to the Amended Funding Agreement under the Enabling Acts. (See "THE COMMISSION—Enabling Acts – *Issuance of Bonds; Commission Payments*" above.) In addition, the Commission regularly evaluates market conditions with respect to the possible refunding of its outstanding Turnpike Revenue Bonds, Subordinate Revenue Bonds, Special Revenue Bonds, Oil Franchise Tax Revenue Bonds and Registration Fee Revenue Bonds.

The ability of the Commission to repay such borrowings could be adversely affected by many factors, some of which are beyond the control of the Commission. For example, economic circumstances which result in significant declines in motor vehicle acquisition or operating cost increases could adversely affect the number of motor vehicles in use. An increase in the cost of fuel could adversely affect both the number of motor vehicles using the System and the mileage that such vehicles travel. Government regulations, such as Clean Air Act requirements, might also significantly restrict motor vehicle use and therefore diminish Tolls.

## **CERTAIN OTHER INFORMATION**

### **Insurance**

The Commission maintains All-Risk Property, Builder's Risk, Public Official bonds, Crime and Fiduciary insurance coverage and is self-insured for Workers' Compensation, Auto Liability, and General Liability claims.

For capital projects, the Commission maintains Builders' Risk insurance that covers buildings and structures, including temporary structures, while being constructed, erected or fabricated on Commission property. This insurance provides coverage against risk of physical damage and/or loss (subject to policy exclusions) to all buildings and structures during construction. Upon completion, a project is then covered under an All Risk insurance policy that has a \$200 million per occurrence policy limit.

Deductibles range in amount depending on the line of coverage and the nature of the claim. For bridges, tunnels, overpasses, underpasses and viaducts, the deductible is \$5 million. For buildings (including contents), toll plazas and equipment, warehouses and similar facilities, the deductible is \$1 million. The Commission's All Risk Insurance policy also includes loss of business income coverage subject to a seven day waiting period.

Certain pre-specified construction projects are insured under an "Owner Controlled Insurance Program" until completion. Under these programs, the Commission, contractors and subcontractors are insured for Workers Compensation, General Liability, Builders Risk and other project-specific insurance with limits and large deductibles varying by project.

## **Personnel and Labor Relations**

As of August 1, 2017, the Commission employed 2,035 persons, consisting of 502 management employees, 1,435 full-time union members, and 98 temporary union employees. Seventy and one tenth percent (70.1%) of all employees are engaged in maintenance operations and fare collection. There are 785 field personnel in the 22 facilities.

In an effort to meet funding obligations and contain costs, in 2008 the Commission reduced overhead by eliminating vacant positions, offered early retirement incentives to eligible staff members, implemented a reduction-in-force program for positions no longer required, and reduced salary and benefit expenses by cutting 15 management positions. Subsequently, the Commission also reduced overtime by permanently shifting schedules, lowered expenses, and implemented a management pay freeze during Fiscal Years 2009-2010 and 2010-2011, and the first half of Fiscal Year 2011-2012. As a result, the Commission currently employs 520, or 20.4%, fewer employees than it did in 2002, the peak employment year over the past 15 years.

The civil service requirements applicable to the state government do not apply to employees of the Commission.

The Commission is a party to three collective bargaining agreements and one memorandum of understanding with Teamsters' Local Unions covering central office, field, professional and first level supervisory personnel. The three collective bargaining agreements became effective on October 1, 2007 and expired on September 30, 2011. An agreement was reached with one bargaining unit, which was effective as of November 19, 2013 and extends until September 30, 2017. Agreements were reached with the other two bargaining units, which were ratified on January 27, 2016. Those agreements expire on September 30, 2019. The memorandum of understanding, which became effective on October 1, 2007, has no termination date. Since union representation began, the Commission has experienced one work stoppage which occurred on November 24, 2004 and lasted for seven days.

## **Retirement Plan**

The State Employee's Retirement System of the Commonwealth ("**SERS**") is one of the nation's oldest and largest statewide retirement plans for public employees. SERS administers both a defined benefit plan and a defined contribution plan. The defined benefit plan is funded through a combination of employee contributions, employer contributions and investment earnings. The defined contribution plan (Commonwealth of Pennsylvania Deferred Compensation Program) is funded by voluntary employee contributions and investment earnings.

Substantially all employees of the Commission are covered by SERS. The costs of the defined benefit plan are paid by the Commission quarterly based upon a stipulated contribution rate. Participating agency contributions, including those for the Commission, are mandated by statute and are based upon an actuarially determined percentage of gross pay that is necessary to provide SERS with assets sufficient to meet the benefits to be paid to SERS members.

Article II of the Pennsylvania Constitution provides the General Assembly the authority to establish or amend benefit provisions. Act 2001-9, signed into law on May 17, 2001, established Class AA ("**Class AA**") membership whereby, generally, annual full retirement

benefits for electing active members is 2.5% of the member's highest three-year average salary (final average salary) multiplied by years of service. Commission employees hired after June 30, 2001, but before January 1, 2011, are Class AA members. Members hired on or before June 30, 2001 had the option, but were not required, to elect Class AA membership.

Those members not electing Class AA membership are considered Class A ("**Class A**"). The general annual benefit for full retirement for Class A members is 2% of the member's final average salary multiplied by years of service. Retirement benefits for Class A and AA employees vest after 5 years of credited service. Class A and AA employees who retire at age 60 with three years of service or with 35 years of service if under age 60 are entitled to an unreduced annual retirement benefit.

On July 6, 2010, Pennsylvania Act 2010-46 was enacted which reduced the employer contribution rates for Fiscal Year 2010-2011, thus reducing the Commission's contribution rates for Fiscal Year 2010-2011 from 3.80% for Class A employees and 4.75% for Class AA employees to 3.29% for Class A employees and 4.11% for Class AA employees. This rate reduction was only for one year.

On November 23, 2010, Pennsylvania Act 120 of 2010 ("**Act 120**") was enacted. Under this legislation, effective January 1, 2011, benefit reductions are mandated for future SERS members; however, benefits for current members are preserved. New employees are subject to a higher contribution rate, an increase in the vesting period from five to ten years, elimination of lump-sum withdrawals, and an increase to the normal retirement age to obtain full, unreduced pension benefits. Rather than the current full benefit provision of 35 years of credited service, new employees' age and combined years of service must equal 92, including a minimum of 35 years of credited service, before they may receive full benefits. Act 120 established Class A-3 and Class A-4 memberships. Effective January 1, 2011, all new members to the System must elect one of these new membership classes. New members who elect Class A-3 will accrue benefits at 2% of their final average salary multiplied by years of service. Those members choosing Class A-4 will accrue benefits at 2.5% of their final average salary multiplied by years of service. Under Act 120, retirement benefits for Class A-3 and A-4 vest after 10 years of credited service. Class A-3 and A-4 members who retire at age 65 with three years of service or when the member's age (last birthday) plus his/her completed years of credit service total at least 92 (Rule of 92) are entitled to an unreduced annual retirement benefit. Members hired prior to January 1, 2011 retain their current full benefit provision of 35 years of credited service.

Covered Class A, Class AA, Class A-3 and A-4 employees are required by statute to contribute to SERS at a rate of 5.00%, 6.25%, 6.25% and 9.30% respectively, of their gross pay. Employees' contributions are recorded in individually identified accounts, which are also credited with interest, calculated quarterly to yield 4.00% per annum, as mandated by statute. Accumulated employee contributions and credited interest vest immediately and are returned to the employee upon termination of service if the employee is not eligible for other benefits.

Participating agency contributions, including those for the Commission, are also mandated by statute and are based upon an actuarially determined percentage of gross pay that is necessary to provide SERS with assets sufficient to meet the benefits to be paid to SERS members. The Commission's required retirement contribution, as a percentage of covered payroll, by class for Fiscal Years 2013-2017 of the Commonwealth, is as follows:

<u>Year Ended June 30</u> <u>(Commonwealth's Fiscal Year)</u>	<u>Class A</u>	<u>Class AA</u>	<u>Class A-3</u>	<u>Class A-4</u>
2017	23.96%	29.95%	20.70%	20.70%
2016	19.89	24.86	17.18	17.18
2015	15.94	19.92	13.77	13.77
2014	12.10	15.12	10.46	10.46
2013	8.43	10.51	7.29	7.29

The Commission's required contributions and percentage contributed for Fiscal Years 2013-2017 of the Commission are as follows:

<u>Year Ended May 31</u>	<u>Commission Required</u> <u>Contribution</u> <u>(in millions)</u>	<u>Percent Contributed</u>
2017	\$33.3	100%
2016	27.9	100
2015	22.6	100
2014	17.4	100
2013	12.0	100

The Commission has budgeted \$48 million for Fiscal Year 2017-2018 SERS required contribution of pension expense.

A copy of SERS's annual financial statements may be obtained by writing to: State Employees' Retirement System, 30 North Third Street, P.O. Box 1147, Harrisburg, Pennsylvania, 17108-1147. Additional information about SERS, including its Comprehensive Annual Financial Reports and actuarial valuation reports, are available at <http://www.sers.state.pa.us>.<sup>8</sup>

Act 120 also imposes limits referred to as "collars" on annual increases to employer contribution rates (i.e., the employer contribution rate for a particular year may not exceed the sum which results from adding the collar applicable for such year to the prior year's contribution rate). The collar for Commonwealth Fiscal Year 2015-2016 was 4.5% and will no longer apply effective July 1, 2017.

At fiscal year ended May 31, 2017, the Commission reported a liability of \$379.2 million for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. See Note 8 to the Commission's Financial Statements for additional information on how such pension liability was calculated.

On June 12, 2017 Governor Wolf signed Act 5 of 2017 ("**Act 5**") into law that will fundamentally change retirement options for most new Commission employees beginning

<sup>8</sup> The information contained on such website link is not incorporated by reference in this Appendix A.

January 1, 2019. The legislation allows current Commission employees/SERS members to opt-in to one of the three new options between January 1, 2019 and March 31, 2019.

Among other changes, Act 5 creates three new classes of service which include: two new hybrid defined benefit/defined contribution tiers (“**A-5**” and “**A-6**”); and a straight defined contribution plan (“**DC**”) for SERS. The new classes of service will apply to all Commission employees who first become SERS members on or after January 1, 2019. Benefit reductions and increased retirement ages are mandated for future SERS members. Beginning January 1, 2019, new A-5 employees will annually accrue benefits at a rate of 1.25% and A-6 employees will annually accrue benefits at a rate of 1.0%. A-5, A-6 and DC employees will be subject to different employee contribution rates for the defined benefit and defined contribution plans and the vesting period for the defined benefit portion will be ten years while the defined contribution portion vests after three years. Additionally, Act 5 increases the normal retirement age to obtain full, unreduced defined benefit pension benefits for new A-5 and A-6 employees to age 67 and it requires 35 years of service and utilizes the “Rule of 97” (i.e., years of service plus age equal or exceed 97) The final average salary used to calculate defined benefits will be the employee’s five highest salary years. Employer contribution rates for A-5, A-6 and DC employees will be 2.25%, 2.0% and 3.5% respectively.

Act 5 does not affect current Commission retiree’s pension benefits nor does it reduce benefits for current Commission employees. Act 5 also provides special benefit enhancements for current A-3 and A-4 Commission employees who will be allowed to take certain lump sum withdrawals upon retirement. Additionally, A-3 and A-4 employee pension contribution rates will go down when SERS investment returns exceed return targets (“**Shared-Gain**”). This provision balances the current downside risk-sharing required of A-3 and A-4 members as required by Act 120.

For more information on SERS, including Act 120 and Act 5, see the SERS website at [http://sers.pa.gov/newsroom\\_facts.aspx](http://sers.pa.gov/newsroom_facts.aspx)<sup>9</sup>, [http://sers.pa.gov/about\\_legislation.aspx](http://sers.pa.gov/about_legislation.aspx)<sup>10</sup>, and the disclosure beginning on page 46 of the Official Statement for the Commonwealth’s General Obligation Bonds, Second Refunding Series of 2016 dated December 7, 2016, which may be found at the EMMA website at <http://emma.msrb.org/EP971979-EP753870-EP1155474.pdf>.<sup>11</sup> **See also Note 8 to the Commission’s Financial Statements and related Required Supplementary Information for more information on the Commission’s pension liabilities.**

### **Other Post-Employment Benefit Liabilities**

The Commission maintains a welfare plan program (the “**Plan**”), one purpose of which is to provide benefits to eligible retirees and their dependents. The Plan is a single employer, defined benefit plan. The Commission established the Pennsylvania Turnpike Commission Retiree Medical Trust (the “**Trust**”) on May 30, 2008 as an irrevocable trust, tax-exempt under

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<sup>9</sup> The information contained on such website link is not incorporated by reference in this Appendix A.

<sup>10</sup> The information contained on such website link is not incorporated by reference in this Appendix A.

<sup>11</sup> The information contained on such website link is not incorporated by reference in this Appendix A

the Internal Revenue Code, to provide funding of the Plan's other post-employment benefits ("*OPEB*" or the "*Benefits*").

The Trust is administered by five trustees appointed by the Commission and who serve 2-year terms. PNC Bank, N.A. serves as custodian of the assets of the Trust. Payments from the Trust are made by the custodian at the direction of the Trustees. The Trust's financial statements are not included in the financial statements of a public employee retirement system. The Trust issues a stand-alone financial report, which can be obtained by contacting the Commission's Accounting and Financial Reporting Department.

Plan benefit provisions and retiree and dependent contribution rates are established and may be amended by the Commission.

Management and Supervisory Union Employees/Retirees. The Benefits funded by the Trust include certain post-employment medical, prescription drug, dental and vision benefits to management and supervisory union employees based upon their date of hire and years of service. Eligibility categories generally include:

- Employees hired before March 1, 2016, who have reached 20 years of service and are under age 60; benefit eligibility changes from 20 to 10 years for retirees 60 years of age or older. The last five years of service must be with the Commission.
- Employees hired on or after March 1, 2016, who have reached 30 years of service and are under age 60; benefit eligibility changes from 30 to 25 years for retirees 60 years of age or older. The last ten years of service must be with the Commission. (Some current and previous Commonwealth employees hired on or after this date would be grandfathered under the first eligibility category.)

The same coverage is provided to surviving spouses or domestic partners and dependents of management and supervisory union retirees who retired on or after March 1, 2001. Surviving spouses or domestic partners of retirees who retired prior to March 1, 2001, may purchase medical coverage at the group rate and dependents are offered coverage under COBRA. Medicare Part B premiums are paid by the retiree, spouse or dependent if age 65 or over, or under age 65 and disabled.

Non-Supervisory Union Employees/Retirees. The Benefits also include certain post-employment medical and prescription drug benefits to non-supervisory union employees who have satisfied the eligibility requirements in the applicable collective bargaining agreement.

- For Local 30 Professionals who were hired prior to January 1, 2011 and Local 250 and 77 employees who were hired prior to February 1, 2016, the earlier of completion of 20 years of credited service or the later of attainment of age 60 and completion of 10 years of credited service. The last 5 years of credited service must be with the Commission.
- For Local 30 Professionals who were hired on or after January 1, 2011 and Local 250 and 77 employees who were hired on or after February 1, 2016, the earlier of completion of 30 years of credited service or the later of attainment of age 60 and

completion of 25 years of credited service. The last 10 years of credited service must be with the Commission.

The same coverage is provided to spouses or domestic partners and dependents of eligible non-supervisory union retirees until the death of the retiree. Surviving spouses or domestic partners are required to contribute the full cost of coverage and dependents are offered coverage under COBRA.

The Trust began making payments to benefit providers for retiree claims and related administrative fees in October 2008. Prior to that time, the Commission made such payments. For the year ended May 31, 2016, claims and administration expenses totaled \$16.7 million.

In accordance with the pronouncements of the GASB (Governmental Accounting Standards Board), the Commission implemented GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions during fiscal year 2008*. Pursuant to GASB Statement No. 45, the Commission is required to have biennial actuarial valuations of its OPEB obligations. The most recent actuarial valuation was completed as of January 1, 2016. Based on this valuation, the value of the Trust's assets is \$331.6 million and the actuarial accrued liability is \$330.4 million which nets to a funding excess of \$1.2 million and a funded percentage of 100.4%, using a 6.5% discount rate and assuming that the annual required contribution would be invested in an irrevocable separate trust account.

Prior to implementing GASB Statement No. 45, the Commission funded its post-employment benefit liabilities on a pay-as-you-go basis. As a result of GASB Statement No. 45, the Commission adopted a Retiree Medical Trust Funding Policy, effective September 17, 2008, whereby the Commission anticipates approving an annual contribution to the Trust in the amount of the annual required contribution ("ARC") as determined by the Commission's actuary during the approval of its annual operating budget. The Commission's annual required contributions for Fiscal Year 2016 and Fiscal Year 2017, which includes the normal costs for the year, a Trust expense assumption, a component for the level dollar amortization of the total UAAL and a mid-year contribution interest component, were \$11.4 million and \$11.1 million, respectively. The Commission's actual contributions to the Trust for Fiscal Year 2016 and Fiscal Year 2017 were \$28.143 million and \$28.176 million, respectively.

**The Trust's financial statements are not included in the financial statements of the Commission. For additional information regarding the Benefits and the Trust, including funding status and actuarial methods and assumptions, see Note 11 to the Financial Statements.**

### **Commission Compliance Department**

In 2009, an Office of Inspector General (the "**OIG**") was created within the Commission to maintain integrity and efficiency at the Commission and to further maintain public confidence in the Commission. In 2012, the OIG merged into the newly created Compliance Department. The functions of the former OIG currently fall under the Compliance Department and the Special Investigations unit within the Compliance Department. The primary mission of the Compliance Department is developing, managing, and executing comprehensive audit and investigation

programs that examine and promote the adequacy and effectiveness of the Commission's internal control system. The Compliance Department includes the office of Chief Compliance Officer and the departments of Toll Revenue Audit, Internal Audit, Advisory Services, and Special Investigations. As head of the department, the Chief Compliance Officer oversees all aspects of operations auditing, toll revenue auditing, and internal and external investigations, enforcement of Commission rules, regulations, policies and strategic planning, and the Commission's Code of Conduct. The Compliance Department has conducted numerous investigations of fraud, waste, abuse and misconduct that have resulted in the termination of Commission employees and a vendor contract. In addition, the Compliance Department in response to the Advisory Committee's Report dated, October 21, 2014, has conducted Code of Conduct and Business Conduct Guidelines training to all Commission employees, construction contractors, and vendors, consultants and other business partners in the construction services sector. When appropriate, the Compliance Department refers cases to law enforcement authorities for possible criminal prosecution.

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# EXHIBIT I

## PENNSYLVANIA TURNPIKE COMMISSION FISCAL YEAR 2018 TEN-YEAR CAPITAL PLAN<sup>1</sup>

FY 2018 Ten Year Capital Plan (YOY)												
Program	Category	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	Total FINAL PLAN
Highway	Roadway/Safety	100,950,000	128,431,766	125,896,635	91,153,571	82,121,168	79,060,366	72,338,238	76,117,914	72,840,202	76,877,638	905,787,498
Highway	Bridge, Tunnel & Misc Structures	49,209,344	52,638,354	52,990,472	54,335,102	56,269,133	57,811,583	58,881,050	60,507,373	73,837,033	75,801,098	591,680,461
Highway	Total Reconstruction	177,786,025	208,067,443	232,951,195	218,870,815	175,496,162	192,836,140	207,874,688	301,383,197	297,415,814	348,134,114	2,360,805,593
Highway	Interchanges	125,995,000	38,707,953	22,211,102	8,655,532	69,975,432	74,117,311	76,088,832	0	0	0	415,751,162
Highway	Highway Miscellaneous	41,214,973	39,211,403	30,661,754	26,137,976	26,500,029	26,976,877	27,468,342	28,199,787	29,064,033	29,710,484	305,128,658
Highway	Total	495,155,342	466,446,919	464,711,159	399,152,996	410,361,925	430,802,197	442,643,150	466,199,271	473,157,080	530,523,333	4,579,153,372
FE MO	Re-capitalization	2,850,000	513,300	526,954	540,971	555,361	570,133	585,299	600,868	616,851	633,259	7,992,994
FE MO	Sidewalks	16,180,000	26,260,428	12,625,813	11,338,747	12,939,901	13,284,103	14,808,057	15,372,779	17,255,182	17,731,251	157,796,261
FE MO	Compliance	3,000,000	3,079,800	3,161,723	3,245,825	3,332,163	3,420,799	3,511,792	3,605,206	3,701,104	3,799,554	33,857,968
FE MO	New Energy Initiative	2,148,180	1,565,565	1,238,341	1,271,281	1,305,097	1,339,813	1,375,452	1,412,039	1,449,599	1,488,159	14,593,527
FE MO	Facilities Design	6,930,000	11,780,235	21,473,367	11,062,852	16,549,745	22,833,833	12,086,418	17,124,728	24,242,234	14,090,012	158,173,424
FE MO	Total	31,108,180	43,199,328	39,026,197	27,459,675	34,682,268	41,448,681	32,367,018	38,115,620	47,264,970	37,742,234	372,414,171
Fleet Equipment	Fleet Equipment	8,538,750	18,478,800	18,970,336	18,393,006	18,882,259	19,384,528	19,900,156	20,429,500	20,972,925	21,530,805	185,481,064
Technology	Functional Business Software	9,580,300	10,394,325	10,091,165	10,359,590	10,635,155	10,918,050	11,208,470	11,505,616	11,811,498	12,115,510	108,620,639
Technology	Infrastructure HW/SW	4,919,700	5,646,300	4,215,630	4,327,766	4,442,885	4,561,065	4,682,390	4,805,941	4,934,805	5,066,072	47,603,555
Technology	Toll Collection/Operations	2,894,000	1,847,880	1,897,034	1,947,495	1,999,298	2,052,479	2,107,075	2,163,124	2,220,663	2,279,732	21,408,780
Technology	Total	17,394,000	17,888,505	16,203,829	16,634,851	17,077,338	17,531,595	17,997,935	18,476,660	18,966,928	19,461,314	177,632,973
EN-00115	Cashless Tolling Conversion	17,094,000	16,220,280	22,290,145	70,142,268	71,308,298	82,999,715	65,213,982	42,901,950	61,944,150	17,097,992	447,212,779
	Grand Total (PSEXP)	569,290,272	562,233,832	561,201,665	531,782,795	552,312,087	572,166,715	578,122,241	586,123,021	622,306,052	626,355,878	5,761,894,359
	Reimbursed Funds	70,200,000	34,200,000	600,000	20,000,000	20,000,000	0	0	0	0	0	145,000,000
	Grand Total (PSNET)	499,090,272	528,033,832	560,801,665	511,782,795	532,312,087	572,166,715	578,122,241	586,123,021	622,306,052	626,355,878	5,616,894,359

<sup>1</sup> Capital plans from prior years back to Fiscal Year 2005-2006 are available on the Commission's website at [https://www.paturnpike.com/business/capital\\_plan.aspx](https://www.paturnpike.com/business/capital_plan.aspx)

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## **APPENDIX B**

### **AUDITED 2017 AND 2016 FINANCIAL STATEMENTS**

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**PENNSYLVANIA TURNPIKE COMMISSION**  
**A Component Unit of the Commonwealth of Pennsylvania**

**Basic Financial Statements**  
**Fiscal Years Ended May 31, 2017 and 2016**  
**With Independent Auditor's Report**

**Prepared by:**

Justin R. Simmons, Senior General Accountant  
Christopher G. Will, Portfolio Manager  
Catherine L. Sabo, Accounting Manager  
Theodore A. Rusenko, Accounting and Financial Reporting Manager  
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Anthony Q. Maun, Assistant CFO/Accounting and Budget



**MITCHELL TITUS**  
ACHIEVING EXCELLENCE TOGETHER

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**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Basic Financial Statements

Fiscal Years Ended May 31, 2017 and 2016

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**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Basic Financial Statements

Fiscal Years Ended May 31, 2017 and 2016

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## INDEPENDENT AUDITOR'S REPORT

The Commissioners  
Pennsylvania Turnpike Commission

### ***Report on the Financial Statements***

We have audited the accompanying financial statements of the Pennsylvania Turnpike Commission (the Commission), a component unit of the Commonwealth of Pennsylvania, as of and for the year ended May 31, 2017, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

The Commission's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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### ***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Commission as of May 31, 2017, and the changes in its financial position and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### ***Emphasis of Matter***

As more fully explained in Note 9, the Commission has committed to making significant payments under an Amended Lease and Funding Agreement as required under the terms of Acts 44 and 89. The Commission's ability to make such payments is dependent on its continuing capability to issue bonds to fund such payments and ultimately to raise tolls sufficient to repay its bonded debt and current lease payments. Our opinion is not modified with respect to this matter.

### ***Other Matters***

#### ***Audit of Prior-Year Financial Statements***

The 2016 financial statements were audited by other auditors and their report thereon, dated September 2, 2016, contained an unmodified opinion on those financial statements in accordance with accounting principles generally accepted in the United States of America. The 2016 Other Supplementary Information was subjected to the auditing procedures by the other auditors, applied in the audits of the basic financial statements and certain additional procedures and was found to be fairly stated, in all material respects, in relation to the 2016 basic financial statements as a whole.

#### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of commission's proportionate share of net pension liability, the schedule of commission's contributions, and the schedule of funding progress – Postemployment healthcare benefits on pages 4 through 16 and pages 89 through 91 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.



#### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Commission's basic financial statements. The Section Information on pages 92 through 104 and the Schedules of Cost of Services Detail on page 105 are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Section Information and Schedules of Cost of Services Detail are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information for 2017 has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Section Information and Schedules of Cost of Services Detail for 2017 are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

*Mitchell Titus, LLP*

September 6, 2017

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
Management's Discussion and Analysis  
May 31, 2017

The management of the Pennsylvania Turnpike Commission (hereinafter referred to as the Commission) offers this narrative overview and analysis of the Commission's financial activities for the years ended May 31, 2017 and 2016, which should be read in conjunction with the Commission's basic financial statements. Certain amounts presented in the prior period have been reclassified to conform to the current period financial statement presentation.

### ***Overview of the Basic Financial Statements***

This Management's Discussion and Analysis (MD&A) is intended to serve as an introduction to the Commission's basic financial statements. While the Commission is considered a component unit of the Commonwealth of Pennsylvania, it is also an enterprise fund. Therefore, the Commission's financial statements are presented in a manner similar to a private-sector business and have been prepared according to generally accepted accounting principles in the United States of America (U.S. GAAP). All of the current year's revenues are recorded when earned and expenses are recorded as they are incurred, regardless of when the cash is received or disbursed.

The statements of net position present information on all of the Commission's assets and deferred outflows of resources, liabilities and deferred inflows of resources, with the differences being reported as net position. Over time, increases or decreases in net position serve as a relative indicator of the change in financial position of the Commission.

The statements of revenues, expenses, and changes in net position show the result of the Commission's total operations during the fiscal year and reflect both operating and nonoperating activities, capital contributions, and any special items. Changes in net position (increases or decreases) reflect the current fiscal period's operating impact upon the overall financial position of the Commission.

The statements of cash flows provide a detailed analysis of all sources and uses of cash. The direct method of cash flows is presented, along with a reconciliation of operating income to net cash provided by operating activities. The statements of cash flows are divided into the following activities sections – operating, investing, capital and related financing, and noncapital financing.

Notes to the basic financial statements contain information and offer explanations to the basic financial statements. The notes are intended to assist the reader in understanding the Commission's basic financial statements.

## PENNSYLVANIA TURNPIKE COMMISSION

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### Financial Analysis

#### Comparative Condensed Statements of Net Position

	May 31		
	2017	2016	2015
	(In Thousands)		
<i>Assets and deferred outflows of resources</i>			
Current assets	\$ 1,398,596	\$ 1,273,754	\$ 1,012,573
Long-term investments	843,616	935,770	822,550
Capital assets, net of accumulated depreciation	5,728,882	5,517,326	5,189,561
Other assets	159,666	155,908	149,275
Total assets	8,130,760	7,882,758	7,173,959
Total deferred outflows of resources	534,504	396,350	273,894
Total assets and deferred outflows of resources	8,665,264	8,279,108	7,447,853
<i>Liabilities and deferred inflows of resources</i>			
Current liabilities	913,350	740,063	697,388
Debt, net of unamortized premium	12,177,627	11,431,859	10,197,258
Net pension liability	379,173	346,946	296,271
Other noncurrent liabilities	246,896	269,409	247,041
Total liabilities	13,717,046	12,788,277	11,437,958
Total deferred inflows of resources	146,890	137,490	124,840
Total liabilities and deferred inflows of resources	13,863,936	12,925,767	11,562,798
<i>Net position</i>			
Net investment in capital assets	(258,038)	(24,520)	271,187
Restricted for construction purposes	330,048	332,920	269,098
Restricted for debt service	44,727	28,878	42,826
Unrestricted	(5,315,409)	(4,983,937)	(4,698,056)
Total net position	\$ (5,198,672)	\$ (4,646,659)	\$ (4,114,945)

The Commission's total net position decreased \$552.0 million and \$531.7 million for the fiscal years ended May 31, 2017 and 2016, respectively. The large decreases in net position in both fiscal years were largely due to the requirements of Act 44, Act 89 and the Amended Lease and Funding Agreement (Amended Funding Agreement) between the Commission and Pennsylvania Department of Transportation (PennDOT) and costs associated with the related debt. Please refer to Note 9, Commitments and Contingencies, of the financial statements and to the Events That Will Impact Financial Position section of this MD&A for additional information regarding Act 44, Act 89 and the Amended Funding Agreement between the Commission and PennDOT. See also Note 7, Debt, in reference to the related debt.

Restricted net position is restricted for construction projects and debt service as defined in Trust Indentures and applicable bond issue official statements.

## **PENNSYLVANIA TURNPIKE COMMISSION**

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### **Financial Analysis** (*continued*)

The Commission's total assets and deferred outflows of resources increased by \$386.2 million in fiscal year 2017. This 2017 increase is mostly related to an increase in capital assets of \$211.6 million and a \$138.2 million increase in deferred outflows of resources. The increase in capital assets is mostly related to capital asset additions of \$621.0 million, offset by assets transferred to PennDOT with a net book value of \$54.7 million and \$354.3 million of depreciation expense. The increase in deferred outflows of resources is primarily the result of refundings of debt. For additional information, see: Note 5, Capital Assets; Note 7, Debt; and the Capital Assets and Debt Administration section of this MD&A.

The Commission's total assets and deferred outflows of resources increased by \$831.3 million in fiscal year 2016. This 2016 increase is mostly related to an increase in cash and investments of \$368.7 million, increases in capital assets of \$327.8 million, and a \$122.5 million increase in deferred outflows of resources. The increase in capital assets is mostly related to capital asset additions of \$702.0 million, offset by assets transferred to PennDOT with a net book value of \$40.9 million and \$332.9 million of depreciation expense. The increase in deferred outflows of resources is primarily the result of refundings of debt and the December 31, 2015 GASB 68 actuarial valuation of the State Employees' Retirement System. For additional information, see: Note 4, Cash and Investments; Note 5, Capital Assets; Note 7, Debt; the Capital Assets and Debt Administration section of this MD&A; and Note 8, Retirement Benefits.

Total liabilities and deferred inflows of resources increased by \$938.2 million in fiscal year 2017 and by \$1,363.0 million in fiscal year 2016. The increase for both fiscal year 2017 and fiscal year 2016 were mainly related to the issuance of senior debt to finance the costs of various capital expenditures set forth in the Commission's current 10-year plan and the issuance of subordinate debt to finance the costs of making payments to PennDOT in accordance with Act 44, Act 89, and the Amended Funding Agreement. See Note 7, Debt, for additional information regarding the new issuances of debt.

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## Financial Analysis (*continued*)

	Year ended May 31		
	2017	2016	2015
		(In Thousands)	
<i>Operating</i>			
Operating revenues	\$ 1,134,396	\$ 1,052,691	\$ 949,735
Cost of services	(517,103)	(471,132)	(459,780)
Depreciation	(354,343)	(332,941)	(337,664)
Operating income	262,950	248,618	152,291
<i>Nonoperating revenues (expenses)</i>			
Investment earnings	14,225	29,069	17,502
Other nonoperating revenues	21,532	21,651	55,992
Act 44 payments to PennDOT	(450,000)	(450,000)	(450,000)
Capital assets transferred to PennDOT	(54,724)	(40,937)	(4,499)
Interest and bond expense	(560,660)	(521,021)	(465,869)
Nonoperating expenses, net	(1,029,627)	(961,238)	(846,874)
Loss before capital contributions and special items	(766,677)	(712,620)	(694,583)
Capital contributions	214,664	180,906	146,472
Decrease in net position	(552,013)	(531,714)	(548,111)
Net position at beginning of year, before restatement	(4,646,659)	(4,114,945)	(3,300,455)
Cumulative effect of change in accounting principle	-	-	(266,379)
Net position at beginning of year, as restated <sup>1</sup>	(4,646,659)	(4,114,945)	(3,566,834)
<b>Net position at end of year</b>	<b>\$ (5,198,672)</b>	<b>\$ (4,646,659)</b>	<b>\$ (4,114,945)</b>

<sup>1</sup>Beginning net position for fiscal year 2015 was restated (reduced by \$266.4 million) due to the implementation of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions - An Amendment of GASB Statement No. 27*.

For fiscal years ended May 31, 2017, and 2016, operating and nonoperating revenues totaled \$1,170.2 million and \$1,103.4 million, respectively, while operating and nonoperating expenses totaled \$1,936.8 million and \$1,816.0 million, respectively.

Total operating and nonoperating revenues for fiscal year 2017 were \$66.8 million or 6.1% higher than fiscal year 2016. This increase in revenue was mainly related to a \$80.9 million increase in fare revenues resulting from a January 2017 toll increase of 6.0% for both cash and E-ZPass customers and the full-year impact of the January 2016 toll increase of 6.0% for both cash and E-ZPass customers. In addition, total traffic volumes were up slightly, 0.7%, in fiscal year 2017 compared to fiscal year 2016.

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### **Financial Analysis** (*continued*)

Total operating and nonoperating revenues for fiscal year 2016 were \$80.2 million, or 7.8% higher than fiscal year 2015. This increase in revenue was mainly related to a \$98.0 million increase in fare revenues resulting from a January 2016 toll increase of 6.0% for both cash and E-ZPass customers and the full-year impact of the January 2015 toll increase of 5.0% for both cash and E-ZPass customers. In addition, total traffic volumes were up approximately 3.4% in fiscal year 2016 compared to fiscal year 2015.

Total operating and nonoperating expenses for fiscal year 2017 were \$120.8 million higher than fiscal year 2016 primarily due to increases in cost of services of \$46.0 million, increases in interest and bond expenses of \$39.6 million related to the increase in debt (see Note 7, Debt), an increase in depreciation expense of \$21.4 million and an increase in capital assets transferred to PennDOT of \$13.8 million. The increase in cost of services is mainly related to an increase in maintenance costs of \$12.6 million to maintain the System, an increase in employee benefits due to an increase in pension expense of \$10.7 million interest and an increase in professional fees and services of \$7.1 million.

Total operating and nonoperating expenses for fiscal year 2016 were \$98.2 million higher than fiscal year 2015, primarily due to increases in interest and bond expenses of \$55.2 million related to the increase in debt (see Note 7, Debt) and an increase of \$36.4 million in capital assets transferred to PennDOT.

Capital contributions increased by \$33.8 million in fiscal year 2017 and by \$34.4 million in fiscal year 2016, primarily due to increases in reimbursements from other governments (see Note 2).

### **Capital Assets and Debt Administration**

#### **Capital Assets**

Capital assets consist of land and intangible assets (right-of-way easements), buildings, improvements, equipment, infrastructure, and assets under construction. Infrastructure assets are typically items that are immovable such as highways, bridges and tunnels. The Commission's investment in capital assets at May 31, 2017 amounted to \$11.8 billion of gross asset value with accumulated depreciation of \$6.1 billion, leaving a net book value of \$5.7 billion. The net book value of capital assets at May 31, 2016 was \$5.5 billion. Capital assets represented 66.1% and 66.6% of the Commission's total assets and deferred outflows of resources at May 31, 2017 and May 31, 2016, respectively.

Assets under construction at the end of fiscal year 2017 were \$1,357.0 million, which was \$26.4 million more than in fiscal year 2016. Assets under construction at the end of fiscal year 2016 were \$1,330.6 million, which was \$373.6 million more than in fiscal year 2015. In fiscal year 2017, \$533.8 million of constructed capital assets were completed, which was \$275.4 million more than the \$258.4 million of constructed capital assets completed in fiscal year 2016. In addition to constructed capital assets, the Commission had capital assets additions of approximately \$60.9 million and \$70.0 million in fiscal years 2017 and 2016, respectively, related to purchases, capital contributions and capitalized interest.



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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Capital Assets (continued)*

The highest priority highway program for the Commission is the ongoing full depth roadway total reconstruction of the east/west Turnpike Mainline and Northeast Extension. This work includes the reconstruction and widening of the roadway, the widening of the median, replacement of both Mainline and overhead bridges as well as many safety enhancements. To date, approximately 124 miles of total reconstruction have been completed. Currently, approximately 20 miles are in construction and approximately 90 miles are in design. Also, the Commission completed another six miles of full depth roadway total reconstruction, 12 miles of roadway resurfacing and three interchange resurfacings during fiscal year 2017, helping to maintain a quality-riding surface with a Turnpike System-wide median IRI (International Roughness Index) of 73, which is rated as good.

The Commission completely replaced ten aging original bridges with new bridges, rehabilitated another nine bridges, eliminated two bridges, redecked one bridge and completely painted six bridges. Of the Commission's bridges, 3.6% are rated structurally deficient which is below the national average of 11.4%. All 31 bridges currently rated structurally deficient are either in construction or design for rehabilitation.

The Commission also constructed 13 new retaining walls in calendar year 2016.

Facility projects continue to focus on environmental and safety compliance, and on the maintenance and repair of existing buildings including HVAC, electrical and plumbing systems based on deficiencies identified during facility condition assessments. The Commission completed construction on the new Somerset Materials Testing Laboratory in May 2016. The Commission completed construction of the new Neshaminy Falls Toll Facility in December of 2015. Design of a renovation to the Kegg Maintenance Facility is scheduled to be complete in the fall of 2017, and construction is anticipated to be completed in November 2018. Design for a new District 1 Maintenance Facility to support the Southern Beltway is underway and is scheduled to be completed in the spring of 2018.

A public CNG Fueling Station opened in October 2014 at the New Stanton Service Plaza which included three fueling dispensers – one for passenger vehicles, one for commercial trucks, and one located outside the plaza gate for use by off-Turnpike vehicles. Since opening, over 268,000 gallons of CNG have been sold. Currently, there are five services plazas that have electric vehicle (EV) charging systems available to users on the Turnpike System. They are the Oakmont, New Stanton, Bowmansville, Peter J. Camiel and King of Prussia service plazas.

The Mon/Fayette Expressway is open to traffic from the Pennsylvania/West Virginia line to PA 51 in Jefferson Hills Borough, a distance of 53 miles. The preliminary design for the remainder of the Mon/Fayette Expressway project, extending from PA Route 51 to Interstate Route 376 in Pittsburgh, has been completed. Additional funding is required to complete the design, right-of-way and construction of this section.

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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Capital Assets (continued)*

The Southern Beltway is a series of three independent projects that extend from the Mon/Fayette Expressway near Finleyville to Pennsylvania Route 60 (PA 60) at the Pittsburgh International Airport. One project constructed as part of the Southern Beltway, a six-mile section of toll road in Allegheny County that connects PA 60 to U.S. Route 22 (U.S. 22), is in operation. The project from U.S. 22 to Interstate 79 (I-79) has started construction. When completed, the entire Southern Beltway will utilize cashless tolling. The project from I-79 to Mon/Fayette Expressway has completed the environmental phase and is inactive until additional funding is identified.

The Commission has no legal obligation to complete the unfinished portions of the Mon/Fayette Expressway and Southern beltway projects at this time.

The PA Turnpike/I-95 Interchange Project involves the construction of a direct interchange connecting the Turnpike Mainline to I-95. The project also includes tolling modifications and reconstruction and widening of the interstates.

The first phase of the Interchange Project includes preparatory work and construction of a portion of the interchange between I-95 and the Turnpike Mainline, including northbound I-95 to the eastbound Turnpike Mainline and southbound I-95 to the westbound Turnpike Mainline, and is currently under construction. This phase included construction of a new mainline toll plaza and a cashless tolling plaza westbound, both of which opened in January 2016. Construction will continue on this phase through 2018. The second phase will include the completion of the reconstruction and widening of the remaining interchange connectors. The third phase will be the construction of an additional bridge over the Delaware River.

The above paragraphs describe the changes in capital assets occurring during the fiscal years ended May 31, 2017 and 2016. Please refer to the capital assets section in the notes to the financial statements (Note 5) for more detailed capital asset schedules.

##### *Debt Administration – Mainline*

In June 2015, the Commission issued \$385,095,000 2015 Series A-1 Senior Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series A-1 Senior Bonds were issued to provide funds to finance the costs of various capital expenditures and advance refund all of the Commission's 2006 Series A Senior Revenue Bonds and for paying the cost of issuing the 2015 Series A-1 Senior Bonds.

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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Debt Administration – Mainline (continued)*

In June 2015, the Commission issued \$115,635,000 2015 Series A-2 Senior Bonds at a variable rate with a maturity date of December 1, 2021. The 2015 Series A-2 Senior Bonds were issued primarily for the current refunding of existing variable rate debt which included the Commission's 2013 Series B Variable Rate Revenue Bonds (\$65,155,000), the Commission's 2014 Series B-1 Variable Rate Revenue Bonds (\$15,080,000) and the Commission's 2014 Series B-2 Variable Rate Revenue Bonds (\$34,920,000). The bonds were also issued for payment of the costs of issuance for the 2015 Series A-2 Senior Bonds.

In October 2015, the Commission issued \$192,215,000 2015 Series B Subordinate Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series B Subordinate Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89 and for paying the cost of issuing the 2015 Series B Subordinate Bonds.

In December 2015, the Commission issued \$304,005,000 2015 Series B Senior Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series B Senior Bonds were issued to provide funds to finance the costs of various capital expenditures set forth in the Commission's current or any prior 10-year capital plan and for paying the cost of issuing the 2015 Series B Senior Bonds.

In February 2016, the Commission issued \$360,990,000 2016 Series Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of June 1, 2038. The 2016 Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$29,025,000), 2008 Series B-1 Subordinate Revenue Bonds (\$52,390,000), 2008 Series C-1 Subordinate Revenue Bonds (\$189,875,000), 2009 Series A Subordinate Revenue Bonds (\$23,470,000), 2009 Series B Subordinate Revenue Bonds (\$76,435,000), 2009 Series D Subordinate Revenue Bonds (\$9,975,000) and for paying the cost of issuing the 2016 Series Subordinate Revenue Refunding Bonds.

In March 2016, the Commission issued a \$150,000,000 2016 EB5 Loan at a fixed rate with a maturity date of March 18, 2021. This amount is comprised of the 1<sup>st</sup>-3<sup>rd</sup> Tranches under the Immigrant Investor Program loan agreement. The 2016 EB5 Loan was issued to fund a portion of the I-95 Interchange Project and for paying the cost of issuing the 2016 EB5 Loan.

In April 2016, the Commission issued \$203,700,000 2016 Series A-1 Subordinate Bonds at a fixed rate with a maturity date of December 1, 2046. The 2016 Series A-1 Subordinate Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89 and for paying the cost of issuing the 2016 Series A-1 Subordinate Bonds.

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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Debt Administration – Mainline (continued)*

In April 2016, the Commission issued \$185,455,000 2016 Series A-2 Subordinate Bonds at a fixed rate with a maturity date of June 1, 2033. The 2016 Series A-2 Subordinate Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$39,655,000), 2008 Series B-1 Subordinate Revenue Bonds (\$61,860,000), 2009 Series A Subordinate Revenue Bonds (\$27,275,000), 2009 Series B Subordinate Revenue Bonds (\$69,735,000) and for paying the cost of issuing the 2016 Series A-2 Subordinate Bonds.

In May 2016, the Commission issued a \$50,000,000 2016 EB5 Loan at a fixed rate with a maturity date of May 12, 2021. This amount is the 4<sup>th</sup> Tranche under the Immigrant Investor Program loan agreement. The 2016 EB5 Loan was issued to fund a portion of the I-95 Interchange Project and for paying the cost of issuing the 2016 EB5 Loan.

In June 2016, the Commission issued \$447,850,000 2016 Series A-1 Senior Bonds at a fixed rate with a maturity date of December 1, 2046. The 2016 Series A-1 Senior Bonds were issued primarily to provide funds for various capital expenditures set forth in the Commission's current or any prior 10-year capital plan, including, but not limited to, the reconstruction of roadbed and roadway, the widening, replacing and redecking of certain bridges and the rehabilitation of certain interchanges. The bonds were also issued for payment of the costs of issuance for the 2016 Series A-1 Senior Bonds.

In June 2016, the Commission issued \$140,590,000 2016 Series A-2 Senior Bonds at a variable rate with a maturity date of December 1, 2018. The 2016 Series A-2 Senior Bonds were issued primarily for the current refunding of existing variable rate debt, which included the Commission's 2012 Series B Variable Rate Revenue Bonds (\$70,060,000), the Commission's 2014 Series B-1 Variable Rate Revenue Bonds (\$35,050,000) and the Commission's 2014 Series B-2 Variable Rate Revenue Bonds (\$34,950,000). The bonds were also issued for payment of the costs of issuance for the 2016 Series A-2 Senior Bonds.

In June 2016, the Commission issued \$649,545,000 2016 Second Series Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of June 1, 2039. The 2016 Second Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$105,065,000), 2008 Series B-1 Subordinate Revenue Bonds (\$50,665,000), 2009 Series A Subordinate Revenue Bonds (\$43,355,000), 2009 Series B Subordinate Revenue Bonds (\$288,185,000), 2009 Series D Subordinate Revenue Bonds (\$16,575,000), 2010 Series B-1 Subordinate Revenue Bonds (\$11,850,000), 2010 Series B-2 Subordinate Revenue Bonds (\$87,475,000), 2010 Series C-2 Subordinate Revenue Bonds (\$17,670,000), 2011 Series A Subordinate Revenue Bonds (\$53,375,000), and for paying the cost of issuing the 2016 Second Series Subordinate Revenue Refunding Bonds.

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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Debt Administration – Mainline (continued)*

In October 2016, the Commission issued \$255,455,000 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2041. The 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2009 Series A Subordinate Revenue Bonds (\$20,990,000), 2009 Series B Subordinate Revenue Bonds (\$112,560,000), 2009 Series D Subordinate Revenue Bonds (\$75,700,000), 2010 Series B-2 Subordinate Revenue Bonds (\$35,545,000), 2011 Series A Subordinate Revenue Bonds (\$7,925,000), and for paying the cost of issuing the 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds.

In October 2016, the Commission issued \$75,755,000 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2025. The 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2008 Series A-2 Subordinate Revenue Bonds (\$18,905,000), 2008 Series B-2 Subordinate Revenue Bonds (\$47,785,000) and for paying the cost of issuing the 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds.

In October 2016, the Commission issued \$79,865,000 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2036. The 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2010 Series A-2 Motor License Fund-Enhanced Subordinate Revenue Bonds (\$16,520,000), 2010 Series B-2 Motor License Fund-Enhanced Subordinate Revenue Bonds (\$9,705,000), 2011 Series A Motor License Fund-Enhanced Subordinate Revenue Bonds (\$56,860,000) and for paying the cost of issuing 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds.

In January 2017, the Commission issued \$284,275,000 2017 Series A Subordinate Revenue Bonds at a fixed rate with a maturity date of December 1, 2046. The 2017 Series A Subordinate Revenue Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89, including reimbursing the Commission for certain payments previously made by the Commission to PennDOT and for paying the cost of issuing the 2017 Series A Subordinate Revenue Bonds.

In May 2017, the Commission issued \$291,850,000 2017 First Series Subordinate Revenue Refunding Bonds at a variable rate with a maturity date of December 1, 2041. The 2017 First Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2009 Series A Subordinate Revenue Bonds (\$71,475,000) and 2009 Series D Subordinate Revenue Bonds (\$215,130,000) and for paying the cost of issuing the 2017 First Series Subordinate Revenue Refunding Bonds.

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### **Financial Analysis** (*continued*)

#### **Capital Assets and Debt Administration** (*continued*)

##### *Debt Administration – Oil Company Franchise Tax*

In September 2016, the Commission issued \$198,595,000 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2032. The 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds were issued to provide funds for the advanced refunding of the Commission's 2003 Series C Oil Franchise Tax Senior Revenue Bonds (\$160,000,000), the advance refunding of a portion of 2009 Series A-2 Oil Franchise Tax Senior Revenue Bonds (\$2,120,000), the current refunding of 2006 Series A Oil Franchise Tax Senior Revenue Bonds (\$66,025,000) and for paying the cost of issuing the 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds.

In September 2016, the Commission issued \$115,395,000 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2032. The 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the 2009 Series D-2 Oil Franchise Tax Subordinate Revenue Bonds (\$860,000), the current refunding of the 2006 Series B Oil Franchise Tax Subordinate Revenue Bonds (\$122,205,000), the current refunding of 2003 Series B Oil Franchise Tax Subordinate Revenue Bonds (\$16,440,000) and for paying the cost of issuing the 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds.

##### *Debt Administration – Motor License Registration Fee*

In October 2015, the Commission converted \$231,425,000 Registration Fee Revenue Refunding Bonds Series B, C, and D of 2005 from a weekly rate mode to an index rate mode through a direct placement with DNT Asset Trust.

The preceding paragraphs describe debt activity occurring during the fiscal years ended May 31, 2017 and 2016. Please refer to the debt and commitments and contingencies sections in the notes to the financial statements (Notes 7 and 9) for more detailed schedules and descriptions of long-term debt and swap activity.

#### **Events That Will Impact Financial Position**

On July 18, 2007, Act 44 was enacted, creating a "public-public partnership" between the Commission and PennDOT to provide funding for roads, bridges and transit throughout the Commonwealth. Subsequently, in order to, among other things, effectuate the provisions of Act 44 requiring the Commission to make substantial annual payments to PennDOT, as described below, the Commission and PennDOT entered into a Lease and Funding Agreement (the Funding Agreement), incorporating many of the terms of Act 44. The term of the Funding Agreement is fifty (50) years from October 14, 2007, its effective date.

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### **Events That Will Impact Financial Position** (*continued*)

The Funding Agreement also granted the Commission the option to lease the portion of Interstate 80 (I-80) located in the Commonwealth from PennDOT upon, among other things, the approval of the Federal Highway Administration (FHWA) of the conversion of such portion into a toll road (the Conversion). The Conversion was not approved by FHWA and neither the Commission nor PennDOT appealed the decision. The Commission did not exercise its option to lease such portion of I-80, and the period during which the Commission could exercise its option under the Funding Agreement lapsed on October 14, 2010 without the Commission effectuating Conversion or having the ability to do so in the future. Under existing law, including Act 89, all legal, financial and operational responsibility for I-80 remains with PennDOT.

Pursuant to Act 44 and the Funding Agreement, because the Conversion did not occur, the Commission was obligated to make scheduled annual payments, payable in equal quarterly installments, of \$450 million to PennDOT through 2057 with \$200 million of the scheduled annual payment supporting road and bridge projects and \$250 million supporting transit projects throughout the Commonwealth. See paragraphs below as to subsequent changes to such annual payments.

On November 25, 2013, Act 89 was enacted providing substantial revision to the Commission's transportation funding obligations under Act 44 and authorized the Commission and PennDOT to immediately amend the Funding Agreement to reflect the statutory provisions of Act 89. On April 4, 2014, the Commission and PennDOT executed Amendment Number One to the Lease and Funding Agreement (the *Act 89 Amendment* and together with the Act 44 Funding Agreement, the *Amended Funding Agreement*). The Amended Funding Agreement terminates on October 14, 2057. In accordance with Act 89 and the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT for fiscal year 2014 through fiscal year 2022 is \$450 million and, in accordance with Act 89, the Commission must pay at least \$30 million of such amount from current revenues. Commencing in fiscal year 2023 through the term of the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT is \$50 million, which shall be paid from then current revenues.

The provisions of Act 44 and the Funding Agreement require that the Commission provide a financial plan to the Secretary of the Budget of the Commonwealth on or before June 1 of each year that describes the Commission's proposed operating and capital expenditures, borrowings, liquidity and other financial management covenants and policies, estimated toll rates and all other revenue and expenditures for the ensuing fiscal year. Act 44 provides that the financial plan shall demonstrate that the operation of the Commission can reasonably be anticipated to result in having sufficient funds to make payments due to PennDOT pursuant to the Funding Agreement and Act 44 during the ensuing and future fiscal years. It is important to note that the financial plan does not cover the funding needs for the Mon/Fayette or the Southern Beltway projects.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
Management's Discussion and Analysis (*continued*)  
May 31, 2017

### **Events That Will Impact Financial Position** (*continued*)

On June 1, 2017, the Commission submitted its financial plan for fiscal year 2018 (the Financial Plan). The Financial Plan incorporates the Commission's adopted Ten Year Capital Plan, which provides for approximately \$5.6 billion, net of federal reimbursements, in capital spending over the period from fiscal year 2018 through the fiscal year 2027. The Capital Plan enables the Commission to undertake a number of capital improvements and to pursue new initiatives to maintain and improve the Turnpike System ensuring that it remains in a state of good repair. The Financial Plan indicates that in fiscal year 2017 the Commission fully met its Act 44 obligations and progressed with its Capital Plan. Given the ongoing and moderate recovery of both the national and state economies, the Commission plans to continue the cost containment and efficiency measures it implemented within the past few years. These measures, together with future toll increases, are expected to allow the Commission to meet its financial covenants, Act 44 and Act 89 obligations, and capital needs during fiscal year 2018.

The Financial Plan concludes that the Commission will continue to meet all of its indenture covenants and all of its other obligations through fiscal year 2057. However, as a forward-looking report, the Financial Plan makes certain assumptions, including future toll increases, to reach its conclusion that the financial covenants, Act 44 and Act 89 obligations and capital needs will be met beyond fiscal year 2017. Key among these assumptions is the Commission's ability to raise tolls throughout the Turnpike System. The Financial Plan reflects the full year effects of the January 2017 toll increase and the partial year impacts of a January 2018 toll increase. The Financial Plan assumes the \$450 million reduced level of funding obligations required by Act 44 and Act 89 through fiscal year 2022 and the \$50 million funding level from fiscal year 2023 through fiscal year 2057. No assurances can be made by the Commission with respect to the assumptions made or conclusions reached in the Financial Plan. A complete copy of the Financial Plan is available on the Commission's website.

The preceding paragraphs provide a brief overview of Act 44 and Act 89 and their requirements. Please refer to the commitments and contingencies section in the notes to the financial statements (Note 9) for additional information regarding the Commission's commitments under the Amended Funding Agreement. Furthermore, legislation may be introduced that could affect the Commission and its obligations pursuant to Act 44 and Act 89. However, the Commission cannot predict what other legislation may be considered by the General Assembly during the 2017-2018 or future legislative sessions or if any other proposals or initiatives may lead to the adoption of legislation that may affect the Commission.



# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Statements of Net Position

May 31, 2017 and 2016

(in thousands)

	<u>2017</u>	<u>2016</u>
<b>ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</b>		
<i>Current assets</i>		
Cash and cash equivalents	\$ 215,949	\$ 169,248
Short-term investments	67,764	40,798
Accounts receivable	69,181	57,257
Accrued interest receivable	1,268	1,457
Inventories	18,973	20,492
<i>Restricted current assets</i>		
Cash and cash equivalents	701,841	805,047
Short-term investments	303,421	165,181
Accounts receivable	16,686	11,271
Accrued interest receivable	3,513	3,003
Total current assets	<u>1,398,596</u>	<u>1,273,754</u>
<i>Noncurrent assets</i>		
<i>Long-term investments</i>		
Long-term investments unrestricted	278,202	279,926
Long-term investments restricted	565,414	655,844
Total long-term investments	<u>843,616</u>	<u>935,770</u>
<i>Capital assets not being depreciated</i>		
Land and intangibles	359,210	333,934
Assets under construction	1,356,951	1,330,627
<i>Capital assets being depreciated</i>		
Buildings	978,186	968,902
Improvements other than buildings	121,137	119,256
Equipment	638,300	619,779
Infrastructure	8,380,745	7,908,360
Total capital assets before accumulated depreciation	11,834,529	11,280,858
Less: Accumulated depreciation	<u>6,105,647</u>	<u>5,763,532</u>
Total capital assets after accumulated depreciation	5,728,882	5,517,326
<i>Other assets</i>		
Prepaid bond insurance costs	5,377	9,788
OPEB asset	122,542	113,930
Other assets	31,747	32,190
Total other assets	<u>159,666</u>	<u>155,908</u>
Total noncurrent assets	<u>6,732,164</u>	<u>6,609,004</u>
Total assets	8,130,760	7,882,758
Deferred outflows of resources from hedging derivatives	106,825	133,791
Deferred outflows of resources from refunding bonds	343,320	196,278
Deferred outflows of resources from pensions	84,359	66,281
Total deferred outflows of resources	<u>534,504</u>	<u>396,350</u>
<b>Total assets and deferred outflows of resources</b>	<u><u>\$ 8,665,264</u></u>	<u><u>\$ 8,279,108</u></u>

The accompanying notes are an integral part of these financial statements.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
 Statements of Net Position *(continued)*  
 May 31, 2017 and 2016  
 (in thousands)

	<u>2017</u>	<u>2016</u>
<b>LIABILITIES AND DEFERRED INFLOWS OF RESOURCES</b>		
<i>Current liabilities</i>		
Accounts payable and accrued liabilities	\$ 449,301	\$ 409,529
Current portion of debt	391,375	262,690
Unearned Income	<u>72,674</u>	<u>67,844</u>
Total current liabilities	<u>913,350</u>	<u>740,063</u>
<i>Noncurrent liabilities</i>		
Debt, less current portion, net of unamortized premium of \$808,031 and \$514,396 in 2017 and 2016, respectively	12,177,627	11,431,859
Net pension liability	379,173	346,946
Other noncurrent liabilities	<u>246,896</u>	<u>269,409</u>
Total noncurrent liabilities	<u>12,803,696</u>	<u>12,048,214</u>
Total liabilities	<u>13,717,046</u>	<u>12,788,277</u>
Deferred inflows of resources from hedging derivatives	2,700	-
Deferred inflows of resources from service concession arrangements	122,694	124,028
Deferred inflows of resources from refunding bonds	3,207	1,269
Deferred inflows of resources from pensions	<u>18,289</u>	<u>12,193</u>
Total deferred inflows of resources	<u>146,890</u>	<u>137,490</u>
Total liabilities and deferred inflows of resources	<u>13,863,936</u>	<u>12,925,767</u>
<b>NET POSITION</b>		
Net investment in capital assets	(258,038)	(24,520)
Restricted for construction purposes	330,048	332,920
Restricted for debt service	44,727	28,878
Unrestricted	<u>(5,315,409)</u>	<u>(4,983,937)</u>
Total net position	<u>\$ (5,198,672)</u>	<u>\$ (4,646,659)</u>

The accompanying notes are an integral part of these financial statements.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
Statements of Revenues, Expenses, and Changes in Net Position  
Years Ended May 31, 2017 and 2016  
(in thousands)

	<u>2017</u>	<u>2016</u>
<i>Operating revenues</i>		
Fares - net of discounts of \$3,915 and \$1,505 for the years ended May 31, 2017 and 2016, respectively	\$ 1,111,061	\$ 1,030,115
Other	<u>23,335</u>	<u>22,576</u>
Total operating revenues	1,134,396	1,052,691
<i>Operating expenses</i>		
Cost of services	517,103	471,132
Depreciation	<u>354,343</u>	<u>332,941</u>
Total operating expenses	<u>871,446</u>	<u>804,073</u>
Operating income	262,950	248,618
<i>Nonoperating revenues (expenses)</i>		
Investment earnings	14,225	29,069
Other nonoperating revenues	21,532	21,651
Act 44 and Act 89 payments to PennDOT	(450,000)	(450,000)
Capital assets transferred to PennDOT	(54,724)	(40,937)
Interest and bond expense	<u>(560,660)</u>	<u>(521,021)</u>
Nonoperating expenses, net	<u>(1,029,627)</u>	<u>(961,238)</u>
Loss before capital contributions	(766,677)	(712,620)
Capital contributions	<u>214,664</u>	<u>180,906</u>
Decrease in net position	(552,013)	(531,714)
Net position at beginning of year	<u>(4,646,659)</u>	<u>(4,114,945)</u>
<b>Net position at end of year</b>	<u>\$ (5,198,672)</u>	<u>\$ (4,646,659)</u>

The accompanying notes are an integral part of these financial statements.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
 Statements of Cash Flows  
 Years Ended May 31, 2017 and 2016  
 (in thousands)

	<u>2017</u>	<u>2016</u>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash received from customer tolls and deposits	\$ 1,117,714	\$ 1,036,742
Cash payments for goods and services	(328,522)	(301,972)
Cash payments to employees	(158,134)	(161,969)
Cash received from other operating activities	8,926	12,312
Net cash provided by operating activities	<u>639,984</u>	<u>585,113</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Proceeds from sales and maturities of investments	4,841,067	3,210,832
Interest received on investments	22,255	22,636
Purchase of investments	(4,910,891)	(3,249,460)
Net cash used in by investing activities	<u>(47,569)</u>	<u>(15,992)</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Capital grants received from other governments	55,265	33,497
Proceeds from Motor License Registration fees	28,000	28,000
Proceeds from Oil Company Franchise Tax	120,754	121,130
Construction and acquisition of capital assets	(599,083)	(687,332)
Proceeds from sale of capital assets	993	1,148
Payments for bond and swap expenses	(4,337)	(5,188)
Payments for debt refundings	(525,419)	(233,170)
Payments for debt maturities	(68,200)	(80,865)
Interest paid on debt	(270,070)	(234,357)
Interest subsidy from Build America Bonds	20,843	20,864
Swap suspension payments received	-	4,800
Proceeds from debt issuances	1,055,718	1,004,735
Draw on Stand by Purchase Agreement	-	231,430
Paid Stand by Purchase Agreement	-	(231,430)
Net cash used in capital and related financing activities	<u>(185,536)</u>	<u>(26,738)</u>
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES</b>		
Cash payments to PennDOT	(450,000)	(450,000)
Payments for bond and swap expenses	(8,128)	(5,046)
Payments for debt refundings	(1,549,690)	(579,695)
Payments for debt maturities	(54,430)	(57,765)
Interest paid on debt	(224,231)	(201,716)
Proceeds from debt issuances	1,823,095	942,360
Net cash used in noncapital financing activities	<u>(463,384)</u>	<u>(351,862)</u>
(Decrease) increase in cash and cash equivalents	(56,505)	190,521
Cash and cash equivalents at beginning of year	<u>974,295</u>	<u>783,774</u>
<b>Cash and cash equivalents at end of year</b>	<u><u>\$ 917,790</u></u>	<u><u>\$ 974,295</u></u>

The accompanying notes are an integral part of these financial statements.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
Statements of Cash Flows *(continued)*  
Years Ended May 31, 2017 and 2016  
(in thousands)

	<u>2017</u>	<u>2016</u>
<i>Reconciliation of operating income to net cash provided by operating activities</i>		
Operating income	\$ 262,950	\$ 248,618
<i>Adjustments to reconcile operating income to net cash provided by operating activities</i>		
Depreciation	354,343	332,941
<i>Change in operating assets and liabilities</i>		
Accounts receivable	(11,924)	(10,505)
Inventories	1,520	(1,684)
Other assets	(8,606)	(9,008)
Deferred outflows of resources from pensions	(18,078)	(45,203)
Accounts payable and accrued liabilities	17,042	9,482
Net pension liability	32,227	50,675
Other noncurrent liabilities	4,414	288
Deferred inflows of resources from pensions	6,096	9,509
<b>Net cash provided by operating activities</b>	<u>\$ 639,984</u>	<u>\$ 585,113</u>
<i>Reconciliation of cash and cash equivalents to the statements of net position</i>		
Cash and cash equivalents	\$ 215,949	\$ 169,248
Restricted cash and cash equivalents	701,841	805,047
<b>Total cash and cash equivalents</b>	<u>\$ 917,790</u>	<u>\$ 974,295</u>

The accompanying notes are an integral part of these financial statements.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Statements of Cash Flows (*continued*)

Years Ended May 31, 2017 and 2016

### Noncash Activities

The Commission recorded a net increase of \$9.5 million and a net decrease of \$4.5 million in the fair value of its investments for the years ended May 31, 2017 and 2016, respectively.

The Commission recorded \$34.8 million and \$17.6 million for the amortization of bond premiums for the years ended May 31, 2017 and 2016, respectively.

As indicated in Note 7 (Debt), the Commission refunded various bonds in both fiscal years 2017 and 2016. The fiscal year 2017 refundings resulted in an \$8.1 million reclassification from bond premiums (discounts) to deferred outflows of resources from refunding bonds and a \$3.1 million reclassification from bond premiums (discounts) to deferred inflows of resources from refundings. The fiscal year 2016 refundings resulted in a \$1.1 million reclassification from bond premiums (discounts) to deferred outflows of resources from refunding bonds. Additionally, the Commission recorded \$36.4 million and \$19.9 million in expenses for amortization of deferred outflows/inflows of resources from refunding bonds for the years ended May 31, 2017 and 2016, respectively.

The Commission recorded \$4.6 million and \$3.9 million in expenses for amortization of prepaid bond insurance costs for the years ended May 31, 2017 and 2016, respectively.

The Commission recorded an interest expense reduction of \$3.1 million and \$2.4 million for the years ended May 31, 2017 and 2016, respectively, related to GASB 53 entries.

The Commission recognized total capital contributions of \$214.7 million for fiscal year ended May 31, 2017. Cash received of \$204.0 million for fiscal year ended May 31, 2017 is reported in the capital and related financing activities of this statement. The \$10.7 million difference between capital contributions and cash received is the result of a \$5.5 million increase in receivables related to these capital contributions and a \$5.2 million noncash capital contribution related to capital assets provided by service plaza operators. The Commission recognized total capital contributions of \$180.9 million for fiscal year ended May 31, 2016. Cash received of \$182.6 million for fiscal year ended May 31, 2016 is reported in the capital and related financing activities of this statement. The \$1.7 million difference between capital contributions and cash received is the result of a \$6.9 million decrease in receivables related to these capital contributions offset by a \$5.2 million noncash capital contribution related to capital assets provided by service plaza operators. The Commission entered into agreements with a food and fuel provider to totally reconstruct the service plazas; the service plaza operators provide the capital for the reconstruction in exchange for lower rental rates. See Note 2 for further discussion on capital contributions and Note 6 for further discussion on the service plazas.

The Commission and PennDOT entered into an agreement regarding ownership of overhead bridges that carry state roads. Per the agreement, once the Commission replaces these overhead bridges, and after final inspections and supplemental agreements are signed by both parties, ownership and maintenance responsibilities of the bridges are transferred from the Commission to PennDOT. The Commission transferred assets with a net book value of \$54.7 million and \$40.9 million to PennDOT during the fiscal years ended May 31, 2017 and 2016, respectively.

The accompanying notes are an integral part of these financial statements.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 1 FINANCIAL REPORTING ENTITY**

Generally accepted accounting principles require government financial statements to include the primary government and its component units. Component units of a governmental entity are legally separate entities for which the primary government is considered to be financially accountable and for which the nature and significance of their relationship with the primary government are such that exclusion would cause the combined financial statements to be misleading. The primary government is considered to be financially accountable if it appoints a majority of an organization's governing body and is able to impose its will on that organization or there is a potential for the organization to provide specific financial benefits to or impose specific financial burdens on the primary government.

The Pennsylvania Turnpike Commission (the Commission) was created as an instrumentality of the Commonwealth of Pennsylvania on May 21, 1937, with powers to construct, operate, and maintain the Turnpike System and to issue Turnpike revenue bonds, repayable solely from tolls and other Commission revenues. The Commission is considered a component unit of the Commonwealth of Pennsylvania (the Commonwealth).

Based on the application of the criteria set forth by the Governmental Accounting Standards Board (GASB), the Commission has determined that it has no component units based on its review of GASB Statements No. 14, No. 39 and No. 61.

The Commission is composed of five members, one of whom is the Secretary of Transportation. The others are appointed by the Governor with the approval of two-thirds of the Senate.

### **NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

The financial statements of the Pennsylvania Turnpike Commission have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP) as applied to government units. The GASB is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The more significant of the Commission's accounting policies are described in the following paragraphs:

#### Basis of Accounting

The Commission's basic financial statements are presented on the accrual basis of accounting.

## PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

#### Reclassifications

Certain amounts presented in the prior period have been reclassified to conform to the current year period financial statement presentation.

#### Cash Equivalents

For purposes of the statements of cash flows, the Commission considers all highly liquid debt investment securities that mature within three months of acquisition to be cash equivalents.

#### Investments

Investments are stated at fair value with the exception of certain nonparticipating contracts such as repurchase agreements and other agreements structured as repurchase agreements that are reported at cost, which does not materially differ from fair value. The Commission implemented GASB 72 in fiscal year 2016 and beginning in that year categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. See Note 4 for further discussion.

#### Capital Assets

Capital assets consist of land and intangible assets (right-of-way easements), buildings, improvements, equipment, infrastructure, and assets under construction. Infrastructure assets are typically items that are immovable such as highways, bridges, and tunnels. Capital assets are stated at cost. Donated capital assets are valued at their estimated fair value on the date received. Interest is capitalized based on average construction costs and the average bond interest rate, less interest earned on invested construction funds. Acquisitions of capital assets valued at \$15,000 or greater are capitalized. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Intangible assets have an indefinite life and, thus, are not depreciated. The following lives are used:

Buildings	10 – 45 years
Improvements other than buildings	15 – 20 years
Equipment	3 – 40 years
Infrastructure	10 – 50 years



## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 2      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** *(continued)*

#### Inventories

Inventories are valued at the lower of average cost (determined on a first-in, first-out method) or market.

#### Debt Premium/Discount and Prepaid Insurance Costs

Debt premium/discount is being amortized using the effective interest rate method over the varying terms of the bonds issued. Prepaid bond insurance costs (incurred through bond issuances) are being amortized using the straight-line method over the varying terms of the bonds issued.

#### Unearned Income

Unearned income is primarily related to E-ZPass customer deposits. E-ZPass customers of the Commission are required to deposit funds in advance of anticipated travel. Since this money is collected prior to the customers' travel and revenue recognition, it is recorded as unearned income. The Commission also had unearned income related to microwave tower leases and an upfront payment from a CMS swap in fiscal year 2015. The Commission had total unearned income of \$73.8 million and \$69.8 million for fiscal years ended May 31, 2017 and 2016, respectively. Unearned income recorded as current liabilities are \$72.7 million and \$67.8 million for fiscal years ended May 31, 2017 and 2016, respectively. Unearned income recorded as other noncurrent liabilities are \$1.1 million and \$2.0 million for the fiscal years ended May 31, 2017 and 2016, respectively.

#### Accounting Estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual amounts may differ from those estimates.

#### Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Pennsylvania State Employees' Retirement System (SERS) and additions to / deductions from SERS' fiduciary net position have been determined on the same basis as they are reported by SERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 2      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** *(continued)*

#### Deferred Outflows/Inflows of Resources

The Statements of Net Position report separate sections for deferred outflows and deferred inflows of resources. These separate financial statement elements represent a consumption or acquisition of net position that applies to a future period(s) and so will not be recognized as an outflow or inflow of resources (expense/revenue) until then. The Commission has four items that qualify for reporting in these categories: deferred outflows/inflows from its hedging derivative instruments, deferred inflows from its service concession arrangements, deferred outflows/inflows on refunding bonds and deferred outflows/inflows related to pensions.

The deferred outflows/inflows of resources related to hedging derivative instruments represent the cumulative change in their fair values. Deferred inflows from the Commission's service concession arrangements represent unamortized capital contributions from service plaza operators and the present value of minimum guaranteed rent payments. Deferred outflows/inflows on refundings are the result of differences in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows/inflows of resources related to pensions are described further in Note 8. The components of deferred outflows of resources and deferred inflows of resources, other than the difference between the projected and actual earnings on investments, are amortized into pension expense over a closed period, which reflects the weighted average remaining service life of all SERS members beginning the year in which the deferred amount occurs (current year). The annual difference between the projected and actual earnings on SERS investments is amortized over a five-year closed period beginning the year in which the difference occurs (current year).

#### Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; restricted; and unrestricted. These classifications are defined as follows:

*Net Investment in Capital Assets* – This component of net position consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are included.

## PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

#### Net Position *(continued)*

*Restricted* – This component of net position consists of restricted assets and deferred outflows of resources reduced by liabilities and deferred inflows of resources related to those assets. The restrictions would be imposed by external parties including creditors, grantors, contributors or laws or regulations of other governments and restrictions imposed by law through constitutional provisions or enabling legislation.

*Unrestricted* – This component of net position consists of the net amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

#### Operating Revenues

Revenues associated with operations of the Turnpike System are considered operating revenues. The principal operating revenues of the Commission are fare revenues from customers. Other operating revenues include: service station, restaurant, property and other rental income as well as electronic toll collection and violation enforcement fees related to the E-ZPass program. Also included is revenue from various sponsorship agreements.

#### *Fare Revenues*

Fare revenues are recognized when vehicles exit the Turnpike System. For fiscal years 2017 and 2016, approximately 77.1% and 74.5%, respectively, of the fare revenues were realized through electronic toll collection. For fiscal years 2017 and 2016, approximately 22.9% and 25.5%, respectively, of the fare revenues were realized through cash or credit card collection.

During fiscal year 2016, the Commission implemented Toll By Plate (TBP), a new license plate tolling system for customers without a valid E-ZPass. The TBP program offers cashless, nonstop travel at the tolling point at the PA Turnpike Bridge over the Delaware River and along the Beaver Valley Expressway. This new system utilizes high speed cameras over the roadway that capture license plate images as vehicles pass through the tolling point. The registered owner of the vehicle then receives a flat rate invoice in the mail. For fiscal years 2017 and 2016, approximately 0.6% and 0.3%, respectively, of the fare revenues were realized through TBP, which are included as part of electronic toll collection.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 2      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** *(continued)*

#### Operating Expenses

Operating expenses relate directly to operating and maintaining the Turnpike System. The principal operating expenses of the Commission are cost of services and depreciation. Other expenses are considered nonoperating expenses.

#### *Cost of Services*

Cost of services includes: wages and salaries, benefits, utilities, fuels, professional fees and services, PA State Police services, and purchased goods, including materials and supplies.

#### Utilization of Resources

When both restricted and unrestricted resources are available for use, it is the Commission's policy to use restricted resources first and then unrestricted resources as needed.

#### Nonoperating Revenues (Expenses)

Nonoperating revenues include: net investment earnings and other miscellaneous revenues not associated with the operations of the Turnpike System. Nonoperating expenses include: Act 44 and Act 89 payments to PennDOT, capital assets transferred to PennDOT, interest and bond expenses, and other miscellaneous expenses not associated with the operations of the Turnpike System.

#### *Act 44 and Act 89 Payments to PennDOT*

The Commission and PennDOT entered into a Lease and Funding Agreement, as amended, as required under the terms of Act 44 and Act 89. See Note 9 for more information regarding Act 44 and Act 89.

#### *Capital Assets Transferred to PennDOT*

The Commission and PennDOT entered into an agreement regarding ownership of overhead bridges that carry state roads. Per the agreement, once the Commission replaces these overhead bridges, and after final inspections and supplemental agreements are signed by both parties, ownership and maintenance responsibilities of the bridges are transferred from the Commission to PennDOT. The Commission transferred assets with a net book value of \$54.7 million to PennDOT during the fiscal year ended May 31, 2017. The Commission transferred assets with a net book value of \$40.9 million to PennDOT during the fiscal year ended May 31, 2016.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 2      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** *(continued)*

#### Capital Contributions

Capital contributions include: Oil Company Franchise Tax revenues, Motor License Registration Fee revenues, grants from other governments for reimbursement of capital costs for various highway construction projects, capital assets received from other third parties and amortization of deferred inflows of resources for service concession agreements.

#### *Oil Company Franchise Tax Revenues*

The Commission receives 14% of the additional 55 mills of the Commonwealth's Oil Company Franchise Tax revenues pursuant to Act 26 established in 1991. The revenues totaled \$123.7 million and \$119.8 million for the fiscal years ended May 31, 2017 and 2016, respectively. These revenues are kept in a separate fund as required by the applicable bond indenture.

#### *Motor License Registration Fee Revenues*

The Commission received \$28.0 million in registration fee revenue during each of the fiscal years ended May 31, 2017 and 2016 from the Commonwealth's Motor License Fund. These revenues are kept in a separate fund as required by the applicable bond indenture.

#### *Reimbursements from Other Governments*

The Commission receives grants from other governments for reimbursement of costs for various highway construction projects. During the fiscal years ended May 31, 2017 and 2016, the Commission recognized \$57.7 million and \$27.9 million, respectively, as capital contributions from the Federal government.

#### *Other Capital Contributions*

The Commission entered into contracts with a food and a fuel provider to totally reconstruct the service plazas. The service plaza operators provide the capital for the reconstruction in exchange for lower rental rates. The Commission recognized capital contribution revenues of \$5.2 million and \$5.2 million, related to these agreements for the years ended May 31, 2017 and 2016, respectively. See Note 6 for further discussion on the service plazas.

## PENNSYLVANIA TURNPIKE COMMISSION

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### NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

#### Adoption of Accounting Pronouncements

In August 2015, the GASB issued Statement No. 77, *Tax Abatement Disclosures*. The Commission adopted this statement for its fiscal year ended May 31, 2017. The adoption of this statement had no impact on the Commission's financial statements for fiscal years ending May 31, 2017 and 2016.

In December 2015, the GASB issued Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans*. The Commission adopted this statement for its fiscal year ended May 31, 2017. The adoption of this statement had no impact on the Commission's financial statements for fiscal years ending May 31, 2017 and 2016.

In January 2016, the GASB issued Statement No. 80, *Blending Requirements for Certain Component Units – An Amendment of GASB Statement No. 14*. The Commission adopted this statement for its fiscal year ended May 31, 2017. The adoption of this statement had no impact on the Commission's financial statements for fiscal years ending May 31, 2017 and 2016.

In March 2016, the GASB issued Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*. The Commission adopted this statement for its fiscal year ended May 31, 2017. The adoption of this statement had no impact on the Commission's financial statements for fiscal years ending May 31, 2017 and 2016. See the Required Supplementary Information section of these financial statements for disclosures.

#### Pending Changes in Accounting Principles

In June 2015, the GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The Commission is required to adopt Statement No. 74 for its fiscal year ended May 31, 2018.

In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The Commission is required to adopt Statement No. 75 for its fiscal year ended May 31, 2019.

In March 2016, the GASB issued Statement No. 81, *Irrevocable Split-Interest Agreements*. The Commission is required to adopt Statement No. 81 for its fiscal year ended May 31, 2018.

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### **NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** *(continued)*

#### Pending Changes in Accounting Principles *(continued)*

In November 2016, the GASB issued Statement No. 83, *Certain Asset Retirement Obligations*. The Commission is required to adopt Statement No. 83 for its fiscal year ended May 31, 2020.

In January 2017, the GASB issued Statement No. 84, *Fiduciary Activities*. The Commission is required to adopt Statement No. 84 for its fiscal year ended May 31, 2020.

In March 2017, the GASB issued Statement No. 85, *Omnibus 2017*. The Commission is required to adopt Statement No. 85 for its fiscal year ended May 31, 2019.

In May 2017, the GASB issued Statement No. 86, *Certain Debt Extinguishment Issues*. The Commission is required to adopt Statement No. 86 for its fiscal year ended May 31, 2019.

In June 2017, the GASB issued Statement No. 87, *Leases*. The Commission is required to adopt Statement No. 87 for its fiscal year ended May 31, 2021.

The Commission has not yet completed the various analyses required to estimate the financial statement impact of these new pronouncements.

### **NOTE 3 INDENTURE REQUIREMENTS AND RESTRICTIONS**

The Commission's debt has been issued under the provisions of five separate Trust Indentures (collectively referred to as Indentures):

- A Senior Trust Indenture dated July 1, 1986 which was amended and restated as of March 1, 2001, as supplemented, between the Commission and the Trustee, U.S. Bank Corp., successor to First Union National Bank;
- An Oil Franchise Tax Trust Indenture dated August 1, 1998, as supplemented, between the Commission and the Trustee, Bank of New York Mellon Trust Company, N.A., successor to National City Bank of Pennsylvania;
- A Registration Fee Revenue Trust Indenture dated August 1, 2005 between the Commission and the Trustee, Bank of New York Mellon Trust Company, N.A., successor to Wachovia Bank, N.A.;

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### NOTE 3      INDENTURE REQUIREMENTS AND RESTRICTIONS *(continued)*

- A Subordinate Trust Indenture dated April 1, 2008, as supplemented, between the Commission and the Trustee, Wells Fargo Bank, N.A., successor to Commerce Bank, N.A.; and
- A Special Obligation Trust Indenture dated September 1, 2014 between the Commission and the Trustee, Bank of New York Mellon Trust Company, N.A.

Accordingly, certain activities of the Commission are restricted by these Indentures.

### NOTE 4      CASH AND INVESTMENTS

Following is a summary of cash and cash equivalents and investments by type:

	<b>May 31,</b>	
	<b>2017</b>	<b>2016</b>
	<i>(In Thousands)</i>	
<i>Cash and cash equivalent and investment types</i>		
U.S. Treasuries	\$ 383,019	\$ 244,409
GNMA mortgages	2,340	3,717
Government agency securities	164,276	239,413
Municipal bonds	99,557	128,341
Corporate obligations	555,789	511,946
Total investment securities	1,204,981	1,127,826
Investment derivatives	9,820	13,923
Cash and cash equivalents	917,790	974,295
<b>Total cash and cash equivalents and investments</b>	<b>\$ 2,132,591</b>	<b>\$ 2,116,044</b>

#### Cash and Cash Equivalents

Cash and cash equivalents are held in various financial institutions. Cash and Cash equivalents are comprised of demand deposits, money market funds and other highly liquid investments that mature within three months of acquisition. The Demand Deposits are secured under Pennsylvania Act 72 which secures public deposits in excess of the FDIC insurance limits. Cash equivalents consist of permitted investments in accordance with the Indentures as noted under cash equivalents and investment securities.



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**NOTE 4 CASH AND INVESTMENTS** *(continued)*Cash and Cash Equivalents *(continued)*

The following summary presents the Commission's cash and cash equivalents:

	<u>Bank Balance</u>	<u>Book Balance</u>
	<i>(In Thousands)</i>	
<i>May 31, 2017</i>		
Demand deposits	\$ 33,009	\$ 32,924
Money market funds	562,013	562,086
Cash equivalents	<u>322,780</u>	<u>322,780</u>
<b>Total cash and cash equivalents</b>	<u><u>\$ 917,802</u></u>	<u><u>\$ 917,790</u></u>
<i>May 31, 2016</i>		
Demand deposits	\$ 22,628	\$ 23,723
Money market funds	673,415	673,415
Cash equivalents	<u>277,157</u>	<u>277,157</u>
<b>Total cash and cash equivalents</b>	<u><u>\$ 973,200</u></u>	<u><u>\$ 974,295</u></u>

Cash Equivalents and Investment Securities

Following is a description of the valuation methodologies used for investment securities measured at fair value. The Commission implemented GASB 72 in fiscal year 2016, there were no changes in the methodologies used at May 31, 2016 with the exception of the investment derivatives, which is described in Note 9. There were no changes in the methodologies used at May 31, 2017.

- For fiscal years ended May 31, 2017 and 2016, U.S. Treasuries of \$383.0 and \$244.4 million, respectively, categorized as Level 1 are valued using quoted market prices.
- For fiscal years ended May 31, 2017 and 2016, GNMA mortgages of \$2.3 and \$3.7 million, respectively, categorized as Level 2 are valued using models based on spreads of comparable securities.
- For fiscal years ended May 31, 2017 and 2016, government agency securities of \$164.3 and \$239.4 million, respectively, categorized as Level 2 are valued using various market and industry inputs. Callable agency-issued debt securities are valued by benchmarking model-derived prices to quoted market prices and trade data for identical or comparable securities. The fair value of agency mortgage pass-through pool securities is model-driven based on spreads of a comparable security. Collateralized mortgage obligations are valued using quoted market prices and trade data adjusted by subsequent changes in related indices for identical or comparable securities.

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### NOTE 4 CASH AND INVESTMENTS *(continued)*

#### Cash Equivalents and Investment Securities *(continued)*

- For fiscal years ended May 31, 2017 and 2016, municipal bonds of \$99.6 and \$128.3 million, respectively, categorized as Level 2 are valued using recently executed transactions, market price quotations and pricing models that factor in, where applicable, interest rates, bond or credit default swap spreads and volatility.
- For fiscal years ended May 31, 2017 and 2016, corporate obligations of \$555.8 and \$511.9 million, respectively, categorized as Level 2 are valued using recently executed transactions, market price quotations (where observable), bond spreads, credit default swap spreads, at the money volatility and/or volatility skew obtained from independent external parties such as vendors and brokers adjusted for any basis difference between cash and derivative instruments. The spread data used are for the same maturity as the bond.
- For fiscal years ended May 31, 2017 and 2016, investment derivatives of \$9.8 and \$13.9 million, respectively, categorized as Level 2 are valued using discounted future net cash flows, mid-market values, nonperformance risk and bid/offer spreads. See Note 9 for further discussion.

The Indentures (as listed in Note 3) permit investments in obligations of, or guaranteed by, the United States of America, its agencies, and its instrumentalities (United States Government obligations); certificates of deposit issued by institutions insured by the FDIC or fully collateralized with United States Government obligations; investment agreements with certain financial institutions; commercial paper and asset-backed securities rated in the highest category by applicable rating agencies; money market funds and auction rate certificates rated in one of the two highest categories by applicable rating agencies; corporate bonds and medium term notes with a minimum rating of "AA-"; investments in bonds or notes issued by any state or municipality which are rated by Moody's, S&P and Fitch in one of their two highest rating categories; and repurchase agreements with banks or primary government dealers reporting to the Federal Reserve Bank of New York collateralized with obligations of, or guaranteed by, the United States of America.

Debt insurers have placed additional restrictions on construction funds. For these funds, corporate bonds, auction rate certificates, asset-backed securities, and medium-term notes are not allowed.

## PENNSYLVANIA TURNPIKE COMMISSION

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Years Ended May 31, 2017 and 2016

### NOTE 4 CASH AND INVESTMENTS *(continued)*

#### Cash Equivalents and Investment Securities *(continued)*

The Commission has an investment policy that defines guidelines and operational factors governing the investment of financial assets. The policy generally has the same restrictions regarding permitted investments as the Indentures. Permitted investments include:

- U.S. Treasury Bills, Notes, Bonds, Strips;
- Time Deposits issued by a banking association organized and doing business under the laws of the United States of America or of any state that may have a combined capital and surplus of at least \$50,000,000;
- Certificates of Deposit that are fully collateralized and issued by a bank, savings and loan or trust company organized under the laws of the United States or any state thereof;
- Investment Agreements with a bank, a bank holding company or a financial institution that has outstanding long-term indebtedness rated “AA” or better by Moody’s and S&P;
- Obligations of any federal agencies which obligations are backed by the full faith and credit of the United States of America;
- Senior debt obligations rated a minimum “Aa2” by Moody’s and “AA” by S&P and issued by government-sponsored enterprises which include Federal Home Loan Bank, Federal Farm Credit Bank, Federal Home Loan Mortgage Corporation; and Federal National Mortgage Association;
- Mortgage-backed securities issued by an approved Federal agency and collateralized mortgage obligations so long as such securities are rated a minimum of “Aa2” by Moody’s and “AA” by S&P;
- Debt obligations of any state or local government entity with securities rated in the “Aa/AA” category;
- Commercial paper rated not less than “A-1/P-1/F-1”, corporate bonds rated “Aa3/AA-” or better, and asset-backed securities rated “AAA”;
- Repurchase agreements with banks or primary government dealers reporting to the Federal Reserve Bank of New York, collateralized by investments with a minimum 102% valuation in securities of U.S. Treasury bills, notes, bonds, strips, or obligations of any federal agencies or senior debt obligations described above; and

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Years Ended May 31, 2017 and 2016

### NOTE 4 CASH AND INVESTMENTS *(continued)*

#### Cash Equivalents and Investment Securities *(continued)*

- Share or Certificates in any short-term investment fund investing not less than 90% of its assets in obligations of U.S. treasury bills, notes, bonds, strips or time deposits.

All investment ratings shall be based on security ratings at the time of purchase. The portfolio's average credit quality should be rated "Aa3/AA-" or better by Moody's/S&P. Investments are generally purchased with the intent of holding to maturity with flexibility to restructure and rebalance portfolio holdings to manage risk and benefit from market opportunities. The investment policy imposes the following additional limitations.

Investments in any single Federal agency, not carrying the full faith and credit of the U.S. Government, are limited to 35% of the portfolio.

Investments in certificates of deposit and investment agreements are limited to 30% of the portfolio.

Combined exposure to commercial paper, corporate bonds, and asset-backed securities, in aggregate, is limited to 35% of the total portfolio.

Investments in any single issuer, excluding U.S. Treasury and Federal Agencies, are limited to 5% of the portfolio.

The Commission's investment policy also limits investments to those issues expected to mature within five years, taking into consideration call, prepayment, or other features that may impact maturity. At May 31, 2017 and 2016, the Commission held three securities totaling \$21.9 million and \$22.4 million, respectively. Each of these securities had a maturity greater than five years. All of these securities were purchased prior to the Commission's adoption of an Investment Policy.

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Years Ended May 31, 2017 and 2016

**NOTE 4 CASH AND INVESTMENTS** *(continued)*Credit Risk

The Commission's exposure to credit risk for investment securities is as follows:

Investment Type	Quality Rating as of May 31, 2017					Total
	AAA	AA	A	A-1	Below A	
	<i>(In Thousands)</i>					
Government agency securities	\$ 4,870	\$ 159,406	\$ -	\$ -	\$ -	\$ 164,276
Municipal bonds	9,020	78,741	11,796	-	-	99,557
Corporate obligations	91,567	376,607	32,520	54,713	382	555,789
	<u>\$ 105,457</u>	<u>\$ 614,754</u>	<u>\$ 44,316</u>	<u>\$ 54,713</u>	<u>\$ 382</u>	<u>\$ 819,622</u>

Investment Type	Quality Rating as of May 31, 2016					Total
	AAA	AA	A	A-1	Below A	
	<i>(In Thousands)</i>					
Government agency securities	\$ 8,538	\$ 230,875	\$ -	\$ -	\$ -	\$ 239,413
Municipal bonds	11,823	96,662	19,856	-	-	128,341
Corporate obligations	82,218	374,625	-	54,588	515	511,946
	<u>\$ 102,579</u>	<u>\$ 702,162</u>	<u>\$ 19,856</u>	<u>\$ 54,588</u>	<u>\$ 515</u>	<u>\$ 879,700</u>

Concentration of Credit Risk

Investments guaranteed by the full faith of the U.S. Government, such as U.S. Treasuries and GNMA mortgages, are not considered to have credit risk and do not require disclosure of credit quality.

As of May 31, 2017, the Commission did not have any investments of more than 5% of its consolidated portfolio. As of May 31, 2016, the Commission had investments of more than 5% of its consolidated portfolio with the following issuers:

Issuer	Total Fair Value	Percentage of
		Total Portfolio
	<i>(in Thousands)</i>	
Federal Home Loan Bank	\$ 178,375	8.43%
Federal National Mortgage Association	115,424	5.45%

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

**NOTE 4 CASH AND INVESTMENTS** *(continued)*Interest Rate Risk

The effective duration of the Commission's investments, by type, was as follows:

<b>Investment Type</b>	<b>As of May 31, 2017</b>	
	<b>Fair Value</b>	<b>Effective Duration</b>
	<i>(In Thousands)</i>	<i>(In Years)</i>
U.S. Treasuries	\$ 383,019	2.5304
GNMA mortgages	2,340	3.6307
Government agency securities	164,276	2.2602
Municipal bonds	99,557	2.3438
Corporate obligations	555,789	1.5028
<b>Total investment securities</b>	<b>\$ 1,204,981</b>	

<b>Investment Type</b>	<b>As of May 31, 2016</b>	
	<b>Fair Value</b>	<b>Effective Duration</b>
	<i>(In Thousands)</i>	<i>(In Years)</i>
U.S. Treasuries	\$ 244,409	2.8775
GNMA mortgages	3,717	3.2194
Government agency securities	239,413	1.8555
Municipal bonds	128,341	2.2932
Corporate obligations	511,946	1.8975
<b>Total investment securities</b>	<b>\$ 1,127,826</b>	

Custodial Credit Risk

For deposits and investments, custodial credit risk is the risk that in the event of the failure of the counterparty, the Commission will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. At May 31, 2017 and 2016, \$32.5 and \$22.1 million, respectively, of the Commission's demand deposits were exposed to custodial credit risk, as they were uninsured and collateralized with securities held by an agent of the pledging financial institution but are not in the Commission's name. None of the Commission's investments were exposed to custodial credit risk at May 31, 2017 or 2016.

# PENNSYLVANIA TURNPIKE COMMISSION

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

## NOTE 4 CASH AND INVESTMENTS *(continued)*

### Investment Derivatives

Following is a summary of the Commission's investment derivatives at May 31, 2017:

	Notional Amount (Thousands)	Weighted Avg. Mat. (Years)	Effective Date	Maturity Date	Terms	Fair Value (Thousands)	Counterparty	Credit Ratings Moody's/ S&P's/Fitch
	\$ 67,452	7.4				\$ 782	JPMorgan Chase Bank	Aa3/A+/AA-
	60,384	8.1			Pay 67% of 1-month LIBOR, receive	672	Merrill Lynch CS*	Baa1/BBB+/A
	67,452	7.4			60.08% of the 10 year maturity of the	782	PNC Bank	A2/A+/A+
	75,478	8.1			USD-ISDA Swap Rate	840	Bank of New York Mellon	Aa2/AA-/AA
A	<u>270,766</u>		7/1/2007	12/1/2030		<u>3,076</u>		
	112,000					(3,362)	JPMorgan Chase Bank	Aa3/A+/AA-
	48,000				Pay SIFMA, receive 63% of 1-month	(1,442)	Bank of New York Mellon	Aa2/AA-/AA
B	<u>160,000</u>	12.1	8/14/2003	12/1/2032	LIBOR + 20 bps	<u>(4,804)</u>		
	80,000				Pay 67% of 1-month LIBOR, receive	1,707	JPMorgan Chase Bank	Aa3/A+/AA-
	80,000				60.15% of the 10 year maturity of the	1,326	Royal Bank of Canada	A1/AA-/AA
C	<u>160,000</u>	12.0	9/19/2006	11/15/2032	USD-ISDA Swap rate	<u>3,033</u>		
D	80,000	1.0	5/15/2014	5/15/2018	Pay 60.15% of the 10 year maturity of the USD-ISDA Swap Rate, receive 67% of 1-month LIBOR	(400)	Wells Fargo	Aa2/AA-/AA
E	127,020	13.8	6/1/2010	6/1/2039	Pay SIFMA, receive 99.68% of 3-month LIBOR	4,118	Goldman Sachs MMDP	Aa2/AA-/NR
F	127,020	13.8	6/1/2010	6/1/2039	Pay SIFMA, receive 99.80% of 3-month LIBOR	4,797	Deutsche Bank	Baa2/A-/A-
						<u>\$ 9,820</u>		

1-month LIBOR was 1.06033% at May 31, 2017.

3-month LIBOR was 1.21000% at May 31, 2017.

10-year maturity of the USD-ISDA swap rate was 2.150% at May 31, 2017.

SIFMA was 0.76% at May 31, 2017.

\* On November 15, 2012, the Commission executed an amendment to the swap agreements to include Merrill Lynch Derivative Products as guarantor. Merrill Lynch Derivative Products credit ratings were Aa3/AA/NR (Moody's/Standard & Poor's/Fitch) as of May 31, 2017.

See Note 9 for additional disclosures regarding derivative instruments, including a rollforward from the prior-year balances.

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## NOTE 5 CAPITAL ASSETS

Summaries of changes to capital assets for the years ended May 31, 2017 and 2016 are as follows:

	Balance May 31, 2016 (In Thousands)	Additions	Transfers	Reductions	Balance May 31, 2017
<i>Capital assets not being depreciated (cost)</i>					
Land and intangibles	\$ 333,934	\$ 25,276	\$ -	\$ -	\$ 359,210
Assets under construction	1,330,627	560,091	(533,767)	-	1,356,951
Total capital assets not being depreciated	1,664,561	585,367	(533,767)	-	1,716,161
<i>Capital assets being depreciated (cost)</i>					
Buildings	968,902	2,457	6,827	-	978,186
Improvements other than buildings	119,256	1,876	5	-	121,137
Equipment	619,779	10,329	12,748	4,556	638,300
Infrastructure	7,908,360	20,969	514,187	62,771	8,380,745
Total capital assets being depreciated	9,616,297	35,631	533,767	67,327	10,118,368
<i>Less accumulated depreciation for</i>					
Buildings	377,111	22,720	-	-	399,831
Improvements other than buildings	78,579	4,405	-	-	82,984
Equipment	481,056	36,575	-	4,182	513,449
Infrastructure	4,826,786	290,643	-	8,046	5,109,383
Total accumulated depreciation	5,763,532	354,343	-	12,228	6,105,647
Total capital assets being depreciated, net	3,852,765	(318,712)	533,767	55,099	4,012,721
<b>Total capital assets</b>	<b>\$ 5,517,326</b>	<b>\$ 266,655</b>	<b>\$ -</b>	<b>\$ 55,099</b>	<b>\$ 5,728,882</b>

	Balance May 31, 2015 (In Thousands)	Additions	Transfers	Reductions	Balance May 31, 2016
<i>Capital assets not being depreciated (cost)</i>					
Land and intangibles	\$ 310,518	\$ 23,416	\$ -	\$ -	\$ 333,934
Assets under construction	956,984	632,034	(258,391)	-	1,330,627
Total capital assets not being depreciated	1,267,502	655,450	(258,391)	-	1,664,561
<i>Capital assets being depreciated (cost)</i>					
Buildings	936,517	6,487	25,898	-	968,902
Improvements other than buildings	117,331	435	1,490	-	119,256
Equipment	591,223	18,850	13,770	4,064	619,779
Infrastructure	7,713,188	20,778	217,233	42,839	7,908,360
Total capital assets being depreciated	9,358,259	46,550	258,391	46,903	9,616,297
<i>Less accumulated depreciation for</i>					
Buildings	354,269	22,842	-	-	377,111
Improvements other than buildings	73,215	5,364	-	-	78,579
Equipment	449,801	34,962	-	3,707	481,056
Infrastructure	4,558,915	269,773	-	1,902	4,826,786
Total accumulated depreciation	5,436,200	332,941	-	5,609	5,763,532
Total capital assets being depreciated, net	3,922,059	(286,391)	258,391	41,294	3,852,765
<b>Total capital assets</b>	<b>\$ 5,189,561</b>	<b>\$ 369,059</b>	<b>\$ -</b>	<b>\$ 41,294</b>	<b>\$ 5,517,326</b>



## **PENNSYLVANIA TURNPIKE COMMISSION**

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Years Ended May 31, 2017 and 2016

### **NOTE 5      CAPITAL ASSETS** *(continued)*

The Commission incurred interest costs of \$22.3 million and \$21.0 million for the fiscal years ended May 31, 2017 and 2016, respectively, which qualified for capitalization. For fiscal year 2017, there was a \$1.3 million interest income offset; therefore, \$21.0 million was capitalized. For fiscal year 2016, there was a \$0.2 million interest income offset; therefore, \$20.8 million was capitalized.

### **NOTE 6      SERVICE CONCESSION ARRANGEMENTS**

There are 17 service plazas along the Turnpike System providing gasoline and diesel fuel, other automotive supplies and services, and restaurant services. The Commission has entered into long term service plaza redevelopment agreements with HMSHost Restaurants, LLC and Sunoco Retail LLC to design, reconstruct, finance, operate and maintain all of the service plazas. The Commission has no responsibility for maintaining the service plazas under the agreements. The Commission maintains the ability to approve and/or modify the services that the operators can provide and the rates that can be charged. The service plaza operators are compensated by the users of the services and share a portion of the revenue with the Commission as rental payments. Upon completion of construction, the reconstructed assets are recognized by the Commission. The current contracts with HMSHost Restaurants, LLC and Sunoco Retail LLC expire on August 25, 2036 and January 31, 2022, respectively. Sunoco Retail LLC's lease may be extended for three additional five-year periods. The first extension shall be at the discretion of Sunoco Retail LLC, and the second and third extensions shall be mutually agreed to by both parties.

As of May 31, 2017, the Commission had capitalized \$119.4 million in capital assets representing 16 service plazas that had fully completed construction and recorded deferred inflows of resources of \$91.0 million related to these assets in accordance with GASB Statement No. 60. Also, as of May 31, 2017 and in accordance with GASB Statement No. 60, the Commission recognized a receivable and deferred inflow of resources in the amount of \$31.7 million for the present value of guaranteed minimum rent payments scheduled to begin upon completion of all construction.

As of May 31, 2016, the Commission had capitalized \$115.0 million in capital assets representing 15 service plazas that had fully completed construction and recorded deferred inflows of resources of \$91.9 million related to these assets in accordance with GASB Statement No. 60. Also, as of May 31, 2016 and in accordance with GASB Statement No. 60, the Commission recognized a receivable and deferred inflow of resources in the amount of \$32.1 million for the present value of guaranteed minimum rent payments scheduled to begin upon completion of all construction.

# PENNSYLVANIA TURNPIKE COMMISSION

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## NOTE 7 DEBT

Following is a summary of debt outstanding:

	May 31,	
	2017	2016
	(In Thousands)	
<i>Mainline Senior Debt</i>		
<b>2009 Series A Build America Bonds:</b> Issued \$275,000 in July 2009 at 6.105%, due in varying installments through June 1, 2039. Interest paid each June 1 and December 1.	\$ 275,000	\$ 275,000
<b>2009 Series B:</b> Issued \$375,010 in December 2009 at 3.00% to 5.00%, due in varying installments through December 1, 2025. Interest paid each June 1 and December 1.	312,085	349,755
<b>2010 Series B Build America Bonds:</b> Issued \$600,000 in September 2010 at 5.5%, due in varying installments through December 1, 2049. Interest paid each June 1 and December 1.	600,000	600,000
<b>2011 Series A:</b> Issued \$68,660 in April 2011 at 4.00% to 5.00% due in varying installments through December 1, 2023. Interest paid each June 1 and December 1.	68,660	68,660
<b>2011 Series E:</b> Issued \$110,080 in November 2011 at 3.63% to 5.00%, due in varying installments through December 1, 2030. Interest paid each June 1 and December 1.	110,080	110,080
<b>2012 Series A:</b> Issued \$200,215 in July 2012 at 3.00% to 5.00%, due in varying installments through December 1, 2042. Interest paid each June 1 and December 1.	189,550	193,235
<b>2012 Series B:</b> Issued \$70,060 in November 2012 at a variable rate (based on SIFMA + 0.55%, reset weekly, paid the 1st of each month). Fully refunded in June 2016.	-	70,060
<b>2013 Series A:</b> Issued \$176,075 in January 2013 at a variable rate (based on SIFMA + 0.60% and 0.68%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2018.	176,075	176,075
<b>2013 Series B:</b> Issued \$265,155 in July 2013 at a variable rate (based on SIFMA + 0.40% to 1.27%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2020. Partially refunded in June 2015.	200,000	200,000
<b>2013 Series C:</b> Issued \$222,935 in August 2013 at 3.00% to 5.50%, due in varying installments through December 1, 2043. Interest paid each June 1 and December 1.	222,750	222,935
<b>2014 Series A:</b> Issued \$236,115 in April 2014 at 4.00% to 5.00%, due in varying installments through December 1, 2044. Interest paid each June 1 and December 1.	236,115	236,115
<b>2014 Series B-1:</b> Issued \$444,280 in May 2014 at a variable rate (based on SIFMA + 0.05% to 0.98%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2021. Partially refunded in June 2015 and June 2016.	394,150	429,200
<b>2014 Series B-2:</b> Issued \$69,870 in June 2014 at a variable rate (based on SIFMA + 0.05% to 0.30%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2016. Partially refunded in June 2015. Final refunding in June 2016.	-	34,950
<b>2014 Series Refunding:</b> Issued \$239,620 in November 2014 at 5.00%, due in varying installments through December 1, 2034. Interest paid each June 1 and December 1.	239,620	239,620
<b>2014 Series C:</b> Issued \$294,225 in December 2014 at 2.25% to 5.00%, due in varying installments through December 1, 2044. Interest paid each June 1 and December 1.	294,225	294,225
<b>2015 Series A-1:</b> Issued \$385,095 in June 2015 at 4.00% to 5.00%, due in varying installments through December 1, 2045. Interest paid each June 1 and December 1.	385,095	385,095
<b>2015 Series A-2:</b> Issued \$115,635 in June 2015 at a variable rate (based on SIFMA + 0.15% to 0.90%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2021.	100,000	100,000
<b>2015 Series B:</b> Issued \$304,005 in December 2015 at 2.5% to 5.00%, due in varying installments through December 1, 2045. Interest paid each June 1 and December 1.	304,005	304,005
<b>EB5 Loan (1st-3rd Tranches):</b> Issued \$150,000 in March 2016 at 2.00% due on March 18, 2021. Interest is paid each June 1 and December 1.	150,000	150,000
<b>EB5 Loan (4th Tranche):</b> Issued \$50,000 in May 2016 at 2.00%, due on May 12, 2021. Interest is paid each June 1 and December 1.	50,000	50,000
<b>2016 Series A-1:</b> Issued \$447,850 in June 2016 at 3.00% to 5.00% due in varying installments through December 1, 2046. Interest is paid each June 1 and December 1.	447,850	-
<b>2016 Series A-2:</b> Issued \$140,590 in June 2016 at a variable rate (based on 70% of 1-month LIBOR + 0.60% to 0.70%, reset weekly, paid the 1st of each month). Due in varying installments through December 1, 2018.	140,590	-
Total Mainline Senior Debt Payable	4,895,850	4,489,010

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**NOTE 7**      **DEBT (continued)**

	May 31,	
	2017	2016
	(In Thousands)	
<i>Mainline Subordinate Debt (consisting of Subordinate Revenue Debt and Motor License Fund-Enhanced Subordinate Special Revenue Debt)</i>		
<i>Mainline Subordinate Revenue Debt</i>		
<b>2008 Sub-Series A-1 Subordinate Revenue:</b> Issued \$176,565 in April 2008 at 4.125% to 5.00%, due in varying installments through June 1, 2038. Interest paid each June 1 and December 1. Partially refunded in February, April and June 2016.	\$ 2,820	\$ 107,885
<b>2008 Sub-Series A-2 Subordinate Revenue (Federally Taxable):</b> Issued \$68,290 in April 2008 at 3.74% to 6.41%, due in varying installments through June 1, 2022. Interest paid each June 1 and December 1. Partially refunded in October 2016.	16,610	40,485
<b>2008 Sub-Series B-1, B-2 Subordinate Revenue (B-2 Federally Taxable):</b> Issued \$233,905 in July 2008 at 5.00% to 7.47%, due in varying installments through June 1, 2036. Interest paid each June 1 and December 1. Sub-Series B-1 was partially refunded in February 2016, April 2016, and final refunding in June 2016. Sub-Series B-2 was partially refunded in October 2016.	21,205	119,655
<b>2008 Sub-Series C-1, C-3, C-4 Subordinate Revenue (C-4 Federally Taxable):</b> Issued \$411,110 in October 2008 at 4.00% to 6.25%, due in varying installments through June 1, 2038. Interest paid each June 1 and December 1. Sub-Series C-3 refunded July 2009 and Sub-Series C-4 refunded June 2010. Sub-Series C-1 was partially refunded in February 2016.	12,790	18,745
<b>2009 Series A Subordinate Revenue:</b> Issued \$308,035 in January 2009 at 3.00% to 5.00%, due in varying installments through June 1, 2039. Interest paid each June 1 and December 1. Partially refunded in February 2016, April 2016, June 2016, October 2016, and May 2017.	83,100	225,090
<b>2009 Series B Subordinate Revenue:</b> Issued \$856,735 in July 2009 at 3.00% to 5.75%, due in varying installments through June 1, 2039. Interest paid each June 1 and December 1. Partially refunded in February, April, June and October 2016.	204,585	629,910
<b>2009 Series C Subordinate Revenue:</b> Issued \$99,998 in July 2009 at 6.25%, due in varying installments through June 1, 2033. Interest to be compounded semi-annually from July 2009 until June 1, 2016, thereafter paid each June 1 and December 1. Series C issued as Capital Appreciation Bonds (CABs). Compounded interest to be paid at maturity or earlier redemption.	152,355	152,355
<b>2009 Series D Subordinate Revenue:</b> Issued \$324,745 in October 2009 at 4.00% to 5.50%, due in varying installments through December 1, 2041. Interest paid each June 1 and December 1. Partially refunded in February 2016, June 2016, October 2016, and May 2017.	7,365	314,770
<b>2009 Series E Subordinate Revenue:</b> Issued \$200,005 in October 2009 at 6.00% to 6.375%, due in varying installments through December 1, 2038. Interest to be compounded semi-annually from October 2009 to December 1, 2017, thereafter paid each June 1 and December 1. Series E issued as CABs. The compounded interest to be paid at maturity or earlier redemption.	319,922	300,733
<b>2010 Sub-Series B-1, B-2 Subordinate Revenue:</b> Issued \$273,526 in July 2010 at 5.00%. Sub-Series B-1 due in varying installments through December 1, 2037. Sub-Series B-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2015, thereafter paid each June 1 and December 1. Compounded interest paid at maturity or earlier redemption. Sub-Series B-1 was partially refunded in June 2016. Sub-Series B-2 was partially refunded in June and October 2016.	199,250	334,120
<b>2010 Sub-Series C-1, C-2, C-3 Subordinate Revenue:</b> Issued \$138,916 in October 2010 at 4.25% to 5.45%. Sub-Series C-1 due in varying installments through December 1, 2040. Sub-Series C-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2015, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series C-3 issued as CABs with interest paid at maturity or earlier redemption. Sub-Series C-2 partially refunded in June 2016.	148,636	165,352
<b>2011 Series A Subordinate Revenue:</b> Issued \$135,655 in April 2011 at 5.00% to 6.50%, due in varying installments through December 1, 2041. Interest paid each June 1 and December 1. Partially refunded in April 2015, June 2016, October 2016.	24,325	85,625
<b>2011 Series B Subordinate Revenue:</b> Issued \$126,740 in October 2011 at 2.00% to 5.25%, due in varying installments through December 1, 2041. Interest paid each June 1 and December 1.	109,510	113,060
<b>2012 Series A Subordinate Revenue:</b> Issued \$123,545 in April 2012 at 3.00% to 5.00%, due in varying installments through December 1, 2042. Interest paid each June 1 and December 1.	109,640	113,110
<b>2012 Series B Subordinate Revenue:</b> Issued \$121,065 in October 2012 at 2.00% to 5.00%, due in varying installments through December 1, 2042. Interest paid each June 1 and December 1.	108,910	110,710
<b>2013 Series A Subordinate Revenue:</b> Issued \$71,702 in April 2013 at 3.125% to 5.00%, due in varying installments through December 1, 2043. Sub-Series A-1 Serial bond interest paid each June 1 and December 1. Sub-Series A-1 Term bond interest paid each June 1 and December 1. Sub-Series A-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2018, thereafter paid each June 1 and December 1.	79,550	77,486

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**NOTE 7**      **DEBT (continued)**

	May 31,	
	2017	2016
	(In Thousands)	
Mainline Subordinate Debt (consisting of Subordinate Revenue Debt and Motor License Fund-Enhanced Subordinate Special Revenue Debt) (continued)		
Mainline Subordinate Revenue Debt (continued)		
2013 Sub-Series B-1, B-2, B-3 Subordinate Revenue: Issued \$108,708 in October 2013 at 2.00% to 6.10%, due in varying installments through December 1, 2043. Sub-Series B-1 interest paid each June 1 and December 1. Sub-Series B-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2028, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series B-3 interest paid each June 1 and December 1.	\$ 114,022	\$ 112,792
2014 Sub-Series A-1, A-2, A-3 Subordinate Revenue: Issued \$148,300 in April 2014 at 2.00% to 5.44%, due in varying installments through December 1, 2043. Sub-Series A-1 interest paid each June 1 and December 1. Sub-Series A-2 issued as convertible CABs. Interest compounded semi-annually until June 1, 2024, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series B-3 issued as CABs with interest paid at maturity or earlier redemption.	154,152	152,364
2014 Series B Subordinate Revenue: Issued \$201,395 in October 2014 at 5.00% to 5.25% due in varying installments through December 1, 2044. Interest paid each June 1 and December 1.	201,395	201,395
2015 Series A-1 Subordinate Revenue: Issued \$209,010 in April 2015 at 3.00% to 5.25% due in varying installments through December 1, 2045. Interest is paid each June 1 and December 1.	209,010	209,010
2015 Series A-2 Subordinate Revenue: Issued \$50,000 in April 2015 at a variable rate (based on SIFMA + 0.80%, reset weekly, paid the 1st of each month commencing on December 1, 2015). Due in varying installments through December 1, 2045.	50,000	50,000
2015 Series B Subordinate Revenue: Issued \$192,215 in October 2015 at 4.00% to 5.00% due in varying installments through December 1, 2045. Interest is paid each June 1 and December 1.	192,215	192,215
2016 Series Refunding Subordinate Revenue: Issued \$360,990 in February 2016 at 3.00% to 5.00% due in varying installments through June 1, 2038. Interest is paid each June 1 and December 1.	360,990	360,990
2016 Series A-1 Subordinate Revenue: Issued \$203,700 in April 2016 at 3.00% to 5.00% due in varying installments through December 1, 2046. Interest is paid each June 1 and December 1.	203,700	203,700
2016 Series A-2 Subordinate Revenue: Issued \$185,455 in April 2016 at 5.00% due in varying installments through June 1, 2033. Interest is paid each June 1 and December 1.	185,455	185,455
2016 Series Second Refunding Subordinate Revenue: Issued \$649,545 in June 2016 at 3.00% to 5.00% due in varying installments through June 1, 2039. Interest is paid each June 1 and December 1.	649,545	-
2016 Series A Third Refunding Subordinate Revenue: Issued \$255,455 in October 2016 at 3.375% to 5.00% due in varying installments through December 1, 2041. Interest is paid June 1 and December 1.	255,455	-
2016 Series B Third Refunding Subordinate Revenue (Federally Taxable): Issued \$75,755 in October 2016 at 1.175% to 2.928% due in varying installments through December 1, 2025. Interest is paid June 1 and December 1.	75,755	-
2017 Series A Subordinate Revenue: Issued \$284,275 in January 2017 at 4.00% to 5.50% due in varying installments through December 1, 2046. Interest is paid each June 1 and December 1.	284,275	-
2017 Series First Refunding Subordinate Revenue: Issued \$291,850 in May 2017 at a variable rate (based on SIFMA + 0.60% reset weekly, paid the 1st of each month commencing on June 1, 2017). Due in varying installments through December 1, 2041.	291,850	-
Total Mainline Subordinate Revenue Debt Payable	4,828,392	4,577,012
Motor License Fund-Enhanced Subordinate Special Revenue Debt		
2010 Sub-Series A-1, A-2, A-3 Subordinate Motor License Fund-Enhanced Special Revenue: Issued \$187,816 in July 2010 at 4.50% to 5.50%. Sub-Series A-1 due in varying installments through December 1, 2038. Interest paid each June 1 and December 1. Sub-Series A-2 issued as convertible CABs. Interest will compound semi-annually until December 1, 2015, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series A-3 issued as CABs. Compounded interest to be paid at maturity or earlier redemption. Sub-Series A-2 was partially refunded in October 2016.	205,684	220,308
2010 Sub-Series B-1, B-2, B-3 Subordinate Motor License Fund-Enhanced Special Revenue: Issued \$105,299 in October 2010 at 3.95% to 5.125%, due in varying installments through December 1, 2040. Sub-Series B-1 interest paid each June 1 and December 1. Sub-Series B-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2015, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series B-3 issued as CABs with interest paid at maturity or earlier redemption. Sub-Series B-2 was partially refunded in October 2016.	114,415	123,198

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**NOTE 7**      **DEBT** *(continued)*

	May 31,	
	2017	2016
	(In Thousands)	
<i>Motor License Fund-Enhanced Subordinate Special Revenue Debt (continued)</i>		
<b>2011 Series A Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$102,620 in April 2011 at 5.00% to 6.00%, due in varying installments through December 1, 2041. Interest paid each June 1 and December 1. Partially refunded in October 2016.	\$ 45,760	\$ 102,620
<b>2011 Series B Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$98,910 in October 2011 at 3.00% to 5.00%, due in varying installments through December 1, 2041. Interest paid each June 1 and December 1.	96,855	97,605
<b>2012 Series A Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$94,935 in April 2012 at 2.00% to 5.00%, due in varying installments through December 1, 2042. Interest paid each June 1 and December 1.	93,570	94,090
<b>2012 Series B Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$92,780 in October 2012 at 3.00% to 5.00%, due in varying installments through December 1, 2042. Interest paid each June 1 and December 1.	91,440	92,020
<b>2013 Series A Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$92,465 in April 2013 at 3.00% to 5.00%, due in varying installments through December 1, 2043. Interest paid each June 1 and December 1.	92,465	92,465
<b>2013 Sub-Series B-1, B-2, B-3 Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$101,731 in October 2013 at 2.00% to 5.875%, due in varying installments through December 1, 2043. Sub-Series B-1 interest paid each June 1 and December 1. Sub-Series B-2 issued as convertible CABs. Interest compounded semi-annually until December 1, 2028, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption. Sub-Series B-3 interest paid each June 1 and December 1.	105,779	104,908
<b>2014 Series A Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$59,740 in April 2014 at 4.50% to 4.90%, due in varying installments through December 1, 2044. The Series A were issued as convertible CABs. Interest will compound semi-annually until December 1, 2021, thereafter paid each June 1 and December 1. Compound interest paid at maturity or earlier redemption.	68,940	65,816
<b>2016 First Refunding Subordinate Motor License Fund-Enhanced Special Revenue:</b> Issued \$79,865 in October 2016 at 5.00% due in varying installments through December 1, 2036. Interest is paid each June 1 and December 1.	79,865	-
Total Motor License Fund-Enhanced Subordinate Special Revenue Debt	994,773	993,030
Total Mainline Subordinate Debt (consisting of Subordinate Revenue Debt and Motor License Fund-Enhanced Subordinate Special Revenue Debt)	5,823,165	5,570,042
Total Mainline Senior and Subordinate Debt Payable	10,719,015	10,059,052
<i>Oil Company Franchise Tax Senior Debt</i>		
<b>2003 Series C Oil Company Franchise Tax Multi-Modal Revenue:</b> Issued \$160,000 in August 2003 at a variable rate, converted to a fixed rate of 5.00% in May 2008, due in varying installments through December 1, 2032. Interest paid each June 1 and December 1. Fully refunded in September 2016.	-	160,000
<b>2006 Series A Oil Company Franchise Tax Revenue Refunding:</b> Issued \$98,705 in November 2006 at 5.00%, due in varying installments through December 1, 2023. Interest paid each June 1 and December 1. Fully refunded in December 2016.	-	75,425
<b>2009 Series A, B, C Oil Company Franchise Tax Revenue:</b> Issued \$164,181 in October 2009. Series A issued at 2.00% to 5.85%, due in varying installments through December 1, 2023. Series B (Build America Bonds, Issuer Subsidy, Federally Taxable) issued at 5.85%, due in varying installments through December 1, 2037. Interest paid each June 1 and December 1. Series C issued as CABs at 5.30%. Interest on the CABs is deferred until maturity on December 1, 2039. Sub-Series A-2 partially refunded in September 2016.	159,901	162,286
<b>2013 Series A Oil Company Franchise Tax Revenue Refunding:</b> Issued \$27,785 in October 2013 at 2.50% to 5.00%, due in varying installments through December 1, 2024. Interest paid each June 1 and December 1.	23,120	23,120
<b>2016 Series A Oil Company Franchise Tax Revenue Refunding:</b> Issued \$198,595 in September 2016 at 4.00% to 5.00% due in varying installments through December 1, 2032. Interest paid each June 1 and December 1.	198,595	-
Total Oil Company Franchise Tax Senior Debt Payable	381,616	420,831

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## NOTE 7 DEBT (continued)

	May 31,	
	2017	2016
	(In Thousands)	
<i>Oil Company Franchise Tax Subordinate Debt</i>		
<b>2003 Series B Subordinate Oil Company Franchise Tax Revenue:</b> Issued \$197,955 in August 2003 at 2.38% to 5.50%, due in varying installments through December 1, 2032. Interest paid each June 1 and December 1. Partially defeased in November 2006 and partially refunded in October 2013. Final refunding in September 2016.	\$ -	\$ 16,440
<b>2006 Series B Subordinate Oil Company Franchise Tax Revenue Refunding:</b> Issued \$141,970 in November 2006 at 3.75% to 5.00%, due in varying installments through December 1, 2031. Interest paid each June 1 and December 1. Fully refunded in December 2016.	-	129,350
<b>2009 Series D, E Subordinate Oil Company Franchise Tax Revenue:</b> Issued \$134,065 in October 2009. Series D issued at 2.00% to 5.00%, due in varying installments through December 1, 2027. Series E (Build America Bonds, Issuer Subsidy, Federally Taxable) issued at 6.378%, due in varying installments through December 1, 2037. Sub-Series D-2 partially refunded in September 2016.	126,035	127,795
<b>2013 Series B Subordinate Oil Company Franchise Tax Revenue:</b> Issued \$32,035 in October 2013 at 2.00% and 5.00%, due in varying installments through December 1, 2025. Interest paid each June 1 and December 1.	24,215	24,215
<b>2016 Series B Oil Company Franchise Tax Revenue Refunding:</b> Issued \$115,395 in September 2016 at 4.00% to 5.00% due in varying installments through December 1, 2032. Interest paid each June 1 and December 1.	115,395	-
Total Oil Company Franchise Tax Subordinate Debt Payable	265,645	297,800
Total Oil Company Franchise Tax Senior and Subordinate Debt Payable	647,261	718,631
<i>Motor License Registration Fee Debt</i>		
<b>2005 Series A:</b> Issued \$234,135 in August 2005 at 3.25% to 5.25%, due in varying installments through July 15, 2030. Interest paid each January 15 and July 15.	163,270	171,045
<b>2005 Series B, C, D:</b> Issued \$231,425 in August 2005 and remarketed in October 2015 with a direct placement at a variable rate (based on 70% of LIBOR + 0.85%, reset monthly, paid the 15th of each month), due in varying installments through July 15, 2041.	231,425	231,425
Total Motor License Registration Fee Debt Payable	394,695	402,470
Total Debt Payable	11,760,971	11,180,153
Unamortized premium/discount	808,031	514,396
Total Debt, net of unamortized premium/discount	12,569,002	11,694,549
Less: Current portion	391,375	262,690
<b>Debt, noncurrent portion</b>	<b>\$ 12,177,627</b>	<b>\$ 11,431,859</b>

SIFMA was 0.76% on May 31, 2017.

1-month LIBOR was 1.06033% on May 31, 2017.

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## NOTE 7 DEBT (continued)

Changes in debt are as follows:

	Balance at June 1, 2016	Additions	Reductions (In Thousands)	Balance at May 31, 2017	Due Within One Year
Mainline debt	\$ 10,059,052	\$ 2,259,308	\$ 1,599,345	\$ 10,719,015	\$ 365,745
Oil Company Franchise Tax debt	718,631	315,165	386,535	647,261	17,445
Motor License Registration Fee debt	402,470	-	7,775	394,695	8,185
	11,180,153	2,574,473	1,993,655	11,760,971	391,375
Premium (discount), net	514,396	339,637	46,002	808,031	-
<b>Totals</b>	<b>\$ 11,694,549</b>	<b>\$ 2,914,110</b>	<b>\$ 2,039,657</b>	<b>\$ 12,569,002</b>	<b>\$ 391,375</b>

	Balance at June 1, 2015	Additions	Reductions (In Thousands)	Balance at May 31, 2016	Due Within One Year
Mainline debt	\$ 8,984,240	\$ 2,001,272	\$ 926,460	\$ 10,059,052	\$ 236,030
Oil Company Franchise Tax debt	735,141	1,115	17,625	718,631	18,885
Motor License Registration Fee debt	409,880	-	7,410	402,470	7,775
	10,129,261	2,002,387	951,495	11,180,153	262,690
Premium (discount), net	306,147	226,958	18,709	514,396	-
<b>Totals</b>	<b>\$ 10,435,408</b>	<b>\$ 2,229,345</b>	<b>\$ 970,204</b>	<b>\$ 11,694,549</b>	<b>\$ 262,690</b>

Debt service requirements subsequent to May 31, 2017 related to all sections of debt are as follows:

Year Ending May 31	Principal Maturities	Interest (In Thousands)	Total
2018	\$ 391,375	\$ 494,655	\$ 886,030
2019	350,075	508,224	858,299
2020	319,080	500,774	819,854
2021	585,265	491,175	1,076,440
2022	375,335	473,811	849,146
2023-2027	1,343,494	2,234,669	3,578,163
2028-2032	1,677,910	1,929,339	3,607,249
2033-2037	2,548,898	1,416,136	3,965,034
2038-2042	2,681,292	893,217	3,574,509
2043-2047	1,285,082	242,291	1,527,373
2048-2052	203,165	22,868	226,033
	<b>\$ 11,760,971</b>	<b>\$ 9,207,159</b>	<b>\$ 20,968,130</b>

## PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 7      **DEBT** *(continued)*

The Commission's purpose for issuing debt is as follows:

- Mainline Senior Debt is issued for the purpose of financing the costs of various capital projects in the Commission's capital plan and for refunding outstanding Mainline Senior Debt.
- Mainline Subordinate Debt is issued for the purpose of financing a portion of the costs of making payments to the Pennsylvania Department of Transportation in accordance with Act 44 and Act 89 and for refunding outstanding Subordinate Debt. See Note 9 for additional information regarding Act 44 and Act 89.
- Oil Company Franchise Tax Debt and Motor License Registration Fee Debt are issued for the purpose of financing the costs of capital expenditures related to the Mon/Fayette and Southern Beltway expansion projects and to refund outstanding Oil Company Franchise Tax Debt and Motor License Registration Fee Debt.

The issuance of new debt is conducted in accordance with the terms of the applicable Trust Indenture and approval of the Commissioners.

#### Mainline Debt Requirements and Recent Activity

The Amended and Restated Trust Indenture of 2001 requires that tolls be adequate to provide funds to cover current expenses and (1) provide funds in an amount not less than the greater of 130% of the maximum principal and interest requirements for the succeeding year, or (2) 100% of the maximum principal and interest payments for the next fiscal year plus the amount required for maintenance of the Turnpike System as determined by the Commission's Consulting Engineer. If any deficiencies occur, the Commission is obligated to raise tolls accordingly.

As disclosed in Note 3, the Commission's Trust Indentures impose certain restrictions and requirements. The Commission's Trust Indenture for the Turnpike Subordinate Revenue Bonds requires that the Commission establish and maintain schedules of tolls for traffic over the Turnpike System as required by the Senior Indenture, and in addition, the amount paid into the General Reserve Fund of the Senior Indenture in each fiscal year and for each Commission Payment, will be at least sufficient to provide funds in an amount not less than: (1) 115% of the Annual Debt Service for each fiscal year on account of all outstanding Revenue Bonds and Revenue Bonds Parity Obligations; (2) 100% of the Annual Debt Service for such fiscal year on account of all Outstanding Guaranteed Bonds, Guaranteed Bonds Parity Obligations and Subordinated Indebtedness; and (3) any payment by the Commission required by the Subordinate Indenture for restoring a deficiency in the Debt Service Fund within an eighteen (18) month period.



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### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In fiscal year 2013, the Commission entered into a loan agreement to borrow up to \$200 million in four tranches of up to \$50 million each through the Immigrant Investor Program (known as the EB-5 visa program) administered by the U.S. Citizenship and Immigration Services. The Commission is borrowing this money to fund a portion of the I-95 Interchange Project. Such debt is issued under the Senior Indenture on parity with the Turnpike Revenue Bonds. As of May 31, 2017 and 2016, the Commission has borrowed all \$200 million under the agreement.

In August 2016, the Commission entered into a second loan agreement to borrow, over a possible eight-year period, up to \$800 million in 16 tranches of up to \$50 million each through the EB-5 visa program. The Commission is borrowing this money to fund a portion of the costs of certain capital projects included in the Commission's current Ten Year Capital Plan. Such debt, if borrowed, would be issued under the Senior Indenture on parity with the Turnpike Revenue Bonds. As of May 31, 2017, the Commission has not borrowed any funds under the \$800 million loan agreement.

## **PENNSYLVANIA TURNPIKE COMMISSION**

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Notes to the Financial Statements

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### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

Under the Commonwealth of Pennsylvania's Act 44 of 2007 (Act 44), the Commission may issue up to \$5 billion of Special Revenue Bonds guaranteed by the Commonwealth of Pennsylvania's Motor License Fund. The Special Revenue Bonds authorized by Act 44 are subject to various limitations, including, among others, the following: the aggregate amount of such Special Revenue Bonds is limited to \$5 billion; no more than \$600 million of Special Revenue Bonds may be issued in any calendar year; debt service on the Special Revenue Bonds shall be payable from any available funds of the Commission, but are additionally secured by amounts payable from the Commonwealth of Pennsylvania's Motor License Fund which is required to pay any debt service shortfall. All Special Revenue Bond debt service payments are subordinate obligations of the Commission payable solely from certain money in, or periodically released from, the General Reserve Fund after meeting all other Commission requirements pursuant to any financial documents, financial covenants, insurance policies, liquidity policies or agreements in effect at the Commission. Pursuant to the Commonwealth of Pennsylvania's Act 89 of 2013, Special Revenue Bonds may not be issued by the Commission to fund any portion of its annual payments obligation to PennDOT after July 1, 2014, although Special Revenue Refunding Bonds may be issued. Through fiscal year ended May 31, 2017, the Commission issued \$1,016.2 million of Special Revenue Bonds. During fiscal year 2017, \$83.1 million of the Special Revenue Bonds was refunded. The outstanding principal related to these Special Revenue Bonds was \$994.8 million at May 31, 2017. The commitment of the Commonwealth of Pennsylvania's Motor License Fund to provide additional security to pay any Special Revenue Bond debt service shortfall shall continue until the retirement or defeasance of any Special Revenue Bonds or until October 13, 2057, whichever is sooner. To date, the Commission has made all required Special Revenue Bond debt service payments. No funds have been drawn or requested from the Commonwealth's Motor License Fund for Special Revenue Bond debt service during the current reporting period or any prior reporting periods. In the event that the Commonwealth's Motor License Fund would be required to make a Special Revenue Bond debt service payment, a provision of the Amended Lease and Funding Agreement, executed between the Commission and PennDOT, requires the Commission to reimburse the Motor License Fund for any Special Revenue Bond debt service payments plus interest accruing to the date of the Commission's failure to pay the debt service. The obligation of the Commission to reimburse the Motor License Fund for any Special Revenue Bond debt service payment is a subordinate obligation of the Commission and is payable only from amounts, if any, in the Commission's General Reserve Fund as permitted by any Commission financing documents, financial covenants, insurance policies, liquidity policies or agreements in effect at the Commission.

## **PENNSYLVANIA TURNPIKE COMMISSION**

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In June 2015, the Commission issued \$385,095,000 2015 Series A-1 Senior Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series A-1 Senior Bonds were issued to provide funds to finance the costs of various capital expenditures and advance refund all of the Commission's 2006 Series A Senior Revenue Bonds and for paying the cost of issuing the 2015 Series A-1 Senior Bonds. The advanced refunding of the 2006 Series A Senior Bonds allowed the Commission to reduce its debt service by approximately \$18.2 million. The transaction resulted in an economic gain of approximately \$13.7 million.

In June 2015, the Commission issued \$115,635,000 2015 Series A-2 Senior Bonds at a variable rate with a maturity date of December 1, 2021. The 2015 Series A-2 Senior Bonds were issued primarily for the current refunding of existing variable-rate debt, which included the Commission's 2013 Series B Variable Rate Revenue Bonds (\$65,155,000), the Commission's 2014 Series B-1 Variable Rate Revenue Bonds (\$15,080,000) and the Commission's 2014 Series B-2 Variable Rate Revenue Bonds (\$34,920,000). The bonds were also issued for payment of the costs of issuance for the 2015 Series A-2 Senior Bonds.

In October 2015, the Commission issued \$192,215,000 2015 Series B Subordinate Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series B Subordinate Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89 and for paying the cost of issuing the 2015 Series B Subordinate Bonds.

In December 2015, the Commission issued \$304,005,000 2015 Series B Senior Bonds at a fixed rate with a maturity date of December 1, 2045. The 2015 Series B Senior Bonds were issued to provide funds to finance the costs of various capital expenditures set forth in the Commission's current or any prior ten-year capital plan and for paying the cost of issuing the 2015 Series B Senior Bonds.

## **PENNSYLVANIA TURNPIKE COMMISSION**

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Years Ended May 31, 2017 and 2016

### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In February 2016, the Commission issued \$360,990,000 2016 Series Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of June 1, 2038. The 2016 Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$29,025,000), 2008 Series B-1 Subordinate Revenue Bonds (\$52,390,000), 2008 Series C-1 Subordinate Revenue Bonds (\$189,875,000), 2009 Series A Subordinate Revenue Bonds (\$23,470,000), 2009 Series B Subordinate Revenue Bonds (\$76,435,000), 2009 Series D Subordinate Revenue Bonds (\$9,975,000) and for paying the cost of issuing the 2016 Series Subordinate Revenue Refunding Bonds. The advance refunding of the 2008 Series A-1 Subordinate Bonds, 2008 Series B-1 Subordinate Bonds, 2008 Series C-1 Subordinate Bonds, 2009 Series A Subordinate Bonds, 2009 Series B Subordinate Bonds, and 2009 Series D Subordinate Bonds allowed the Commission to reduce its debt service by approximately \$82.6 million. The transaction resulted in an economic gain of approximately \$57.9 million.

In March 2016, the Commission issued a \$150,000,000 2016 EB5 Loan at a fixed rate with a maturity date of March 18, 2021. This amount is comprised of the 1<sup>st</sup>-3<sup>rd</sup> Tranches under the Immigrant Investor Program loan agreement. The 2016 EB5 Loan was issued to fund a portion of the I-95 Interchange Project and for paying the cost of issuing the 2016 EB5 Loan.

In April 2016, the Commission issued \$203,700,000 2016 Series A-1 Subordinate Bonds at a fixed rate with a maturity date of December 1, 2046. The 2016 Series A-1 Subordinate Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89 and for paying the cost of issuing the 2016 Series A-1 Subordinate Bonds.

In April 2016, the Commission issued \$185,455,000 2016 Series A-2 Subordinate Bonds at a fixed rate with a maturity date of June 1, 2033. The 2016 Series A-2 Subordinate Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$39,655,000), 2008 Series B-1 Subordinate Revenue Bonds (\$61,860,000), 2009 Series A Subordinate Revenue Bonds (\$27,275,000), 2009 Series B Subordinate Revenue Bonds (\$69,735,000) and for paying the cost of issuing the 2016 Series A-2 Subordinate Bonds. The advance refunding of the 2008 Series A-1 Subordinate Bonds, 2008 Series B-1 Subordinate Bonds, 2009 Series A Subordinate Bonds, and 2009 Series B Subordinate Bonds allowed the Commission to reduce its debt service by approximately \$26.6 million. The transaction resulted in an economic gain of approximately \$20.7 million.

## PENNSYLVANIA TURNPIKE COMMISSION

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 7      DEBT *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In May 2016, the Commission issued a \$50,000,000 2016 EB5 Loan at a fixed rate with a maturity date of May 12, 2021. This amount is the 4<sup>th</sup> Tranche under the Immigrant Investor Program loan agreement. The 2016 EB5 Loan was issued to fund a portion of the I-95 Interchange Project and for paying the cost of issuing the 2016 EB5 Loan.

In June 2016, the Commission issued \$447,850,000 2016 Series A-1 Senior Bonds at a fixed rate with a maturity date of December 1, 2046. The 2016 Series A-1 Senior Bonds were issued primarily to provide funds for various capital expenditures set forth in the Commission's current or any prior 10-year capital plan, including, but not limited to, the reconstruction of roadbed and roadway, the widening, replacing and redecking or certain bridges and the rehabilitation of certain interchanges. The bonds were also issued for payment of the costs of issuance for the 2016 Series A-1 Senior Bonds.

In June 2016, the Commission issued \$140,590,000 2016 Series A-2 Senior Bonds at a variable rate with a maturity date of December 1, 2018. The 2016 Series A-2 Senior Bonds were issued primarily for the current refunding of existing variable rate debt which included the Commission's 2012 Series B Variable Rate Revenue Bonds (\$70,060,000), the Commission's 2014 Series B-1 Variable Rate Revenue Bonds (\$35,050,000) and the Commission's 2014 Series B-2 Variable Rate Revenue Bonds (\$34,950,000). The bonds were also issued for payment of the costs of issuance for the 2016 Series A-2 Senior Bonds.

In June 2016, the Commission issued \$649,545,000 2016 Second Series Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of June 1, 2039. The 2016 Second Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advance refunding of a portion of the Commission's 2008 Series A-1 Subordinate Revenue Bonds (\$105,065,000), 2008 Series B-1 Subordinate Revenue Bonds (\$50,665,000), 2009 Series A Subordinate Revenue Bonds (\$43,355,000), 2009 Series B Subordinate Revenue Bonds (\$288,185,000), 2009 Series D Subordinate Revenue Bonds (\$16,575,000), 2010 Series B-1 Subordinate Revenue Bonds (\$11,850,000), 2010 Series B-2 Subordinate Revenue Bonds (\$87,475,000), 2010 Series C-2 Subordinate Revenue Bonds (\$17,670,000), 2011 Series A Subordinate Revenue Bonds (\$53,375,000), and for paying the cost of issuing the 2016 Second Series Subordinate Revenue Refunding Bonds. The advance refunding of the 2008 Series A-1 Subordinate Bonds, 2008 Series B-1 Subordinate Bonds, 2009 Series A Subordinate Bonds, 2009 Series B Subordinate Bonds, 2009 Series D Subordinate Bonds, 2010 Series B-1 Subordinate Bonds, 2010 Series B-2 Subordinate Bonds, 2010 Series C-2 Subordinate Bonds, and 2011 Series A Subordinate Bonds allowed the Commission to reduce its debt service by approximately \$113.5 million. The transaction resulted in an economic gain of approximately \$74.4 million.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In October 2016, the Commission issued \$255,455,000 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2041. The 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2009 Series A Subordinate Revenue Bonds (\$20,990,000), 2009 Series B Subordinate Revenue Bonds (\$112,560,000), 2009 Series D Subordinate Revenue Bonds (\$75,700,000), 2010 Series B-2 Subordinate Revenue Bonds (\$35,545,000), 2011 Series A Subordinate Revenue Bonds (\$7,925,000), and for paying the cost of issuing the 2016 Third Series Sub-Series A Subordinate Revenue Refunding Bonds. The advance refunding of the 2009 Series A Subordinate Bonds, 2009 Series B Subordinate Bonds, 2009 Series D Subordinate Bonds, 2010 Series B-2 Subordinate Bonds, and 2011 Series A Subordinate Bonds allowed the Commission to reduce its debt service by approximately \$43.6 million. The transaction resulted in an economic gain of approximately \$30.4 million.

In October 2016, the Commission issued \$75,755,000 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2025. The 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2008 Series A-2 Subordinate Revenue Bonds (\$18,905,000), 2008 Series B-2 Subordinate Revenue Bonds (\$47,785,000) and for paying the cost of issuing the 2016 Third Series Sub-Series B Subordinate Revenue Refunding Bonds. The advance refunding of the 2008 Series A-2 Subordinate Revenue Bonds and 2008 Series B-2 Subordinate Revenue Bonds allowed the Commission to reduce its debt service by approximately \$8.7 million. The transaction resulted in an economic gain of approximately \$8.0 million.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 7      DEBT** *(continued)*

#### Mainline Debt Requirements and Recent Activity *(continued)*

In October 2016, the Commission issued \$79,865,000 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2036. The 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2010 Series A-2 Motor License Fund-Enhanced Subordinate Revenue Bonds (\$16,520,000), 2010 Series B-2 Motor License Fund-Enhanced Subordinate Revenue Bonds (\$9,705,000), 2011 Series A Motor License Fund-Enhanced Subordinate Revenue Bonds (\$56,860,000) and for paying the cost of issuing 2016 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds. The advanced refunding of the 2010 Series A-2 Motor License Fund-Enhanced Subordinate Revenue Bonds, 2010 Series B-2 Motor License Fund-Enhanced Subordinate Revenue Bonds and 2011 Series A Motor License Fund-Enhanced Subordinate Revenue Bonds allowed the Commission to reduce its debt service by approximately \$13.0 million. The transaction resulted in an economic gain of approximately \$9.5 million.

In January 2017, the Commission issued \$284,275,000 2017 Series A Subordinate Revenue Bonds at a fixed rate with a maturity date of December 1, 2046. The 2017 Series A Subordinate Revenue Bonds were issued primarily to provide funds to finance the costs of making payments to PennDOT in accordance with Act 44 and Act 89, including reimbursing the Commission for certain payments previously made by the Commission to PennDOT and for paying the cost of issuing the 2017 Series A Subordinate Revenue Bonds.

In May 2017, the Commission issued \$291,850,000 2017 First Series Subordinate Revenue Refunding Bonds at a variable rate with a maturity date of December 1, 2041. The 2017 First Series Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the Commission's 2009 Series A Subordinate Revenue Bonds (\$71,475,000) and 2009 Series D Subordinate Revenue Bonds (\$215,130,000) and for paying the cost of issuing the 2017 First Series Subordinate Revenue Refunding Bonds. The advance refunding of the 2009 Series A Subordinate Revenue Bonds and 2009 Series D Subordinate Revenue Bonds allowed the Commission to reduce its debt service by approximately \$125.6 million. The transaction resulted in an economic gain of approximately \$66.5 million.

**PENNSYLVANIA TURNPIKE COMMISSION**

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

**NOTE 7 DEBT** *(continued)*Mainline Debt Requirements and Recent Activity *(continued)*

Debt service requirements subsequent to May 31, 2017 related to the Mainline debt are as follows:

<b>Year Ending May 31</b>	<b>Principal Maturities</b>	<b>Interest</b> <i>(In Thousands)</i>	<b>Total</b>
2018	\$ 365,745	\$ 449,518	\$ 815,263
2019	323,290	464,231	787,521
2020	291,030	458,033	749,063
2021	557,685	449,845	1,007,530
2022	346,335	433,905	780,240
2023-2027	1,159,789	2,060,435	3,220,224
2028-2032	1,445,540	1,806,513	3,252,053
2033-2037	2,235,248	1,357,993	3,593,241
2038-2042	2,506,106	839,352	3,345,458
2043-2047	1,285,082	242,291	1,527,373
2048-2052	203,165	22,868	226,033
	<u>\$ 10,719,015</u>	<u>\$ 8,584,984</u>	<u>\$ 19,303,999</u>

Oil Company Franchise Tax Debt Requirements and Recent Activity

The Oil Company Franchise Tax Revenue Bonds are secured by a pledge and assignment by the Commission to the Trustee of: (1) all proceeds from the Commission's allocation of the Commonwealth of Pennsylvania's Oil Company Franchise Tax; (2) the Commission's right to receive its allocation of the Oil Company Franchise Tax and any portion of the allocation actually received by the Commission; (3) all monies deposited into accounts or funds created by the 1998 Indenture, as supplemented; and, (4) all investment earnings on all monies held in accounts and funds established by the 1998 Indenture.

The 1998 Indenture requires the Commission to petition the General Assembly of the Commonwealth of Pennsylvania for additional funds in the event that the Commission's allocation of the Oil Company Franchise Tax is inadequate to pay maximum principal and interest payments for the succeeding year.



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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 7      DEBT** *(continued)*

#### Oil Company Franchise Tax Debt Requirements and Recent Activity *(continued)*

In September 2016, the Commission issued \$198,595,000 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2032. The 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds were issued to provide funds for the advanced refunding of the Commission's 2003 Series C Oil Franchise Tax Senior Revenue Bonds (\$160,000,000), the advance refunding of a portion of 2009 Series A-2 Oil Franchise Tax Senior Revenue Bonds (\$2,120,000), the current refunding of 2006 Series A Oil Franchise Tax Senior Revenue Bonds (\$66,025,000) and for paying the cost of issuing the 2016 Series A Oil Franchise Tax Senior Revenue Refunding Bonds. The advanced refunding of the 2003 Series C Oil Franchise Tax Senior Revenue Bonds, 2009 Series A-2 Oil Franchise Tax Senior Revenue Bonds, and the current refunding of 2006 Series A Oil Franchise Tax Senior Bonds allowed the Commission to reduce its debt service by approximately \$44.4 million. The transaction resulted in an economic gain of approximately \$37.6 million.

In September 2016, the Commission issued \$115,395,000 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds at a fixed rate with a maturity date of December 1, 2032. The 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds were issued to provide funds for the advanced refunding of a portion of the 2009 D-2 Oil Franchise Tax Subordinate Revenue Bonds (\$860,000), the current refunding of the 2006 Series B Oil Franchise Tax Subordinate Revenue Bonds (\$122,205,000), the current refunding of 2003 Series B Oil Franchise Tax Subordinate Revenue Bonds (\$16,440,000) and for paying the cost of issuing the 2016 Series B Oil Franchise Tax Subordinate Revenue Refunding Bonds. The advanced refunding of the 2009 Series D-2 Oil Franchise Tax Subordinate Bonds, the current refunding of the 2006 Series B Oil Franchise Tax Subordinate Revenue Bonds and 2003 Series B Oil Franchise Tax Subordinate Revenue Bonds allowed the Commission to reduce its debt service by approximately \$31.3 million. The transaction resulted in an economic gain of approximately \$24.6 million.

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Years Ended May 31, 2017 and 2016

**NOTE 7      DEBT** *(continued)*Oil Company Franchise Tax Debt Requirements and Recent Activity *(continued)*

Debt service requirements subsequent to May 31, 2017 related to Oil Company Franchise Tax are as follows:

<b>Year Ending May 31</b>	<b>Principal Maturities</b>	<b>Interest</b>	<b>Total</b>
		<i>(In Thousands)</i>	
2018	\$ 17,445	\$ 33,193	\$ 50,638
2019	18,170	32,490	50,660
2020	18,980	31,696	50,676
2021	18,035	30,786	48,821
2022	18,955	29,870	48,825
2023-2027	124,985	132,765	257,750
2028-2032	156,520	98,699	255,219
2033-2037	217,970	45,584	263,554
2038-2042	56,201	49,707	105,908
	<u>\$ 647,261</u>	<u>\$ 484,790</u>	<u>\$ 1,132,051</u>

Motor License Registration Fee Debt Requirements and Recent Activity

Pursuant to Section 20 of Act 3, the Commonwealth appropriates \$28.0 million of Act 3 revenues to the Commission annually. The \$28.0 million is payable to the Commission in the amount of \$2.3 million per month. The Registration Fee Revenue Bonds are secured by a pledge and assignment by the Commission to the Trustee of any receipts, revenues and other moneys received by the Trustee on or after the date of the Indenture from the Commission's allocation of Act 3 revenues and any income earned on any fund or account established pursuant to the Indenture.

In October 2015, the Commission amended the original indenture for the 2005 Registration Fee Revenue Refunding Bonds to allow for the conversion of \$231,425,000 Registration Fee Revenue Refunding Bonds Series B, C, and D of 2005 from a weekly rate mode to an index rate mode through a direct placement with DNT Asset Trust.

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Years Ended May 31, 2017 and 2016

**NOTE 7 DEBT** *(continued)*Motor License Registration Fee Debt Requirements and Recent Activity  
*(continued)*

Debt service requirements subsequent to May 31, 2017 related to Motor License Registration Fee debt are as follows:

<u>Year Ending May 31</u>	<u>Principal Maturities</u>	<u>Interest</u> <i>(In Thousands)</i>	<u>Total</u>
2018	\$ 8,185	\$ 11,944	\$ 20,129
2019	8,615	11,503	20,118
2020	9,070	11,045	20,115
2021	9,545	10,544	20,089
2022	10,045	10,036	20,081
2023-2027	58,720	41,469	100,189
2028-2032	75,850	24,127	99,977
2033-2037	95,680	12,559	108,239
2038-2042	118,985	4,158	123,143
	<u>\$ 394,695</u>	<u>\$ 137,385</u>	<u>\$ 532,080</u>

Defeased Bonds

In both the current and prior years, the Commission defeased certain revenue bonds by placing funds in irrevocable trusts to provide for all future debt service payments on the defeased bonds. Accordingly, the trust account assets and the liability for the defeased bonds were not included in the Commission's financial statements. At May 31, 2017 and 2016, the Commission had \$2,345.4 million and \$1,003.9 million, respectively, of defeased bonds outstanding.

Arbitrage

The Tax Reform Act of 1986 instituted certain arbitrage restrictions with respect to the issuance of tax-exempt debt bonds after August 31, 1986. Arbitrage regulations deal with the investment of all tax-exempt bond proceeds at an interest yield greater than the interest yield paid to bondholders. Generally, all interest paid to bondholders can be retroactively rendered taxable if rebates are not reported and paid to the Internal Revenue Service (IRS) at least every five years. The arbitrage liability recorded as other noncurrent liabilities is \$0.3 million and \$0.2 million for the fiscal years ended May 31, 2017 and 2016, respectively.

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Years Ended May 31, 2017 and 2016

**NOTE 7      DEBT** *(continued)*Swap Payments and Associated Debt

Net swap payments and related debt service requirements related to all sections subsequent to May 31, 2017, assuming current interest rates remain the same for the term of the agreements, are as follows:

<u>Year Ending May 31</u>	<u>Principal Maturities</u>	<u>Interest</u>	<u>Hedging Derivative</u>	<u>Total</u>
<i>(In Thousands)</i>				
2018	\$ 140,000	\$ 18,835	\$ 30,873	\$ 189,708
2019	105,590	17,208	30,873	153,671
2020	139,150	15,246	30,857	185,253
2021	200,000	12,093	30,881	242,974
2022	150,000	8,938	30,873	189,811
2023-2027	-	38,073	150,941	189,014
2028-2032	16,760	37,869	122,229	176,858
2033-2037	114,030	32,437	79,257	225,724
2038-2042	392,485	15,984	26,223	434,692
	<u>\$ 1,258,015</u>	<u>\$ 196,683</u>	<u>\$ 533,007</u>	<u>\$ 1,987,705</u>

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Years Ended May 31, 2017 and 2016

**NOTE 7 DEBT** *(continued)*Swap Payments and Associated Debt *(continued)*

Mainline net swap payments and related debt service requirements for the 2013 Series B Senior, 2014 Series B-1 Senior, 2016 Series A-2 Senior and 2017 First Series Subordinate Revenue Refunding bond issues are as follows:

<u>Year Ending May 31</u>	<u>Principal Maturities</u>	<u>Interest</u>	<u>Hedging Derivative</u>	<u>Total</u>
<i>(In Thousands)</i>				
2018	\$ 140,000	\$ 15,247	\$ 22,955	\$ 178,202
2019	105,590	13,621	22,955	142,166
2020	139,150	11,653	22,942	173,745
2021	200,000	8,512	22,959	231,471
2022	150,000	5,351	22,954	178,305
2023-2027	-	20,138	111,350	131,488
2028-2032	-	20,144	83,119	103,263
2033-2037	18,350	19,878	51,521	89,749
2038-2042	273,500	11,826	17,048	302,374
	<u>\$ 1,026,590</u>	<u>\$ 126,370</u>	<u>\$ 377,803</u>	<u>\$ 1,530,763</u>

Motor License net swap payments and related debt service requirements for the 2005 Series B, C, and D bond issues are as follows:

<u>Year Ending May 31</u>	<u>Principal Maturities</u>	<u>Interest</u>	<u>Hedging Derivative</u>	<u>Total</u>
<i>(In Thousands)</i>				
2018	\$ -	\$ 3,588	\$ 7,918	\$ 11,506
2019	-	3,587	7,918	11,505
2020	-	3,593	7,915	11,508
2021	-	3,581	7,922	11,503
2022	-	3,587	7,919	11,506
2023-2027	-	17,935	39,591	57,526
2028-2032	16,760	17,725	39,110	73,595
2033-2037	95,680	12,559	27,736	135,975
2038-2042	118,985	4,158	9,175	132,318
	<u>\$ 231,425</u>	<u>\$ 70,313</u>	<u>\$ 155,204</u>	<u>\$ 456,942</u>

As rates vary, variable rate bond interest payments and net swap payments will vary.

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### **NOTE 8 RETIREMENT BENEFITS**

#### General Information about the Pension Plan

##### *Plan Description*

Substantially all employees of the Commission participate in the Pennsylvania State Employees' Retirement System (SERS), a cost-sharing multiple-employer defined benefit pension plan established by the Commonwealth to provide pension benefits for employees of state government and certain independent agencies. Membership in SERS is mandatory for most Commission (and other state) employees. Article II of the Commonwealth's constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly. SERS issues a publicly available financial report that can be obtained at [www.sers.pa.gov](http://www.sers.pa.gov).

##### *Benefits Provided*

SERS provides retirement, death, and disability benefits. Member retirement benefits are determined by taking years of credited service multiplied by final average salary multiplied by 2% multiplied by class of service multiplier. Commission employees participate in one of the following class of service categories: Class A, Class AA, Class A-3 or Class A-4. According to the State Employees' Retirement Code (SERC), all obligations of SERS will be assumed by the Commonwealth should SERS terminate.

##### *Contributions*

Section 5507 of the SERC (71 Pa. C.S. §5507) requires the Commonwealth and other employers whose employees are SERS members to make contributions to the fund on behalf of all active members and annuitants necessary to fund the liabilities and provide the annuity reserves required to pay benefits. SERS funding policy, as set by the board, provides for periodic active member contributions at statutory rates. The SERS funding policy also provides for periodic employers' contributions at actuarially determined rates based on SERS funding valuation, expressed as a percentage of annual retirement covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay benefits when due. However, Act 2010-120 imposes rate increase collars (limits on annual rate increases) on employer contributions. The collar for Commonwealth fiscal year 2015-2016 was 4.5% and will no longer apply effective July 1, 2017. The Commission's retirement contribution, as a percentage of covered payroll, by class is as follows:

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**NOTE 8 RETIREMENT BENEFITS** *(continued)*General Information About the Pension Plan *(continued)*

<u>Year Ended June 30</u>	<u>Class A</u>	<u>Class AA</u>	<u>Class A-3</u>	<u>Class A-4</u>
2017	23.96%	29.95%	20.70%	20.70%
2016	19.89%	24.86%	17.18%	17.18%
2015	15.94%	19.92%	13.77%	13.77%

Contributions to the pension plan from the Commission were \$33.3 and \$27.9 million for the fiscal years ended May 31, 2017 and 2016, respectively.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At May 31, 2017, the Commission reported a liability of \$379.2 million for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The Commission's proportion of the net pension liability was based on a projected-contribution method. This methodology applies the most recently calculated contribution rates for Commonwealth fiscal year 2017-2018, from the December 31, 2016 funding valuation, to the expected funding payroll for the allocation of the 2016 amounts. At December 31, 2016, the Commission's proportion was 1.97%, which was an increase of .06% from its proportion measured as of December 31, 2015.

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**NOTE 8 RETIREMENT BENEFITS** *(continued)*Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions *(continued)*

For the fiscal year ended May 31, 2017, the Commission recognized pension expense of \$53.5 million. At May 31, 2017, the Commission reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
	<i>(In Thousands)</i>	
Differences between expected and actual experience	\$ 5,473	\$ 8,484
Net difference between projected and actual investment earnings on pension plan investments	31,866	-
Changes of assumptions	23,161	-
Differences between employer contributions and proportionate share of contributions	-	1,054
Changes in proportion	7,560	8,751
Commission contributions subsequent to measurement date	16,299	-
	<u>\$ 84,359</u>	<u>\$ 18,289</u>

The \$16.3 million reported as deferred outflows of resources related to pensions resulting from Commission contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended May 31, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

<u>Year Ended May 31</u>	<i>(in Thousands)</i>
2018	\$ 15,448
2019	15,448
2020	13,431
2021	4,799
2022	645



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**NOTE 8 RETIREMENT BENEFITS** *(continued)*Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions *(continued)*

At May 31, 2016, the Commission reported a liability of \$346.9 million for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The Commission's proportion of the net pension liability was based on a projected-contribution method. This methodology applies the most recently calculated contribution rates for Commonwealth fiscal year 2016-2017, from the December 31, 2015 funding valuation, to the expected funding payroll for the allocation of the 2015 amounts. At December 31, 2015, the Commission's proportion was 1.91%, which was a decrease of .08% from its proportion measured as of December 31, 2014.

For the fiscal year ended May 31, 2016, the Commission recognized pension expense of \$42.8 million. At May 31, 2016, the Commission reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
	<i>(In Thousands)</i>	
Differences between expected and actual experience	\$ 7,025	\$ -
Net difference between projected and actual investment earnings on pension plan investments	35,326	-
Changes of assumptions	10,307	-
Differences between employer contributions and proportionate share of contributions	-	624
Changes in proportion	-	11,569
Commission contributions subsequent to measurement date	13,623	-
	<u>\$ 66,281</u>	<u>\$ 12,193</u>

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### NOTE 8 RETIREMENT BENEFITS *(continued)*

#### Actuarial Method and Assumptions

Every five years, SERS is required to conduct an actuarial experience study to determine whether the assumptions used in its annual actuarial valuations remain accurate based on current and anticipated demographic trends and economic conditions. The 18<sup>th</sup> *Investigation of Actuarial Experience* study for the period 2011 – 2015 was released in March 2016. The actuary, under oversight of the SERS Board, reviewed economic assumptions (such as the assumed future investment returns and salary increases) as well as demographic assumptions (such as employee turnover, retirement, disability, and death rates). Some assumption adjustments increased projected cost and some decreased projected cost, but the overall result was a slight increase to the net pension liability in 2015 upon adoption.

The board adopted the actuarial assumptions set forth in the 18<sup>th</sup> *Investigation of Actuarial Experience* at its March 2016 meeting. The study can be viewed at [www.SERS.pa.gov](http://www.SERS.pa.gov).

In addition to the five-year experience study, SERS reviews its investment return assumption in light of economic conditions every year as part of its annual valuation. Based on this work, SERS actuary recommended, and SERS Board adopted at the April 2017 meeting, a reduction in the targeted investment return rate assumption to 7.25% for the 2016 actuarial valuation from 7.5% used for the 2015 actuarial valuation based on the experience study. In addition, SERS actuary recommended, and SERS Board adopted, a reduction in the inflation rate to 2.6% for the 2016 valuation from 2.75% used for the 2015 actuarial valuation based on the experience study. The change in inflation rate also impacted the general salary growth rate, which was lowered to 2.9% for the 2016 valuation from 3.05% used for the 2015 valuation based on the experience study.

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**NOTE 8 RETIREMENT BENEFITS** *(continued)*Actuarial Methods and Assumptions *(continued)*

The following methods and assumptions were used in the actuarial valuation for the December 31, 2016 and 2015 measurement dates (except as noted in the previous paragraph):

Actuarial cost method	Entry age
Amortization method	Straight-line amortization of investments over five years and amortization of assumption changes and non-investment gains/losses over the average expected remaining service lives of all employees that are provided benefits
Investment rate of return	7.25% net of expenses, including inflation
Projected salary increases	Average of 5.60% with range of 3.70% - 8.90%, including inflation
Asset valuation method	Fair (market) value
Inflation	2.60%
Mortality rate	Projected RP-2000 Mortality Tables adjusted for actual plan experience and future improvement
Cost-of-living adjustments (COLA)	Ad hoc

The long-term expected real rate of return on pension plan investments is determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of manager fees and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's current and target asset allocation as of December 31, 2016 and 2015 are summarized in the following tables:

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**NOTE 8 RETIREMENT BENEFITS** *(continued)*Actuarial Methods and Assumptions *(continued)*

As of December 31, 2016:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Rate of Return</u>
Private Equity	16.00%	8.00%
Global Public Equity	43.00%	5.30%
Real Estate	12.00%	5.44%
Hedge Funds	12.00%	4.75%
Fixed Income	14.00%	1.63%
Cash	3.00%	-0.25%
<b>Total</b>	<b>100.00%</b>	

As of December 31, 2015:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Rate of Return</u>
Alternative Investments	15.00%	8.50%
Global Public Equity	40.00%	5.40%
Real Assets	17.00%	4.95%
Diversifying Assets	10.00%	5.00%
Fixed Income	15.00%	1.50%
Liquidity Reserve	3.00%	0.00%
<b>Total</b>	<b>100.00%</b>	

The information above is based on a 7.5% assumed investment rate of return, which was in place during 2016 and 2015. Targets and/or expected returns may be updated to reflect the new assumed investment rate of return in the upcoming year.

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**NOTE 8 RETIREMENT BENEFITS** *(continued)*Discount Rate

The discount rate used to measure the total pension liability was 7.25% and 7.50% as of December 31, 2016 and 2015, respectively. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the rates applicable for each member and that employer contributions will be made based on rates determined by the actuary and as set by statute. Based on the assumptions, SERS fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active SERS members. Therefore, the long-term expected rate of return on SERS investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Commission's Proportionate Share of the Net Pension Liability to Change in the Discount Rate

The following schedule presents the Commission's proportionate share of the 2016 and 2015 net pension liability calculated using the discount rate of 7.25% and 7.50%, respectively. It also shows what the Commission's proportionate share of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

	<b>1% Decrease 6.25%</b>	<b>Current Discount Rate 7.25%</b>	<b>1% Increase 8.25%</b>
Commission's share of the net pension liability as of the 12/31/16 measurement date	\$ 469,244	\$ 379,173	\$ 302,040
	<b>1% Decrease 6.50%</b>	<b>12/31/15 Discount Rate 7.50%</b>	<b>1% Increase 8.50%</b>
Commission's share of the net pension liability as of the 12/31/15 measurement date	\$ 430,973	\$ 346,946	\$ 274,898

Pension Plan Fiduciary Net Position

Detailed information about the pension plan's fiduciary net position is available in the separately issued SERS financial report.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 8 RETIREMENT BENEFITS** *(continued)*

#### Payables to the Pension Plan

As of May 31, 2017 and 2016, the Commission reported a \$16.3 million and \$5.6 million liability, respectively, within the Accounts payable and accrued liabilities on the Statement of Net Position for the Commission's share of contributions that had not yet been paid to SERS.

### **NOTE 9 COMMITMENTS AND CONTINGENCIES**

#### Litigation

The Commission is a defendant in a number of legal proceedings pertaining to matters normally incidental to routine operations. Such litigation includes, but is not limited to, claims asserted against the Commission arising from alleged torts, alleged breaches of contracts, and condemnation proceedings. Tort claims against the Commission are generally barred by sovereign immunity, except as waived by statute. Further, to the extent waived, damages for any loss are limited by sovereign immunity to \$250,000 for each person and \$1,000,000 for each accident. Based on the current status of all of the Commission's legal proceedings, it is the opinion of Commission management and counsel that they will not have a material effect on the Commission's financial position.

#### Open Purchase Order Commitments

The Commission had open purchase order commitments of approximately \$969.9 million and \$925.1 million at May 31, 2017 and 2016, respectively.

#### Act 44 and Act 89

On July 18, 2007, Act 44 was enacted, creating a "public-public partnership" between the Commission and PennDOT to provide funding for roads, bridges and transit throughout the Commonwealth. Subsequently, in order to, among other things, effectuate the provisions of Act 44 requiring the Commission to make substantial annual payments to PennDOT, as described below, the Commission and PennDOT entered into a Lease and Funding Agreement (the Funding Agreement), incorporating many of the terms of Act 44. The term of the Funding Agreement is fifty (50) years from October 14, 2007, its effective date.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 9      COMMITMENTS AND CONTINGENCIES *(continued)*

#### Act 44 and Act 89 *(continued)*

The Funding Agreement also granted the Commission the option to lease the portion of Interstate 80 (I-80) located in the Commonwealth from PennDOT upon, among other things, the approval of the Federal Highway Administration (FHWA) of the conversion of such portion into a toll road (the Conversion). The Conversion was not approved by FHWA and neither the Commission nor PennDOT appealed the decision. The Commission did not exercise its option to lease such portion of I-80, and the period during which the Commission could exercise its option under the Funding Agreement lapsed on October 14, 2010 without the Commission effectuating Conversion or having the ability to do so in the future. Under existing law, including Act 89, all legal, financial and operational responsibility for I-80 remains with PennDOT.

Pursuant to Act 44 and the Funding Agreement, because the Conversion did not occur, the Commission was obligated to make scheduled annual payments, payable in equal quarterly installments, of \$450 million to PennDOT through 2057 with \$200 million of the scheduled annual payment supporting road and bridge projects and \$250 million supporting transit projects throughout the Commonwealth. See paragraphs below as to subsequent changes to such annual payments.

On November 25, 2013, Act 89 was enacted providing substantial revision to the Commission's transportation funding obligations under Act 44 and authorized the Commission and PennDOT to immediately amend the Funding Agreement to reflect the statutory provisions of Act 89. On April 4, 2014, the Commission and PennDOT executed Amendment Number One to the Lease and Funding Agreement (the *Act 89 Amendment* and together with the Act 44 Funding Agreement, the *Amended Funding Agreement*). The Amended Funding Agreement terminates on October 14, 2057. In accordance with Act 89 and the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT for fiscal year 2014 through fiscal year 2022 remains at \$450 million and, in accordance with Act 89, the Commission must pay at least \$30 million of such amount from current revenues. Commencing in fiscal year 2023 through the term of the Amended Funding Agreement, the Commission's aggregate annual payment to PennDOT is \$50 million, which shall be paid from then current revenues.

The Commission made payments of \$450 million (recorded as nonoperating expense) in both fiscal years reported in these statements.

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### **NOTE 9      COMMITMENTS AND CONTINGENCIES** *(continued)*

#### Act 44 and Act 89 *(continued)*

The Commission is required by the terms of the Amended Funding Agreement and Act 44 to fix and adjust tolls at levels that will generate revenues (together with other available moneys) sufficient to pay, among other things, amounts to PennDOT pursuant to the Amended Funding Agreement when due and other obligations of the Commission, and the Commission has covenanted in the Subordinate Indenture to set tolls at a level sufficient to meet its coverage obligations taking into account any additional debt incurred in order to make such payments. The Commission believes that Turnpike System revenues should enable it to satisfy its reduced payment obligations as set forth in the Amended Funding Agreement.

Due to the significance of the quarterly payments under Act 44 and Act 89, the Commission currently does not have excess cash from operations to fully fund its required payments to PennDOT from current revenues. Therefore, the Commission plans to continue to increase toll rates annually and to issue debt through fiscal year 2022 to finance the majority of these payments. There can be no assurance that the Commission will be able to continue to issue debt on terms that are acceptable, or at all, to finance these obligations. The sole and exclusive remedy for the failure to make the required payments to PennDOT under the Amended Funding Agreement is that all actions of the Commission taken by a vote of the Commissioners thereafter must be approved by a unanimous vote of all Commissioners until such time as the payment is made. However, a unanimous vote is not required if it would prevent the Commission from complying with covenants with "current bondholders, debt holders or creditors having such status as of the Effective Date," which under the Amended Funding Agreement is defined as October 14, 2007. These voting procedures have not become effective as the Commission has not missed any payments under the Amended Funding Agreement.

Act 44 and Act 89 provide that all required payments under the Amended Funding Agreement or as required by Act 44 or Act 89 shall be subordinate obligations of the Commission payable solely from the General Reserve Fund after meeting all other Commission requirements pursuant to any financial documents, financial covenants, liquidity policies or agreements in effect at the Commission.



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## NOTE 9 COMMITMENTS AND CONTINGENCIES *(continued)*

### Interest Rate Swaps

The fair value and notional amounts of derivative instruments outstanding at May 31, 2017 and May 31, 2016, classified by type and the changes in fair value of such derivative instruments for the years then ended as reported in the fiscal year 2017 and fiscal year 2016 financial statements are as follows:

			<u>Changes in Fair Value</u>		<u>Fair Value at May 31, 2017</u>		<u>Notional</u>
	<u>May 31, 2016</u>	<u>Full Termination*</u>	<u>Classification</u>	<u>Amount</u> <i>(In Thousands)</i>	<u>Classification</u>	<u>Amount</u> <i>(In Thousands)</i>	
<i>Cash flow hedges</i>							
Pay-fixed interest rate swap	\$ (133,791)	\$ -	Deferred (outflows)/inflows	\$ 29,666	Noncurrent liabilities	\$ (104,125)	\$ 977,305
<i>Investment derivative instruments</i>							
Basis swaps	13,923	-	Investment earnings/(losses)	(4,103)	Long-term liabilities	9,820	924,806
<b>Total PTC</b>	<b>\$ (119,868)</b>	<b>\$ -</b>		<b>\$ 25,563</b>		<b>\$ (94,305)</b>	
			<u>Changes in fair value</u>		<u>Fair Value at May 31, 2016</u>		<u>Notional</u>
	<u>May 31, 2015</u>	<u>Full Termination*</u>	<u>Classification</u>	<u>Amount</u> <i>(In Thousands)</i>	<u>Classification</u>	<u>Amount</u> <i>(In Thousands)</i>	
<i>Cash flow hedges</i>							
Pay-fixed interest rate swap	\$ (109,323)	\$ -	Deferred (outflows)/inflows	\$ (24,468)	Noncurrent liabilities	\$ (133,791)	\$ 685,455
<i>Investment derivative instruments</i>							
Basis and fair value swaps	23,317	(13,260)	Investment earnings/(losses)	3,866	Long-term liabilities	13,923	924,806
<b>Total PTC</b>	<b>\$ (86,006)</b>	<b>\$ (13,260)</b>		<b>\$ (20,602)</b>		<b>\$ (119,868)</b>	

\* For further detail on this full termination, see the Recent Activity section of this note.

### Fair Values

At May 31, 2017 and 2016, the fair values of the Commission's derivative instruments were estimated beginning with the mid-market valuation. The mid-market valuation of the Commission's derivative instruments was estimated using the zero-coupon discounting method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve are the market's best estimate of future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for a hypothetical zero-coupon rate bonds due on the date of each future net settlement payments on the swaps.

The fair value under GASB 72 then incorporated into the above described mid-market valuation: 1) the credit risk of either the Commission or its counterparty (for a liability position or asset position, respectively) i.e. nonperformance risk; and 2) the bid/offer spread that would be charged to the Commission in order to transact. As the valuations are based on discounting future net cash flows to a single current amount, the approach being utilized is the income approach. The fair values rely primarily on Level 2 Inputs (observable inputs) – such as LIBOR rates to build the yield curve.

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**NOTE 9      COMMITMENTS AND CONTINGENCIES** *(continued)*Interest Rate Swaps *(continued)**Recent Activity*

During fiscal year 2016, the Commission received \$4.8 million from executing partial terminations for portions of its SIFMA/LIBOR basis swaps; in exchange for these payments, the periodic cash flows on the swaps were partially terminated until the dates noted in the table below:

<u>Date of Reversal</u>	<u>Initial Notional Amount</u>	<u>Underlying Bonds</u>	<u>Counterparty</u>	<u>Transaction Type</u>	<u>Partial Termination To</u>	<u>Amount Received</u>
7/9/2015	\$ 136,700,000	Mainline 2010 B	Deutsche Bank	SIFMA/LIBOR Basis	6/1/2018	\$ 2,255,000
11/9/2015	136,700,000	Mainline 2009 A	Goldman Sachs MMDP	SIFMA/LIBOR Basis	9/1/2018	<u>2,545,000</u>
						<u>\$ 4,800,000</u>

On June 1, 2015, a portion of the Commission's 2014 Series B-2 Senior Bonds were refunded. Portions of the Commission's 2014 Series B-2 related swaps were deemed terminated and are now associated with portions of the 2013 Series B Bonds. The fair values at the time of the deemed termination were \$371,386 with respect to the JP Morgan swap, \$185,595 with respect to the Bank of America swap, and \$186,207 with respect to the Bank of New York Mellon swap. These amounts are being amortized until December 1, 2030 which is the final maturity of the swaps.

On February 2, 2016, the Commission fully terminated its Mainline SIFMA Fixed Receiver investment derivative with the Bank of New York in exchange for receiving a termination payment totaling \$12.8 million. The notional amount and fair value at the time of termination were \$118.0 million and \$13.3 million, respectively.

On June 21, 2016, the Commission issued 2016 Series A-2 Senior Revenue Bonds primarily to refund various maturing variable rate bonds. The 2016 Series A-2 Bonds specifically included refunding the December 1, 2016 maturities of the 2012 Series B and the 2014 Series B-2 Bonds. As a result, the \$86.3 million of the Commission's Mainline LIBOR Fixed Payer swaps associated with those bonds were deemed terminated and are now associated with the 2016 Series A-2 Senior Bonds. The fair values at the time of deemed termination were a negative \$2.7 million with respect to the JP Morgan swap, a negative \$1.3 million with respect to the Bank of America swap, and a negative \$2.5 million with respect to the Bank of New York Mellon swap. These amounts are being amortized until December 1, 2030 which is the final maturity of the swaps.

# PENNSYLVANIA TURNPIKE COMMISSION

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## NOTE 9 COMMITMENTS AND CONTINGENCIES (continued)

### Interest Rate Swaps (continued)

#### Recent Activity (continued)

On September 7, 2016, the Commission issued 2016 Series A Senior Oil Franchise Tax Bonds to provide funds for the advance refunding of its 2003 Series C Senior Oil Franchise Tax Bonds. The Commission's Oil Franchise Tax investment derivatives with a total notional amount of \$400.0 million are now associated with the 2009 Series B and 2016 Series A Oil Franchise Tax Bonds.

On April 26, 2017, the Commission entered into a Cancellable LIBOR Fixed Payer swap with Royal Bank of Canada. The swap was executed in order to hedge the interest rate on the Commission's 2017 First Series Refunding Subordinate Revenue Bonds. The Commission purchased an option to terminate the trade at par beginning on June 1, 2022 and semiannually on each December 1<sup>st</sup> and June 1<sup>st</sup> thereafter. Under the terms of the transaction, the Commission pays a fixed rate of 2.5125% and receives 70% of 3-month LIBOR. The initial notional amount of this swap was \$291.9 million.

Following is a summary of the hedging derivatives in place as of May 31, 2017. All of items are fixed interest rate swap types. These hedging derivatives contain risks and collateral requirements as described below (in thousands):

Objective	Notional Amount	Effective Date	Maturity Date	Terms	Counterparty	Moody's/ S&P/Fitch	Book Fair Value
1. Hedge of changes of cash flows of 2014 Series B-1 Bonds (formerly 2008 Series B-1 & 2011 Series C Bonds)	\$ 100,000 100,000 100,000 300,000	5/20/2014 5/20/2014 5/20/2014	12/1/2038 12/1/2038 12/1/2038	Pay 4.887%, receive SIFMA	Goldman Sachs MMDP Merrill Lynch CS* Morgan Stanley CS	Aa2/AA-/NR Baa1/BBB+/A A3/BBB+/A	\$ (10,975) (10,983) (10,971) (32,929)
2. Hedge of changes of cash flows of 2016 Series A-2 Bonds (formerly 2014B-2 & 2012B Bonds)	21,576 21,576 43,125 86,277	6/2/2014 6/2/2014 6/2/2014	12/1/2030 12/1/2030 12/1/2030	Pay 4.403%, receive 67.00% of 1-month LIBOR	Bank of America* Bank of New York Mellon JPMorgan Chase Bank	A1/A+/A+ Aa2/AA-/AA Aa3/A+/AA-	681 682 1,337 2,700
3. Hedge of changes of cash flows of 2013 Series B Bonds (formerly 2009 Series C & 2011 Series D Bonds)	16,944 33,865 16,944 67,753	7/23/2013 7/23/2013 7/23/2013	12/1/2030 12/1/2030 12/1/2030	Pay 4.403%, receive 67.00% of 1-month LIBOR	Bank of America* JPMorgan Chase Bank Bank of New York Mellon	A1/A+/A+ Aa3/A+/AA- Aa2/AA-/AA	(837) (1,675) (837) (3,349)
4. Hedge of changes of cash flows on the 2005 Series B, C, D, Bonds	57,860 57,845 57,860 57,860 231,425	12/30/2013 8/17/2005 8/17/2005 8/17/2005	7/15/2041 7/15/2041 7/15/2041 7/15/2041	Pay 4.2015%, receive SIFMA	Bank of New York Mellon JPMorgan Chase Bank Merrill Lynch CS* Morgan Stanley CS	Aa2/AA-/AA Aa3/A+/AA- Baa1/BBB+/A A3/BBB+/A	(10,731) (17,057) (17,058) (17,058) (61,904)
5. Hedge of changes of cash flows on the 2017 Series A Subordinate Bonds	291,850	5/2/2017	12/1/2041	Pay 2.5125%, receive 70.00% of 3-month LIBOR	Royal Bank of Canada	A1/AA-/AA	(8,643)
<b>Total</b>	<b>\$ 977,305</b>						<b>\$ (104,125)</b>

1-month LIBOR was 1.06033% at May 31, 2017

3-month LIBOR was 1.21000% at May 31, 2017

SIFMA was 0.76% at May 31, 2017

\* On November 15, 2012, the Commission executed an amendment to the swap agreements to include Merrill Lynch Derivative Products as guarantor. Merrill Lynch Derivative Products credit ratings were Aa3/AA/NR (Moody's/S&P/Fitch) as of May 31, 2017.

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### NOTE 9 COMMITMENTS AND CONTINGENCIES *(continued)*

#### Interest Rate Swaps *(continued)*

- **Credit Risk** – The Commission is at risk that a counterparty will not fulfill their obligations under the agreement. Specifically, the Commission is exposed to credit risk for hedging derivatives that have positive full values from the counterparty and investment derivatives (see Note 4) that have positive fair values. At May 31, 2017, the Commission is exposed to credit risk with respect to the (A), (C), (E) and (F) investment derivatives listed in Note 4 as well as hedging derivative #2. However, should interest rates change and the fair values of the other swaps become positive, the Commission would have additional credit risk exposure.

To mitigate the exposure to credit risk, the swap agreements include collateral provisions in the event of downgrades to the swap counterparties' credit ratings along with the fair values of the swaps exceeding certain thresholds specified in the swap agreement. The Commission's derivative agreements contain netting provisions, under which transactions executed with a single counterparty within a credit are netted to determine collateral amounts. Collateral would be posted with a third-party custodian and would be in the form of cash, U.S. Treasury Obligations, or U.S. Government Agency Securities. At May 31, 2017, the Commission had net credit risk exposure to three counterparties pursuant to the provisions of the respective derivative agreements. One counterparty has posted collateral in the amount of \$5.3 million. The other two counterparties were not required to post collateral as their values at year end were below the collateral threshold levels.

- **Interest Rate Risk** – The Commission will be exposed to variable interest rates if the swap provider for a variable-to-fixed swap agreement defaults or if a variable-to-fixed swap is terminated.
- **Market-access Risk** – The Commission will be exposed to market-access risk for the hedging derivatives 1, 2 and 3 in the summary of hedging derivatives table because the maturity date of these derivatives is longer than the maturity date of the related debt.

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### NOTE 9      COMMITMENTS AND CONTINGENCIES *(continued)*

#### Interest Rate Swaps *(continued)*

- **Basis Risk** – The Commission is exposed to basis risk on its basis swaps because the variable-rate payments received by the Commission on these derivative instruments are based on rates other than the interest rates the Commission pays on these derivative instruments. See the investment derivative schedule in Note 4 for the terms of the interest rate swap agreements. The Commission's exposure to basis risk for the swaps listed in Note 4 is as follows:
  - (A) – To the extent 67% of 1-month LIBOR exceeds 60.08% of the 10-year maturity of the USD-ISDA Swap Rate
  - (B) – To the extent SIFMA exceeds 63% of 1-month LIBOR + 20 basis points
  - (C) – To the extent 67% of 1-month LIBOR exceeds 60.15% of the 10-year maturity of the USD-ISDA Swap Rate
  - (D) – To the extent 60.15% of the 10-year maturity of the USD-ISDA Swap Rate exceeds 67% of 1-month LIBOR
  - (E) – To the extent SIFMA exceeds 99.68% of 3-month LIBOR
  - (F) – To the extent SIFMA exceeds 99.80% of 3-month LIBOR
- **Termination Risk** – The swap agreements may be terminated due to a number of circumstances and the Commission retains the option to terminate the swaps at any time. If a swap agreement is terminated (by either party), the respective variable-rate bond would no longer carry a synthetic fixed interest rate. Also, if at the time of termination, the swap had a negative fair value, the Commission would be liable to the swap counterparty for a liability equal to the swap's full value. It is generally the Commission's intent at the time of swap execution to maintain the swap transactions for the life of the financing.

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### NOTE 9 COMMITMENTS AND CONTINGENCIES *(continued)*

#### Interest Rate Swaps *(continued)*

- **Collateral Requirements** – The Commission’s derivative instruments related to its Mainline Turnpike Revenue Bonds require the Commission to post collateral in the form of eligible securities or cash if its senior credit rating falls below specified thresholds. These thresholds vary from agreement to agreement, with most in the “A3” (Moody’s Investors Service) and “A-” (Standard & Poor’s and Fitch Rating Service) levels. The Commission’s Mainline senior bond rating was “A1” from Moody’s and “A” from Standard & Poor’s and “A+” from Fitch at May 31, 2017. The Commission’s Mainline subordinate bond rating was “A3” from Moody’s and “A-” from Standard & Poor’s and “A-” from Fitch at May 31, 2017. Based on May 31, 2017 full values, the Commission could be required to post \$167.2 million in collateral for its derivative instruments if its ratings fall below the agreement thresholds.

The Commission’s derivative instruments related to its Oil Company Franchise Tax Revenue Bonds require the Commission to post collateral in the form of eligible securities or cash if its credit rating falls below specified thresholds. These thresholds vary from agreement to agreement, with most in the “A3” (Moody’s Investors Service) and “A-” (Standard & Poor’s and Fitch Rating Service) levels. The Commission’s Oil Company Franchise Tax senior bond rating is currently “Aa3” from Moody’s and “AA” from Standard & Poor’s. Based on May 31, 2017 full values, the Commission could be required to post \$3.5 million in collateral for its derivative instruments if its ratings fall below the agreements thresholds.

The Commission’s derivative instruments related to its Motor Vehicle Registration Fee Revenue Bonds require the Commission to post collateral in the form of eligible securities or cash if its credit rating falls below specified thresholds and/or in the event of certain uncured insurer events of default. These thresholds vary from agreement to agreement. The Commission’s Motor Vehicle Registration Fee Revenue bond rating was “Aa3” from Moody’s, “A” from Standard & Poor’s and “AA-” from Fitch at May 31, 2017. Based on May 31, 2017 full values, the Commission could be required to post \$80.5 million in collateral for its derivative instruments if its ratings fall below the agreement thresholds.

### NOTE 10 RELATED-PARTY TRANSACTIONS

The Commission incurred charges of \$49.7 million and \$48.4 million for the fiscal years ended May 31, 2017 and 2016, respectively, primarily related to its use of the Commonwealth’s State Police in patrolling the Turnpike System.

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### NOTE 11 POSTEMPLOYMENT BENEFITS

#### Plan Description

The Commission maintains a welfare plan program (the Plan), for the purpose of providing benefits to eligible retirees and their dependents. The Plan is a single employer, defined benefit plan. The Commission established the Pennsylvania Turnpike Commission Retiree Medical Trust (the Trust) on May 30, 2008 as an irrevocable trust, tax-exempt under the Internal Revenue Code, to provide funding of the Plan's other post-employment benefits (OPEB).

The Trust is administered by the Trustees. PNC Bank serves as custodian of the assets of the Trust. Payments from the Trust are made by the custodian at the direction of the Trustees. The Trust's financial statements are not included in the financial statements of a public employee retirement system. The Trust issues a stand-alone financial report, which can be obtained by contacting the Commission's Accounting & Financial Reporting Department.

Plan benefit provisions and retiree and dependent contribution rates are established and may be amended by the Commission.

#### *Management and Supervisory Union Employees/Retirees*

The benefits funded by the Trust include certain post-employment medical, prescription drug, dental and vision benefits to management and supervisory union employees based upon their date of hire and years of service. Eligibility categories include:

- Employees hired before March 1, 2016, who have reached 20 years of service and are under age 60; benefit eligibility changes from 20 to 10 years for retirees 60 years of age or older. The last five years of service must be with the Commission.
- Employees hired on or after March 1, 2016, who have reached 30 years of service and are under age 60; benefit eligibility changes from 30 to 25 years for retirees 60 years of age or older. The last 10 years of service must be with the Commission. (Some current and previous Commonwealth employees hired on or after this date would be grandfathered under the first eligibility category.)

The same coverage is provided to surviving spouses or domestic partners and dependents of management and supervisory union retirees who retired on or after March 1, 2001. Surviving spouses or domestic partners of retirees who retired prior to March 1, 2001 may purchase medical coverage at the group rate and dependents are offered coverage under COBRA. Medicare Part B premiums are paid by the retiree, spouse or dependent if age 65 or over, or under age 65 and disabled.

## PENNSYLVANIA TURNPIKE COMMISSION

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Notes to the Financial Statements

Years Ended May 31, 2017 and 2016

### NOTE 11      POSTEMPLOYMENT BENEFITS *(continued)*

#### Plan Description *(continued)*

##### *Non-Supervisory Union Employees/Retirees*

The benefits also include certain post-employment medical and prescription drug benefits to non-supervisory union employees who had satisfied the eligibility requirements in the applicable collective bargaining agreement.

- For Local 30 professionals who were hired prior to January 1, 2011 and Local 250 and 77 employees who were hired prior to February 1, 2016, the earlier of completion of 20 years of Credited Service or the later of attainment of age 60 and completion of 10 years of Credited Service. The last five years of Credited Service must be with the Commission.
- For Local 30 professionals who were hired on or after January 1, 2011 and Local 250 and 77 employees who were hired on or after February 1, 2016, the earlier of completion of 30 years of Credited Service or the later of attainment of age 60 and completion of 25 years of Credited Service. The last 10 years of Credited Service must be with the Commission.

The same coverage is provided to spouses or domestic partners and dependents of eligible non-supervisory union retirees until the death of the retiree. Surviving spouses or domestic partners are required to contribute the full cost of coverage and dependents are offered coverage under COBRA.

#### Funding Policy

The Commission has adopted a Retiree Medical Trust Funding Policy, effective September 17, 2008, whereby the Commission anticipates approving an annual contribution to the Trust in the amount of the Annual Required Contribution (ARC) as determined by the Commission's actuary during the approval of its annual operating budget.



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**NOTE 11 POSTEMPLOYMENT BENEFITS** *(continued)*Annual OPEB Cost and Net OPEB Asset

The following table summarizes the components of the Commission's annual OPEB cost, actual contributions, percentage of annual OPEB cost contributed, increase in the net OPEB asset and the net OPEB asset at the end of the fiscal year.

	Year ended May 31		
	2017	2016	2015
	<i>(Dollar Amounts in Thousands)</i>		
Normal cost	\$ 10,501	\$ 10,975	\$ 9,536
Trust expense assumption	150	150	150
Amortization	(153)	(394)	2,235
Interest	623	637	762
Annual required contribution (ARC)	11,121	11,368	12,683
Interest on net OPEB asset	(7,405)	(6,820)	(5,540)
Adjustment to ARC	15,848	14,596	13,255
Annual OPEB cost	19,564	19,144	20,398
Employer contributions	28,176	28,143	46,180
Increase in net OPEB asset	8,612	8,999	25,782
Net OPEB asset - beginning of year	113,930	104,931	79,149
Net OPEB asset - end of year	\$ 122,542	\$ 113,930	\$ 104,931
Percentage of annual OPEB cost contributed	144.0%	147.0%	226.4%

The ARC and its components (normal cost, trust expense assumption, Unfunded Actuarial Accrued Liability (UAAL [or Funding Excess] amortization, and mid-year contribution interest) in the table presented above were obtained from the actuarial valuations, prepared by an independent actuary. The fiscal year 2017 ARC and Annual OPEB cost amounts were obtained from a January 1, 2016 valuation. The fiscal year 2016 ARC and Annual OPEB cost amounts were obtained from a January 1, 2015 interim valuation. The fiscal year 2015 ARC and Annual OPEB cost amounts were obtained from a January 1, 2014 valuation.

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Years Ended May 31, 2017 and 2016

### NOTE 11 POSTEMPLOYMENT BENEFITS *(continued)*

#### Annual OPEB Cost and Net OPEB Asset *(continued)*

Retiree and spouse contribution rates at May 31, 2017 are as follows:

- Management and supervisory union employees and union employees who retired prior to July 1, 1998 and October 1, 1997, respectively – the retiree/spouse contributes the full cost of coverage less the Commission's monthly subsidy of \$19.28 once the retiree turns 65.
- Union employees who retired on October 1, 1997 or later – the retiree/spouse contributes the full cost of coverage less the Commission's monthly subsidy of \$73.50 when the retiree or spouse reach age 65.
- Management and supervisory union employees who retire on or after March 1, 2016, and Local 250 and 77 employees who retire after February 1, 2016, as well as Local 30 professionals who retire after January 1, 2014, must participate in a wellness program or contribute 5% of the premium if less than age 65. This mandate also applies to spouses under age 65 and other adult dependents age 19 to 26.
- Surviving spouses and domestic partners are paying 100% of the premiums, except for surviving spouses of Management and supervisory union employees who retired after March 1, 2001.

#### Funding Status and Funding Progress

The funding status of the plan, by actuarial valuation date, was as follows:

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (Funding Excess)	Funded Ratio	Covered Payroll	Unfunded AAL (Funding Excess) as a Percentage of Covered Payroll
<i>(Dollar Amounts in Thousands)</i>						
January 1, 2016	\$ 331,568	\$ 330,395	\$ (1,173)	100.4%	\$ 124,458	-0.9%
January 1, 2014	271,265	283,133	11,868	95.8%	126,699	9.4%

The schedule of funding progress, presented as Required Supplementary Information (RSI) following the notes to the financial statements, presents multi-year trend information depicting the change in the actuarial value of Plan assets over time relative to the actuarial accrued liability for benefits.

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**NOTE 11      POSTEMPLOYMENT BENEFITS** *(continued)*Actuarial Methods and Assumptions

The valuation measurements in the charts presented above are, in part, the result of estimates of the value of reported amounts and assumptions about the probability of events in the long term. Such actuarially determined estimates are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. Also, the valuation measurements are based, in part, on the types of benefits provided under the terms of the substantive plan at the time of the valuation and on the pattern of sharing of costs between the Commission and the Plan members through the respective valuation dates. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

A summary of the actuarial methods and assumptions used in the January 1, 2016 valuation is as follows:

Actuarial cost method	Projected-unit credit
Discount rate	6.5%
Rate of return on assets	6.5%
Inflation rate	2.5%
Amortization method	Level dollar
Amortization period:	
▪ UAAL as of March 1, 2012	10 years (closed)
▪ Subsequent changes	10 years (open)
Asset valuation method	Fair value
Benefit assumption – increases/decreases	No changes

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**NOTE 11 POSTEMPLOYMENT BENEFITS** *(continued)*Actuarial Methods and Assumptions *(continued)*

Health Cost Trend: The healthcare trend assumption is based on the Society of Actuaries-Getzen Model version 2014 utilizing the baseline assumptions included in the model, except real GDP of 1.8% and inflation of 2.5% for medical and prescription drug benefits. Further adjustments apply based on percentage of costs associated with administrative expenses, aging factors, potential excise taxes due to healthcare reform, and other healthcare reform provisions. The health cost trend assumption for medical and prescription benefits at sample years is as follows:

<u>Valuation Year</u>	<u>Pre-65 Trend</u>	<u>Post-65 Trend</u>
2016	6.2%	7.9%
2017	5.9%	6.6%
2018	5.2%	5.2%
2019	5.2%	5.2%
2020	5.2%	5.2%
2025	5.2%	5.2%
2030	5.6%	5.3%
2035	6.1%	5.3%
2040	5.7%	5.1%
2050	5.5%	5.0%
2060	5.4%	5.2%
2070	4.6%	4.9%

The health cost trend assumption for dental and vision benefits and premiums are assumed to be 4.0% per year.

Salary increases were not considered as OPEB benefits are not based upon pay.

**NOTE 12 SELF-INSURANCE**

The Commission is exposed to various risks of losses such as theft of, damage to, and destruction of assets, errors and omissions, torts, injuries to employees and natural disasters. The Commission has purchased commercial all risk property insurance and stop loss insurance for employee medical and prescription benefits coverage. The Commission remains self-insured for dental and vision benefits, torts and injuries to employees as well as medical and prescription benefits up to stop loss coverages. No settlements exceeded insurance coverage for each of the past three years.

## **PENNSYLVANIA TURNPIKE COMMISSION**

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Notes to the Financial Statements

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### **NOTE 12      SELF-INSURANCE** *(continued)*

The Commission recorded a liability of \$44.3 million and \$40.1 million for loss and loss adjustment expenses on claims relating to self-insurance that have been incurred but not reported as of May 31, 2017 and 2016, respectively. The self-insurance liabilities recorded as accounts payable and accrued liabilities are \$4.4 million and \$4.8 million for the fiscal years ended May 31, 2017 and 2016, respectively. The self-insurance liabilities recorded as other noncurrent liabilities are \$39.9 million and \$35.3 million for the fiscal years ended May 31, 2017 and 2016, respectively. This liability is based on GASB Statement No. 10, *Accounting and Financial Reporting for Risk Financing and Related Insurance Issues*, which requires that a liability for claims be recorded if information prior to the issuance of the financial statements indicates that it is probable that a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. The liability is calculated based on the Commission's past loss experience. The liability for vehicle and general tort was not discounted. The liability for workers' compensation was discounted using a rate of 2.50% for the fiscal years ended May 31, 2017 and 2016. The liability includes amounts for claims adjustment expense and is net of any salvage and subrogation. Salvage and subrogation were not material for the years ended May 31, 2017 and 2016. The Commission believes the liability established is reasonable and appropriate to provide for settlement of losses and related loss adjustment expenses.

Management believes that its reserve for claims incurred but not reported is determined in accordance with generally accepted actuarial principles and practices. However, estimating the ultimate liability is a complex and judgmental process inasmuch as the amounts are based on management's informed estimates and judgments using data currently available. As additional experience and data become available regarding claim payments and reporting patterns, legislative developments and economic conditions, the estimates are revised accordingly and the impact is reflected currently in the Commission's financial statements.

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## NOTE 12 SELF-INSURANCE *(continued)*

The following summaries provide aggregated information on self-insurance liabilities:

	June 1, 2016 Liability	Effects of Discount as of June 1, 2016	Incurred Claims		Paid Claims		Effects of Discount as of May 31, 2017	May 31, 2017 Liability
			Current Year	Prior Years	Current Year	Prior Years		
<i>Year ended May 31, 2017</i>			<i>(In Thousands)</i>					
Workers' compensation	\$ 10,705	\$ 1,142	\$ 868	\$ 2,331	\$ (311)	\$ (4,052)	\$ (993)	\$ 9,690
Motor vehicle/general tort	29,435	-	48	5,581	(31)	(469)	-	34,564
	<u>\$ 40,140</u>	<u>\$ 1,142</u>	<u>\$ 916</u>	<u>\$ 7,912</u>	<u>\$ (342)</u>	<u>\$ (4,521)</u>	<u>\$ (993)</u>	<u>\$ 44,254</u>

	June 1, 2015 Liability	Effects of Discount as of June 1, 2015	Incurred Claims		Paid Claims		Effects of Discount as of May 31, 2016	May 31, 2016 Liability
			Current Year	Prior Years	Current Year	Prior Years		
<i>Year ended May 31, 2016</i>			<i>(In Thousands)</i>					
Workers' compensation	\$ 8,889	\$ 1,831	\$ 2,181	\$ 3,904	\$ (719)	\$ (4,239)	\$ (1,142)	\$ 10,705
Motor vehicle/general tort	29,892	-	137	(140)	(112)	(342)	-	29,435
	<u>\$ 38,781</u>	<u>\$ 1,831</u>	<u>\$ 2,318</u>	<u>\$ 3,764</u>	<u>\$ (831)</u>	<u>\$ (4,581)</u>	<u>\$ (1,142)</u>	<u>\$ 40,140</u>

The foregoing reflects an adjustment for a deficiency of \$7.9 million and \$3.8 million for the fiscal years ended May 31, 2017 and 2016, respectively, for prior years' incurred claims that resulted from a change in estimate as more information became available.

## NOTE 13 COMPENSATED ABSENCES

Sick leave is earned at a rate of 3.08 hours every two weeks, or 10 days per year. Unused sick leave may be carried over from year to year, up to a maximum of 18 days. In November of each year, employees are reimbursed for all accumulated unused sick leave above the maximum. Sick leave payouts were \$1.8 and \$1.7 million in November 2016 and 2015, respectively.

Vacation leave is earned at varying rates, depending on years of service. Management and supervisory union employees earn between 4.62 and 8.93 hours every two weeks. Non-supervisory union employees earn between 3.08 and 8.93 hours every two weeks.

Upon termination of employment, all unused sick and vacation leave is paid to the employee. The compensated absences liabilities are \$15.9 million and \$16.0 million for fiscal years ended May 31, 2017 and 2016, respectively. The compensated absences liabilities recorded as accounts payable and accrued liabilities are \$8.7 million and \$8.8 million for the fiscal years ended May 31, 2017 and 2016, respectively. The compensated absences liabilities recorded as other noncurrent liabilities are \$7.2 million and \$7.2 million for the fiscal years ended May 31, 2017 and 2016, respectively.

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**NOTE 13 COMPENSATED ABSENCES** *(continued)*

A summary of changes to compensated absences for the years ended May 31, 2017 and 2016 is as follows:

<u>Fiscal Year Ended May 31</u>	<u>Beginning Balance</u>	<u>Additions</u>	<u>Reductions</u> <i>(In Thousands)</i>	<u>Ending Balance</u>	<u>Due Within One Year</u>
2017	\$ 15,970	\$ 12,256	\$ 12,365	\$ 15,861	\$ 8,723
2016	16,098	12,091	12,219	15,970	8,783

**NOTE 14 LETTERS OF CREDIT**

The Commission has outstanding letters of credit with several banks as described below:

Pennsylvania insurance law requires a letter of credit, surety bond, or escrow from entities that self-insure their Workers' Compensation. As of May 31, 2017, the Commission has three (3) standby letters of credit to satisfy the PA Turnpike's collateral requirement under the expired Owner Controlled Insurance Program (OCIP) with Zurich American Insurance; there have been no draws against these letters of credit. The Letters of Credit are as follows:

- \$245,000 letter of credit with PNC Bank, N.A. for beneficiary Zurich American Insurance for the Uniontown to Brownsville Phase I OCIP.
- \$600,000 letter of credit with Wells Fargo Bank, N.A. for beneficiary Zurich American Insurance for the Uniontown to Brownsville Phase II OCIP.
- \$102,000 letter of credit with Wells Fargo Bank, N.A. for beneficiary Zurich American Insurance for the Susquehanna River Bridge and Valley Forge to Norristown Widening OCIPs.

In May 2017, in lieu of a letter of credit, the Commission placed \$2.0 million into an escrow account with Wells Fargo (naming Liberty Mutual as beneficiary) for the new OCIP on the U.S. 22 to I-79 portion of the Southern Beltway currently under construction.

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### **NOTE 15      SUBSEQUENT EVENTS**

On March 21, 2017, the Commission authorized the issuance of the Pennsylvania Turnpike Commission's variable or fixed rate revenue bonds in an aggregate initial principal amount not to exceed \$500 million (based on par amount), for the purpose of financing the costs of various capital expenditures for the Pennsylvania Turnpike Commission's current 10-year capital plan. The Commission expects to close on the bonds in October 2017.

On July 27, 2017, the Commission issued \$750,510,000 2017 Series B Subordinate Revenue Bonds consisting of \$379,115,000 2017 Series B Sub-Series B-1 Subordinate Revenue Bonds, \$371,395,000 2017 Series B Sub-Series B-2 Subordinate Revenue Bonds and \$45,390,000 2017 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds. The 2017 Series B Sub-Series B-1 Subordinate Revenue Bonds were issued to finance a portion of the costs of making payments to PennDOT in accordance with Act 44 and Act 89, to fund necessary reserves to the extent required for the 2017 Series B Sub-Series B-1 Subordinate Revenue Bonds and to pay the costs of issuing the 2017 Series B Sub-Series B-1 Subordinate Revenue Bonds. The 2017 Series B Sub-Series B-2 Subordinate Revenue Bonds were issued to provide funds to finance the costs of advance refunding various Commission outstanding bonds and to pay the cost of issuing the 2017 Series B Sub-Series B-2 Subordinate Revenue Bonds. The 2017 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds were issued to provide funds to finance the costs of advance refunding various Commission outstanding bonds and to pay the cost of issuing the 2017 First Series Motor License Fund-Enhanced Subordinate Special Revenue Refunding Bonds.

On August 15, 2017, the Commission authorized the issuance of the Pennsylvania Turnpike Commission's variable rate revenue bonds or notes, in one or more series or sub-series, taxable or tax exempt, in an aggregate initial principal amount not to exceed \$250 million (based on par amount), for the purpose of financing the current refunding of all or a portion of certain outstanding variable rate revenue bonds previously issued by the Commission.

On August 24, 2017, the Commission received its first bond rating from Kroll Bond Rating Agency (KBRA). KBRA assigned a long-term credit rating of AA- and a Stable outlook to the Commission's upcoming 2017 Series A-1 Senior Revenue Bonds and 2017 Series A-2 Senior Revenue Refunding Bonds, which are expected to be issued during the third quarter of calendar year 2017. KBRA also assigned a long-term credit rating of AA- and a Stable outlook to all Commission outstanding Senior Revenue Bonds on a parity basis.



## **REQUIRED SUPPLEMENTARY INFORMATION**

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Schedule of Commission's Proportionate Share of the Net Pension Liability

Pennsylvania State Employees' Retirement System

Last 10 Fiscal Years\*

*(Dollar Amounts in Thousands)*

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Commission's proportion of the net pension liability	1.96867410%	1.90799267%	1.99409814%
Commission's proportionate share of the net pension liability	\$ 379,173	\$ 346,946	\$ 296,271
Commission's covered payroll	123,365	121,085	121,579
Commission's proportionate share of the net pension liability as a percentage of its covered payroll	307.36%	286.53%	243.69%
Plan fiduciary net position as a percentage of the total pension liability	57.8%	58.9%	64.8%

\* The amounts presented for each fiscal year were determined as of the measurement date (12/31) that occurred within the Commission's fiscal year. The Commission adopted GASB 68 on a prospective basis in fiscal year 2015; therefore, only the available years are presented in the above schedule.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania  
Schedule of Commission's Contributions  
Pennsylvania State Employees' Retirement System

Last 10 Fiscal Years\*

*(Dollar Amounts in Thousands)*

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Contractually required contribution	\$ 33,303	\$ 27,864	\$ 22,588
Contributions in relation to the contractually required contribution	<u>(33,303)</u>	<u>(27,864)</u>	<u>(22,588)</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Commission's covered payroll	\$ 121,778	\$ 121,060	\$ 121,009
Contributions as a percentage of covered payroll	27.35%	23.02%	18.67%

\* The Commission adopted GASB 68 on a prospective basis in fiscal year 2015; therefore, only the available years are presented in the above schedule.

# **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Schedule of Funding Progress – Post employment Healthcare Benefits

(In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (Funding Excess)	Funded Ratio	Covered Payroll	Unfunded AAL (Funding Excess) as a Percentage of Covered Payroll
January 1, 2016	\$ 331,568	\$ 330,395	\$ (1,173)	100.4%	\$ 124,458	-0.9%
January 1, 2014	271,265	283,133	11,868	95.8%	126,699	9.4%
March 1, 2012	152,341	250,750	98,409	60.8%	124,241	79.2%

The following is a listing of changes in assumptions used in the January 1, 2016 valuation compared with previous valuations. See Note 11 for additional information.

- The eligibility conditions for Local 250 and 77 union employees hired on or after February 1, 2016 and management and supervisory union employees hired on or after March 1, 2016 was modified to the earlier of completion of 30 years of Credited Service or the later of attainment of age 60 and completion of 25 years of Credited Service. The last 10 years of Credited Service must be with the Commission.
- Local 30 Professionals who retire on or after January 1, 2014 and all other union, management and supervisory union employees who retire on or after February 1, 2016, must participate in the wellness program if less than age 65, including spouses under age 65 and other dependents age 19 to 26 or contribute 5% of the monthly premium based on the selected coverage level.
- Per capita claims costs were updated based on recent experience of Commission retirees and the healthcare trend rate was updated to use the Society of Actuaries-Getzen Model version 2014.
- The discount rate was reduced from 7% to 6.5% per annum.

Following is a listing of changes in assumptions used in the January 1, 2014 valuation compared with previous valuations

- Per capita claims costs were updated based on recent experience of Commission retirees and the healthcare trend was updated.
- Assumed health plan elections for members attaining age 65 were modified from 2/3<sup>rd</sup> electing Signature 65 and 1/3<sup>rd</sup> electing Freedom Blue (without Rx) to 60% electing Signature 65 and 40% electing Freedom Blue (without Rx).
- The assumed percentage of eligible female members covering a spouse decreased from 50% to 40%.

## **OTHER SUPPLEMENTARY INFORMATION**

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

### **Section Information**

For accounting purposes, the Commission maintains its records in three sections: Mainline, Oil Franchise, and Motor License. These sections are based on the types of revenues and the associated bond issues.

The Mainline section consists of income and expenses directly associated with the operations of the Turnpike System. In addition, all bonds pledged against this revenue source are included in this section.

The Oil Company Franchise section consists of revenues received from the Commission's allocation of the Commonwealth's Oil Company Franchise Tax. This revenue is pledged against the Oil Company Franchise Tax Debt as listed in Note 7.

The Motor License section consists of an annual income of \$28.0 million, which has been provided to the Commission pursuant to Section 20 of Act 3 of the Commonwealth of Pennsylvania. This income is pledged against the Motor License Registration Fee Debt as listed in Note 7.

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Net Position

	May 31, 2017			
	Mainline	Oil Franchise	Motor License	Total
	(In Thousands)			
<b>ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</b>				
<i>Current assets:</i>				
Cash and cash equivalents	\$ 215,949	\$ -	\$ -	\$ 215,949
Short-term investments	67,764	-	-	67,764
Accounts receivable	69,181	-	-	69,181
Accrued interest receivable	1,268	-	-	1,268
Inventories	18,973	-	-	18,973
<i>Restricted current assets</i>				
Cash and cash equivalents	599,188	87,253	15,400	701,841
Short-term investments	260,856	40,567	1,998	303,421
Accounts receivable	5,057	11,629	-	16,686
Accrued interest receivable	2,329	1,001	183	3,513
Total current assets	1,240,565	140,450	17,581	1,398,596
<i>Noncurrent assets</i>				
<i>Long-term investments</i>				
Long-term investments unrestricted	278,202	-	-	278,202
Long-term investments restricted	348,086	173,988	43,340	565,414
Total long-term investments	626,288	173,988	43,340	843,616
<i>Capital assets not being depreciated</i>				
Land and intangibles	359,210	-	-	359,210
Assets under construction	1,356,951	-	-	1,356,951
<i>Capital assets being depreciated</i>				
Buildings	978,186	-	-	978,186
Improvements other than buildings	121,137	-	-	121,137
Equipment	638,300	-	-	638,300
Infrastructure	8,380,745	-	-	8,380,745
Total capital assets before accumulated depreciation	11,834,529	-	-	11,834,529
Less: Accumulated depreciation	6,105,647	-	-	6,105,647
Total capital assets after accumulated depreciation	5,728,882	-	-	5,728,882
<i>Other assets</i>				
Prepaid bond insurance costs	3,877	34	1,466	5,377
OPEB Asset	122,542	-	-	122,542
Other assets	31,747	-	-	31,747
Total other assets	158,166	34	1,466	159,666
Total noncurrent assets	6,513,336	174,022	44,806	6,732,164
Total assets	7,753,901	314,472	62,387	8,130,760
Deferred outflows of resources from hedging derivatives	44,921	-	61,904	106,825
Deferred outflows of resources from refunding bonds	310,684	13,481	19,155	343,320
Deferred outflows of resources from pensions	84,359	-	-	84,359
Total deferred outflows of resources	439,964	13,481	81,059	534,504
<b>Total assets and deferred outflows of resources</b>	<b>\$ 8,193,865</b>	<b>\$ 327,953</b>	<b>\$ 143,446</b>	<b>\$ 8,665,264</b>

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Net Position *(continued)*

	May 31, 2017			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<b>LIABILITIES AND DEFERRED INFLOWS OF RESOURCES</b>				
<i>Current liabilities</i>				
Accounts payable and accrued liabilities	\$ 418,830	\$ 26,779	\$ 3,692	\$ 449,301
Current portion of debt	365,745	17,445	8,185	391,375
Unearned income	71,942	732	-	72,674
Total current liabilities	856,517	44,956	11,877	913,350
<i>Noncurrent liabilities</i>				
Debt, less current portion, net of unamortized premium	11,070,932	702,800	403,895	12,177,627
Net pension liability	379,173	-	-	379,173
Other noncurrent liabilities	177,418	335	69,143	246,896
Total noncurrent liabilities	11,627,523	703,135	473,038	12,803,696
Total liabilities	12,484,040	748,091	484,915	13,717,046
Deferred inflows of resources from hedging derivatives	2,700	-	-	2,700
Deferred inflows of resources from service concession arrangements	122,694	-	-	122,694
Deferred inflows of resources from refunding bonds	-	3,207	-	3,207
Deferred inflows of resources from pensions	18,289	-	-	18,289
Total deferred inflows of resources	143,683	3,207	-	146,890
Total liabilities and deferred inflows of resources	12,627,723	751,298	484,915	13,863,936
<b>NET POSITION</b>				
Net investment in capital assets	849,221	(708,561)	(398,698)	(258,038)
Restricted for construction purposes	-	272,819	57,229	330,048
Restricted for debt service	32,330	12,397	-	44,727
Unrestricted	(5,315,409)	-	-	(5,315,409)
Total net position	\$ (4,433,858)	\$ (423,345)	\$ (341,469)	\$ (5,198,672)



# **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Revenues, Expenses, and Changes in Net Position

	May 31, 2017			
	Mainline	Oil Franchise	Motor License	Total
	(In Thousands)			
Operating revenues				
Net fares	\$ 1,111,061	\$ -	\$ -	\$ 1,111,061
Other	23,335	-	-	23,335
Total operating revenues	1,134,396	-	-	1,134,396
Operating expenses				
Cost of services	514,310	2,793	-	517,103
Depreciation	354,343	-	-	354,343
Total operating expenses	868,653	2,793	-	871,446
Operating income (loss)	265,743	(2,793)	-	262,950
Nonoperating revenues (expenses)				
Investment earnings (loss)	13,971	(313)	567	14,225
Other nonoperating revenues	16,978	4,554	-	21,532
Act 44 and Act 89 payments to PennDOT	(450,000)	-	-	(450,000)
Capital assets transferred to PennDOT	(54,724)	-	-	(54,724)
Interest and bond expense	(524,730)	(17,732)	(18,198)	(560,660)
Nonoperating expenses, net	(998,505)	(13,491)	(17,631)	(1,029,627)
Loss before capital contributions	(732,762)	(16,284)	(17,631)	(766,677)
Capital contributions	62,967	123,697	28,000	214,664
(Decrease) increase in net position	(669,795)	107,413	10,369	(552,013)
Net position at beginning of year	(3,868,714)	(427,785)	(350,160)	(4,646,659)
Intersection transfers	104,651	(102,973)	(1,678)	-
Net position at end of year	\$ (4,433,858)	\$ (423,345)	\$ (341,469)	\$ (5,198,672)

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows

	May 31, 2017			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Cash received from customer tolls and deposits	\$ 1,117,714	\$ -	\$ -	\$ 1,117,714
Cash payments for goods and services	(327,191)	(1,331)	-	(328,522)
Cash payments to employees	(156,679)	(1,455)	-	(158,134)
Cash received from other operating activities	8,926	-	-	8,926
Net cash provided by (used in) operating activities	642,770	(2,786)	-	639,984
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Proceeds from sales and maturities of investments	4,585,619	218,855	36,593	4,841,067
Interest received on investments	17,425	4,320	510	22,255
Purchases of investments	(4,661,446)	(209,521)	(39,924)	(4,910,891)
Net cash provided by (used in) investing activities	(58,402)	13,654	(2,821)	(47,569)
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>				
Capital grants received from other governments	55,265	-	-	55,265
Proceeds from Motor License Registration fees	-	-	28,000	28,000
Proceeds from Oil Company Franchise Tax	-	120,754	-	120,754
Construction and acquisition of capital assets	(522,966)	(76,117)	-	(599,083)
Proceeds from sale of capital assets	993	-	-	993
Payments for bond and swap expenses	(2,690)	(1,643)	(4)	(4,337)
Payments for debt refundings	(140,060)	(385,359)	-	(525,419)
Payments for debt maturities	(41,540)	(18,885)	(7,775)	(68,200)
Interest paid on debt	(213,989)	(36,000)	(20,081)	(270,070)
Interest subsidy from Build America Bonds	16,289	4,554	-	20,843
Proceeds from debt issuances	670,726	384,992	-	1,055,718
Net cash (used in) provided by capital and related financing activities	(177,972)	(7,704)	140	(185,536)
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES</b>				
Cash payments to PennDOT	(450,000)	-	-	(450,000)
Payments for bond and swap expenses	(8,128)	-	-	(8,128)
Payments for debt refundings	(1,549,690)	-	-	(1,549,690)
Payments for debt maturities	(54,430)	-	-	(54,430)
Interest paid on debt	(224,231)	-	-	(224,231)
Proceeds from debt issuances	1,823,095	-	-	1,823,095
Net cash used in noncapital financing activities	(463,384)	-	-	(463,384)
Increase in cash and cash equivalents	(56,988)	3,164	(2,681)	(56,505)
Cash and cash equivalents at beginning of year	872,125	84,089	18,081	974,295
<b>Cash and cash equivalents at end of year</b>	<b>\$ 815,137</b>	<b>\$ 87,253</b>	<b>\$ 15,400</b>	<b>\$ 917,790</b>

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows *(continued)*

	May 31, 2017			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<i>Reconciliation of operating income (loss) to net cash provided by (used in) operating activities</i>				
Operating income (loss)	\$ 265,743	\$ (2,793)	\$ -	\$ 262,950
<i>Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities</i>				
Depreciation	354,343	-	-	354,343
<i>Change in operating assets and liabilities</i>				
Accounts receivable	(11,924)	-	-	(11,924)
Inventories	1,520	-	-	1,520
Other assets	(8,606)	-	-	(8,606)
Deferred outflows of resources from pensions	(18,078)	-	-	(18,078)
Accounts payable and accrued liabilities	17,035	7	-	17,042
Net pension liability	32,227	-	-	32,227
Other noncurrent liabilities	4,414	-	-	4,414
Deferred inflows of resources from pensions	6,096	-	-	6,096
<b>Net cash provided by (used in) operating activities</b>	<b>\$ 642,770</b>	<b>\$ (2,786)</b>	<b>\$ -</b>	<b>\$ 639,984</b>
<i>Reconciliation of cash and cash equivalents to the statements of net position</i>				
Cash and cash equivalents	\$ 215,949	\$ -	\$ -	\$ 215,949
Restricted cash and cash equivalents	599,188	87,253	15,400	701,841
<b>Total cash and cash equivalents</b>	<b>\$ 815,137</b>	<b>\$ 87,253</b>	<b>\$ 15,400</b>	<b>\$ 917,790</b>

## Noncash activities

The Commission recorded a net increase of \$9.5 million in the fair value of its investments for the year ended May 31, 2017. Increases (Decreases) by section were: Mainline, \$3.9 million; and Oil Franchise, \$5.6 million.

The Commission recorded \$34.8 million for the amortization of bond premium for the year ended May 31, 2017. Amortization by section was: Mainline, \$29.8 million; Oil Franchise, \$4.3 million and Motor License, \$0.7 million.

As indicated in Note 7 (Debt), the Commission refunded various bonds in fiscal year 2017. The fiscal year 2017 refundings resulted in an \$8.1 million reclassification from bond premiums (discounts) to deferred outflows of resources from refunding bonds and a \$3.1 million reclassification from bond premiums (discounts) to deferred inflows of resources from refundings. Reclassification by section was: Mainline, \$2.2 million; and Oil Franchise, \$5.9 million. Additionally, the Commission recorded \$36.4 million for the amortization of deferred outflows/inflows of resources from refunding bonds for the year ended May 31, 2017. Amortization by section was: Mainline, \$35.0 million; Oil Franchise, \$0.6 million and Motor License, \$0.8 million.

The Commission recorded \$4.6 million for the amortization of prepaid bond insurance costs for the year ended May 31, 2017. Amortization by section was: Mainline, \$3.3 million; Oil Franchise, \$1.2 million and Motor License, \$0.1 million.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows *(continued)*

### Noncash activities *(continued)*

The Commission recorded an interest expense reduction of \$2.9 million in the Mainline section and \$0.2 million in the Motor License section for the year ended May 31, 2017 related to GASB 53 entries.

The Commission recognized total capital contributions of \$214.7 million for fiscal year ended May 31, 2017. Cash received of \$204.0 million for fiscal year ended May 31, 2017 is reported in the Capital and related financing activities of this schedule. The \$10.7 million difference between capital contributions and cash received is the result of a \$5.5 million (Mainline section \$2.5 million; Oil Franchise section \$3.0 million) increase in receivables related to these capital contributions and a \$5.2 million Mainline noncash capital contribution related to capital assets provided by service plaza operators. The Commission entered into agreements with a food and fuel provider to totally reconstruct the service plazas; the service plaza operators provide the capital for the reconstruction in exchange for lower rental rates. See Note 2 for further discussion on capital contributions and Note 6 for further discussion on the service plazas.

The Commission and PennDOT entered into an agreement regarding ownership of overhead bridges that carry state roads. Per the agreement, once the Commission replaces these overhead bridges, and after final inspections and supplemental agreements are signed by both parties, ownership and maintenance responsibilities of the bridges are transferred from the Commission to PennDOT. The Commission transferred assets with a net book value of \$54.7 million from its Mainline section to PennDOT during the fiscal year ended May 31, 2017.

The Commission records intersection activity related to revenue, expense, asset and liability transfers between its sections. Some of the intersection entries are related to cash transfers; others are noncash transfers as required. Net intersection transfers for the year ended May 31, 2017 were: to Mainline, \$104.7 million; from Oil Franchise, \$103.0 million; and from Motor License, \$1.7 million.

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Net Position

	May 31, 2016			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<b>ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</b>				
<i>Current assets</i>				
Cash and cash equivalents	\$ 169,248	\$ -	\$ -	\$ 169,248
Short-term investments	40,798	-	-	40,798
Accounts receivable	57,257	-	-	57,257
Accrued interest receivable	1,457	-	-	1,457
Inventories	20,492	-	-	20,492
<i>Restricted current assets</i>				
Cash and cash equivalents	702,877	84,089	18,081	805,047
Short-term investments	151,900	11,981	1,300	165,181
Accounts receivable	2,585	8,686	-	11,271
Accrued interest receivable	1,877	997	129	3,003
Total current assets	1,148,491	105,753	19,510	1,273,754
<i>Noncurrent assets</i>				
<i>Long-term investments</i>				
Long-term investments unrestricted	279,926	-	-	279,926
Long-term investments restricted	399,894	215,246	40,704	655,844
Total long-term investments	679,820	215,246	40,704	935,770
<i>Capital assets not being depreciated</i>				
Land and intangibles	333,934	-	-	333,934
Assets under construction	1,330,627	-	-	1,330,627
<i>Capital assets being depreciated</i>				
Buildings	968,902	-	-	968,902
Improvements other than buildings	119,256	-	-	119,256
Equipment	619,779	-	-	619,779
Infrastructure	7,908,360	-	-	7,908,360
Total capital assets before accumulated depreciation	11,280,858	-	-	11,280,858
Less: Accumulated depreciation	5,763,532	-	-	5,763,532
Total capital assets after accumulated depreciation	5,517,326	-	-	5,517,326
<i>Other assets</i>				
Prepaid bond insurance costs	6,997	1,264	1,527	9,788
OPEB assets	113,930	-	-	113,930
Other assets	32,190	-	-	32,190
Total other assets	153,117	1,264	1,527	155,908
Total noncurrent assets	6,350,263	216,510	42,231	6,609,004
Total assets	7,498,754	322,263	61,741	7,882,758
Deferred outflows of resources from hedging derivatives	58,545	-	75,246	133,791
Deferred outflows of resources from refunding bonds	170,705	5,626	19,947	196,278
Deferred outflows of resources from pensions	66,281	-	-	66,281
Total deferred outflows of resources	295,531	5,626	95,193	396,350
<b>Total assets and deferred outflows of resources</b>	<b>\$ 7,794,285</b>	<b>\$ 327,889</b>	<b>\$ 156,934</b>	<b>\$ 8,279,108</b>

# **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Net Position *(continued)*

	<b>May 31, 2016</b>			
	<b>Mainline</b>	<b>Oil Franchise</b>	<b>Motor License</b>	<b>Total</b>
	<i>(In Thousands)</i>			
<b>LIABILITIES AND DEFERRED INFLOWS OF RESOURCES</b>				
<i>Current liabilities</i>				
Accounts payable and accrued liabilities	\$ 387,033	\$ 18,650	\$ 3,846	\$ 409,529
Current portion of debt	236,030	18,885	7,775	262,690
Unearned income	67,112	732	-	67,844
Total current liabilities	690,175	38,267	11,621	740,063
<i>Noncurrent liabilities</i>				
Debt, less current portion, net of unamortized premium	10,303,989	715,071	412,799	11,431,859
Net pension liability	346,946	-	-	346,946
Other noncurrent liabilities	185,668	1,067	82,674	269,409
Total noncurrent liabilities	10,836,603	716,138	495,473	12,048,214
Total liabilities	11,526,778	754,405	507,094	12,788,277
Deferred inflows of resources from service concession arrangements	124,028	-	-	124,028
Deferred inflows of resources from refunding bonds	-	1,269	-	1,269
Deferred inflows of resources from pensions	12,193	-	-	12,193
Total deferred inflows of resources	136,221	1,269	-	137,490
Total liabilities and deferred inflows of resources	11,662,999	755,674	507,094	12,925,767
<b>NET POSITION</b>				
Net investment in capital assets	1,098,109	(716,101)	(406,528)	(24,520)
Restricted for construction purposes	-	276,552	56,368	332,920
Restricted for debt service	17,114	11,764	-	28,878
Unrestricted	(4,983,937)	-	-	(4,983,937)
Total net position	\$ (3,868,714)	\$ (427,785)	\$ (350,160)	\$ (4,646,659)

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Revenues, Expenses, and Changes in Net Position

	May 31, 2016			
	Mainline	Oil Franchise	Motor License	Total
	(In Thousands)			
Operating revenues				
Net fares	\$ 1,030,115	\$ -	\$ -	\$ 1,030,115
Other	22,576	-	-	22,576
Total operating revenues	1,052,691	-	-	1,052,691
Operating expenses				
Cost of services	469,996	1,136	-	471,132
Depreciation	332,941	-	-	332,941
Total operating expenses	802,937	1,136	-	804,073
Operating income (loss)	249,754	(1,136)	-	248,618
Nonoperating revenues (expenses)				
Investment earnings	18,899	9,749	421	29,069
Other nonoperating revenues	17,092	4,559	-	21,651
Act 44 and Act 89 payments to PennDOT	(450,000)	-	-	(450,000)
Capital assets transferred to PennDOT	(40,937)	-	-	(40,937)
Interest and bond expense	(466,463)	(35,570)	(18,988)	(521,021)
Nonoperating expenses, net	(921,409)	(21,262)	(18,567)	(961,238)
Loss before capital contributions	(671,655)	(22,398)	(18,567)	(712,620)
Capital contributions	33,103	119,803	28,000	180,906
(Decrease) increase in net position	(638,552)	97,405	9,433	(531,714)
Net position at beginning of year	(3,267,060)	(483,837)	(364,048)	(4,114,945)
Intersection transfers	36,898	(41,353)	4,455	-
Net position at end of year	\$ (3,868,714)	\$ (427,785)	\$ (350,160)	\$ (4,646,659)

# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows

	May 31, 2016			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Cash received from customer tolls and deposits	\$ 1,036,742	\$ -	\$ -	\$ 1,036,742
Cash payments for goods and services	(301,744)	(228)	-	(301,972)
Cash payments to employees	(161,016)	(953)	-	(161,969)
Cash received from other operating activities	12,312	-	-	12,312
Net cash provided by (used in) operating activities	586,294	(1,181)	-	585,113
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Proceeds from sales and maturities of investments	2,842,981	321,961	45,890	3,210,832
Interest received on investments	18,420	3,778	438	22,636
Purchases of investments	(2,870,198)	(334,281)	(44,981)	(3,249,460)
Net cash provided by (used in) investing activities	(8,797)	(8,542)	1,347	(15,992)
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>				
Capital grants received from other governments	33,497	-	-	33,497
Proceeds from Motor License Registration fees	-	-	28,000	28,000
Proceeds from Oil Company Franchise Tax	-	121,130	-	121,130
Cash transfer for Continuing Covenant Agreement	-	(2,137)	2,137	-
Cash transfer for closing fees for interest rate conversion	-	(332)	332	-
Cash transfers for debt service payments	-	(4,000)	4,000	-
Construction and acquisition of capital assets	(653,655)	(33,677)	-	(687,332)
Proceeds from sale of capital assets	1,148	-	-	1,148
Payments for bond and swap expenses	(4,321)	(44)	(823)	(5,188)
Payments for debt refundings	(233,170)	-	-	(233,170)
Payments for debt maturities	(55,830)	(17,625)	(7,410)	(80,865)
Interest paid on debt	(177,069)	(36,953)	(20,335)	(234,357)
Interest subsidy from Build America Bonds	16,305	4,559	-	20,864
Swap suspension payments received	4,800	-	-	4,800
Proceeds from debt issuances	1,004,735	-	-	1,004,735
Draw on Stand by Purchase Agreement	-	-	231,430	231,430
Paid Stand by Purchase Agreement	-	-	(231,430)	(231,430)
Net cash (used in) provided by capital and related financing activities	(63,560)	30,921	5,901	(26,738)
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES</b>				
Cash payments to PennDOT	(450,000)	-	-	(450,000)
Payments for bond and swap expenses	(5,046)	-	-	(5,046)
Payments for debt refundings	(579,695)	-	-	(579,695)
Payments for debt maturities	(57,765)	-	-	(57,765)
Interest paid on debt	(201,716)	-	-	(201,716)
Proceeds from debt issuances	942,360	-	-	942,360
Net cash used in noncapital financing activities	(351,862)	-	-	(351,862)
Increase in cash and cash equivalents	162,075	21,198	7,248	190,521
Cash and cash equivalents at beginning of year	710,050	62,891	10,833	783,774
<b>Cash and cash equivalents at end of year</b>	<b>\$ 872,125</b>	<b>\$ 84,089</b>	<b>\$ 18,081</b>	<b>\$ 974,295</b>



# PENNSYLVANIA TURNPIKE COMMISSION

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows *(continued)*

	May 31, 2016			
	Mainline	Oil Franchise	Motor License	Total
	<i>(In Thousands)</i>			
<i>Reconciliation of operating income (loss) to net cash provided by (used in) operating activities</i>				
Operating income (loss)	\$ 249,754	\$ (1,136)	\$ -	\$ 248,618
<i>Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities</i>				
Depreciation	332,941	-	-	332,941
<i>Change in operating assets and liabilities</i>				
Accounts receivable	(10,505)	-	-	(10,505)
Inventories	(1,684)	-	-	(1,684)
Other assets	(9,008)	-	-	(9,008)
Deferred outflows of resources from pensions	(45,203)	-	-	(45,203)
Accounts payable and accrued liabilities	9,527	(45)	-	9,482
Net pension liability	50,675	-	-	50,675
Other noncurrent liabilities	288	-	-	288
Deferred inflows of resources from pensions	9,509	-	-	9,509
<b>Net cash provided by (used in) operating activities</b>	<b>\$ 586,294</b>	<b>\$ (1,181)</b>	<b>\$ -</b>	<b>\$ 585,113</b>
<i>Reconciliation of cash and cash equivalents to the statements of net position</i>				
Cash and cash equivalents	\$ 169,248	\$ -	\$ -	\$ 169,248
Restricted cash and cash equivalents	702,877	84,089	18,081	805,047
<b>Total cash and cash equivalents</b>	<b>\$ 872,125</b>	<b>\$ 84,089</b>	<b>\$ 18,081</b>	<b>\$ 974,295</b>

## Noncash activities

The Commission recorded a net decrease of \$4.5 million in the fair value of its investments for the year ended May 31, 2016. Increases (Decreases) by section were: Mainline, \$(0.2) million; Oil Franchise, \$(4.4) million and Motor License, \$0.1 million.

The Commission recorded \$17.6 million for the amortization of bond premium for the year ended May 31, 2016. Amortization by section was: Mainline, \$15.4 million; Oil Franchise, \$1.5 million and Motor License, \$0.7 million.

As indicated in Note 7 (Debt), the Commission refunded various bonds in fiscal year 2016. The fiscal year 2016 refundings resulted in a \$1.1 million Mainline reclassification from bond premiums (discounts) to deferred outflows of resources from refunding bonds. Additionally, the Commission recorded \$19.9 million for the amortization of deferred outflows/inflows of resources from refunding bonds for the year ended May 31, 2016. Amortization by section was: Mainline, \$18.8 million; Oil Franchise, \$0.3 million and Motor License, \$0.8 million.

The Commission recorded \$3.9 million for the amortization of prepaid bond insurance costs for the year ended May 31, 2016. Amortization by section was: Mainline, \$3.7 million; Oil Franchise, \$0.1 million and Motor License, \$0.1 million.

The Commission recorded an interest expense reduction of \$2.2 million in the Mainline section and \$0.2 million in the Motor License section for the year ended May 31, 2016 related to GASB 53 entries.

## **PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedule of Cash Flows *(continued)*

### *Noncash activities (continued)*

The Commission recognized total capital contributions of \$180.9 million for fiscal year ended May 31, 2016. Cash received of \$182.6 million for fiscal year ended May 31, 2016 is reported in the Capital and related financing activities of this schedule. The \$1.7 million difference between capital contributions and cash received is the result of a \$6.9 million (Mainline section \$5.6 million; Oil Franchise section \$1.3 million) decrease in receivables related to these capital contributions offset by a \$5.2 million Mainline noncash capital contribution related to capital assets provided by service plaza operators. The Commission entered into agreements with a food and fuel provider to totally reconstruct the service plazas; the service plaza operators provide the capital for the reconstruction in exchange for lower rental rates. See Note 2 for further discussion on capital contributions and Note 6 for further discussion on the service plazas.

The Commission and PennDOT entered into an agreement regarding ownership of overhead bridges that carry state roads. Per the agreement, once the Commission replaces these overhead bridges, and after final inspections and supplemental agreements are signed by both parties, ownership and maintenance responsibilities of the bridges are transferred from the Commission to PennDOT. The Commission transferred assets with a net book value of \$40.9 million from its Mainline section to PennDOT during the fiscal year ended May 31, 2016.

The Commission records intersection activity related to revenue, expense, asset and liability transfers between its sections. Some of the intersection entries are related to cash transfers; others are noncash transfers as required. Net intersection transfers for the year ended May 31, 2016 were: to Mainline, \$36.9 million; from Oil Franchise, \$41.4 million; and to Motor License, \$4.5 million.

**PENNSYLVANIA TURNPIKE COMMISSION**

A Component Unit of the Commonwealth of Pennsylvania

Section Information *(continued)*

Schedules of Cost of Services Detail

The following tables provide additional detail for the costs of services reported in the statements of revenues, expenses, and changes in net position.

**Fiscal Year Ended May 31, 2017**

	<b><u>Mainline Operating</u></b>	<b><u>Mainline Capital</u></b>	<b><u>Total Mainline</u></b>	<b><u>Oil Franchise</u></b>	<b><u>Motor License</u></b>	<b><u>Total</u></b>
General and administrative	\$ 47,861	\$ 100,813	\$ 148,674	\$ 1,827	\$ -	\$ 150,501
Traffic engineering and operations	3,813	1,743	5,556	-	-	5,556
Service centers	32,304	-	32,304	-	-	32,304
Employee benefits	113,986	11,569	125,555	966	-	126,521
Toll collection	60,112	1,665	61,777	-	-	61,777
Maintenance	66,191	2,219	68,410	-	-	68,410
Facilities and energy mgmt. operations	11,266	13,545	24,811	-	-	24,811
Turnpike patrol	47,223	-	47,223	-	-	47,223
<b>Total cost of services</b>	<b>\$ 382,756</b>	<b>\$ 131,554</b>	<b>\$ 514,310</b>	<b>\$ 2,793</b>	<b>\$ -</b>	<b>\$ 517,103</b>

**Fiscal Year Ended May 31, 2016**

	<b><u>Mainline Operating</u></b>	<b><u>Mainline Capital</u></b>	<b><u>Total Mainline</u></b>	<b><u>Oil Franchise</u></b>	<b><u>Motor License</u></b>	<b><u>Total</u></b>
General and administrative	\$ 40,725	\$ 80,728	\$ 121,453	\$ 691	\$ -	\$ 122,144
Traffic engineering and operations	4,654	1,483	6,137	-	-	6,137
Service centers	28,304	-	28,304	-	-	28,304
Employee benefits	107,646	9,927	117,573	445	-	118,018
Toll collection	59,387	4,888	64,275	-	-	64,275
Maintenance	64,545	1,319	65,864	-	-	65,864
Facilities and energy mgmt. operations	10,886	9,343	20,229	-	-	20,229
Turnpike patrol	46,161	-	46,161	-	-	46,161
<b>Total cost of services</b>	<b>\$ 362,308</b>	<b>\$ 107,688</b>	<b>\$ 469,996</b>	<b>\$ 1,136</b>	<b>\$ -</b>	<b>\$ 471,132</b>

*Note:* Certain amounts in the above table were reclassified to conform to the current period financial statements presentation.



## **APPENDIX C**

### **SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE**

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## **APPENDIX C**

### **SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR INDENTURE**

The following sets forth the definitions of certain terms used in the Senior Indenture and a summary of certain provisions of the Senior Indenture. Certain other provisions of the Senior Indenture relating to the 2017A Bonds are summarized in the Official Statement under the sections captioned “DESCRIPTION OF THE 2017A BONDS” and “SECURITY FOR THE 2017A BONDS.” Reference should be made to the Senior Indenture for a complete statement of all of these provisions and other provisions which are not summarized in this Official Statement. A copy of the Senior Indenture may be obtained from the Trustee.

### **DEFINITIONS OF CERTAIN TERMS**

In addition to words and terms elsewhere defined in this Official Statement, the following words and terms as used in this Appendix C and the Senior Indenture shall have the following meanings unless the context clearly indicates otherwise:

“Additional Bonds” – Bonds of any Series authorized to be issued under the Senior Indenture.

“Alternate Construction Fund” – a fund as described under “The Senior Indenture—Alternate Construction Fund” in this Appendix C.

“Annual Capital Budget” – the budget adopted by the Commission pursuant to the provisions described under the heading “The Senior Indenture—Covenants of Commission—Annual Operating Budget; Capital Budget” in this Appendix C.

“Annual Debt Service” – (i) the amount of principal and interest paid or payable with respect to Bonds in a Fiscal Year plus (ii) Reimbursement Obligations paid or payable by the Commission in such Fiscal Year (but only to the extent they are not duplicative of such principal and interest), plus (iii) the amounts, if any, paid or payable by the Commission in such Fiscal Year with respect to Approved Swap Agreements, minus (iv) the amounts, if any, paid or payable to the Commission in such Fiscal Year with respect to Approved Swap Agreements, provided that the difference between the amounts described in clauses (iii) and (iv) shall be included only to the extent that such difference would not be recognized as a result of the application of the assumptions set forth below. The following assumptions shall be used to determine the Annual Debt Service becoming due in any Fiscal Year: (a) in determining the principal amount paid or payable with respect to Bonds or Reimbursement Obligations in each Fiscal Year, payment shall be assumed to be made in accordance with any amortization schedule established for such Indebtedness, including amounts paid or payable pursuant to any mandatory redemption schedule for such Indebtedness; (b) if any of the Indebtedness or proposed Indebtedness constitutes Balloon Indebtedness, then such amounts thereof as constitute Balloon Indebtedness shall be treated as if such Indebtedness is to be amortized in substantially equal annual installments of principal and interest over a term of 25 years from the date of issuance of such Indebtedness; anything to the contrary in the Senior Indenture notwithstanding, during the year preceding the final maturity date of such Indebtedness, all of the principal thereof shall be considered to be due on such maturity date unless the Commission provides to the Trustee a certificate of a Financial Consultant certifying that, in its judgment, the Commission will be able to refinance such Balloon Indebtedness, in which event the Balloon Indebtedness shall be amortized over the term of such refinancing and shall bear the interest rate specified in the certificate of the Financial Consultant; (c) if any of the Indebtedness or proposed Indebtedness constitutes Variable Rate Indebtedness, then interest in future periods shall be based on the Assumed Variable Rate; (d) termination or similar payments under an Approved Swap Agreement shall not be taken into account in any calculation of Annual Debt Service; and (e) if any cash subsidy payments (the “Subsidy Payments”) from the United States Treasury pursuant to Section 54AA or 6431 of the Code (as such Sections were added by Section 1531 of the American Recovery and Reinvestment Act of 2009 (Pub.L. 111-5) pertaining to “Build America Bonds”) are scheduled to be received by the Commission with respect to any Bonds which are eligible for such Subsidy Payments, each of the Subsidy Payments may be deducted from the interest payable on such Bonds in the period in which such Subsidy Payment is scheduled to be received.

“Annual Operating Budget” – the budget adopted by the Commission pursuant to the provisions described under the heading “The Senior Indenture–Annual Operating Budget; Capital Budget” in this Appendix C.

“Applicable Long-Term Indebtedness” – includes Bonds, Additional Bonds, Reimbursement Obligations and obligations of the Commission under Approved Swap Agreements, to the extent the same constitute Long-Term Indebtedness, and excludes Subordinated Indebtedness.

“Approved Swap Agreement” – shall have the meaning set forth below under the heading “The Senior Indenture–Approved and Parity Swap Obligations” in this Appendix C.

“Assumed Variable Rate” – in the case of (1) Outstanding Variable Rate Indebtedness, the average interest rate on such Indebtedness for the most recently completed 12-month period; and (2) proposed Variable Rate Indebtedness, (a) which will, in the opinion of Bond Counsel delivered at the time of the issuance thereof be excluded from gross income for federal income tax purposes, the average of the Bond Market Association Swap Index (“BMA Index”) for the 12 months ending 7 days preceding the date of calculation plus 100 basis points, or (b) in the case of Bonds not described in clause (a), the London Interbank Offered Rate (“LIBOR”) most closely resembling the reset period for the Variable Rate Indebtedness plus 100 basis points; provided that if the BMA Index or LIBOR shall cease to be published, the index to be used in its place shall be that index which the Commission in consultation with the Financial Consultant determines most closely replicates such index, as set forth in a certificate of a Commission Official filed with the Trustee.

“Authenticating Agent” – that Person designated and authorized to authenticate any series of Bonds or such Person designated by the Authenticating Agent to serve such function, and shall initially be the Trustee.

“Balloon Indebtedness” – Long-Term Indebtedness of which 25% or more of the principal matures in the same Fiscal Year and is not required by the documents pursuant to which such Indebtedness was issued to be amortized by payment or redemption prior to that Fiscal Year, provided that such Indebtedness will not constitute Balloon Indebtedness if the Trustee is provided a certificate of a Commission Official certifying that such Indebtedness is not to be treated as Balloon Indebtedness (because, by way of example, such Indebtedness is intended to serve as “wrap around” Indebtedness).

“Bank” – as to any particular Series of Bonds, each Person (other than a Bond Insurer) providing a letter of credit, a line of credit, a guaranty or another credit or liquidity enhancement facility as designated in the Supplemental Indenture providing for the issuance of such Bonds.

“Bankruptcy Law” – Title 9 of the United States Code, as amended from time to time, and any successor to or replacement of such Title and any other applicable federal or state bankruptcy, insolvency or similar law.

“Bond” or “Bonds” – Bonds outstanding under the Prior Senior Indenture and indebtedness of any kind or class, including bonds, notes, bond anticipation notes, commercial paper and other obligations, issued as Additional Bonds under the applicable provisions of the Senior Indenture, other than Additional Bonds issued as Subordinated Indebtedness.

“Bond Buyer Index” – shall mean the Bond Buyer 20-Bond Index as published weekly in “The Bond Buyer”. If such Index shall cease to be published, the Financial Consultant shall select another index which shall be reflective of the Commission’s fixed borrowing cost.

“Bond Counsel” – any attorney or firm of attorneys whose experience in matters relating to the issuance of obligations by states and their political subdivisions is nationally recognized.

“Bond Documents” – means the Supplemental Indenture, the 2017A Bond, and any and all future renewals and extensions or restatements of, or amendments or supplements to, any of the foregoing.

“Bond Insurer” – as to any particular maturity or any particular Series of Bonds, the Person undertaking to insure such Bonds as designated in a Supplemental Indenture providing for the issuance of such Bonds.



“Bond Owner,” “Bondholder,” “Holder,” “Owner” or “Registered Owner” (or the lower case version of the same) – the Person in whose name any Bond or Bonds are registered on the books maintained by the Registrar.

“Bond Register” – the register maintained pursuant to the applicable provisions of the Senior Indenture.

“Bond Registrar” – with respect to any series of Bonds, that Person which maintains the bond register or such other entity designated by the Bond Registrar to serve such function and initially shall be the Trustee.

“Book-Entry-Only System” – a system similar to the system described in the Senior Indenture and in the forepart of this Official Statement under “DESCRIPTION OF THE 2017A BONDS – Book-Entry Only System” pursuant to which Bonds are registered in book-entry form.

“Business Day” – a day other than: (i) a Saturday, Sunday, legal holiday or day on which banking institutions in the city in which the Trustee has its Principal Office are authorized or required by law or executive order to close; or (ii) a day on which the New York Stock Exchange is closed.

“Chief Engineer” – the employee of the Commission designated its “Chief Engineer” or any successor title.

“Code” – the Internal Revenue Code of 1986, as amended, and the regulations proposed or in effect with respect thereto.

“Commonwealth” – the Commonwealth of Pennsylvania.

“Commission Official” – any commissioner, director, officer or employee of the Commission authorized to perform specific acts or duties by resolution duly adopted by the Commission.

“Consultant” – a Person who shall be independent, appointed by the Commission as needed, qualified and having a nationwide and favorable reputation for skill and experience in such work for which the Consultant was appointed. In those situations in which a Consultant is appointed to survey risks and to recommend insurance coverage, such Consultant may be a broker or agent with whom the Commission transacts business.

“Consulting Engineers” – the engineer or engineering firm or corporation at the time employed by the Commission under the Senior Indenture.

“Cost” – all or any part of: (a) the cost of construction, reconstruction, restoration, repair and rehabilitation of a Project or portion thereof (including, but not limited to, indemnity and surety bonds, permits, taxes or other municipal or governmental charges lawfully levied or assessed during construction); (b) the cost of acquisition of all real or personal property, rights, rights-of-way, franchises, easements and interests acquired or used for such Project or portion thereof; (c) the cost of demolishing or removing any structures on land so acquired, including the cost of acquiring any land to which the structures may be removed; (d) any cost of borings and other preliminary investigations necessary or incident to determining the feasibility or practicability of constructing such Project and any cost necessary or desirable to satisfy conditions associated with the issuance of any permit for the construction thereof (including the costs of environmental mitigation required in connection therewith); (e) the cost of all machinery and equipment, vehicles, materials and rolling stock; (f) Issuance Costs; (g) interest on Bonds and on any Reimbursement Obligation for the period prior to, during and for a period of up to one year after completion of construction as determined by the Commission, provisions for working capital, reserves for principal and interest and for extensions, enlargements, additions, replacements, renovations and improvements; (h) the cost of architectural, engineering, environmental feasibility, financial and legal services; (i) plans, specifications, estimates and administrative and other expenses which are necessary or incidental to the determination of the feasibility of constructing such Project or portion thereof or incidental to the obtaining of construction contracts or to the construction (including construction administration and inspection), acquisition or financing thereof and which constitute capital costs; (j) Current Expenses, provided that, if applicable, the Trustee has received an opinion of Bond Counsel (which opinion may address either specific Current Expenses or categories of Current Expenses) to the

effect that the treatment of such Current Expenses as a Cost will not adversely affect the exclusion of interest on the Bonds from gross income for federal income tax purposes; (k) the repayment of any loan or advance for any of the foregoing; and (l) with respect to the use of Bond proceeds, such other costs and expenses as are permitted by the Enabling Acts at the time such Bonds are issued.

“Counsel” – an attorney or law firm (who may be counsel for the Commission) not unsatisfactory to the Trustee.

“Credit Facility” – any letter of credit, line of credit, standby letter of credit, indemnity or surety insurance policy or agreement to purchase a debt obligation or any similar extension of credit, credit enhancement or liquidity support obtained by the Commission from a responsible financial or insurance institution, to provide for or to secure payment of principal and purchase price of, and/or interest on Bonds pursuant to the provisions of a Supplemental Indenture under which such Bonds are issued. The use of such definition is not intended to preclude the Commission from providing the credit or liquidity support with respect to one or more series of Bonds directly rather than through a financial or insurance institution.

“Current Expenses” – the Commission’s reasonable and necessary current expenses of maintenance, repair and operation of the System, including, without limiting the generality of the foregoing, all premiums for insurance and payments into any self-insurance reserve fund, all administrative and engineering expenses relating to maintenance, repair and operation of the System, fees and expenses of the Trustee and of the Paying Agents, Policy Costs, legal expenses and any other expenses required to be paid by the Commission as shown in the Annual Operating Budget for the System.

“Debt Service Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—Debt Service Fund” in this Appendix C.

“Debt Service Reserve Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—Debt Service Reserve Fund” in this Appendix C.

“Debt Service Reserve Fund Bonds” – shall mean the Long-Term Indebtedness specified by the Commission that is secured by the Debt Service Reserve Fund as described under “The Senior Indenture—Debt Service Reserve Fund” in this Appendix C.

“Debt Service Reserve Requirement” – the amount equal to the Maximum Annual Debt Service on account of all the Debt Service Reserve Fund Bonds.

“Defeasance Securities” – Cash, Government Obligations, Government Obligations which have been stripped by the U.S. Treasury and CATS, TIGRS and similar securities, Resolution Funding Corp. strips which have been stripped by the Federal Reserve Bank of New York, pre-refunded obligations of a state or municipality rated in the highest rating category by the Rating Agency, and Obligations issued by the following agencies which are backed by the full faith and credit of the U.S.: Farmers Home Administration (Certificates of beneficial ownership), Federal Financing Bank, General Services Administration (Participation certificates), U.S. Maritime Administration (Guaranteed Title XI financing), U.S. Department of Housing and Urban Development (Project Notes, Local Authority Bonds and New Communities Debentures - U.S. government guaranteed debentures) and U.S. Public Housing Notes and Bonds (U.S. government guaranteed public housing notes and bonds).

“Depository” – a bank or trust company designated as such by the Commission to receive moneys under the provisions of the Senior Indenture and approved by the Trustee, and shall include the Trustee.

“DSRF Security” – shall have the meaning set forth under “The Senior Indenture—Debt Service Reserve Fund” in this Appendix C.

“DTC” – The Depository Trust Company, New York, New York.

“Event of Bankruptcy” – the filing of a petition in bankruptcy (or other commencement of a bankruptcy or similar proceedings) by or against the Commission as debtor, under Bankruptcy Law.

“Event of Default” – those events specified under “The Senior Indenture - Events of Default” in this Appendix C and such other events specified in any Supplemental Indenture.

“Financial Consultant” – any financial advisor or firm of financial advisors of favorable national reputation for skill and experience in performing the duties for which a Financial Consultant is required to be employed pursuant to the provisions of the Senior Indenture and who is retained by the Commission as a Financial Consultant for the purposes of the Senior Indenture.

“Fiscal Year” – the period commencing on the first day of June and ending on the last day of May of the following year.

“Fitch” – Fitch, Inc., its successors and assigns, and, if such corporation shall for any reason no longer perform the functions of a securities rating agency, “Fitch” shall be deemed to refer to any other nationally recognized rating agency designated by the Commission.

“General Reserve Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—General Reserve Fund” in this Appendix C.

“Government Obligations” – (a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed as to full and timely payment by, the United States of America, (b) obligations issued by a Person controlled or supervised by and acting as an instrumentality of the United States of America, the payment of the principal of and interest on which is fully and unconditionally guaranteed as a full faith and credit obligation of the United States of America (including any securities described in clause (a) above issued or held in book-entry form in the name of the Trustee only on the books of the Department of Treasury of the United States of America), (c) any certificates or any other evidences of an ownership interest in obligations or specified portions thereof (which may consist of specified portions of the interest thereon) of the character described in clause (a) or (b) above, which obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any state thereof in the capacity of custodian, (d) stripped obligations of interest issued by the Resolution Funding Corporation pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (“FIRREA”), the interest on which, to the extent not paid from other specified sources, is payable when due by the Secretary of the Treasury pursuant to FIRREA, and (e) obligations of any state or political subdivision thereof or any agency or instrumentality of such a state or political subdivision, provided that cash, obligations described in clause (a), (b), (c) or (d) above, or a combination thereof have been irrevocably pledged to and deposited into a segregated escrow account for the payment when due of the principal or redemption price of and interest on such obligations, and provided further that, at the time of purchase, such obligations are rated by the Rating Service in its highest rating category.

“Historical Debt Service Coverage Ratio” – for any period of time, the ratio determined by dividing Net Revenues for such period by the Annual Debt Service for all Applicable Long-Term Indebtedness which is Outstanding during such period.

“Historical Pro Forma Debt Service Coverage Ratio” – for any period of time, the ratio determined by dividing Net Revenues for such period by the Maximum Annual Debt Service for all Applicable Long-Term Indebtedness then Outstanding and the Applicable Long-Term Indebtedness proposed to be issued pursuant to the Senior Indenture pursuant to the provisions described under the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS – Additional Bonds Test.”

“Immediate Notice” – notice transmitted by electronic means, in writing, by telecopier or other electronic means or by telephone (promptly confirmed in writing) and received by the Person to whom it was addressed.

“Indebtedness” – any obligation or debt incurred for money borrowed.

“Interest Payment Date” – for the 2017A Bonds is described in the forepart of this Official Statement. If the Interest Payment Date is not a Business Day then the Interest Payment Date shall be the Business Day next succeeding the date specified above.

“Issuance Cost” – costs incurred by or on behalf of the Commission in connection with the issuance of Additional Bonds including, without limitation, the following: payment of financial, legal, accounting and appraisal fees and expenses, the Commission’s fees and expenses attributable to the

issuance of the Bonds, the cost of printing, engraving and reproduction services, fees and expenses incurred in connection with any Credit Facility and any Approved Swap Obligation, legal fees and expenses for Bond Counsel, Commission's counsel, Trustee's counsel and Underwriter's counsel relating to the issuance of the Bonds, the initial or acceptance fee of the Trustee, and all other fees, charges and expenses incurred in connection with the issuance of the Bonds and the preparation of the Senior Indenture.

"Letter of Representations" – the letter of representations or similar document executed by the Commission and delivered to the Securities Depository (and any amendments thereto or successor agreements) for one or more Series of Book Entry Bonds.

"Long-Term Indebtedness" – all Indebtedness, which is not (a) Short-Term Indebtedness or (b) Subordinated Indebtedness.

"Maximum Annual Debt Service" – at any point in time the maximum amount of Annual Debt Service on all Applicable Long-Term Indebtedness, as required by the context (e.g., whether relating to all such Applicable Long-Term Indebtedness or only specified Applicable Long-Term Indebtedness) paid or payable in the then current or any future Fiscal Year.

"Moody's" – Moody's Investors Service, a corporation organized and existing under the laws of the State of Delaware, its successors and their assigns, and, if such corporation shall for any reason no longer perform the functions of a securities rating agency, "Moody's" shall be deemed to refer to any other nationally recognized rating agency designated by the Commission.

"Net Revenues" – the amount by which total Revenues exceed Current Expenses for any particular period.

"Other Revenues" – any funds received or payable to the Commission, other than Revenues, which the Commission chooses to include as security for Parity Obligations and/or Subordinated Indebtedness pursuant to a Supplemental Indenture.

"Original Senior Indenture" – the Indenture of Trust dated as of July 1, 1986 between the Commission and the Trustee.

"Outstanding" or "outstanding" in connection with Bonds – all Bonds which have been authenticated and delivered under the Senior Indenture, except: (a) Bonds theretofore cancelled or delivered to the Trustee for cancellation under the Senior Indenture; (b) Bonds which are deemed to be no longer Outstanding in accordance with the provisions described under "The Senior Indenture—Defeasance" in this Appendix C; and (c) Bonds in substitution for which other Bonds have been authenticated and delivered pursuant to the Senior Indenture. In determining whether the owners of a requisite aggregate principal amount of Bonds Outstanding have concurred in any request, demand, authorization, direction, notice, consent or waiver under the provisions of the Senior Indenture, Bonds which are held by or on behalf of the Commission (unless all of the Outstanding Bonds are then owned by the Commission) shall be disregarded for the purpose of any such determination.

"Parity Obligations" – includes Bonds and other obligations of the Commission owed to Secured Owners and excludes Subordinated Indebtedness.

"Parity Swap Agreement" – shall have the meaning set forth under the heading "The Senior Indenture—Approved and Parity Swap Obligations" in this Appendix C.

"Parity Swap Agreement Counterparty" – the counterparty to a Parity Swap Agreement with the Commission or with the Trustee.

"Paying Agent" – with respect to any series of Bonds, that Person appointed pursuant to the Senior Indenture to make payments to Bondholders of interest and/or principal pursuant to the terms of the Senior Indenture, which initially shall be the Trustee.

"Permitted Investments" – (to the extent permitted by law): (a) Government Obligations; (b) obligations issued or guaranteed as to full and timely payment of principal and interest by any agency or Person controlled or supervised by and acting as an instrumentality of the U.S., pursuant to authority granted by the U.S. Congress; (c) obligations of the Governmental National Mortgage Association,

Farmers Home Administration, Federal Financing Bank, Federal Housing Administration, Maritime Administration and Public Housing Authorities, provided that the full and timely payment of the principal and interest on such obligations shall be unconditionally guaranteed by the U.S.; (d) obligations of the Federal Intermediate Credit Corporation and of the Federal National Mortgage Association; (e) obligations of the Federal Banks for Cooperation; (f) obligations of Federal Land Banks; (g) obligations of Federal Home Loan Banks; provided that the obligations described in clauses (c) through (g) above shall constitute Permitted Investments only to the extent that the Rating Agency has assigned a rating to such obligations which is not lower than the highest rating assigned by such Rating Agency to any series of comparable Bonds then Outstanding; (h) certificates of deposit of any bank, savings and loan or trust company organized under the laws of the U.S. or any state thereof, including the Trustee or any holder of the Bonds, provided that such certificates of deposit shall be fully collateralized (with a prior perfected security interest), to the extent they are not insured by the Federal Deposit Insurance Corporation, by Permitted Investments described in (a), (b), (c), (d), (e), (f) or (g) above having a market value at all times equal to the uninsured amount of such deposit; (i) money market funds registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, including funds for which the Trustee, its parent, its affiliates or its subsidiaries provide investment advisory or other management services, and which are rated by S&P, Moody's and Fitch in one of their two highest rating categories; (j) investment agreements (which term, for purposes of this clause, shall not include repurchase agreements) with a Qualified Financial Institution; (k) repurchase agreements with banks or primary government dealers reporting to the Federal Reserve Bank of New York ("Repurchasers"), including but not limited to the Trustee and any of its affiliates, provided that each such repurchase agreement results in transfer to the Trustee of legal and equitable title to, or the granting to the Trustee of a prior perfected security interest in, identified Permitted Investments described in (a), (b), (c), (d), (e), (f) or (g) above which are free and clear of any claims by third parties and are segregated in a custodial or trust account held either by the Trustee or by a third party (other than the Repurchaser) as the agent solely of, or in trust solely for the benefit of, the Trustee, provided that Government Obligations acquired pursuant to such repurchase agreements shall be valued at the lower of the then current market value of such Government Obligations or the repurchase price thereof set forth in the applicable repurchase agreement; (l) bonds or notes issued by any state or municipality which are rated by S&P, Moody's and Fitch in one of their two highest rating categories; (m) commercial paper rated in the highest short-term, note or commercial paper Rating Category by S&P, Moody's and Fitch; (n) any auction rate certificates which are rated by S&P, Moody's and Fitch in one of their two highest rating categories; (o) corporate bonds and medium term notes rated at least "AA-" by Moody's and S&P; (p) asset-backed securities rated in the highest rating category by Moody's and S&P; and (q) any other investment approved by the Commission for which confirmation is received from the Rating Agency that such investment will not adversely affect such Rating Agency's rating on such Bonds.

"Person" – an individual, public body, a corporation, a partnership, an association, a joint stock company, a trust and any unincorporated organization.

"Policy Costs" – a periodic fee or charge required to be paid to maintain a DSRF Security.

"Principal Office" – means, with respect to any entity performing functions under any Bond Document, the principal office of that entity or its affiliate at which those functions are performed or the office specifically designated for such functions with respect to the applicable Bond Documents.

"Prior Senior Indenture" – the Original Senior Indenture as supplemented and amended.

"Project" – any improvements to the System or refundings which are authorized by the Enabling Acts or which may be hereafter authorized by law.

"Projected Annual Debt Service" – for any future period of time, shall equal the amount of Maximum Annual Debt Service on all Applicable Long-Term Indebtedness then Outstanding and on any Applicable Long-Term Indebtedness proposed to be issued.

"Projected Debt Service Coverage Ratio" – for the two Fiscal Years following the end of any period during which interest was fully capitalized on the Applicable Long-Term Indebtedness proposed to be issued, the ratio determined by dividing Projected Net Revenues for such period by the Projected Annual Debt Service for such period.

“Projected Net Revenues” – projected Net Revenues for the period in question, taking into account any revisions of the Tolls which have been approved by the Commission and which will be effective during such period and any additional Tolls which the Commission or the Consultant, as appropriate, estimates will be received by the Commission following the completion of any Project then being constructed or proposed to be constructed.

“Purchase Price” – the purchase price payment described in paragraph (a) of the definition of Tender Indebtedness.

“Qualified Financial Institution” – (a) any U.S. domestic institution which is a bank, trust company, national banking association or a corporation, including the Trustee and any of its affiliates, subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956, or a member of the National Association of Securities Dealers, Inc. whose unsecured obligations or uncollateralized long-term debt obligations have been assigned a rating within the two highest rating categories by the Rating Agency or which has issued a letter of credit, contract, agreement or surety bond in support of debt obligations which have been so rated; (b) an insurance company with a claims-paying ability or a corporation whose obligations are guaranteed by an insurance company (in the form of an insurance policy) or by an insurance holding company rated in the highest rating category by the Rating Agency or whose unsecured obligations or uncollateralized long-term debt obligations have been assigned a rating within the highest rating category by the Rating Agency; or (c) any banking institution whose unsecured obligations or uncollateralized long-term debt obligations have been assigned a rating within one of the two highest rating categories by the Rating Agency.

“Rate Covenant” – the requirement to establish and maintain a schedule of Tolls sufficient to provide the funds required pursuant to the Senior Indenture provisions described under “The Senior Indenture—Rate Covenant” in this Appendix C.

“Rating Agency” – Fitch, Moody’s, S&P or such other nationally recognized securities rating agency as may be so designated in writing to the Trustee by a Commission Official.

“Rating Category” – each major rating classification established by the Rating Agency, determined without regard to gradations such as “1,” “2” and “3” or “plus” and “minus.”

“Rebate Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—Rebate Fund” in this Appendix C.

“Rebate Regulations” – the Treasury Regulations issued under Section 148(f) of the Code.

“Record Date” – for the 2017A Bonds is described in the forepart of this Official Statement.

“Reimbursement Agreement” – an agreement between the Commission and one or more Banks pursuant to which, among other things, such Bank or Banks issue a Credit Facility with respect to Bonds of one or more series and the Commission agrees to reimburse such Bank or Banks for any drawings made thereunder.

“Reimbursement Obligation” – an obligation of the Commission pursuant to a Reimbursement Agreement to repay any amounts drawn under a Credit Facility and to pay interest on such drawn amounts pursuant to such Reimbursement Agreement.

“Reserve Maintenance Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—Reserve Maintenance Fund” in this Appendix C.

“Reserve Maintenance Fund Requirement” – the amount to be deposited to the credit of the Reserve Maintenance Fund from the Revenues of the Commission pursuant to the provisions described under “The Senior Indenture - Reserve Maintenance Fund” in this Appendix C.

“Revenue Fund” – the fund created by the Senior Indenture and described under “The Senior Indenture—Revenue Fund; Agreements with Other Turnpikes” in this Appendix C.

“Revenues” – (a) all Tolls received by or on behalf of the Commission from the System, (b) any other sources of revenues or funds of the Commission which the Commission chooses to include in the

Trust Estate pursuant to a Supplemental Indenture, and (c) the interest and income earned on any fund or account where said interest or income is required to be credited to the Revenue Fund pursuant to the Senior Indenture. As more fully provided by the provisions described below under “The Senior Indenture—Revenue Fund; Agreements with Other Turnpikes,” in the event the Commission receives advances or prepayments or otherwise operates or participates in a system in which funds are collected prior to the actual usage of the System, such funds shall not be deemed to be Revenues until the usage occurs or the funds are earned pursuant to the agreement under which the Commission receives such funds.

“S&P” – Standard & Poor’s, a division of McGraw-Hill, Inc., a corporation organized and existing under the laws of the State of New York, its successors and their assigns, and, if such corporation shall for any reason no longer perform the functions of a securities rating agency, “S&P” shall be deemed to refer to any other nationally recognized securities rating agency designated by the Commission.

“Secured Owner” – each Person who is a Bondholder of any Bonds, each Parity Swap Agreement Counterparty providing a Parity Swap Agreement, each Bank providing a Credit Facility and each Bond Insurer providing a bond insurance policy with respect to a Parity Obligation.

“Securities Depository” – a Person that is registered as a clearing agency under Section 17A of the Securities Exchange Act of 1934 or whose business is confined to the performance of the functions of a clearing agency with respect to exempted securities, as defined in Section 3(a)(12) of such Act for the purposes of Section 17A thereof.

“Series” – one or more Bonds issued at the same time, or sharing some other common term or characteristic, and designated as a separate series of Bonds.

“Series Issue Date” means, with respect to the 2017A Bonds, the date of original issuance and delivery of the 2017A Bonds.

“Short-Term Indebtedness” – all Indebtedness which matures in less than 365 days and is designated as Short-Term Indebtedness pursuant to the provisions described under “The Senior Indenture—Limitation on Issuance of Additional Bonds and Execution of Swap Agreements” in this Appendix C. In the event a Bank has extended a line of credit or the Commission has undertaken a commercial paper or similar program, only amounts actually borrowed under such line of credit or program and repayable in less than 365 days shall be considered Short-Term Indebtedness and the full amount of such commitment or program shall not be treated as Short-Term Indebtedness to the extent that such facility remains undrawn.

“Special Record Date” – for the 2017A Bonds is described under “The Senior Indenture – Defaulted Interest” in this Appendix C.

“Subordinated Indebtedness” – Indebtedness incurred pursuant to paragraph (c) of the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS – Additional Bonds Test”.

“Supplemental Indenture” – any Supplemental Indenture to (a) the Senior Indenture, now or hereafter duly authorized and entered into in accordance with the provisions of the Senior Indenture and (b) the Prior Senior Indenture, including any Supplemental Indenture pursuant to which (and only for so long as) Bonds are outstanding thereunder.

“Swap Agreement” – shall have the meaning set forth under the heading “The Senior Indenture—Approved and Parity Swap Obligations” in this Appendix C.

“System” – is described in the forepart of this Official Statement under “PENNSYLVANIA TURNPIKE SYSTEM.”

“Tender Indebtedness” – any Indebtedness or portion thereof: (a) the terms of which include (i) an option or an obligation on the part of the Secured Owner to tender all or a portion of such Indebtedness to the Commission, the Trustee, the Paying Agent or another fiduciary or agent for payment or purchase and (ii) a requirement on the part of the Commission to purchase or cause to be purchased such Indebtedness or portion thereof if properly presented; and (b) which is rated in either (i) one of the two

highest long-term Rating Categories by the Rating Agency or (ii) the highest short-term, note or commercial paper Rating Category by the Rating Agency.

“Tolls” – all rates, rents, fees, charges, fines or other income derived by the Commission from vehicular usage of the System, and all rights to receive the same.

“Trust Estate” – (i) all Revenues, (ii) all monies deposited into accounts or funds created by the Senior Indenture and held by or on behalf of the Trustee (other than the Rebate Fund), (iii) any insurance proceeds and other moneys required to be deposited in the Senior Indenture, (iv) all payments received by the Commission pursuant to Parity Swap Agreements, and (v) all investment earnings on all moneys held in accounts and funds established by the Senior Indenture, other than the Rebate Fund.

“Trustee” – the Trustee at the time in question, whether the initial Trustee or a successor. “U.S.” – United States of America.

“Variable Rate Indebtedness” – any Indebtedness the interest rate on which fluctuates from time to time subsequent to the time of incurrence. Variable Rate Indebtedness may include, without limitation, (a) “auction rate” Indebtedness, (b) Tender Indebtedness, (c) commercial paper Indebtedness which is intended to be reissued and refinanced periodically, or (d) other forms of Indebtedness on which the interest fluctuates or is subject to being set or reset from time to time.

## **THE SENIOR INDENTURE**

### **LIMITED OBLIGATIONS**

The Bonds shall be limited obligations of the Commission, payable solely from the Trust Estate. The Bonds shall constitute a valid claim of the respective owners thereof against the Trust Estate, which is pledged to secure the payment of the principal of, redemption premium, if any, and interest on the Bonds, and which shall be utilized for no other purpose, except as expressly authorized in the Senior Indenture. The Bonds shall not constitute general obligations of the Commission and under no circumstances shall the Bonds be payable from, nor shall the holders thereof have any rightful claim to, any income, revenues, funds or assets of the Commission other than those pledged under the Senior Indenture as security for the payment of the Bonds.

### **ADDITIONAL BONDS**

The Commission agrees in the Senior Indenture that it will not issue or incur any other Indebtedness having a parity lien on the Trust Estate except for Additional Bonds issued pursuant to the provisions described below and other Parity Obligations. Additional Bonds may be issued and the Trustee shall authenticate and deliver such Additional Bonds when there have been filed with the Trustee the following:

(a) A copy certified by a Commission Official of the resolution or resolutions of the Commission authorizing (1) the execution and delivery of a Supplemental Indenture providing for, among other things, the date, rate or rates of interest on, interest payment dates, maturity dates and redemption provisions of such Additional Bonds, and (2) the issuance, sale, execution and delivery of the Additional Bonds;

(b) An original executed counterpart of the Supplemental Indenture;

(c) An opinion or opinions of Bond Counsel, addressed to the Commission and the Trustee, to the effect that (1) issuance of the Additional Bonds is permitted under the Senior Indenture, (2) each of the Supplemental Indenture and the Additional Bonds has been duly authorized, executed and delivered and is a valid, binding and enforceable obligation of the Commission, subject to bankruptcy, equitable principles and other standard legal opinion exceptions and (3) subject to the paragraph below, interest on the Additional Bonds is not included in gross income for federal income tax purposes under the Code;

(d) A request and authorization of the Commission, signed by a Commission Official, to the Trustee to authenticate and deliver the Additional Bonds to such Person or persons named therein after



confirmation of payment to the Trustee for the account of the Commission of a specified sum (which may include directions as to the disposition of such sum);

(e) A certificate of the Commission, signed by a Commission Official, that the Commission is not in default under the Senior Indenture and evidence satisfactory to the Trustee that, upon issuance of the Additional Bonds, amounts will be deposited in the Funds under the Senior Indenture adequate for the necessary balances therein after issuance of the Additional Bonds (including an amount sufficient to satisfy the Debt Service Reserve Requirement if the Additional Bonds constitute Debt Service Reserve Fund Bonds);

(f) A certificate of the Commission, signed by a Commission Official, identifying the Additional Bonds as Short-Term Indebtedness, Long-Term Indebtedness or Subordinated Indebtedness and demonstrating with reasonable detail that the applicable Senior Indenture provisions described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS — Additional Bonds Test” have been met for the issuance of such Additional Bonds; and

(g) Such further documents, moneys and securities as are required by the provisions of the Supplemental Indenture.

Anything in the Senior Indenture to the contrary notwithstanding, Additional Bonds may bear interest which is included in gross income for federal income tax purposes under the Code, in which event provisions in the Senior Indenture requiring or referencing the exclusion of interest on Bonds of gross income for federal income tax purposes may be ignored or modified, as appropriate, as set forth in an opinion of Bond Counsel.

## **DEFAULTED INTEREST**

Defaulted Interest (as defined in the forepart of this Official Statement) with respect to any 2017A Bond shall cease to be payable to the Owner of such 2017A Bond on the relevant Record Date and shall be payable to the Owner in whose name such 2017A Bond is registered at the close of business on the Special Record Date for the payment of such Defaulted Interest, which Special Record Date shall be fixed in the following manner: the Commission shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each 2017A Bond and the date of the proposed payment (which date shall be such as will enable the Trustee to comply with the next sentence hereof), and shall deposit with the Trustee at the time of such notice an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment; money deposited with the Trustee shall be held in trust for the benefit of the Owners of the 2017A Bonds entitled to such Defaulted Interest. Following receipt of such funds the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 nor less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Commission of such Special Record Date and, in the name and at the expense of the Commission, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first-class postage prepaid, to each Owner of a 2017A Bond entitled to such notice at the address of such owner as it appears on the Bond Register not less than 10 days prior to such Special Record Date.

## **APPROVED AND PARITY SWAP OBLIGATIONS**

The Commission may enter into one or more contracts having an interest rate, currency, cash-flow, or other basis desired by the Commission (a “Swap Agreement”), including, without limitation, interest rate swap agreements, currency swap agreements, forward payment conversion agreements, futures contracts, contracts providing for payments based on levels of or changes in interest rates, currency exchange rates, stock or other indices, or contracts to exchange cash flows or a series of payments, and contracts including, without limitation, interest rate floors or caps, options, puts or calls to hedge payment, currency rate, spread or similar exposure. In the event the Commission wishes the payments to be made and received by the Commission under the Swap Agreement to be taken into

account in any calculation of Annual Debt Service under the Senior Indenture, the Commission shall file with the Trustee the following on or before entering into the Swap Agreement (in which event such Swap Agreement shall constitute an “Approved Swap Agreement”):

- (a) A copy certified by a Commission Official of the resolution or resolutions of the Commission authorizing the execution and delivery of the Swap Agreement (no Supplemental Indenture being required unless the Commission determines it to be necessary or appropriate);
- (b) An original executed counterpart of the Swap Agreement;
- (c) An opinion of Bond Counsel addressed to the Commission and to the Trustee, to the effect that execution of the Swap Agreement is permitted under the laws of the Commonwealth and will not adversely affect the exclusion from gross income from interest on any Bonds for federal income tax purposes; provided that if the Swap Agreement relates to Bonds being issued and the Swap Agreement is entered into prior to the issuance of such Bonds, the portion of the opinion of Bond Counsel referring to tax-exempt status of the Bonds need not be delivered until such Bonds are issued;
- (d) A certificate of the Commission, signed by a Commission Official, that the Commission is not under default under the Senior Indenture;
- (e) Evidence that the execution of the Swap Agreement will not result in a reduction or withdrawal of the rating then assigned to any Bonds by the Rating Agency;
- (f) Evidence that the provisions with respect to Approved Swap Agreements described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS — Additional Bonds Test” have been met; and
- (g) Such further documents as are required by the Swap Agreement or Bond Counsel.

In the event the Commission wishes to enter into an Approved Swap Agreement and to have its obligations thereunder be on parity with all Bonds and other Parity Obligations, it shall file with the Trustee the items set forth above, together with a Supplemental Indenture granting such parity position (in which event, such Swap Agreement shall constitute a “Parity Swap Agreement”). Upon entering into a Parity Swap Agreement, unless otherwise provided in the Supplemental Indenture, the Commission shall pay to the Trustee for deposit into the Interest Account the net amount payable, if any, to the Parity Swap Agreement Counterparty as if such amounts were additional amounts of interest due; and the Trustee shall pay on behalf of the Commission to the Parity Swap Agreement Counterparty, to the extent required under the Parity Swap Agreement, amounts deposited in the Interest Account. Net amounts received by the Commission or the Trustee from the counterparty pursuant to a Parity Swap Agreement shall be deposited to the credit of the Interest Account or to such other account as designated by a Commission Official.

Amounts paid by or to the Commission pursuant to Approved Swap Agreements which do not constitute Parity Swap Agreements shall not be required to be made through the Trustee as described in the preceding paragraph (but shall be taken into account in calculation of Annual Debt Service as provided in the definition of such term).

## **CONVERSIONS OF VARIABLE RATE INDEBTEDNESS TO FIXED RATE INDEBTEDNESS**

The Senior Indenture provides that the Commission may convert Variable Rate Indebtedness to a fixed rate if permitted pursuant to the terms thereof and if the Commission was in compliance with the Rate Covenant for the most recently completed Fiscal Year. If the Commission did not meet the Rate Covenant for such Fiscal Year, the Commission must treat the proposed conversion as if it constituted the issuance of Additional Bonds by meeting the requirements set forth in the Senior Indenture (computing the Annual Debt Service with respect to such Variable Rate Indebtedness proposed to be converted as bearing interest at the Bond Buyer Index or such other rate as identified by a Financial Consultant as being more appropriate under the circumstances).

## **REDEMPTION OF BONDS**

The Bonds of any Series issued under the provisions of the Senior Indenture shall be subject to redemption, in whole or in part, and at such times and prices as may be provided in the Supplemental Indenture pursuant to which such Bonds are issued. The provisions for redemption of the 2017A Bonds are described in the forepart of this Official Statement under “DESCRIPTION OF THE 2017A BONDS – Redemption of 2017A Bonds.”

At the option of the Commission, to be exercised by delivery of a certificate of a Commission Official to the Trustee on or before the 45th day next preceding any scheduled mandatory redemption date, it may (1) deliver to the Trustee for cancellation 2017A Bonds subject to scheduled mandatory redemption on that date or portions thereof in authorized denominations or (2) specify a principal amount of 2017A Bonds or portions thereof in authorized denominations which prior to said date have been purchased or redeemed (otherwise than pursuant to this paragraph) and canceled by the Trustee at the request of the Commission and not theretofore applied as a credit against any scheduled mandatory redemption payment. Each 2017A Bond or portion thereof so delivered or previously redeemed shall be credited by the Trustee at the principal amount thereof against the obligation of the Commission to redeem 2017A Bonds on the scheduled mandatory redemption date or maturity date or dates designated in writing to the Trustee by the Commission Official occurring at least forty-five (45) days after delivery of such designation to the Trustee, provided that if no such designation is made, such credit shall not be credited against such obligation.

In the event a portion, but not all, of the 2017A Bonds maturing on a particular date and bearing interest at the same rate are purchased or redeemed pursuant to optional redemption, then the principal amount of any remaining mandatory sinking fund redemptions and principal maturity applicable to such 2017A Bonds shall be proportionately reduced (subject to the Trustee making such adjustments as it deems necessary to be able to effect future redemptions of the 2017A Bonds in authorized denominations) unless the Commission has designated an alternate reduction of remaining mandatory sinking fund redemptions as described above.

## **NOTICE OF REDEMPTION**

The provisions for notice of redemption for the 2017A Bonds are further described in the forepart of this Official Statement under “DESCRIPTION OF THE 2017A BONDS – Redemption of 2017A Bonds.”

On or before the date fixed for redemption, subject to the provisions described above, moneys shall be deposited with the Trustee to pay the principal of, redemption premium, if any, and interest accrued to the redemption date on the Bonds called for redemption. Upon the deposit of such moneys, unless the Commission has given notice of rescission as described herein, the Bonds shall cease to bear interest on the redemption date and shall no longer be entitled to the benefits of the Senior Indenture (other than for payment and transfer and exchange) and shall no longer be considered Outstanding.

## **CONSTRUCTION FUND**

The Senior Indenture creates a special fund known as the “Construction Fund”, which shall be held in trust by the Trustee. Money shall be deposited to the Construction Fund pursuant to the provisions of the Senior Indenture and from any other sources identified by the Commission. Payment of the costs of the construction portion of any Project shall be made from the Construction Fund. A special account shall be created and identified for each such construction project, although funds, at the written direction of the Commission, may be transferred from one such account in the Construction Fund to another account in such Fund. Moneys in the Construction Fund may be disbursed by the Trustee to the Commission upon the filing by the Commission of a requisition, signed by the Chief Engineer (or his designee) and a Commission Official meeting the requirements of the Senior Indenture.

If at any time a Commission Official shall file with the Trustee a certificate stating that the cost of a Project has been finally determined and that the funds remaining in the account established for such Project exceed the remaining costs of the Project, then an amount equal to such excess shall be transferred to such fund or account as directed in the certificate, provided the same is accompanied by an opinion of Bond Counsel to the effect that such transfer and/or application will not adversely affect the tax-exempt status of the interest of the applicable Bonds.

## **RATE COVENANT**

The Senior Indenture contains the Rate Covenant which is described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—Rate Covenant.”

## **COVENANTS AS TO TOLLS**

The Commission covenants with respect to Tolls as described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—Rate Covenant.”

## **COVENANTS OF THE COMMISSION**

In addition to the Rate Covenant and covenants as to Tolls described above, in the Senior Indenture the Commission also makes various other covenants, including the following covenants:

*Payment of Principal, Interest and Premium.* The Commission covenants in the Senior Indenture that it will promptly pay the principal of, premium, if any, and the interest on every Bond issued under the provisions of the Senior Indenture at the places, on the dates and in the manner provided in the Senior Indenture and in said Bonds. Except as otherwise provided in the Senior Indenture, the principal, interest and premium are payable solely from Revenues, which Revenues are pledged pursuant to the Senior Indenture to the payment thereof in the manner and to the extent provided in the Senior Indenture. Neither the general credit of the Commission nor the general credit nor the taxing power of the Commonwealth or any political subdivision, agency or instrumentality thereof is pledged for the payment of the Bonds.

*Annual Operating Budget; Capital Budget.* The Commission covenants in the Senior Indenture that on or before the 31st day of May (or such other date as is consistent with the Commission’s policies then in effect) in each Fiscal Year it will adopt a budget for the ensuing Fiscal Year (the “Annual Operating Budget”). Copies of each Annual Operating Budget shall be provided to the Trustee. Prior to adopting the Operating Budget, the Commission shall provide a draft of such budget to the Consulting Engineer sufficiently in advance of the adoption of such Annual Operating Budget in order for the Consulting Engineer to provide comments before such adoption. The Commission further covenants in the Senior Indenture that it will prepare each such Annual Operating Budget on the basis of monthly requirements, so that it will be possible to determine the Current Expenses for each month during the Fiscal Year.

If for any reason the Commission shall not have adopted the Annual Operating Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, shall, until the adoption of the Annual Operating Budget, be deemed to be in force and shall be treated as the Annual Operating Budget.

The Commission may adopt an amended or supplemental Annual Operating Budget at any time for the remainder of the then current Fiscal Year. Copies of any such amended or supplemental Annual Operating Budget shall be provided to the Trustee.

The Commission further covenants in the Senior Indenture that it will adopt a capital budget (the “Annual Capital Budget”) on or before May 31st of each Fiscal Year. The Annual Capital Budget will detail the Commission’s planned capital expenditures over a period of up to 10 years and the portion of capital expenditures expected to be funded from the Reserve Maintenance Fund. The Annual Capital

Budget shall include the expected beginning balance in the Reserve Maintenance Fund, the amounts to be transferred by the Trustee to the Reserve Maintenance Fund from the General Reserve Fund, the amount of bond proceeds expected to become available during the Fiscal Year, the amounts expected to be transferred monthly by the Trustee from the Revenue Fund, and the desired year-end balance in the Reserve Maintenance Fund. Prior to adopting the Annual Capital Budget, the Commission shall provide a draft of the capital budget to the Consulting Engineer a sufficient time in advance of the Commission's adoption of the Annual Capital Budget in order for the Consulting Engineer to provide comments before the date of such adoption. The Commission may adopt amendments or supplements to the Annual Capital Budget at any time. Copies of the Annual Capital Budget shall be made available to the Trustee.

*Limitations on Issuance of Additional Bonds and Execution of Approved Swaps.* The Commission has covenanted in the Senior Indenture with respect to issuance of Additional Bonds and execution of Approved Swap Agreements as described in the section in the forepart of this Official Statement captioned "SECURITY FOR THE 2017A BONDS—Additional Bonds Test."

*Use and Operation of System.* The Commission covenants in the Senior Indenture that it will: (a) maintain and operate the System in an efficient and economical manner, (b) maintain the System in good repair and will make all necessary repairs, renewals and replacements, to the extent funds are available therefor under the Senior Indenture, and (c) comply with laws and all rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to such System, subject to the right of the Commission to contest the same in good faith and by appropriate legal proceedings.

*Inspection of the System.* The Commission shall make arrangements for the System to be inspected at least once every three years by engaging one or more Consultants to conduct the actual inspections and to prepare a report. Such report shall state (a) whether the System has been maintained in good repair, working order and condition since the last inspection report pursuant to this Section and (b) any recommendations which such Consultants may have as to revisions or additions to the Commission's Annual Capital Budget. Copies of such reports shall be filed with the Trustee.

*Construction of Projects.* The Commission covenants in the Senior Indenture that it will proceed with diligence to construct any Projects in conformity with law and all requirements of all governmental authorities having jurisdiction thereover. Before entering into any construction contract it will secure the approval of the plans and specifications for such contract by a certified engineer or architect, who may be an employee of the Commission, and that it will require each Person, firm or corporation with whom it may contract in connection with the construction of any Project to furnish (1) a performance bond for 100% of the contract amount, and (2) a payment bond for 100% of the contract amount. Each of such bonds shall be executed by one or more responsible surety companies authorized to do business in the Commonwealth. Any proceeds received from such bonds first shall be applied toward the completion of the applicable Project and second shall be deposited in the General Reserve Fund. Construction contracts for labor and/or materials also shall provide that payments thereunder shall not be made by the Commission in excess of 95% of current estimates except that (i) once the work is at least 50% complete, (ii) where waiver of retainage is necessary in the opinion of the Chief Engineer, based on the advice of the Chief Counsel, to comply with or facilitate compliance with state or federal law in order to receive state or federal funds, such retainage may be reduced by the Chief Engineer or another Commission Official to the extent such officer deems such reduction to be necessary or appropriate.

The Commission shall involve the Consulting Engineer or another Consultant to assist in quality assurance matters in connection with design and/or construction of any Project or portion thereof to the extent the Commission determines necessary or appropriate. For purposes of this subsection, "quality assurance" shall be defined to mean those activities, from inception to completion of a Project, which are necessary to ensure that the processes are in place to produce a quality product.

*Employment of Consulting Engineers.* The Commission covenants in the Senior Indenture to employ an independent engineer or engineering firm or corporation having a national reputation for skill

and experience in such work to perform any functions of the Consulting Engineer under the Senior Indenture.

*Insurance.* The Commission covenants in the Senior Indenture that it will keep the System and its use and operation thereof insured (including through self-insurance) at all times in such amounts, subject to such exceptions and deductibles and against such risks, as are customary for similar organizations. All insurance policies shall be carried with a responsible insurance company or companies authorized to do business in the Commonwealth or shall be provided under a self-insurance program; any self-insurance program shall be actuarially sound in the written opinion of an accredited actuary, which opinion shall be filed with the Trustee at least annually. At any time and from time to time, the Commission may elect to terminate self-insurance of a given type. Upon making such election, the Commission shall, to the extent then deemed necessary by a Consultant, obtain and maintain comparable commercial insurance.

On July 1, 2003 and every three years thereafter (except with respect to self-insurance, which shall be annually), the Commission shall cause a Consultant to certify to the Trustee that (a) it has reviewed the adequacy of the Commission's insurance, listing the types and amounts of insurance, and (b) it finds such coverage to be reasonable and customary for similar organizations. If the Consultant concludes that coverage other than that which is currently carried by the Commission should be carried, the Commission shall obtain such insurance coverage unless it determines in good faith that it is unreasonable or uneconomical to obtain such coverage and certifies the same in writing to the Trustee.

All insurance policies maintained by the Commission shall be available at reasonable times for inspection by the Trustee, its agents and representatives.

The Commission covenants that it will take such actions as it deems necessary to demand, collect and sue for any proceeds that may become due and payable to it under any policy

*Damage or Destruction.* Immediately after any damage to or destruction of any part of the System which materially adversely affects the Revenues of the Commission, the Commission will promptly take action to repair, reconstruct or replace the damaged or destroyed property or to otherwise ameliorate the adverse impact on Revenues.

*Annual Audit.* The Commission covenants in the Senior Indenture that it will cause an annual audit to be made of its books and accounts of each Fiscal Year by an independent certified public accountant. A copy of such audit shall be filed with the Trustee promptly after the receipt by the Commission for such purpose.

*Encumbrance of Revenues; Sale, Lease or Other Disposition of Property.* The Commission covenants in the Senior Indenture that so long as any Bonds are Outstanding under the Senior Indenture:

(a) (1) It will not create or suffer to be created any lien or charge upon any Revenues, except the lien and charge of the Bonds secured by the Senior Indenture and any Subordinated Indebtedness permitted pursuant to the provisions of the Senior Indenture; and (2) from such Revenues or other funds available under the Senior Indenture, it will pay or cause to be discharged, or will make adequate provision to pay or discharge, within ninety (90) days after the same shall accrue, all lawful claims and demands for labor, materials or supplies which, if unpaid, might by law become a lien upon any Revenues; provided, however, that the Commission shall not be required to pay or discharge, or make provision for such payment or discharge of, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.

(b) The Commission will not sell or otherwise dispose of any real estate or personal property comprising a portion of the System unless the Commission determines (1) such property (i) has become obsolete or worn out or is reasonably expected to become so within one year after the date of such disposition, (ii) is no longer used or useful in the operation of the System or in the generation of Revenues or (iii) is to be or has been replaced by other property; or (2) by resolution that such action will not materially adversely affect the Net Revenues of the Commission.

The Commission shall have the discretion to deposit the proceeds of such sale or disposition in a fund or account held under the Senior Indenture or a Commission account held outside the Senior Indenture, as it deems appropriate. In the event the Commission did not meet the Rate Covenant during the preceding Fiscal Year, however, the Commission shall notify the Trustee of the sale or disposition of any property which generated Net Revenues in excess of one percent of the Commission's Net Revenues during the prior Fiscal Year and all proceeds from such sale or disposition shall be deposited in the Revenue Fund.

(c) The Commission will not lease any real estate or personal property comprising a portion of the System unless the Commission determines by resolution that such action will not materially adversely affect the Net Revenues of the Commission. The rental and other proceeds from any lease shall not be required to be deposited in the Revenue Fund unless the effect of such lease is to reduce Tolls.

Without intending to limit the foregoing, the Commission also may enter into contracts or other forms of agreement for the use of any real estate comprising a portion of the System including, but not limited to, rights of way for telephone, telegraph, optic fiber and other forms of communication, electric, gas transmission and other lines or facilities for utilities, and other uses which do not materially adversely affect the operation of the System and the payments received in connection with the same shall be deposited in such accounts (which may be outside the Senior Indenture) as the Commission shall determine.

## **CREATION OF FUNDS**

In addition to the Construction Fund and the Alternate Construction Fund, and any other funds created by Supplemental Indentures, the Senior Indenture creates the following funds: Operating Account; Revenue Fund; Debt Service Fund; Debt Service Reserve Fund; Reserve Maintenance Fund; General Reserve Fund; and Rebate Fund. Amounts deposited therein shall be held in trust by the Trustee until applied as directed in the Senior Indenture.

## **REVENUE FUND; AGREEMENTS WITH OTHER TURNPIKES**

The Commission covenants in the Senior Indenture that all Revenues will be deposited daily, as far as practicable, with the Trustee or in the name of the Trustee with a Depositary or Depositaries, to the credit of the Revenue Fund.

The Senior Indenture provides that, to the extent authorized by law, the Commission may enter into agreements with any commission, authority or other similar legal body operating a turnpike, whether or not connected to the System, (1) with respect to the establishment of combined schedules of Tolls and/or (2) for the collection and application of Tolls charged for trips over all or a portion of both turnpikes combined, which on the basis of the Revenues to be received by any such agreement will result in the receipt by the Commission of its allocable portion of such Tolls (less fees and expenses associated with such arrangement). To the extent now or hereafter authorized by law, the Commission also may enter into agreements with other Persons with respect to the collection of Tolls or advances or prepayment of Tolls charged for trips over all or a portion of the System, which on the basis of the Revenues to be received by any such agreement will result in the receipt by the Commission of the appropriate Tolls for such trips. Unless approved by a Consultant, no agreement establishing a combined schedule of Tolls shall restrict the ability of the Commission to implement an increase in its Tolls at least annually.

Amounts received by the Commission from such other commission, authority or other similar legal body or Person, in accordance with such agreements, shall be deposited in the Revenue Fund when they constitute Revenues. Such amounts may be held with a Depositary or Depositaries until they constitute Revenues. Amounts received by the Commission and deposited in the Revenue Fund which are payable by the Commission to such other commission, authority or other similar legal body or Person, in accordance with any such agreements, shall be withdrawn by the Trustee from the Revenue Fund upon delivery to the Trustee of a certificate of a Commission Official that such withdrawal is required pursuant

to the terms of an agreement entered into pursuant to this Section and shall be paid by the Trustee in accordance with directions contained in such certificate.

Except as otherwise provided in the provisions described above, transfers from the Revenue Fund shall be made to the following funds and in the following order of priority: (1) Rebate Fund; (2) Operating Account; (3) Debt Service Fund; (4) Reserve Maintenance Fund; (5) Debt Service Reserve Fund; and (6) General Reserve Fund (after retaining such funds in the Revenue Fund as are identified in the certificate described below under “General Reserve Fund”).

## **OPERATING ACCOUNT**

The Senior Indenture provides that the Commission shall establish an account known as the “Operating Account” which is described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—Operating Account.”

## **DEBT SERVICE FUND**

The Senior Indenture creates two separate accounts in the Debt Service Fund to be known as the “Interest Account” and the “Principal Account.”

The Trustee and the Commission may create such additional accounts in the Debt Service Fund pursuant to a Supplemental Indenture as they deem necessary or appropriate, including, but not limited to, (a) an account into which drawings on a Credit Facility are to be deposited and from which principal (including redemption price) and Purchase Price of and interest on the Series of Bonds secured by such Credit Facility are to be paid (and upon such payment, amounts on deposit in the Principal and Interest Accounts for such Bonds shall be used to repay the provider of the Credit Facility for such payments), and (b) an account into which payments to the Commission to any Parity Swap Counterparty are to be deposited and from which payments to such Parity Swap Counterparty are to be paid.

The Trustee shall make deposits into the Debt Service Fund as described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—Debt Service Fund.”

The moneys in the Interest and Principal Accounts shall be held by the Trustee in trust for the benefit of the Bonds, to the extent the foregoing are payable from such accounts, and, to said extent and pending application, shall be subject to a lien and charge in favor of the Owners of the Bonds until paid out or transferred as provided in the Senior Indenture. There shall be withdrawn from the Interest Account (and any available capitalized interest) and the Principal Account from time to time and set aside or deposited with the Trustee sufficient money for paying the interest on and the principal of and premium on the Bonds as the same shall become due, except to the extent such interest, principal or other amounts are payable from a fund or account other than the Debt Service Fund as provided in any Supplemental Indenture.

If at the time the Trustee is required to make a withdrawal from the Debt Service Fund the moneys therein shall not be sufficient for such purpose, the Trustee shall withdraw the amount of such deficiency from the moneys on deposit in the following funds or accounts and transfer the same to the Debt Service Fund in the following order: the Debt Service Reserve Fund, the General Reserve Fund, and the Reserve Maintenance Fund.

With respect to any Bonds for which Subsidy Payments are scheduled to be received by the Commission, the Commission shall deposit or cause to be deposited all such Subsidy Payments, as and when received, into a separate account of the Debt Service Fund held for each such Series of Bonds, and such Subsidy Payments shall be applied to pay debt service on the corresponding Series of Bonds with respect to which such Subsidy Payments are received.



## **RESERVE MAINTENANCE FUND**

In each Fiscal Year, after first having made the deposits to the Revenue Fund, Operating Account and Debt Service Fund provided by the provisions described above, the Trustee shall transfer from the Revenue Fund on or before the last Business Day of each month to the credit of the Reserve Maintenance Fund the amount shown in the Annual Capital Budget for the ensuing month. The provisions regarding the Reserve Maintenance Fund are further described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—Reserve Maintenance Fund.”

## **DEBT SERVICE RESERVE FUND**

The Senior Indenture establishes a Debt Service Reserve Fund and provides that a special account within the Debt Service Reserve Fund may be created with respect to each series of Debt Service Reserve Fund Bonds issued under the Senior Indenture and any Supplemental Indenture.

In each Fiscal Year, after first having made the deposits to the Operating Account, Debt Service Fund and Reserve Maintenance Fund described above, the Trustee shall transfer from the Revenue Fund on or before the last day of each month to the credit of the Debt Service Reserve Fund (a) the amount, if any, required to make the amount on deposit in the Debt Service Reserve Fund equal to the Debt Service Reserve Requirement which restoration, as implied by the Rate Covenant, is intended to occur within eighteen (18) months; and (b) the amount set forth in a Supplemental Indenture if an amount different from the Debt Service Reserve Requirement is required.

To the extent accounts are created in the Debt Service Reserve Fund for Debt Service Reserve Fund Bonds, the funds and DSRF Security, as hereinafter defined, held therein shall be available to make payments required under the Senior Indenture for the benefit of all Debt Service Reserve Fund Bonds.

Moneys held in the Debt Service Reserve Fund shall be used for the purpose of paying interest on, maturing principal and mandatory sinking fund redemption price of Debt Service Reserve Fund Bonds whenever and to the extent that the moneys held for the credit of the Debt Service Fund shall be insufficient for such purpose. If at any time the moneys and the principal amount of any DSRF Security held in the Debt Service Reserve Fund shall exceed the Debt Service Reserve Requirement, the Commission shall direct whether such excess moneys shall be transferred by the Trustee to the credit of the General Reserve Fund or used to reduce the principal amount of any DSRF Security.

In the event the Trustee shall be required to withdraw funds from the Debt Service Reserve Fund to restore a deficiency in the Debt Service Fund arising with respect to Debt Service Reserve Fund Bonds, the amount of such deficiency shall be allocated pro rata among such Bonds.

In lieu of the deposit of moneys into the Debt Service Reserve Fund, the Commission may cause to be provided a surety bond, an insurance policy, a letter of credit or similar financial instrument satisfactory to the Rating Agency (as evidenced by a letter from the Rating Agency confirming that the DSRF Security will not result in the rating on any outstanding Bonds being downgraded) (each, a “DSRF Security”) payable to the Trustee for the benefit of the Bondholders in an amount equal to the difference between the Debt Service Reserve Requirement and the amounts then on deposit in the Debt Service Reserve Fund. The DSRF Security shall be payable (upon the giving of notice as required thereunder) on any Interest Payment Date on which moneys will be required to be withdrawn from the Debt Service Reserve Fund and applied to the payment of the principal of or interest on any Bonds to the extent that such withdrawals cannot be made by amounts on deposit in the Debt Service Reserve Fund.

If a disbursement is made pursuant to a DSRF Security, the Commission shall be obligated either (a) to reinstate the maximum limits of such DSRF Security or (b) to deposit into the Debt Service Reserve Fund, funds in the amount of the disbursement made under such DSRF Security, or a combination of such alternatives, as shall provide that the amount credited to the Debt Service Reserve Fund equals the Debt Service Reserve Requirement within a time period of eighteen (18) months.

If the DSRF Security shall cease to have a rating described in the second preceding paragraph, the Commission shall use reasonable efforts to replace such DSRF Security with one having the required rating, but shall not be obligated to pay, or commit to pay, increased fees, expenses or interest in connection with such replacement or to deposit Revenues in the Debt Service Reserve Fund in lieu of replacing such DSRF Security with another.

## **GENERAL RESERVE FUND**

After first having made the deposits to the Operating Account, Debt Service Fund, Reserve Maintenance Fund and Debt Service Reserve Fund described above, the Trustee shall transfer from the Revenue Fund on or before the last Business Day of each year (or more frequently if requested by a Commission Official) to the credit of the General Reserve Fund any funds which a Commission Official determines to be in excess of the amount required to be reserved therein for future transfers to the Debt Service Fund. The provisions regarding the General Reserve Fund are further described in the section in the forepart of this Official Statement captioned “SECURITY FOR THE 2017A BONDS—General Reserve Fund.”

## **REBATE FUND**

The Senior Indenture authorizes the creation of a Rebate Fund. The Commission covenants in the Senior Indenture to calculate and to pay directly to the government of the United States of America all amounts due for payment of “arbitrage rebate” under Section 148(f) of the Code with respect to any Bonds. Nevertheless, the Commission in the future may deposit with the Trustee or direct the Trustee to deposit in the Rebate Fund amounts held in any Fund under the Senior Indenture for any or all Series of Bonds (which direction shall specify the procedures for collection and payment of amounts due in respect of arbitrage rebate) if (a) required under any amendments to Section 148(f) of the Code or (b) the Commission otherwise determines that the funding of the Rebate Fund is necessary or appropriate. The Rebate Fund is a trust fund but the amounts therein do not constitute part of the Trust Estate. Amounts on deposit in the Rebate Fund may be used solely to make payments to the United States of America under Section 148 of the Code and to pay costs related to the calculation of the amounts due. Upon satisfaction of the Commission’s covenants described above, any amounts remaining in the Rebate Fund shall be deposited in the General Reserve Fund.

## **ALTERNATE CONSTRUCTION FUND**

In connection with any Supplemental Indenture executed on or after December 18, 2014 for capital projects where the Commission expects to receive monies from the federal government for reimbursement of costs associated with such capital projects, the Commission shall create a separate Alternate Construction Fund for such Additional Bonds for deposit and disbursement of certain funds which shall not include proceeds of Bonds issued or outstanding under the Senior Indenture. Monies to be deposited in the Alternate Construction Fund shall consist of monies received and identified for deposit thereto by the Commission from the federal government for reimbursement of costs associated with the various capital expenditures to be financed by such Additional Bonds. Monies in an Alternate Construction Fund may only be requisitioned after all the proceeds of such Additional Bonds have been requisitioned from the applicable Account of the Construction Fund.

If at any time a Commission Official shall file with the Trustee a certificate stating that the cost of the applicable capital expenditure has been finally determined and that the funds remaining in the Alternate Construction Fund exceed the remaining costs thereof, then an amount equal to such excess shall be transferred to a fund described in such certificate, provided the same is accompanied by an opinion of Bond Counsel to the effect that such transfer and/or application will not adversely affect the tax-exempt status of the interest of such Additional Bonds.

Such an Alternate Construction Fund has been created in connection with the issuance of the 2017A Bonds.

## **ADDITIONAL SECURITY; PARITY WITH OTHER PARITY OBLIGATIONS**

Except as otherwise provided or permitted in the Senior Indenture, the Trust Estate securing all Bonds issued under the terms of the Senior Indenture shall be shared on a parity with other Parity Obligations on an equal and ratable basis. The Commission may, however, in its discretion, provide additional security or credit enhancement for specified Parity Obligations with no obligation to provide such additional security or credit enhancement to other Parity Obligations, except that no additional security or credit enhancement shall be provided unless there shall have been first delivered to the Trustee an opinion of Bond Counsel that the exclusion from gross income of interest on any Bonds for federal income tax purposes will not be adversely affected thereby. Moreover, the Commission may provide in a Supplemental Indenture that Bonds issued thereunder are not secured, or are secured only in part or only under certain circumstances, by the Trust Estate.

## **DEPOSITARIES; INVESTMENT OF MONEYS**

Except as otherwise provided in the Senior Indenture, all moneys received by the Commission under the provisions of the Senior Indenture shall be deposited with the Trustee or with one or more Depositaries. All moneys deposited under the provisions of the Senior Indenture with the Trustee or any other Depositary shall be held in trust, credited to the particular fund or account to which such moneys belong and applied only in accordance with the provisions of the Senior Indenture. No moneys shall be deposited with any Depositary, other than the Trustee, in an amount exceeding fifty per centum (50%) of the amount which an officer of such Depositary shall certify to the Commission as the combined capital and surplus of such Depositary. All moneys deposited with the Trustee or any other Depositary under the Senior Indenture shall, to the extent not insured, be secured in the manner required or permitted by applicable law.

Moneys held in any of the funds or accounts under the Senior Indenture may be retained uninvested, if deemed necessary by the Commission, as trust funds and secured as provided above or may be invested in Permitted Investments. All investments made pursuant to the Senior Indenture shall be subject to withdrawal or shall mature or be subject to repurchase or redemption by the holder, not later than the earlier of (a) the date or dates set forth for similar investments in the applicable Supplemental Indenture or (b) the date on which the moneys may reasonably be expected to be needed for the purpose of the Senior Indenture.

Investments acquired with the moneys in any fund or account shall be a part of such fund or account and, for the purposes of determining the amount in such fund or account, shall be valued at their then fair market value. The interest or income received on an investment shall remain in the fund or account to which the investment is credited except to the extent otherwise provided in the applicable Supplemental Indenture.

The Trustee shall withdraw, redeem or sell all or a portion of any investment upon receipt of the written direction from the Commission or upon a determination by the Trustee that moneys in such fund or account are to be applied or paid by the Trustee pursuant to the provisions of the Senior Indenture, and the proceeds thereof shall be deposited by the Trustee in the appropriate fund or account. Neither the Trustee nor the Commission shall be liable or responsible for any depreciation in the value of the Permitted Investments or for any losses incurred upon any unauthorized disposition thereof.

Each fund held under the Senior Indenture shall be valued by the Trustee at least once annually within thirty days after the end of each Fiscal Year.

## **EVENTS OF DEFAULT**

Each of the following is an “Event of Default” under the Senior Indenture:

- (a) Default in the payment of any installment of principal, redemption premium, if any, interest or other amount due on any Bond when the same becomes due and payable;
- (b) Default in the payment by the Commission of any other Parity Obligation;
- (c) Subject to the provisions relating to notice and opportunity to cure certain defaults, default in the performance or breach of any covenant, warranty or representation of the Commission contained in the Senior Indenture (other than a default under (a) and (b) above);
- (d) The occurrence of any Event of Default under any Supplemental Indenture; or
- (e) (1) The occurrence of an Event of Bankruptcy of the Commission; (2) the appointment of a receiver, liquidator, assignee, custodian, trustee, sequestrator or other similar official of the Commission or of any substantial portion of its property, which appointment shall not have been rescinded or stayed within ninety (90) days after taking effect; or (3) the ordering of the winding up or liquidation of the affairs of the Commission.

No default under paragraph (c) above under “Events of Default” shall constitute an Event of Default until written notice of such default shall have been given to the Commission by the Trustee or by the holders of at least 25% in aggregate principal amount of the Bonds Outstanding, and the Commission shall have had thirty (30) days after receipt of such notice to correct such default or cause such default to be corrected, and shall have failed to do so. In the event, however, that the default is such that it cannot be corrected within such thirty (30) day period, it shall not constitute an Event of Default if corrective action is instituted by the Commission within such period and diligently pursued (as determined by the Trustee) until the default is corrected.

## **REMEDIES UPON DEFAULT**

If an Event of Default occurs and is continuing, the Trustee may, and upon the written request to the Trustee by the holder or holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding shall, subject to the requirement that the Trustee be provided with indemnity satisfactory to it, by written notice to the Commission, declare the principal and interest on of the Bonds to the date of acceleration to be immediately due and payable.

At any time after such a declaration of acceleration has been made and before the entry of a judgment or decree for payment of the money due, the Trustee may, or the holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding, may by written notice to the Commission and the Trustee, and subject to the provision to the Trustee of satisfactory indemnity, direct the Trustee to rescind and annul such declaration and its consequences if: (1) there has been paid to or deposited with the Trustee by or for the account of the Commission, or provision satisfactory to the Trustee has been made for the payment of a sum sufficient to pay: (i) all overdue installments of interest on the Bonds; (ii) the principal of and redemption premium, if any, on any Bonds which have become due other than by such declaration of acceleration and interest thereon; (iii) all amounts due on other Parity Obligations; (iv) to the extent lawful, interest upon overdue installments of interest and redemption premium, if any; and (v) all sums paid or advanced by the Trustee under the Senior Indenture, together with the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel prior to the date of notice of rescission; and (2) all Events of Default, other than those described in paragraphs (a) and (b) above under “Events of Default”, if any, which have occasioned such acceleration, have been cured or waived.

No such rescission and annulment shall affect any subsequent default or impair any consequent right.

## **ADDITIONAL REMEDIES**

The Trustee, upon the occurrence of an Event of Default may, and upon the written request of the holders of not less than a majority in aggregate principal amount of the Bonds Outstanding and subject to the requirement that the Trustee be provided with satisfactory indemnity, shall proceed to protect and enforce its rights and the rights of the holders of the Bonds under the Senior Indenture by a suit or suits in equity or at law, either for the specific performance of any covenant or agreement contained in the Senior Indenture or in aid of the execution of any power in the Senior Indenture granted, or for the enforcement of any other appropriate legal or equitable remedy, and the Trustee in reliance upon the advice of counsel may deem most effective to protect and enforce any of the rights or interests of the Bondholders under the Bonds or the Senior Indenture.

## **TRUSTEE MAY FILE PROOFS OF CLAIM**

In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding under the Bankruptcy Law relating to the Commission, any other obligor upon the Bonds or any property of the Commission, the Trustee (whether or not the principal of the Bonds shall then be due and payable by acceleration or otherwise, and whether or not the Trustee shall have made any demand upon the Commission for the payment of overdue principal, redemption premium, if any, and interest) shall be entitled and empowered, by intervention in such proceeding or other means: (1) to file and prove a claim for the whole amount of the principal, redemption premium, if any, and interest owing and unpaid in respect of the Bonds then Outstanding or for breach of the Senior Indenture and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel) and of the holders allowed in such proceeding; and (2) to collect and receive any moneys or other property payable or deliverable on any such claims and to distribute the same; and any receiver, assignee, trustee, liquidator, sequestrator or similar official in any such judicial proceeding is authorized pursuant to the Senior Indenture by each holder to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the holders, to pay to the Trustee any amount due it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under the Senior Indenture. No provision of the Senior Indenture empowers the Trustee to authorize or consent to or accept or adopt on behalf of any Bondholders any plan of reorganization, arrangement, adjustment or composition affecting any of the Bonds or the rights of any holder thereof, or to authorize the Trustee to vote in respect of the claim of any holder in any proceeding described in the preceding sentence.

## **PRIORITY OF PAYMENT FOLLOWING EVENT OF DEFAULT**

Any portion of the Trust Estate held or received by the Trustee, by any receiver or by any Bond Owner pursuant to any right given or action taken under the provisions of the Senior Indenture, after payment of the costs and expenses of the proceedings resulting in the collection of such moneys and of the fees, expenses and liabilities incurred by the Trustee and the transfer to Secured Owners (other than Owners of the Bonds) of amounts to which they are entitled by virtue of their parity position, shall be deposited and applied as follows:

(a) If the principal of all the Bonds then Outstanding and the interest accrued thereon has been declared to be due and payable immediately pursuant to the acceleration provisions described above (or, but for any legal prohibition on such declaration of acceleration, such principal and interest would have been declared to be due and payable immediately pursuant to such Section or the provisions of any applicable Reimbursement Agreement) and such declaration has not been rescinded and annulled, there shall be deposited into the Debt Service Fund moneys sufficient to pay the amounts described in clauses (i), (ii) and (iii) below, and all such moneys shall be applied, as promptly as practicable (but subject to the provisions of the last paragraph of this Section), proportionately to: (i) the payment to the persons entitled thereto of all payments of interest then due on the Bonds with interest on overdue installments, if lawful,

at their respective rates from the respective dates upon which they became due, in the order of maturity of the installments of such interest and, if the amount available shall not be sufficient to pay in full any particular installment of interest, then to the payment ratably, according to the amounts due on such installment; (ii) the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due (or which but for any legal prohibition on such declaration of acceleration would have become due) with interest on such Bonds at their respective rates from the respective dates upon which they became due and, if the amount available shall not be sufficient to pay in full the Bonds due on any particular date, together with such interest, then to the payment ratably, according to the amount of principal and interest due on such date, in each case to the persons entitled thereto, without any discrimination or privilege; and (iii) the payment of any other amounts then owing under the Senior Indenture; and, after said deposit into the Debt Service Fund, there shall be paid the Subordinated Indebtedness issued or incurred by the Commission pursuant to the Senior Indenture.

(b) If the principal of and interest on all Bonds then Outstanding has not been declared to be due and payable immediately pursuant to the acceleration provisions described above (or deemed to be due and payable as contemplated in paragraph (a) above) or if such a declaration has been rescinded and annulled, then there shall be deposited into the Debt Service Fund moneys sufficient to pay the amounts described in clauses (i), (ii) and (iii) below, and all such moneys shall be applied, as promptly as practicable (but subject to the provisions of the last paragraph of this Section), (i) first, to the payment to the persons entitled thereto of all installments of interest then due on the Bonds, with interest on overdue installments, if lawful, at their respective rates from the respective dates upon which they became due, in the order of maturity and, if the amount available shall not be sufficient to pay in full any particular installment of interest, then to the payment ratably, according to the amounts due on such installment; (ii) second, to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due with interest on such Bonds at their respective rates from the respective dates upon which they became due and, if the amount available shall not be sufficient to pay in full the Bonds due on any particular date, together with such interest, then to the payment ratably, according to the amount of principal and interest due on such date, in each case to the persons entitled thereto, without any discrimination or privilege; and (iii) third, to the payment of any other amounts then owing under the Senior Indenture, and, after said deposit into the Debt Service Fund, there shall be paid the Subordinated Indebtedness issued or incurred by the Commission pursuant to the Senior Indenture.

Whenever moneys are to be applied pursuant to the above provisions, such moneys shall be applied at such times, and from time to time, as the Trustee shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future. Whenever the Trustee shall apply such funds, it shall fix the date (which shall be an Interest Payment Date unless it shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal and interest to be paid on such date shall cease to accrue. The Trustee shall give notice of the deposit with it of any such moneys and of the fixing of any such date by mail to all Owners of Bonds with respect to which the Event of Default occurred and shall not be required to make payment to any Bond Owner until such Bonds shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

## **BONDHOLDERS MAY DIRECT PROCEEDINGS**

The owners of a majority in aggregate principal amount of the Bonds Outstanding shall, subject to the requirement that the Trustee be provided with satisfactory indemnity, have the right, by an instrument or instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all remedial proceedings by the Trustee under the Senior Indenture, provided that such direction shall not be in conflict with any rule of law or the Senior Indenture and that the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee would be unduly prejudicial to the rights of Bondholders not parties to such direction or would subject the Trustee to personal liability or expense. Notwithstanding the foregoing, the Trustee shall have the right to select and retain counsel of its choosing to represent it in any such proceedings. The Trustee may take any other action which is not inconsistent with any direction under this provision.

## **LIMITATIONS ON RIGHTS OF BONDHOLDERS**

No Bondholder shall have any right to pursue any other remedy under the Senior Indenture or the Bonds unless: (1) an Event of Default shall have occurred and is continuing; (2) the owners of not less than a majority in aggregate principal amount of all Bonds then Outstanding have requested the Trustee, in writing, to exercise the powers hereinabove granted or to pursue such remedy in its or their name or names; (3) the Trustee has been offered indemnity satisfactory to it against costs, expenses and liabilities reasonably anticipated to be incurred; (4) the Trustee has declined to comply with such request, or has failed to do so, within sixty (60) days after its receipt of such written request and offer of indemnity; and (5) no direction inconsistent with such request has been given to the Trustee during such 60-day period by the holders of a majority in aggregate principal amount of the Bonds Outstanding.

The provisions of the preceding paragraph are conditions precedent to the exercise by any Bondholder of any remedy under the Senior Indenture. The exercise of such rights is further subject to the provisions described under “Bondholders May Direct Proceedings” and “Delay or Omission Not Waiver” and certain other provisions of the Senior Indenture. No one or more Bondholders shall have any right in any manner whatever to enforce any right under the Senior Indenture, except in the manner provided in the Senior Indenture. All proceedings at law or in equity with respect to an Event of Default shall be instituted and maintained in the manner provided in the Senior Indenture for the equal and ratable benefit of the Bondholders of all Bonds Outstanding.

## **RIGHTS AND REMEDIES CUMULATIVE**

No right or remedy in the Senior Indenture conferred upon or reserved to the Trustee is intended to be exclusive of any other right or remedy, but each such right or remedy shall, to the extent permitted by law, be cumulative of and in addition to every other right or remedy given under the Senior Indenture or now or hereafter existing at law, in equity or otherwise. The assertion or employment of any right or remedy under the Senior Indenture shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

## **DELAY OR OMISSION NOT WAIVER**

No delay or omission by the Trustee or any Bondholder to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of such Event of Default. Every right and remedy given by the Senior Indenture or by law to the Trustee or the Bondholders may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or the Bondholders, as the case may be.

## **WAIVER OF DEFAULTS**

The holders of a majority in aggregate principal amount of the Outstanding Bonds may, by written notice to the Trustee and subject to the requirement that the Trustee be provided with satisfactory indemnity, waive any existing default or Event of Default and its consequences, except an Event of Default under paragraph (a) or (b) under “Events of Default.” Upon any such waiver, the default or Event of Default shall be deemed cured and shall cease to exist for all purposes. No waiver of any default or Event of Default shall extend to or effect any subsequent default or Event of Default or shall impair any right or remedy consequent thereto.

Notwithstanding any provision of the Senior Indenture, in no event shall any Person, other than all of the affected Bondholders, have the ability to waive any Event of Default under the Senior Indenture if such event results or may result, in the opinion of Bond Counsel, in interest on any of the Bonds becoming includable in gross income for federal income tax purposes if the interest on such Bonds was not includable in gross income for federal income tax purposes prior to such event.

## **NOTICE OF EVENTS OF DEFAULT**

If an Event of Default occurs of which the Trustee has or is deemed to have notice under the Senior Indenture, the Trustee shall give Immediate Notice thereof to the Commission. Within 90 days thereafter (unless such Event of Default has been cured or waived), the Trustee shall give notice of such Event of Default to each Bondholder then Outstanding, provided, however, that except in the instance of an Event of Default described in paragraph (a) or (b) above under “Events of Default,” the Trustee may withhold such notice if and so long as the Trustee in good faith determines that the withholding of such notice does not materially adversely affect the interests of Bondholders, and provided, further, that notice to Bondholders of any Event of Default under paragraph (c) under “Events of Default” shall be subject to the provisions described above relating to cure of such defaults and shall not be given until the grace period has expired.

## **THE TRUSTEE; QUALIFICATIONS OF TRUSTEE**

The Senior Indenture contains provisions relating to the appointment and duties of the Trustee. The Trustee under the Senior Indenture shall be a corporation or banking association organized and doing business under the laws of the United States of America or of any state, authorized under such laws to exercise corporate trust powers, which has a combined capital and surplus of at least \$50,000,000, or is an affiliate of, or has a contractual relationship with, a corporation or banking association meeting such capital and surplus requirement which guarantees the obligations and liabilities of the proposed trustee, and which is subject to supervision or examination by federal or state banking authority. If at any time the Trustee shall cease to be eligible in accordance with the provision described above, it shall resign promptly in the manner and with the effect specified in the Senior Indenture.

## **RESIGNATION OR REMOVAL OF TRUSTEE; APPOINTMENT OF SUCCESSOR TRUSTEE**

No resignation or removal of the Trustee and no appointment of a successor Trustee pursuant to the Senior Indenture shall become effective until the acceptance of appointment by the successor Trustee under the Senior Indenture.

The Trustee may resign at any time by giving written notice to the Commission. Upon receiving such notice of resignation, the Commission shall promptly appoint a successor Trustee by an instrument in writing. If an instrument of acceptance has not been delivered to the resigning Trustee within 30 days after the giving of such notice of resignation, the resigning Trustee or any Bondholder may petition a court of competent jurisdiction for the appointment of a successor Trustee.

Prior to the occurrence and continuance of an Event of Default under the Senior Indenture, or after the curing or waiver of any such Event of Default, the Commission or the holders of a majority in aggregate principal amount of the Outstanding Bonds, may remove the Trustee and shall appoint a successor Trustee. In the event there shall have occurred and be continuing an Event of Default under the Senior Indenture, the holders of a majority in aggregate principal amount of the Outstanding Bonds may remove the Trustee and shall appoint a successor Trustee. In each instance, such removal and appointment shall be accomplished by an instrument or concurrent instruments in writing signed by the Commission or such holders, as the case may be, and delivered to the Trustee, the Commission, the holders of the Outstanding Bonds and the Successor Trustee.

If at any time: (1) the Trustee shall cease to be eligible and qualified under the Senior Indenture and shall fail or refuse to resign after written request to do so by the Commission or the holder of any Bond, or (2) the Trustee shall become incapable of acting or shall be adjudged insolvent, or a receiver of the Trustee or its property shall be appointed, or any public officer shall take charge or control of the Trustee, its property or affairs for the purpose of rehabilitation, conservation or liquidation, then in either such case (i) the Commission may remove the Trustee and appoint a successor Trustee in accordance with the provisions of the immediately preceding paragraph; or (ii) any holder of a Bond then Outstanding



may, on behalf of the holders of all Outstanding Bonds, petition a court of competent jurisdiction for removal of the Trustee and appointment of a successor Trustee.

The Commission shall give written notice of each resignation or removal of the Trustee and each appointment of a successor Trustee to each holder of Bonds then Outstanding as listed in the Bond Register. Each such notice shall include the name and address of the applicable corporate trust office of the successor Trustee.

## **SUPPLEMENTAL INDENTURES WITHOUT BONDHOLDERS' CONSENT**

The Senior Indenture provides that the Commission and the Trustee may from time to time and at any time enter into Supplemental Indentures, without the consent of or notice to any Bondholder, to effect any one or more of the following: (a) cure any ambiguity, defect or omission or correct or supplement any provision in the Senior Indenture or in any Supplemental Indenture; (b) grant to or confer upon the Trustee for the benefit of the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders or the Trustee which are not contrary to or inconsistent with the Senior Indenture as then in effect or to subject to the pledge and lien of the Senior Indenture additional revenues, properties or collateral including Defeasance Obligations; (c) add to the covenants and agreements of the Commission in the Senior Indenture other covenants and agreements thereafter to be observed by the Commission or to surrender any right or power in the Senior Indenture reserved to or conferred upon the Commission which are not contrary to or inconsistent with the Senior Indenture as then in effect; (d) permit the appointment of a co-trustee under the Senior Indenture; (e) modify, alter, supplement or amend the Senior Indenture in such manner as shall permit the qualification of the Senior Indenture, if required, under the Trust Indenture Act of 1939, the Securities Act of 1933 or any similar federal statute hereafter in effect; (f) make any other change in the Senior Indenture that is determined by the Trustee not to be materially adverse to the interests of the Bondholders; (g) implement the issuance of Additional Bonds permitted under the Senior Indenture; or (h) if all Bonds in a series are Book Entry Bonds, amend, modify, alter or replace any Letter of Representations or other provisions relating to Book Entry Bonds. The Trustee shall not be obligated to enter into any such Supplemental Indenture which adversely affects the Trustee's own rights, duties or immunities under the Senior Indenture.

## **SUPPLEMENTAL INDENTURES REQUIRING BONDHOLDERS' CONSENT**

The Commission and the Trustee, at any time and from time to time, may execute and deliver a Supplemental Indenture for the purpose of making any modification or amendment to the Senior Indenture, but only with the written consent, given as provided in the Senior Indenture, of the holders of at least a majority in aggregate principal amount of the Bonds Outstanding at the time such consent is given, and in case less than all of the Bonds then Outstanding are affected by the modification or amendment, of the holders of at least a majority in aggregate principal amount of the Bonds so affected and Outstanding at the time such consent is given; provided, however, that if such modification or amendment will, by its terms, not take effect so long as any Bonds so affected remain Outstanding, the consent of the holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under these provisions. Notwithstanding the foregoing, no modification or amendment contained in any such Supplemental Indenture shall permit any of the following, without the consent of each Bondholder whose rights are affected thereby: (a) a change in the terms of stated maturity or redemption of any Bond or of any installment of interest thereon; (b) a reduction in the principal amount of or redemption premium on any Bond or in the rate of interest thereon or a change in the coin or currency in which such Bond is payable; (c) the creation of a lien on or a pledge of any part of the Trust Estate which has priority over or parity with (to the extent not permitted under the Senior Indenture) the lien or pledge granted to the Bondholders under the Senior Indenture (but this provision shall not apply to the release of any part of the Trust Estate as opposed to the creation of a prior or parity lien or pledge); (d) the granting of a preference or priority of any Bond or Bonds over any other Bond or Bonds, except to the extent permitted in the Senior Indenture; (e) a reduction in the aggregate principal amount of Bonds of which the consent of the Bondholders is

required to effect any such modification or amendment; or (f) a change in the provisions of the Senior Indenture provisions relating to amendments and supplements. Notwithstanding the foregoing, the holder of any Bond may extend the time for payment of the principal of or interest on such Bond; provided, however, that upon the occurrence of an Event of Default, funds available under the Senior Indenture for the payment of the principal of and interest on the Bonds shall not be applied to any payment so extended until all principal and interest payments which have not been extended have first been paid in full. Notice of any Supplemental Indenture executed pursuant to the provisions described above shall be given to the Bondholders promptly following the execution thereof.

## **CONSENTS OF BONDHOLDERS AND OPINIONS**

Each Supplemental Indenture executed and delivered pursuant to the provisions described under “Supplemental Indentures Requiring Bondholders’ Consent” shall take effect only when and as provided below. A copy of such Supplemental Indenture (or brief summary thereof or reference thereto in form approved by the Trustee), together with a request to Bondholders for their consent thereto in form satisfactory to the Trustee, shall be sent by the Trustee to Bondholders, at the expense of the Commission, by first class mail, postage prepaid, provided that a failure to mail such request shall not affect the validity of the Supplemental Indenture when consented to as provided in the Senior Indenture. Such Supplemental Indenture shall not be effective unless and until there shall have been filed with the Trustee (a) the written consents of Bondholders of the percentage of Bonds specified above under “Supplemental Indentures Requiring Bondholders’ Consent” given as provided in the Senior Indenture, and (b) an opinion of counsel acceptable to the Trustee stating that (1) the execution of such Supplemental Indenture is authorized or permitted by the Senior Indenture and (2) all conditions precedent to the execution and delivery of such Supplemental Indenture have been complied with, and an opinion of Bond Counsel that the execution and performance of such Supplemental Indenture shall not, in and of itself, adversely affect the federal income tax status of any Bonds, the interest on which is not included in gross income for federal income tax purposes. Any such consent shall be binding upon the Bondholder giving such consent and upon any subsequent holder of such Bonds and of any Bonds issued in exchange therefor or in lieu thereof (whether or not such subsequent Bondholder has notice thereof), unless such consent is revoked in writing by the Bondholder giving such consent or a subsequent holder of such Bonds by filing such revocation with the Trustee prior to the date the Trustee receives the material required in clauses (a) and (b) above.

Notwithstanding anything else in the Senior Indenture, if a Supplemental Indenture is to become effective on the same date as the date of issuance of Additional Bonds, the consents of the underwriters or purchasers of such Additional Bonds shall be counted for purposes of the Senior Indenture.

The Senior Indenture provides that Bonds which are to be disregarded under the last sentence of the definition of “Outstanding” shall not be deemed Outstanding for the purpose of consent or other action or any calculation of Outstanding Bonds provided for in this Article. At the time of any consent or other action taken under this Article or elsewhere in the Senior Indenture, the Commission shall furnish the Trustee a certificate of a Commission Official, upon which the Trustee may rely, describing all Bonds so to be excluded.

## **DISCHARGE OF BONDS**

If (a) the principal of any Bonds and the interest due or to become due thereon, together with any redemption premium required by redemption of any of the Bonds prior to maturity, shall be paid, or is caused to be paid, or is provided for as described below under “Defeasance,” at the times and in the manner to which reference is made in the Bonds, according to the true intent and meaning thereof, or the outstanding Bonds shall have been paid and discharged in accordance with the Senior Indenture, and (b) all of the covenants, agreements, obligations, terms and conditions of the Commission under the Senior Indenture shall have been kept, performed and observed and there shall have been paid to the Trustee, the Bond Registrar and the Paying Agents all sums of money due or to become due to them in accordance with the terms and provisions of the Senior Indenture, then the right, title and interest of the Trustee in the

Trust Estate shall thereupon cease and the Trustee, on request of the Commission and at the expense of the Commission, shall release the Senior Indenture and the Trust Estate and shall execute such documents to evidence such release as may be reasonably required by the Commission and shall turn over to the Commission, or to such other Person as may be entitled to receive the same, all balances remaining in any Funds under the Senior Indenture except for amounts required to pay such Bonds or held unclaimed in respect of Bonds which have matured or been redeemed pursuant to the Senior Indenture.

If payment or provision therefor is made with respect to less than all of the 2017A Bonds of a maturity within a particular series, the particular 2017A Bonds within such maturity for which provision for payment shall have been made shall be selected as provided for a partial redemption.

## **DEFEASANCE**

Provision for the payment of 2017A Bonds shall be deemed to have been made when the Trustee holds in the Debt Service Fund (1) cash in an amount sufficient to make all payments (including principal, premium, if any, and interest) specified above with respect to such 2017A Bonds, or (2) direct non-callable obligations of the United States of America and securities fully and unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, to which direct obligation or guarantee the full faith and credit of the United States of America has been pledged, Refcorp interest strips, CATS, TIGRS, STRPS, or defeased municipal bonds rated "AAA" by S&P or "Aaa" by Moody's (or any combination of the foregoing), or (3) any combination of cash and obligations described in clause (2) above the amounts of which and interest thereon, when due, are or will be, in the aggregate, sufficient (together with any earnings thereon) to make all such payments.

Neither the moneys nor the obligations deposited with the Trustee as provided above shall be withdrawn or used for any purpose other than, and such obligations and moneys shall be segregated and held in trust for, the payment of the principal or redemption price of, premium, if any, on and interest on, the 2017A Bonds (or portions thereof) to be no longer entitled to the lien of the Senior Indenture; *provided* that such moneys, if not then needed for such purpose, shall, to the extent practicable, be invested and reinvested in Government Obligations maturing on or prior to the Interest Payment Date next succeeding the date of investment or reinvestment.

Whenever moneys or obligations shall be deposited with the Trustee for the payment or redemption of 2017A Bonds more than 60 days prior to the date that such 2017A Bonds are to mature or be redeemed, the Trustee shall mail a notice to the Owners of 2017A Bonds for the payment of which such moneys or obligations are being held at their registered addresses stating that such moneys or obligations have been deposited. Such notice shall also be sent by the Trustee to each Rating Agency then rating the 2017A Bonds at the request of the Commission. Notwithstanding the foregoing, no provision for payment shall be deemed to have been made with respect to any 2017A Bonds which are to be redeemed prior to their stated maturity until such 2017A Bonds shall have been irrevocably called or designated for redemption on a date thereafter on which such 2017A Bonds may be redeemed and proper notice of such redemption shall have been given or the Commission shall have given the Trustee, in form satisfactory to the Trustee, irrevocable instructions to give proper notice of such redemption.

In the event of a deposit of moneys or obligations for the payment or redemption of the 2017A Bonds described above, the Commission shall cause to be delivered a verification report of an independent, nationally recognized certified public accountant confirming that the above-described requirements have been satisfied. If a forward supply contract is employed in connection with the advance refunding, (i) such verification report shall expressly state that the adequacy of the escrow to accomplish the refunding relies solely on the initial escrowed investments and the maturing principal thereof and interest income thereon and does not assume performance under or compliance with the forward supply contract, and (ii) the applicable escrow agreement shall provide that in the event of any discrepancy or difference between the terms of the forward supply contract and the escrow agreement (or the authorizing document, if no separate escrow agreement is utilized), the terms of the escrow agreement or authorizing document, if applicable, shall be controlling.

At such times as a 2017A Bond shall be deemed to be paid under the Senior Indenture, as aforesaid, it shall no longer be secured by or entitled to the benefits of the Senior Indenture, except for the purposes of any such payment from such money or obligations.

## **APPENDIX D**

### **FORM OF OPINION OF CO-BOND COUNSEL**

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## APPENDIX D

### BELOW IS THE PROPOSED FORM OF OPINION OF CO-BOND COUNSEL EXPECTED TO BE DELIVERED IN CONNECTION WITH THE ISSUANCE OF THE 2017A BONDS

October \_\_\_, 2017

Pennsylvania Turnpike Commission  
Middletown, PA

We have served as Co-Bond Counsel to the Pennsylvania Turnpike Commission (the "Commission") in connection with the issuance, on the date hereof, by the Commission of \$365,895,000 aggregate principal amount of Turnpike Revenue Bonds, Series A-1 of 2017, and \$133,060,000 aggregate principal amount of Turnpike Revenue Refunding Bonds, Series A-2 of 2017 (collectively, the "2017A Bonds").

The 2017A Bonds are issued pursuant to the authority of an Act of the General Assembly of Pennsylvania approved July 18, 2007, P.L. 169, No. 44 ("Act 44"), as amended and supplemented by an Act of the General Assembly approved November 25, 2013, P.L. 974, No. 89, and various Acts of the General Assembly approved on several dates, including the Act of May 21, 1937, P.L. 774, Act 211; the Act of May 24, 1945, P.L. 972; the Act of February 26, 1947, P.L. 17; the Act of May 23, 1951, P.L. 335; the Act of August 14, 1951, P.L. 1232; and the Act of September 30, 1985, P. L. 240, No. 61 to the extent not repealed by Act 44, and the Act of November 25, 2013, P.L. 974, No. 89 (all such acts are referred to hereinafter collectively as the "Enabling Acts"), pursuant to the Resolution adopted by the Commission on March 21, 2017 (the "Resolution") and pursuant to the Amended and Restated Trust Indenture, dated as of March 1, 2001, as amended and supplemented prior to the date hereof (as so amended and supplemented, the "Existing Indenture"), and as further supplemented by Supplemental Trust Indenture No. 42, dated as of October 1, 2017 ("Supplemental Indenture No. 42" and, together with the Existing Indenture, the "Indenture"), between the Commission and U.S. Bank National Association, as successor trustee to First Union National Bank (the "Trustee"). *Capitalized terms not otherwise defined in this letter are used as defined in the Indenture.*

As Co-Bond Counsel for the Commission, we have examined: (i) the relevant provisions of the Constitution of the Commonwealth of Pennsylvania ("Commonwealth"); (ii) the Enabling Acts; (iii) the Resolution; (iv) an executed counterpart of the Existing Indenture and an original counterpart of or a certified copy of the Supplemental Indenture No. 42; and (v) certain statements, certifications, affidavits and other documents and matters of law, including, without limitation, a certificate dated the date hereof ("Tax Compliance Certificate") of officials of the Commission having responsibility for issuing the 2017A Bonds, given pursuant to the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder ("Code"), and the other documents, certifications and instruments listed in the Closing Memorandum in respect of the 2017A Bonds filed with the Trustee on the date of original delivery of the 2017A Bonds. We have also examined a fully executed and authenticated 2017A Bonds, or a true copies thereof, and we assume all other 2017A Bonds are in such form and are similarly executed and authenticated.

In rendering the opinion set forth below, we have relied upon the genuineness, accuracy and completeness of all documents, records, certifications and other instruments we have examined, including, without limitation, the authenticity of all signatures appearing thereon. We have also relied, in the opinion set forth below, upon the opinion of the Chief Counsel to the Commission as to all matters of fact and law set forth therein. We have not made any independent examination in rendering this opinion other than the

examination referred to above. Our opinion is therefore qualified in all respects by the scope of that examination.

Except with respect to paragraph 5 below, our opinion is given only with respect to the internal laws of the Commonwealth of Pennsylvania (the “Commonwealth”) as enacted and construed on the date hereof.

Based upon and subject to the foregoing and subject to the qualifications hereinafter set forth, we are of the opinion that:

1. The Commission is a validly existing instrumentality of the Commonwealth and has the power to enter into the transactions contemplated by Supplemental Indenture No. 42 and to carry out its obligations thereunder.
2. Supplemental Indenture No. 42 has been duly authorized, executed and delivered by the Commission and, assuming due authorization, execution and delivery thereof by the Trustee, is the legal, valid and binding obligation of the Commission enforceable in accordance with the terms thereof, except to the extent that enforcement thereof may be affected by bankruptcy, insolvency, reorganization, moratorium or other similar laws or legal or equitable principles affecting the enforcement of creditors' rights ("Creditors' Rights Limitations").
3. The 2017A Bonds have been authorized, executed and issued by the Commission; have been duly authenticated; are valid and binding obligations of the Commission, enforceable in accordance with the terms thereof, except to the extent that enforcement thereof may be affected by Creditors' Rights Limitations; and are entitled to the benefit and security of the Indenture.
4. Under the laws of the Commonwealth as enacted and construed on the date hereof, interest on the 2017A Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax, and the 2017A Bonds are exempt from personal property taxes in the Commonwealth; however, under the laws of the Commonwealth as enacted and construed on the date hereof, any profits, gains or income derived from the sale, exchange or other disposition of the 2017A Bonds will be subject to Commonwealth taxes and local taxes in the Commonwealth.
5. Under existing statutes, regulations, rulings and court decisions, interest on the 2017A Bonds, is not includible in gross income of the holders thereof for federal income tax purposes assuming continuing compliance by the Commission with the requirements of the Code. Interest on the 2017A Bonds will not be a specific preference item for purposes of computing the federal alternative minimum tax (the “AMT”); however, interest on the 2017A Bonds held by corporations is included in the computation of “adjusted current earnings,” a portion of which is taken into account in determining the AMT imposed on such corporations.

In rendering this opinion, we have assumed compliance by the Commission with its covenants contained in the Indenture and its representations in the Tax Compliance Certificate executed by the Commission on the date of issuance of the 2017A Bonds relating to actions to be taken by the Commission after issuance of the 2017A Bonds necessary to effect or maintain the exclusion from gross income of interest on the 2017A Bonds for federal income tax purposes. These covenants and representations relate to, *inter alia*, the use and investment of proceeds of the 2017A Bonds, and the rebate to the United States Department of Treasury of specified arbitrage earnings, if any. Failure to comply with such covenants could result in interest on the 2017A Bonds becoming includible in gross income for federal income tax purposes from the date of issuance of the 2017A Bonds.



The 2017A Bonds constitute limited obligations of the Commission and the principal of and interest on (collectively, "debt service") the 2017A Bonds is not secured by an obligation or pledge of any money raised by taxation, and the 2017A Bonds do not represent or constitute a general obligation or a pledge of the faith and credit of the Commission, the Commonwealth or any political subdivision thereof. The Commission has no taxing power.

We express no opinion as to any matter not set forth in the numbered paragraphs herein. This opinion is given as of the date hereof and we assume no obligation to supplement this opinion to reflect changes in law that may hereafter occur or changes in facts or circumstances that may hereafter come to our attention. Without limiting the generality of the foregoing, we express no opinion with respect to and assume no responsibility for, the accuracy, adequacy or completeness of the preliminary official statement or the official statement prepared in respect of the 2017A Bonds, and make no representation that we have independently verified the contents thereof.

Very truly yours,

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## **APPENDIX E**

### **DEBT SERVICE REQUIREMENTS OF THE TURNPIKE SENIOR, SUBORDINATE AND SPECIAL REVENUE BONDS**

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**APPENDIX E**  
**DEBT SERVICE REQUIREMENTS OF THE TURNPIKE SENIOR, SUBORDINATE AND SUBORDINATE SPECIAL REVENUE BONDS**

Fiscal Year	2017A Bonds									
	Existing Debt Service from Senior Revenue Bonds (Excluding EB-5 Loans) <sup>1,2,3,4,5,6,7</sup>	EB-5 Loans <sup>8</sup>	Existing Debt Service from Senior Revenue Bonds (Including EB-5 Loans) <sup>1,2,3,4,5,6,7,8</sup>	Principal <sup>5</sup>	Interest <sup>5</sup>	Total <sup>5</sup>	Total Debt Service from Senior Revenue Bonds <sup>1,2,3,4,5,6,7,8</sup>	Total Debt Service from Subordinate Revenue Bonds <sup>1,5,6</sup>	Total Debt Service from MLF Enhanced Subordinate Special Revenue Bonds <sup>5,6</sup>	Aggregate Debt Service <sup>1,2,3,4,5,6,7,8</sup>
2018	420,508,487	2,000,000	422,508,487	-	3,448,951	3,448,951	425,957,438	123,686,371	23,790,348	573,434,158
2019	457,586,970	4,000,000	461,586,970	5,765,000	24,832,450	30,597,450	492,184,420	309,384,335	45,609,663	847,178,418
2020	406,633,850	4,000,000	410,633,850	5,925,000	24,659,500	30,584,500	441,218,350	313,056,804	47,620,063	801,895,216
2021	435,968,525	5,319,444	441,287,969	6,210,000	24,363,250	30,573,250	471,861,219	330,206,309	53,022,050	855,089,578
2022	402,747,950	8,780,928	411,528,878	6,510,000	24,052,750	30,562,750	442,091,628	333,212,564	53,695,500	828,999,692
2023	238,753,100	11,314,000	250,067,100	6,820,000	23,727,250	30,547,250	280,614,350	335,604,841	61,217,240	677,436,431
2024	241,799,087	11,311,500	253,110,587	7,150,000	23,386,250	30,536,250	283,646,837	336,563,086	61,372,790	681,582,714
2025	219,240,425	11,312,250	230,552,675	30,790,000	23,028,750	53,818,750	284,371,425	339,141,827	62,403,140	685,916,392
2026	217,041,319	11,310,750	228,352,069	36,005,000	21,489,250	57,494,250	285,846,319	342,577,208	62,661,878	691,085,404
2027	187,587,419	11,311,750	198,899,169	38,145,000	19,689,000	57,834,000	256,733,169	361,660,535	80,540,371	698,934,075
2028	151,606,919	11,309,750	162,916,669	29,635,000	17,781,750	47,416,750	210,333,419	364,992,310	82,067,646	657,393,375
2029	168,031,169	11,314,500	179,345,669	17,775,000	16,300,000	34,075,000	213,420,669	374,475,373	83,854,334	671,750,375
2030	193,655,044	11,310,250	204,965,294	20,915,000	15,411,250	36,326,250	241,291,544	374,401,949	82,228,453	697,921,945
2031	198,695,531	11,312,000	210,007,531	20,520,000	14,365,500	34,885,500	244,893,031	377,040,860	83,790,553	705,724,444
2032	242,862,556	11,309,000	254,171,556	10,440,000	13,339,500	23,779,000	277,951,056	380,345,104	85,894,353	744,190,513
2033	246,448,931	11,311,000	257,759,931	10,945,000	12,817,500	23,762,500	281,522,431	380,391,714	88,185,678	750,099,823
2034	250,112,756	11,312,250	261,425,006	11,480,000	12,270,250	23,750,250	285,175,256	384,093,067	90,440,278	759,708,601
2035	254,091,731	11,312,250	265,403,981	12,040,000	11,696,250	23,736,250	289,140,231	389,641,714	92,821,890	771,603,835
2036	255,217,106	11,310,500	266,527,606	12,625,000	11,094,250	23,719,250	290,246,856	391,886,755	98,201,190	780,334,801
2037	252,954,457	11,316,500	264,270,957	13,240,000	10,463,000	23,703,000	287,973,957	396,181,961	100,490,646	784,646,564
2038	243,419,982	11,314,250	254,734,232	13,885,000	9,801,000	23,686,000	278,420,232	398,311,929	103,561,626	780,293,787
2039	247,790,386	11,313,500	259,103,886	14,560,000	9,106,750	23,666,750	282,770,636	396,437,320	88,293,334	767,501,290
2040	234,062,329	11,313,500	245,375,829	15,270,000	8,378,750	23,648,750	269,024,579	326,373,671	63,109,455	658,507,705
2041	249,140,136	11,313,500	260,453,636	16,015,000	7,615,250	23,630,250	284,083,886	380,694,277	64,057,366	728,835,530
2042	229,164,396	11,312,750	240,477,146	16,795,000	6,814,500	23,609,500	264,086,646	373,476,463	56,361,900	693,925,008
2043	233,129,292	11,310,500	244,439,792	17,615,000	5,974,750	23,589,750	268,029,542	205,041,048	40,098,483	513,169,072
2044	247,812,908	11,311,000	259,123,908	18,480,000	5,094,000	23,574,000	282,697,908	179,804,120	25,398,093	487,900,121
2045	204,026,235	11,313,250	215,339,485	19,380,000	4,170,000	23,550,000	238,889,485	122,980,811	5,176,815	367,047,112
2046	145,901,337	11,311,250	157,212,587	20,330,000	3,201,000	23,531,000	180,743,587	104,567,396		285,310,984
2047	116,397,026	11,314,250	127,711,276	21,325,000	2,184,500	23,509,500	151,220,776	45,819,481		197,040,257
2048	71,453,701	11,316,000	82,769,701	22,365,000	1,118,250	23,483,250	106,252,951	5,249,269		111,502,220
2049	71,450,320	11,315,500	82,765,820				82,765,820			82,765,820
2050	71,453,471	11,311,750	82,765,221				82,765,221			82,765,221
2051	-	11,313,750	11,313,750				11,313,750			11,313,750
<b>TOTAL</b>	<b>\$7,806,744,855</b>	<b>\$352,163,372</b>	<b>\$8,158,908,227</b>	<b>\$498,955,000</b>	<b>\$411,675,401</b>	<b>\$910,630,401</b>	<b>\$9,069,538,628</b>	<b>\$9,477,300,472</b>	<b>\$1,885,965,132</b>	<b>\$20,432,804,232</b>

<sup>(1)</sup> All variable rate debt, unless subject to an interest rate swap agreement, is shown at an assumed rate of 4.0% plus the fixed spread. All variable rate debt which is swapped to a fixed rate is shown at the fixed swap rate. As only a portion of principal on the 2013B and 2014B-1 Turnpike Revenue Bonds (SIFMA Index Notes) and 2016A-2 Turnpike Revenue Bonds (70% LIBOR Index Notes) is swapped, the interest rate is a calculated as a weighted average between a) an assumed rate of 4.0% plus the fixed spread and b) the swap rate plus the fixed spread, based on the outstanding principal amounts of unhedged and hedged bonds.

<sup>(2)</sup> Interest reflects anticipated receipt of federal subsidy with respect to Build America Bonds, subject to applying the 6.6% reduction from federal fiscal year 2018 through federal fiscal year 2024. For information regarding the effects of sequestration on the federal subsidy payable with respect to the Commission's outstanding Build America Bonds, see "CURRENT RISK FACTORS - Reductions in federal subsidy payable to the Commission for its outstanding Build America Bonds due to sequestration" in this Official Statement.

<sup>(3)</sup> Does not reflect any future refunding of 2013A, 2013B, or 2014B-1 Turnpike Revenue Bonds (SIFMA Index Notes) or 2016A-2 Turnpike Revenue Bonds (70% LIBOR Index Notes) prior to their respective maturity dates. The Commission expects that it will refund such bonds prior to maturity subject to market conditions at the time. See APPENDIX A - "THE PENNSYLVANIA TURNPIKE COMMISSION - CERTAIN FINANCIAL INFORMATION - Future Financing Considerations."

<sup>(4)</sup> Interest net of capitalized interest; does not reflect any expected earnings credited against debt service.

<sup>(5)</sup> Totals may not add due to rounding.

<sup>(6)</sup> Interest amounts are inclusive of compounded interest on the Convertible Capital Appreciation Bonds and Capital Appreciation Bonds.

<sup>(7)</sup> All fixed rate debt, unless subject to an interest rate swap agreement, is shown at the actual interest rate. All fixed rate debt which is swapped to a floating rate is shown at an assumed rate of 4.0% plus the fixed spread.

<sup>(8)</sup> Includes four tranches of EB-5 Loans (3 tranches issued on March 18, 2016 and the fourth tranche issued on May 11, 2016). First five years of debt service is interest only. Thereafter, assumes 30 year level debt service takeout with Turnpike Revenue Bonds.

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**APPENDIX F**  
**TRAFFIC AND REVENUE STUDY**

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May 3, 2017

Mr. Nikolaus Grieshaber  
Chief Financial Officer  
Pennsylvania Turnpike Commission  
700 South Eisenhower Boulevard  
Middletown, PA 17057

Subject: Pennsylvania Turnpike Commission 2017 Traffic and Toll Revenue  
Bring Down Letter

Dear Mr. Grieshaber:

The Pennsylvania Turnpike Commission (PTC or Commission) has asked CDM Smith to prepare this Bring Down Letter (2017 Bring Down Letter) to be used in support of the Commission's ongoing capital improvement program and other funding requirements. This letter provides an update to the *2016 Traffic and Toll Revenue Bring Down Letter* (2016 Bring Down Letter), dated March 4, 2016. The original comprehensive investment grade study titled as *2015 Traffic and Toll Revenue Forecast Study* (2015 Forecast Study) was submitted on March 17, 2015. The 2016 Bring Down Letter presented traffic and gross toll revenue forecasts from fiscal year (FY) 2015-16 through FY 2043-44, or 30 years. A fiscal year runs from June 1 through May 31. Actual traffic and revenue data were available through January 2016 for the 2016 Bring Down Letter and through March 2017 for the current 2017 Bring Down Letter.

This 2017 Bring Down Letter presents actual traffic and toll revenue data through March 2017 (the most recent month of actual experience), compares the forecasts between the 2017 Bring Down Letter and the 2016 Bring Down Letter, and provides updated traffic and revenue forecasts through FY 2044-45. The updated forecasts reflect the following changes from the 2016 Bring Down Letter.

- E-ZPass market share assumptions were increased slightly to reflect the fact that actual E-ZPass market share over the last 14 months has moderately exceeded assumptions in the 2016 Bring Down Letter.
- Actual traffic and toll revenue data for an additional 14 months (through March 2017).
- Normal traffic growth assumptions were adjusted downward slightly compared to those assumed in the 2016 Bring Down Letter.



Mr. Nikolaus Grieshaber

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These differences are described in more detail in the following sections.

It is important to note that the intent of this Bring Down Letter is to review and revise, if warranted, the short term forecasts originally developed as part of the 2015 Forecast Study. Any adjustments would be made based on the 14 months of new actual traffic and toll revenue experience since the 2016 Bring Down Letter. Since this Bring Down Letter does not include a reevaluation of the longer term economic growth forecasts, critical attention was placed on a review of near term growth through 2019 only. Growth rates beyond 2019 remain unchanged from those in the 2016 Bring Down Letter.

For a detailed review of the longer term growth assumptions, the 2015 Forecast Study provides information on the socioeconomic trends and forecasts for the state, region and country that formed the basis for the original traffic and toll revenue forecasts. Additional information regarding the Pennsylvania Turnpike (Turnpike), such as historical toll rate increases, sample toll rates, E-ZPass market share, and more, are also provided in the 2015 Forecast Study.

### **Historical Toll Rate Increases and Current Toll Rates**

Table 1 provides a historical summary of toll rate increases on the Turnpike System from 2004 to the most recent increase implemented on January 8, 2017. Rate increases are presented as a percent increase over the previous toll rate for cash and E-ZPass. The most recent rate increases ranged from 5.0 percent to 6.0 percent and were implemented annually. Since 2009 the PTC has implemented annual system-wide toll increases with a few exceptions. A section of Turnpike 43 was exempted from the rate increase in 2009. The Turnpike 576 was exempted from 2009 through 2012, and 2014 through 2017. The Delaware River Bridge was also exempted from toll rate increases in 2017, and will also not change toll rates in 2018.

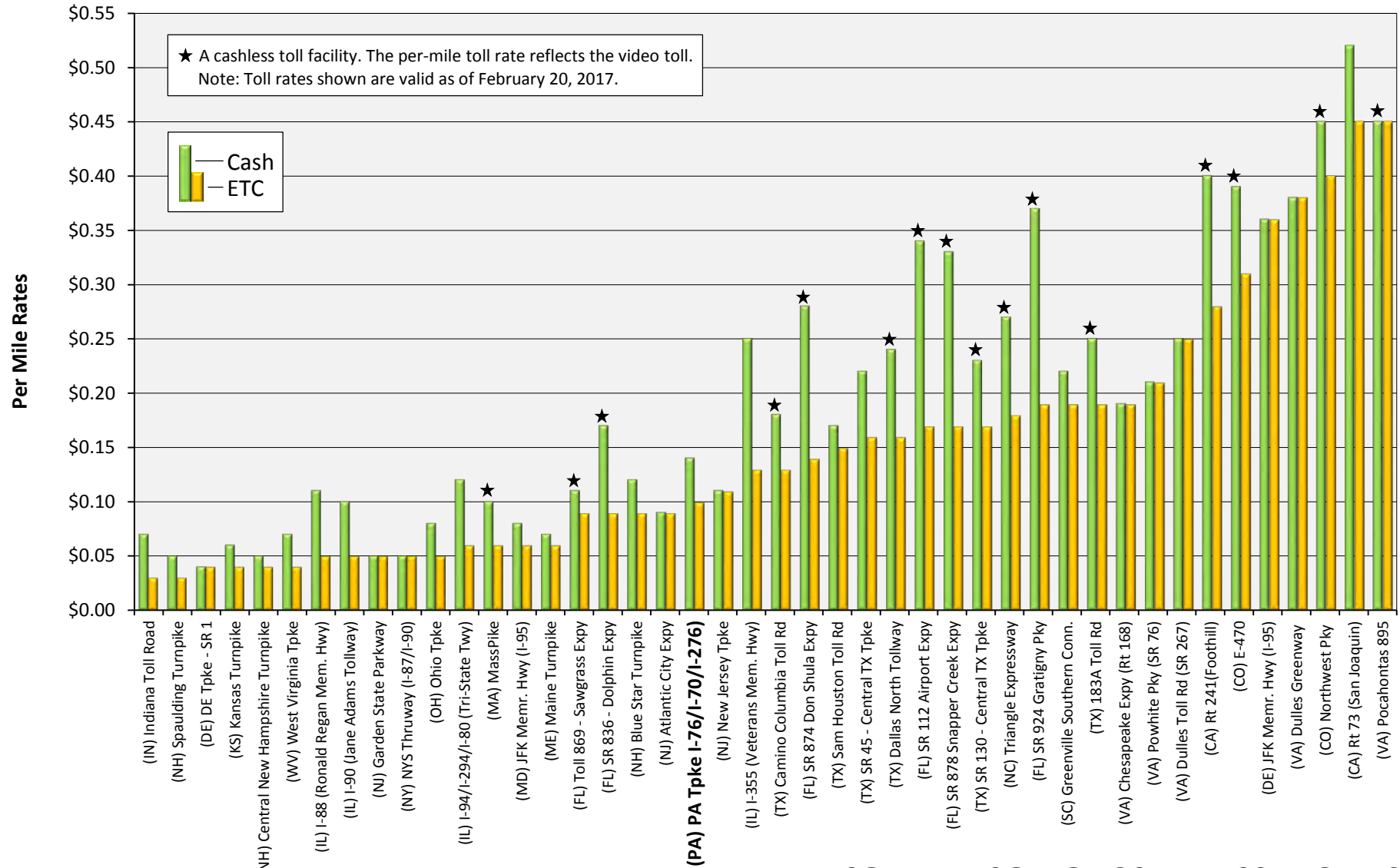
The first toll increase that created a differential between cash and E-ZPass toll rates was implemented on January 2, 2011, when E-ZPass tolls were increased by 3.0 percent and cash tolls were increased by 10.0 percent. Starting in 2015, cash and E-ZPass toll rates have grown at the same rate as one another. Equal toll rate increases, by payment type, will be applied every year into the future, though the magnitude of the toll rate increase will vary somewhat each year. This will be discussed in more detail later in this report.

**Table 1**  
**Historical Toll Rate Increases**  
**Pennsylvania Turnpike System**

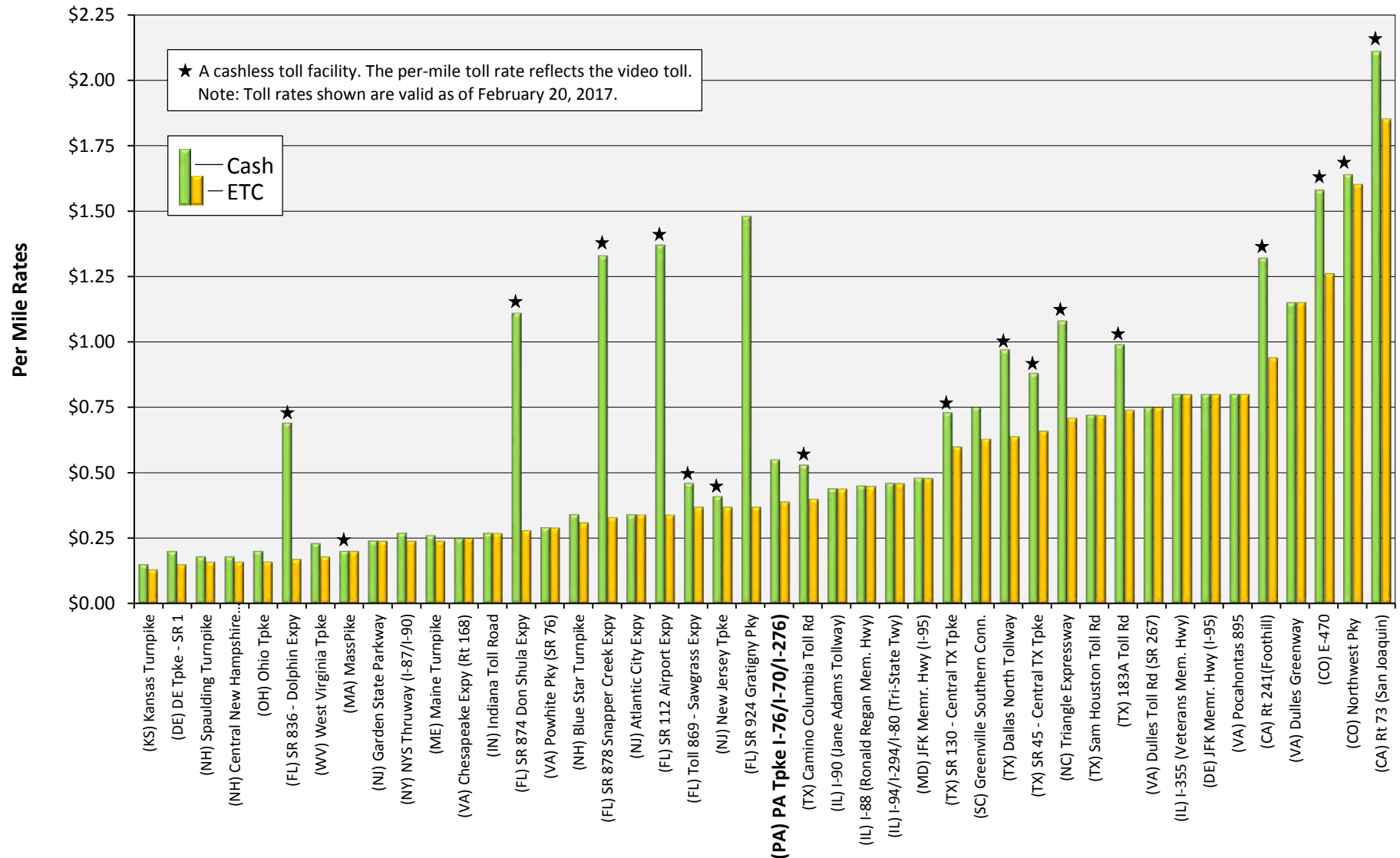
Date	Percent Increase		Comment
	Cash	E-ZPass	
8/1/2004	42.5	42.5	
1/4/2009	25.0	25.0	No toll increase on Turnpike I-576 or Turnpike 43 between Uniontown and Brownsville
1/3/2010	3.0	3.0	No toll increase on Turnpike I-576
1/2/2011	10.0	3.0	No toll increase on Turnpike I-576
1/1/2012	10.0	0.0	No toll increase on Turnpike I-576
1/6/2013	10.0	2.0	
1/5/2014	12.0	2.0	No toll increase on Turnpike I-576
1/4/2015	5.0	5.0	No toll increase on Turnpike I-576
1/3/2016	6.0	6.0	No toll increase on Turnpike I-576
1/8/2017	6.0	6.0	No toll increase on Turnpike I-576 or Delaware River Bridge

Figures 1 and 2 show the 2017 per-mile toll rates for a through trip on 44 U.S. toll facilities, for passenger cars and commercial vehicles, respectively. Per-mile rates are shown for both cash and ETC transactions in each figure. The per-mile toll rate is shown for the Pennsylvania Turnpike Ticket System, which is by far the largest component of the Turnpike System comprising about 78 percent of all transactions and 90 percent of all toll revenue in CY 2016. The purpose of these figures is to show that even with the eight consecutive annual toll increases since 2009, the passenger car per-mile toll rates on the Pennsylvania Turnpike System, at 10 cents per mile for E-ZPass customers and 14 cents per mile for cash customers are still very reasonably priced compared to other major toll facilities in the U.S.

Rates for commercial vehicles on the Ticket System amount to 39 cents per mile for E-ZPass and 55 cents per mile for cash transactions. It should be remembered that the vast majority of both passenger car and commercial vehicle trips are made using the more cost effective E-ZPass payment method.



**COMPARISON OF 2017 PASSENGER CAR  
PER-MILE THROUGH TRIP TOLL RATES  
(DATA SORTED BY ETC TOLL RATES)**



**COMPARISON OF 2017 FIVE-AXLE VEHICLE  
PER-MILE THROUGH TRIP TOLL RATES  
(DATA SORTED BY ETC TOLL RATES)**

### **Annual Transaction and Gross Toll Revenue Trends**

Table 2 provides a summary of annual Systemwide transactions and gross toll revenue trends from FY 1994-95 through FY 2015-16. The Pennsylvania Turnpike System is a large, mature system that has demonstrated long-term growth in transactions and toll revenue. Between FY 1994-95 and FY 2005-06, Turnpike transactions and adjusted toll revenue grew by an average annual rate of 3.3 percent and 6.4 percent, respectively. Similarly, in the 10 years from FY 2005-06 to FY 2015-16, Turnpike transactions and adjusted gross toll revenue grew by average annual rates of 0.7 percent and 5.8 percent, respectively. The effect of the great recession can be observed in this trend table, most notably in FY 2008-2009. Traffic growth in the most recently completed fiscal year (2015-16) was the highest (3.4 percent) since FY 2003-04. Revenue growth in the most recent fiscal year was 10.7 percent, a level not achieved since FY 2009-10.

### **Monthly Transactions and Gross Toll revenue Trends**

Tables 3 through 10 present recent monthly transaction and revenue trends from FY 2013-14 through March 2017 for all PTC toll facilities. The facilities are summarized in the following order:

- The Total Turnpike System (comprised of all the facilities listed below);
- The Ticket System – comprised of I-76/I-276 and I-476 (including Gateway Barrier Plaza);
- Turnpike 43 (Mon/Fayette Expressway);
- Turnpike 66 (Amos K. Hutchinson Bypass);
- Northeast Extension (I-476) Barrier Plazas;
- Turnpike I-376 (Beaver Valley Expressway);
- Turnpike I-576 (Southern Beltway – Findlay Connector) and;
- Delaware River Bridge.

The information is provided by passenger cars, commercial vehicles, and total vehicles. For comparative purposes, subtotals are provided for June through March for each fiscal year. It should be noted that the Delaware River Bridge (DRB) was converted to a westbound only cashless tolling system in January 2016. In previous Bring Down Letters, DRB traffic and revenue data were included in the Ticket System. For this Bring Down Letter, data for the DRB are shown separately.

As shown in Table 3, Systemwide toll revenue increased by 7.9 percent in FY 2014-15, and 10.7 percent in FY 2015-16. Year to date (June 2016 through March 2017) toll revenue growth was 8.6 percent compared to the same period in the prior year. Commercial vehicle toll revenue increased by 8.3 and passenger car toll revenue increased by 8.8 percent from June 2016 through March 2017.

Mr. Nikolaus Grieshaber  
May 3, 2017  
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**Table 2**  
**Annual Systemwide Traffic and Gross Toll Revenue Trends**  
**Pennsylvania Turnpike System**  
(in thousands)

Fiscal Year	Transactions						Gross Toll Revenue					
	Cars	Percent	Trucks	Percent	Total	Percent	Cars	Percent	Trucks	Percent	Total	Percent
		Change		Change		Change		Change		Change		Change
		Over Prior Year		Over Prior Year		Over Prior Year		Over Prior Year		Over Prior Year		Over Prior Year
Year	Cars	Year	Trucks	Year	Total	Year	Cars	Year	Trucks	Year	Total	Year
1994-95	114,033	6.9	15,620	9.5	129,653	7.2	165,850	4.9	131,749	7.2	297,599	5.9
1995-96	121,911	6.9	16,719	7.0	138,630	6.9	172,339	3.9	136,269	3.4	308,608	3.7
1996-97	126,654	3.9	17,479	4.5	144,133	4.0	179,303	4.0	140,837	3.4	320,140	3.7
1997-98	132,472	4.6	18,627	6.6	151,099	4.8	186,290	3.9	149,036	5.8	335,326	4.7
1998-99	136,399	3.0	19,833	6.5	156,232	3.4	191,804	3.0	158,761	6.5	350,565	4.5
1999-00	138,762	1.7	21,341	7.6	160,103	2.5	195,301	1.8	172,035	8.4	367,336	4.8
2000-01	141,033	1.6	21,278	(0.3)	162,311	1.4	193,563	(0.9)	172,337	0.2	365,900	(0.4)
2001-02	150,496	6.7	22,298	4.8	172,794	6.5	212,650	9.9	163,101	(5.4)	375,751	2.7
2002-03	156,220	3.8	23,179	4.0	179,399	3.8	219,201	3.1	168,021	3.0	387,222	3.1
2003-04	163,612	4.7	24,407	5.3	188,019	4.8	228,515	4.2	180,229	7.3	408,744	5.6
2004-05 (1)	163,316	(0.2)	25,109	2.9	188,425	0.2	309,032	35.2	236,126	31.0	545,158	33.4
2005-06	160,590	(1.7)	25,311	0.8	185,901	(1.3)	321,268	4.0	267,369	13.2	588,637	8.0
2006-07	160,107	(0.3)	25,316	0.0	185,423	(0.3)	322,781	0.5	269,861	0.9	592,642	0.7
2007-08	164,097	2.5	25,455	0.5	189,552	2.2	327,761	1.5	271,165	0.5	598,926	1.1
2008-09 (2)	162,638	(0.9)	23,583	(7.4)	186,220	(1.8)	356,345	8.7	259,259	(4.4)	615,605	2.8
2009-10 (3)	163,599	0.6	22,933	(2.8)	186,531	0.2	415,981	16.7	302,057	16.5	718,038	16.6
2010-11 (4)	165,230	1.0	23,812	3.8	189,042	1.3	435,752	4.8	328,105	8.6	763,856	6.4
2011-12 (5)	164,960	(0.2)	24,127	1.3	189,087	0.0	455,133	4.4	342,646	4.4	797,779	4.4
2012-13 (6)	163,690	(0.8)	24,207	0.3	187,897	(0.6)	471,514	3.6	350,226	2.2	821,740	3.0
2013-14 (7)	163,788	0.1	24,891	2.8	188,679	0.4	497,671	5.5	368,395	5.2	866,066	5.4
2014-15 (8)	166,190	1.5	26,144	5.0	192,334	1.9	533,054	7.1	401,197	8.9	934,252	7.9
2015-16 (9,10)	171,565	3.2	27,319	4.5	198,884	3.4	590,229	10.7	443,902	10.6	1,034,131	10.7

Average Annual Percent Change						
Fiscal Year	Transactions			Adjusted Gross Toll Revenue (9)		
	Cars	Trucks	Total	Cars	Trucks	Total
FY 1994-95 - FY 2005-06	3.2	4.5	3.3	6.2	6.6	6.4
FY 2005-06 - FY 2015-16	0.7	0.8	0.7	6.3	5.2	5.8
FY 1994-95 - FY 2015-16	2.0	2.7	2.1	6.2	6.0	6.1

- (1) A toll increase of 42.5% was implemented on August 1, 2004.  
(2) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and PA 43 Unionville to Brownsville remained unchanged.  
(3) A toll increase of 3% was implemented on January 3, 2010, except for Turnpike I-576 where the toll rates did not increase.  
(4) An E-ZPass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011, except for Turnpike I-576 where the toll rates did not increase.  
(5) A cash toll increase of 10% was implemented on January 1, 2012, except for Turnpike I-576 where the toll rates did not increase.  
(6) An E-ZPass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.  
(7) An E-ZPass toll increase of 2% and a cash toll increase of 12% was implemented on January 1, 2014, except for Turnpike I-576.  
(8) A toll increase of 5% was implemented on January 4, 2015, except for Turnpike I-576 where toll rates remained unchanged.  
(9) A toll increase of 6% was implemented on January 3, 2016, except for Turnpike I-576 where toll rates remained unchanged.  
(10) Tolloed revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions beginning January 3, 2016.

**Table 3**  
**Total Turnpike System - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	14,311	1.6	14,535	2.2	14,849	3.7	15,394	2,112	7.1	2,261	6.0	2,398	6.4	2,550	16,423	2.3	16,797	2.7	17,246	4.1	17,945
July	14,906	1.6	15,138	3.3	15,643	0.9	15,783	2,215	6.1	2,351	3.3	2,429	(0.4)	2,419	17,121	2.1	17,489	3.3	18,072	0.7	18,202
August	15,433	(0.1)	15,425	1.0	15,584	2.5	15,967	2,264	1.6	2,301	3.9	2,390	9.5	2,616	17,698	0.2	17,726	1.4	17,974	3.4	18,583
September	13,891	0.6	13,974	1.8	14,220	4.2	14,817	2,101	8.3	2,275	3.9	2,364	3.3	2,442	15,993	1.6	16,249	2.1	16,584	4.1	17,260
October	14,670	1.4	14,876	1.3	15,067	1.1	15,235	2,287	5.5	2,412	1.6	2,450	(0.8)	2,429	16,957	2.0	17,288	1.3	17,517	0.8	17,665
November	13,420	(0.5)	13,358	4.5	13,965	3.5	14,458	1,960	2.6	2,011	5.7	2,125	5.2	2,236	15,380	(0.1)	15,368	4.7	16,090	3.8	16,694
December	13,058	3.3	13,491	3.5	13,960	0.7	14,051	1,864	9.8	2,046	3.4	2,116	1.7	2,153	14,922	4.1	15,537	3.5	16,076	0.8	16,204
January	11,703	1.7	11,905	3.1	12,273	2.7	12,609	1,875	3.2	1,935	0.6	1,947	3.4	2,014	13,578	1.9	13,840	2.7	14,220	2.8	14,622
February	10,738	4.8	11,249	10.9	12,476	(8.6)	11,408	1,740	4.8	1,822	9.5	1,996	(9.0)	1,816	12,478	4.8	13,072	10.7	14,472	(8.6)	13,223
March	13,188	0.2	13,211	8.5	14,328	(6.4)	13,416	2,021	6.0	2,142	9.2	2,338	(5.2)	2,216	15,210	0.9	15,353	8.5	16,666	(6.2)	15,632
April	13,778	2.4	14,109	(0.0)	14,105			2,167	4.4	2,262	3.1	2,333			15,946	2.7	16,371	0.4	16,438		
May	14,690	1.6	14,919	1.2	15,095			2,283	1.8	2,325	4.7	2,434			16,974	1.6	17,244	1.7	17,529		
Total Year	163,788	1.5	166,190	3.2	171,565			24,891	5.0	26,144	4.5	27,319			188,679	1.9	192,334	3.4	198,884		
Jun - Mar	135,320	1.4	137,162	3.8	142,365	0.5	143,139	20,440	5.5	21,557	4.6	22,552	1.5	22,892	155,760	1.9	158,719	3.9	164,917	0.7	166,031

Toll Revenue (in \$1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	\$44,913	6.3	\$47,759	6.8	\$50,991	13.2	\$57,743	\$30,938	8.7	\$33,638	11.8	\$37,614	13.8	\$42,794	\$75,851	7.3	\$81,397	8.9	\$88,606	13.5	\$100,537
July	48,219	6.9	51,527	9.9	56,625	12.1	63,499	31,597	9.3	34,536	9.1	37,680	8.8	40,995	79,816	7.8	86,063	9.6	94,305	10.8	104,494
August	49,761	6.6	53,065	5.7	56,072	8.2	60,684	32,289	5.3	33,994	8.8	36,983	17.5	43,463	82,050	6.1	87,060	6.9	93,054	11.9	104,147
September	41,023	4.9	43,042	10.2	47,419	16.4	55,202	30,066	11.4	33,490	8.9	36,472	12.7	41,113	71,089	7.7	76,532	9.6	83,891	14.8	96,315
October	42,409	7.8	45,711	7.9	49,331	12.4	55,431	32,692	8.6	35,507	6.4	37,786	5.9	40,011	75,101	8.1	81,218	7.3	87,117	9.6	95,442
November	39,752	7.0	42,534	10.5	47,013	12.4	52,823	28,554	5.9	30,250	9.4	33,096	12.4	37,214	68,306	6.6	72,785	10.1	80,109	12.4	90,037
December	39,259	6.4	41,766	8.8	45,446	12.1	50,933	27,577	13.0	31,154	6.8	33,264	11.2	36,992	66,836	9.1	72,921	7.9	78,709	11.7	87,925
January	33,403	8.2	36,138	14.6	41,428	7.6	44,592	28,936	9.2	31,609	8.2	34,212	7.2	36,663	62,338	8.7	67,747	11.7	75,640	7.4	81,255
February	30,259	10.0	33,282	23.1	40,986	(5.0)	38,957	27,168	9.5	29,753	18.4	35,234	(6.5)	32,933	57,427	9.8	63,035	20.9	76,220	(5.7)	71,890
March	39,421	4.7	41,277	20.9	49,886	(3.3)	48,232	31,644	10.4	34,940	15.7	40,442	0.6	40,690	71,065	7.3	76,218	18.5	90,328	(1.6)	88,922
April	42,363	8.3	45,872	8.3	49,683			32,811	9.5	35,912	11.6	40,066			75,174	8.8	81,784	9.7	89,749		
May	46,889	8.9	51,080	8.4	55,350			34,123	6.7	36,413	12.7	41,052			81,012	8.0	87,493	10.2	96,402		
Total Year	\$497,671	7.1	\$533,054	10.7	\$590,229			\$368,395	8.9	\$401,197	10.6	\$443,902			\$866,066	7.9	\$934,252	10.7	\$1,034,131		
Jun - Mar	\$408,418	6.8	\$436,102	11.3	\$485,197	8.8	\$528,095	\$301,461	9.1	\$328,872	10.3	\$362,783	8.3	\$392,869	\$709,879	7.8	\$764,974	10.9	\$847,980	8.6	\$920,964

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.
- (10) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.
- (11) Tolloed revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions.



**Table 4**  
**Ticket System (Including Gateway Barrier Plaza) - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Toll Transactions (in 1,000s)								Total Vehicles							
							Commercial Vehicles															
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	
June	11,540	1.6	11,720	2.3	11,995	0.1	12,013	1,744	6.2	1,852	6.7	1,976	2.6	2,028	13,284	2.2	13,572	2.9	13,971	0.5	14,041	
July	11,959	1.4	12,128	3.8	12,583	(3.1)	12,196	1,816	5.2	1,910	4.6	1,998	(3.5)	1,927	13,775	1.9	14,039	3.9	14,581	(3.1)	14,123	
August	12,343	(0.5)	12,285	2.0	12,525	(1.4)	12,348	1,852	0.5	1,862	4.8	1,951	6.7	2,082	14,195	(0.3)	14,147	2.3	14,476	(0.3)	14,430	
September	11,105	0.2	11,123	2.2	11,362	1.0	11,480	1,719	6.9	1,838	4.7	1,925	0.8	1,941	12,824	1.1	12,961	2.5	13,287	1.0	13,421	
October	11,738	1.2	11,876	1.6	12,064	(1.9)	11,836	1,873	4.6	1,960	1.9	1,997	(3.4)	1,930	13,611	1.7	13,836	1.6	14,061	(2.1)	13,766	
November	10,812	(0.5)	10,760	4.8	11,281	0.2	11,301	1,617	1.9	1,648	6.1	1,748	1.6	1,777	12,428	(0.2)	12,408	5.0	13,029	0.4	13,078	
December	10,484	4.0	10,902	3.7	11,302	(2.6)	11,005	1,552	9.5	1,700	3.7	1,763	(1.7)	1,732	12,036	4.7	12,602	3.7	13,065	(2.5)	12,738	
January	9,478	1.5	9,619	(0.1)	9,605	4.4	10,033	1,560	2.9	1,606	(3.3)	1,552	5.8	1,642	11,038	1.7	11,225	(0.6)	11,158	4.6	11,675	
February	8,585	6.0	9,101	7.0	9,738	(5.3)	9,226	1,439	5.5	1,518	5.8	1,606	-5.7	1,514	10,023	5.9	10,619	6.8	11,345	(5.3)	10,741	
March	10,649	(0.2)	10,627	5.1	11,168	(5.2)	10,589	1,666	5.9	1,763	6.0	1,869	-3.9	1,796	12,314	0.6	12,390	5.2	13,037	(5.0)	12,385	
April	11,096	2.6	11,380	(3.8)	10,953			1,789	4.2	1,863	-0.3	1,858			12,884	2.8	13,244	(3.3)	12,812			
May	11,809	1.4	11,977	(2.2)	11,717			1,874	1.9	1,910	0.9	1,927			13,683	1.5	13,887	(1.7)	13,644			
Total Year	131,595	1.4	133,498	2.1	136,294			20,501	4.5	21,430	3.5	22,172			152,096	1.9	154,928	2.3	158,466			
Jun - Mar	108,690	1.3	110,141	3.2	113,624	(1.4)	112,027	16,838	4.9	17,657	4.1	18,386	(0.1)	18,369	125,529	1.8	127,798	3.3	132,010	(1.2)	130,396	

Month	Passenger Cars						Toll Revenue (in \$1,000s)						Total Vehicles											
	2013-14		2014-15		2015-16		2016-17		2013-14		2014-15		2015-16		2016-17		2013-14		2014-15		2015-16		2016-17	
	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	
June	\$41,761	6.3	\$44,385	6.9	\$47,437	8.1	\$51,285	\$29,642	8.4	\$32,145	12.1	\$36,033	9.1	\$39,330	\$71,403	7.2	\$76,530	9.1	\$83,470	8.6	\$90,615			
July	44,889	6.8	47,942	10.2	52,824	7.3	56,657	30,200	9.1	32,935	9.5	36,075	4.6	37,746	75,089	7.7	80,876	9.9	88,899	6.2	94,403			
August	46,287	6.6	49,340	6.0	52,285	2.9	53,789	30,847	5.1	32,420	9.1	35,370	12.9	39,940	77,134	6.0	81,759	7.2	87,654	6.9	93,730			
September	37,868	4.7	39,655	10.7	43,886	11.5	48,939	28,725	11.1	31,911	9.2	34,860	8.3	37,771	66,593	7.5	71,566	10.0	78,746	10.1	86,710			
October	39,100	7.8	42,161	8.2	45,633	7.5	49,042	31,235	8.5	33,884	6.5	36,101	1.7	36,722	70,335	8.1	76,045	7.5	81,734	4.9	85,763			
November	36,810	7.2	39,455	10.8	43,709	7.1	46,808	27,346	5.8	28,927	9.5	31,685	7.5	34,065	64,156	6.6	68,382	10.3	75,394	7.3	80,872			
December	36,350	6.4	38,684	9.0	42,150	7.0	45,100	26,444	13.0	29,877	6.8	31,919	6.5	33,995	62,795	9.2	68,561	8.0	74,070	6.8	79,094			
January	30,782	8.2	33,317	9.6	36,524	9.6	40,022	27,743	9.4	30,349	3.8	31,504	8.8	34,287	58,524	8.8	63,666	6.9	68,028	9.2	74,309			
February	27,690	10.6	30,622	17.2	35,883	0.2	35,970	26,037	9.8	28,580	13.7	32,491	(2.6)	31,649	53,728	10.2	59,202	15.5	68,374	(1.1)	67,619			
March	36,382	4.6	38,063	15.6	43,985	(1.6)	43,281	30,311	10.5	33,495	11.2	37,239	2.2	38,041	66,693	7.3	71,558	13.5	81,223	0.1	81,322			
April	39,166	8.5	42,487	3.0	43,765			31,396	9.6	34,407	7.1	36,846			70,562	9.0	76,894	4.8	80,611					
May	43,440	9.1	47,413	3.3	48,983			32,623	6.9	34,875	8.1	37,714			76,063	8.2	82,287	5.4	86,697					
Total Year	\$460,525	7.2	\$493,523	8.8	\$537,063			\$352,550	8.9	\$383,804	8.9	\$417,839			\$813,075	7.9	\$877,327	8.8	\$954,901					
Jun - Mar	\$377,919	6.8	\$403,623	10.1	\$444,314	6.0	\$470,892	\$288,531	9.0	\$314,522	9.1	\$343,278	5.9	\$363,545	\$666,450	7.8	\$718,145	9.7	\$787,593	5.9	\$834,437			

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.
- (10) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.
- (11) Before January 2016, Delaware River Bridge traffic and revenue were included in Ticket System reporting.
- (12) Tolloed revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions.

**Table 5**  
**Turnpike 43 - Mon/Fayette Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars							Commercial Vehicles							Total Vehicles						
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	1,023	2.1	1,044	5.1	1,098	(1.4)	1,083	79	19.9	95	3.4	98	(2.9)	95	1,102	3.4	1,139	5.0	1,196	(1.5)	1,178
July	1,052	3.1	1,084	5.2	1,141	(2.6)	1,112	87	16.5	101	(2.6)	99	(12.9)	86	1,139	4.1	1,186	4.6	1,240	(3.4)	1,198
August	1,114	1.3	1,129	2.0	1,151	(0.9)	1,141	90	12.1	101	9.0	110	(13.2)	95	1,204	2.1	1,230	2.5	1,261	(2.0)	1,236
September	1,070	2.7	1,099	4.4	1,147	(3.5)	1,107	82	22.7	101	17.5	119	(25.0)	89	1,152	4.1	1,200	5.5	1,266	(5.5)	1,196
October	1,132	2.3	1,158	5.4	1,221	(7.1)	1,134	96	11.4	107	(0.3)	107	(16.9)	89	1,228	3.0	1,265	4.9	1,327	(7.9)	1,223
November	985	0.1	986	7.3	1,058	(4.3)	1,013	76	14.2	87	(0.8)	86	(9.0)	78	1,061	1.2	1,073	6.7	1,145	(4.7)	1,091
December	957	3.9	994	4.9	1,043	(5.6)	984	65	23.4	81	(6.4)	75	(3.5)	73	1,022	5.2	1,075	4.0	1,118	(5.5)	1,057
January	852	5.5	899	(1.4)	887	1.7	902	63	26.0	79	(16.0)	67	(5.4)	63	915	6.9	978	(2.5)	953	1.2	965
February	853	1.6	867	7.5	932	(4.3)	892	62	6.6	67	(5.4)	63	3.7	65	915	2.0	933	6.5	995	(3.8)	957
March	985	3.9	1,023	3.7	1,061	(3.1)	1,028	82	12.7	93	(7.4)	86	(8.8)	78	1,067	4.6	1,116	2.8	1,147	(3.5)	1,106
April	1,026	5.0	1,077	(2.5)	1,050			84	17.7	98	(15.7)	83			1,109	6.0	1,175	(3.7)	1,133		
May	1,082	6.1	1,147	(5.2)	1,088			92	8.7	100	(10.4)	90			1,174	6.3	1,248	(5.6)	1,178		
Total Year	12,129	3.1	12,508	2.9	12,876			959	15.7	1,110	(2.5)	1,082			13,089	4.0	13,618	2.5	13,958		
Jun - Mar	10,022	2.6	10,284	4.4	10,738	(3.2)	10,394	783	16.3	911	(0.2)	909	(10.7)	812	10,805	3.6	11,195	4.0	11,647	(3.8)	11,206

Month	Passenger Cars							Commercial Vehicles							Total Vehicles						
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	\$1,253	7.1	\$1,341	9.5	\$1,468	4.4	\$1,532	\$274	23.8	\$339	8.1	\$366	1.5	\$372	\$1,526	10.1	\$1,680	9.2	\$1,835	3.8	\$1,904
July	1,290	8.2	1,397	9.8	1,533	3.4	1,586	297	20.6	358	2.2	366	(7.5)	338	1,587	10.5	1,755	8.2	1,899	1.3	1,924
August	1,362	6.8	1,454	6.1	1,542	4.4	1,610	305	16.3	355	11.8	397	(5.7)	374	1,667	8.5	1,809	7.2	1,939	2.3	1,984
September	1,295	7.6	1,393	8.1	1,506	2.2	1,539	280	26.5	354	17.9	417	(15.0)	355	1,575	10.9	1,747	10.1	1,923	(1.5)	1,894
October	1,363	7.4	1,464	8.7	1,592	(0.7)	1,581	323	17.0	378	2.1	386	(8.5)	353	1,686	9.3	1,842	7.4	1,978	(2.2)	1,934
November	1,186	5.2	1,248	11.1	1,386	1.3	1,404	258	19.0	307	4.0	319	(1.0)	316	1,444	7.7	1,555	9.7	1,705	0.9	1,720
December	1,156	9.0	1,259	9.5	1,379	(1.1)	1,363	230	26.0	290	0.4	292	0.5	293	1,386	11.8	1,550	7.8	1,671	(0.9)	1,656
January	1,069	10.0	1,176	3.9	1,222	6.1	1,297	228	30.4	297	(8.1)	273	(0.2)	272	1,297	13.6	1,473	1.5	1,495	5.0	1,569
February	1,077	5.6	1,138	13.1	1,287	1.0	1,300	225	11.2	250	4.7	262	8.0	283	1,302	6.6	1,388	11.6	1,549	2.2	1,583
March	1,250	8.0	1,350	9.7	1,481	1.6	1,505	289	18.6	343	(0.3)	342	(0.2)	341	1,539	10.0	1,693	7.6	1,823	1.3	1,846
April	1,297	9.6	1,421	2.7	1,460			303	20.2	364	(9.5)	329			1,600	11.6	1,785	0.2	1,789		
May	1,385	10.7	1,534	(0.4)	1,528			330	10.5	365	(2.4)	356			1,715	10.7	1,899	(0.8)	1,884		
Total Year	\$14,984	7.9	\$16,174	7.5	\$17,384			\$3,342	19.7	\$4,000	2.6	\$4,106			\$18,325	10.1	\$20,174	6.5	\$21,490		
Jun - Mar	\$12,301	7.5	\$13,219	8.9	\$14,397	2.2	\$14,717	\$2,709	20.8	\$3,271	4.5	\$3,420	(3.6)	\$3,297	\$15,010	9.9	\$16,491	8.0	\$17,817	1.1	\$18,014

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 6**  
**Turnpike 66 - Amos K. Hutchinson Bypass - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Toll Transactions (in 1,000s)						Total Vehicles									
	2013-14		% Chg	2014-15		% Chg	2015-16		% Chg	2016-17		2013-14		% Chg	2014-15		% Chg	2015-16		% Chg	2016-17	
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	
June	573	1.8	584	(0.8)	579	(2.7)	563	91	7.4	98	(2.9)	95	(2.4)	93	664	2.6	681	(1.1)	674	(2.7)	656	
July	588	0.8	592	(0.1)	591	(5.3)	560	96	3.8	100	(1.9)	98	(10.4)	88	684	1.2	692	(0.4)	689	(6.0)	648	
August	612	(0.7)	608	(3.4)	587	(2.5)	572	100	(0.9)	99	(2.9)	97	(0.0)	96	713	(0.7)	707	(3.4)	684	(2.2)	669	
September	581	3.3	601	(4.8)	571	(2.0)	560	94	10.5	104	(10.5)	93	0.8	94	675	4.3	704	(5.7)	665	(1.6)	654	
October	612	4.4	639	(6.0)	600	(3.9)	577	98	10.4	108	(4.0)	104	(11.5)	92	710	5.2	747	(5.7)	705	(5.1)	669	
November	561	(0.4)	559	(1.6)	550	(1.4)	542	80	15.7	92	(7.5)	86	(7.0)	80	641	1.6	651	(2.4)	635	(2.2)	621	
December	561	0.9	566	(0.3)	564	(4.3)	540	72	15.9	83	(1.7)	82	(14.6)	70	633	2.6	649	(0.5)	646	(5.6)	610	
January	489	4.2	509	(5.7)	480	1.3	487	77	(1.9)	76	(4.5)	72	(5.1)	69	566	3.3	585	(5.5)	552	0.5	555	
February	474	(0.1)	473	3.2	489	(4.5)	467	72	1.5	73	(4.2)	70	(5.1)	67	546	0.1	547	2.3	559	(4.6)	533	
March	551	1.5	559	(0.9)	554	(3.0)	537	84	1.2	85	(1.0)	84	(2.4)	82	635	1.5	645	(0.9)	639	(2.9)	620	
April	573	0.0	573	(4.2)	549			93	0.2	93	(4.7)	89			666	0.0	666	(4.3)	637			
May	608	(0.6)	604	(4.9)	575			101	(7.9)	93	1.1	94			708	(1.6)	697	(4.1)	669			
Total Year	6,782	1.2	6,866	(2.6)	6,690			1,058	4.4	1,105	(3.8)	1,063			7,841	1.7	7,971	(2.7)	7,753			
Jun - Mar	5,602	1.6	5,689	(2.2)	5,566	(2.9)	5,405	865	6.3	919	(4.2)	881	(5.8)	830	6,467	2.2	6,608	(2.4)	6,447	(3.3)	6,235	

Month	Passenger Cars						Toll Revenue (in \$1,000s)										Total Vehicles																	
	2013-14		% Chg	2014-15		% Chg	2015-16		% Chg	2016-17		2013-14		% Chg	2014-15		% Chg	2015-16		% Chg	2016-17		2013-14		% Chg	2014-15		% Chg	2015-16		% Chg	2016-17		
June	\$780	6.9	\$833	2.7	\$856	2.1	\$874	\$357	13.8	\$406	(2.3)	\$397	(0.6)	\$395	\$1,137	9.1	\$1,240	1.1	\$1,253	1.3	\$1,269													
July	800	6.3	851	3.5	880	(0.6)	875	372	11.2	414	(2.2)	404	(6.8)	377	1,172	7.8	1,264	1.6	1,285	(2.6)	1,252													
August	831	4.8	871	0.1	872	1.6	886	388	4.5	405	(2.2)	396	7.0	424	1,219	4.7	1,276	(0.6)	1,268	3.3	1,311													
September	785	7.9	846	(0.4)	843	2.9	867	366	16.4	426	(10.1)	383	7.3	411	1,150	10.6	1,272	(3.7)	1,226	4.3	1,278													
October	824	8.6	895	(1.4)	882	1.1	892	384	12.9	434	0.3	435	(8.6)	398	1,208	10.0	1,329	(0.8)	1,318	(2.1)	1,290													
November	753	4.7	788	2.3	806	3.5	834	309	21.9	376	(6.0)	354	(4.7)	337	1,062	9.7	1,164	(0.4)	1,160	1.0	1,171													
December	751	5.8	795	3.5	823	0.6	828	289	16.4	336	0.5	338	(12.0)	297	1,040	8.8	1,131	2.6	1,161	(3.1)	1,125													
January	678	9.0	739	(1.1)	731	5.6	771	325	(3.6)	313	2.6	322	(2.8)	313	1,003	4.9	1,052	(0.0)	1,052	3.0	1,084													
February	663	3.8	688	8.4	746	0.9	752	304	1.9	310	0.0	310	(0.1)	310	967	3.2	998	5.8	1,056	0.6	1,062													
March	778	5.1	818	4.2	852	1.8	868	359	(1.2)	354	5.2	373	2.6	382	1,137	3.1	1,173	4.5	1,225	2.0	1,250													
April	810	3.8	841	0.4	844			393	(0.7)	391	(0.1)	390			1,204	2.3	1,231	0.2	1,234															
May	864	3.3	892	(0.7)	886			419	(8.6)	383	6.2	407			1,283	(0.6)	1,276	1.4	1,293															
Total Year	\$9,317	5.8	\$9,857	1.7	\$10,021			\$4,265	6.7	\$4,549	(0.9)	\$4,509			\$13,582	6.1	\$14,406	0.9	\$14,530															
Jun - Mar	\$7,643	6.3	\$8,124	2.1	\$8,291	1.9	\$8,447	\$3,452	9.4	\$3,776	(1.7)	\$3,712	(1.8)	\$3,644	\$11,095	7.3	\$11,899	0.9	\$12,003	0.7	\$12,091													

**NOTES:**

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- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 7**  
**Northeast Extension Barrier Plazas - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Toll Transactions (in 1,000s)						Total Vehicles					
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg
June	469	(4.0)	450	(0.5)	448	(6.9)	91	3.2	94	6.7	100	0.4	560	(2.8)	544	0.7	548	(5.5)
July	560	0.6	563	(1.6)	554	(6.4)	102	5.0	107	(4.1)	102	(2.3)	662	1.2	670	(2.0)	657	(5.8)
August	602	1.7	612	(8.2)	562	(10.6)	102	6.6	109	(6.1)	102	3.8	704	2.4	721	(7.9)	664	(8.4)
September	438	(0.5)	436	(2.0)	427	(7.3)	92	9.8	101	(4.2)	97	0.4	530	1.3	537	(2.4)	524	(5.9)
October	453	3.5	469	(3.7)	452	(11.9)	95	8.6	104	(2.2)	101	(8.2)	549	4.4	573	(3.4)	553	(11.2)
November	404	(0.5)	402	1.1	406	(7.4)	81	(0.6)	80	7.2	86	3.7	485	(0.6)	482	2.1	492	(5.5)
December	388	(8.3)	356	3.5	369	(10.9)	79	(0.8)	78	6.3	83	(0.5)	467	(7.0)	434	4.0	452	(9.0)
January	307	(4.3)	294	(2.1)	288	(3.9)	80	(3.2)	77	(0.0)	77	5.6	387	(4.1)	371	(1.7)	365	(1.9)
February	279	(3.4)	269	6.3	286	(6.8)	73	0.1	73	4.0	76	1.2	352	(2.7)	342	5.8	362	(5.1)
March	352	(3.2)	341	3.1	351	(15.4)	83	2.8	85	1.7	86	1.0	435	(2.1)	426	2.8	438	(12.2)
April	398	(2.7)	387	(6.7)	361		87	1.4	88	0.9	89		485	(2.0)	476	(5.3)	451	
May	450	2.7	462	(6.4)	433		95	3.0	98	0.9	99		545	2.8	560	(5.1)	531	
Total Year	5,101	(1.2)	5,042	(2.1)	4,937		1,060	3.3	1,094	0.5	1,100		6,160	(0.4)	6,136	(1.6)	6,037	
Jun - Mar	4,253	(1.4)	4,193	(1.2)	4,143	(8.8)	877	3.5	908	0.4	912	0.3	5,130	(0.6)	5,100	(0.9)	5,055	(7.2)

Month	Passenger Cars						Toll Revenue (in \$1,000s)						Total Vehicles					
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg
June	\$379	1.0	\$383	4.0	\$398	(2.4)	\$364	7.7	\$392	11.1	\$435	8.5	\$743	4.2	\$775	7.6	\$834	3.3
July	454	6.2	483	3.1	497	(1.5)	403	8.9	439	(1.5)	432	5.7	857	7.5	921	0.9	930	1.8
August	486	7.7	524	(4.2)	502	(6.4)	405	9.8	445	(2.5)	434	13.3	891	8.7	969	(3.4)	936	2.7
September	350	4.4	366	2.7	376	(2.5)	369	13.5	419	(0.1)	419	7.9	719	9.1	785	1.2	794	3.0
October	361	8.9	393	0.9	397	(8.1)	394	10.6	436	1.2	441	(2.4)	755	9.8	829	1.1	838	(5.1)
November	320	4.6	335	5.7	354	(3.2)	336	1.1	340	11.8	380	9.1	657	2.8	675	8.8	734	3.2
December	307	(3.9)	295	8.5	320	(7.1)	331	2.3	339	9.9	372	4.3	638	(0.7)	634	9.2	693	(1.0)
January	255	(0.8)	253	3.0	261	(0.1)	344	0.6	346	5.7	366	10.9	599	(0.0)	599	4.6	627	6.3
February	232	0.5	233	11.5	260	(1.8)	316	4.1	329	10.4	364	5.3	549	2.5	563	10.9	624	2.3
March	297	0.8	299	8.3	324	(11.5)	358	7.4	385	7.6	414	6.8	655	4.4	684	7.9	738	(1.2)
April	338	1.1	341	(1.7)	336		373	6.0	395	8.9	431		711	3.7	737	4.0	766	
May	381	7.6	410	(2.1)	401		396	7.0	424	10.2	467		777	7.3	834	4.2	868	
Total Year	\$4,162	3.7	\$4,316	2.6	\$4,427		\$4,391	6.8	\$4,689	5.7	\$4,955		\$8,553	5.3	\$9,004	4.2	\$9,382	
Jun - Mar	\$3,443	3.5	\$3,564	3.5	\$3,690	(4.5)	\$3,622	6.8	\$3,870	4.9	\$4,057	6.9	\$7,065	5.2	\$7,434	4.2	\$7,747	1.5

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 8**  
**Turnpike I-376 - Beaver Valley Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Commercial Vehicles						Total Vehicles					
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg
June	567	4.4	592	(3.0)	574	(2.1)	93	15.9	107	0.2	108	3.3	659	6.0	699	(2.5)	682	(1.2)
July	601	2.3	615	(0.8)	610	(3.7)	101	13.6	115	(1.6)	113	(8.4)	703	3.9	730	(0.9)	723	(4.5)
August	612	3.1	631	(4.8)	601	(3.6)	106	5.8	112	(1.7)	110	2.7	718	3.5	743	(4.3)	711	(2.6)
September	564	1.1	570	(0.8)	565	(2.7)	100	13.8	114	(3.9)	109	(4.6)	664	3.0	684	(1.4)	675	(3.0)
October	595	(2.2)	582	(0.8)	577	(4.1)	108	5.2	114	2.5	117	(10.5)	703	(1.1)	696	(0.3)	694	(5.2)
November	534	(3.0)	518	2.1	529	(3.6)	91	(2.3)	89	10.1	98	(3.2)	625	(2.9)	607	3.2	627	(3.6)
December	541	(1.4)	533	1.2	539	(7.8)	84	6.6	90	3.8	93	(13.8)	625	(0.4)	622	1.5	632	(8.7)
January	458	0.5	460	(1.0)	455	(1.2)	85	(1.0)	84	(3.2)	82	(2.0)	543	0.3	544	(1.3)	537	(1.3)
February	439	(3.4)	424	5.2	446	(3.2)	83	(4.9)	79	3.1	81	(3.7)	521	(3.6)	503	4.9	527	(3.3)
March	523	0.1	523	(0.7)	519	(4.0)	94	6.1	99	(0.3)	99	(7.4)	617	1.0	623	(0.7)	619	(4.5)
April	551	(0.6)	548	(6.3)	513		100	0.9	101	0.7	102		651	(0.3)	649	(5.2)	616	
May	597	(3.4)	576	(5.1)	547		107	(3.9)	103	3.7	107		704	(3.4)	680	(3.8)	654	
Total Year	6,580	(0.1)	6,572	(1.5)	6,476		1,153	4.8	1,208	0.9	1,220		7,733	0.6	7,780	(1.1)	7,696	
Jun - Mar	5,433	0.3	5,448	(0.6)	5,416	(3.6)	945	6.2	1,004	0.7	1,010	(4.8)	6,378	1.1	6,451	(0.4)	6,426	(3.8)

Month	Passenger Cars						Commercial Vehicles						Total Vehicles					
	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg
June	\$640	11.4	\$713	1.3	\$723	4.2	\$273	18.9	\$325	3.7	\$337	9.4	\$914	13.6	\$1,038	2.1	\$1,060	5.8
July	681	9.6	747	3.9	776	2.5	297	19.5	354	1.1	358	(5.3)	978	12.6	1,101	3.0	1,134	0.0
August	688	11.1	764	(0.7)	759	1.2	314	5.7	332	2.6	341	10.1	1,003	9.4	1,097	0.3	1,100	4.0
September	631	7.8	680	3.9	707	2.8	298	15.2	343	0.6	346	(0.4)	929	10.2	1,024	2.8	1,052	1.8
October	662	4.2	690	4.3	719	1.4	324	4.1	337	10.7	373	(8.8)	986	4.2	1,027	6.4	1,092	(2.1)
November	595	3.5	616	7.1	659	1.2	273	(1.1)	270	16.1	314	(0.6)	868	2.1	886	9.9	973	0.7
December	604	5.1	635	6.1	673	(3.2)	256	8.8	278	7.4	299	(11.3)	860	6.2	913	6.5	972	(5.7)
January	536	5.6	566	4.5	592	2.8	271	1.5	275	1.1	278	1.0	807	4.2	841	3.4	870	2.2
February	519	0.4	521	11.3	580	2.2	262	(2.6)	255	9.0	278	(1.3)	781	(0.6)	776	10.5	858	1.1
March	623	4.4	650	4.6	680	1.1	299	9.6	328	3.5	339	(4.5)	922	6.1	978	4.2	1,019	(0.8)
April	657	3.8	682	(1.1)	674		314	0.9	317	7.3	341		971	2.9	999	1.6	1,015	
May	717	1.1	725	(0.0)	724		325	(1.3)	321	11.8	359		1,042	0.4	1,045	3.6	1,083	
Total Year	\$7,553	5.8	\$7,989	3.5	\$8,268		\$3,506	6.6	\$3,736	6.0	\$3,961		\$11,058	6.0	\$11,724	4.3	\$12,229	
Jun - Mar	\$6,179	6.5	\$6,583	4.3	\$6,869	1.6	\$2,867	8.1	\$3,097	5.3	\$3,262	(1.2)	\$9,046	7.0	\$9,680	4.7	\$10,131	0.7

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 9**  
**Turnpike I-576 - Southern Beltway - Findlay Connector - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																												
Passenger Cars								Commercial Vehicles								Total Vehicles												
Month	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	140	4.4	146	6.2	155	(2.9)	151	14	9.8	15	35.1	20	(6.2)	19	154	4.9	161	8.9	175	(3.3)	170	154	4.9	161	8.9	175	(3.3)	170
July	146	5.9	154	5.6	163	(0.5)	162	13	34.4	18	8.0	19	(5.6)	18	159	8.3	172	5.8	182	(1.1)	180	159	8.3	172	5.8	182	(1.1)	180
August	150	6.6	159	(0.7)	158	5.9	168	14	30.8	18	11.9	20	(0.3)	20	164	8.6	178	0.6	179	5.2	188	164	8.6	178	0.6	179	5.2	188
September	134	8.7	145	0.9	147	2.6	151	14	26.9	17	23.7	21	(15.0)	18	147	10.4	163	3.3	168	0.4	169	147	10.4	163	3.3	168	0.4	169
October	140	8.9	153	0.5	154	0.4	154	15	21.3	18	26.1	23	2.2	24	155	10.1	171	3.2	177	0.6	178	155	10.1	171	3.2	177	0.6	178
November	125	5.8	133	6.1	141	4.7	147	15	(6.9)	14	47.2	21	(7.2)	19	140	4.5	146	10.0	161	3.2	166	140	4.5	146	10.0	161	3.2	166
December	128	9.8	140	2.1	143	(0.8)	142	12	23.3	15	33.6	20	(4.1)	19	140	10.9	155	5.1	163	(1.2)	161	140	10.9	155	5.1	163	(1.2)	161
January	119	4.6	124	(0.2)	124	5.8	131	11	19.7	13	23.5	16	21.8	20	130	5.8	137	2.1	140	7.7	151	130	5.8	137	2.1	140	7.7	151
February	110	4.9	115	6.3	122	1.8	124	11	22.7	13	17.1	15	(1.0)	15	120	6.5	128	7.4	137	1.5	139	120	6.5	128	7.4	137	1.5	139
March	129	6.8	138	3.5	143	2.3	146	13	26.9	16	6.8	17	2.4	18	142	8.6	154	3.8	160	2.3	164	142	8.6	154	3.8	160	2.3	164
April	135	5.8	143	(3.7)	138			14	24.0	18	(5.0)	17			150	7.5	161	(3.9)	155			150	7.5	161	(3.9)	155		
May	146	4.5	152	(3.2)	147			14	51.2	21	(0.6)	21			159	8.6	173	(2.9)	168			159	8.6	173	(2.9)	168		
Total Year	1,601	6.4	1,703	1.8	1,735			159	23.5	197	17.7	231			1,760	8.0	1,900	3.5	1,966			1,760	8.0	1,900	3.5	1,966		
Jun - Mar	1,320	6.7	1,408	3.0	1,449	1.8	1,476	131	20.5	158	22.6	194	(1.9)	190	1,451	7.9	1,566	4.9	1,643	1.4	1,666	1,451	7.9	1,566	4.9	1,643	1.4	1,666

Toll Revenue (in \$1,000s)																												
Passenger Cars								Commercial Vehicles								Total Vehicles												
Month	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17	2013-14	% Chg	2014-15	% Chg	2015-16	% Chg	2016-17
June	\$100	3.5	\$103	5.8	\$109	(3.2)	\$105	\$28	12.4	\$32	43.8	\$46	(9.0)	\$41	\$128	5.4	\$135	14.7	\$154	(4.9)	\$147	\$128	5.4	\$135	14.7	\$154	(4.9)	\$147
July	104	5.1	109	5.1	114	(0.8)	113	28	29.4	37	18.1	43	(8.7)	40	132	10.3	146	8.4	158	(3.0)	153	132	10.3	146	8.4	158	(3.0)	153
August	106	5.9	113	(1.3)	111	5.5	117	29	29.0	37	20.8	45	(1.9)	44	135	10.9	150	4.2	156	3.4	162	135	10.9	150	4.2	156	3.4	162
September	95	8.1	102	0.5	103	2.1	105	28	26.8	36	30.8	47	(14.8)	40	123	12.4	138	8.4	150	(3.2)	145	123	12.4	138	8.4	150	(3.2)	145
October	99	8.5	107	(0.1)	107	(0.1)	107	32	18.5	38	29.6	49	(0.1)	49	131	10.9	145	7.7	157	(0.1)	156	131	10.9	145	7.7	157	(0.1)	156
November	89	5.1	93	5.6	98	4.2	102	31	(4.7)	30	48.1	44	(4.4)	42	120	2.6	123	15.9	142	1.5	144	120	2.6	123	15.9	142	1.5	144
December	90	8.9	98	1.6	100	(1.6)	98	26	24.2	33	33.7	44	0.6	44	117	12.3	131	9.6	144	(0.9)	142	117	12.3	131	9.6	144	(0.9)	142
January	84	4.0	87	(0.9)	86	5.2	91	25	17.0	29	26.8	37	26.2	46	108	7.0	116	6.0	123	11.5	137	108	7.0	116	6.0	123	11.5	137
February	77	4.3	80	5.7	85	1.3	86	24	19.1	29	23.1	35	(3.3)	34	101	7.8	109	10.3	120	(0.1)	120	101	7.8	109	10.3	120	(0.1)	120
March	91	6.3	97	2.8	99	1.6	101	28	26.4	36	11.7	40	2.1	41	119	11.1	132	5.2	139	1.7	142	119	11.1	132	5.2	139	1.7	142
April	95	5.2	100	(4.2)	96			31	20.8	38	0.8	38			127	9.1	138	(2.8)	134			127	9.1	138	(2.8)	134		
May	103	4.0	107	(3.8)	103			30	55.1	46	(2.3)	45			132	15.5	153	(3.4)	148			132	15.5	153	(3.4)	148		
Total Year	\$1,131	5.8	\$1,196	1.3	\$1,212			\$341	22.8	\$419	22.4	\$513			\$1,473	9.7	\$1,615	6.7	\$1,725			\$1,473	9.7	\$1,615	6.7	\$1,725		
Jun - Mar	\$933	6.0	\$989	2.4	\$1,013	1.3	\$1,026	\$280	19.6	\$335	28.2	\$430	(1.9)	\$422	\$1,214	9.1	\$1,325	8.9	\$1,443	0.4	\$1,448	\$1,214	9.1	\$1,325	8.9	\$1,443	0.4	\$1,448

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) On January 8, 2017, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576 and Delaware River Bridge.
- (8) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (9) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

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**Table 10**  
**Delaware River Bridge - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars			Commercial Vehicles			Total Vehicles		
	Toll Transactions (in 1,000s)								
	2015-16	% Chg	2016-17	2015-16	% Chg	2016-17	2015-16	% Chg	2016-17
June			606			103			709
July			647			97			744
August			657			103			760
September			573			99			672
October			583			97			680
November			570			98			668
December			555			96			651
January	434	(24.1)	330	81	(26.6)	59	515	(24.5)	389
February	463	(100.0)	0	84	(100.0)	0	547	(100.0)	0
March	531	(39.8)	320	95	(34.1)	63	627	(39.0)	383
April	541			95			636		
May	588			97			685		
Total Year	2,558			452			3,009		
Jun - Mar			4,841			814			5,655

Month	Passenger Cars			Commercial Vehicles			Total Vehicles		
	Toll Revenue (in \$1,000s)								
	2015-16	% Chg	2016-17	2015-16	% Chg	2016-17	2015-16	% Chg	2016-17
June			\$2,804			\$1,816			\$4,620
July			2,983			1,698			4,682
August			3,043			1,813			4,856
September			2,659			1,740			4,399
October			2,714			1,719			4,433
November			2,665			1,727			4,392
December			2,595			1,710			4,304
January	2,013	(23.4)	1,542	1,433	(26.2)	1,058	3,446	(24.5)	2,601
February	2,145	(100.0)	0	1,495	(100.0)	0	3,640	(100.0)	0
March	2,465	(39.0)	1,503	1,696	(34.0)	1,119	4,161	(37.0)	2,622
April	2,508			1,691			4,199		
May	2,725			1,704			4,429		
Total Year	\$11,855			\$8,019			\$19,874		
Jun - Mar			\$22,509			\$14,400			\$36,909

**NOTES:**

- (1) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.  
(2) Tolloed revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions.

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compared to the same time period in the prior year. These increases in toll revenue were largely due to annual toll increases. Year-to-date toll total transactions grew by 0.5 percent, 1.5 percent, and 0.7 percent for passenger cars, commercial vehicles, and for the total System, respectively.

It should be noted that the Delaware River Bridge (DRB) was closed on January 20, 2017 due to a fracture in one of the structural support beams. The structure was closed to all traffic through March 9, 2017. This event has negatively impacted the year-to-date traffic and revenue values for FY 2016-17. CDM Smith analyzed the impact on Turnpike traffic and revenue during the closure and estimated that losses over this period amounted to 1.8 million transactions and \$12.1 million in toll revenue. Thus, absent the DRB closure, the total FY 2016-17 year-to-date Turnpike traffic would have increased by 1.8 percent (instead of 0.7 percent) compared to the same time period in the previous year. Total toll revenue would have increased by 10.0 percent (instead of 8.6 percent) compared to the same time period in the previous year.

As previously mentioned, the Ticket System is by far the largest component of both traffic and toll revenue on the Turnpike System. As shown in Table 4, total year-to-date transactions decreased 1.2 percent compared to the same period in the prior year. Passenger car transactions decreased by 1.4 percent during this period. Commercial vehicle activity has been more stable during this period, with traffic dropping only 0.1 percent compared to the previous ten-month period. Total revenue for the Ticket System grew by 7.9 percent in FY 2014-15 and by 8.8 percent in FY 2015-16. Year-to-date FY 2016-17 revenue has grown by 5.9 percent compared to the same time frame in the previous year. The above mentioned DRB closure would also have negatively affected Ticket System traffic and revenue in January, February, and March 2017.

Similar traffic and toll revenue trends for each of the five individual barrier toll systems are provided in Tables 5 through 10. Together, these represent only about 10 percent of total System-wide toll revenue. There is somewhat more variability in monthly and annual growth rates on the barrier facilities.

The effects of ramp-up, inclement weather, alternative routes, and new developments have a more significant impact on these relatively low volume roads. Traffic growth has been negative on all of these barrier facilities thus far in FY 2016-17, with the exception of Turnpike I-576 (Findlay Connector). Revenue growth, however, has been slightly positive on all of the barrier facilities due to the impact of the annual toll increase.

As noted above, stand-alone DRB traffic and revenue is now being provided for the first time since its conversion to Cashless Tolling on January 3, 2016. The impact of its closure during a portion of January and March, and for all of February 2017 is clearly evident in Table 10. Upon re-opening to traffic on March 10, 2017, traffic volumes appear to have returned to normal levels.



PTC only provides total video transactions passing through the DRB tolling zone; CDM Smith then develops the estimated toll revenue generated from these transactions. CDM Smith is currently analyzing the portion of video transactions for which revenue is actually recovered. Toll revenue leakage occurs among video transactions due to unreadable plates, lack of up-to-date Department of Motor Vehicle address information, non-payment of invoices, etc.

This plaza has been operational for just over one year so the full process of identifying video transactions and completing the invoicing cycles is still in the early stages. In addition, Pennsylvania's governor signed Act 165 on November 4, 2016, which goes into effect on August 4, 2017. Act 165 provides for more aggressive toll violation enforcement. Early estimates are that between 40 and 50 percent of DRB video revenue is not collected. For purposes of conservatism, CDM Smith has assumed a 50 percent video revenue leakage rate thus far (as well as for the forecast period). As legislation improves and PTC forms reciprocity agreements with other states, actual video revenue leakage rates will likely be less than that assumed in this analysis.

The actual portion of DRB revenue at risk of not being collected is relatively small given that about 80 percent of total toll transactions at this location are via E-ZPass. Thus, only about 20 percent of transactions would be at risk for revenue leakage. In total, only about \$6.5 million was estimated to be lost at DRB in calendar year 2016 due to video revenue leakage, which amounts to about 0.5 percent of total System toll revenue. Presumably, some, if not all, of this revenue loss would be made up in fines and other fees that would be assessed to video customers who do not promptly pay their invoice. Such fee/fine revenue is not included in CDM Smith's forecast.

### **Actual and Assumed Toll Rate Increases**

At the direction of the PTC, annual toll rate increases are assumed to occur on the entire Turnpike System. The toll rate increases are assumed to occur at 12:01 AM on first Sunday after January 1 of each year. The assumptions regarding the planned toll rate increases have not changed since the 2016 Bring Down Letter except for the Delaware River Bridge. The DRB toll was not increased in 2017 and it is assumed to stay at the same level in 2018. Table 11 presents a summary of the annual percent increases in toll rates for E-ZPass and cash from calendar year 2016 through 2045.

The percent increases in toll rates in Table 11 are actual through 2017. In 2017, PTC increased E-ZPass and cash tolls by 6.0 percent (except on Turnpike 576 and Delaware River Bridge, which did not experience a toll increase). Beginning in 2019, DRB toll rates will increase at the same rate as the rest of the System. As noted at the bottom of Table 11, Turnpike I-576 tolls are assumed to increase every five years; the next scheduled increase is in 2018.

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**Table 11**  
**Actual and Assumed Percent Changes in Toll Rates**  
**Pennsylvania Turnpike System**

Calendar Year	Percent Changes in Turnpike System's Toll Rates <sup>(1)</sup>	
	2017 Draw Down	
	E-ZPass	Cash
2016	6.00	6.00
2017	6.00	6.00
2018	6.00	6.00
2019	6.00	6.00
2020	6.00	6.00
2021	5.00	5.00
2022	5.00	5.00
2023	5.00	5.00
2024	5.00	5.00
2025	5.00	5.00
2026	4.00	4.00
2027	3.50	3.50
2028	3.00	3.00
2029	3.00	3.00
2030	3.00	3.00
2031	3.00	3.00
2032	3.00	3.00
2033	3.00	3.00
2034	3.00	3.00
2035	3.00	3.00
2036	3.00	3.00
2037	3.00	3.00
2038	3.00	3.00
2039	3.00	3.00
2040	3.00	3.00
2041	3.00	3.00
2042	3.00	3.00
2043	3.00	3.00
2044	3.00	3.00
2045	3.00	3.00

(1) Toll rate increases are the same for all facilities and vehicle classes except: Turnpike I-576 had no toll increase in 2016 or 2017. Delaware River Bridge was exempt from toll increases in 2017 and will be in 2018 also.

**Note:**

The toll rate increases for this 2017 Bring Down Letter are actual through 2017. For Turnpike I-576, toll rates are assumed to increase every fifth year. The next increase is scheduled for 2018. Refer to Table 4-3 on Page 4-6 of the 2015 Forecast Study for additional details.

### **Actual and Assumed E-ZPass Penetration Rates**

Table 12 presents the actual and assumed annual E-ZPass penetration rates from calendar year 2016 through 2045. The first three columns show the E-ZPass market share assumptions for the current 2017 Bring Down Letter. These were increased slightly, by the amount shown in the three rightmost columns, over assumptions used in the 2016 Bring Down Letter. Actual experience over the last 12 months has shown that the E-ZPass market share has increased at a slightly higher rate than assumed in the last study. The overall impact of increasing the assumed future year E-ZPass market share is a slight reduction in future year toll revenue. This is due to the lower average toll rate assessed to E-ZPass transactions.

The revised E-ZPass penetration rates range from 0.1 percent higher to 3.3 percent higher than those in the 2016 Bring Down Letter. The upward adjustment to the commercial vehicle rates is gradually reduced until the adjustment is reduced to zero in 2030. This occurs because a maximum cap of 95 percent E-ZPass market share is assumed for trucks and this level was achieved for commercial vehicles in the 2016 Bring Down Letter in 2030 (thus no additional upward adjust was possible beyond that date in the current study). A 90 percent E-ZPass market share cap was assumed for cars, but this level is not reached within the forecast period. By 2045, E-ZPass market share on the Turnpike System is estimated to reach 89.6 percent for cars, 95.0 percent for trucks, and 90.4 percent overall.

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**Table 12**  
**Actual and Assumed Percent E-ZPass Penetration**  
**Pennsylvania Turnpike System**

Calendar Year	E-ZPass Penetration Rates					
	2017 Bring Down Letter			Difference from 2016 Bring Down Letter		
	Cars	Trucks	Total	Cars	Trucks	Total
2016	76.2	89.2	78.0	0.9	0.1	0.8
2017	77.8	90.6	79.6	1.5	0.7	1.4
2018	79.3	91.9	81.1	2.1	1.3	2.0
2019	80.6	92.8	82.3	2.7	1.7	2.5
2020	81.6	93.6	83.3	3.2	2.0	3.0
2021	82.3	94.1	83.9	3.3	2.0	3.1
2022	82.9	94.5	84.5	3.3	1.9	3.1
2023	83.4	94.7	85.0	3.3	1.7	3.1
2024	83.9	94.9	85.5	3.3	1.4	3.0
2025	84.4	94.9	85.9	3.3	1.0	3.0
2026	84.8	94.9	86.3	3.3	0.7	2.9
2027	85.3	95.0	86.7	3.3	0.4	2.9
2028	85.7	95.0	87.0	3.3	0.2	2.8
2029	86.1	95.0	87.4	3.3	0.1	2.8
2030	86.6	95.0	87.8	3.3	0.0	2.8
2031	86.9	95.0	88.1	3.3	0.0	2.8
2032	87.3	95.0	88.4	3.3	0.0	2.8
2033	87.6	95.0	88.7	3.3	0.0	2.8
2034	87.9	95.0	89.0	3.2	0.0	2.8
2035	88.2	95.0	89.2	3.2	0.0	2.7
2036	88.5	95.0	89.4	3.1	0.0	2.6
2037	88.7	95.0	89.6	3.0	0.0	2.5
2038	88.9	95.0	89.8	2.9	0.0	2.4
2039	89.0	95.0	89.9	2.7	0.0	2.3
2040	89.2	95.0	90.1	2.6	0.0	2.2
2041	89.3	95.0	90.2	2.4	0.0	2.1
2042	89.4	95.0	90.2	2.3	0.0	2.0
2043	89.4	95.0	90.3	2.2	0.0	1.8
2044	89.5	95.0	90.4	2.1	0.0	1.7
2045	89.6	95.0	90.4			

Note: The E-ZPass penetration rates for this 2017 Bring Down Letter are actual through 2016 and were actual only through 2015 for the 2016 Bring Down Letter.

## **Summary of Changes in Future Year Estimates for U.S. Gross Domestic Product and Pennsylvania Gross State Product**

This section presents a comparison of the Gross Domestic Product (GDP) and Gross State Product (GSP) information available for the 2016 Bring Down Letter with updated forecasts for both measures from Moody's Analytics. This information was a key input in developing estimated growth forecasts for the Turnpike System.

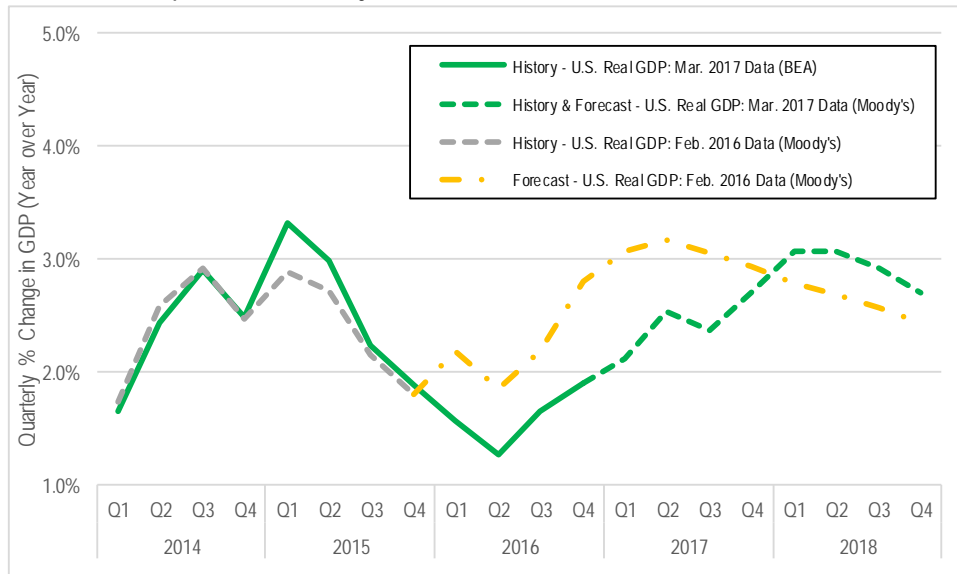
Figure 3 shows actual and estimated GDP at the time of the 2016 Bring Down Letter as well as the revised figures based on updated Moody's Analytics' forecasts as of March 2017. As shown, actual experience in 2016 underperformed prior estimates by between about 0.5 to 0.9 percent (though GDP growth remained positive throughout the period). The revised GDP growth estimates in 2017 shows a lower growth than the prior forecast. Beginning in the first quarter of 2018, the revised GDP estimates surpasses the prior forecast.

Figure 4 shows GSP trend and forecast data for Pennsylvania. The GSP growth in 2015 exceeded the prior estimates by a range of 0.6 percent to 2.6 percent. The GSP growth estimates for 2016 are estimated to be lower than the previous estimates by a range of 2.1 to 3.4 percent. By the end of 2017, both forecasts align, and in 2018, the March 2017 GSP forecast surpasses the February 2016 forecast for all four quarters.

Based on this information alone it would be assumed that actual traffic growth in 2016 would have underperformed CDM Smith's 2016 Forecast Study estimates. As will be discussed below, that was not the case across all the facilities. In fact, actual traffic and toll revenue on the total System slightly outperformed CDM Smith's estimates. This is likely due to other factors, namely motor fuel prices and consumer confidence, which are discussed in the next section.

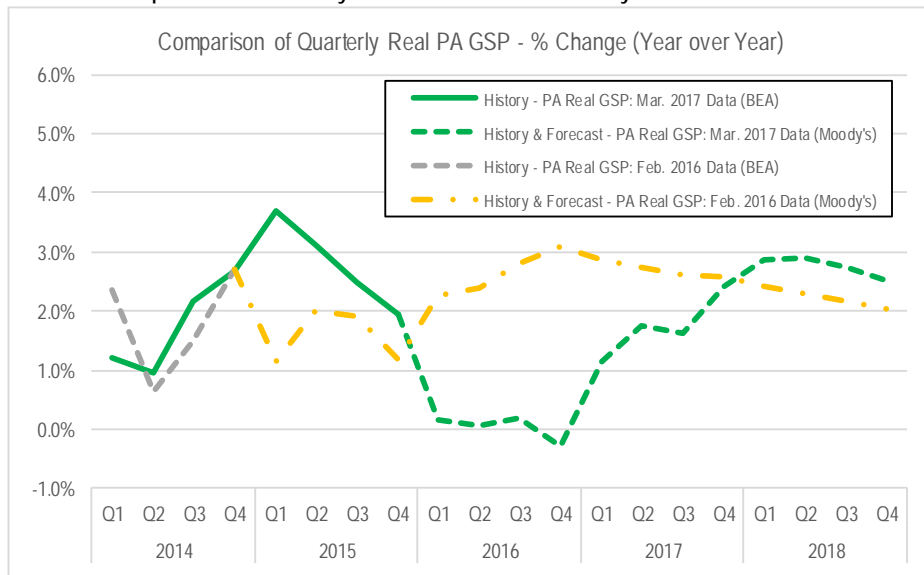
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Figure 3  
Comparison of Quarterly Growth Estimates in U.S. Gross Domestic Product



Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics  
(Feb. 2016, and Mar. 2017 Releases)

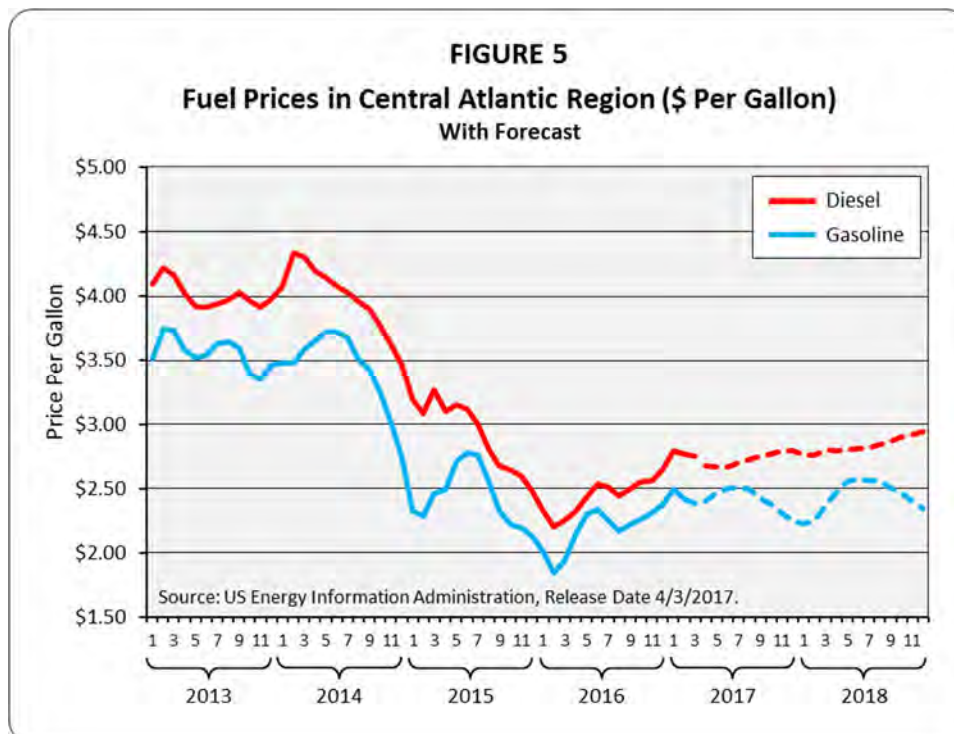
Figure 4  
Comparison of Quarterly Growth Estimates in Pennsylvania Gross State Product



Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics  
(Feb. 2016, and Mar. 2017 Releases)

### Summary of Trends in Fuel Prices

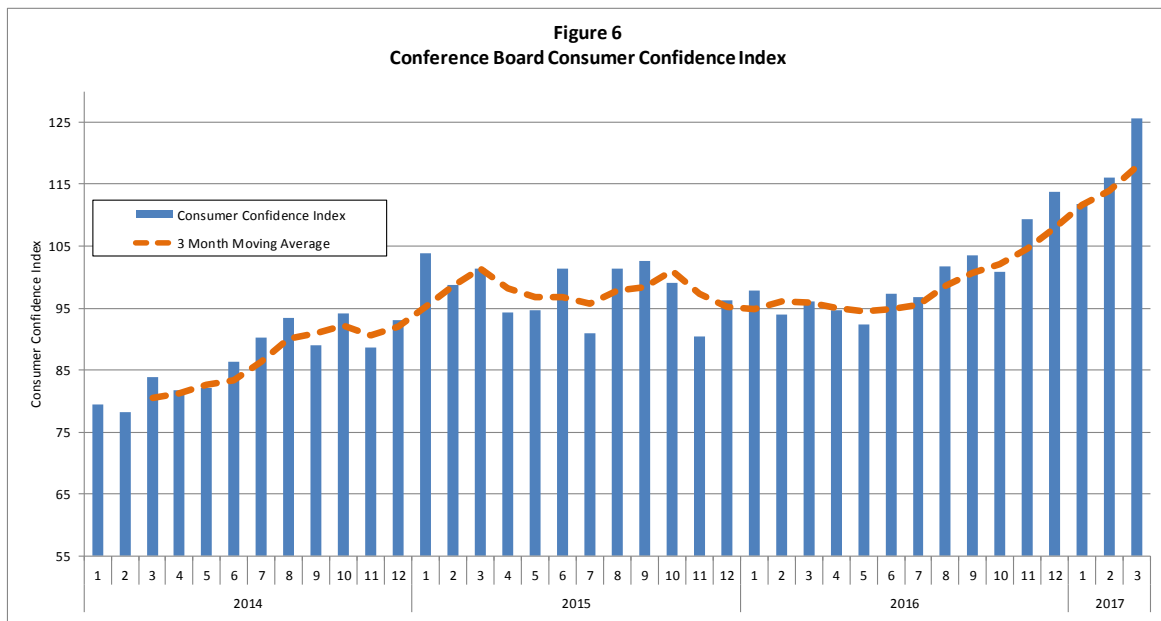
Figure 5 includes gasoline and diesel prices for the Central Atlantic Region from January 2013 through March 2017. As shown, gasoline and diesel prices have followed generally similar trends throughout this period. From January 2013 through September 2014, both gasoline and diesel prices fluctuated within a relatively narrow range. Beginning around October 2014, however, motor fuel prices began a noticeable decline. Fuel prices reached a low in the first quarter of 2016, and have risen slowly since then. Gasoline averaged \$2.38 per gallon in March 2017. Diesel prices have also risen slightly year over year, averaging \$2.75 in March 2017. Based on current forecasts from the U.S. Energy Information Administration, near term price forecasts are expected to remain low. This should prove positive to current trends in passenger car and commercial vehicle traffic growth on the Pennsylvania Turnpike. The decline in motor fuel prices effectively decreased the negative impact (i.e., diversion) from toll increases and lower than estimated economic growth. The continued low level of fuel prices should provide the PTC with positive benefits into the near future.



## Consumer Confidence

Figure 6 shows the Conference Board Consumer Confidence Index for the period between January 2014 and March 2017. The individual blue bars show the index values for each month while the dotted line shows the three-month moving average. As shown, consumer confidence has trended up over the period shown. The average exceeded 85 in 2014, and was about 98 in 2015 and 2016. Consumer Confidence Index has been showing a steady upward trend beginning in the second half of 2016. By the end of 2016, consumer confidence rose to pre-recession levels for the first time since the 2008 recession. In the most recent month of March, 2017, the consumer confidence index rose above 125 for the first time since 2000.

Consumer confidence is an important measure in that it highlights consumer's confidence in making purchases, their willingness to travel more, etc. Thus, we can infer that higher consumer confidence spurs demand for various goods and services and that higher demand results in higher traffic on the roadways.



Source: The Conference Board - Consumer Confidence Index®.



### **Actual Versus Estimated Traffic and Toll Revenue**

Table 13 provides a comparison of actual traffic and toll revenue versus estimated traffic and toll revenue from CDM Smith's 2016 Bring Down Letter. The analysis period in this table is from February 2016 through March 2017. This fourteen-month period corresponds to the period for which actual data currently exists, but was estimated at the time of the 2016 Bring Down Letter.

On a system level, estimated traffic and toll revenue tracked favorably compared to forecasts. Systemwide, actual passenger car transactions surpassed estimates by 1.2 percent, and passenger-car toll revenue exceeded estimates by 2.0 percent. Commercial vehicle transactions exceeded estimates by 1.1 percent, and actual commercial vehicle toll revenue was 0.3 percent greater than estimates. When all vehicles are considered, actual transactions were higher than estimates by 1.2 percent and toll revenue exceeded estimates by 1.3 percent.

The same information is provided in Table 13 for each of the Turnpike toll facilities. Actual versus estimated traffic and toll revenue for the Ticket System tracks slightly higher than that of the total System. Actual traffic and toll revenue for ticket system would have been even higher absence of negative impact of the DRB closure in January through March 2017.

All barrier facilities underperformed when compared to the 2016 CDM Smith Bring Down Letter forecasts. Barrier System toll revenue was lower than CDM Smith estimates by between 3.2 percent (Turnpike I-576) and 6.4 percent (Turnpike 43) for both passenger car and commercial revenue combined.

Despite actual tolled transaction and toll revenue values underperforming forecasted levels for all Barrier facilities, the total System remained positive overall. This occurs because the vast majority of traffic and revenue is generated by the Ticket System. The recent trends for all facilities was taken into account when adjusting the short term forecasts for this Bring Down Letter.

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**Table 13**  
**Comparison of Estimated and Actual Traffic Volumes and Toll Revenue**  
**From February 2016 through March 2017 (1)**  
**Pennsylvania Turnpike System**

Facility	Total Traffic (in Thousands)			Total Toll Revenue (in Thousands)		
	Estimated <sup>(2)</sup>	Actual <sup>(3)</sup>	Actual as Percent of Estimated	Estimated <sup>(2)</sup>	Actual <sup>(3,4)</sup>	Actual as Percent of Estimated
<b>Passenger Cars</b>						
Ticket and Gateway Barrier		155,603			\$ 643,508	
Delaware River Bridge		6,965			32,351	
<b>Subtotal</b>	<b>158,651</b>	<b>162,568</b>	<b>2.5</b>	<b>659,530</b>	<b>675,859</b>	<b>2.5</b>
Turnpike 43	15,185	14,524	(4.4)	21,418	20,473	(4.4)
Turnpike 66	7,835	7,571	(3.4)	12,249	11,775	(3.9)
Northeast Extension (Barrier)	5,620	5,208	(7.3)	5,253	4,844	(7.8)
Turnpike I-376	7,491	7,246	(3.3)	9,923	9,640	(2.8)
Turnpike I-576	2,056	2,027	(1.4)	1,430	1,409	(1.5)
<b>Total System</b>	<b>196,838</b>	<b>199,144</b>	<b>1.2</b>	<b>\$ 709,802</b>	<b>\$ 724,000</b>	<b>2.0</b>
<b>Commercial Vehicles</b>						
Ticket and Gateway Barrier		25,630			\$ 507,835	
Delaware River Bridge		1,185			20,986	
<b>Subtotal</b>	<b>26,015</b>	<b>26,816</b>	<b>3.1</b>	<b>525,335</b>	<b>528,821</b>	<b>0.7</b>
Turnpike 43	1,356	1,134	(16.4)	5,351	4,587	(14.3)
Turnpike 66	1,252	1,167	(6.8)	5,650	5,124	(9.3)
Northeast Extension (Barrier)	1,288	1,265	(1.8)	6,079	6,013	(1.1)
Turnpike I-376	1,441	1,351	(6.2)	4,914	4,539	(7.6)
Turnpike I-576	286	260	(9.2)	624	580	(7.1)
<b>Total System</b>	<b>31,638</b>	<b>31,992</b>	<b>1.1</b>	<b>\$ 547,953</b>	<b>\$ 549,664</b>	<b>0.3</b>
<b>Total Vehicles</b>						
Ticket and Gateway Barrier		181,233			\$ 1,151,343	
Delaware River Bridge		8,150			53,337	
<b>Subtotal</b>	<b>184,665</b>	<b>189,383</b>	<b>2.6</b>	<b>1,184,865</b>	<b>1,204,680</b>	<b>1.7</b>
Turnpike 43	16,541	15,658	(5.3)	26,769	25,059	(6.4)
Turnpike 66	9,087	8,738	(3.8)	17,899	16,899	(5.6)
Northeast Extension (Barrier)	6,908	6,473	(6.3)	11,332	10,857	(4.2)
Turnpike I-376	8,932	8,597	(3.8)	14,837	14,180	(4.4)
Turnpike I-576	2,342	2,287	(2.4)	2,054	1,989	(3.2)
<b>Total System</b>	<b>228,476</b>	<b>231,136</b>	<b>1.2</b>	<b>\$ 1,257,755</b>	<b>\$ 1,273,664</b>	<b>1.3</b>

(1) These 14 months correspond to the period for which actual data exists, but was estimated at the time of CDM Smith's March 2016 Bring Down Letter.

(2) Estimates for Ticket System include Delaware River Bridge traffic and revenue.

(3) Actuals reflect Delaware River Bridge closure due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(4) Actual tolled revenue assumes a 50% leakage rate for video transactions for Delaware River Bridge.

## **Estimated Traffic and Gross Toll Revenue**

Updated traffic and gross toll revenue impacts were developed through FY 2044-45 incorporating the following changes into the forecast. All these changes were described in previous sections.

- Actual traffic and revenue experience through March 2017;
- Slightly adjusted short term (through 2019) growth forecasts based on recent the experience of actual traffic and revenue compared to assumptions in the 2016 Bring Down Letter and continued low motor fuel prices ;
- Higher E-ZPass penetration rates;
- Delaware River Bridge facility is treated as a standalone barrier facility. It was reported as a part of Ticket System in the 2016 Bring Down Letter; and
- No toll increases assumed at Delaware River Bridge location for 2017 and 2018.

Other assumptions remain unchanged from the 2016 Bring Down Letter including:

- Long range normal growth rates from 2020 through the end of the forecast period;
- Annual Systemwide toll rate increases;
- Structure of the commercial vehicle discount program; and
- Long range economic indicators.

Table 14 shows the total traffic and toll revenue for the Ticket System only. Data for FY 2015-16 reflects a full year of actual experience and FY 2016-17 includes ten months of actual experience (through March 2017). Total toll transactions increase from 158.5 million to 222.0 million over the forecast period, an average annual increase of 1.2 percent. Gross toll revenue increases from \$954.9 million to \$3.9 billion by FY 2044-45. This amounts to an average annual increase of 5.0 percent, reflecting the impact of normal growth plus the annual rate adjustments.

The same information is shown for the Barrier Systems in Table 15. Total annual toll transactions are estimated to grow from 40.4 million to 65.6 million over the forecast period, an average rate of 1.7 percent. Barrier System total revenue is estimated to increase from \$79.2 million to \$451.6 million over the forecast period, an annual rate of 6.2 percent. It should be noted that the addition of the DRB traffic and toll revenue to the Barrier System subtotals, beginning in January 2016, adds slightly to the growth rates shown (and slightly reduces traffic and revenue on the Ticket System).

Table 16 identifies total combined transactions and gross toll revenue and also factors in estimated toll discounts and adjustments. The vast majority of the discounts and adjustments result from commercial account toll adjustments due to the Turnpike's volume discount program. The volume discount program allows for a 3.0 percent discount to be provided to accounts that accrue \$20,000 or more in monthly tolls. Discounts and adjustments shown in Table 16 assume no further changes to the post-paid commercial volume discount program during the forecast period. The result is that the current forecasts have a negative adjustment applied for FY 2016-17 and beyond that equals approximately 0.8 percent of the commercial vehicle gross toll revenue.

As shown in Table 16, total toll transactions are expected to increase from nearly 198.9 million to 287.5 million over the forecast period. This amounts to an average annual growth rate of 1.3 percent. Total adjusted gross toll revenue is estimated to grow from approximately \$1.0 billion in FY 2015-16 to \$4.3 billion by FY 2044-45. This reflects an average annual growth rate in gross toll revenue of 5.1 percent. Again, this includes the impact of normal growth plus annual toll rate adjustments.

Table 17 provides a comparison of the current traffic and adjusted gross toll revenue forecast with the forecast developed as part of the 2016 Bring Down Letter. As shown, the current toll transaction forecasts are slightly higher than the previous forecasts, while current toll revenue forecasts are just slightly below those for the previous forecast beginning FY 2018-19. Current toll transactions are slightly higher than previous forecasts largely due to actual experience since the last forecast. As shown in Table 13, actual toll transaction experience exceeded CDM Smith estimates by just over 1.0 percent. That, and the fact that we reduced Barrier System growth rates, accounts for the relationship between current and previous transaction forecasts.

Current toll revenue forecasts are just slightly lower than those estimated as part of the 2016 Bring Down Letter. This occurs for two reasons. First, in the 2016 Bring Down Letter it was assumed that there would be a toll increase on DRB in 2017 and 2018. In fact, DRB toll rates will remain unchanged from 2016 levels until 2019. Secondly, the previously discussed increased assumptions in future E-ZPass market share for the current analysis also contribute to slightly lower future revenue. This is due to the toll discount afforded to E-ZPass transactions.

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**Table 14**  
**Ticket System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year (7)	Annual Transactions			Annual Gross Toll Revenue		
	Passenger	Commercial	Total	Passenger	Commercial	Total
	Cars	Vehicles	Vehicles	Cars	Vehicles	Revenue
2015-16 (2,4,6)	136,294	22,172	158,466	\$537,063	\$417,839	\$954,901
2016-17 (3,5,8)	135,383	22,259	157,643	570,746	444,025	1,014,771
2017-18	139,088	23,074	162,162	608,614	481,836	1,090,451
2018-19 (9)	142,983	23,839	166,822	648,957	518,944	1,167,901
2019-20	144,699	24,256	168,955	688,933	556,658	1,245,592
2020-21	146,435	24,681	171,116	730,943	595,550	1,326,493
2021-22	148,192	25,108	173,300	773,362	634,481	1,407,843
2022-23	149,971	25,535	175,505	818,522	676,400	1,494,922
2023-24	151,770	25,969	177,739	866,825	721,544	1,588,369
2024-25	153,592	26,405	179,997	917,931	769,912	1,687,843
2025-26	155,435	26,841	182,275	968,440	818,321	1,786,761
2026-27	157,300	27,284	184,584	1,013,804	863,364	1,877,168
2027-28	159,188	27,728	186,916	1,056,133	906,319	1,962,452
2028-29	161,098	28,172	189,270	1,096,875	948,445	2,045,320
2029-30	162,968	28,623	191,590	1,138,697	992,529	2,131,226
2030-31	164,696	29,075	193,771	1,181,391	1,038,450	2,219,841
2031-32	166,343	29,526	195,868	1,225,728	1,086,182	2,311,910
2032-33	168,006	29,983	197,990	1,271,678	1,136,109	2,407,787
2033-34	169,686	30,448	200,134	1,319,305	1,188,330	2,507,635
2034-35	171,383	30,914	202,297	1,369,241	1,242,698	2,611,939
2035-36	173,097	31,378	204,475	1,421,275	1,299,179	2,720,454
2036-37	174,692	31,848	206,540	1,474,863	1,358,226	2,833,089
2037-38	176,089	32,326	208,415	1,528,875	1,419,958	2,948,833
2038-39	177,498	32,811	210,309	1,585,285	1,484,495	3,069,780
2039-40	178,918	33,296	212,214	1,644,284	1,551,649	3,195,933
2040-41	180,349	33,779	214,129	1,705,921	1,621,372	3,327,294
2041-42	181,792	34,269	216,061	1,770,724	1,694,229	3,464,952
2042-43	183,246	34,766	218,012	1,838,345	1,770,359	3,608,704
2043-44	184,712	35,270	219,982	1,908,565	1,849,910	3,758,475
2044-45	186,190	35,781	221,972	1,981,458	1,933,036	3,914,494

(1) Includes the transactions and toll revenue from the Gateway Plaza.

(2) Reflects actual traffic and revenue experience.

(3) Reflects actual experience through March 2017.

(4) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike I-576.

(5) Cash and E-ZPass tolls increased by 6% on January 8, 2017, except for Turnpike I-576 and Delaware River Bridge.

(6) Reflects removal of Delaware River Bridge from the Ticket System beginning January 3, 2016.

(7) Annual toll rate increases are assumed to be implemented on the first Sunday after January 1st of each year.

The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

(8) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(9) Includes impacts for I-95 Interchange Stage 1.

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**Table 15**  
**Barrier System: Estimated Annual Transactions and Gross Toll Revenue**  
Pennsylvania Turnpike

Traffic and Toll Revenue in Thousands

Fiscal Year (7)	Annual Transactions			Annual Gross Toll Revenue (1)		
	Passenger	Commercial	Total	Passenger	Commercial	Total
	Cars	Vehicles	Vehicles	Cars	Vehicles	Revenue
2015-16 (2,4,6)	35,271	5,147	40,418	\$53,166	\$26,063	\$79,230
2016-17 (3,5,8)	37,675	5,497	43,171	69,988	36,090	106,078
2017-18	38,678	5,705	44,383	77,044	40,306	117,351
2018-19	38,929	5,780	44,709	81,157	42,689	123,847
2019-20	39,413	5,891	45,304	86,841	46,070	132,911
2020-21	40,051	6,028	46,079	92,817	49,619	142,436
2021-22	40,697	6,164	46,861	98,623	53,118	151,740
2022-23	41,343	6,302	47,645	104,998	56,927	161,926
2023-24	41,995	6,441	48,436	111,894	61,044	172,938
2024-25	42,652	6,582	49,235	118,892	65,297	184,189
2025-26	43,310	6,724	50,034	125,879	69,558	195,437
2026-27	43,970	6,866	50,836	132,315	73,531	205,846
2027-28	44,635	7,009	51,644	138,639	77,441	216,080
2028-29	45,306	7,155	52,461	144,944	81,365	226,308
2029-30	45,976	7,302	53,278	151,146	85,335	236,481
2030-31	46,633	7,450	54,084	157,509	89,485	246,993
2031-32	47,282	7,599	54,881	164,078	93,811	257,889
2032-33	47,937	7,749	55,686	171,126	98,414	269,540
2033-34	48,595	7,901	56,496	178,543	103,285	281,829
2034-35	49,261	8,055	57,316	185,975	108,239	294,215
2035-36	49,927	8,208	58,135	193,717	113,392	307,109
2036-37	50,574	8,362	58,936	201,699	118,768	320,467
2037-38	51,217	8,517	59,735	210,169	124,491	334,660
2038-39	51,865	8,676	60,541	219,104	130,545	349,650
2039-40	52,515	8,834	61,350	228,038	136,685	364,723
2040-41	53,175	8,992	62,167	237,356	143,061	380,417
2041-42	53,844	9,152	62,995	247,083	149,739	396,822
2042-43	54,522	9,315	63,837	257,493	156,849	414,342
2043-44	55,209	9,481	64,690	268,502	164,369	432,871
2044-45	55,906	9,651	65,557	279,557	172,041	451,598

(1) Toll revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions.

(2) Reflects actual traffic and revenue experience.

(3) Reflects actual experience through March 2017.

(4) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike I-576.

(5) Cash and E-ZPass tolls increased by 6% on January 8, 2017, except for Turnpike I-576 and Delaware River Bridge.

(6) Reflects addition of Delaware River Bridge to the Barrier System beginning January 3, 2016.

(7) Annual toll rate increases are assumed to be implemented on the first Sunday after January 1st of each year.

The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

(8) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

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**Table 16**  
**Total System: Estimated Annual Transactions and Gross Toll Revenue**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year (6)	Annual Transactions			Annual Gross Toll Revenue (1)			Discounts and Adjustments (9)	Adjusted Annual Gross Revenue
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Revenue		
2015-16 (2,4)	171,565	27,319	198,884	\$590,229	\$443,902	\$1,034,131	(1,504)	\$1,032,627
2016-17 (3,5,7)	173,058	27,756	200,814	640,734	480,115	1,120,848	(3,841)	1,117,007
2017-18	177,766	28,779	206,545	685,658	522,143	1,207,801	(4,177)	1,203,624
2018-19 (8)	181,912	29,619	211,531	730,114	561,633	1,291,747	(4,493)	1,287,254
2019-20	184,112	30,147	214,259	775,774	602,728	1,378,502	(4,822)	1,373,680
2020-21	186,487	30,709	217,195	823,760	645,169	1,468,929	(5,161)	1,463,768
2021-22	188,889	31,272	220,162	871,985	687,599	1,559,583	(5,501)	1,554,082
2022-23	191,314	31,837	223,150	923,520	733,328	1,656,847	(5,867)	1,650,980
2023-24	193,765	32,410	226,175	978,719	782,588	1,761,307	(6,261)	1,755,046
2024-25	196,244	32,987	229,231	1,036,823	835,209	1,872,032	(6,682)	1,865,350
2025-26	198,745	33,564	232,309	1,094,320	887,879	1,982,199	(7,103)	1,975,096
2026-27	201,270	34,149	235,419	1,146,119	936,895	2,083,014	(7,495)	2,075,519
2027-28	203,822	34,738	238,560	1,194,772	983,760	2,178,532	(7,870)	2,170,662
2028-29	206,404	35,327	241,731	1,241,819	1,029,810	2,271,629	(8,238)	2,263,391
2029-30	208,943	35,924	244,868	1,289,843	1,077,864	2,367,707	(8,623)	2,359,084
2030-31	211,329	36,525	247,854	1,338,900	1,127,935	2,466,834	(9,023)	2,457,811
2031-32	213,625	37,125	250,750	1,389,806	1,179,993	2,569,799	(9,440)	2,560,359
2032-33	215,943	37,732	253,676	1,442,804	1,234,523	2,677,327	(9,876)	2,667,451
2033-34	218,281	38,349	256,630	1,497,849	1,291,615	2,789,464	(10,333)	2,779,131
2034-35	220,645	38,969	259,613	1,555,216	1,350,938	2,906,154	(10,808)	2,895,346
2035-36	223,024	39,586	262,609	1,614,992	1,412,571	3,027,563	(11,301)	3,016,262
2036-37	225,266	40,210	265,476	1,676,562	1,476,994	3,153,556	(11,816)	3,141,740
2037-38	227,307	40,843	268,150	1,739,044	1,544,449	3,283,493	(12,356)	3,271,137
2038-39	229,363	41,487	270,850	1,804,389	1,615,040	3,419,429	(12,920)	3,406,509
2039-40	231,433	42,131	273,564	1,872,322	1,688,334	3,560,655	(13,507)	3,547,148
2040-41	233,524	42,771	276,295	1,943,277	1,764,434	3,707,711	(14,115)	3,693,596
2041-42	235,636	43,421	279,057	2,017,807	1,843,968	3,861,775	(14,752)	3,847,023
2042-43	237,768	44,081	281,849	2,095,839	1,927,207	4,023,046	(15,418)	4,007,628
2043-44	239,921	44,751	284,673	2,177,068	2,014,278	4,191,346	(16,114)	4,175,232
2044-45	242,096	45,432	287,528	2,261,015	2,105,077	4,366,092	(16,841)	4,349,251

(1) Toll revenue for Delaware River Bridge assumes a 50% leakage rate for video transactions.

(2) Reflects actual traffic and revenue experience.

(3) Reflects actual experience through March 2017.

(4) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike I-576.

(5) Cash and E-ZPass tolls increased by 6% on January 8, 2017, except for Turnpike I-576 and Delaware River Bridge.

(6) Annual toll rate increases are assumed to be implemented on the first Sunday after January 1st of each year.

The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

(7) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(8) Includes impacts for I-95 Interchange Stage 1.

(9) No changes are assumed in the commercial volume discount program over the forecast period. The current program results in a 0.8% reduction in commercial vehicle gross toll revenue and is assumed to remain at this level throughout the forecast period.

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**Table 17**  
**Comparison of New Traffic and Revenue**  
**Estimates with those from the 2016 Bring Down Letter**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Total Annual Transactions			Total Annual Adjusted Gross Toll Revenue		
	Current Estimates	2016 Bring Down Letter	Percent Difference	Current Estimates	2016 Bring Down Letter	Percent Difference
2015-16	198,884	197,128	0.9	\$1,032,627	\$1,022,289	1.0
2016-17 (1,2)	200,814	199,656	0.6	1,117,007	1,112,611	0.4
2017-18 (2)	206,545	204,228	1.1	1,203,624	1,195,848	0.7
2018-19	211,531	209,665	0.9	1,287,254	1,287,891	(0.0)
2019-20	214,259	212,569	0.8	1,373,680	1,380,972	(0.5)
2020-21	217,195	215,502	0.8	1,463,768	1,475,606	(0.8)
2021-22	220,162	218,465	0.8	1,554,082	1,567,634	(0.9)
2022-23	223,150	221,450	0.8	1,650,980	1,665,475	(0.9)
2023-24	226,175	224,471	0.8	1,755,046	1,769,559	(0.8)
2024-25	229,231	227,523	0.8	1,865,350	1,879,504	(0.8)
2025-26	232,309	230,597	0.7	1,975,096	1,988,758	(0.7)
2026-27	235,419	233,701	0.7	2,075,519	2,088,604	(0.6)
2027-28	238,560	236,836	0.7	2,170,662	2,183,472	(0.6)
2028-29	241,731	240,000	0.7	2,263,391	2,276,275	(0.6)
2029-30	244,868	243,133	0.7	2,359,084	2,372,314	(0.6)
2030-31	247,854	246,119	0.7	2,457,811	2,471,927	(0.6)
2031-32	250,750	249,015	0.7	2,560,359	2,575,585	(0.6)
2032-33	253,676	251,941	0.7	2,667,451	2,683,889	(0.6)
2033-34	256,630	254,895	0.7	2,779,131	2,796,877	(0.6)
2034-35	259,613	257,878	0.7	2,895,346	2,913,858	(0.6)
2035-36	262,609	260,874	0.7	3,016,262	3,035,302	(0.6)
2036-37	265,476	263,742	0.7	3,141,740	3,160,567	(0.6)
2037-38	268,150	266,423	0.6	3,271,137	3,289,377	(0.6)
2038-39	270,850	269,130	0.6	3,406,509	3,423,635	(0.5)
2039-40	273,564	271,852	0.6	3,547,148	3,562,414	(0.4)
2040-41	276,295	274,590	0.6	3,693,596	3,707,223	(0.4)
2041-42	279,057	277,359	0.6	3,847,023	3,859,278	(0.3)
2042-43	281,849	280,160	0.6	4,007,628	4,018,021	(0.3)
2043-44	284,673	282,993	0.6	4,175,232	4,183,578	(0.2)
2044-45	287,528			4,349,251		

(1) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(2) Toll rates at the Delaware River Bridge are not increased in 2017 and expected to stay at the current rate in 2018.





Mr. Nikolaus Grieshaber  
May 3, 2017  
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## Disclaimer

Current accepted professional practices and procedures were used in the development of these traffic and revenue forecasts. However, as with any forecast of the future, it should be understood that there may be differences between forecasted and actual results caused by events and circumstances beyond the control of the forecasters. In formulating its forecasts, CDM Smith has reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Pennsylvania Turnpike Commission. CDM Smith also has relied upon the reasonable assurances of some independent parties and is not aware of any facts that would make such information misleading.

CDM Smith has made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue forecasts that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit to partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple federal, state and local agencies, including the Pennsylvania Turnpike Commission, and some independent parties. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projections contained within this report.

While CDM Smith believes that some of the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date in the report, such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert W. Pinter Jr.'.

Robert Pinter  
Vice President  
CDM Smith Inc.

A handwritten signature in black ink, appearing to read 'Gary T. Quinlin'.

Gary T. Quinlin  
Project Manager  
CDM Smith Inc.

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195 Church Street, Suite 7A  
New Haven, CT 06510  
tel: 203 865-2191  
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March 4, 2016

Mr. Nikolaus Grieshaber  
Chief Financial Officer  
Pennsylvania Turnpike Commission  
700 South Eisenhower Boulevard  
Middletown, PA 17057

Subject: Pennsylvania Turnpike Commission 2016 Traffic and Toll Revenue  
Bring Down Letter

Dear Mr. Grieshaber:

The Pennsylvania Turnpike Commission (PTC or Commission) has asked CDM Smith to prepare this Bring Down Letter (2016 Bring Down Letter) to be used in support of the Commission's ongoing capital improvement program and other funding requirements. This letter provides an update to the *2015 Traffic and Toll Revenue Forecast Study* (2015 Forecast Study), dated March 17, 2015. The 2015 Forecast Study was a comprehensive investment grade study which presented traffic and gross toll revenue forecasts from fiscal year (FY) 2014-15 through FY 2043-44, or 30 years. A fiscal year runs from June 1 through May 31. Actual traffic and revenue data were available through January 2015 for the 2015 Forecast Study and through January 2016 for the current 2016 Bring Down Letter.

This 2016 Bring Down Letter presents actual traffic and toll revenue data through January 2016 (the most recent month of actual experience), compares the forecasts between the 2016 Bring Down Letter and the 2015 Forecast Study, and provides updated traffic and revenue forecasts through FY 2043-44. The updated forecasts reflect the following changes from the 2015 Forecast Study.

- E-ZPass market share assumptions were increased slightly to reflect the fact that actual E-ZPass market share over the last 12 months has moderately exceeded assumptions in the 2015 Forecast Study.
- Actual traffic and toll revenue data for an additional 12 months (through January 2016).
- Normal traffic growth assumptions were adjusted upward slightly to account for more robust traffic growth than that assumed in the 2015 Forecast Study.

These differences are described in more detail in the following sections.



Mr. Nikolaus Grieshaber  
March 4, 2016  
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It is important to note that the intent of this Bring Down Letter is to review and revise, if warranted, the short term forecasts originally developed as part of the 2015 Forecast Study. Any adjustments would be made based on the 12 months of new actual traffic and toll revenue experience since the 2015 Forecast Study. Since this Bring Down Letter does not include a reevaluation of the longer term economic growth forecasts, critical attention was placed on a review of near term growth through 2018 only. Growth rates beyond 2018 remain unchanged from those in the 2015 Forecast Study.

For detailed review of the longer term growth assumptions, the 2015 Forecast Study provides information on the socioeconomic trends and forecasts for the state, region and country that formed the basis for the original traffic and toll revenue forecasts. Additional information regarding the Pennsylvania Turnpike (Turnpike), such as historical toll rate increases, sample toll rates, E-ZPass market share, and more, are also provided in the 2015 Forecast Study.

### **Historical Toll Rate Increases and Current Toll Rates**

Table 1 provides a historical summary of toll rate increases on the Turnpike System from 2004 to the most recent increase implemented on January 3, 2016. Rate increases are presented as a percent increase over the previous toll rate for cash and E-ZPass. The four most recent rate increases ranged from 2.0 percent to 12.0 percent and were implemented annually. Since 2009 the PTC has implemented annual system-wide toll increases, although a section of Turnpike 43 was exempted from the rate increase in 2009, and Turnpike 576 was exempted from 2009 through 2012, and 2014 through 2016.

The first toll increase that created a differential between cash and E-ZPass toll rates was implemented on January 2, 2011, when E-ZPass tolls were increased by 3.0 percent and cash tolls were increased by 10.0 percent. Starting in 2015, cash and E-ZPass toll rates have grown at the same rate as one another. Equal toll rate increases by payment type will be applied every year into the future, though the quantity of the toll rate increase will vary somewhat each year. This will be discussed in more detail later in this report.

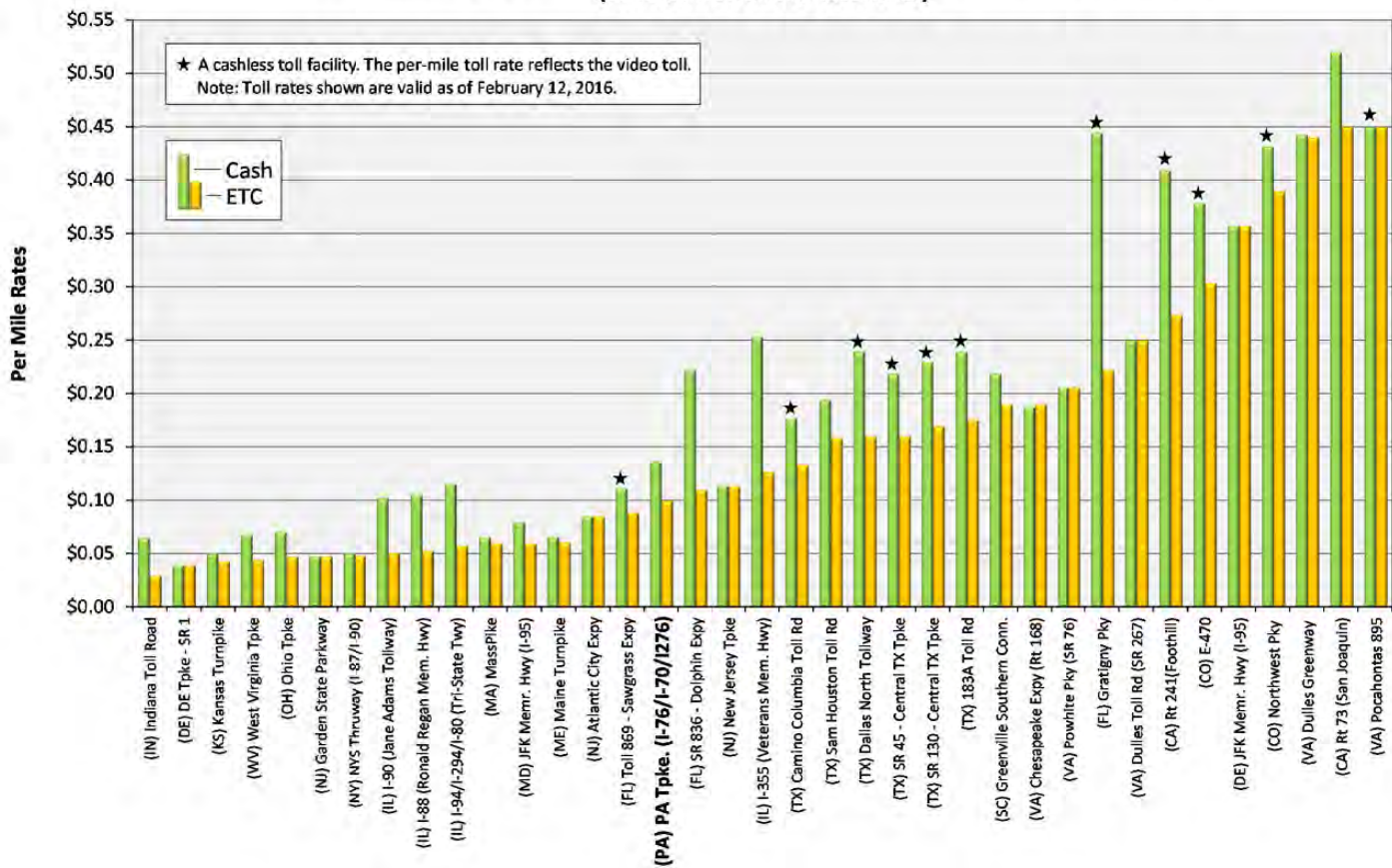
**Table 1**  
**Historical Toll Rate Increases**  
**Pennsylvania Turnpike System**

Date	Percent Increase		Comment
	Cash	E-ZPass	
8/1/2004	42.5	42.5	
1/4/2009	25.0	25.0	No toll increase on Turnpike 576 or Turnpike 43 between Uniontown and Brownsville
1/3/2010	3.0	3.0	No toll increase on Turnpike 576
1/2/2011	10.0	3.0	No toll increase on Turnpike 576
1/1/2012	10.0	0.0	No toll increase on Turnpike 576
1/6/2013	10.0	2.0	
1/5/2014	12.0	2.0	No toll increase on Turnpike 576
1/4/2015	5.0	5.0	No toll increase on Turnpike 576
1/3/2016	6.0	6.0	No toll increase on Turnpike 576

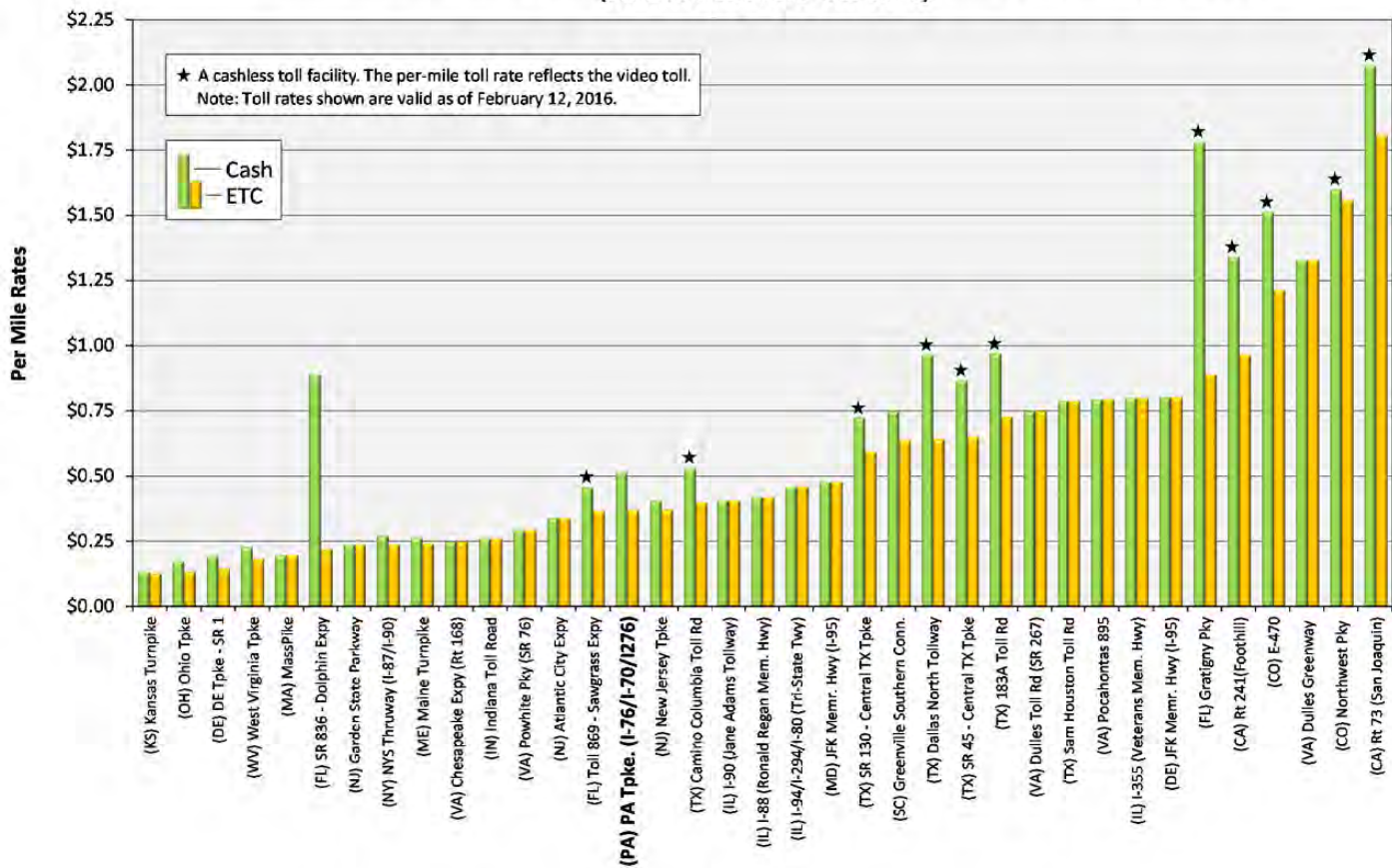
Figures 1 and 2 show the 2016 per-mile toll rates for a through trip on 37 U.S. toll facilities, for passenger cars and commercial vehicles, respectively. Per-mile rates are shown for both cash and ETC transactions in each figure. The per-mile toll rate is shown for the Pennsylvania Turnpike Ticket System, which is by far the largest component of the Turnpike System comprising about 81 percent of all transactions and 94 percent of all toll revenue in FY 2014-15. The purpose of these figures is to show that even with the eight consecutive annual toll increases since 2009, the passenger car per-mile toll rates on the Pennsylvania Turnpike System, at 10 cents per mile for E-ZPass customers and 14 cents per mile for cash customers are still very reasonably priced compared to other major toll facilities in the U.S.

Rates for commercial vehicles on the Ticket System amount to 37 cents per mile for E-ZPass and 52 cents per mile for cash transactions. It should be remembered that the vast majority of both passenger car and commercial vehicle trips are made using the more cost effective E-ZPass payment method.

**Figure 1**  
**COMPARISON OF 2016 PASSENGER CAR PER-MILE THROUGH TRIP TOLL RATES**  
(DATA SORTED BY ETC TOLL RATES)



**Figure 2**  
**COMPARISON OF 2016 COMMERCIAL VEHICLE PER-MILE THROUGH TRIP TOLL RATES**  
(DATA SORTED BY ETC TOLL RATES)





Mr. Nikolaus Grieshaber  
March 4, 2016  
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## Annual Transaction and Gross Toll Revenue Trends

Table 2 provides a summary of annual Systemwide transactions and adjusted gross toll revenue trends from FY 1994-95 through FY 2014-15. Note that the adjusted toll revenue includes adjustments and discounts attributable to the commercial volume discount program. Prior to the implementation of discounted E-ZPass toll rates, a post-paid, volume discount program was

**Table 2**  
**Annual Systemwide Traffic and Adjusted Gross Toll Revenue Trends**  
Pennsylvania Turnpike System  
(in thousands)

Fiscal Year	Transactions						Adjusted Toll Revenue (9)					
	Cars	Percent Change Over Prior Year	Trucks	Percent Change Over Prior Year	Total	Percent Change Over Prior Year	Cars	Year	Trucks	Year	Total	Percent Change Over Prior Year
1994-95	114,033	6.9	15,620	9.5	129,653	7.2	165,850	4.9	131,749	7.2	297,599	5.9
1995-96	121,911	6.9	16,719	7.0	138,630	6.9	172,339	3.9	136,269	3.4	308,608	3.7
1996-97	126,654	3.9	17,479	4.5	144,133	4.0	179,303	4.0	140,837	3.4	320,140	3.7
1997-98	132,472	4.6	18,627	6.6	151,099	4.8	186,290	3.9	149,036	5.8	335,326	4.7
1998-99	136,399	3.0	19,833	6.5	156,232	3.4	191,804	3.0	158,761	6.5	350,565	4.5
1999-00	138,762	1.7	21,341	7.6	160,103	2.5	195,301	1.8	172,035	8.4	367,336	4.8
2000-01	141,033	1.6	21,278	(0.3)	162,311	1.4	193,563	(0.9)	172,337	0.2	365,900	(0.4)
2001-02	150,496	6.7	22,298	4.8	172,794	6.5	212,650	9.9	163,101	(5.4)	375,751	2.7
2002-03	156,220	3.8	23,179	4.0	179,399	3.8	219,201	3.1	168,021	3.0	387,222	3.1
2003-04	163,612	4.7	24,407	5.3	188,019	4.8	228,515	4.2	180,229	7.3	408,744	5.6
2004-05 (1)	163,316	(0.2)	25,109	2.9	188,425	0.2	309,032	35.2	236,126	31.0	545,158	33.4
2005-06	160,590	(1.7)	25,311	0.8	185,901	(1.3)	321,268	4.0	267,369	13.2	588,637	8.0
2006-07	160,107	(0.3)	25,316	0.0	185,423	(0.3)	322,781	0.5	269,861	0.9	592,642	0.7
2007-08	164,097	2.5	25,455	0.5	189,552	2.2	327,761	1.5	271,165	0.5	598,926	1.1
2008-09 (2)	162,638	(0.9)	23,583	(7.4)	186,220	(1.8)	356,345	8.7	259,259	(4.4)	615,605	2.8
2009-10 (3)	163,599	0.6	22,933	(2.8)	186,531	0.2	415,981	16.7	302,057	16.5	718,038	16.6
2010-11 (4)	165,230	1.0	23,812	3.8	189,042	1.3	435,752	4.8	328,105	8.6	763,856	6.4
2011-12 (5)	164,960	(0.2)	24,127	1.3	189,087	0.0	455,133	4.4	342,646	4.4	797,779	4.4
2012-13 (6)	163,690	(0.8)	24,207	0.3	187,897	(0.6)	471,514	3.6	350,226	2.2	821,740	3.0
2013-14 (7)	163,788	0.1	24,891	2.8	188,679	0.4	497,671	5.5	368,395	5.2	866,066	5.4
2014-15 (8)	166,190	1.5	26,144	5.0	192,334	1.9	533,054	7.1	401,197	8.9	934,252	7.9

Fiscal Year	Average Annual Percent Change					
	Transactions			Adjusted Gross Toll Revenue (9)		
	Cars	Trucks	Total	Cars	Trucks	Total
FY 1994-95 - FY 2004-05	3.0	4.0	3.2	5.3	5.0	5.2
FY 2004-05 - FY 2014-15	0.1	0.3	0.2	4.6	4.5	4.6
FY 1994-95 - FY 2014-15	3.2	4.4	3.3	10.2	9.7	10.0

(1) A toll increase of 42.5% was implemented on August 1, 2004.

(2) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and PA 43 Unionville to Brownsville remained unchanged.

(3) A toll increase of 3% was implemented on January 3, 2010, except for Turnpike I-576 where the toll rates did not increase.

(4) An E-Z Pass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011, except for Turnpike I-576 where the toll rates did not increase.

(5) A cash toll increase of 10% was implemented on January 1, 2012, except for Turnpike I-576 where the toll rates did not increase.

(6) An E-Z Pass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.

(7) An E-Z Pass toll increase of 2% and a cash toll increase of 12% was implemented on January 1, 2014, except for Turnpike I-576.

(8) A toll increase of 5% was implemented on January 4, 2015, except for Turnpike 576 where toll rates remained unchanged.

(9) The toll revenue includes the adjustments associated with the Commercial Vehicle Volume Discount Program.



established for high-volume commercial E-ZPass accounts. With the advent of an automatically applied toll discount to E-ZPass accounts, the commercial volume discount program has been modified over the last several years. Effective January 5, 2014 the volume discount program was amended so that a 3.0 percent discount is provided to accounts that accrue \$20,000 or more in monthly tolls.

The Pennsylvania Turnpike System is a large, mature system that has demonstrated long-term growth in transactions and toll revenue. Table 2 presents historical traffic and toll revenue growth over the past 20 years, from FY 1994-95 through FY 2014-15. Between FY 1994-95 and FY 2004-05, Turnpike transactions and adjusted toll revenue grew by an average annual rate of 3.8 percent and 6.2 percent, respectively. Similarly, in the 10 years from FY 2004-05 to FY 2014-15, Turnpike transactions and adjusted gross toll revenue grew by average annual rates of 0.2 percent and 5.5 percent, respectively. The effect of the great recession can be observed in this trend table, most notably in FY 2008-2009. Although annual transaction growth since the recession has been slow, revenue gains have been consistent and significant due to annual toll rate increases.

### **Monthly Transactions and Gross Toll revenue Trends**

Tables 3 through 9 present recent monthly transaction and revenue trends from FY 2012-13 through January 2016 for all PTC toll facilities. The facilities are summarized in the following order:

- The Total Turnpike System (comprised of all the facilities listed below);
- The Ticket System – comprised of I-76/I-276 and I-476;
- Turnpike 43 (Mon/Fayette Expressway);
- Turnpike 66 (Amos K. Hutchinson Bypass);
- Northeast Extension (I-476) Barrier Plazas;
- Turnpike I-376 (Beaver Valley Expressway) and;
- Turnpike I-576 (Southern Beltway – Findlay Connector).

**Table 3**  
**Total Turnpike System - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Passenger Cars							Toll Transactions (in 1,000s)							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	14,418	(0.7)	14,311	1.6	14,535	2.1	14,848	2,122	(0.5)	2,112	7.1	2,261	6.0	2,397	16,539	(0.7)	16,423	2.3	16,797	2.7	17,245
July	14,726	1.2	14,906	1.6	15,138	3.3	15,642	2,085	6.2	2,215	6.1	2,351	3.3	2,429	16,811	1.8	17,121	2.1	17,489	3.3	18,071
August	15,300	0.9	15,433	(0.1)	15,425	1.0	15,583	2,232	1.4	2,264	1.6	2,301	3.8	2,390	17,532	0.9	17,698	0.2	17,726	1.4	17,973
September	13,625	2.0	13,891	0.6	13,974	1.8	14,219	1,958	7.3	2,101	8.3	2,275	3.9	2,364	15,583	2.6	15,993	1.6	16,249	2.1	16,583
October	13,886	5.6	14,670	1.4	14,876	1.3	15,066	2,115	8.1	2,287	5.5	2,412	1.6	2,449	16,001	6.0	16,957	2.0	17,288	1.3	17,516
November	13,508	(0.6)	13,420	(0.5)	13,358	4.5	13,964	2,008	(2.4)	1,960	2.6	2,011	5.7	2,125	15,516	(0.9)	15,380	(0.1)	15,368	4.7	16,088
December	12,975	0.6	13,058	3.3	13,491	3.5	13,959	1,774	5.1	1,864	9.8	2,046	3.4	2,116	14,749	1.2	14,922	4.1	15,537	3.5	16,075
January	12,236	(4.4)	11,703	1.7	11,905	2.3	12,177	1,892	(0.9)	1,875	3.2	1,935	0.1	1,938	14,128	(3.9)	13,578	1.9	13,840	2.0	14,114
February	11,417	(5.9)	10,738	4.8	11,249			1,728	0.6	1,740	4.8	1,822			13,146	(5.1)	12,478	4.8	13,072		
March	13,334	(1.1)	13,188	0.2	13,211			1,915	5.6	2,021	6.0	2,142			15,249	(0.3)	15,210	0.9	15,353		
April	13,585	1.4	13,778	2.4	14,109			2,111	2.6	2,167	4.4	2,262			15,697	1.6	15,946	2.7	16,371		
May	14,679	0.1	14,690	1.6	14,919			2,267	0.7	2,283	1.8	2,325			16,946	0.2	16,974	1.6	17,244		
Total Year	163,690	0.1	163,788	1.5	166,190			24,207	2.8	24,891	5.0	26,144			187,897	0.4	188,679	1.9	192,334		
Jun - Jan	110,673	0.7	111,393	1.2	112,702	2.4	115,457	16,186	3.0	16,679	5.5	17,593	3.5	18,208	126,859	1.0	128,072	1.7	130,295	2.6	133,665

Passenger Cars							Toll Revenue (in \$1,000s)							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	\$42,563	5.5	\$44,913	6.3	\$47,759	6.8	\$50,991	\$29,797	3.8	\$30,938	8.7	\$33,638	11.8	\$37,614	\$72,360	4.8	\$75,851	7.3	\$81,397	8.9	\$88,606
July	44,813	7.6	48,219	6.9	51,527	9.9	56,625	28,953	9.1	31,597	9.3	34,536	9.1	37,680	73,767	8.2	79,816	7.8	86,063	9.6	94,305
August	46,109	7.9	49,761	6.6	53,065	5.7	56,072	31,222	3.4	32,289	5.3	33,994	8.8	36,983	77,330	6.1	82,050	6.1	87,060	6.9	93,054
September	38,737	5.9	41,023	4.9	43,042	10.2	47,419	28,222	6.5	30,066	11.4	33,490	8.9	36,472	66,959	6.2	71,089	7.7	76,532	9.6	83,891
October	38,571	9.9	42,409	7.8	45,711	7.9	49,331	29,595	10.5	32,692	8.6	35,507	6.4	37,786	68,166	10.2	75,101	8.1	81,218	7.3	87,117
November	38,446	3.4	39,752	7.0	42,534	10.5	47,013	28,976	(1.5)	28,554	5.9	30,250	9.4	33,096	67,422	1.3	68,306	6.6	72,785	10.1	80,109
December	36,642	7.1	39,259	6.4	41,766	8.8	45,446	26,096	5.7	27,577	13.0	31,154	6.8	33,264	62,738	6.5	66,836	9.1	72,921	7.9	78,709
January	33,172	0.7	33,403	8.2	36,138	13.3	40,959	28,813	0.4	28,936	9.2	31,609	7.9	34,097	61,985	0.6	62,338	8.7	67,747	10.8	75,056
February	30,841	(1.9)	30,259	10.0	33,282			26,223	3.6	27,168	9.5	29,753			57,064	0.6	57,427	9.8	63,035		
March	38,716	1.8	39,421	4.7	41,277			29,182	8.4	31,644	10.4	34,940			67,899	4.7	71,065	7.3	76,218		
April	38,904	8.9	42,363	8.3	45,872			30,610	7.2	32,811	9.5	35,912			69,514	8.1	75,174	8.8	81,784		
May	44,000	6.6	46,889	8.9	51,080			32,537	4.9	34,123	6.7	36,413			76,536	5.8	81,012	8.0	87,493		
Total Year	\$471,514	5.5	\$497,671	7.1	\$533,054			\$350,226	5.2	\$368,395	8.9	\$401,197			\$821,740	5.4	\$866,066	7.9	\$934,252		
Jun - Jan	319,053	6.2	338,738	6.7	361,543	8.9	393,856	231,674	4.7	242,649	8.9	264,179	8.6	286,992	550,727	5.6	581,387	7.6	625,721	8.8	680,848

NOTES:

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.
- (9) The video component of traffic and revenue at the Delaware River Bridge is not included in the January 2016 values.

**Table 4**  
**Ticket System (Including Gateway Barrier Plaza) - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	11,622	(0.7)	11,540	1.6	11,720	2.3	11,994	1,754	(0.5)	1,744	6.2	1,852	6.7	1,976	13,376	(0.7)	13,284	2.2	13,572	2.9	13,970
July	11,765	1.7	11,959	1.4	12,128	3.7	12,582	1,717	5.7	1,816	5.2	1,910	4.6	1,997	13,482	2.2	13,775	1.9	14,039	3.9	14,580
August	12,181	1.3	12,343	(0.5)	12,285	1.9	12,524	1,839	0.7	1,852	0.5	1,862	4.8	1,951	14,020	1.2	14,195	(0.3)	14,147	2.3	14,474
September	10,800	2.8	11,105	0.2	11,123	2.1	11,361	1,619	6.2	1,719	6.9	1,838	4.7	1,924	12,419	3.3	12,824	1.1	12,961	2.5	13,286
October	10,998	6.7	11,738	1.2	11,876	1.6	12,063	1,749	7.1	1,873	4.6	1,960	1.9	1,997	12,747	6.8	13,611	1.7	13,836	1.6	14,060
November	10,832	(0.2)	10,812	(0.5)	10,760	4.8	11,280	1,685	(4.0)	1,617	1.9	1,648	6.1	1,748	12,517	(0.7)	12,428	(0.2)	12,408	5.0	13,028
December	10,446	0.4	10,484	4.0	10,902	3.7	11,301	1,493	3.9	1,552	9.5	1,700	3.7	1,763	11,939	0.8	12,036	4.7	12,602	3.7	13,064
January	9,925	(4.5)	9,478	1.5	9,619	3.4	9,942	1,591	(1.9)	1,560	2.9	1,606	1.1	1,624	11,516	(4.1)	11,038	1.7	11,225	3.0	11,566
February	9,189	(6.6)	8,585	6.0	9,101			1,448	(0.7)	1,439	5.5	1,518			10,638	(5.8)	10,023	5.9	10,619		
March	10,761	(1.0)	10,649	(0.2)	10,627			1,605	3.8	1,666	5.9	1,763			12,366	(0.4)	12,314	0.6	12,390		
April	10,890	1.9	11,096	2.6	11,380			1,752	2.1	1,789	4.2	1,863			12,641	1.9	12,884	2.8	13,244		
May	11,756	0.5	11,809	1.4	11,977			1,874	(0.0)	1,874	1.9	1,910			13,630	0.4	13,683	1.5	13,887		
Total Year	131,165	0.3	131,595	1.4	133,498			20,125	1.9	20,501	4.5	21,430			151,290	0.5	152,096	1.9	154,928		
Jun - Jan	88,569	1.0	89,457	1.1	90,413	2.9	93,047	13,446	2.1	13,734	4.7	14,376	4.2	14,981	102,016	1.2	103,191	1.5	104,789	3.1	108,028

Toll Revenue (in \$1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	\$39,610	5.4	\$41,761	6.3	\$44,385	6.9	\$47,437	\$28,554	3.8	\$29,642	8.4	\$32,145	12.1	\$36,033	\$68,164	4.8	\$71,403	7.2	\$76,530	9.1	\$83,470
July	41,674	7.7	44,889	6.8	47,942	10.2	52,824	27,706	9.0	30,200	9.1	32,935	9.5	36,075	69,380	8.2	75,089	7.7	80,876	9.9	88,899
August	42,785	8.2	46,287	6.6	49,340	6.0	52,285	29,883	3.2	30,847	5.1	32,420	9.1	35,370	72,668	6.1	77,134	6.0	81,759	7.2	87,654
September	35,739	6.0	37,868	4.7	39,655	10.7	43,886	27,060	6.2	28,725	11.1	31,911	9.2	34,860	62,798	6.0	66,593	7.5	71,566	10.0	78,746
October	35,501	10.1	39,100	7.8	42,161	8.2	45,633	28,342	10.2	31,235	8.5	33,884	6.5	36,101	63,843	10.2	70,335	8.1	76,045	7.5	81,734
November	35,597	3.4	36,810	7.2	39,455	10.8	43,709	27,854	(1.8)	27,346	5.8	28,927	9.5	31,685	63,451	1.1	64,156	6.6	68,382	10.3	75,394
December	33,936	7.1	36,350	6.4	38,684	9.0	42,150	25,115	5.3	26,444	13.0	29,877	6.8	31,919	59,050	6.3	62,795	9.2	68,561	8.0	74,070
January	30,574	0.7	30,782	8.2	33,317	14.3	38,068	27,718	0.1	27,743	9.4	30,349	8.1	32,822	58,292	0.4	58,524	8.8	63,666	11.3	70,890
February	28,308	(2.2)	27,690	10.6	30,622			25,204	3.3	26,037	9.8	28,580			53,512	0.4	53,728	10.2	59,202		
March	35,792	1.6	36,382	4.6	38,063			28,054	8.0	30,311	10.5	33,495			63,845	4.5	66,693	7.3	71,558		
April	35,848	9.3	39,166	8.5	42,487			29,312	7.1	31,396	9.6	34,407			65,160	8.3	70,562	9.0	76,894		
May	40,696	6.7	43,440	9.1	47,413			31,134	4.8	32,623	6.9	34,875			71,830	5.9	76,063	8.2	82,287		
Total Year	\$436,059	5.6	\$460,525	7.2	\$493,523			\$335,935	4.9	\$352,550	8.9	\$383,804			\$771,994	5.3	\$813,075	7.9	\$877,327		
Jun - Jan	295,415	6.2	313,847	6.7	334,938	9.3	365,992	222,231	4.5	232,182	8.7	252,448	8.9	274,867	517,647	5.5	546,029	7.6	587,386	9.1	640,858

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.
- (9) The video component of traffic and revenue at the Delaware River Bridge is not included in the January 2016 values.

**Table 5**  
**Turnpike 43 - Mon/Fayette Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	978	4.6	1,023	2.1	1,044	5.1	1,098	66	20.0	79	19.9	95	3.4	98	1,044	5.6	1,102	3.4	1,139	5.0	1,196
July	1,042	0.9	1,052	3.1	1,084	5.2	1,141	67	30.1	87	16.5	101	(2.6)	99	1,109	2.7	1,139	4.1	1,186	4.6	1,240
August	1,134	(1.7)	1,114	1.3	1,129	2.0	1,151	74	20.6	90	12.1	101	9.0	110	1,209	(0.4)	1,204	2.1	1,230	2.5	1,261
September	1,059	1.1	1,070	2.7	1,099	4.4	1,147	61	34.6	82	22.7	101	17.5	119	1,120	2.9	1,152	4.1	1,200	5.5	1,266
October	1,098	3.0	1,132	2.3	1,158	5.4	1,221	69	39.0	96	11.4	107	(0.3)	107	1,167	5.2	1,228	3.0	1,265	4.9	1,327
November	998	(1.3)	985	0.1	986	7.3	1,058	60	27.2	76	14.2	87	(0.8)	86	1,058	0.3	1,061	1.2	1,073	6.7	1,145
December	946	1.1	957	3.9	994	4.9	1,043	50	29.7	65	23.4	81	(6.4)	75	997	2.5	1,022	5.2	1,075	4.0	1,118
January	881	(3.2)	852	5.5	899	(1.4)	887	55	14.3	63	26.0	79	(16.0)	67	936	(2.2)	915	6.9	978	(2.5)	953
February	876	(2.7)	853	1.6	867			56	12.1	62	6.6	67			932	(1.8)	915	2.0	933		
March	984	0.0	985	3.9	1,023			64	29.7	82	12.7	93			1,048	1.8	1,067	4.6	1,116		
April	1,034	(0.9)	1,026	5.0	1,077			73	15.2	84	17.7	98			1,107	0.2	1,109	6.0	1,175		
May	1,092	(0.9)	1,082	6.1	1,147			77	19.5	92	8.7	100			1,169	0.4	1,174	6.3	1,248		
Total Year	12,122	0.1	12,129	3.1	12,508			772	24.3	959	15.7	1,110			12,894	1.5	13,089	4.0	13,618		
Jun - Jan	8,136	0.6	8,184	2.6	8,394	4.2	8,745	503	27.0	639	17.7	752	1.1	760	8,638	2.1	8,823	3.7	9,145	3.9	9,506

Toll Revenue (in \$1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	\$1,105	13.3	\$1,253	7.1	\$1,341	9.5	\$1,468	\$210	30.1	\$274	23.8	\$339	8.1	\$366	\$1,315	16.0	\$1,526	10.1	\$1,680	9.2	\$1,835
July	1,201	7.4	1,290	8.2	1,397	9.8	1,533	222	33.7	297	20.6	358	2.2	366	1,423	11.5	1,587	10.5	1,755	8.2	1,899
August	1,325	2.8	1,362	6.8	1,454	6.1	1,542	251	21.6	305	16.3	355	11.8	397	1,576	5.8	1,667	8.5	1,809	7.2	1,939
September	1,225	5.7	1,295	7.6	1,393	8.1	1,506	209	34.2	280	26.5	354	17.9	417	1,433	9.9	1,575	10.9	1,747	10.1	1,923
October	1,264	7.9	1,363	7.4	1,464	8.7	1,592	236	36.7	323	17.0	378	2.1	386	1,500	12.4	1,686	9.3	1,842	7.4	1,978
November	1,149	3.2	1,186	5.2	1,248	11.1	1,386	206	25.4	258	19.0	307	4.0	319	1,355	6.6	1,444	7.7	1,555	9.7	1,705
December	1,093	5.7	1,156	9.0	1,259	9.5	1,379	173	33.1	230	26.0	290	0.4	292	1,266	9.5	1,386	11.8	1,550	7.8	1,671
January	1,056	1.2	1,069	10.0	1,176	3.9	1,222	198	15.1	228	30.4	297	(8.1)	273	1,254	3.4	1,297	13.6	1,473	1.5	1,495
February	1,059	1.8	1,077	5.6	1,138			197	14.1	225	11.2	250			1,256	3.7	1,302	6.6	1,388		
March	1,195	4.6	1,250	8.0	1,350			222	30.2	289	18.6	343			1,417	8.6	1,539	10.0	1,693		
April	1,250	3.8	1,297	9.6	1,421			252	20.1	303	20.2	364			1,502	6.5	1,600	11.6	1,785		
May	1,326	4.4	1,385	10.7	1,534			268	23.2	330	10.5	365			1,595	7.6	1,715	10.7	1,899		
Total Year	\$14,247	5.2	\$14,984	7.9	\$16,174			\$2,644	26.4	\$3,342	19.7	\$4,000			\$16,892	8.5	\$18,325	10.1	\$20,174		
Jun - Jan	9,418	5.9	9,974	7.6	10,731	8.4	11,629	1,705	28.7	2,195	22.0	2,678	5.1	2,816	11,123	9.4	12,169	10.2	13,409	7.7	14,445

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 6**  
**Turnpike 66 - Amos K. Hutchinson ByPass - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	593	(3.3)	573	1.8	584	(0.8)	579	93	(1.6)	91	7.4	98	(2.9)	95	685	(3.0)	664	2.6	681	(1.1)	674
July	590	(0.4)	588	0.8	592	(0.1)	591	92	4.2	96	3.8	100	(1.9)	98	682	0.3	684	1.2	692	(0.4)	689
August	622	(1.6)	612	(0.7)	608	(3.4)	587	98	2.0	100	(0.9)	99	(2.9)	97	721	(1.1)	713	(0.7)	707	(3.4)	684
September	581	0.1	581	3.3	601	(4.8)	571	87	8.5	94	10.5	104	(10.5)	93	667	1.2	675	4.3	704	(5.7)	665
October	604	1.3	612	4.4	639	(6.0)	600	95	3.9	98	10.4	108	(4.0)	104	699	1.7	710	5.2	747	(5.7)	705
November	568	(1.3)	561	(0.4)	559	(1.6)	550	79	0.6	80	15.7	92	(7.5)	86	648	(1.1)	641	1.6	651	(2.4)	635
December	556	1.0	561	0.9	566	(0.3)	564	68	4.9	72	15.9	83	(1.7)	82	624	1.4	633	2.6	649	(0.5)	646
January	512	(4.5)	489	4.2	509	(5.7)	480	74	4.6	77	(1.9)	76	(4.5)	72	585	(3.4)	566	3.3	585	(5.5)	552
February	483	(2.0)	474	(0.1)	473			68	5.8	72	1.5	73			551	(1.0)	546	0.1	547		
March	548	0.6	551	1.5	559			75	12.1	84	1.2	85			623	2.0	635	1.5	645		
April	575	(0.4)	573	0.0	573			88	5.2	93	0.2	93			664	0.3	666	0.0	666		
May	601	1.2	608	(0.6)	604			96	4.5	101	(7.9)	93			697	1.6	708	(1.6)	697		
Total Year	6,832	(0.7)	6,782	1.2	6,866			1,014	4.4	1,058	4.4	1,105			7,846	(0.1)	7,841	1.7	7,971		
Jun - Jan	4,625	(1.0)	4,577	1.7	4,657	(2.9)	4,523	686	3.3	709	7.3	761	(4.5)	726	5,311	(0.5)	5,286	2.5	5,417	(3.1)	5,250

Toll Revenue (in \$1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	\$764	2.0	\$780	6.9	\$833	2.7	\$856	\$347	2.9	\$357	13.8	\$406	(2.3)	\$397	\$1,111	2.3	\$1,137	9.1	\$1,240	1.1	\$1,253
July	763	4.9	800	6.3	851	3.5	880	346	7.5	372	11.2	414	(2.2)	404	1,109	5.7	1,172	7.8	1,264	1.6	1,285
August	802	3.7	831	4.8	871	0.1	872	370	4.8	388	4.5	405	(2.2)	396	1,172	4.0	1,219	4.7	1,276	(0.6)	1,268
September	747	5.1	785	7.9	846	(0.4)	843	331	10.5	366	16.4	426	(10.1)	383	1,078	6.7	1,150	10.6	1,272	(3.7)	1,226
October	772	6.7	824	8.6	895	(1.4)	882	358	7.4	384	12.9	434	0.3	435	1,130	6.9	1,208	10.0	1,329	(0.8)	1,318
November	726	3.7	753	4.7	788	2.3	806	301	2.6	309	21.9	376	(6.0)	354	1,027	3.4	1,062	9.7	1,164	(0.4)	1,160
December	707	6.3	751	5.8	795	3.5	823	261	10.7	289	16.4	336	0.5	338	968	7.5	1,040	8.8	1,131	2.6	1,161
January	678	(0.1)	678	9.0	739	(1.1)	731	289	12.6	325	(3.6)	313	2.6	322	967	3.7	1,003	4.9	1,052	(0.0)	1,052
February	646	2.6	663	3.8	688			267	13.9	304	1.9	310			913	5.9	967	3.2	998		
March	736	5.7	778	5.1	818			297	20.9	359	(1.2)	354			1,033	10.1	1,137	3.1	1,173		
April	773	4.9	810	3.8	841			347	13.5	393	(0.7)	391			1,120	7.5	1,204	2.3	1,231		
May	810	6.6	864	3.3	892			377	11.3	419	(8.6)	383			1,187	8.1	1,283	(0.6)	1,276		
Total Year	\$8,924	4.4	\$9,317	5.8	\$9,857			\$3,890	9.6	\$4,265	6.7	\$4,549			\$12,814	6.0	\$13,582	6.1	\$14,406		
Jun - Jan	5,959	4.1	6,201	6.7	6,618	1.1	6,693	2,603	7.2	2,790	11.5	3,111	(2.6)	3,029	8,562	5.0	8,991	8.2	9,729	(0.1)	9,722

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 7**  
**Northeast Extension Barrier Plazas - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Passenger Cars								Toll Transactions (in 1,000s)								Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16		2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	
June	451	4.0	469	(4.0)	450	(0.5)	448	89	2.3	91	3.2	94	6.7	100		540	3.7	560	(2.8)	544	0.7	548	
July	526	6.6	560	0.6	563	(1.6)	554	90	12.9	102	5.0	107	(4.1)	102		615	7.5	662	1.2	670	(2.0)	657	
August	553	8.8	602	1.7	612	(8.2)	562	94	8.3	102	6.6	109	(6.1)	102		647	8.8	704	2.4	721	(7.9)	664	
September	402	8.8	438	(0.5)	436	(2.0)	427	81	13.5	92	9.8	101	(4.2)	97		483	9.6	530	1.3	537	(2.4)	524	
October	406	11.7	453	3.5	469	(3.7)	452	85	12.5	95	8.6	104	(2.2)	101		491	11.9	549	4.4	573	(3.4)	553	
November	403	0.3	404	(0.5)	402	1.1	406	81	0.1	81	(0.6)	80	7.2	86		483	0.3	485	(0.6)	482	2.1	492	
December	350	10.8	388	(8.3)	356	3.5	369	70	13.4	79	(0.8)	78	6.3	83		420	11.3	467	(7.0)	434	4.0	452	
January	302	1.6	307	(4.3)	294	(2.1)	288	75	5.9	80	(3.2)	77	(0.0)	77		377	2.5	387	(4.1)	371	(1.7)	365	
February	293	(4.9)	279	(3.4)	269			69	5.2	73	0.1	73				363	(3.0)	352	(2.7)	342			
March	375	(6.2)	352	(3.2)	341			77	7.5	83	2.8	85				452	(3.8)	435	(2.1)	426			
April	403	(1.3)	398	(2.7)	387			90	(2.8)	87	1.4	88				493	(1.6)	485	(2.0)	476			
May	498	(9.7)	450	2.7	462			104	(8.7)	95	3.0	98				602	(9.5)	545	2.8	560			
Total Year	4,963	2.8	5,101	(1.2)	5,042			1,005	5.4	1,060	3.3	1,094				5,968	3.2	6,160	(0.4)	6,136			
Jun - Jan	3,393	6.8	3,622	(1.1)	3,583	(2.1)	3,506	665	8.5	721	3.9	750	(0.1)	749		4,058	7.0	4,344	(0.3)	4,333	(1.8)	4,255	

Passenger Cars								Commercial Vehicles								Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16		2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	
June	\$348	9.1	\$379	1.0	\$383	4.0	\$398	\$351	3.8	\$364	7.7	\$392	11.1	\$435		\$699	6.4	\$743	4.2	\$775	7.6	\$834	
July	405	12.1	454	6.2	483	3.1	497	346	16.6	403	8.9	439	(1.5)	432		751	14.2	857	7.5	921	0.9	930	
August	425	14.5	486	7.7	524	(4.2)	502	364	11.4	405	9.8	445	(2.5)	434		789	13.0	891	8.7	969	(3.4)	936	
September	307	14.1	350	4.4	366	2.7	376	318	16.2	369	13.5	419	(0.1)	419		625	15.2	719	9.1	785	1.2	794	
October	309	17.0	361	8.9	393	0.9	397	339	16.3	394	10.6	436	1.2	441		648	16.6	755	9.8	829	1.1	838	
November	305	4.9	320	4.6	335	5.7	354	327	2.8	336	1.1	340	11.8	380		632	3.8	657	2.8	675	8.8	734	
December	266	15.7	307	(3.9)	295	8.5	320	285	16.2	331	2.3	339	9.9	372		551	16.0	638	(0.7)	634	9.2	693	
January	237	7.7	255	(0.8)	253	3.0	261	318	8.3	344	0.6	346	5.7	366		555	8.0	599	(0.0)	599	4.6	627	
February	232	0.0	232	0.5	233		0	293	8.1	316	4.1	329				525	4.5	549	2.5	563			
March	301	(1.2)	297	0.8	299		0	326	9.9	358	7.4	385				627	4.6	655	4.4	684			
April	325	4.0	338	1.1	341		0	377	(1.1)	373	6.0	395				702	1.3	711	3.7	737			
May	402	(5.2)	381	7.6	410		0	425	(6.8)	396	7.0	424				826	(6.0)	777	7.3	834			
Total Year	\$3,861	7.8	\$4,162	3.7	\$4,316			\$4,067	8.0	\$4,391	6.8	\$4,689				\$7,928	7.9	\$8,553	5.3	\$9,004			
Jun - Jan	2,601	12.0	2,914	4.0	3,032	2.4	3,105	2,647	11.4	2,947	7.1	3,155	3.9	3,280		5,248	11.7	5,861	5.6	6,187	3.2	6,385	

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 8**  
**Turnpike I-376 - Beaver Valley Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Toll Transactions (in 1,000s)						Total Vehicles					
	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg
June	625	(9.4)	567	4.4	592	(3.0)	108	(14.2)	93	15.9	107	0.2	733	(10.1)	659	6.0	699	(2.5)
July	650	(7.5)	601	2.3	615	(0.8)	107	(5.4)	101	13.6	115	(1.6)	757	(7.2)	703	3.9	730	(0.9)
August	654	(6.3)	612	3.1	631	(4.8)	113	(6.1)	106	5.8	112	(1.7)	767	(6.3)	718	3.5	743	(4.3)
September	588	(4.1)	564	1.1	570	(0.8)	96	4.2	100	13.8	114	(3.9)	684	(3.0)	664	3.0	684	(1.4)
October	606	(1.9)	595	(2.2)	582	(0.8)	104	4.4	108	5.2	114	2.5	710	(1.0)	703	(1.1)	696	(0.3)
November	569	(6.1)	534	(3.0)	518	2.1	92	(0.3)	91	(2.3)	89	10.1	660	(5.3)	625	(2.9)	607	3.2
December	546	(1.0)	541	(1.4)	533	1.2	83	1.4	84	6.6	90	3.8	629	(0.6)	625	(0.4)	622	1.5
January	493	(7.2)	458	0.5	460	(1.0)	88	(3.0)	85	(1.0)	84	(3.2)	581	(6.5)	543	0.3	544	(1.3)
February	463	(5.3)	439	(3.4)	424		78	6.6	83	(4.9)	79		541	(3.6)	521	(3.6)	503	
March	538	(2.9)	523	0.1	523		84	11.8	94	6.1	99		622	(0.9)	617	1.0	623	
April	551	(0.0)	551	(0.6)	548		97	3.3	100	0.9	101		648	0.5	651	(0.3)	649	
May	587	1.6	597	(3.4)	576		102	5.8	107	(3.9)	103		689	2.2	704	(3.4)	680	
Total Year	6,871	(4.2)	6,580	(0.1)	6,572		1,150	0.3	1,153	4.8	1,208		8,021	(3.6)	7,733	0.6	7,780	
Jun - Jan	4,731	(5.5)	4,471	0.7	4,501	(1.1)	790	(2.7)	769	7.4	826	0.6	5,521	(5.1)	5,240	1.6	5,326	(0.9)

Month	Passenger Cars						Commercial Vehicles						Total Vehicles					
	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg
June	\$661	(3.1)	\$640	11.4	\$713	1.3	\$315	(13.2)	\$273	18.9	\$325	3.7	\$976	(6.4)	\$914	13.6	\$1,038	2.1
July	692	(1.6)	681	9.6	747	3.9	315	(5.7)	297	19.5	354	1.1	1,007	(2.9)	978	12.6	1,101	3.0
August	695	(0.9)	688	11.1	764	(0.7)	332	(5.2)	314	5.7	332	2.6	1,026	(2.3)	1,003	9.4	1,097	0.3
September	622	1.4	631	7.8	680	3.9	282	5.8	298	15.2	343	0.6	904	2.8	929	10.2	1,024	2.8
October	639	3.6	662	4.2	690	4.3	297	8.9	324	4.1	337	10.7	936	5.3	986	4.2	1,027	6.4
November	599	(0.7)	595	3.5	616	7.1	269	1.6	273	(1.1)	270	16.1	868	0.0	868	2.1	886	9.9
December	575	4.9	604	5.1	635	6.1	244	4.7	256	8.8	278	7.4	820	4.9	860	6.2	913	6.5
January	544	(1.4)	536	5.6	566	4.5	270	0.4	271	1.5	275	1.1	813	(0.8)	807	4.2	841	3.4
February	517	0.5	519	0.4	521		242	8.3	262	(2.6)	255		758	3.0	781	(0.6)	776	
March	603	3.4	623	4.4	650		260	14.9	299	9.6	328		863	6.8	922	6.1	978	
April	616	6.6	657	3.8	682		296	6.2	314	0.9	317		912	6.5	971	2.9	999	
May	662	8.3	717	1.1	725		305	6.6	325	(1.3)	321		967	7.7	1,042	0.4	1,045	
Total Year	\$7,424	1.7	\$7,553	5.8	\$7,989		\$3,426	2.3	\$3,506	6.6	\$3,736		\$10,850	1.9	\$11,058	6.0	\$11,724	
Jun - Jan	5,027	0.2	5,037	7.4	5,411	3.7	2,323	(0.7)	2,306	9.1	2,515	5.2	7,350	(0.1)	7,343	7.9	7,926	4.1

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table 9**  
**Turnpike I-576 - Southern Beltway - Findlay Connector - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	149	(5.9)	140	4.4	146	6.2	155	12	14.0	14	9.8	15	35.1	20	161	(4.5)	154	4.9	161	8.9	175
July	153	(5.0)	146	5.9	154	5.6	163	11	17.4	13	34.4	18	8.0	19	165	(3.4)	159	8.3	172	5.8	182
August	156	(4.2)	150	6.6	159	(0.7)	158	13	4.8	14	30.8	18	11.9	20	170	(3.5)	164	8.6	178	0.6	179
September	195	(31.3)	134	8.7	145	0.9	147	14	(3.2)	14	26.9	17	23.7	21	209	(29.4)	147	10.4	163	3.3	168
October	174	(19.1)	140	8.9	153	0.5	154	14	9.8	15	21.3	18	26.1	23	187	(17.0)	155	10.1	171	3.2	177
November	138	(9.3)	125	5.8	133	6.1	141	12	25.7	15	(6.9)	14	47.2	21	150	(6.5)	140	4.5	146	10.0	161
December	131	(2.5)	128	9.8	140	2.1	143	10	22.3	12	23.3	15	33.6	20	141	(0.8)	140	10.9	155	5.1	163
January	123	(3.7)	119	4.6	124	(0.2)	124	10	14.8	11	19.7	13	23.5	16	133	(2.4)	130	5.8	137	2.1	140
February	112	(2.4)	110	4.9	115			9	13.8	11	22.7	13			121	(1.1)	120	6.5	128		
March	128	1.2	129	6.8	138			11	18.2	13	26.9	16			139	2.5	142	8.6	154		
April	132	3.0	135	5.8	143			12	21.1	14	24.0	18			143	4.5	150	7.5	161		
May	146	(0.2)	146	4.5	152			13	3.7	14	51.2	21			159	0.1	159	8.6	173		
Total Year	1,737	(7.8)	1,601	6.4	1,703			141	12.8	159	23.5	197			1,878	(6.3)	1,760	8.0	1,900		
Jun - Jan	1,219	(11.3)	1,081	6.8	1,155	2.6	1,184	96	12.4	108	19.6	129	25.2	161	1,315	(9.6)	1,189	8.0	1,284	4.8	1,346

Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16	2012-13	% Chg	2013-14	% Chg	2014-15	% Chg	2015-16
June	\$75	33.5	\$100	3.5	\$103	5.8	\$109	\$20	41.8	\$28	12.4	\$32	43.8	\$46	\$94	35.3	\$128	5.4	\$135	14.7	\$154
July	77	35.0	104	5.1	109	5.1	114	19	48.9	28	29.4	37	18.1	43	96	37.7	132	10.3	146	8.4	158
August	78	35.8	106	5.9	113	(1.3)	111	22	34.4	29	29.0	37	20.8	45	100	35.5	135	10.9	150	4.2	156
September	98	(3.0)	95	8.1	102	0.5	103	23	23.1	28	26.8	36	30.8	47	121	2.0	123	12.4	138	8.4	150
October	87	14.4	99	8.5	107	(0.1)	107	23	41.0	32	18.5	38	29.6	49	109	19.9	131	10.9	145	7.7	157
November	69	28.0	89	5.1	93	5.6	98	20	56.3	31	(4.7)	30	48.1	44	89	34.3	120	2.6	123	15.9	142
December	66	37.9	90	8.9	98	1.6	100	17	52.5	26	24.2	33	33.7	44	83	40.9	117	12.3	131	9.6	144
January	83	0.3	84	4.0	87	(0.9)	86	21	17.9	25	17.0	29	26.8	37	104	3.8	108	7.0	116	6.0	123
February	79	(3.2)	77	4.3	80			21	16.6	24	19.1	29			100	0.9	101	7.8	109		
March	91	0.2	91	6.3	97			24	17.1	28	26.4	36			115	3.8	119	11.1	132		
April	93	2.2	95	5.2	100			26	22.3	31	20.8	38			119	6.5	127	9.1	138		
May	104	(1.0)	103	4.0	107			28	5.4	30	55.1	46			132	0.4	132	15.5	153		
Total Year	\$999	13.3	\$1,131	5.8	\$1,196			\$263	29.9	\$341	22.8	\$419			\$1,262	16.7	\$1,473	9.7	\$1,615		
Jun - Jan	632	21.2	766	6.1	813	2.0	829	164	38.8	228	18.8	271	30.9	355	796	24.8	994	9.0	1,084	9.2	1,184

- NOTES:
- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
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  - (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
  - (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
  - (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
  - (6) On January 3, 2016, a 6% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
  - (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
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Mr. Nikolaus Grieshaber  
March 4, 2016  
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The information is provided by passenger cars, commercial vehicles, and total vehicles. For comparative purposes, subtotals are provided for June through January for each fiscal year. It should be noted that the Delaware River Bridge was converted to a westbound only cashless tolling system in January 2016. As noted at the bottom of Tables 3 and 4 (see Note 9), the video component of both traffic and toll revenue is not yet included in the January 2016 values. Video revenue will only be accounted for once the invoicing cycle has been completed. However, based on the number of cash transactions at the Delaware River Bridge in January 2015, it would appear that the additional video toll revenue will add between 0.3 to 0.4 percent to the total values shown for January 2016 in Table 3.

As shown in Table 3, Systemwide toll revenue increased by 5.4 percent in FY 2013-14, and 7.9 percent in FY 2014-15. Year to date (June 2015 through January 2016) toll revenue growth was 8.8 percent compared to the same period in the prior year. Commercial vehicle toll revenue increased by 8.6 and passenger car toll revenue increased by 8.9 percent from June 2015 through January 2016 compared to the same time period in the prior year. These increases in toll revenue were due primarily to the annual toll increases. Year-to-date toll total transactions grew by 2.4 percent, 3.5 percent, and 2.6 percent for passenger cars, commercial vehicles, and for the total System, respectively.

In general, the last year and a half have shown a trend toward higher growth rates, especially for commercial vehicles. This is likely a result of continued positive growth to the state and national economy and due to the decline in motor fuel prices. Both of these will be discussed in more detail in later sections of this report. Increased growth, for both passenger cars and commercial vehicles, is also the result of the largely inelastic nature of demand for travel over much of the Turnpike System.

As previously mentioned, the ticket system is by far the largest component of both traffic and toll revenue on the Turnpike System. As shown in Table 4, total year-to-date transactions increased 3.1 percent compared to the same period in the prior year. Commercial vehicle activity has been especially strong during this period, with traffic growing by 4.2 percent. Total revenue for the ticket system grew by 5.3 percent in FY 2013-14 and by 7.9 percent in FY 2014-15. Year-to-date FY 2015-16 revenue has grown by 9.1 percent compared to the same time frame in the previous year.

Similar traffic and toll revenue trends for each of the five individual barrier toll systems are provided in Tables 5 through 9. Together, these represent only about 5 percent of total Systemwide toll revenue. There is somewhat more variability in monthly and annual growth rates on the barrier facilities. The effects of ramp-up, inclement weather, alternative routes, and new developments have a more significant impact on these relatively low volume road.

### **Actual and Assumed Toll Rate Increases**

At the direction of the PTC, annual toll rate increases are assumed to occur on the entire Turnpike System. The toll rate increases are assumed to occur within several days of January 1 of each year. The assumptions regarding the planned toll rate increases have not changed since the 2015 Forecast Study. Table 10 presents a summary of the annual percent increases in toll for E-ZPass and cash rates from calendar year 2015 through 2044.

The percent increases in toll rates in Table 10 under the 2016 Bring Down Letter column are actual through 2016. In 2016, the PTC increased E-ZPass and cash tolls by 6.0 percent (except on Turnpike 576, which did not experience a toll increase). Toll rate adjustments will gradually wind down to a 3.0 percent increase per year beginning in 2028.

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**Table 10**  
**Actual and Assumed Percent Changes in Toll Rates**  
**Pennsylvania Turnpike System**

Calendar Year	Percent Changes in Turnpike System's Toll Rates <sup>(1)</sup>	
	2016 Draw Down	
	E-ZPass	Cash
2015	5.00	5.00
2016	6.00	6.00
2017	6.00	6.00
2018	6.00	6.00
2019	6.00	6.00
2020	6.00	6.00
2021	5.00	5.00
2022	5.00	5.00
2023	5.00	5.00
2024	5.00	5.00
2025	5.00	5.00
2026	4.00	4.00
2027	3.50	3.50
2028	3.00	3.00
2029	3.00	3.00
2030	3.00	3.00
2031	3.00	3.00
2032	3.00	3.00
2033	3.00	3.00
2034	3.00	3.00
2035	3.00	3.00
2036	3.00	3.00
2037	3.00	3.00
2038	3.00	3.00
2039	3.00	3.00
2040	3.00	3.00
2041	3.00	3.00
2042	3.00	3.00
2043	3.00	3.00
2044	3.00	3.00

(1) The percent toll rate increases are the same for all toll facilities  
and for all vehicle classes, except for 2015, and 2016  
when Turnpike 576 was exempted from a toll increase.

Note: The toll rate increases for this 2016 Bring Down Letter are  
actual through 2016.

### **Actual and Assumed E-ZPass Penetration Rates**

Table 11 presents the actual and assumed annual E-ZPass penetration rates from calendar year 2015 through 2044. The first three columns show the E-ZPass market share assumptions for the current Bring Down Letter. These were increased slightly, by the amount shown in the three rightmost columns, over assumptions used in the 2015 Forecast Study. Actual market share experience over the last 12 months have shown that the E-ZPass market share has increased at a slightly greater rate than assumed in the last study. The overall impact of increasing the assumed future year E-ZPass market share is a slight reduction in future year toll revenue. This is due to the lower average toll rate assessed to E-ZPass transactions.

The revised E-ZPass penetration rates range from 0.2 percent to 1.4 percent higher than those in the 2015 Forecast Study. The upward adjustment to the commercial vehicle rates is gradually reduced until it is eliminated in 2036. This occurs because a maximum cap of 95 percent E-ZPass market share is assumed for trucks and this level was achieved for commercial vehicles in the 2015 Forecasts Study in 2036 (thus no additional upward adjust was possible beyond that date in the current study). A 90 percent E-ZPass market share cap was assumed for cars, but this level is not reached within the forecast period. By 2044, E-ZPass market share on the Turnpike System is estimated to reach 87.5 percent for cars, 95.0 percent for trucks, and 88.6 percent overall.

**Table 11**  
**Actual and Assumed Percent E-ZPass Penetration**  
**Pennsylvania Turnpike System**

Calendar Year	E-ZPass Penetration Rates					
	2016 Bring Down Letter			Difference from 2015 Forecast Study		
	Cars	Trucks	Total	Cars	Trucks	Total
2015	73.9	87.8	75.8	0.2	0.7	0.3
2016	75.3	89.1	77.2	0.6	1.4	0.7
2017	76.4	89.9	78.2	1.0	1.7	1.1
2018	77.3	90.6	79.1	1.3	1.8	1.4
2019	77.9	91.1	79.8	1.3	1.8	1.4
2020	78.5	91.6	80.3	1.3	1.8	1.4
2021	79.0	92.1	80.8	1.3	1.8	1.4
2022	79.5	92.6	81.4	1.3	1.8	1.4
2023	80.0	93.1	81.9	1.3	1.7	1.4
2024	80.5	93.5	82.4	1.3	1.7	1.4
2025	81.0	93.9	82.9	1.4	1.7	1.4
2026	81.5	94.3	83.3	1.4	1.6	1.4
2027	81.9	94.6	83.8	1.4	1.4	1.4
2028	82.4	94.8	84.2	1.4	1.2	1.3
2029	82.8	94.9	84.6	1.4	1.0	1.3
2030	83.3	95.0	85.0	1.4	0.7	1.3
2031	83.6	95.0	85.3	1.4	0.5	1.3
2032	84.0	95.0	85.6	1.4	0.3	1.2
2033	84.3	95.0	85.9	1.4	0.2	1.2
2034	84.7	95.0	86.2	1.4	0.1	1.2
2035	85.0	95.0	86.5	1.4	0.1	1.2
2036	85.3	95.0	86.8	1.4	0.0	1.2
2037	85.7	95.0	87.1	1.4	0.0	1.2
2038	86.0	95.0	87.4	1.4	0.0	1.2
2039	86.3	95.0	87.6	1.4	0.0	1.2
2040	86.6	95.0	87.9	1.4	0.0	1.2
2041	86.8	95.0	88.1	1.4	0.0	1.2
2042	87.0	95.0	88.3	1.4	0.0	1.2
2043	87.2	95.0	88.5	1.4	0.0	1.2
2044	87.5	95.0	88.6	1.3	0.0	1.1

Note: The E-ZPass penetration rates for this 2016 Bring Down Letter are actual through 2015 and were actual only through 2014 for the 2015 Forecast Study.

## **Summary of Changes in Future Year Estimates for U.S. Gross Domestic Product and Pennsylvania Gross State Product**

This section presents a comparison of the Gross Domestic Product (GDP) and Gross State Product (GSP) information available for the 2015 Forecast Study with updated forecasts for both measures from Moody's Analytics. This information was a key input in developing estimated growth forecasts for the Turnpike System.

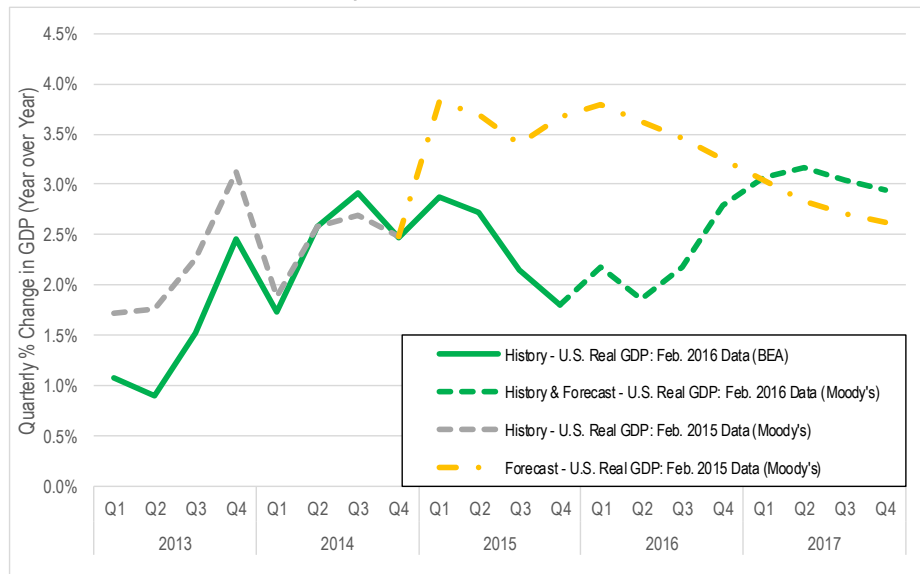
Figure 3 shows actual and estimated GDP at the time of the 2015 Forecast Study as well as the revised figures based on updated Moody's Analytics' forecasts. As shown, actual experience in 2015 underperformed prior estimates by between about 1.0 to 1.75 percent (though GDP growth remained positive throughout the period). The revised GDP forecast shows an upward trend in 2016. By the first quarter of 2017, the original and revised GDP forecasts meet and remain generally similar throughout 2017.

Figure 4 shows GSP trend and forecast data for Pennsylvania. It shows a generally similar trend to the national GDP data, but the underperformance in GSP growth (versus the 2015 estimates) is much less pronounced in 2015. The difference between the 2015 and current GSP values is generally within one percentage point.

Based on this information alone it would be assumed that actual traffic growth in 2015 underperformed CDM Smith's 2015 Forecast Study estimates. As will be discussed below, that was not the case. In fact, actual traffic actually slightly outperformed CDM Smith's estimates. This is likely due to another factor, namely motor fuel prices, which are discussed in the next section.

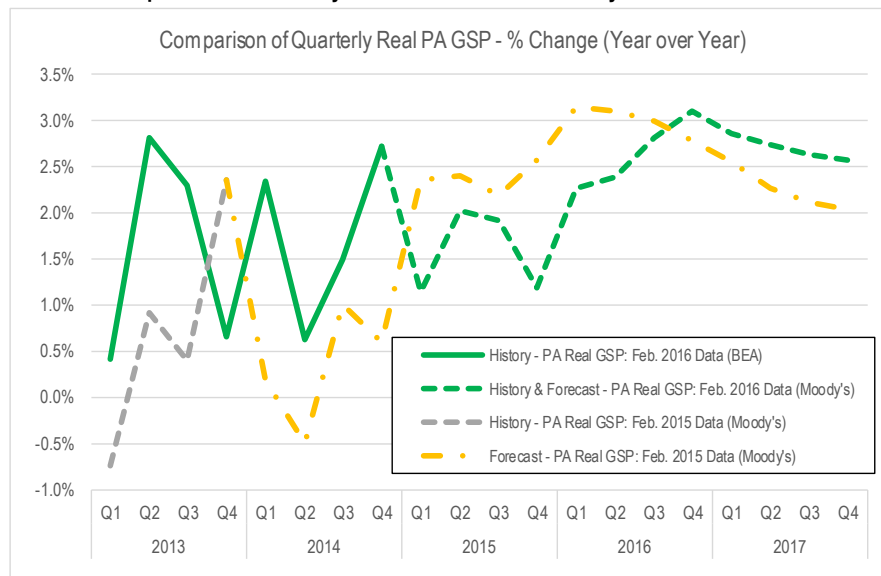
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**Figure 3**  
**Comparison of Quarterly Growth Estimates in U.S. Gross Domestic Product**



Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics  
(Feb. 2016, and Feb. 2015 Releases)

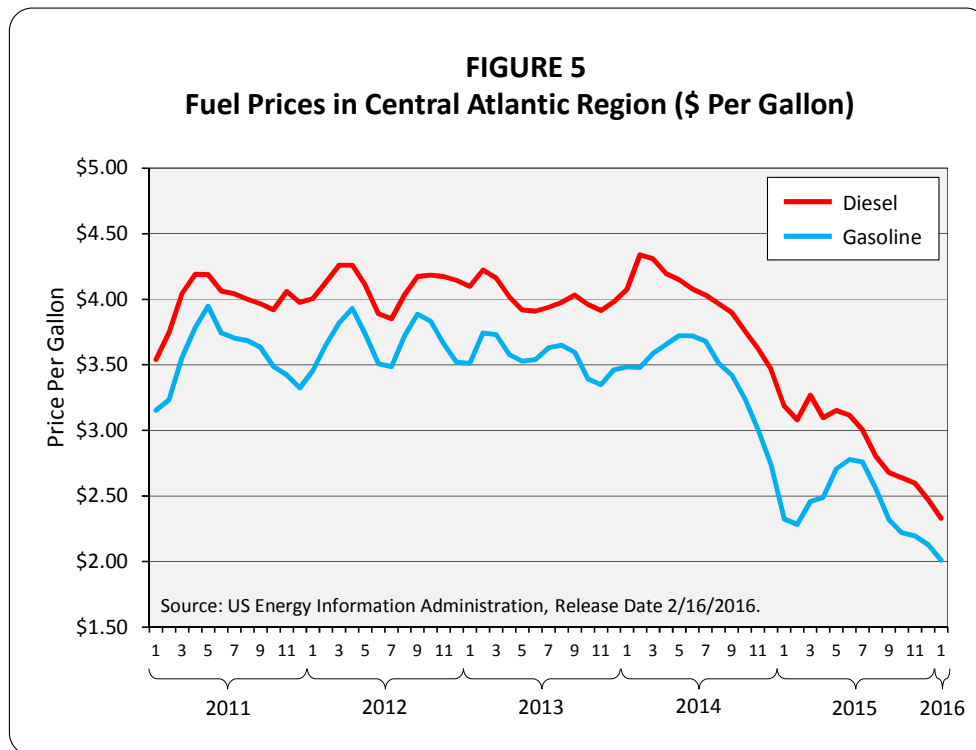
**Figure 4**  
**Comparison of Quarterly Growth Estimates in Pennsylvania Gross State Product**



Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics  
(Feb. 2016, and Feb. 2015 Releases)

## Summary of Trends in Fuel Prices

Figure 5 includes gasoline and diesel prices for the Central Atlantic Region from January 2012 through January 2016. As shown, gasoline and diesel prices have followed generally similar trends throughout this period. From January 2012 through September 2014, both gasoline and diesel prices fluctuated within a relatively narrow range. Beginning around October 2014, however, motor fuel prices began a noticeable decline. Gasoline averaged \$2.01 per gallon in January 2016. Diesel prices have also declined, averaging \$2.33 in January 2016. Based on current forecasts from the U.S. Energy Information Administration, near term price forecasts are expected to remain low. This should prove positive to current trends in strong passenger car and commercial vehicle traffic growth on the Pennsylvania Turnpike. The decline in motor fuel prices effectively decreases the negative impact (i.e., diversion) resulting from toll increases. This should provide the PTC with somewhat greater toll setting flexibility in the future.





## Actual Versus Estimated Traffic and Toll Revenue

Table 12 provides a comparison of actual traffic and toll revenue versus estimated traffic and toll revenue from CDM Smith's 2015 Forecast Study. The analysis period in this table is from February 2015 through December 2015. This eleven-month period corresponds to the period for which actual data currently exists, but was estimated at the time of the 2015 Forecast Study. While actual January 2016 traffic and revenue data is also available at this time, it was not included in this table due to the fact that Delaware River Bridge video traffic and revenue is not yet available for January.

**Table 12**  
**Comparison of Estimated and Actual Traffic Volumes and Toll Revenue**  
**From February 2015 through December 2015 (1)**  
**Pennsylvania Turnpike System**

Facility	Total Traffic (in Thousands)			Total Toll Revenue (in Thousands)		
	Estimated	Actual	Actual as Percent of Estimated	Estimated	Actual	Actual as Percent of Estimated
Passenger Cars						
Ticket and Gateway Barrier	124,530	126,190	1.3	\$ 475,251	\$ 486,508	2.4
Turnpike 43	11,601	11,973	3.2	15,448	15,849	2.6
Turnpike 66	6,426	6,253	(2.7)	9,486	9,202	(3.0)
Northeast Extension (Barrier)	4,815	4,677	(2.9)	4,245	4,129	(2.7)
Turnpike I-376	6,180	6,067	(1.8)	7,709	7,594	(1.5)
Turnpike I-576	1,609	1,609	(0.0)	1,127	1,126	(0.0)
Total System	155,161	156,769	1.0	\$ 513,266	\$ 524,409	2.2
Commercial Vehicles						
Ticket and Gateway Barrier	19,929	20,411	2.4	\$ 365,002	\$ 373,401	2.3
Turnpike 43	1,096	1,052	(4.1)	4,073	3,865	(5.1)
Turnpike 66	1,054	998	(5.3)	4,542	4,146	(8.7)
Northeast Extension (Barrier)	1,035	1,017	(1.8)	4,573	4,447	(2.8)
Turnpike I-376	1,159	1,131	(2.4)	3,708	3,588	(3.2)
Turnpike I-576	184	213	15.5	391	466	19.3
Total System	24,458	24,821	1.5	\$ 382,289	\$ 389,913	2.0
Total Vehicles						
Ticket and Gateway Barrier	144,458	146,600	1.5	\$ 840,253	\$ 859,909	2.3
Turnpike 43	12,697	13,025	2.6	19,521	19,715	1.0
Turnpike 66	7,480	7,251	(3.1)	14,028	13,347	(4.9)
Northeast Extension (Barrier)	5,850	5,694	(2.7)	8,817	8,576	(2.7)
Turnpike I-376	7,340	7,198	(1.9)	11,417	11,182	(2.1)
Turnpike I-576	1,794	1,822	1.6	1,518	1,593	4.9
Total System	179,619	181,590	1.1	\$ 895,555	\$ 914,322	2.1

(1) These 11 months correspond to the period for which actual data exists, but was estimated at the time of CDM Smith's 2015 Investment Grade Study.

In general, estimated traffic and toll revenue tracked very well compared to actuals. On a Total System basis, actual passenger-car transactions surpassed estimates by 1.0 percent, and passenger-car toll revenue exceeded estimates by 2.2 percent. Commercial vehicle transactions exceeded estimates by 1.5 percent, and actual commercial vehicle toll revenue was 2.0 percent greater than estimates. When all vehicles are considered, actual transactions were higher than estimates by 1.1 percent and toll revenue exceeded estimates by 2.1 percent.

The same information is provided in Table 12 for each of the Turnpike toll facilities. Actual versus estimated traffic and toll revenue for the Ticket System tracks very closely for that of the Total System. This occurs because the vast majority of traffic and revenue is generated by the Ticket System. The remaining barrier facilities were generally within (plus or minus) five percent of CDM Smith estimates. The very low volume nature of these facilities means that small variations in traffic can have relatively large percentage impacts on traffic and revenue. As shown in Table 12, Actual traffic and revenue for Turnpike 43 and Turnpike I-576 exceeded CDM Smith forecasts, while the other three barrier systems underperformed CDM Smith forecasts. The recent trends for all facilities was taken into account when adjusting the short term forecasts for this Bring Down Letter.

### **Estimated Traffic and Gross Toll Revenue**

Updated traffic and gross toll revenue impacts were developed through FY 2043-44 incorporating the following changes into the forecast. All these changes were described in previous sections.

- Actual traffic and revenue experience through January 2016;
- Slightly improved short term (through 2018) growth forecasts based on continued low motor fuel prices and as evidenced by the recent outperformance of actual traffic and revenue compared to assumptions in the 2015 Forecast Study; and
- Higher E-ZPass penetration rates (as shown in Table 11);

Other assumptions remain unchanged from the 2015 Forecast Study including:

- Long range normal growth rates from 2018 through the end of the forecast period;
- Annual toll rate increases;
- Structure of the commercial vehicle discount program;
- Long range economic indicators; and
- Major Committed Roadway Improvements – including the phasing of the I-276/I-95 Interchange Project.

Table 13 shows the total traffic and toll revenue for only the Ticket System. Data for FY 2014-15 reflects a full year of actual experience and FY 2015-16 includes eight months of actual experience (through January 2016). Total toll transactions increase from 154.9 million to 224.2 million over the forecast period, an average annual increase of 1.3 percent. Gross toll revenue increases from \$877.3 million to \$3.9 billion by FY 2043-44. This amounts to an average annual increase of 5.3 percent, reflecting the impact of normal growth plus the annual rate adjustments.

The same information is shown for the Barrier Systems in Table 14. Compared to the Ticket System, total annual toll transactions are estimated to grow at a slightly higher average annual rate, averaging 1.6 percent over the period shown. Total Barrier revenue increases at an annual rate of 5.5 percent.

Table 15 identifies total combined transactions and gross toll revenue and also factors in estimated toll discounts and adjustments. The vast majority of the discounts and adjustments results from commercial account toll adjustments due to the Turnpike's volume discount program. The volume discount program allows for a 3.0 percent discount to be provided to accounts that accrue \$20,000 or more in monthly tolls. Discounts and adjustments shown in Table 15 assume no further changes to the post-paid commercial volume discount program during the forecast period. The result is that the current forecasts have a negative adjustment applied for FY 2014-15 and beyond that equals approximately 0.4 percent of the commercial vehicle gross toll revenue.

As shown in Table 15, total toll transactions are expected to increase from nearly 192.3 million to 283.0 million over the forecast period. This amounts to an average annual growth rate of 1.3 percent. Total adjusted gross toll revenue is estimated to grow from approximately \$932.6 million in FY 2014-15 to \$4.2 billion by FY 2043-44. This reflects an average annual growth rate in gross toll revenue of 5.3 percent. Again, this includes the impact of normal growth plus annual toll rate adjustments.

**Table 13**  
**Ticket System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year (6)	Annual Transactions			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Revenue
2014-15 (2,4)	133,498	21,430	154,928	\$493,523	\$383,804	\$877,327
2015-16 (3,5)	137,061	22,252	159,313	542,189	421,732	963,921
2016-17	138,652	22,680	161,332	589,196	460,947	1,050,143
2017-18 (7)	141,935	23,348	165,283	630,893	497,740	1,128,633
2018-19	145,917	24,123	170,040	677,412	537,955	1,215,366
2019-20	147,668	24,545	172,214	724,485	578,565	1,303,050
2020-21	149,440	24,975	174,415	772,383	619,791	1,392,174
2021-22	151,234	25,407	176,641	818,633	660,146	1,478,779
2022-23	153,048	25,839	178,887	867,615	702,920	1,570,535
2023-24	154,885	26,278	181,163	919,487	748,460	1,667,947
2024-25	156,744	26,720	183,463	974,419	796,890	1,771,309
2025-26	158,625	27,160	185,785	1,028,814	845,146	1,873,960
2026-27	160,528	27,609	188,137	1,077,826	889,844	1,967,670
2027-28	162,454	28,059	190,513	1,123,695	932,641	2,056,337
2028-29	164,404	28,508	192,911	1,167,953	974,883	2,142,836
2029-30	166,312	28,964	195,276	1,213,441	1,019,401	2,232,842
2030-31	168,077	29,421	197,498	1,259,861	1,066,325	2,326,186
2031-32	169,757	29,877	199,635	1,307,971	1,115,339	2,423,310
2032-33	171,455	30,341	201,795	1,357,874	1,166,606	2,524,480
2033-34	173,169	30,811	203,980	1,409,633	1,220,229	2,629,862
2034-35	174,901	31,282	206,183	1,463,315	1,276,059	2,739,374
2035-36	176,650	31,752	208,402	1,518,990	1,334,056	2,853,045
2036-37	178,278	32,228	210,506	1,575,545	1,394,689	2,970,234
2037-38	179,705	32,711	212,416	1,632,137	1,458,077	3,090,215
2038-39	181,142	33,202	214,344	1,690,702	1,524,347	3,215,049
2039-40	182,591	33,693	216,285	1,751,306	1,593,307	3,344,613
2040-41	184,052	34,182	218,234	1,814,916	1,664,902	3,479,818
2041-42	185,525	34,678	220,202	1,882,108	1,739,714	3,621,823
2042-43	187,009	35,180	222,189	1,951,749	1,817,888	3,769,638
2043-44	188,505	35,690	224,195	2,023,927	1,899,575	3,923,502

(1) Includes the transactions and toll revenue from the Gateway Plaza.

(2) Reflects actual traffic and revenue experience.

(3) Reflects actual experience through January 2016.

(4) Cash and E-ZPass tolls increased by 5% on January 4, 2015, except for Turnpike 576.

(5) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike 576.

(6) Annual toll rate increases are assumed to be implemented at the first of each year. The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

(7) Includes impacts for I-95 Interchange Stages 0 and 1.

**Table 14**  
**Barrier System: Estimated Annual Transactions and Gross Toll Revenue**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year (5)	Annual Transactions			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Revenue
2014-15 (1,3)	32,692	4,714	37,406	\$39,532	\$17,393	\$56,925
2015-16 (2,4)	33,029	4,787	37,815	41,749	18,379	60,128
2016-17	33,392	4,932	38,324	44,410	19,982	64,392
2017-18	33,871	5,074	38,945	47,575	21,717	69,293
2018-19	34,417	5,208	39,625	51,159	23,612	74,771
2019-20	35,015	5,341	40,355	54,794	25,543	80,338
2020-21	35,614	5,473	41,087	58,498	27,524	86,021
2021-22	36,219	5,605	41,825	62,113	29,501	91,614
2022-23	36,824	5,739	42,563	66,156	31,724	97,880
2023-24	37,435	5,873	43,308	70,573	34,171	104,743
2024-25	38,050	6,010	44,060	74,913	36,616	111,529
2025-26	38,664	6,147	44,812	79,254	39,081	118,335
2026-27	39,280	6,284	45,564	83,264	41,395	124,659
2027-28	39,899	6,424	46,322	87,300	43,742	131,042
2028-29	40,524	6,565	47,089	91,370	46,153	137,523
2029-30	41,150	6,707	47,857	95,242	48,502	143,744
2030-31	41,770	6,851	48,621	99,242	50,967	150,209
2031-32	42,384	6,996	49,380	103,406	53,544	156,950
2032-33	43,004	7,141	50,146	107,963	56,338	164,301
2033-34	43,627	7,289	50,915	112,798	59,335	172,133
2034-35	44,257	7,438	51,695	117,531	62,306	179,836
2035-36	44,886	7,587	52,472	122,455	65,400	187,855
2036-37	45,501	7,735	53,236	127,565	68,621	196,186
2037-38	46,121	7,886	54,007	133,170	72,113	205,283
2038-39	46,747	8,039	54,786	139,132	75,855	214,987
2039-40	47,374	8,193	55,567	144,944	79,548	224,492
2040-41	48,011	8,345	56,356	151,013	83,386	234,398
2041-42	48,657	8,500	57,157	157,352	87,412	244,764
2042-43	49,312	8,659	57,971	164,244	91,778	256,022
2043-44	49,978	8,820	58,797	171,602	96,458	268,060

(1) Reflects actual traffic and revenue experience.

(2) Reflects actual experience through January 2016.

(3) Cash and E-ZPass tolls increased by 5% on January 4, 2015, except for Turnpike 576.

(4) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike 576.

(5) Annual toll rate increases are assumed to be implemented at the first of each year. The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

**Table 15**  
**Total System: Estimated Annual Transactions and Gross Toll Revenue**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year (5)	Annual Transactions			Annual Gross Toll Revenue			Discounts and Adjustments (7)	Adjusted Annual Gross Revenue
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Revenue		
2014-15 (1,3)	166,190	26,144	192,334	\$533,054	\$401,197	\$934,252	(1,605)	\$932,647
2015-16 (2,4)	170,089	27,039	197,128	583,938	440,111	1,024,049	(1,760)	1,022,289
2016-17	172,045	27,612	199,656	633,605	480,929	1,114,535	(1,924)	1,112,611
2017-18 (6)	175,806	28,422	204,228	678,469	519,458	1,197,926	(2,078)	1,195,848
2018-19	180,334	29,331	209,665	728,570	561,567	1,290,137	(2,246)	1,287,891
2019-20	182,683	29,886	212,569	779,280	604,108	1,383,388	(2,416)	1,380,972
2020-21	185,054	30,448	215,502	830,880	647,315	1,478,195	(2,589)	1,475,606
2021-22	187,453	31,012	218,465	880,746	689,647	1,570,393	(2,759)	1,567,634
2022-23	189,873	31,577	221,450	933,771	734,644	1,668,414	(2,939)	1,665,475
2023-24	192,320	32,152	224,471	990,060	782,630	1,772,690	(3,131)	1,769,559
2024-25	194,794	32,730	227,523	1,049,331	833,507	1,882,838	(3,334)	1,879,504
2025-26	197,289	33,308	230,597	1,108,068	884,227	1,992,295	(3,537)	1,988,758
2026-27	199,808	33,893	233,701	1,161,090	931,238	2,092,329	(3,725)	2,088,604
2027-28	202,353	34,482	236,836	1,210,995	976,383	2,187,378	(3,906)	2,183,472
2028-29	204,928	35,072	240,000	1,259,322	1,021,036	2,280,359	(4,084)	2,276,275
2029-30	207,462	35,671	243,133	1,308,683	1,067,903	2,376,586	(4,272)	2,372,314
2030-31	209,846	36,273	246,119	1,359,103	1,117,293	2,476,396	(4,469)	2,471,927
2031-32	212,142	36,873	249,015	1,411,378	1,168,883	2,580,261	(4,676)	2,575,585
2032-33	214,459	37,482	251,941	1,465,837	1,222,943	2,688,781	(4,892)	2,683,889
2033-34	216,796	38,099	254,895	1,522,431	1,279,564	2,801,995	(5,118)	2,796,877
2034-35	219,158	38,720	257,878	1,580,846	1,338,365	2,919,211	(5,353)	2,913,858
2035-36	221,536	39,338	260,874	1,641,445	1,399,455	3,040,900	(5,598)	3,035,302
2036-37	223,779	39,963	263,742	1,703,110	1,463,310	3,166,420	(5,853)	3,160,567
2037-38	225,826	40,597	266,423	1,765,307	1,530,190	3,295,498	(6,121)	3,289,377
2038-39	227,889	41,241	269,130	1,829,834	1,600,202	3,430,036	(6,401)	3,423,635
2039-40	229,966	41,886	271,852	1,896,250	1,672,855	3,569,105	(6,691)	3,562,414
2040-41	232,063	42,527	274,590	1,965,929	1,748,288	3,714,216	(6,993)	3,707,223
2041-42	234,182	43,178	277,359	2,039,460	1,827,127	3,866,587	(7,309)	3,859,278
2042-43	236,321	43,839	280,160	2,115,994	1,909,667	4,025,660	(7,639)	4,018,021
2043-44	238,482	44,510	282,993	2,195,529	1,996,033	4,191,562	(7,984)	4,183,578

(1) Reflects actual traffic and revenue experience.

(2) Reflects actual experience through January 2016.

(3) Cash and E-ZPass tolls increased by 5% on January 4, 2015, except for Turnpike 576.

(4) Cash and E-ZPass tolls increased by 6% on January 3, 2016, except for Turnpike 576.

(5) Annual toll rate increases are assumed to be implemented at the first of each year. The percent increases are the same for cars and trucks, and for E-ZPass and cash. The percent increases range from 3.0% to 6.0%, depending upon the year. The rates for each year are listed in Table 10.

(6) Includes impacts for I-95 Interchange Stages 0 and 1.

(7) No changes are assumed in the commercial volume discount program over the forecast period. The current program results in a 0.4 % reduction in commercial vehicle gross toll revenue and is assumed to remain at this level throughout the forecast period.

Mr. Nikolaus Grieshaber  
March 4, 2016  
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Table 16 provides a comparison of the current traffic and adjusted gross toll revenue forecast with those developed as part of the 2015 Forecast Study. As noted at the bottom of this table, the total revenue values shown here for the 2015 Forecast Study are higher, by about 0.17 percent, than those shown in the 2015 Forecast Study document. This is due to the fact that annual revenue values for I-576 (Findaly Connector) were inadvertently omitted from the total System revenue in that report. I-576 revenue is included in the values shown in Table 16.

As shown, the new transaction forecasts slightly exceed the prior forecasts by between 0.3 and 0.9 percent (with the majority being 0.8-0.9 percent greater). The vast majority of the increase is simply due to the higher base traffic that the forecast is based on. The remainder (about 25 percent of the difference) is due to a very small upward adjustment in growth rates to recognize the recent higher than expected growth. This was only done through 2018; growth rates beyond 2018 remain unchanged from those in the 2015 Forecast Study.

Differences in the adjusted gross toll revenue forecasts are slightly greater than those for toll transactions. This is simply due to the fact that actual revenue experience over the last 12 months has exceeded CDM Smith estimates by an amount slightly greater than that for transactions. As shown, the revised annual adjusted gross toll revenue estimates exceed those from the 2015 Forecast Study by between 0.6 percent and 1.4 percent. The difference increases slightly over the forecast period due to the fact that the new commercial vehicle transaction growth rates were increased slightly more than those for passenger cars. Again, this was all keyed off of actual experience over the last 12 months, but also recognizing that growth rate adjustments were only made through 2018.

**Table 16**  
**Comparison of New Traffic and Revenue**  
**Estimates with those from the 2015 Forecast Study**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Total Annual Transactions			Total Annual Adjusted Gross Toll Revenue		
	Current Estimates	2015 Forecast Study (1)	Percent Difference	Current Estimates	2015 Forecast Study (1)	Percent Difference
2014-15	192,334	191,784	0.3	\$932,647	\$926,681	0.6
2015-16	197,128	195,808	0.7	1,022,289	1,006,441	1.6
2016-17	199,656	198,106	0.8	1,112,611	1,096,942	1.4
2017-18	204,228	202,519	0.8	1,195,848	1,180,676	1.3
2018-19	209,665	207,844	0.9	1,287,891	1,272,611	1.2
2019-20	212,569	210,733	0.9	1,380,972	1,364,837	1.2
2020-21	215,502	213,651	0.9	1,475,606	1,458,558	1.2
2021-22	218,465	216,599	0.9	1,567,634	1,549,786	1.2
2022-23	221,450	219,568	0.9	1,665,475	1,646,781	1.1
2023-24	224,471	222,574	0.9	1,769,559	1,749,977	1.1
2024-25	227,523	225,610	0.8	1,879,504	1,858,920	1.1
2025-26	230,597	228,667	0.8	1,988,758	1,966,844	1.1
2026-27	233,701	231,755	0.8	2,088,604	2,065,179	1.1
2027-28	236,836	234,873	0.8	2,183,472	2,158,125	1.2
2028-29	240,000	238,021	0.8	2,276,275	2,248,735	1.2
2029-30	243,133	241,137	0.8	2,372,314	2,342,318	1.3
2030-31	246,119	244,107	0.8	2,471,927	2,439,409	1.3
2031-32	249,015	246,989	0.8	2,575,585	2,540,887	1.4
2032-33	251,941	249,900	0.8	2,683,889	2,647,132	1.4
2033-34	254,895	252,840	0.8	2,796,877	2,758,044	1.4
2034-35	257,878	255,809	0.8	2,913,858	2,873,149	1.4
2035-36	260,874	258,790	0.8	3,035,302	2,992,640	1.4
2036-37	263,742	261,642	0.8	3,160,567	3,115,976	1.4
2037-38	266,423	264,312	0.8	3,289,377	3,243,248	1.4
2038-39	269,130	267,007	0.8	3,423,635	3,375,905	1.4
2039-40	271,852	269,717	0.8	3,562,414	3,513,069	1.4
2040-41	274,590	272,444	0.8	3,707,223	3,655,999	1.4
2041-42	277,359	275,202	0.8	3,859,278	3,805,901	1.4
2042-43	280,160	277,991	0.8	4,018,021	3,962,375	1.4
2043-44	282,993	280,813	0.8	4,183,578	4,125,563	1.4

(1) The 2015 Forecast Study traffic and revenue values shown here are slightly greater than the values shown in the 2015 Forecast Study report. In that report, data figures for I-576 (Findlay Connector) were inadvertently left out of the total values. In FY 2014-15 total I-576 revenue amounted to \$1.6 million, or about 0.17 % of total System toll revenue. In the same period, total I-576 transactions amounted to 1.9 million, or about 1.0 % of total System toll transactions.



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March 4, 2016  
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## Disclaimer

Current accepted professional practices and procedures were used in the development of these traffic and revenue forecasts. However, as with any forecast of the future, it should be understood that there may be differences between forecasted and actual results caused by events and circumstances beyond the control of the forecasters. In formulating its forecasts, CDM Smith has reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Pennsylvania Turnpike Commission. CDM Smith also has relied upon the reasonable assurances of some independent parties and is not aware of any facts that would make such information misleading.

CDM Smith has made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue forecasts that must be considered as a whole; therefore selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit to partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple federal, state and local agencies, including the Pennsylvania Turnpike Commission, and some independent parties. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projections contained within this report.

While CDM Smith believes that some of the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date in the report, such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

Sincerely,

A handwritten signature in black ink, reading "Robert W. Pinter Jr." in a cursive script.

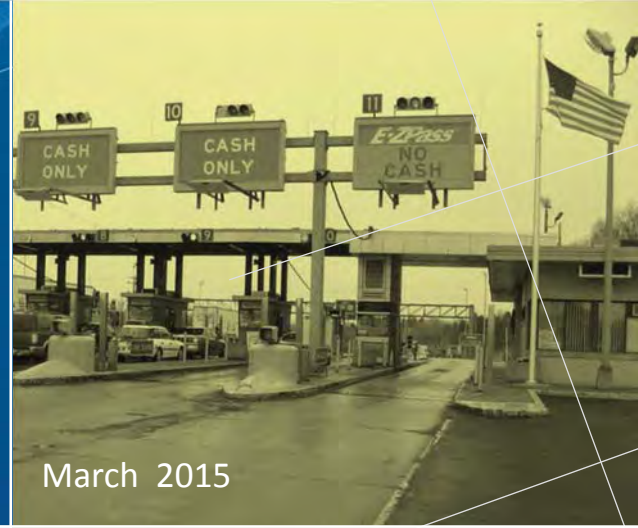
Robert Pinter  
Vice President  
CDM Smith Inc.

A handwritten signature in black ink, reading "Gary T. Quinlin" in a cursive script.

Gary T. Quinlin  
Project Manager  
CDM Smith Inc.

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# Pennsylvania Turnpike 2015 Traffic and Revenue Forecast Study



March 2015



Pennsylvania Turnpike Commission



**CDM  
Smith**



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# Chapter 1

## Introduction

This report summarizes the analyses conducted by CDM Smith in developing updated traffic and toll revenue estimates for the various toll facilities operated by the Pennsylvania Turnpike Commission (PTC). CDM Smith forecasts have been used by PTC for more than 20 years in support of the issuance of bond financing and for internal financial planning. In light of the current economic climate, it is more important than ever to have up-to-date traffic and revenue forecasts based on the most current information available.

CDM Smith last developed a detailed investment grade traffic and toll revenue study in March 2012. Since that time additional “bring down” letters have also been developed to update forecasts developed in the 2012 Study. Bring down letters were developed in March 2013 and February 2014. The purpose of a bring down letter is to update actual traffic and revenue experience since the last study and to adjust short term (2 to 5 year) forecasts based on recent trends. Detailed economic analyses are not conducted as part of a bring down letter and therefore longer term forecasts are not adjusted from those originally developed as part of the latest investment grade study.

This current study included a comprehensive evaluation of the most currently available long term socioeconomic forecasts, and is, therefore, meant to be an update of the March 2012 investment grade study. This forecast includes updated long term traffic and revenue forecasts through FY 2043-44. PTC’s most recent assumptions regarding future toll rate increases, discount levels for the Commercial Volume Discount Program, and future committed capital improvements have been incorporated into this study. CDM Smith also developed and incorporated estimates of future year E-ZPass penetration for cars and trucks on the PTC’s toll facilities.

PTC has been studying the possible implementation of all electronic tolling (AET) on its facilities. CDM Smith has been a member of the study team analyzing both the potential traffic and toll revenue impacts as well as the potential capital and maintenance and operating (M&O) cost impacts AET may have on the Turnpike System. Although it appears likely that AET will be implemented on the Turnpike System, this conversion would not occur for several years. It is possible that some of the barrier systems may be converted as early as 2016 as a pilot program. AET is not assumed in the forecast presented in this report. It should be noted, however, that PTC has emphasized that a key requirement of AET is that it be net revenue positive and enhance the overall financial strength of the Turnpike. Absent this, among other criteria, AET would not be implemented on the Turnpike System.

### 1.1 Report Structure

This report is comprised of four chapters, including the following:

- Chapter 1: Introduction
- Chapter 2: Turnpike Characteristics
- Chapter 3: Socioeconomic Trends and Forecasts
- Chapter 4: Transaction and Toll Revenue Forecasts

The following is a brief description of each chapter following this introduction.

Chapter 2 (Turnpike Characteristics) provides a review of monthly and annual transaction and toll revenue trends. Data are provided for passenger cars and commercial vehicles separately. Information is provided for the entire Turnpike System as well as for each of the individual toll facilities (Ticket System, Turnpike 43, etc.) that make up the Turnpike System. E-ZPass market share trends, historical toll rate adjustments, and changes to the Commercial Volume Discount Program are also summarized in Chapter 2.

Chapter 3 (Socioeconomic Trends and Forecasts) summarizes trends and forecasts in key socioeconomic variables, including population, employment, retail sales, and gross regional product. This data is broken down (at a county level) to reflect the actual market share for the various interchanges on the Turnpike System. Pennsylvania statewide data, as well as data for surrounding states and the United States, are also provided for each of these variables. Trends and forecasts in motor fuel prices are also covered in this chapter. The methodology used to estimate future traffic growth is described in detail. The ultimate product of Chapter 3 is a table showing the assumed normal growth rates used to develop traffic and toll revenue estimates for passenger cars and commercial vehicles for each Turnpike toll facility.

Chapter 4 (Transaction and Toll Revenue Forecasts) begins with a review of the assumed roadway improvement program for the Pennsylvania Turnpike. Planned toll rate adjustments throughout the 30 year forecast period are identified. Because of the toll differential that now exists between cash and E-ZPass, assumptions regarding future E-ZPass market share are important. All assumptions regarding E-ZPass market share throughout the forecast period are discussed in this chapter. Finally, estimates of traffic and gross toll revenue are provided through FY 2043-44. Forecasts are provided for passenger cars and commercial vehicles, for both the Ticket System and the total Barrier System, as well as for the total Turnpike System.



## Chapter 2

# Turnpike Characteristics

This chapter presents historical transaction and gross toll revenue trends on the Turnpike facilities. It also presents actual trends in the E-ZPass market share and historical toll increases. A comparison is presented between the current Turnpike per-mile toll rate on I-76/I-276 and other toll road facilities. Lastly, recent changes to the PTC's Commercial Volume Discount Program are described.

## 2.1 The Pennsylvania Turnpike Facilities

Figure 2-1 provides an overview of the Turnpike System, identifying each of its six toll facilities:

- Mainline I-76/I-276 (359 miles)
- Northeast Extension I-476 (110 miles)
- Turnpike 43 – Mon/Fayette Expressway (48 miles)
- Turnpike 66 – Amos K. Hutchinson Bypass (13 miles)
- Turnpike I-376 – Beaver Valley Expressway (16 miles)
- Turnpike I-576 - Southern Beltway – Findlay Connector Section (6 miles)

There are two toll collection systems on the Turnpike System; a ticket system, and a Barrier System. The Ticket System is comprised of the majority of Mainline I-76 / I-276 (from Interchange 30 in western Pennsylvania to Interchange 359 near the New Jersey border) and the majority of the Northeast Extension (from Interchange 20 to Interchange 131).

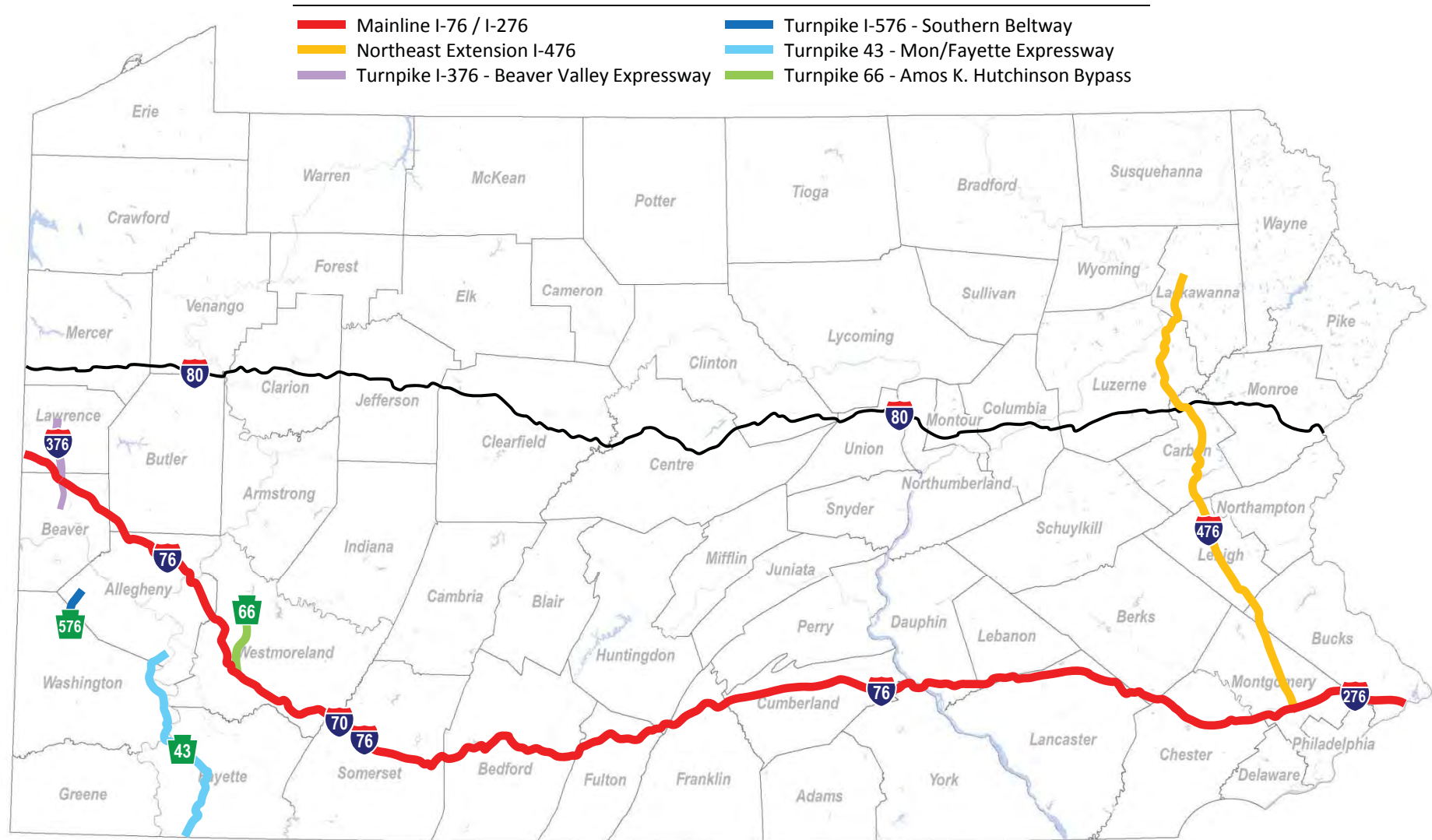
The Barrier System is comprised of Turnpikes I-376 (Beaver Valley Expressway), Turnpike 66 (Amos K. Hutchinson Bypass), Turnpike 43 (Mon/Fayette Expressway), and Turnpike I-576 (Southern Beltway). In addition, one barrier toll plaza exists on Mainline I-76/I-276 consisting of the Gateway Mainline Toll Plaza. This toll plaza was converted from a ticket-system plaza to a barrier-system plaza in 2003. For continuity, ticket system traffic and toll revenue trends include the Gateway Barrier Plaza in this report. Two barrier toll plazas, Clarks Summit and Keyser Avenue, are located at the northern end of the Northeast Extension.

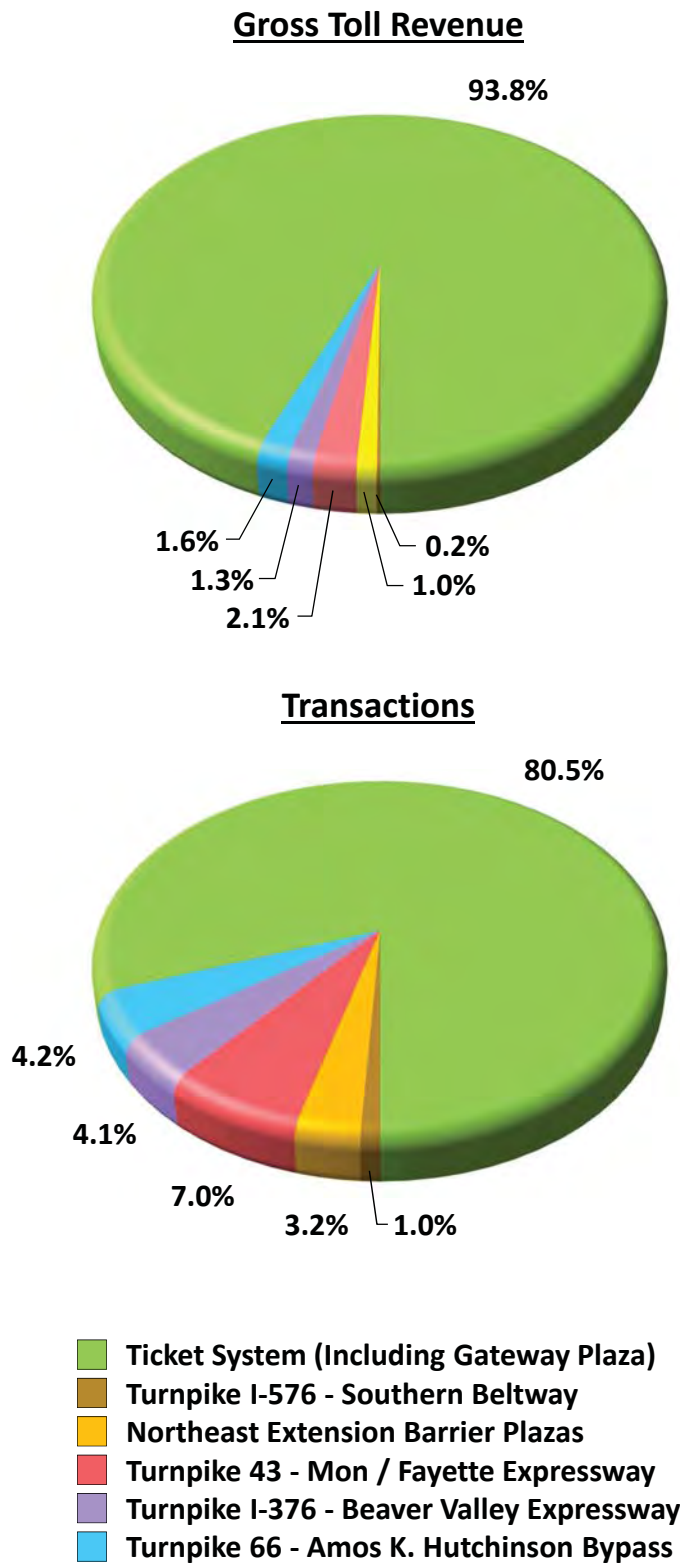
The Ticket System is by far the largest component of the Turnpike System. As seen in Figure 2-2, the Ticket System accounted for 93.8 percent of the Turnpike System's total gross toll revenue, and 80.5 percent of the total transactions in calendar year 2014. Fixed barrier locations accounted for only 6.2 percent of gross toll revenue and 19.5 percent of transactions.

## 2.2 Toll Rates and Commercial Volume Discount Program

The PTC has implemented a series of toll rate increases through the years. The annual percent increases are summarized in Table 2-1 from 1987 through 2015. Since 2009, toll increases have occurred on an annual basis. Until 2011, there wasn't a difference between cash and E-ZPass toll rates. In 2011, a toll rate differential favorable to Turnpike E-ZPass customers was implemented for the first

## PTC Toll Roads





**PERCENT OF CALENDAR YEAR 2014 TRANSACTIONS  
AND GROSS TOLL REVENUE BY FACILITY**

time. The toll differential was increased in each subsequent year through 2014. A uniform toll increase of 5.0 percent was implemented for both E-ZPass and cash customers in January 2015. In 2015 there is an approximately 40 percent difference between the E-ZPass and cash toll rates, in favor of the E-ZPass customer. It costs a passenger car using cash about \$0.12 per mile for a through trip on I-76/I-276 compared to about \$0.086 per mile for the same trip using E-ZPass. The toll rate differential between E-ZPass and cash incentivizes E-ZPass participation.

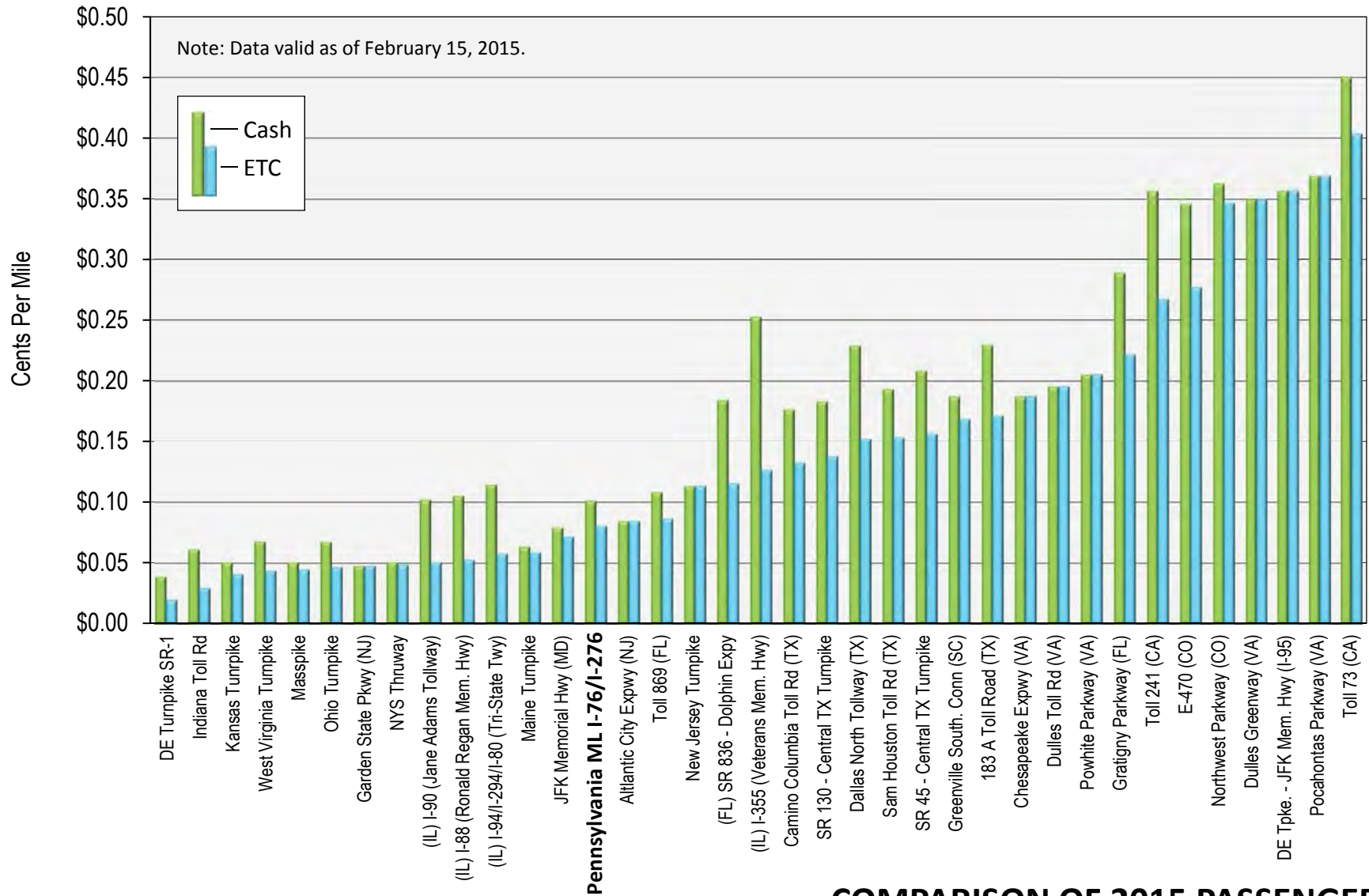
**Table 2-1**  
**Historical Toll Rate Increases**  
**Pennsylvania Turnpike**

Date	Percent Increase		Comment
	Cash	E-ZPass	
1/2/1987	40.0	NA	E-ZPass was not yet implemented on the Turnpike
6/1/1991	32.0	NA	E-ZPass was not yet implemented on the Turnpike
8/1/2004	42.5	42.5	
1/4/2009	25.0	25.0	No increase on Turnpike I-576 or Turnpike 43 between Uniontown and Brownsville
1/3/2010	3.0	3.0	No increase on Turnpike I-576
1/2/2011	10.0	3.0	No increase on Turnpike I-576
1/1/2012	10.0	0.0	No increase on Turnpike I-576
1/6/2013	10.0	2.0	
1/5/2014	12.0	2.0	No increase on Turnpike I-576
1/4/2015	5.0	5.0	No increase on Turnpike I-576

Figure 2-3 illustrates a comparison of 2015 passenger car per-mile toll rates for a through trip on thirty-seven U.S. toll facilities. The cost of trips was valid as of early February 2015. The Pennsylvania Turnpike is represented by a through trip on the Mainline I-76/I-276 from Delaware River Bridge through the Gateway barrier plaza, which is shown in bold text. The per-mile rates are provided for ETC and cash payments. The data is sorted from low to high by the ETC per-mile toll rates. A through trip on the Pennsylvania Mainline I-76/I-276 by a passenger car paying by ETC costs \$0.086 per mile compared to \$0.114 per mile on the New Jersey Turnpike, or compared to the median per-mile rate (\$0.184) for the facilities presented.

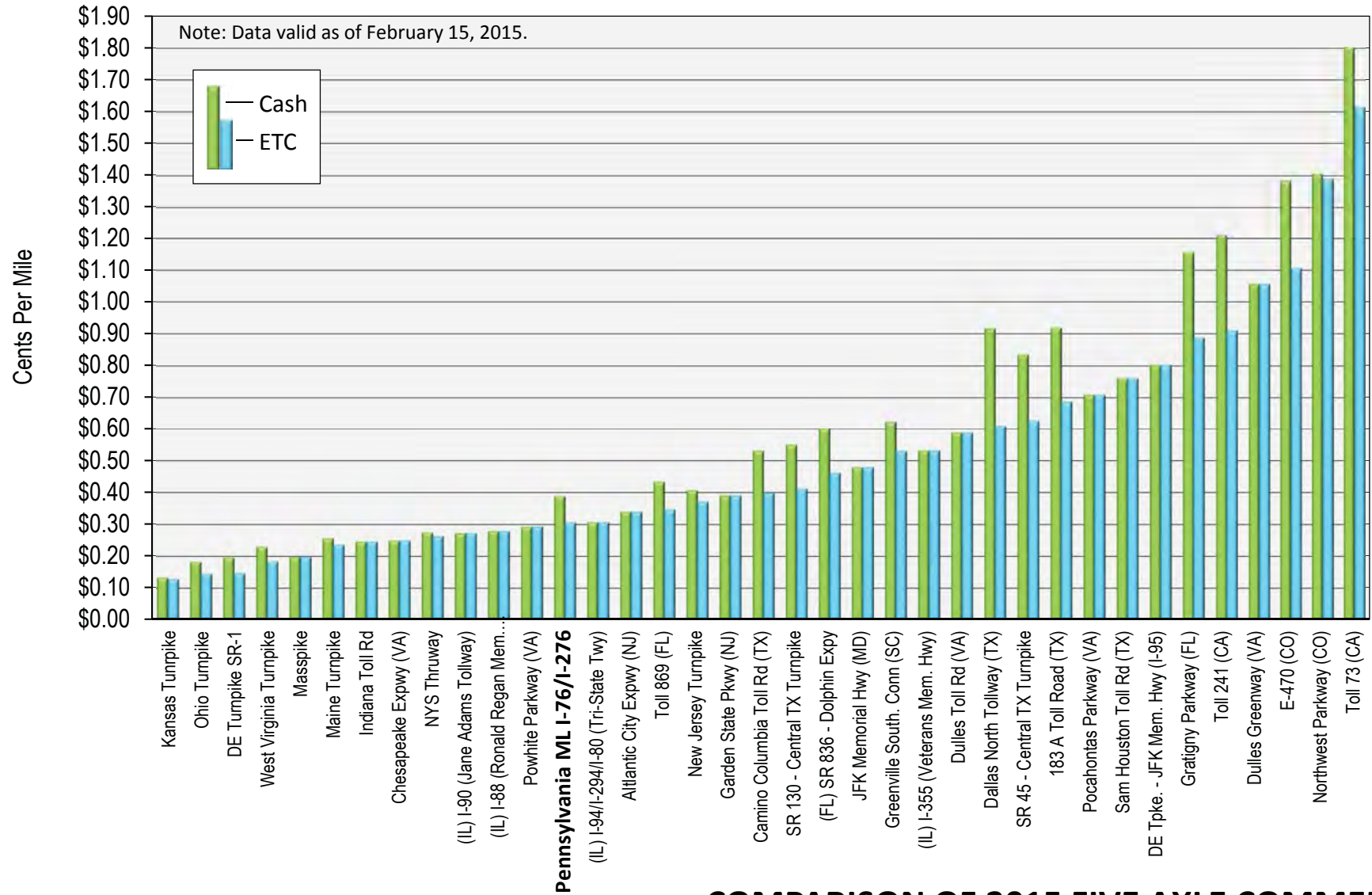
Figure 2-4 presents a similar comparison of five-axle commercial-vehicle per-mile toll rates for through trips on the same thirty-seven U.S. toll facilities. A trip on the Pennsylvania Mainline I-76/I-276 costs \$0.328 per mile compared to \$0.373 on the New Jersey Turnpike in 2015. The median per mile toll rate is \$0.400 for the thirty-seven facilities.

The PTC operates a Commercial Volume Discount Program. Prior to the implementation of system wide toll rates favorable to E-ZPass customers, a post-paid, commercial volume-discount program was established for high-volume, commercial E-ZPass accounts. Post-paid commercial E-ZPass customers could receive the varying levels of discounts based on the amount of their monthly tolls. With the implementation of E-ZPass and the large toll savings offered to E-ZPass customers, the Commercial Volume Discount Program was modified over the years. Currently, in 2015, commercial accounts that accrue greater than \$20,000.00 per month on tolls receive a three percent discount.



**COMPARISON OF 2015 PASSENGER CAR  
PER-MILE THROUGH TRIP TOLL RATES  
(DATA SORTED BY ETC TOLL RATES)**





**COMPARISON OF 2015 FIVE AXLE COMMERCIAL  
VEHICLE PER-MILE THROUGH TRIP TOLL RATES  
(DATA SORTED BY ETC TOLL RATES)**

## 2.3 Annual Transaction Trends by Plaza

This section presents long-term annual transaction trends on the ticket and Barrier Systems by toll plaza. Data is provided from 1993 through 2014 for Ticket System toll plazas, and from 1997 through 2014 for the Barrier System toll plazas.

### 2.3.1 Ticket System Transaction Trends

Average annual daily transactions at the Ticket System's exiting toll plazas are shown in Tables 2-2 through 2-4 for passenger cars, commercial vehicles and total vehicles, respectively. The transactions include both revenue and non-revenue vehicles. The Gateway barrier toll plaza (Interchange 2) traffic trends (Interchange 2) are included in this table.

From 1993 through 2002, the Gateway mainline toll plaza at milepost 2, and the toll plazas at interchanges 10 (New Castle), 13 (Beaver Valley), and 28 (Cranberry) were part of the Ticket System. The Gateway mainline toll plaza was the western terminus of the I-76 Ticket System. In 2003, the western terminus of the I-76 Ticket System was moved eastward to a new mainline toll plaza, Warrendale, at milepost 30, between Interchanges 28 and 39. As part of this change, the Gateway mainline toll plaza was converted to a barrier plaza with two-way toll collection and a fixed toll rate based on a vehicle's number of axles. The traffic volumes at Gateway are not comparable between 2002 and 2003 due to the conversion. Toll collection was discontinued at Interchanges 10, 13, and 28 in 2003 when the Warrendale mainline toll plaza became operational.

In 2006 the two-way toll collection at Gateway was replaced by one-way toll collection in the westbound direction. In Tables 2-2 through 2-4 the westbound Gateway traffic volumes are doubled from 2006 forward to simulate two-way traffic volumes that are comparable to historical trend data.

Passenger-car trends are shown in Table 2-2. Average annual percent changes are shown for various time periods. Relatively strong growth was experienced during the first period (1993-2004) where total passenger-car transactions grew at an annual rate of 4.6 percent. Growth in passenger-car transactions turned to a negative 0.1 percent per year in the decade from 2004 -2014. This decreased growth rate was primarily due to the economic recession that began in late 2007. In the five year period from 2009 to 2014, annual transaction growth averaged 0.3 percent per year. The slow growth was largely due to the slow recovery from the recession. Growth was also negatively impacted by abnormally severe winter in 2014.

A secondary reason for reduced growth rates in transactions since 2004 are the multiple toll increases that took place in 2004 (42.5 percent), 2009 (25 percent), 2010 (3 percent), 2011 (3 percent E-ZPass and 10 percent cash), 2012 (10 percent cash), 2013 (2 percent E-ZPass and 10 percent cash), and 2014 (2 percent E-ZPass and 12 percent cash). As will be discussed in Chapter 3 and Chapter 4, it is believed the recession has had more impact on the low growth in transactions than the toll rate increases. Overall, passenger-car transactions increased by 2.2 percent per year from 1993 through 2014.

Table 2-3 shows historical commercial-vehicle transaction trends on the Ticket System. As with passenger cars, the strongest period of growth for commercial vehicles was between 1993 and 2004. Commercial traffic increased at a 5.8 percent annual rate over that period. Over the most recent ten-year period (2004-2014) commercial traffic increased at an annual rate of 0.1 percent. This low growth was heavily influenced by the negative annual growth rates between in 2008 and 2009 when

Table 2-2  
Passenger Cars - Average Daily Transactions on the Pennsylvania Turnpike Ticket System At Exiting Toll Plazas  
Includes Revenue and Non-Revenue Vehicles

Interchange (Milepost) <sup>(1)</sup>	Calendar Year																				Average Annual Percent Change					
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 <sup>(2)</sup>	2005	2006	2007	2008	2009 <sup>(3)</sup>	2010 <sup>(4)</sup>	2011 <sup>(5)</sup>	2012 <sup>(6)</sup>	2013 <sup>(7)</sup>	2014 <sup>(8)</sup>	1993-04	2004-14	2009-14	1993-14
2 (9)	6,999	7,064	7,288	7,292	7,496	7,815	7,850	7,333	8,056	9,082	13,828	16,379	15,873	16,388	16,365	16,192	16,882	17,432	17,486	17,639	17,934	17,884	8.9	0.9	1.2	4.8
10 (10)		1,556	1,691	1,836	1,911	2,010	2,064	2,164	2,302	2,344													-	-	-	-
13 (10)	1,581	1,507	1,488	1,516	1,604	1,743	1,759	1,771	1,824	1,860													-	-	-	-
28 (10)	7,519	7,574	7,819	8,232	8,569	9,211	9,369	9,399	9,940	10,183													-	-	-	-
30 (10)											7,374	11,585	11,269	11,419	11,940	12,056	12,232	12,118	12,023	11,939	12,413	12,339	-	0.6	0.2	-
39	4,029	4,035	4,053	4,279	4,483	4,827	5,003	4,939	5,180	5,186	5,448	5,417	5,154	5,181	5,613	5,627	5,495	5,527	5,333	5,416	5,832	5,855	3.0	0.8	1.3	1.9
48	7,235	7,257	7,045	7,602	8,084	7,962	8,686	9,251	8,998	9,366	9,505	9,377	9,101	9,129	9,406	9,226	9,087	8,879	8,576	8,734	9,171	9,147	2.6	(0.2)	0.1	1.2
57	15,714	15,763	15,887	16,101	16,700	17,291	17,626	17,782	18,337	18,436	18,770	18,598	18,087	18,290	18,198	18,305	18,083	17,452	17,172	17,130	17,399	17,336	1.7	(0.7)	(0.8)	0.5
67	8,113	8,236	8,226	8,398	8,586	9,082	9,481	9,533	9,593	9,789	10,303	10,054	9,437	9,582	9,614	9,068	8,674	8,776	8,718	8,955	8,870	8,783	2.2	(1.3)	0.3	0.4
75	7,519	7,391	7,651	8,046	8,331	8,706	9,684	8,594	8,868	9,366	9,394	9,191	8,880	8,779	8,806	8,522	8,433	8,550	8,246	8,539	8,556	8,701	2.0	(0.5)	0.6	0.7
91	2,185	2,216	2,311	2,212	2,253	2,352	2,381	2,142	2,236	2,204	2,253	2,239	2,257	2,237	2,478	2,395	2,351	2,371	2,279	2,352	2,393	2,344	0.2	0.5	(0.1)	0.4
110	1,966	1,978	2,024	2,025	2,030	2,059	1,916	1,848	1,911	2,031	2,061	1,948	1,892	1,927	2,067	2,119	2,104	2,136	2,159	2,156	2,048	2,027	(0.1)	0.4	(0.7)	0.2
146	1,922	1,912	2,038	2,135	2,222	2,479	2,728	2,760	2,960	3,225	3,290	3,370	3,163	3,037	3,059	2,994	2,972	2,945	2,848	2,779	2,715	2,773	5.8	(1.9)	(1.4)	1.8
161	5,057	4,893	5,109	5,214	5,438	5,697	5,838	5,828	6,331	6,599	6,820	6,713	6,517	6,356	6,216	6,005	6,356	6,262	6,064	6,023	6,057	6,000	2.9	(1.1)	(1.1)	0.9
180	566	564	569	586	617	643	673	630	661	700	715	761	691	676	711	675	655	658	645	610	593	586	3.0	(2.6)	(2.2)	0.2
189	368	373	381	407	428	462	480	453	436	477	488	483	448	443	440	426	409	418	409	391	378	385	2.8	(2.2)	(1.2)	0.2
201	451	462	477	500	521	549	567	574	591	661	670	679	649	658	662	614	603	642	634	628	625	594	4.2	(1.3)	(0.3)	1.4
226	4,346	4,354	4,675	4,665	4,281	4,626	4,886	4,792	5,304	5,180	5,365	5,262	4,939	4,959	4,973	4,736	4,628	4,899	4,705	4,541	4,637	4,667	1.9	(1.2)	0.2	0.4
236	2,797	2,862	3,499	3,665	3,495	3,641	3,889	4,039	4,172	4,580	4,804	4,796	4,567	4,562	4,661	4,507	4,470	5,074	4,883	4,689	4,762	4,846	5.5	0.1	1.6	2.8
242	3,858	3,802	4,186	4,146	4,080	4,295	4,699	5,103	5,081	5,400	5,781	5,734	5,352	5,196	5,265	6,068	5,894	5,476	5,371	5,159	5,295	5,530	4.0	(0.4)	(1.3)	1.8
247	7,241	7,282	7,608	7,989	7,991	8,409	8,818	9,004	9,125	9,739	10,217	10,256	9,917	9,553	9,902	10,073	9,952	10,478	10,155	9,948	10,074	10,175	3.5	(0.1)	0.4	1.7
266	2,282	2,319	2,363	2,500	2,643	2,867	2,987	3,037	3,214	3,381	3,663	3,695	3,643	3,602	3,740	3,577	3,484	3,571	3,442	3,519	3,621	3,640	4.9	(0.1)	0.9	2.4
286	5,056	5,220	5,453	5,490	5,729	6,041	6,096	6,242	6,472	6,655	6,954	7,207	6,969	7,185	7,397	7,060	6,910	6,937	6,766	6,736	6,886	7,026	3.6	(0.3)	0.3	1.7
298	4,092	4,139	4,224	4,330	4,844	5,253	5,513	5,661	6,187	6,682	7,201	7,359	7,335	7,457	7,446	7,448	7,176	7,018	6,789	6,588	6,737	7,022	6.0	(0.5)	(0.4)	2.7
312	6,775	6,950	7,070	6,723	7,311	7,838	8,361	8,824	9,437	10,008	10,421	10,455	10,291	10,558	11,011	10,635	10,234	10,353	10,315	10,347	10,444	10,692	4.4	0.2	0.9	2.3
320																			113	3,539	4,667		-	-	-	-
326	21,009	20,122	20,707	21,092	21,337	22,360	21,643	21,531	24,784	25,264	26,928	28,231	28,201	28,173	27,069	26,975	27,783	29,284	28,965	28,780	28,066	28,423	3.0	0.1	0.5	1.5
333	9,592	8,553	8,975	9,296	9,912	10,337	10,665	10,585	11,335	11,901	12,297	12,586	11,861	11,455	11,312	11,848	11,904	12,166	12,093	11,860	11,811	11,598	2.8	(0.8)	(0.5)	1.0
20		22,910	25,569	26,959	28,430	29,605	29,628	30,770	31,945	33,406	34,130	35,753	35,452	36,060	36,659	35,518	34,961	35,236	35,478	36,231	36,441	36,305	-	0.2	0.8	-
339	16,186	17,125	18,179	18,335	18,812	20,185	20,031	19,967	21,056	21,380	22,140	22,015	21,709	21,561	21,203	20,312	20,989	22,973	23,265	23,582	23,852	23,849	3.1	0.8	2.6	2.0
340										998	1,318	1,541	1,570	1,581	1,537	1,521	1,370	1,422	1,447	1,409	1,484	1,627	-	0.5	3.5	-
343	19,100	19,926	21,963	22,370	22,902	23,207	22,397	23,085	23,753	24,197	24,850	25,716	25,152	24,609	26,054	25,277	25,165	26,569	26,178	25,858	25,323	24,896	3.0	(0.3)	(0.2)	1.3
351	22,458	22,876	24,361	24,750	25,685	26,256	26,089	26,665	27,653	28,556	29,503	30,084	29,563	29,433	29,917	29,315	29,196	29,690	28,170	27,512	27,316	26,689	3.0	(1.2)	(1.8)	0.9
352																		158	1,805	2,146	2,384	2,676	-	-	-	-
358	5,065	5,068	5,024	5,215	5,291	5,422	5,476	5,373	5,317	5,478	5,755	6,011	5,856	5,854	5,917	5,964	5,767	5,716	5,538	5,386	5,090	4,950	1.7	(1.9)	(3.0)	(0.1)
359	14,019	13,979	14,248	14,595	14,829	15,312	15,450	15,565	16,349	16,765	17,532	18,086	17,844	17,635	17,727	17,274	16,943	17,255	16,846	16,164	16,333	16,608	2.6	(0.8)	(0.4)	0.9
31	6,826	7,830	8,256	8,760	9,980	10,594	11,187	11,381	11,430	12,411	12,939	13,166	12,941	13,034	13,304	13,389	13,431	13,432	12,950	12,742	12,669	12,472	6.8	(0.5)	(1.5)	3.1
44	4,615	4,877	5,087	5,344	5,595	6,250	6,526	6,690	6,693	6,981	7,378	7,926	7,950	8,149	8,235	8,313	8,399	8,478	8,157	8,040	8,021	7,953	5.6	0.0	(1.1)	2.8
56	8,811	9,387	9,907	10,534	11,218	11,290	11,843	12,558	13,363	13,805	14,528	15,392	15,064	15,318	15,581	14,950	15,339	16,008	15,365	15,028	15,012	14,785	5.7	(0.4)	(0	

(1) Interchanges 2 through 259 reflect those for the Mainline 1-76/I-276. Interchanges 31 through 115 correspond to those on the Northeast Extension I-476.

(2) A toll increase of 42.5% was implemented on August 1, 2004.

(3) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

(4) A toll increase of 3% was implemented on January 3, 2010. Turnpike I-576 was exempted from this toll increase.

(5) An ETC toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011. Turnpike I-576 was exempted from this toll increase.

(6) A cash toll increase of 10% was implemented on January 1, 2012. Turnpike I-576 was exempted from this toll increase.

(7) An ETC toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.

(8) An ETC toll increase of 2% and a cash toll increase of 1



Table 2-3  
Commercial Vehicles - Average Daily Transactions on the Pennsylvania Turnpike Ticket System At Exiting Toll Plazas  
Includes Revenue and Non-Revenue Vehicles

Interchange (Milepost) <sup>(1)</sup>	Calendar Year																					Average Annual Percent Change				
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 <sup>(2)</sup>	2005	2006	2007	2008	2009 <sup>(3)</sup>	2010 <sup>(4)</sup>	2011 <sup>(5)</sup>	2012 <sup>(6)</sup>	2013 <sup>(7)</sup>	2014 <sup>(8)</sup>	1993-04	2004-14	2009-14	1993-14
2 (9)	2,355	2,348	2,404	2,374	2,446	2,605	2,848	2,649	2,709	2,937	4,259	5,447	5,760	5,288	5,403	5,243	4,517	4,864	5,030	4,913	5,078	5,300	8.7	(0.3)	3.2	4.1
10 (10)		225	241	281	302	314	363	384	394	402													-	-	-	-
13 (10)	322	304	274	285	303	295	324	324	315	303													-	-	-	-
28 (10)	1,346	1,334	1,392	1,433	1,502	1,576	1,690	1,708	1,693	1,670													-	-	-	-
30 (10)											1,865	3,196	3,340	3,371	3,505	3,412	2,994	3,060	3,116	3,192	3,276	3,428	-	0.7	2.7	-
39	390	391	412	413	437	472	519	526	521	523	513	536	552	527	575	571	544	565	552	560	596	579	3.2	0.8	1.3	2.0
48	848	839	820	860	849	983	1,042	1,057	1,032	1,027	1,048	1,075	1,072	1,081	1,177	1,185	1,104	1,153	1,058	1,073	1,092	1,132	2.4	0.5	0.5	1.5
57	1,216	1,344	1,381	1,419	1,471	1,534	1,635	1,662	1,663	1,604	1,591	1,653	1,680	1,706	1,735	1,636	1,498	1,590	1,606	1,623	1,652	1,694	3.1	0.2	2.5	1.7
67	665	665	655	665	706	745	810	809	809	826	837	849	857	853	894	895	869	847	816	857	866	883	2.5	0.4	0.3	1.4
75	3,206	3,164	3,300	3,400	3,548	3,789	4,059	4,138	4,066	4,161	4,255	4,345	4,348	4,389	4,478	4,389	3,902	3,854	3,828	3,830	3,857	3,977	3.1	(0.9)	0.4	1.1
91	202	201	199	195	202	211	238	228	226	253	267	318	262	286	306	287	314	334	323	313	311	326	4.6	0.3	0.8	2.4
110	624	608	651	674	691	725	808	750	712	734	729	729	710	715	743	738	652	669	690	690	701	723	1.6	(0.1)	2.1	0.7
146	651	657	694	695	721	825	1,062	1,145	1,198	1,312	1,375	1,454	1,350	1,332	1,327	1,151	1,009	1,077	1,056	1,035	1,024	1,030	8.4	(3.4)	0.4	2.3
161	1,939	1,955	2,041	2,115	2,208	2,390	2,711	2,729	2,672	2,753	2,840	2,888	2,902	2,835	2,910	2,616	2,261	2,440	2,431	2,381	2,338	2,361	4.1	(2.0)	0.9	1.0
180	119	123	120	124	130	138	157	151	148	160	173	198	205	218	230	203	169	207	215	210	216	225	5.2	1.3	5.9	3.2
189	88	83	81	89	90	95	102	104	98	100	108	106	106	107	108	96	85	100	101	109	105	103	1.9	(0.2)	3.9	0.8
201	110	109	113	109	113	117	124	135	143	151	161	186	215	214	229	219	193	212	265	291	286	251	5.4	3.0	5.4	4.2
226	2,269	2,247	2,560	2,619	2,454	2,799	3,030	3,072	3,121	3,196	3,359	3,471	3,430	3,483	3,548	3,350	2,893	2,886	2,889	2,826	2,871	2,990	4.3	(1.5)	0.7	1.4
236	399	417	517	478	479	470	516	536	544	569	619	632	668	723	774	690	646	751	774	756	792	811	4.7	2.5	4.7	3.6
242	546	555	638	629	656	695	771	802	813	856	995	1,070	1,119	1,154	1,194	1,243	1,146	1,105	1,100	1,003	1,114	1,170	7.0	0.9	0.4	3.9
247	1,208	1,231	1,293	1,273	1,378	1,479	1,574	1,556	1,517	1,567	1,718	1,812	1,895	1,854	1,863	1,817	1,653	1,749	1,743	1,706	1,792	1,885	4.1	0.4	2.7	2.2
266	265	261	268	282	316	358	400	399	418	452	499	501	518	538	549	523	469	486	482	481	494	534	6.6	0.6	2.6	3.6
286	959	978	978	913	1,059	1,035	1,123	1,305	1,325	1,338	1,437	1,492	1,461	1,507	1,572	1,491	1,325	1,354	1,364	1,350	1,415	1,496	4.5	0.0	2.5	2.2
298	610	645	679	690	829	881	966	997	985	1,034	1,146	1,194	1,160	1,187	1,188	1,084	936	963	995	1,005	1,023	1,137	6.9	(0.5)	4.0	3.2
312	700	684	679	616	670	740	798	839	844	901	935	971	967	996	1,058	908	806	904	929	948	990	1,068	3.3	1.0	5.8	2.1
320																			6	286	334		-	-	-	-
326	2,085	2,182	2,269	2,375	2,495	2,670	2,708	2,727	2,868	2,894	3,137	3,360	3,408	3,486	3,446	3,190	2,902	3,118	3,105	2,993	2,984	3,069	4.9	(0.9)	1.1	2.0
333	499	378	415	427	452	473	514	532	504	572	598	618	626	611	636	663	597	644	629	630	633	660	2.2	0.7	2.0	1.4
20		2,435	2,619	2,830	3,052	3,258	3,408	3,573	3,470	3,707	3,839	4,124	4,187	4,320	4,433	4,114	3,751	3,883	3,961	4,037	4,150	4,309	-	0.4	2.8	-
339	960	992	1,005	1,035	1,062	1,152	1,200	1,198	1,227	1,323	1,373	1,408	1,453	1,424	1,403	1,343	1,260	1,329	1,417	1,437	1,518	1,564	3.9	1.1	4.4	2.5
340											4	11	13	16	19	20	19	18	20	24	30	48	-	14.0	22.2	-
343	1,323	1,347	1,404	1,471	1,541	1,628	1,627	1,680	1,623	1,749	1,877	2,040	2,102	2,119	2,210	2,109	1,999	2,109	2,116	2,102	2,130	2,205	4.4	0.8	2.0	2.6
351	2,328	2,308	2,355	2,371	2,569	2,691	2,814	2,881	2,880	3,071	3,204	3,268	3,338	3,374	3,397	3,384	3,111	3,178	3,151	3,105	3,146	3,174	3.4	(0.3)	0.4	1.6
352																		4	54	68	84	117	-	-	-	-
358	1,051	1,073	1,112	1,162	1,199	1,242	1,383	1,552	1,332	1,420	1,624	1,737	1,807	1,810	1,812	1,529	1,410	1,654	1,571	1,442	1,458	1,514	5.2	(1.4)	1.4	1.8
359	2,206	2,099	2,125	2,179	2,240	2,364	2,510	2,716	2,722	2,971	3,296	3,613	3,754	3,790	3,949	4,137	3,768	3,474	3,389	3,231	3,330	3,491	5.1	(0.3)	(1.5)	2.3
31	800	880	924	1,005	1,097	1,143	1,216	1,242	1,202	1,249	1,319	1,387	1,409	1,429	1,505	1,495	1,453	1,498	1,450	1,431	1,436	1,562	5.7	1.2	1.5	3.4
44	438	459	480	495	541	615	646	678	633	689	842	869	897	951	990	958	929	965	943	958	998	1,048	7.1	1.9	2.4	4.5
56	1,409	1,493	1,582	1,713	1,911	2,081	2,250	2,380	2,336	2,443	2,592	2,833	2,909	3,051	3,139	3,118	3,039	3,147	3,114	3,136	3,211	3,309	7.2	1.6	1.7	4.4
74	268	278	311	342	357	396	406	429	418	461	465	496	526	546	596	484	480	527	536	523	530	547	6.4	1.0	2.6	3.6
95	566	618	674	775	837	899	1,039	1,113	1,076	1,139	1,169	1,235	1,227	1,292	1,336	1,264	1,226	1,337	1,329	1,336	1,385	1,424	8.1	1.4	3.0	4.7
105	104	108	107	114	122	899	131	141	142	165	176	205	209	210	218	400	396	200	209	205	207	209	7.0	0.2	(12.0)	3.6
112	739	863	901	944	1,038	1,113	1,160	1,162	1,140	1,241	1,250	1,336	1,340	1,329	1,358	1,204	1,167	1,268	1,266	1,258	1,287	1,300	6.1	(0.3)	2.2	2.9
Total	35,813	38,881	40,673	41,869	44,073	47,895	50,682	52,009	51,539	53,925	57,500	62,662	63,786	64,125	65,816	63,156	57,489	59,525	59,627	59,071	60,693	62,986	5.8	0.1	1.8	2.9
Percent Change Over Prior Year		8.6	4.6	2.9	5.3	8.7	5.8	2.6	(0.9)	4.6	6.6	9.0	1.8	0.5	2.6	(4.0)	(9.0)	3.5	0.2	(0.9)	2.7	3.8				

(1) Interchanges 2 through 259 reflect those for the Mainline 1-76/I-276. Interchanges 31 through 115 correspond to those on the Northeast Extension I-476.

(2) A toll increase of 42.5% was implemented on August 1, 2004.

(3) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

(4) A toll increase of 3% was implemented on January 3, 2010. Turnpike I-576 was exempted from this toll increase.

(5) An ETC toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011. Turnpike I-576 was exempted from this toll increase.

(6) A cash toll increase of 10% was implemented on January 1, 2012. Turnpike I-576 was exempted from this toll increase.

(7) An ETC toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.

(8) An ETC toll increase of 2% and a cash toll increase of 12% was implemented on January 1, 2014.

(9) Several changes have occurred at Gateway Plaza during this time period. It was converted from the western terminus of the ticket system to a barrier plaza on June 1, 2003; at this time toll classifications were switched from weight based to axle based. On January 2, 2006, toll collection at the barrier location was converted from two-way to one-way collection.

(10) Once Gateway was converted to a barrier plaza, Interchange 30, Warrendale, became the new start of the Turnpike ticket system in 2004. Toll collection was removed from Interchanges 10, 13 and 28 at this time.

Table 2-4  
Total Vehicles - Average Daily Transactions on the Pennsylvania Turnpike Ticket System At Exiting Toll Plazas  
Includes Revenue and Non-Revenue Vehicles

Interchange (Milepost) <sup>(1)</sup>	Calendar Year																						Average Annual Percent Change			
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 <sup>(2)</sup>	2005	2006	2007	2008	2009 <sup>(3)</sup>	2010 <sup>(4)</sup>	2011 <sup>(5)</sup>	2012 <sup>(6)</sup>	2013 <sup>(7)</sup>	2014 <sup>(8)</sup>	1993-04	2004-14	2009-14	1993-14
2 (9)	9,354	9,412	9,692	9,666	9,942	10,420	10,698	9,982	10,765	12,019	18,087	21,826	21,633	21,676	21,768	21,434	21,400	22,296	22,516	22,552	23,012	23,184	8.8	0.6	1.6	4.6
10 (10)		1,781	1,932	2,117	2,213	2,324	2,427	2,548	2,696	2,746													-	-	-	-
13 (10)	1,903	1,811	1,762	1,801	1,907	2,038	2,083	2,095	2,139	2,163													-	-	-	-
28 (10)	8,865	8,908	9,211	9,665	10,071	10,787	11,059	11,107	11,633	11,853													-	-	-	-
30 (10)											9,239	14,781	14,609	14,791	15,445	15,468	15,226	15,178	15,140	15,131	15,689	15,767	-	0.6	0.7	-
39	4,419	4,426	4,465	4,692	4,920	5,299	5,522	5,465	5,701	5,709	5,961	5,953	5,706	5,709	6,188	6,198	6,039	6,092	5,885	5,976	6,428	6,434	3.0	0.8	1.3	1.9
48	8,083	8,096	7,865	8,462	8,933	8,945	9,728	10,308	10,030	10,393	10,553	10,452	10,173	10,210	10,583	10,411	10,191	10,032	9,634	9,806	10,263	10,278	2.6	(0.2)	0.2	1.2
57	16,930	17,107	17,268	17,520	18,171	18,825	19,261	19,444	20,000	20,040	20,361	20,251	19,767	19,996	19,933	19,941	19,581	19,042	18,778	18,753	19,051	19,030	1.8	(0.6)	(0.6)	0.6
67	8,778	8,901	8,881	9,063	9,292	9,827	10,291	10,342	10,402	10,615	11,140	10,902	10,294	10,435	10,507	9,963	9,543	9,623	9,534	9,813	9,737	9,667	2.2	(1.2)	0.3	0.5
75	10,725	10,555	10,951	11,446	11,879	12,495	13,743	12,732	12,934	13,527	13,650	13,537	13,228	13,168	13,284	12,912	12,334	12,404	12,074	12,369	12,413	12,678	2.4	(0.7)	0.6	0.8
91	2,387	2,417	2,510	2,407	2,455	2,563	2,619	2,370	2,462	2,457	2,520	2,556	2,520	2,523	2,784	2,681	2,665	2,705	2,602	2,665	2,705	2,670	0.7	0.4	0.0	0.6
110	2,590	2,586	2,675	2,699	2,721	2,784	2,724	2,598	2,623	2,766	2,789	2,676	2,602	2,642	2,810	2,857	2,755	2,805	2,849	2,847	2,750	2,750	0.3	0.3	(0.0)	0.3
146	2,573	2,569	2,732	2,830	2,943	3,304	3,790	3,905	4,158	4,536	4,665	4,824	4,514	4,369	4,386	4,146	3,981	4,022	3,904	3,814	3,739	3,802	6.5	(2.4)	(0.9)	2.0
161	6,996	6,848	7,150	7,329	7,646	8,087	8,549	8,557	9,003	9,352	9,661	9,601	9,419	9,191	9,126	8,621	8,617	8,702	8,495	8,404	8,396	8,361	3.2	(1.4)	(0.6)	0.9
180	685	687	689	710	747	781	830	781	809	860	888	959	896	894	941	878	824	865	860	820	809	811	3.4	(1.7)	(0.3)	0.8
189	456	456	462	496	518	557	582	557	534	577	596	589	555	550	548	522	494	518	510	500	484	488	2.6	(1.9)	(0.2)	0.3
201	561	571	590	609	634	666	691	709	734	812	831	865	863	872	891	832	796	854	899	919	911	844	4.4	(0.2)	1.2	2.1
226	6,615	6,601	7,235	7,284	6,735	7,425	7,916	7,864	8,425	8,376	8,724	8,733	8,369	8,442	8,521	8,085	7,521	7,785	7,594	7,367	7,508	7,656	2.8	(1.3)	0.4	0.7
236	3,196	3,279	4,016	4,143	3,974	4,111	4,405	4,575	4,716	5,149	5,422	5,428	5,235	5,285	5,435	5,197	5,116	5,825	5,657	5,445	5,554	5,657	5.4	0.4	2.0	2.9
242	4,404	4,357	4,824	4,775	4,736	4,990	5,470	5,905	5,894	6,256	6,777	6,803	6,471	6,350	6,459	7,311	7,040	6,581	6,471	6,162	6,409	6,700	4.4	(0.2)	(1.0)	2.1
247	8,449	8,513	8,901	9,262	9,369	9,888	10,392	10,560	10,642	11,306	11,936	12,068	11,812	11,407	11,765	11,890	11,604	12,227	11,898	11,654	11,866	12,060	3.6	(0.0)	0.8	1.8
266	2,547	2,580	2,631	2,782	2,959	3,225	3,387	3,436	3,632	3,833	4,163	4,196	4,161	4,140	4,289	4,100	3,954	4,057	3,924	4,000	4,116	4,173	5.1	(0.1)	1.1	2.5
286	6,015	6,198	6,431	6,403	6,788	7,076	7,219	7,547	7,797	7,992	8,391	8,699	8,430	8,691	8,969	8,551	8,235	8,291	8,130	8,086	8,301	8,522	3.8	(0.2)	0.7	1.8
298	4,702	4,784	4,903	5,020	5,673	6,134	6,479	6,658	7,172	7,715	8,347	8,552	8,495	8,644	8,634	8,532	8,112	7,981	7,784	7,593	7,760	8,159	6.2	(0.5)	0.1	2.8
312	7,475	7,634	7,749	7,339	7,981	8,578	9,159	9,663	10,281	10,909	11,355	11,426	11,259	11,554	12,069	11,543	11,039	11,257	11,244	11,295	11,434	11,760	4.3	0.3	1.3	2.3
320																				120	3,826	5,001	-	-	-	-
326	23,094	22,304	22,976	23,467	23,832	25,030	24,351	24,258	27,652	28,158	30,064	31,591	31,609	31,659	30,515	30,165	30,685	32,402	32,070	31,773	31,050	31,492	3.2	(0.0)	0.5	1.6
333	10,091	8,931	9,390	9,723	10,364	10,810	11,179	11,117	11,839	12,473	12,895	13,204	12,487	12,066	11,948	12,511	12,501	12,810	12,722	12,490	12,445	12,258	2.7	(0.7)	(0.4)	1.0
20		25,345	28,188	29,789	31,482	32,863	33,036	34,343	35,415	37,113	37,969	39,877	39,640	40,381	41,091	39,631	38,712	39,119	39,439	40,268	40,590	40,614	-	0.2	1.0	-
339	17,146	18,117	19,184	19,370	19,874	21,337	21,231	21,165	22,283	22,703	23,513	23,422	23,162	22,984	22,606	21,655	22,249	24,302	24,683	25,019	25,371	25,413	3.2	0.8	2.7	2.0
340										1,002	1,329	1,554	1,587	1,599	1,558	1,540	1,388	1,442	1,471	1,433	1,513	1,676	-	0.8	3.8	-
343	20,423	21,273	23,367	23,841	24,443	24,835	24,024	24,765	25,376	25,945	26,727	27,756	27,254	26,728	28,264	27,385	27,163	28,678	28,294	27,960	27,453	27,102	3.1	(0.2)	(0.0)	1.4
351	24,786	25,184	26,716	27,121	28,254	28,947	28,903	29,546	30,533	31,627	32,707	33,352	32,900	32,807	33,315	32,700	32,307	32,868	31,321	30,616	30,462	29,863	3.0	(1.1)	(1.6)	0.9
352																		162	1,859	2,214	2,467	2,792	-	-	-	-
358	6,116	6,141	6,136	6,377	6,490	6,664	6,859	6,925	6,649	6,898	7,380	7,748	7,663	7,664	7,728	7,494	7,177	7,370	7,109	6,828	6,548	6,464	2.4	(1.8)	(2.1)	0.3
359	16,225	16,078	16,373	16,774	17,069	17,676	17,960	18,281	19,071	19,736	20,828	21,699	21,598	21,425	21,676	21,411	20,712	20,729	20,235	19,395	19,662	20,100	2.9	(0.8)	(0.6)	1.1
31	7,626	8,710	9,180	9,765	11,077	11,737	12,403	12,623	13,660	14,258	14,553	14,350	14,463	14,809	14,885	14,884	14,930	14,400	14,172	14,105	14,034		6.7	(0.4)	(1.2)	3.1
44	5,053	5,336	5,567	5,839	6,136	6,865	7,172	7,368	7,326	7,669	8,220	8,796	8,848	9,099	9,225	9,271	9,328	9,443	9,100	8,998	9,019	9,001	5.7	0.2	(0.7)	2.9
56	10,220	10,880	11,489	12,247	13,129	13,371	14,093	14,938	15,69999</																	

(1) Interchanges 2 through 259 reflect those for the Mainline 1-76/I-276. Interchanges 31 through 115 correspond to those on the Northeast Extension I-476.

(2) A toll increase of 42.5% was implemented on August 1, 2004.

(3) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

(4) A toll increase of 3% was implemented on January 3, 2010. Turnpike I-576 was exempted from this toll increase.

(5) An ETC toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011. Turnpike I-576 was exempted from this toll increase.

(6) A cash toll increase of 10% was implemented on January

commercial activity was particularly impacted by the economic recession. Still, over the entire period from 1993 to 2014, commercial transactions increased at an average annual rate of 2.9 percent.

Total-vehicle transaction trends are shown in Table 2-4. Because passenger cars make up about 86 percent of total Ticket System toll transactions, the trends and growth rates for total vehicles closely mirror those for passenger cars.

New access to the Ticket System is also shown in Tables 2-2 through 2-4. Since 2004 three new interchanges have opened on the Ticket System; Virginia Drive (Milepost 340) in 2002, Street Road (Milepost 352) in 2010, and SR 29 (Milepost 320) in 2012. These were all opened as all-electronic interchanges.

### 2.3.2 Barrier System Transaction Trends

Average annual daily traffic trends at the Barrier System's toll plazas are shown in Tables 2-5 through 2-7 for passenger cars, commercial vehicles and total vehicles, respectively. Transactions on the total Barrier System have been increasing at a faster rate than on the Ticket System. Passenger-car transactions increased by an average 3.3 percent per year from 1997 to 2004, and by 3.8 percent per year from 2004 to 2014. Growth in passenger-car transactions averaged 1.9 percent per year from 2009 through 2014. For the combined Barrier System, 2009 was the only year when passenger-car transactions decreased over the prior year, by negative 0.7 percent. A contributor to the decreased passenger-car transactions in 2009 compared to 2008 was the 25 percent toll increase that went into effect on January 4 of that year. No toll increase occurred in 2009 on the recently opened I-576 or on the Turnpike 43 section from Unionville to Brownsville.

In general, higher rates in passenger-car transactions compared to the Ticket System are attributable to several items, including 1) these tend to be younger facilities that have historically been adding additional lane miles and sometimes additional interchanges and toll plazas. These facilities also tend to be on the fringe of urban areas and are benefiting from the increasing spread of development into their corridors. Lastly, Turnpike I-576 was exempt from scheduled toll increases in 2009, 2010, 2011, 2012, and 2014.

Commercial vehicle average daily transaction trends are shown in Table 2-5. They also show stronger annual growth compared to the Ticket System. Commercial-vehicle transactions increased by 7.5 percent per year from 2004 to 2014, and by 9.2 percent per year from 2009 through 2014. Total vehicle transactions increased by 4.2 percent per year from 2004 to 2014, and by 2.7 percent per year from 2009 through 2014.

## 2.4 Monthly Transactions and Gross Toll Revenue Trends

This section discusses monthly transactions and toll revenue trends by fiscal year (FY) from FY 2011-12 through FY 2014-15 for the Ticket System and the total Turnpike System. The last actual data point is January 2015. Trend data is provided separately for passenger cars and commercial vehicles. The transaction data includes only toll transactions at exiting toll plazas; non-revenue transactions are not included. The purpose of these tables is to review recent patterns of growth, and identify any short-term impacts to the Turnpike System that may not be apparent in annual trends.

### 2.4.1 Ticket System Monthly Trends

Monthly transaction and toll revenue trends for the Ticket System are presented in Table 2-8 from FY 2011-12 through January 2015 of FY 2014-15. Passenger-car transactions decreased by 1.1 percent in

**Table 2-5**  
**Passenger Cars - Average Daily Transactions on the Pennsylvania Turnpike Barrier System**  
**Includes Revenue and Non-Revenue Vehicles**

Toll Location	Calendar Year																		Average Annual Percent Change			
	1997	1998	1999	2000	2001	2002 (1)	2003	2004 (2)	2005	2006	2007	2008	2009 (3)	2010 (4)	2011 (7)	2012 (9)	2013 (10)	2014 (11)	1997-04	2004-14	2009-14	1997-14
Northeast Extension Barrier Plazas																						
Keyser Ave.	6,941	6,461	5,686	5,527	5,622	5,948	6,274	6,719	6,489	6,573	6,736	6,782	7,012	6,935	6,970	6,960	7,156	7,017	(0.5)	0.4	0.0	0.1
Clarks Summit	7,281	6,769	5,844	5,642	5,847	6,169	6,492	6,747	6,519	6,545	6,740	6,790	6,850	6,670	6,673	6,702	7,270	7,135	(1.1)	0.6	0.8	(0.1)
Subtotal	14,222	13,230	11,530	11,169	11,469	12,117	12,766	13,466	13,008	13,117	13,476	13,572	13,862	13,605	13,643	13,662	14,426	14,152	(0.8)	0.5	0.4	(0.0)
Turnpike I-376 - Beaver Valley Expressway (5)																						
East Toll 376	8,407	8,724	8,798	9,008	9,390	9,586	9,782	9,821	9,896	9,854	10,334	10,288	9,897	9,884	9,940	9,685	9,235	8,971	2.2	(0.9)	(1.9)	0.4
Beaver Falls Rte. 551	336	359	370	382	399						434	458	430	455	430	437	425	387	(100.0)	-	(2.1)	0.8
Moravia Rte. 168	579	613	610	619	682						756	808	706	674	778	775	728	712	(100.0)	-	0.2	1.2
West Toll 376	4,964	5,192	5,298	5,481	5,866	6,021	6,176	6,385	6,812	7,047	7,524	7,633	7,617	7,738	7,632	7,430	7,178	7,292	3.7	1.3	(0.9)	2.3
Mt. Jackson Rte. 108	1,211	1,313	1,385	1,454	1,606						1,277	1,557	1,390	1,236	1,173	1,094	1,019	953	(100.0)	-	(7.3)	(1.4)
Subtotal	15,497	16,201	16,461	16,944	17,943	15,607	15,958	16,206	16,708	16,901	20,326	20,744	20,040	19,987	19,953	19,419	18,587	18,315	0.6	1.2	(1.8)	1.0
Turnpike 66 - Amos K. Hutchinson Bypass (6)																						
Rte. 136	413	437	469	478	518					217	597	806	727	742	731	738	708	749	(100.0)	-	0.6	3.6
AKH Mainline	8,081	8,911	8,850	9,283	9,613	10,044	10,476	10,858	11,123	12,053	12,308	12,327	12,114	12,276	11,947	11,843	11,721	11,728	4.3	0.8	(0.6)	2.2
Route 30	2,471	3,020	3,105	3,390	3,751					861	2,889	4,617	4,645	4,921	4,809	4,686	4,625	4,625	(100.0)	-	(0.1)	3.8
Route 130	1,190	1,123	966	893	1,001					226	1,260	1,370	1,370	1,397	1,459	1,336	1,326	1,377	(100.0)	-	0.1	0.9
Route 66	523	527	458	455	516					117	580	762	738	752	774	754	753	834	(100.0)	-	2.5	2.8
Subtotal	12,678	14,018	13,848	14,499	15,399	10,044	10,476	10,858	11,123	13,473	17,633	19,883	19,594	20,088	19,719	19,356	19,133	19,313	(2.2)	5.9	(0.3)	2.5
Turnpike 43 - Mon/Fayette Expressway (8)																						
Ramp M4					29	29	30	29	26	32	39	32	22	22	147	299	315	308	-	26.5	69.3	-
M5					1,659	1,726	1,794	1,884	1,973	2,060	2,151	2,257	2,301	2,477	3,467	4,933	5,224	5,663	-	11.6	19.7	-
Ramp M15														13	109	86	81	77	-	-	-	-
Ramp M18														114	228	281	290	284	-	-	-	-
M19														275	3,543	4,537	4,896	5,079	-	-	-	-
M35 California	7,314	6,643	7,312	8,274	8,437	5,582	2,728	9,365	9,366	9,754	10,224	10,530	10,318	10,515	10,407	10,605	10,587	10,649	3.6	1.3	0.6	2.2
Ramp M39					954	1,360	1,766	906	868	963	1,030	1,052	1,050	1,067	1,073	1,056	1,046	1,006	-	1.1	(0.8)	-
Ramp M44								736	720	758	745	749	703	692	665	651	641	647	-	(1.3)	(1.7)	-
Ramp M48								2,543	2,790	2,936	3,213	3,301	3,356	3,471	3,478	3,537	3,511	3,579	-	3.5	1.3	-
M52						5,689	6,326	6,746	7,099	7,179	7,351	7,181	7,161	7,149	7,464	7,233	7,033		-	1.1	(0.4)	-
Subtotal	7,314	6,643	7,312	8,274	11,079	8,698	12,006	21,789	22,489	23,602	24,581	25,273	24,931	25,807	30,266	33,450	33,825	34,326	16.9	4.6	6.6	9.5
I-576 - Southern Beltway																						
SB Rte. 30									80	166	223	262	298	364	555	303	311		-	-	3.5	-
SB Westport Rd.									59	125	130	153	160	163	190	191	249		-	-	10.2	-
Rte. 22									533	2,914	3,320	3,727	3,897	4,135	4,209	4,005	4,154		-	-	2.2	-
Subtotal									671	3,204	3,673	4,142	4,355	4,662	4,954	4,498	4,714		-	-	2.6	-
All Barrier Facilities																						
Total	49,711	50,092	49,151	50,886	55,890	46,467	51,205	62,320	63,328	67,765	79,221	83,146	82,569	83,842	88,244	90,841	90,468	90,820	3.3	3.8	1.9	3.6
Percent Change Over Prior Year	8.4	0.8	(1.9)	3.5	9.8	(16.9)	10.2	21.7	1.6	7.0	16.9	5.0	(0.7)	1.5	5.2	2.9	(0.4)	0.4				

(1) 2002 traffic data is not available. It is estimated by averaging 2001 and 2003 traffic data.

(2) New rates became effective Sunday, August 1, 2004. Rates were increased by 42.5%.

(3) A toll increase of 25 % was implemented on January 4, 2009. Toll rates on Turnpike I-576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

(4) A toll increase of 3% was implemented on January 3, 2010.

(5) Toll 60 (Turnpike 376) ramp counts were not available from 2002 to 2006.

(6) Toll 66 ramp counts were not available from 2002 to 2005.

(7) An E-ZPass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011. Exceptions include Turnpike I-576, where coin machine fares will not change.

(8) On July 11, 2011, the West Virginia section of Turnpike 43 was opened.

(9) A cash toll increase of 10% was implemented on January 1, 2012. Exceptions include Turnpike I-576, where coin machine fares will not change.

(10) An E-ZPass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013. Findlay Connector will increase E-ZPass toll rates by 25% and cash toll rates by 50%.

(11) An E-ZPass toll increase of 2% and a cash toll increase of 12% was implemented on January 5, 2014. Exceptions include Turnpike I-576 - Southern Beltway.

**Table 2-6**  
**Commercial Vehicles - Average Daily Transactions on the Pennsylvania Turnpike Barrier System**  
**Includes Revenue and Non-Revenue Vehicles**

Toll Location	Calendar Year																		Average Annual Percent Change			
	1997	1998	1999	2000	2001	2002 (1)	2003	2004 (2)	2005	2006	2007	2008	2009 (3)	2010 (4)	2011 (7)	2012 (9)	2013 (10)	2014 (11)	1997-04	2004-14	2009-14	1997-14
Northeast Extension Barrier Plazas																						
Keyser Ave.	1,163	1,038	936	919	892	905	918	938	1,092	1,227	1,408	1,363	1,306	1,365	1,492	1,532	1,606	1,643	(3.0)	5.8	4.7	2.1
Clarks Summit	1,349	1,255	1,125	1,118	1,142	1,049	957	931	1,038	1,112	1,162	1,096	1,047	1,082	1,149	1,228	1,369	1,436	(5.2)	4.4	6.5	0.4
Subtotal	2,512	2,293	2,061	2,037	2,034	1,954	1,875	1,869	2,130	2,339	2,570	2,459	2,353	2,447	2,641	2,759	2,975	3,079	(4.1)	5.1	5.5	1.2
Turnpike I-376 - Beaver Valley Expressway (5)																						
East Toll 376	1,110	1,147	1,263	1,301	1,359	1,332	1,304	1,328	1,353	1,311	1,490	1,548	1,342	1,506	1,621	1,693	1,729	1,830	2.6	3.3	6.4	3.0
Beaver Falls Rte. 551	44	45	52	51	65						36	39	31	48	59	59	50	48	(100.0)	-	9.5	0.5
Moravia Rte. 168	93	91	85	93	144						96	145	60	73	92	86	73	97	(100.0)	-	10.2	0.2
West Toll 376	681	725	793	863	874	872	870	911	915	998	1,133	1,170	1,034	1,196	1,211	1,226	1,202	1,279	4.3	3.4	4.3	3.8
Mt. Jackson Rte. 108	101	109	118	138	141						98	108	113	98	133	164	135	148	(100.0)	-	5.5	2.3
Subtotal	2,029	2,117	2,311	2,446	2,583	2,204	2,174	2,239	2,268	2,309	2,854	3,010	2,580	2,921	3,116	3,228	3,190	3,402	1.4	4.3	5.7	3.1
Turnpike 66 - Amos K. Hutchinson Bypass (6)																						
Rte. 136	222	196	230	241	232						126	211	183	146	165	183	178	177	(100.0)	-	38.7	7.4
AKH Mainline	1,457	1,518	1,552	1,729	1,673	1,743	1,813	1,818	1,872	1,935	2,070	2,146	2,010	2,261	2,333	2,348	2,372	2,603	3.2	3.7	5.3	3.5
Route 30	225	256	268	296	345						142	290	282	265	300	292	315	313	(100.0)	-	2.9	1.8
Route 130	35	38	50	67	75						17	38	29	30	26	26	28	32	(100.0)	-	0.9	(0.5)
Route 66	35	32	29	27	28						5	15	16	17	18	19	22	19	(100.0)	-	4.4	(3.0)
Subtotal	1,974	2,040	2,129	2,360	2,353	1,743	1,813	1,818	1,872	2,226	2,623	2,656	2,468	2,770	2,853	2,890	2,908	3,710	(1.2)	7.4	8.5	3.8
Turnpike 43 - Mon/Fayette Expressway (8)																						
Ramp M4					2	2		1	1	1	1	1	2	1	4	7	8	8	-	23.8	44.3	-
M5					119	135	151	135	136	150	140	196	240	275	366	529	665	819	-	19.7	27.8	-
Ramp M15														0	6	7	9	13	-	-	-	-
Ramp M18														6	16	19	20	17	-	-	-	-
M19														182	302	437	605	679	-	-	-	-
M35 California	305	277	305	345	352	218	84	314	303	321	384	478	532	573	574	694	827	1,002	0.4	12.3	13.5	7.2
Ramp M39					30	41	52	23	23	26	32	34	35	40	45	44	55	61	-	10.2	11.8	-
Ramp M44								37	34	42	46	68	33	29	53	47	53	56	-	4.2	11.3	-
Ramp M48								107	82	59	65	66	60	73	85	97	102	128	-	1.8	16.3	-
M52							92	107	118	108	111	127	125	143	156	173	183	197	-	6.3	9.5	-
Subtotal	305	277	305	345	503	396	382	724	697	707	779	971	1,025	1,322	1,607	2,053	2,526	2,980	13.1	15.2	23.8	14.3
I-576 - Southern Beltway																						
SB Rte. 30										2	18	27	31	36	29	38	26	31	-	-	(0.2)	-
SB Westport Rd.										1	6	14	56	58	33	37	45	84	-	-	8.3	-
Rte. 22										24	210	249	287	311	312	322	356	391	-	-	6.4	-
Subtotal										28	234	290	375	405	375	397	427	506	-	-	6.2	-
All Barrier Facilities																						
Total	6,820	6,727	6,806	7,188	7,473	6,297	6,244	6,650	6,967	7,608	9,060	9,385	8,801	9,865	10,592	11,328	12,026	13,676	(0.4)	7.5	9.2	4.2
Percent Change Over Prior Year	12.2	(1.4)	1.2	5.6	4.0	(15.7)	(0.9)	6.5	4.8	9.2	19.1	3.6	(6.2)	12.1	7.4	6.9	6.2	13.7				

(1) 2002 traffic data is not available. It is estimated by averaging 2001 and 2003 traffic data.

(2) New rates became effective Sunday, August 1, 2004. Rates were increased by 42.5%.

(3) A toll increase of 25 % was implemented on January 4, 2009. Toll rates on Turnpike 576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

(4) A toll increase of 3% was implemented on January 3, 2010.

(5) Toll 60 (Turnpike 376) ramp counts were not available from 2002 to 2006.

(6) Toll 66 ramp counts were not available from 2002 to 2005.

(7) An E-ZPass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011. Exceptions include Turnpike 576, where coin machine fares will not change.

(8) On July 11, 2011, the West Virginia section of Turnpike 43 was opened.

(9) A cash toll increase of 10% was implemented on January 1, 2012. Exceptions include Turnpike 576, where coin machine fares will not change.

(10) An E-ZPass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013. Findlay Connector will increase E-Zpass toll rates by 25% and cash toll rates by 50%.

(11) An E-ZPass toll increase of 2% and a cash toll increase of 12% was implemented on January 5, 2014. Exceptions include Findlay Connector.

**Table 2-7**  
**Total Vehicles - Average Daily Transactions on the Pennsylvania Turnpike Barrier System**  
**Includes Revenue and Non-Revenue Vehicles**

Toll Location	Calendar Year																	Average Annual Percent Change					
	1997	1998	1999	2000	2001	2002 (1)	2003	2004 (2)	2005	2006	2007	2008	2009 (3)	2010 (4)	2011 (7)	2012 (9)	2013 (10)	2014 (11)	1997-04	2004-14	2009-14	1997-14	
Northeast Extension Barrier Plazas																							
Keyser Ave.	8,104	7,499	6,622	6,446	6,514	6,853	7,192	7,657	7,581	7,800	8,144	8,144	8,318	8,300	8,462	8,492	8,761	8,660	(0.8)	1.2	0.8	0.4	
Clarks Summit	8,630	8,024	6,969	6,760	6,989	7,219	7,449	7,678	7,557	7,656	7,903	7,887	7,897	7,752	7,822	7,930	8,639	8,571	(1.7)	1.1	1.7	(0.0)	
Subtotal	16,734	15,523	13,591	13,206	13,503	14,072	14,641	15,335	15,138	15,456	16,047	16,031	16,215	16,052	16,284	16,422	17,401	17,231	(1.2)	1.2	1.2	0.2	
Turnpike I-376 - Beaver Valley Expressway (5)																							
East Toll 376	9,517	9,871	10,061	10,309	10,749	10,917	11,086	11,149	11,249	11,165	11,824	11,836	11,239	11,390	11,561	11,377	10,965	10,801	2.3	(0.3)	(0.8)	0.7	
Beaver Falls Rte. 551	380	404	422	433	464						471	497	461	503	490	496	476	435	(100.0)	-	(1.1)	0.8	
Moravia Rte. 168	672	704	695	712	826						853	953	766	747	869	861	801	809	(100.0)	-	1.1	1.1	
West Toll 376	5,645	5,917	6,091	6,344	6,740	6,893	7,046	7,296	7,727	8,044	8,658	8,803	8,651	8,934	8,844	8,655	8,381	8,572	3.7	1.6	(0.2)	2.5	
Mt. Jackson Rte. 108	1,312	1,422	1,503	1,592	1,747						1,375	1,665	1,503	1,334	1,306	1,258	1,154	1,101	(100.0)	-	(6.0)	(1.0)	
Subtotal	17,526	18,318	18,772	19,390	20,526	17,811	18,132	18,445	18,976	19,210	23,180	23,754	22,620	22,908	23,070	22,648	21,776	21,717	0.7	1.6	(0.8)	1.3	
Turnpike 66 - Amos K. Hutchinson Bypass (6)																							
Rte. 136	635	633	699	719	750						343	808	989	873	907	914	916	885	1,497	(100.0)	-	11.4	5.2
AKH Mainline	9,538	10,429	10,402	11,012	11,286	11,787	12,288	12,676	12,995	13,988	14,378	14,473	14,124	14,537	14,280	14,191	14,093	14,331	4.1	1.2	0.3	2.4	
Route 30	2,696	3,276	3,373	3,686	4,096					1,003	3,178	4,899	4,910	5,221	5,101	5,001	4,938	4,930	(100.0)	-	0.1	3.6	
Route 130	1,225	1,161	1,016	960	1,076					243	1,298	1,399	1,400	1,423	1,485	1,362	1,354	1,409	(100.0)	-	0.1	0.8	
Route 66	558	559	487	482	544					122	595	778	754	770	793	776	771	855	(100.0)	-	2.5	2.5	
Subtotal	14,652	16,058	15,977	16,859	17,752	11,787	12,288	12,676	12,995	15,699	20,256	22,539	22,062	22,858	22,572	22,245	22,041	23,022	(2.0)	6.1	0.9	2.7	
Turnpike 43 - Mon/Fayette Expressway (8)																							
Ramp M4					31	31	31	30	28	33	40	34	23	23	151	306	323	316	-	26.5	68.3	-	
M5					1,778	1,862	1,945	2,020	2,110	2,210	2,292	2,453	2,541	2,752	3,833	5,462	5,889	6,482	-	12.4	20.6	-	
Ramp M15														13	115	93	90	91	-	-	-	-	
Ramp M18														120	244	300	310	301	-	-	-	-	
M19														457	3,845	4,974	5,501	5,758	-	-	-	-	
M35 California	7,619	6,920	7,617	8,619	8,789	5,800	2,812	9,679	9,669	10,075	10,608	11,008	10,849	11,088	10,981	11,298	11,414	11,651	3.5	1.9	1.4	2.5	
Ramp M39					984	1,401	1,819	929	891	989	1,062	1,087	1,085	1,107	1,118	1,101	1,101	1,067	-	1.4	(0.3)	-	
Ramp M44								773	753	799	792	817	736	721	718	698	694	703	-	(1.0)	(0.9)	-	
Ramp M48								2,649	2,872	2,995	3,277	3,368	3,416	3,544	3,563	3,634	3,613	3,707	-	3.4	1.6	-	
M52							5,781	6,433	6,863	7,208	7,289	7,478	7,306	7,304	7,305	7,637	7,415	7,230	-	1.2	(0.2)	-	
Subtotal	7,619	6,920	7,617	8,619	11,582	9,094	12,387	22,513	23,186	24,309	25,360	26,245	25,956	27,129	31,873	35,503	36,351	37,306	16.7	5.2	7.5	9.8	
I-576 - Southern Beltway																							
SB Rte. 30										82	184	250	293	334	394	593	328	342	-	-	3.1	-	
SB Westport Rd.										60	131	144	209	218	196	227	236	333	-	-	9.7	-	
Rte. 22										557	3,124	3,569	4,014	4,208	4,447	4,531	4,361	4,546	-	-	2.5	-	
Subtotal										699	3,438	3,963	4,517	4,760	5,037	5,351	4,925	5,220	-	-	2.9	-	
All Barrier Facilities																							
Total	56,531	56,819	55,957	58,074	63,363	52,764	57,448	68,970	70,295	75,373	88,281	92,531	91,371	93,707	98,836	102,169	102,494	104,496	2.9	4.2	2.7	3.7	
Percent Change Over Prior Year	8.9	0.5	(1.5)	3.8	9.1	(16.7)	8.9	20.1	1.9	7.2	17.1	4.8	(1.3)	2.6	5.5	3.4	0.3	2.0					

(1) 2002 traffic data is not available. It is estimated by averaging 2001 and 2003 traffic data.

(2) New rates became effective Sunday, August 1, 2004. Rates were increased by 42.5%.

(3) A toll increase of 25 % was implemented on January 4, 2009. Toll rates on Turnpike 576 and Turnpike 43 from Unionville to Brownsville remained unchanged.

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**Table 2-8**  
**Ticket System (Including Gateway Barrier Plaza) - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	11,681	(0.5)	11,622	(0.7)	11,540	1.6	11,720	1,815	(3.4)	1,754	(0.5)	1,744	6.2	1,852	13,496	(0.9)	13,376	(0.7)	13,284	2.2	13,572
July	12,005	(2.0)	11,765	1.7	11,959	1.4	12,128	1,708	0.5	1,717	5.7	1,816	5.2	1,910	13,714	(1.7)	13,482	2.2	13,775	1.9	14,039
August	11,887	2.5	12,181	1.3	12,343	(0.5)	12,285	1,837	0.1	1,839	0.7	1,852	0.5	1,862	13,723	2.2	14,020	1.2	14,195	(0.3)	14,147
September	11,119	(2.9)	10,800	2.8	11,105	0.2	11,123	1,749	(7.4)	1,619	6.2	1,719	6.9	1,838	12,867	(3.5)	12,419	3.3	12,824	1.1	12,961
October	11,457	(4.0)	10,998	6.7	11,738	1.2	11,876	1,751	(0.1)	1,749	7.1	1,873	4.6	1,960	13,208	(3.5)	12,747	6.8	13,611	1.7	13,836
November	11,005	(1.6)	10,832	(0.2)	10,812	(0.5)	10,760	1,644	2.5	1,685	(4.0)	1,617	1.9	1,648	12,649	(1.0)	12,517	(0.7)	12,428	(0.2)	12,408
December	10,822	(3.5)	10,446	0.4	10,484	4.0	10,902	1,565	(4.6)	1,493	3.9	1,552	9.5	1,700	12,388	(3.6)	11,939	0.8	12,036	4.7	12,602
January	9,866	0.6	9,925	(4.5)	9,478	1.5	9,619	1,505	5.7	1,591	(1.9)	1,560	2.9	1,606	11,372	1.3	11,516	(4.1)	11,038	1.7	11,225
February	9,693	(5.2)	9,189	(6.6)	8,585			1,487	(2.6)	1,448	(0.7)	1,439			11,180	(4.9)	10,638	(5.8)	10,023		
March	10,806	(0.4)	10,761	(1.0)	10,649			1,674	(4.2)	1,605	3.8	1,666			12,480	(0.9)	12,366	(0.4)	12,314		
April	10,784	1.0	10,890	1.9	11,096			1,639	6.9	1,752	2.1	1,789			12,423	1.8	12,641	1.9	12,884		
May	11,555	1.7	11,756	0.5	11,809			1,797	4.3	1,874	(0.0)	1,874			13,352	2.1	13,630	0.4	13,683		
Total Year	132,680	(1.1)	131,165	0.3	131,595		90,413	20,171	(0.2)	20,125	1.9	20,501		14,376	152,851	(1.0)	151,290	0.5	152,096		104,789
June-Jan	89,842	(1.4)	88,569	1.0	89,457	1.1	90,413	13,574	(0.9)	13,446	2.1	13,734	4.7	14,376	103,416	(1.4)	102,016	1.2	103,191	1.5	104,789

Toll Revenue (in \$1,000s)																					
Passenger Cars							Commercial Vehicles							Total Vehicles							
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$37,533	5.5	\$39,610	5.4	\$41,761	6.3	\$44,385	\$28,954	(1.4)	\$28,554	3.8	\$29,642	8.4	\$32,145	\$66,487	2.5	\$68,164	4.8	\$71,403	7.2	\$76,530
July	41,662	0.0	41,674	7.7	44,889	6.8	47,942	27,345	1.3	27,706	9.0	30,200	9.1	32,935	69,007	0.5	69,380	8.2	75,089	7.7	80,876
August	39,461	8.4	42,785	8.2	46,287	6.6	49,340	29,230	2.2	29,883	3.2	30,847	5.1	32,420	68,691	5.8	72,668	6.1	77,134	6.0	81,759
September	34,686	3.0	35,739	6.0	37,868	4.7	39,655	28,122	(3.8)	27,060	6.2	28,725	11.1	31,911	62,808	(0.0)	62,798	6.0	66,593	7.5	71,566
October	35,674	(0.5)	35,501	10.1	39,100	7.8	42,161	28,338	0.0	28,342	10.2	31,235	8.5	33,884	64,012	(0.3)	63,843	10.2	70,335	8.1	76,045
November	34,874	2.1	35,597	3.4	36,810	7.2	39,455	26,591	4.7	27,854	(1.8)	27,346	5.8	28,927	61,465	3.2	63,451	1.1	64,156	6.6	68,382
December	33,258	2.0	33,936	7.1	36,350	6.4	38,684	25,387	(1.1)	25,115	5.3	26,444	13.0	29,877	58,645	0.7	59,050	6.3	62,795	9.2	68,561
January	29,800	2.6	30,574	0.7	30,782	8.2	33,317	25,630	8.1	27,718	0.1	27,743	9.4	30,349	55,430	5.2	58,292	0.4	58,524	8.8	63,666
February	28,953	(2.2)	28,308	(2.2)	27,690			25,280	(0.3)	25,204	3.3	26,037			54,233	(1.3)	53,512	0.4	53,728		
March	33,183	7.9	35,792	1.6	36,382			27,975	0.3	28,054	8.0	30,311			61,158	4.4	63,845	4.5	66,693		
April	34,890	2.7	35,848	9.3	39,166			26,952	8.8	29,312	7.1	31,396			61,842	5.4	65,160	8.3	70,562		
May	38,049	7.0	40,696	6.7	43,440			29,418	5.8	31,134	4.8	32,623			67,467	6.5	71,830	5.9	76,063		
Total Year	\$422,023	3.3	\$436,059	5.6	\$460,525		\$334,938	\$329,222	2.0	\$335,935	4.9	\$352,550		\$252,448	\$751,245	2.8	\$771,994	5.3	\$813,075		\$587,386
June-Jan	286,948	3.0	295,415	6.2	313,847	6.7	334,938	219,598	1.2	222,231	4.5	232,182	8.7	252,448	506,546	2.2	517,647	5.5	546,029	7.6	587,386

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except Turnpike I-576.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (7) On December 12, 2012, the Route 29, AET interchange was opened at milepost 320 on I-76.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.
- (9) Winter weather negatively impacted traffic and toll revenue in January 2015.



FY 2012-13, and then increased by 0.3 percent in the following year. Transaction growth in FY 2013-14 would have been more positive if not for the abnormally severe winter weather that occurred in January and February of 2014, when transactions decreased by 4.5 percent and 6.6 percent respectively over the same months in 2013. Passenger-car transactions increased by 1.1 percent in FY 2014-15 year-to-date compared to the previous year. The only two months in FY 2014-15 that experienced decreased passenger-car transactions over the prior year are August and November, and these both had one less weekday in 2014 compared to 2013.

Ticket System passenger-car toll revenue has been increasing at a faster annual rate than transactions due to toll increases that were implemented each year. Passenger-car toll revenue increased by 3.3 percent in FY 2012-13, and by 5.6 percent in FY 2013-14. In the current fiscal year, passenger-car toll revenue on the Ticket System has increased by 6.7 percent through January 2015 compared to the same time period in the previous year.

Commercial-vehicle transactions on the Ticket System exhibited the same pattern of change as the passenger-car transactions. Commercial-vehicle transactions decreased by 0.2 percent in FY 2012-13 and subsequently increased by 1.9 percent in the following year. Year-to-date, FY 2014-15 commercial-vehicle transactions have increased by 4.7 percent over the same period in the prior year. Annual toll revenue increased by 2.0 percent and 4.9 percent in FY 2012-13 and 2014-14 respectively. FY 2014-15 commercial vehicle toll revenue increased by 8.7 percent through January 2015. These increases in toll revenue were driven by increased transactions and by annual toll increases.

Total Ticket System transactions decreased by 1.0 percent in FY 2012-13, and increased by 0.5 percent the next year. The increase in FY 2013-15 would have been more positive if the abnormally severe winter weather in January and February 2014 had not occurred. In FY 2014-15, transactions through January 2015 increased over the same time period in the prior year by 1.5 percent. Total Ticket System toll revenue increased by 2.8 percent and 5.3 percent in FY 2012-13 and FY 2013-14, respectively. Toll revenue year to date in FY 2014-15 has increased by 7.6 percent compared to the same period in the prior year.

Positive growth in transactions appears to be returning to the Ticket System as the economy and employment slowly improves. The growth in transactions has been occurring even with the annual toll increases that have been implemented since 2009.

### 2.4.2 Total Turnpike System Monthly Trends

Table 2-9 presents the monthly transaction and toll revenue trends for the total Turnpike System, which includes the Ticket System and the entire Barrier System. Passenger-car transactions decreased by 0.8 percent in FY 2012-13, and then increased by 0.1 percent in the following year. Transaction growth in FY 2013-14 would have been more positive if not for the abnormally severe winter weather that occurred in January and February of 2014, when transactions decreased by 4.4 percent and 5.9 percent respectively over the same months in 2013. Passenger-car transactions increased by 1.2 percent in FY 2014-15 year-to-date compared to the previous year. The only two months in FY 2014-15 that experienced decreased passenger-car transactions over the prior year are August and November, and these both had one less weekday in 2014 compared to 2013.

Turnpike System passenger-car toll revenue increased at a faster annual rate than transactions due to toll increases that were implemented each year. Passenger-car toll revenue increased by 3.6 percent in FY 2012-13, and by 5.5 percent in FY 2013-14. In the current fiscal year, passenger-car toll revenue



**Table 2-9**  
**Total Turnpike System - Monthly Transaction and Revenue Trends**  
 Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars						Toll Transactions (in 1,000s)								Total Vehicles							
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	
June	14,344	0.5	14,418	(0.7)	14,311	1.6	14,535	2,153	(1.4)	2,122	(0.5)	2,112	7.1	2,261	16,496	0.3	16,539	(0.7)	16,423	2.3	16,797	
July	14,905	(1.2)	14,726	1.2	14,906	1.6	15,138	2,042	2.1	2,085	6.2	2,215	6.1	2,351	16,947	(0.8)	16,811	1.8	17,121	2.1	17,489	
August	14,857	3.0	15,300	0.9	15,433	(0.1)	15,425	2,208	1.1	2,232	1.4	2,264	1.6	2,301	17,065	2.7	17,532	0.9	17,698	0.2	17,726	
September	13,915	(2.1)	13,625	2.0	13,891	0.6	13,974	2,099	(6.7)	1,958	7.3	2,101	8.3	2,275	16,013	(2.7)	15,583	2.6	15,993	1.6	16,249	
October	14,357	(3.3)	13,886	5.6	14,670	1.4	14,876	2,107	0.4	2,115	8.1	2,287	5.5	2,412	16,464	(2.8)	16,001	6.0	16,957	2.0	17,288	
November	13,684	(1.3)	13,508	(0.6)	13,420	(0.5)	13,358	1,963	2.3	2,008	(2.4)	1,960	2.6	2,011	15,647	(0.8)	15,516	(0.9)	15,380	(0.1)	15,368	
December	13,451	(3.5)	12,975	0.6	13,058	3.3	13,491	1,853	(4.2)	1,774	5.1	1,864	9.8	2,046	15,304	(3.6)	14,749	1.2	14,922	4.1	15,537	
January	12,149	0.7	12,236	(4.4)	11,703	1.7	11,905	1,781	6.2	1,892	(0.9)	1,875	3.2	1,935	13,930	1.4	14,128	(3.9)	13,578	1.9	13,840	
February	12,011	(4.9)	11,417	(5.9)	10,738			1,771	(2.4)	1,728	0.6	1,740			13,782	(4.6)	13,146	(5.1)	12,478			
March	13,417	(0.6)	13,334	(1.1)	13,188			1,996	(4.1)	1,915	5.6	2,021			15,413	(1.1)	15,249	(0.3)	15,210			
April	13,454	1.0	13,585	1.4	13,778			1,979	6.7	2,111	2.6	2,167			15,433	1.7	15,697	1.6	15,946			
May	14,417	1.8	14,679	0.1	14,690			2,175	4.2	2,267	0.7	2,283			16,592	2.1	16,946	0.2	16,974			
Total Year	164,960	(0.8)	163,690	0.1	163,788		112,702	24,127	0.3	24,207	2.8	24,891		17,593	189,087	(0.6)	187,897	0.4	188,679		130,295	
June-Jan	111,660	(0.9)	110,673	0.7	111,393	1.2	112,702	16,206	(0.1)	16,186	3.0	16,679	5.5	17,593	127,866	(0.8)	126,859	1.0	128,072	1.7	130,295	

Month	Passenger Cars						Toll Revenue (in \$1,000s)								Total Vehicles							
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	
June	\$40,202	5.9	\$42,563	5.5	\$44,913	6.3	\$47,759	\$30,075	(0.9)	\$29,797	3.8	\$30,938	8.7	\$33,638	\$70,276	3.0	\$72,360	4.8	\$75,851	7.3	\$81,397	
July	44,555	0.6	44,813	7.6	48,219	6.9	51,527	28,449	1.8	28,953	9.1	31,597	9.3	34,536	73,004	1.0	73,767	8.2	79,816	7.8	86,063	
August	42,432	8.7	46,109	7.9	49,761	6.6	53,065	30,473	2.5	31,222	3.4	32,289	5.3	33,994	72,904	6.1	77,330	6.1	82,050	6.1	87,060	
September	37,501	3.3	38,737	5.9	41,023	4.9	43,042	29,292	(3.7)	28,222	6.5	30,066	11.4	33,490	66,792	0.2	66,959	6.2	71,089	7.7	76,532	
October	38,580	(0.0)	38,571	9.9	42,409	7.8	45,711	29,536	0.2	29,595	10.5	32,692	8.6	35,507	68,116	0.1	68,166	10.2	75,101	8.1	81,218	
November	37,566	2.3	38,446	3.4	39,752	7.0	42,534	27,670	4.7	28,976	(1.5)	28,554	5.9	30,250	65,236	3.4	67,422	1.3	68,306	6.6	72,785	
December	35,916	2.0	36,642	7.1	39,259	6.4	41,766	26,368	(1.0)	26,096	5.7	27,577	13.0	31,154	62,284	0.7	62,738	6.5	66,836	9.1	72,921	
January	32,226	2.9	33,172	0.7	33,403	8.2	36,138	26,599	8.3	28,813	0.4	28,936	9.2	31,609	58,824	5.4	61,985	0.6	62,338	8.7	67,747	
February	31,419	(1.8)	30,841	(1.9)	30,259			26,271	(0.2)	26,223	3.6	27,168			57,690	(1.1)	57,064	0.6	57,427			
March	35,960	7.7	38,716	1.8	39,421			29,086	0.3	29,182	8.4	31,644			65,046	4.4	67,899	4.7	71,065			
April	37,709	3.2	38,904	8.9	42,363			28,122	8.8	30,610	7.2	32,811			65,831	5.6	69,514	8.1	75,174			
May	41,069	7.1	44,000	6.6	46,889			30,707	6.0	32,537	4.9	34,123			71,776	6.6	76,536	5.8	81,012			
Total Year	\$455,133	3.6	\$471,514	5.5	\$497,671		\$361,543	\$342,646	2.2	\$350,226	5.2	\$368,395		\$264,179	\$797,779	3.0	\$821,740	5.4	\$866,066		\$625,721	
June-Jan	308,977	3.3	319,053	6.2	338,738	6.7	361,543	228,460	1.4	231,674	4.7	242,649	8.9	264,179	537,436	2.5	550,727	5.6	581,387	7.6	625,721	

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (7) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

on the Turnpike System has increased by 6.7 percent through January 2015 compared to the same time period in the previous year.

Commercial-vehicle transactions increased by 0.3 percent in FY 2012-13 and subsequently increased by 2.8 percent in the following year. Year-to-date, FY 2014-15 commercial-vehicle transactions have increased by 5.5 percent over the same period in the prior year. Annual toll revenue increased by 2.2 percent and 5.2 percent in FY 2012-13 and 2014-14 respectively. FY 2014-15 commercial vehicle toll revenue increased by 8.9 percent through January 2015. These increases in toll revenue were driven by increased transactions and by annual toll increases.

Total Turnpike System transactions decreased by 0.6 percent in FY 2012-13, and increased by 0.4 percent the next year. The increase in FY 2013-14 would have been more positive if the abnormally severe winter weather in January and February 2014 had not occurred. In FY 2014-15, transactions through January 2015 increased over the same time period in the prior year by 1.7 percent. Total Turnpike System toll revenue increased by 3.0 percent and 5.4 percent in FY 2012-13 and FY 2013-14, respectively. Toll revenue year to date in FY 2014-15 has increased by 7.6 percent compared to the same period in the prior year.

Systemwide Turnpike transactions do appear to be slowly growing due to the slowly improving economy and current low fuel prices. The growth in transactions has been occurring even with the annual toll increases that have been implemented since 2009.

### 2.4.3 Barrier System Monthly Trends

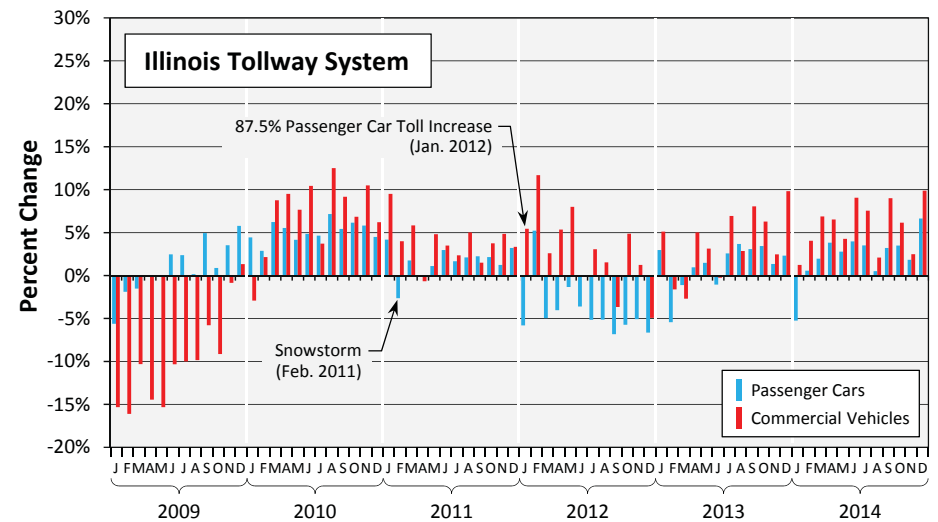
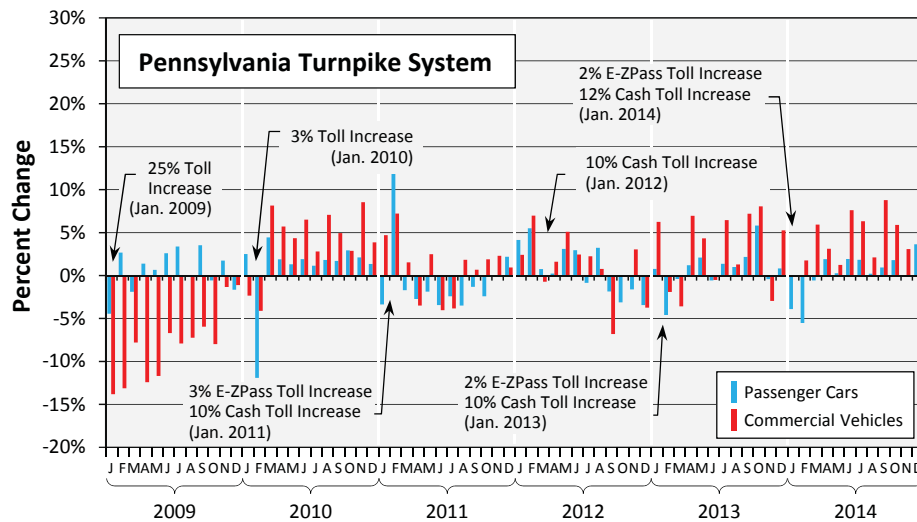
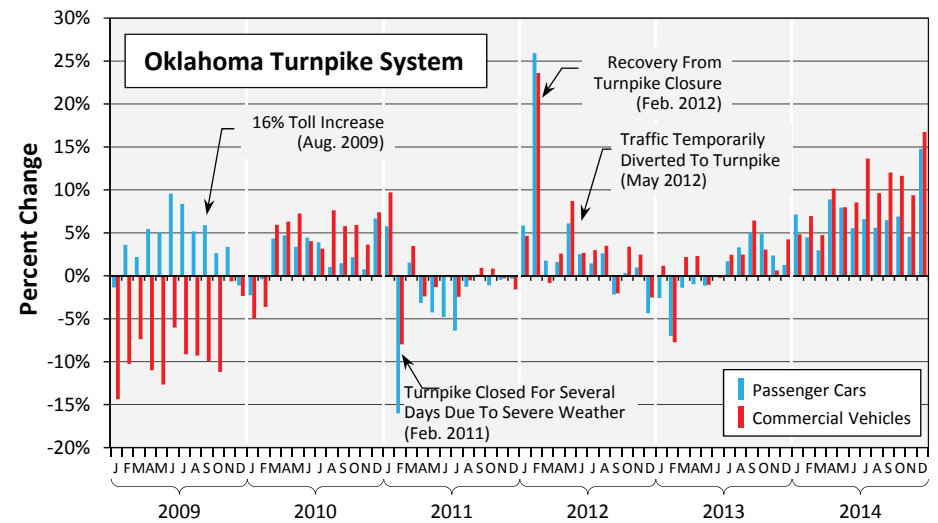
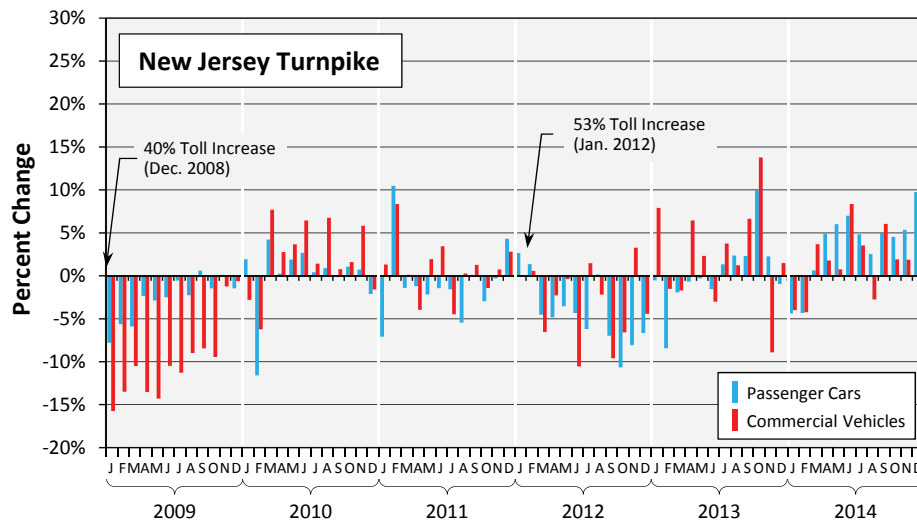
Detailed monthly transaction and toll revenue trends are shown for each of the individual Barrier Systems in Appendix A. Monthly trends are provided for Turnpike 43 in Table A-1, Turnpike 66 in Table A-2, The Northeast Extension Barrier Plazas in Table A-3, Turnpike I-376 in Table A-4 and Turnpike I-576 in Table A-5.

## 2.5 Comparison of Transaction Trends Among State Facilities

Figure 2-5 provides another perspective to recent transaction trends on the Pennsylvania Turnpike System by comparing its experience with those of other toll facilities around the country. Monthly passenger-car and commercial-vehicle transaction trends are shown for the last six full calendar years for the Pennsylvania Turnpike System, the Oklahoma Turnpike System, the New Jersey Turnpike, and the Illinois Tollway System. The last three facilities were selected because, similarly to the Pennsylvania Turnpike System, they are long toll roads that pass through both urban and rural areas, and they are conventional toll roads in that they are not managed lane or HOT lane facilities. They represent toll facilities in different parts of the U.S. that have experienced varying levels of economic growth.

Focusing on the most recent two years of actual data, 2013 and 2014, it is apparent that the growth in commercial-vehicle transactions is positive on all four toll facilities shown in Figure 2-5. Commercial vehicle growth on the Pennsylvania Turnpike System was approximately consistent with growth shown on the Illinois Tollway and perhaps more consistent than the growth evidenced on the New Jersey Turnpike in 2013 and 2014. Commercial vehicle growth was strongest on the Oklahoma Turnpike System.

Growth in passenger-car transactions on the Pennsylvania Turnpike System was less robust than that seen in the other three toll facilities during 2012 and 2013. This may be due in part to annual toll



**COMPARISON OF VARIOUS STATES' MONTHLY PASSENGER CAR AND COMMERCIAL VEHICLE TRANSACTION TRENDS**

increases. Passenger-car transactions on the Pennsylvania Turnpike System did not experience the larger and more prolonged decreases seen in 2012 on the Illinois Tollway System and the New Jersey Turnpike.

## 2.6 Comparison of Commercial Activity and Total Turnpike Toll Transactions

Table 2-10 presents a comparison between three measures of economic growth, and transaction growth on the Turnpike System from 2011 through 2014. Annual percent changes in Turnpike System transactions over the prior year are compared to annual percent changes in the U.S. gross domestic product (GDP), the Tri-State (NJ, NY, PA) gross regional product (GRP), and the PA gross state product (GSP). In addition, the percent changes in economic growth are provided on a quarterly basis, comparing each quarter to the same quarter in the previous year. U.S. gross domestic product (GDP) is actual through 2014, while the gross regional product and gross state product data for 2014 are estimates.

It appears that the growth in passenger-car transactions is more closely associated with the PA Gross State Product, which experienced a slowing rate of growth in 2012 and 2013, and was forecast to have a slowing rate of growth in 2014. Passenger-car transactions increased by 0.2 percent in 2012, 0.8 percent in 2013 and decreased by 0.1 percent in 2014.

Commercial vehicle growth, which increased by 0.6 percent in 2012, 3.0 percent in 2013 and 4.1 percent in 2014, appears to be more influenced by regional and national economic activity. U.S. gross regional product increased by 2.3 percent in 2012, 2.2 percent in 2013 and 2.4 percent in 2014.

## 2.7 Annual Transaction and Gross Toll Revenue Trends

Table 2-11 provides a summary of annual total Turnpike System transactions and adjusted gross toll revenue trends from FY 1993-94 through FY 2013-14. Note that transactions and adjusted toll revenue in Table 2-11 reflect final audited Turnpike System totals after adjustments and discounts attributable to the Commercial Volume Discount Program described earlier in this chapter.

The Turnpike System has demonstrated consistent long term growth in transactions and toll revenue. Between FY 1993-94 and FY 2003-04, total Turnpike System transactions grew steadily from approximately 121.0 million to 188.0 million, an average annual increase of 4.5 percent. From FY 2003-04 to FY 2013-14, total turnpike transactions have remained relatively flat. Turnpike System transactions totaled 188.7 million in FY 2013-14, just about 0.5 percent less than the highest annual transactions experienced on the Turnpike System in FY 2004-05. Adjusted Turnpike System toll revenue has increased by 3.8 percent per year from FY 1993-94 through FY 2003-04, and by 6.2 percent per year from FY 2003-04 through FY 2013-14. Annual increases in toll revenue have been greater since FY 2008-09 compared to prior years due to the annual toll rate increases.

Figure 2-6 illustrates Turnpike System historical transactions and adjusted gross toll revenue on an annual basis from FY 1990-91 to FY 2013-14. Toll increases are represented by a black star over the fiscal year in which the increase was implemented and the nature of the rate increases are detailed in the text box within the revenue chart on the upper half of the page. Figure 2-6 clearly shows the greater rate of growth in Turnpike System toll revenue compared to the comparatively flat growth in toll transactions since 2009. The low transaction growth rates are primarily attributed to a slow economy, particularly in terms of job formation, and secondarily to annual toll increases.

**Table 2-10**  
**Near Term Measures of Commercial Activity and**  
**Growth in Total Turnpike System Transactions**

Percent Change Over Prior Year or  
 From One Quarter to the Same Quarter in the Prior Year

Calendar Year	Gross Domestic Product Growth (1) (U.S.)	Gross Regional Product Growth (1) (NJ, NY, PA)	Gross State Product Growth (1) (PA)	PA Turnpike System Percent Transaction Growth (2)		
				Passenger Cars	Commercial Vehicles	All Vehicles
<b>2011 (Actual)</b>	<b>1.6</b>	<b>0.9</b>	<b>1.4</b>	(1.2)	1.0	(0.9)
1st Quarter	(0.4)	0.5	3.9			
2nd Quarter	0.7	0.3	2.8			
3rd Quarter	0.2	0.2	1.4			
4th Quarter	1.1	0.5	(0.8)			
<b>2012 (Actual)</b>	<b>2.3</b>	<b>1.7</b>	<b>1.2</b>	0.2	0.6	0.2
1st Quarter	0.6	0.5	(0.1)			
2nd Quarter	0.4	0.3	(4.4)			
3rd Quarter	0.6	0.8	2.4			
4th Quarter	0.0	0.0	6.0			
<b>2013 (Actual)</b>	<b>2.2</b>	<b>0.8</b>	<b>0.7</b>	0.8	3.0	1.0
1st Quarter	0.7	(0.9)	(2.1)			
2nd Quarter	0.4	1.2	3.4			
3rd Quarter	1.1	0.5	(1.5)			
4th Quarter	0.9	0.5	0.8			
<b>2014 (GDP Actual)</b>	<b>2.4</b>	<b>0.7</b>	<b>0.3</b>	(0.1)	4.1	0.5
<b>GSP/GSP Forecast)</b>						
1st Quarter	(0.5)	(1.4)	(1.5)			
2nd Quarter	1.1	0.8	0.8			
3rd Quarter	1.2	1.0	1.0			
4th Quarter	0.5	0.6	0.4			

(1) The percent changes in U.S. GDP, GRP, and GSP are based on constant 2009 dollars. The U.S. GDP is actual through 2014. The GRP and GSP are actual through 2013. Actual data was obtained from the U.S. Bureau of Economic Analysis. Forecast data was from Moody's Analytics ([www.economy.com](http://www.economy.com)) baseline forecast (February 2015).

(2) Turnpike System growth rates are actual through 2014.

**Table 2-11**  
**Annual Systemwide Traffic and Adjusted Toll Revenue Trends**  
**Pennsylvania Turnpike System**  
**(Values in Thousands)**

Fiscal Year	Transactions						Adjusted Toll Revenue (8)					
	Cars	Percent Change Over Prior Year	Trucks	Percent Change Over Prior Year	Total	Percent Change Over Prior Year	Cars	Percent Change Over Prior Year	Trucks	Percent Change Over Prior Year	Total	Percent Change Over Prior Year
		Year		Year		Year		Year		Year		Year
1993-94	106,708	10.1	14,261	9.2	120,969	10.0	158,053	3.0	122,846	(0.4)	280,899	1.5
1994-95	114,033	6.9	15,620	9.5	129,653	7.2	165,850	4.9	131,749	7.2	297,599	5.9
1995-96	121,911	6.9	16,719	7.0	138,630	6.9	172,339	3.9	136,269	3.4	308,608	3.7
1996-97	126,654	3.9	17,479	4.5	144,133	4.0	179,303	4.0	140,837	3.4	320,140	3.7
1997-98	132,472	4.6	18,627	6.6	151,099	4.8	186,290	3.9	149,036	5.8	335,326	4.7
1998-99	136,399	3.0	19,833	6.5	156,232	3.4	191,804	3.0	158,761	6.5	350,565	4.5
1999-00	138,762	1.7	21,341	7.6	160,103	2.5	195,301	1.8	172,035	8.4	367,336	4.8
2000-01	141,033	1.6	21,278	(0.3)	162,311	1.4	193,563	(0.9)	172,337	0.2	365,900	(0.4)
2001-02	150,496	6.7	22,298	4.8	172,794	6.5	212,650	9.9	163,101	(5.4)	375,751	2.7
2002-03	156,220	3.8	23,179	4.0	179,399	3.8	219,201	3.1	168,021	3.0	387,222	3.1
2003-04	163,612	4.7	24,407	5.3	188,019	4.8	228,515	4.2	180,229	7.3	408,744	5.6
2004-05 (1)	163,316	(0.2)	25,109	2.9	188,425	0.2	309,032	35.2	236,126	31.0	545,158	33.4
2005-06	160,590	(1.7)	25,311	0.8	185,901	(1.3)	321,268	4.0	267,369	13.2	588,637	8.0
2006-07	160,107	(0.3)	25,316	0.0	185,423	(0.3)	322,781	0.5	269,861	0.9	592,642	0.7
2007-08	164,097	2.5	25,455	0.5	189,552	2.2	332,035	2.9	265,637	(1.6)	597,672	0.8
2008-09 (2)	162,638	(0.9)	23,583	(7.4)	186,220	(1.8)	356,345	7.3	260,047	(2.1)	616,392	3.1
2009-10 (3)	163,599	0.6	22,933	(2.8)	186,531	0.2	415,981	16.7	277,789	6.8	693,770	12.6
2010-11 (4)	165,230	1.0	23,812	3.8	189,042	1.3	435,752	4.8	303,535	9.3	739,286	6.6
2011-12 (5)	164,960	(0.2)	24,127	1.3	189,087	0.0	455,133	4.4	342,646	12.9	797,779	7.9
2012-13 (6)	163,690	(0.8)	24,207	0.3	187,897	(0.6)	471,514	3.6	350,226	2.2	821,740	3.0
2013-14 (7)	163,788	0.1	24,891	2.8	188,679	0.4	497,671	5.5	368,395	5.2	866,066	5.4

Fiscal Year	Transactions			Adjusted Toll Revenue (8)		
	Cars	Trucks	Total	Cars	Trucks	Total
	Percent Change	Percent Change	Percent Change	Percent Change	Percent Change	Percent Change
FY 1993-94 - FY 2003-04	4.4	5.5	4.5	3.8	3.9	3.8
FY 2003-04 - FY 2013-14	0.0	0.2	0.0	6.4	6.0	6.2
FY 1993-94 - FY 2013-14	2.2	2.8	2.2	5.9	5.6	5.8

(1) A toll increase of 42.5% was implemented on August 1, 2004.

(2) A toll increase of 25% was implemented on January 4, 2009. Toll rates on Turnpike I-576 and PA 43 Unionville to Brownsville remained unchanged.

(3) A toll increase of 3% was implemented on January 3, 2010, except for Turnpike I-576 where the toll rates did not increase.

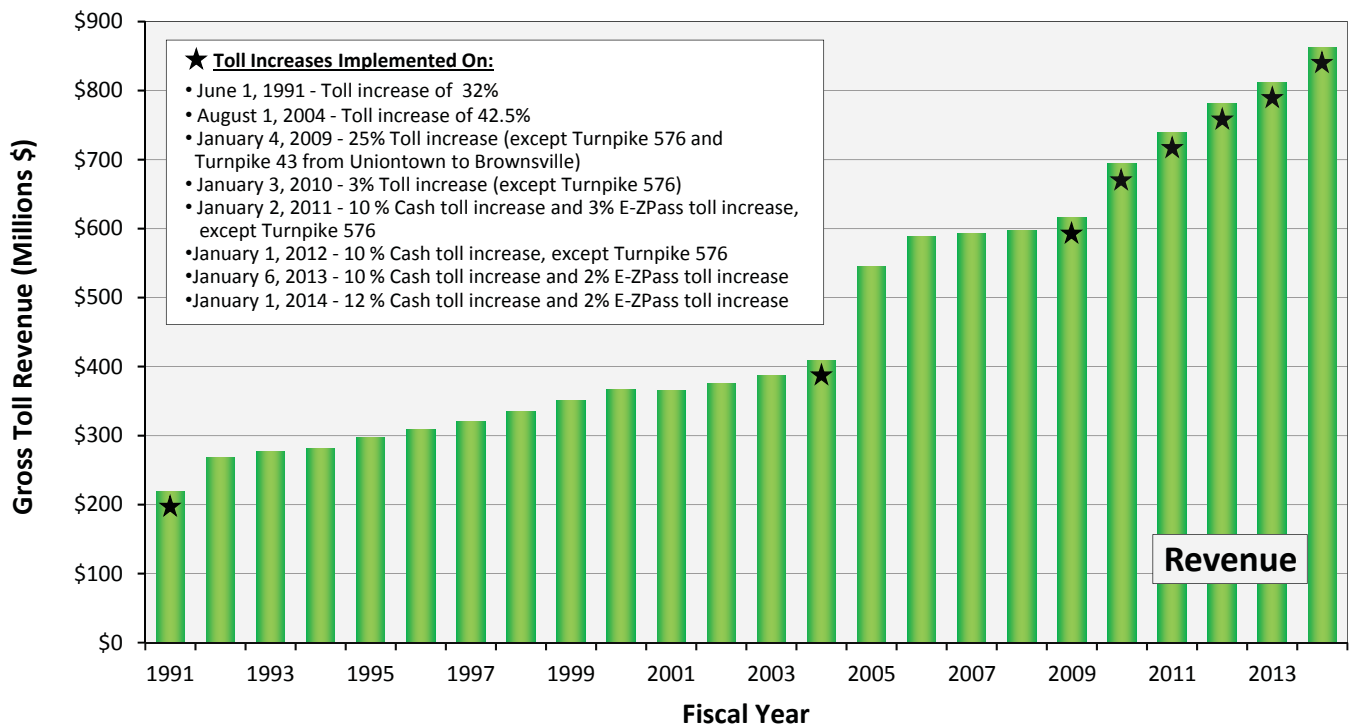
(4) An E-Z Pass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011, except for Turnpike I-576 where the toll rates did not increase.

(5) A cash toll increase of 10% was implemented on January 1, 2012, except for Turnpike I-576 where the toll rates did not increase.

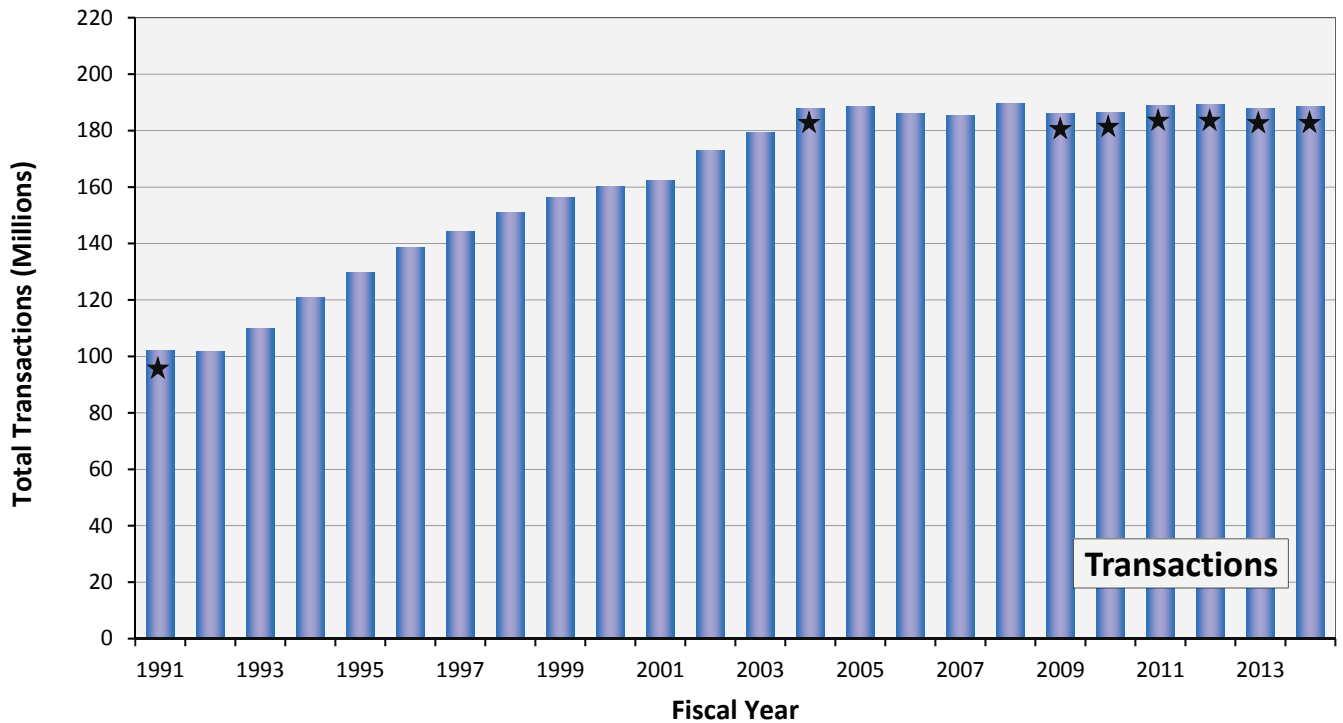
(6) An E-Z Pass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.

(7) An E-Z Pass toll increase of 2% and a cash toll increase of 12% was implemented on January 1, 2014, except for Turnpike I-576.

(8) The toll revenue includes the adjustments associated with the Commercial Vehicle Volume Discount Program.



Note: Toll revenue includes the adjustments associated with the Commercial Vehicle Volume Discount Program.



## PENNSYLVANIA TURNPIKE SYSTEM HISTORICAL TRANSACTIONS AND ADJUSTED GROSS TOLL REVENUE

## 2.8 E-ZPass Market Share

Table 2-12 shows the historical growth in E-ZPass transactions as a percent of total toll transactions on the Turnpike System. Over the past nine years, passenger-car E-ZPass market share has increased from 40.4 percent to 70.1 percent of total toll transactions. Commercial-vehicle market share growth has been nearly as large, increasing from 60.2 percent in FY 2005-06 to 85.0 percent in FY 2013-14. Total Turnpike System E-ZPass usage has grown from 43.2 percent to 72.0 percent from FY 2005-06 to FY 2013-14.

**Table 2-12**  
**Annual E-ZPass Market Shares: Turnpike System**  
**Based on Toll Transactions**

<b>Fiscal Year</b>	<b>Annual Percent E-Zpass Market Share By Vehicle Class</b>		
	<b>Passenger Cars</b>	<b>Commercial Vehicles</b>	<b>Total</b>
2005-06	40.4 %	60.2 %	43.2 %
2006-07	44.3	67.9	47.6
2007-08	46.8	71.1	50.1
2008-09 (1)	50.4	74.3	53.4
2009-10 (2)	53.9	76.1	56.6
2010-11 (3)	57.5	77.7	60.1
2011-12 (4)	61.8	80.0	64.1
2012-13 (5)	66.1	82.7	68.2
2013-14 (6)	70.1	85.0	72.0

- (1) A toll increase of 25% was implemented on January 4, 2009, except for Turnpike I-576 and Turnpike 43 from Unionville to Brownsville, where toll rates did not increase.
- (2) A toll increase of 3% was implemented on January 3, 2010, except for Turnpike I-576.
- (3) An E-ZPass toll increase of 3% and a cash toll increase of 10% was implemented on January 2, 2011, except for Turnpike I-576.
- (4) A Cash Toll increase of 10% was implemented on January 1, 2012, except for Turnpike I-576.
- (5) An E-Zpass toll increase of 2% and a cash toll increase of 10% was implemented on January 6, 2013.
- (6) An E-Zpass toll increase of 2% and a cash toll increase of 12% was implemented on January 1, 2014, except for Turnpike I-576.



Table 2-13 presents monthly E-ZPass market share trends on the Ticket System for FY 2013-14. It is apparent from a comparison of Tables 2-12 and 2-13 that the E-ZPass participation is slightly higher on the Ticket System than on the Turnpike System as a whole. E-ZPass penetration averaged 72.0 percent for passenger cars, 86.0 percent for commercial vehicles, and 73.9 percent for all vehicles. Monthly trend data shows that E-ZPass penetration is lowest in the summer months, and peaks in the winter months of January and February.

<b>Table 2-13</b> <b>Monthly E-ZPass Market Shares: Ticket System</b> <b>Based on Toll Transactions Including Gateway Plaza</b>			
<b>FY 2013-14 Percent E-Zpass</b> <b>Market Share By Vehicle Class</b>			
<b>Month</b>	<b>Passenger Cars</b>	<b>Commercial Vehicles</b>	<b>Total Vehicles</b>
June 2013	66.7 %	83.0 %	68.8 %
July	66.0	83.0	68.2
August	66.5	83.4	68.7
September	69.1	84.0	71.1
October	70.3	84.7	72.2
November	70.4	85.4	72.3
December	70.1	86.0	72.1
January 2014	73.9	87.0	75.7
February	73.6	86.5	75.4
March	72.8	86.4	74.6
April	72.5	86.0	74.3
May	71.3	85.3	73.2
Average	72.0 %	86.0 %	73.9 %

## Chapter 3

# Socioeconomic Trends and Growth Forecasts

An evaluation of longer-term socioeconomic trends and forecasts for the areas along and surrounding the Pennsylvania Turnpike was conducted as part of this analysis. Such trends and forecasts serve as inputs to the demand growth analysis. Table 3-1 through Table 3-4 provide a summary of various socioeconomic measures reviewed, including population, employment, retail sales, and gross regional product. Additional trend information (shown in Figure 3-1 and Figure 3-2) is provided regarding unemployment rates and retail gasoline prices.

A socioeconomic trend analysis was conducted in order to identify any potential explanatory factors that may have influenced historical variations in toll transactions. Identification of such socioeconomic explanatory factors is necessary to produce a demand growth forecast that accounts for the unique nature of Turnpike usage. Socioeconomic trend data was applied within a regression-based analysis to derive demand growth projections.

In the subsequent tables, the socioeconomic growth rates are presented in compound average annual percent change (AAPC) terms, spanning decade increments from 1980 through 2040. Regarding geographic coverage, the United States is presented along with the Commonwealth of Pennsylvania and the surrounding states: New Jersey, New York, Ohio, and West Virginia. In addition to the larger geographies, the Pennsylvania counties along the Turnpike are presented, and grouped for ease of presentation into four aggregations, including the following counties:

- **Pittsburgh Area:** Allegheny, Armstrong, Beaver, Butler, Indiana, Lawrence, Washington, and Westmoreland;
- **Interurban Area:** Adams, Bedford, Blair, Cambria, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, Somerset, and York;
- **Philadelphia Area:** Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia; and,
- **Northeastern Corridor:** Carbon, Lackawanna, Lehigh, Luzerne, Northampton, and Wyoming.

## 3.1 Population

Historical population data were obtained from the United States Census Bureau (census years and intercensal 2013 estimates), and forecast population growth was obtained from various other public and private sector sources, depending on the geography. As presented in Table 3-1, forecast population growth rates were culled from two sources. Pennsylvania counties' population growth rates were obtained from the Pennsylvania State Data Center (via the Pennsylvania State University), and are available through year 2040; at the state and national geographic levels, population

growth was obtained from the Woods & Poole, Inc. 2014 Complete Economic and Demographic Data Source (CEDDS)<sup>1</sup>, available through year 2040.

**Table 3-1**  
**Population Trends and Forecasts**

Area	Average Annual Percent Change						
	1980 - 1990	1990 - 2000	2000 - 2013	2013 - 2020	2020 - 2030	2030 - 2040	2013 - 2040
Pittsburgh Area (1)	(0.7)	(0.2)	(0.2)	0.3	0.2	0.1	0.2
Interurban Area (2)	0.6	0.7	0.7	0.6	0.5	0.3	0.4
Philadelphia Area (3)	0.2	0.4	0.5	0.6	0.6	0.5	0.5
Northeastern Corridor (4)	0.0	0.1	0.4	0.4	0.3	0.1	0.2
Subtotal	0.0	0.3	0.3	0.5	0.4	0.3	0.4
New Jersey	0.5	0.8	0.4	0.6	0.6	0.6	0.6
New York	0.2	0.5	0.2	0.4	0.4	0.4	0.4
Ohio	0.0	0.5	0.2	0.3	0.3	0.3	0.3
Pennsylvania	0.0	0.3	0.3	0.3	0.2	0.4	0.3
West Virginia	(0.8)	0.1	0.2	0.3	0.3	0.3	0.3
Subtotal	0.1	0.5	0.3	0.4	0.4	0.4	0.4
United States	0.9	1.2	0.9	1.0	0.9	0.8	0.9

(1) Pittsburgh Area Counties: Allegheny, Armstrong, Beaver, Butler, Indiana, Lawrence, Washington, and Westmoreland.

(2) Interurban Area Counties: Adams, Bedford, Blair, Cambria, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, Somerset, and York.

(3) Philadelphia Area Counties: Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia.

(4) Northeastern Corridor Counties: Carbon, Lackawanna, Lehigh, Luzerne, Northampton, and Wyoming.

Sources: Historical data are from the United States Census; county forecasts reflect PA SDC 2014 data; and state/national forecasts reflect Woods & Poole CEDDS, 2014.

As indicated in Table 3-1, population growth along the Pennsylvania Turnpike and in the surrounding states is tempered relative to the population growth in the nation as a whole, for both the historical trends and forecasts. Historically, population in Pennsylvania has increased annually by between 0.0 and 0.3 percent from 1980 through 2013; resident population growth along the Pennsylvania Turnpike has historically observed similar average annual growth rates as well, which are below the rates of resident population growth observed for the entire United States. For comparative purposes, historical population growth in the United States averaged about 1.0 percent per year over the same period.

It is interesting to note that, as shown in Table 2-4, traffic growth on the Pennsylvania Turnpike ticket system grew 2.3 percent per annum between 1993 and 2014 – a stronger rate than population growth (0.3 percent in Pennsylvania) – despite multiple toll increases that occurred. A divergence between average annual historical population growth and traffic growth demonstrates that the Pennsylvania Turnpike has likely attracted an increasing share of travel in the corridor geographies. It is also likely that traffic growth increased at a greater rate on the Turnpike System than the population growth in the state because 1) alternative roads became more congested so that motorists were increasingly

<sup>1</sup> Source: Woods & Poole Economics, Inc. Washington, D.C. Copyright 2014. Woods & Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the consultant.

willing to pay a toll to use the Turnpike System, and 2) the patterns of growth in the state are resulting in more jobs and housing in areas served by Turnpike facilities.

Future population growth along the Pennsylvania Turnpike is forecast to remain at the relatively low historical levels. As shown, projections average 0.4 percent per annum through 2040, just slightly higher than historical averages since 1990. Pennsylvania is forecasted to gain in population by 0.3 percent per annum on average over the coming decades, closely comparable to the recent historical trends, but still below the expected population growth for the nation, which, on average, is projected to amount to 0.9 percent per annum through 2040.

## 3.2 Employment and Unemployment

Employment trends are exhibited in Table 3-2. Historical data are from the United States Department of Commerce (Bureau of Economic Analysis from 1980 through 2013), and the future growth rates are based on Woods & Poole data.

Table 3-2 Employment Trends and Forecasts							
Area	Average Annual Percent Change						
	1980 - 1990	1990 - 2000	2000 - 2013	2013 - 2020	2020 - 2030	2030 - 2040	2013 - 2040
Pittsburgh Area (1)	0.4	0.8	0.4	0.9	0.9	0.9	0.9
Interurban Area (2)	1.8	1.1	0.4	1.2	1.2	1.2	1.2
Philadelphia Area (3)	1.3	0.7	0.6	1.3	1.3	1.3	1.3
Northeastern Corridor (4)	0.8	0.7	0.6	0.9	0.9	1.0	0.9
Subtotal	1.1	0.8	0.5	1.2	1.2	1.2	1.2
New Jersey	1.8	1.0	0.6	1.0	1.0	1.0	1.0
New York	1.2	0.7	0.8	0.9	0.9	0.9	0.9
Ohio	1.2	1.5	(0.1)	1.1	1.1	1.1	1.1
Pennsylvania	1.1	0.9	0.5	1.1	1.1	1.1	1.1
West Virginia	(0.1)	1.2	0.3	1.1	1.1	1.1	1.1
Subtotal	1.3	1.0	0.5	1.0	1.0	1.0	1.0
United States	2.0	1.8	0.8	1.3	1.3	1.3	1.3

(1) Pittsburgh Area Counties: Allegheny, Armstrong, Beaver, Butler, Indiana, Lawrence, Washington, and Westmoreland.  
 (2) Interurban Area Counties: Adams, Bedford, Blair, Cambria, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, Somerset, and York.  
 (3) Philadelphia Area Counties: Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia.  
 (4) Northeastern Corridor Counties: Carbon, Lackawanna, Lehigh, Luzerne, Northampton, and Wyoming.

Sources: Historical data are from the Bureau of Economic Analysis; and forecasts reflect Woods & Poole CEDDS, 2014.

Historical employment growth for the presented geographies have almost universally decelerated in the three preceding decades from 1980 through 2013. It is important to note that the average annual growth in the 2000 to 2013 period is mostly reflective of the economic downturn realized during the recent severe recession, which officially began in late 2007. In the counties comprising the four aggregated groupings, the per annum employment growth decelerated from 1.1 percent in the 1980's to 0.8 percent in the 1990's, and to just 0.5 percent since 2000. Pennsylvania as a whole exhibited historical employment growth trends practically identical to the groupings' subtotal. Comparatively, the United States also exhibited historical employment growth deceleration through the recent decades; although, similar to population trends, the overall employment growth rates were higher for the nation than for Pennsylvania.

The relatively stagnant employment growth observed since 2000 (including the deep recession) is not realistically expected to continue; in fact, the recent (from the bottom levels in 2010) gradual rebound is already in place. As shown, employment growth across all presented geographies is forecasted to largely bounce back, with average annual growth for the entire 2013 through 2040 period amounting to 1.2 percent for the corridor groupings' subtotal, 1.1 percent for Pennsylvania, 1.0 percent for the subtotal of the five states, and 1.3 percent per annum for the United States.

Figure 3-1 depicts seasonally-unadjusted monthly unemployment rates over the last decade (from January 2005 through December 2014) for the three major Metropolitan Statistical Areas (MSA) in Pennsylvania located along the Turnpike Mainline: Philadelphia-Camden-Wilmington, Harrisburg-Carlisle, and Pittsburgh. In addition, unemployment data is also included pertaining to the entire Commonwealth of Pennsylvania and for the United States. Given that the data are seasonally-unadjusted, the graph depicts both the cyclical seasonal variations, as well as the longer-term trends.

Historically, the Harrisburg-Carlisle MSA has generally exhibited the lowest relative unemployment rates of the select geographies presented, which is probably reflective of the more stable government employment in the State Capital (compared to more volatile private-sector employment). Of the remaining two MSAs, Philadelphia-Camden-Wilmington recently exhibited higher unemployment rates than either Pittsburgh or Pennsylvania as a whole.

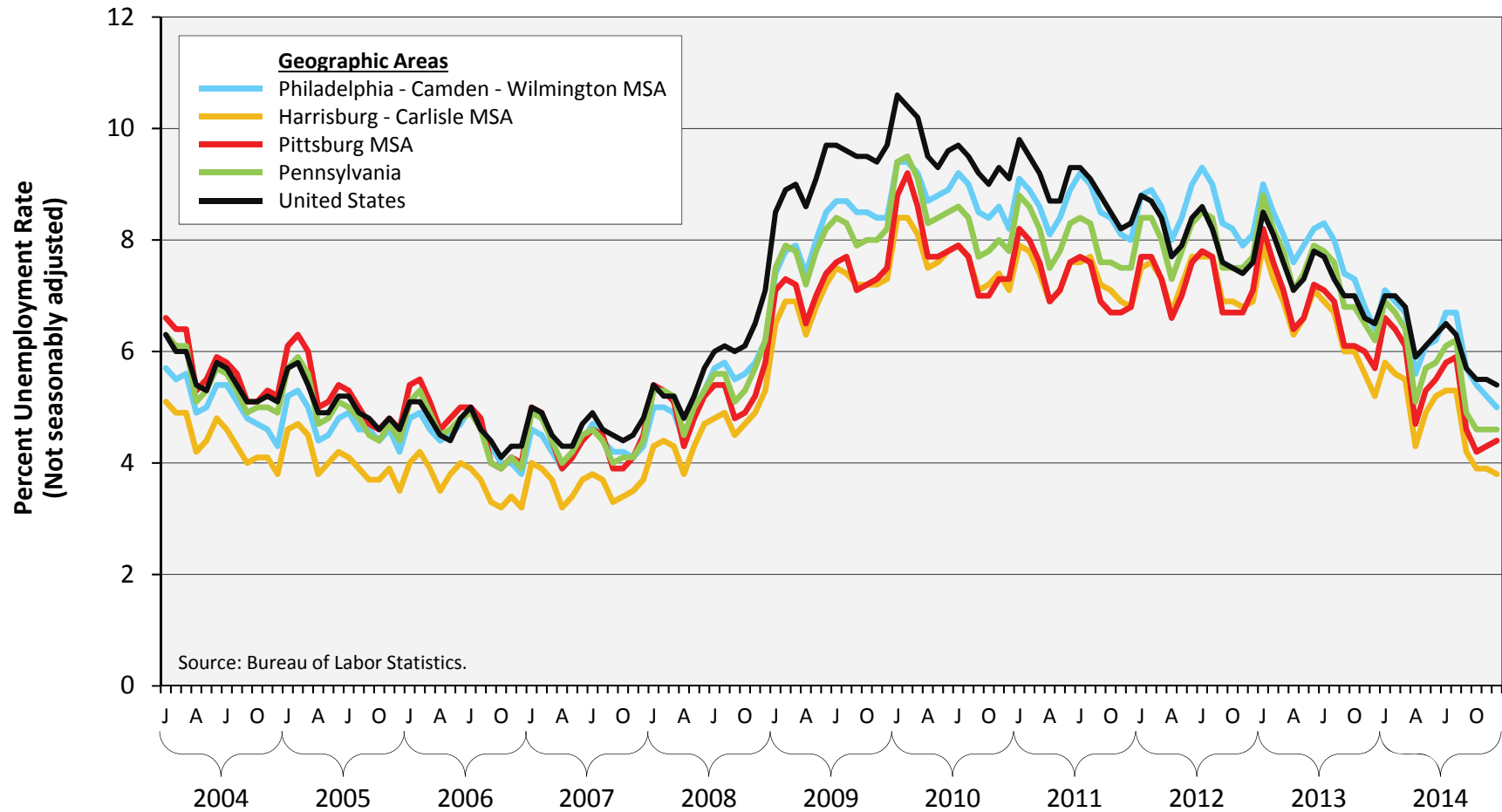
Unemployment rate trends for the entire Commonwealth (and key metro areas) have generally followed those for the nation. While directionally very similar, the Pennsylvania rates have, for most of the recent decade, been below that of the United States. This indicates that the study area geographies have, overall, not suffered during the recent recession as much of the rest of the nation. December 2014 unemployment rates reached 5.4 percent for the United States, while Pennsylvania's was 4.6 percent. Unemployment rates in that same month for the Philadelphia, Harrisburg, and Pittsburgh MSAs were 5.0 percent, 3.8 percent, and 4.4 percent, respectively.

While the data show variations from month to month, the recent general trends are clear. Unemployment levels in 2014 have clearly declined from their recent highs in 2009 and 2010. As the national labor market builds on its recent momentum, the unemployment levels are expected to continue to improve in the near-term.

### 3.3 Retail Sales

Retail sales (in real, or constant dollar terms) trends and forecasts are presented by decade and geography in Table 3-3. Both Pennsylvania and PTC corridor counties exhibit very similar patterns of average annual growth for real retail sales (both historically and forecasted), which is also similar to the aggregated subtotal of the five states. In the 2000 to 2013 period, real retail sales registered growth of 0.9 percent per annum, in the PTC corridor, which is a deceleration from the preceding decade in the 1990's, during which the average annual growth in real retail sales was 2.6 percent. In contrast, the United States observed historical real retail sales growth higher than the geographies surrounding the Pennsylvania Turnpike, with real growth of 3.4 percent in the 1990's and 1.2 percent since 2000. As with employment trends, the weak performance in real retail sales growth between 2000 and 2013 is largely the result of the recent severe economic recession.

Growth in real retail sales is projected to rebound relative to the most recent historical decade. However, the forecast is not expected to approach the relatively stronger historical growth observed during the 1990's. Over the future period from 2013 through 2040, real retail sales are projected to



grow by an average annual 1.4 percent for the county groupings and state subtotals, while the United States' retail sales over the same period is projected to grow by 2.0 percent per annum.

**Table 3-3**  
**Retail Sales Trends and Forecasts**

Area	Average Annual Percent Change						
	1980 - 1990	1990 - 2000	2000 - 2013	2013 - 2020	2020 - 2030	2030 - 2040	2013 - 2040
Pittsburgh Area (1)	0.3	2.4	0.6	1.0	0.9	0.9	0.9
Interurban Area (2)	2.2	2.7	0.6	1.8	1.7	1.7	1.7
Philadelphia Area (3)	2.1	2.6	1.0	1.4	1.4	1.4	1.4
Northeastern Corridor (4)	1.5	2.7	1.5	1.2	1.1	1.1	1.1
Subtotal	1.6	2.6	0.9	1.4	1.4	1.3	1.4
New Jersey	2.2	2.7	0.7	1.5	1.5	1.4	1.5
New York	1.5	2.4	1.1	1.4	1.4	1.4	1.4
Ohio	1.2	3.0	(0.2)	1.4	1.4	1.4	1.4
Pennsylvania	1.6	2.5	0.7	1.4	1.3	1.3	1.3
West Virginia	(0.2)	2.9	0.4	1.3	1.3	1.3	1.3
Subtotal	1.5	2.6	0.6	1.4	1.4	1.4	1.4
United States	2.0	3.4	1.2	2.0	2.0	2.0	2.0

(1) Pittsburgh Area Counties: Allegheny, Armstrong, Beaver, Butler, Indiana, Lawrence, Washington, and Westmoreland.

(2) Interurban Area Counties: Adams, Bedford, Blair, Cambria, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, Somerset, and York.

(3) Philadelphia Area Counties: Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia.

(4) Northeastern Corridor Counties: Carbon, Lackawanna, Lehigh, Luzerne, Northampton, and Wyoming.

Source: Woods and Poole CEDDS, 2014.

### 3.4 Real Gross Regional Product (GRP)

Another key economic indicator that has bearing on traffic demand is real gross regional product (or gross state product/gross domestic product, depending on the geographic focus). Historical and forecast rates of growth for real (inflation-adjusted) GRP are shown in Table 3-4. National real gross domestic product has historically decelerated from an annual average rate of 3.6 percent in the 1990's to half that (1.8 percent) since 2000. As with the other socioeconomic metrics presented, the deceleration within the last decade is reflective of the recent severe economic recession.

Pennsylvania's real gross state product growth also decelerated over the same period, from 2.7 percent in the 1990's to 1.5 percent per annum more recently; the corridor groupings' subtotal exhibited nearly identical growth patterns as the entire Commonwealth. Similar to the trends observed in the other variables already presented, the Commonwealth and the constituent counties exhibit growth patterns that generally parallel the nation in terms of recent deceleration, but at levels universally below the United States as a whole.

Future real GRP growth rates are projected to average 2.3 percent per annum for the United States from 2013 through 2040, with Pennsylvania averaging 1.7 percent per year. In the corridor counties, like the entire Commonwealth, the real GRP growth is projected to amount to 1.7 percent per annum. The Pittsburgh area counties exhibit the slowest relative growth at 1.1 percent and the Interurban Area counties exhibit the highest growth at 2.2 percent per annum through 2040.



**Table 3-4**  
**Gross Regional Product Trends and Forecasts**

Area	Average Annual Percent Change						
	1980 - 1990	1990 - 2000	2000 - 2013	2013 - 2020	2020 - 2030	2030 - 2040	2013 - 2040
Pittsburgh Area (1)	0.8	2.9	1.3	1.1	1.1	1.1	1.1
Interurban Area (2)	2.9	2.6	1.4	2.2	2.2	2.2	2.2
Philadelphia Area (3)	3.2	2.8	1.6	1.7	1.7	1.7	1.7
Northeastern Corridor (4)	1.7	2.2	1.3	1.9	1.9	1.9	1.9
Subtotal	2.4	2.7	1.5	1.7	1.7	1.7	1.7
New Jersey	4.7	2.6	1.2	2.0	2.0	2.0	2.0
New York	3.2	2.4	1.8	1.9	1.9	1.9	1.9
Ohio	2.0	3.1	0.5	2.0	2.0	2.1	2.1
Pennsylvania	2.3	2.7	1.5	1.7	1.7	1.8	1.7
West Virginia	(0.2)	2.1	2.1	1.2	1.3	1.3	1.3
Subtotal	2.9	2.6	1.4	1.9	1.9	1.9	1.9
United States	3.1	3.6	1.8	2.2	2.3	2.3	2.3

(1) Pittsburgh Area Counties: Allegheny, Armstrong, Beaver, Butler, Indiana, Lawrence, Washington, and Westmoreland.

(2) Interurban Area Counties: Adams, Bedford, Blair, Cambria, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, Somerset, and York.

(3) Philadelphia Area Counties: Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia.

(4) Northeastern Corridor Counties: Carbon, Lackawanna, Lehigh, Luzerne, Northampton, and Wyoming.

Source: Woods and Poole CEDDS, 2014.

## 3.5 Motor Fuel Prices

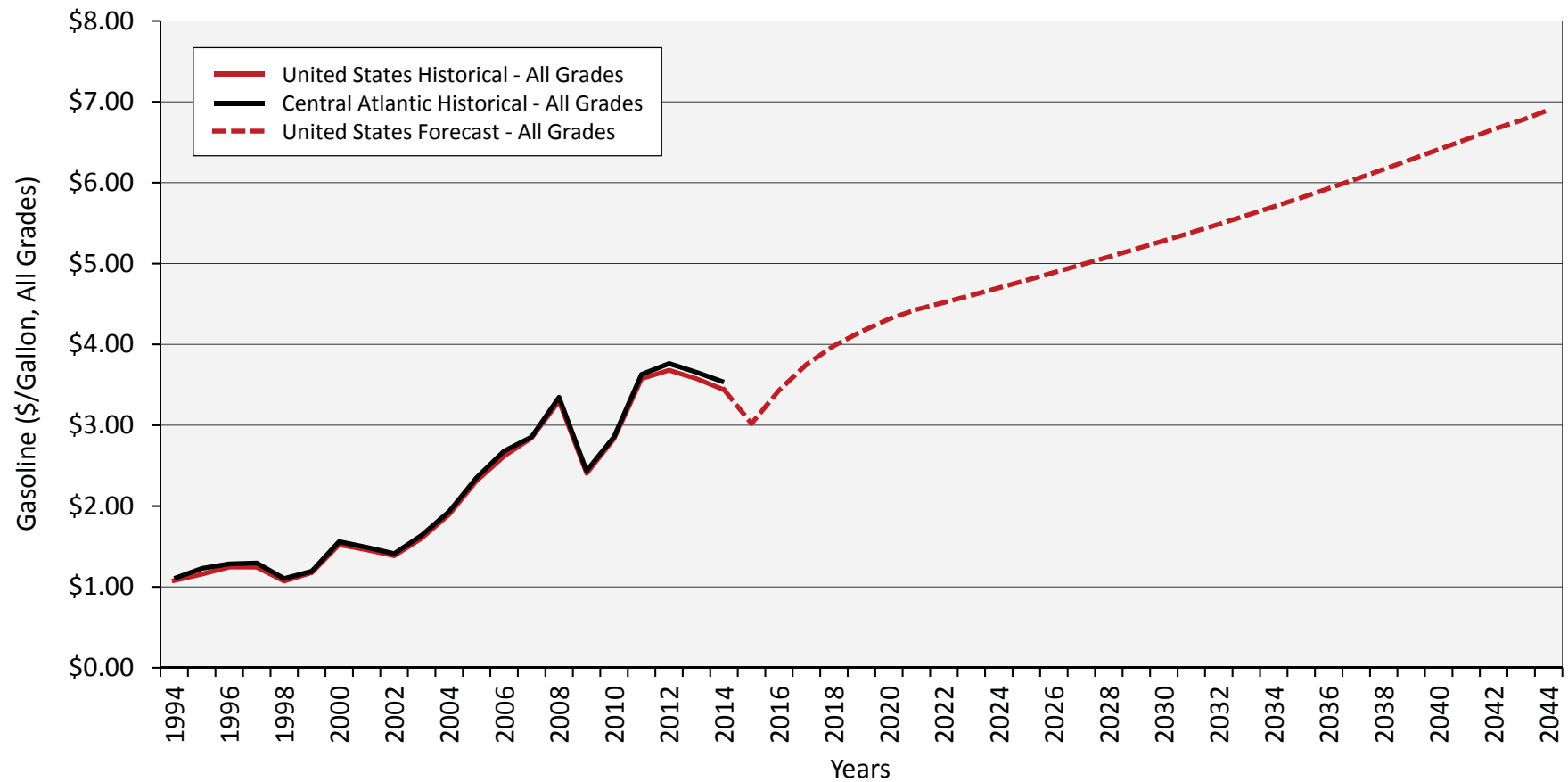
Another factor that can influence travel demand is fuel prices. The left side of Figure 3-2 shows historical gasoline prices (in current dollars) of unleaded gasoline (all grades, all formulations) from 1994 through 2014 for both the Central-Atlantic region (NY, NJ, PA, DE, and D.C.) and for the United States. According to the U.S. Energy Information Administration (EIA) data, the average annual gas prices for the United States and the Central-Atlantic region have been nearly identical (differing by between \$0.02 and \$0.11 per gallon), and peaked on an annual basis at close to \$3.70 per gallon in 2012<sup>2</sup>. The overall growth rate in prices between the averages in 1994 and 2014 was 6.0 percent per annum. Fuel prices decreased significantly in the second half of 2014 and into January 2015, with the most recent (as of late January 2015) low price of gas around the \$2.15 per gallon level.

Retail fuel prices are strongly influenced by bigger picture trends in crude oil prices. It should be noted that both can be quite volatile, are as function of multiple factors, and are challenging to precisely project into the future. For instance, in early 2014, major forecasters such as the EIA and OPEC forecasted crude oil prices to remain in around \$100 per barrel through 2025, recent crude oil prices in global markets dropped quite substantially to around \$50 per barrel.

According to Moody's Analytics recently generated (January 2015) forecast, U.S. retail gasoline prices are expected to increase by about 2.8 percent per year to about \$6.70 per gallon by the year 2044. The right side of Figure 3-2 shows average annual projections over this time period.

<sup>2</sup> Please note that in sub-annual terms, gas prices reached their high for the last two decades of around \$4.15 per gallon in July of 2008 (not shown in the Figure).





## 3.6 Current Regional Economic Conditions

To supplement the historical and forecasted socioeconomic quantitative data collection, additional qualitative inputs were collected through discussions with representatives of five major metropolitan areas within, or near, the PTC corridors, as well as research from other sources. The summary of this part of the data collection is provided in Appendix B.

## 3.7 General Trends

In assessing the various socioeconomic trends, certain patterns emerged, including the following:

- Western Pennsylvania (i.e., Pittsburgh) has exhibited overall weaker recent historical growth patterns for the presented socioeconomic variables than other corridor county groupings within the Commonwealth (i.e., Philadelphia, and the Northeast Corridor);
- Pennsylvania (and the surrounding states) has exhibited recent historical growth patterns for the presented socioeconomic variables below those for the United States; and,
- Longer-term expectations of socioeconomic growth are for a rebound relative to the recent decade, which reflects the recent economic recession; however, growth rates are generally forecasted to be tempered in comparison to the pace that occurred in the 1980's and 1990's.

In summary, the overall macroeconomic environment in the U.S., Pennsylvania, and the surrounding states is currently improving, with expectation for continued employment, real economic output, and income expansion, albeit at a pace slower relative to the pre-recessionary timeframe of the 1990's and 1980's. While labor markets, along with the larger economic activity measures, have continued to strengthen through 2014, the uneven nature of this improvement persists. A number of risks, including growth challenges and uncertainties among some of the major overseas trading partners still remain, calling for cautious optimism.

## 3.8 Econometric Growth Analysis

All of the socioeconomic data described above were evaluated for the purposes of determining the potential factors influencing traffic demand growth for the Pennsylvania Turnpike. Following the historical socioeconomic data analysis, CDM Smith applied ordinary-least-squared regression analysis to develop long-term demand growth forecast. In the regression modeling, the objective is to identify any independent variable (or variables) with historical trends that can explain, by way of statistical significance, corresponding traffic trends on the Turnpike. A resulting correlative relationship between historical trends in corridor traffic and one or more independent variables is, in turn, applied in forecasting corridor growth, given available and credible forecasts for the independent variable(s). CDM Smith regression-tested annual transaction data for grouped plazas against geographically-weighted independent socioeconomic data (separately for passenger and commercial vehicles) to derive long-term demand growth estimates.

## 3.9 Socioeconomic Inputs

Data inputs requisite for conducting a regression analysis include currently-updated historical data and forecasts for the possible-explanatory independent variables, which include socioeconomic variables applicable to a defined geographic area of influence (i.e., Pennsylvania counties and other

states). Socioeconomic variables that may be hypothetically influential on corridor traffic demand include, but are not limited to: population, employment, gross regional product, income, and retail sales. Sources from which both historical and forecast data were collected included: the United States Census Bureau; the Bureau of Economic Analysis (BEA); the United States Department of Labor, Bureau of Labor Statistics (BLS); the Pennsylvania State Data Center (SDC); United States Energy Information Agency; Woods & Poole Complete Economic and Demographic Data Source (CEDDS) by Woods & Poole Economics, Inc., 2014 (Woods & Poole); Moody's Analytics, and the Pennsylvania Turnpike Commission.

Historical population and state-level forecast data were obtained from the U.S. Census Bureau and Woods & Poole Economics, respectively. County-level population forecasts for Pennsylvania were acquired from the Pennsylvania SDC. Historical employment data were obtained from the BEA. Employment growth rate forecasts were obtained from Woods & Poole and applied to the historical annual employment data obtained from the BEA. Fuel prices were procured from the EIA for the historical series, and from Moody's Analytics for the projections. The gross regional product, income, and retail sales data were obtained from Woods & Poole for both the historical and forecast components of the data sets, as the publicly available governmental sources do not supply sufficiently detailed and geographically comparable data.

### 3.10 Traffic and Travel Pattern Inputs

Historical traffic data were used (where available) as a continuous, annual time series from 1987 through 2013 by plaza and vehicle type (i.e., passenger and commercial vehicles). Annualized transaction data were available for most of the ticket-based system over that historical timeframe, exempting a few select ticket-based plazas that opened after 1987. However, the annualized barrier-system transaction data were far more limited for regression analysis applicability; historical data were available only as far back as 1994 and many of the barrier plazas have data gaps, or the plazas were opened too recently to provide a statistically defensible trend (insufficient number of data points). Historical transaction data were annually normalized to account for leap-years, etc.

### 3.11 Methodology

After compiling and scrutinizing the available socioeconomic and Pennsylvania Turnpike transaction data for regression analysis applicability, individual toll plazas (for only those with usable data series) were clustered into ten representative groupings:

- Gateway;
- Pittsburgh;
- Western Rural;
- Eastern Rural;
- Philadelphia;
- Delaware River Bridge (DRB)
- Northeast Extension (Ticket);
- Northeast Extension (Barrier);

- Turnpike 376; and,
- Turnpike 66.

In all, these ten groupings represent toll plazas where 97 percent of total Systemwide toll revenue is generated. Only two Turnpike facilities were excluded from this regression analysis due to insufficient historical data, including Turnpike 43 and the Southern Beltway. Both of these combined generate about 3 percent of Systemwide toll revenue. In the absence of using the regression analysis for these two facilities, recent growth trends were assumed for the near term and then gradually reduced over time.

Grouping the individual plazas was conducted to narrow the regression testing to a reasonably manageable data universe (i.e., narrowing to ten plaza groupings, down from 64 total toll plazas, of which 39 exhibited usable data series)<sup>3</sup>. Grouping toll plazas as such is generally justified by the close geographic proximity and similarity in traffic demand influence of the grouped plazas. An origin-destination (O-D) traffic survey provided data on the geographic influence on traffic by plaza and vehicle category, and that data set logically confirmed that the grouped toll plazas have similar geographic influences. While the collection of the O-D data was in 1999 and overall volumes are different today, the general market share distribution patterns should be relatively unchanged.

Utilizing the data compiled as part of the O-D survey, CDM Smith developed a profile (for both passenger and commercial vehicles) identifying the Pennsylvania counties and surrounding states that contribute traffic to each toll plaza interchange. As with the grouping of the individual toll plaza transaction data, the plaza-specific profiles of geographic influence were similarly clustered such that the plaza groupings could be regression tested against socioeconomic data that were appropriately geographically-weighted.

Independent (socioeconomic) regression variables at the state and county levels were then geographically-weighted (e.g., combinations of states and/or certain Pennsylvania counties) and each geographically-weighted subset data series was then regression-tested against the respective corresponding plaza grouping. Regression testing is conducted to determine the statistical influence of such socioeconomic variables (the independent variables) on traffic demand (the dependent variable).

According to the survey-based profiles, 46 counties in Pennsylvania (out of 67) logically serve as the predominate areas of influence for the Pennsylvania Turnpike traffic. As such, the geographically-weighted socioeconomic data for regression testing were consequently more heavily-weighted to account for those proximate geographies relative to the other areas of influence, including peripheral states. Generally, the non-Pennsylvania contributing geographies on traffic demand primarily pertain to those states immediately bordering the Commonwealth and the Turnpike corridors (i.e., NY, NJ, OH, MD, and WV), as would be intuitively expected. The remaining contributing states beyond Pennsylvania have a far smaller weighting.

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<sup>3</sup> Note that the 64 plazas include 13 pertaining to either the Mon Fayette (PA 43) or the I-576 corridors, both of which are being separately analyzed and, as such, dismissed from this demand growth evaluation. Regardless, the transaction data limitations for those excluded barrier plazas preclude the possibility of an econometric regression-based assessment; there are too few data points for a statistically-defensible regression fit.

With the independent socioeconomic variables appropriately weighted to reflect their relative geographic influence, each weighted independent variable was individually regressed against the corresponding grouped plaza transaction data. In most instances, a majority of the pertinent independent variables exhibited a high statistical coefficient of determination, though certain variables and certain plaza groupings exhibited much stronger statistical correlations than others.

All of the independent variables were tested against each other for significant statistical correlation. As expected, the geographically-weighted independent variables that were tested all exhibit high correlations with each other (because all the tested socioeconomic variables within a given geographic grouping are intuitively interrelated to a greater or lesser degree) and, as such, would result in a likely multicollinearity error in a multivariate regression equation. Therefore, in most of the cases, only one socioeconomic independent variable was deemed statistically necessary to identify the correlative relationship with corridor traffic and to develop a forecast growth profile. In addition to quantitatively assessing the data, a qualitative assessment was also conducted. This qualitative assessment considered the reliability of the available data sources, the extent of the historical time series, and the forecasting methodology for each data set.

After a careful review of the input data and regression tests results, one to two variables were identified as the best-suited correlative independent variable against historical corridor traffic transactions to forecast future long-term travel demand growth. This was done for each toll plaza grouping and vehicle category. Depending on the plaza grouping and vehicle category, the chosen weighted independent socioeconomic variables for the final regression-based projection were population, employment, retail sales, or GRP. Adjusted coefficients of determination (adjusted  $R^2$ ) for such regression equations range from 73.5% upwards to 97.5%, indicating relatively strong statistical significance<sup>4</sup>.

## 3.12 Demand Growth Results

Based on the econometric regression analysis, combined with updated forecasts of the explanatory socioeconomic variables, toll road corridor specific growth rates were developed for both passenger cars and commercial vehicles separately. Table 3-5 provides a summary of the average annual growth rates in 10 or 11-year increments, including for 2013 to 2023, 2023 to 2033, and 2033 to 2044. In addition, the total average annual percent growth between 2013 and 2044 is shown in the last column.

As shown in the table, average annual percent growth rates from 2013 through 2044 vary by component of the system and vehicle category, and time period. In summary, however, total passenger traffic demand is projected to increase by 1.1 percent per year through 2044, while the commercial vehicle demand growth is expected to grow faster – at 1.8 percent per year on average, with the total for both vehicle categories averaging about 1.2 percent per annum. It should also be noted that growth

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<sup>4</sup> Note that the Northeast Extension (Barrier) plaza grouping, comprised of the two barrier toll plazas at the far north end of the Northeast Extension corridor, for both passenger and commercial vehicles, did not have valid regression results for any of the tested weighted independent variables; as such, the regression-based approach was dismissed and the demand growth forecast for those two plazas were tagged to the regression-based growth results derived for the Northeast Extension (Ticket) system. Consequently, the presented results are for both the Northeast Extension barrier and ticket plazas.

on the barrier portion of the system is projected to outpace that of the ticket-based sections. In all cases, however, growth is expected to decelerate over time.

<b>Table 3-5</b> <b>Summary of Estimated Normal Annual Traffic Growth</b> <b>Pennsylvania Turnpike System</b> <b>Average Annual Percent Growth Rates Between Fiscal Years</b>				
Toll System	Estimated Normal Growth			
	2013-23	2023-33	2033-44	2013-44
Passenger Cars				
Ticket System	1.2%	1.1%	0.8%	1.0%
Turnpike 66	2.5	2.1	1.8	2.0
Turnpike I-376	2.0	1.9	1.8	1.8
Northeast Extension Barrier Plazas	1.6	1.2	0.7	1.1
Total Turnpike System	1.3	1.2	0.9	1.1
Commercial Vehicles				
Ticket System	1.8%	1.6%	1.5%	1.7%
Turnpike 66	1.8	1.7	1.6	1.7
Turnpike I-376	2.8	2.5	2.2	2.4
Northeast Extension Barrier Plazas	2.3	2.1	1.9	2.0
Total Turnpike System	1.9	1.7	1.6	1.8
Total Vehicles				
Ticket System	1.3%	1.2%	1.0%	1.1%
Turnpike 66	2.4	2.0	1.8	2.0
Turnpike I-376	2.1	2.0	1.8	1.9
Northeast Extension Barrier Plazas	1.7	1.4	1.0	1.3
Total Turnpike System	1.4	1.3	1.0	1.2
Note: These growth rates exclude the future impacts associated with the PTC's capital improvement program, including the I-95 Interchange project. They also exclude manual adjustments in the early years of the forecast to account for weather recovery impacts.				

It should be emphasized again that the regression analysis was used to develop longer-term normal demand growth estimates beyond 2013, and serve as a baseline forecast from which future traffic and revenue forecasts are derived. Further adjustments may be conducted in determining the final traffic and revenue projections from these long-term demand projections, to account for factors such as highway improvements, known construction timeframes, corrections for recent significant weather events, etc.

Since the traffic trend data used in the regression analysis includes the dampening impacts of historical toll rate increases, the resulting normal growth values in Table 3-5 already account for the proposed future toll increases identified Chapter 4 (Table 4-2).

CDM Smith has developed a spreadsheet model for each PTC toll facility, incorporating monthly variations, vehicle class (passenger car versus commercial vehicle), payment type (cash versus E-ZPass), and toll rate. Future year traffic growth assumptions developed from the economic analysis described in this chapter were used in the model to develop future estimates of traffic and toll revenue. The resulting traffic and toll revenue forecasts are provided in Chapter 4.

## Chapter 4

# Transaction and Toll Revenue Forecasts

Traffic and gross toll revenue forecasts are presented in this chapter for the Ticket System, the Barrier System, and the total Turnpike System. Forecasts are presented by fiscal year from 2014-15 through 2043-44. Also presented in this chapter are important inputs to the forecasts, including committed roadway projects, assumed future toll rate increases and assumed future E-ZPass market shares.

### 4.1 Committed Turnpike System Roadway Improvements

Through discussions with PTC personnel and by reviewing both the PTC Construction website and the Approved FY 2015 Ten Year Capital Plan project listing, CDM Smith identified the major committed roadway improvements that would potentially impact traffic and toll revenue on the Turnpike System. Projects were identified on the Mainline I-76/276 and the Northeast Extension. Table 4-1 lists the identified projects and Figure 4-1 presents the locations of the projects. A brief description of each project is provided below.

#### 4.1.1 Mainline I-76/I-276 Roadway Improvement Projects

**Milepost (MP) 12 to 14 Roadway and Bridge Reconstruction** – This two-phase project involves the total reconstruction and widening of two miles of the mainline Interstate 76 between Milepost 12 and Milepost 14. Upon completion of this project the existing four-lane facility, will be upgraded to include six-twelve foot travel lanes, three in each direction, 12 foot shoulders and 10 foot medians in each direction. In order to accommodate the new six lane facility, three early action bridges including, two overhead Norfolk Southern railroad bridges will be replaced prior to the start of construction of the Turnpike mainline.

**MP 28 to MP 31 Reconstruction and Widening** - This project involves the full-depth reconstruction and widening of the Pennsylvania Turnpike from four travel lanes to six travel lanes from Milepost 28 to Milepost 31 in Cranberry Township, Butler County and Marshall Township, Allegheny County. The project will begin on the east side of the Cranberry Interchange, tying into the eastbound acceleration lane and westbound deceleration lane. The project will end on the west side of the Warrendale Toll Plaza and result in two lanes of Express E-ZPass in each direction.

**MP 40 to MP 48 Reconstruction and Widening** - Beginning in early 2013, the PTC started total roadway reconstruction and widening of eight miles of the PA Turnpike and replace six bridges crossing over the highway. With more than 40,000 cars and trucks traveling this stretch per day, it is one of the busiest parts of the Turnpike in the region. When complete, this project will tie directly into the newly constructed, three-lane Allegheny River Bridges completed in October 2010.

**MP 149.5 to MP 155.5 Reconstruction and Widening** - The Pennsylvania Turnpike Commission (PTC) plans to invest \$150 million to provide for the total roadway reconstruction and widening of six miles of the PA Turnpike, which includes replacing or eliminating bridges. The project area begins at Milepost 149.5 east of the Bedford Interchange (Exit 146), and continues to Milepost 155.5 west of the Breezewood Interchange (Exit 161), in Snake Spring and West Providence Townships, Bedford County.



**Table 4-1**  
**Major Committed Roadway Improvements on the Turnpike System (1)**  
 Pennsylvania Turnpike

Milepost	Location	Description	Actual or Assumed Start Date	Assumed Completion Date
<b>Mainline I-76/I- 276</b>				
12 - 14	Beaver County	Widen to 3 lanes per direction and reconstruction	September 2013	December 2018
28 - 31	Butler County and Allegheny County	Widen to 3 lanes per direction and reconstruction	2015	2020
40 - 48	Butler Valley to Allegheny Valley	Widening and overhead bridge replacement	February 2013	Fall 2018
149.5 - 155.5	Bedford to Breezewood	Widen to 3 lanes per direction and reconstruction	2017	2019
215 - 226	Carlisle to Blue Mountain	Widen to 3 lanes per direction and reconstruction	Fall 2014	TBA
250 - 252	Harrisburg East to Lebanon-Lancaster	Widen to 3 lanes per direction and reconstruction	Fall 2013	Mid 2016
<b>Mainline I-76/I- 276 and I-95 Interchange</b>				
356 - 360	I-95 to Delaware River Bridge	<ul style="list-style-type: none"> <li>Widen I-276 to 3 lanes per direction between I-95 and the Delaware River Bridge</li> <li>Construct and open a new westbound toll plaza on I-276 just west of the Delaware River Bridge.</li> <li>Construct and open new ramps between I-95 and I-276 (northbound I-95 to eastbound I-276, and westbound I-276 to southbound I-95).</li> </ul>	2010	2017
			2010	January 2016
			2010	January 2018
<b>Northeast Extension I-476</b>				
A20 - A26	Mid-County to Berks Road	Widen to 3 lanes per direction and reconstruction	Feb. 2011	Mid 2015
A26 - A31	Berks Road to Lansdale	Widen to 3 lanes per direction and reconstruction	May 2014	Late 2016
A31 - A38	Wambold to Clump	Widen to 3 lanes per direction and reconstruction	Fall 2016	2019
A74 - A95	Between Mahoning Valley and Pocono	Construct E-ZPass-only interchange with Route 903 (#87)	Spring 2013	Spring 2015
A89	Hawk Falls Bridge Replacement Project	Completely replace two existing bridges	June 2012	June 2020

(1) The roadway improvement projects shown in this table are a small subset of the projects listed in the PTC's Major Design and Construction Projects website and listed in the Proposed FY 2015 Ten Year Capital Plan.

**MP 215 to MP 226 Reconstruction and Widening** – With improvements completed between Milepost 215 and Milepost 220, the second stage of the project, which will rebuild and widen the Turnpike between Milepost 220 and Milepost 226 (Carlisle Interchange 226), is currently active.

**MP 250 to MP 252 Roadway Improvements** – The Pennsylvania Turnpike Commission is replacing three bridges and widening the roadway between Mileposts 250 and 252 in Middletown Borough and Lower Swatara and Londonderry townships in Dauphin County. The work zone is situated between the Harrisburg East (Exit 247) and Lebanon-Lancaster (Exit 266) interchanges.

#### 4.1.2 Pennsylvania Turnpike I-276/I-95 Interchange Project

This is a major project that will be completed in three stages. The project includes the construction of a high-speed, full-access interchange between I-276 and a re-designated I-95, making I-95 continuous through the mid-Atlantic region. The project also includes roadway widening on I-276 from immediately west of Interchange 351 (Bensalem) eastward to the western side of the Delaware River Bridge. A new parallel bridge on I-276 will be constructed over the Delaware River. In addition, the project includes changes to the tolling locations and toll structure on I-276.



## PTC Toll Roads

- |   |   |
|---|---|
| <span style="color: red;">—</span> Mainline I-76 / I-276                        | <span style="color: blue;">—</span> Turnpike I-576 - Southern Beltway         |
| <span style="color: orange;">—</span> Northeast Extension I-476                 | <span style="color: lightblue;">—</span> Turnpike 43 - Mon/Fayette Expressway |
| <span style="color: purple;">—</span> Turnpike I-376 - Beaver Valley Expressway | <span style="color: green;">—</span> Turnpike 66 - Amos K. Hutchinson Bypass  |



## PENNSYLVANIA TURNPIKE COMMISSION (PTC) MAJOR ROADWAY IMPROVEMENT PROJECTS

The following describes the three stages of the I-276/I-95 Interchange Project. Only Stage 1 is under active construction. Estimated traffic and toll revenue impacts associated with Stage 1 are included in this study. Stages 2 and 3 are described below only for informational purposes.

Stage 1: (Mile post 356 to 360)

- ≠ The new westbound mainline toll plaza on I-276 just west of the Delaware River Bridge will be opened in January 2016. Tolls be collected based on a vehicle's number of axles.
- ≠ Simultaneously with the opening of the new westbound toll plaza, will be the opening of the new eastern terminus of the I-276/I-76 Ticket System. This new mainline toll plaza will be located between the Street Road Interchange and I-95.
- ≠ I-276 roadway widening from Interchange 351 to the Delaware River Bridge is expected to be complete in 2017.
- ≠ New high-speed ramps between I-95 and I-276 (northbound I-95 to eastbound I-276, and westbound I-276 to southbound I-95) are anticipated to open in early 2018.

Stage 2 (MP 351 to MP 356) includes the remaining six ramp movements of the new interchange and completion of the mainline widening.

Stage 3 (MP 320) brings an additional bridge over the Delaware River parallel to the existing bridge.

#### 4.1.3 Northeast Extension (I-476) Roadway Improvement Projects

**MP A20 to MP A31 Total Reconstruction Project** - This project includes the full depth total roadway reconstruction of 10.5 miles of the Pennsylvania Turnpike's Northeastern Extension, from the Mid-County Interchange to the Lansdale Interchange, Montgomery County. Upon completion of this project, the existing four-lane facility with a four-foot median and eight to 10-foot shoulders will be converted into a six-lane facility with three 12-foot travel lanes north and southbound, a 26-foot median, and 12-foot shoulders. This project will be constructed in two parts: the southern section, which includes the area between the Mid-County Interchange (Milepost A20) and Berks Road (Milepost A26) in Plymouth, Whitpain and Worcester Townships; and the northern section, which includes the area between Berks Road (Milepost A26) and the Lansdale Interchange (Milepost A31) in Worcester, Upper Gwynedd and Towamencin Townships. Construction will likely conclude in early 2015.

**MP A31 to MP A38 Total Reconstruction Project** - This section of the Turnpike will be completely reconstructed from the ground up and widened from two lanes in each direction with limited shoulders to three lanes in each direction with 12-foot right and left shoulders. The overhead bridges along the project corridor are only wide enough to accommodate the current roadway width, so they need to be replaced before the mainline Turnpike widening can occur. Construction on the overhead bridges began in the spring of 2013, and construction on the mainline Turnpike is expected to begin in fall 2016.

**Route 903 Interchange Project (MP 74 to MP 95)** – This project consists of the construction of a new E-ZPass-only interchange along the Northeast Extension between existing Mahoning Valley (MP 74) and Pocono (MP 95) exits. Construction will be performed in two-phases. Phase 1 will result in the construction of one-half of the new bridge to carry Route 903 over the Northeast Extension. Phase 2 includes all remaining work necessary to complete the interchange. Phase 1 began construction in spring 2009 and was completed approximately one year later. Phase two is scheduled to finish in spring 2015.

**Hawk Falls Bridge Replacement Project (MP 89)** – The goal of this project is to completely replace the Hawk Falls Bridge and the Hickory Run Bridge. The bridge carries two lanes of Turnpike traffic, in each direction, over Mud Run in Penn Forest Township and Kidder Township, Carbon County. The new bridge will carry two traffic lanes and shoulders in each direction. The existing Hickory Run Bridge, directly to the north of the Hawk Falls Bridge, will also be replaced. This three-span mainline bridge, measuring 111' in length, carries the Turnpike over Hickory Run Road (SR 0534). Estimated project completion is June 2020.

## 4.2 Construction Related Impacts on Turnpike System Traffic

Ongoing construction related impacts stemming from roadway widening and reconstruction projects on the Turnpike System are expected to be minimal. Construction projects on the Turnpike System are planned so as to minimize lane closures or any restrictions to the Turnpike. When such measures are necessary, they are conducted overnight to avoid interfering with heavier daytime traffic volumes. Generally, preference is given to Turnpike mainline traffic and construction-related disruptions are more likely to affect cross streets and Turnpike access points. Two travel lanes are maintained in both directions during construction activities.

For conservative purposes, the only positive traffic and toll revenue impacts that are included as part of this study are for the Mainline I-76/I-276 and I-95 Interchange Project. This project has significant impacts that are included in calendar years 2016 through 2018. For conservative purposes, impacts are not included for the new Route 903 AET interchange on I-476 that is anticipated to open in early 2015. The positive impacts are expected to be relatively small, as much of the traffic will be shifted from existing Turnpike toll plaza.

## 4.3 Assumed Toll Rate Increases on the Turnpike

At the direction of the PTC, annual toll rate increases are assumed to occur on the entire Turnpike System with the exception of Turnpike I-576. The toll rate increases are assumed to occur within several days of January 1 of each year. Table 4-2 presents actual and assumed percent increases in toll rates for each calendar year from 2009 through 2044. This table reflect assumed rate increases for the entire Turnpike System, with the exception of Turnpike I-576. For this facility, rates have historically been adjusted every five years. These rate adjustments are equal to the compound rate increases for the rest of the Turnpike System. Table 4-3 shows actual and assumed toll rate increases for Turnpike I-576 over the same time period.

As shown in Table 4-2, the assumed percent increases in toll rates are identical for cars and trucks, and for E-ZPass and cash transactions throughout the forecast period. Future toll-rate increases range from 3.0 to 6.0 percent per year between 2016 and 2044. On Turnpike I-576 (Table 4-3), rate increases for cash and E-ZPass are identical beginning in 2023. Rate adjustments are different between E-ZPass and cash in 2018 only because this period incorporates the 2014 increase on the rest of the system when E-ZPass and cash tolls were increased at different rates. Consistent with the PTC tolling policy, all E-ZPass tolls are rounded to the nearest cent, and cash toll rates are rounded up to the nearest nickel.

At the direction of the PTC, the toll rate increases shown in Tables 4-2 and 4-3 were used in the development of the traffic and toll revenue forecasts, including the assumption that the percent toll rate increases are the same for both E-ZPass and cash transactions. The PTC reserves the right to implement toll rate differentials between E-ZPass and cash in future years.

**Table 4-2**  
**Actual and Assumed Future Toll Rate Increases**  
**Except Turnpike I-576 (1)**

Calendar Year	Percent Increase For Cars and Trucks		Sample Toll Rates (2)					
	Cash	E-ZPass	\$1.00 Toll		\$2.50 Toll		\$10.00 Toll	
			Cash	E-ZPass	Cash	E-ZPass	Cash	E-ZPass
2009 (3)	25.0	25.0	\$1.00	\$1.00	\$2.50	\$2.50	\$10.00	\$10.00
2010 (3)	3.0	3.0	1.05	1.03	2.60	2.58	10.30	10.30
2011 (3)	10.0	3.0	1.20	1.06	2.90	2.66	11.35	10.61
2012 (3)	10.0	0.0	1.35	1.06	3.20	2.66	12.50	10.61
2013 (3)	10.0	2.0	1.50	1.08	3.55	2.71	13.75	10.82
2014 (3)	12.0	2.0	1.70	1.10	4.00	2.76	15.40	11.04
2015 (3)	5.0	5.0	1.80	1.16	4.20	2.90	16.20	11.59
2016	6.0	6.0	1.95	1.23	4.50	3.07	17.20	12.29
2017	6.0	6.0	2.10	1.30	4.80	3.25	18.25	13.03
2018	6.0	6.0	2.25	1.38	5.10	3.45	19.35	13.81
2019	6.0	6.0	2.40	1.46	5.45	3.66	20.55	14.64
2020	6.0	6.0	2.55	1.55	5.80	3.88	21.80	15.52
2021	5.0	5.0	2.70	1.63	6.10	4.07	22.90	16.30
2022	5.0	5.0	2.85	1.71	6.45	4.27	24.05	17.12
2023	5.0	5.0	3.00	1.80	6.80	4.48	25.30	17.98
2024	5.0	5.0	3.15	1.89	7.15	4.70	26.60	18.88
2025	5.0	5.0	3.35	1.98	7.55	4.94	27.95	19.82
2026	4.0	4.0	3.50	2.06	7.90	5.14	29.10	20.61
2027	3.5	3.5	3.65	2.13	8.20	5.32	30.15	21.33
2028	3.0	3.0	3.80	2.19	8.45	5.48	31.10	21.97
2029	3.0	3.0	3.95	2.26	8.75	5.64	32.05	22.63
2030	3.0	3.0	4.10	2.33	9.05	5.81	33.05	23.31
2031	3.0	3.0	4.25	2.40	9.35	5.98	34.05	24.01
2032	3.0	3.0	4.40	2.47	9.65	6.16	35.10	24.73
2033	3.0	3.0	4.55	2.54	9.95	6.34	36.20	25.47
2034	3.0	3.0	4.70	2.62	10.25	6.53	37.30	26.23
2035	3.0	3.0	4.85	2.70	10.60	6.73	38.45	27.02
2036	3.0	3.0	5.00	2.78	10.95	6.93	39.65	27.83
2037	3.0	3.0	5.15	2.86	11.30	7.14	40.85	28.66
2038	3.0	3.0	5.35	2.95	11.65	7.35	42.10	29.52
2039	3.0	3.0	5.55	3.04	12.00	7.57	43.40	30.41
2040	3.0	3.0	5.75	3.13	12.40	7.80	44.75	31.32
2041	3.0	3.0	5.95	3.22	12.80	8.03	46.10	32.26
2042	3.0	3.0	6.15	3.32	13.20	8.27	47.50	33.23
2043	3.0	3.0	6.35	3.42	13.60	8.52	48.95	34.23
2044	3.0	3.0	6.55	3.52	14.05	8.78	50.45	35.26

(1) Future toll rate increases are assumed to be implemented within several days of January 1.

It is assumed that Turnpike I-576 toll rates only occur every fifth year when the toll increase reflects the cumulative toll increase for the Turnpike System. See Table 4-3 for the assumed toll rate increases on Turnpike I-576.

(2) By PTC Policy, cash toll rates are rounded up to the nearest nickel and E-Zpass rates are rounded to the nearest penny.

(3) Reflects actual toll rate increases on the Turnpike System, except that toll rate increases did not occur on Turnpike I-576 in 2009, 2010, 2011, 2012 or 2014, or on the section of Turnpike 43 between Uniontown and Brownsville in 2009.

**Table 4-3**  
**Turnpike I-576**  
**Actual and Assumed Future Toll Rate Increases**

Calendar Year	Percent Toll Increase For Cars and Trucks		Sample Toll Rates	
	Cash	E-ZPass	Cash	E-ZPass
2009 (1)	0.0	0.0	\$0.50	\$0.50
2010 (1)	0.0	0.0	0.50	0.50
2011 (1)	0.0	0.0	0.50	0.50
2012 (1)	0.0	0.0	0.50	0.50
<b>2013 (1)</b>	<b>50.0</b>	<b>25.0</b>	<b>0.75</b>	<b>0.63</b>
2014 (1)	0.0	0.0	0.75	0.63
2015 (1)	0.0	0.0	0.75	0.63
2016	0.0	0.0	0.75	0.63
2017	0.0	0.0	0.75	0.63
<b>2018</b>	<b>40.1</b>	<b>27.6</b>	<b>1.10</b>	<b>0.80</b>
2019	0.0	0.0	1.10	0.80
2020	0.0	0.0	1.10	0.80
2021	0.0	0.0	1.10	0.80
2022	0.0	0.0	1.10	0.80
<b>2023</b>	<b>30.1</b>	<b>30.1</b>	<b>1.45</b>	<b>1.04</b>
2024	0.0	0.0	1.45	1.04
2025	0.0	0.0	1.45	1.04
2026	0.0	0.0	1.45	1.04
2027	0.0	0.0	1.45	1.04
<b>2028</b>	<b>22.2</b>	<b>22.2</b>	<b>1.80</b>	<b>1.27</b>
2029	0.0	0.0	1.80	1.27
2030	0.0	0.0	1.80	1.27
2031	0.0	0.0	1.80	1.27
2032	0.0	0.0	1.80	1.27
<b>2033</b>	<b>15.9</b>	<b>15.9</b>	<b>2.10</b>	<b>1.47</b>
2034	0.0	0.0	2.10	1.47
2035	0.0	0.0	2.10	1.47
2036	0.0	0.0	2.10	1.47
2037	0.0	0.0	2.10	1.47
<b>2038</b>	<b>15.9</b>	<b>15.9</b>	<b>2.45</b>	<b>1.70</b>
2039	0.0	0.0	2.45	1.70
2040	0.0	0.0	2.45	1.70
2041	0.0	0.0	2.45	1.70
2042	0.0	0.0	2.45	1.70
<b>2043</b>	<b>15.9</b>	<b>15.9</b>	<b>2.85</b>	<b>1.97</b>
2044	0.0	0.0	2.85	1.97

(1) Actual Experience.

Tables 4-2 and 4-3 also show the actual percent increases in toll rates that were implemented between 2009 and 2015. Rate increases for E-ZPass and cash were identical until 2011 on most Turnpike facilities, when a toll rate increase of 10 percent for cash transactions and 3 percent for E-ZPass transactions was implemented. As shown in Table 4-3, no toll increases were implemented on Turnpike I-576 until 2013.

## 4.4 Estimated E-ZPass Market Shares in Future Years

Because a price differential has been established between cash and E-ZPass toll rates, it is important to estimate future year E-ZPass market shares in order to forecast gross toll revenues. Historically, cash and E-ZPass toll rates were virtually identical until 2011, differing only because cash rates were rounded up to the nearest nickel while E-ZPass rates were rounded up to the nearest cent. There was no reason for a customer to choose E-ZPass over cash based solely on the toll rate.

In 2011, 2012, 2013 and 2014, differential toll rate increases were implemented. As a result of these differential rate increases, cash toll rates are theoretically 39.5 percent greater than E-ZPass rates. The actual differential is even greater for lower price tolls due to the effect of rounding up to the nearest nickel for cash rates. The differential creates incentives for cash customers to shift to E-ZPass, and for new accounts to favor E-ZPass over cash.

Future year E-ZPass market shares were developed based on the assumed future toll rate increases shown in Tables 4-2 and 4-3, and the historic trends in E-ZPass market share. Table 4-4 presents the actual percent E-ZPass market shares from calendar years 2011 through 2014, and the estimated percent E-ZPass market shares from 2015 through 2044 for passenger cars and commercial vehicles. Also shown are the percentage point increases in the E-ZPass market share over the prior year.

In 2011, the E-ZPass market share totaled 60.6 percent for passenger cars and 79.1 percent for commercial vehicles. By 2014, those values increased to 72.4 percent for passenger cars and 86.1 percent for commercial vehicles. A large portion of those increases were the direct result of increasing discounts for E-ZPass trips versus cash trips implemented from 2011 through 2014.

The estimated E-ZPass market shares for calendar years 2015 through 2044 continues to increase, but at a lower rate than in the recent past. This is because the toll differential is assumed to remain constant over this time period and because the E-ZPass market share is reaching its saturation point. In practical terms, there will likely always be customers who choose not to use E-ZPass. As shown in Table 4-4, by 2044 passenger car E-ZPass market share is estimated at 86.1 percent and the commercial vehicle market share is estimated to be 95.0 percent. For purposes of this analysis, it was assumed that the maximum E-ZPass market share would be 95.0 percent. Given the already high participation rate by commercial vehicles, they reach this level by 2036.

## 4.5 Transaction and Gross Toll Revenue Forecasts

This section summarizes the forecasts of toll transactions and gross toll revenue based on the information provided in the preceding sections of this report. All previously discussed information regarding transaction growth rates in the various Turnpike corridors (Chapter 4) as well as assumed toll rates, E-ZPass market share, etc. are all brought together to develop the following forecasts.

A table similar to Table 4-5 was presented in Chapter 2 (Table 2-10). This table adds information regarding the near term forecast to show the relationship between GDP, GRP and GSP and estimated transaction growth on the Turnpike through 2017. These growth rates all show slightly higher than



**Table 4-4**  
**Actual and Estimated E-ZPass Market Share**  
**Pennsylvania Turnpike System**

Calendar Year	Passenger Cars		Commercial Vehicles		Total Vehicles	
	Percent		Percent		Percent	
	Percent Market Share	Increase in Market Share	Percent Market Share	Increase in Market Share	Percent Market Share	Increase in Market Share
2011 (1)	60.6		79.1		62.9	
2012 (1)	64.7	4.1	81.6	2.5	66.9	3.9
2013 (1)	69.1	4.4	84.3	2.6	71.1	4.2
2014 (1)	72.4	3.3	86.1	1.8	74.2	3.1
2015 (2)	73.7	1.3	87.1	1.0	75.5	1.3
2016 (2)	74.7	1.0	87.7	0.6	76.4	0.9
2017 (2)	75.3	0.7	88.2	0.6	77.1	0.7
2018 (2)	76.0	0.6	88.8	0.5	77.7	0.6
2019 (2)	76.6	0.6	89.3	0.5	78.4	0.6
2020 (2)	77.1	0.5	89.8	0.5	78.9	0.5
2021 (2)	77.7	0.5	90.3	0.5	79.4	0.5
2022 (2)	78.2	0.5	90.8	0.5	80.0	0.5
2023 (2)	78.7	0.5	91.3	0.5	80.5	0.5
2024 (2)	79.2	0.5	91.8	0.5	81.0	0.5
2025 (2)	79.7	0.5	92.2	0.5	81.5	0.5
2026 (2)	80.1	0.5	92.7	0.5	81.9	0.5
2027 (2)	80.6	0.4	93.2	0.5	82.4	0.5
2028 (2)	81.0	0.4	93.6	0.4	82.8	0.4
2029 (2)	81.5	0.4	94.0	0.4	83.3	0.4
2030 (2)	81.9	0.4	94.3	0.3	83.7	0.4
2031 (2)	82.3	0.4	94.5	0.2	84.1	0.3
2032 (2)	82.6	0.3	94.7	0.1	84.4	0.3
2033 (2)	82.9	0.3	94.8	0.1	84.7	0.3
2034 (2)	83.3	0.3	94.9	0.1	85.0	0.3
2035 (2)	83.6	0.3	94.9	0.1	85.3	0.3
2036 (2)	84.0	0.3	95.0	0.1	85.6	0.3
2037 (2)	84.3	0.3	95.0	0.0	85.9	0.3
2038 (2)	84.6	0.3	95.0	0.0	86.2	0.3
2039 (2)	84.9	0.3	95.0	0.0	86.4	0.3
2040 (2)	85.2	0.3	95.0	0.0	86.7	0.3
2041 (2)	85.4	0.2	95.0	0.0	86.9	0.2
2042 (2)	85.7	0.2	95.0	0.0	87.1	0.2
2043 (2)	85.9	0.2	95.0	0.0	87.3	0.2
2044 (2)	86.1	0.2	95.0	0.0	87.5	0.2

(1) Actual E-ZPass market shares.

(2) Estimated E-ZPass market shares.

**Table 4-5**  
**Actual and Forecast Measures of Commercial Activity**  
**and Growth in Total Turnpike System Transactions**

Percent Change Over Prior Year or  
 From One Quarter to the Same Quarter in the Prior Year

Calendar Year	Gross Domestic Product Growth (1) (U.S.)	Gross Regional Product Growth (1) (NY, NJ, PA)	Gross State Product Growth (1) (PA)	PA Turnpike System Percent Transaction Growth (2)		
				Passenger Cars	Commercial Vehicles	All Vehicles
<b>2011 (Actual)</b>	<b>1.6</b>	<b>0.9</b>	<b>1.4</b>	(1.2)	1.0	(0.9)
1st Quarter	(0.4)	0.5	4.2			
2nd Quarter	0.7	0.3	3.9			
3rd Quarter	0.2	0.2	2.8			
4th Quarter	1.1	0.5	1.4			
<b>2012 (Actual)</b>	<b>2.3</b>	<b>1.7</b>	<b>1.2</b>	0.2	0.6	0.2
1st Quarter	0.6	0.5	(0.8)			
2nd Quarter	0.4	0.3	(0.1)			
3rd Quarter	0.6	0.8	(4.4)			
4th Quarter	0.0	0.0	2.4			
<b>2013 (Actual)</b>	<b>2.2</b>	<b>0.8</b>	<b>0.7</b>	0.8	3.0	1.0
1st Quarter	0.7	(0.9)	6.0			
2nd Quarter	0.4	1.2	(2.1)			
3rd Quarter	1.1	0.5	3.4			
4th Quarter	0.9	0.5	(1.5)			
<b>2014 (GDP Actual)</b>	<b>2.4</b>	<b>0.7</b>	<b>0.3</b>	(0.1)	4.1	0.5
<b>GSP/GSP Forecast)</b>						
1st Quarter	(0.5)	(1.4)	(1.5)			
2nd Quarter	1.1	0.8	0.8			
3rd Quarter	1.2	1.0	1.0			
4th Quarter	0.5	0.6	0.4			
<b>2015 (Forecast)</b>	<b>2.8</b>	<b>2.8</b>	<b>2.4</b>	1.3	2.5	1.4
<b>2016 (Forecast)</b>	<b>3.0</b>	<b>3.1</b>	<b>3.0</b>	1.9	2.2	1.9
<b>2017 (Forecast)</b>	<b>2.7</b>	<b>2.1</b>	<b>2.2</b>	1.2	1.9	1.3

(1) The percent changes in U.S. GDP, GRP, and GSP are based on constant 2009 dollars. The U.S. GDP is actual through 2014. The GRP and GSP are actual through 2013. Actual data was obtained from the U.S. Bureau of Economic Analysis. Forecast data was from Moody's Analytics ([www.economy.com](http://www.economy.com)) baseline forecast (February 2015).

(2) Turnpike System growth rates are actual through 2014.



normal growth in the near term as economic activity continues to pick up after the severe recession. Table 4-5 shows that transaction growth is estimated to remain relatively subdued in 2015, growing by a total of about 1.4 percent. A somewhat larger recovery impact is then shown for 2016 with total growth amounting to an estimated 1.9 percent. In 2017, total Turnpike growth is estimated at 1.3 percent as a result of decreasing GDP and GRP forecasts for that year. Beyond this, total System toll transaction growth rates average about 1.2 percent through FY 2043-44.

Table 4-6 shows estimated Ticket System transactions and gross toll revenue through FY 2043-44. Actual data is shown for FY 2013-14 and for the first eight months of FY 2014-15 (through January 2015). As shown, total ticket toll transactions are estimated to increase from about 152.1 million in FY 2013-14 (the latest full year of actual experience) to just over 220.9 million by FY 2043-44; this represents an average annual growth rate of almost 1.3 percent. Annual gross toll revenue is estimated to increase from \$813.1 million in FY 2013-14 to nearly \$3.9 billion by FY 2043-44. This represents an average annual increase of about 5.3 percent and includes the impacts of normal growth, annual toll rate increases, and the impact of the I-95 Interchange.

As described in Section 4.1.2, the toll plaza modifications/toll changes associated with the Delaware River Bridge one-way toll plaza conversion are assumed to occur in January 2016. These are estimated to add approximately 3.2 percent to Ticket System toll revenue. The addition of Stage 1 I-95 Interchange impacts described in Section 4.1.2 are estimated to add an additional 1.0 percent to total Ticket System toll revenue beginning in January 2018.

Table 4-7 identifies the same transaction and gross toll revenue information for the Barrier System. As shown, total transactions are estimated to increase from about 34.8 million in FY 2013-14 to 57.1 million by FY 2043-44, an average annual increase of about 1.7 percent. This is slightly greater than the rate of growth for the Ticket System, but consistent with the historical relationship between the ticket and barrier systems. Estimated annual toll revenue is expected to increase from about \$51.5 million in FY 2013-14 to \$268.1 million by the end of the forecast period. This represents a 5.7 percent annual rate of increase.

Total Turnpike System transactions and gross toll revenue are shown in Table 4-8. Total transactions increase from just over 186.9 million in FY 2013-14 to about 278.0 million by FY 2043-44; this represents an average annual increase of 1.3 percent, or about half the rate of growth during the previous 30 years. Total gross revenue, after discounts and adjustments, is estimated to grow from approximately \$860.4 million in FY 2013-14 to just over \$4.1 billion by FY 2043-44, representing a 5.4 percent average annual rate of growth. Again, this includes normal growth, toll increase impacts, and additional revenue from the I-95 Interchange project and associated toll adjustments.

## 4.6 Disclaimer

Current accepted professional practices and procedures were used in the development of these updated traffic and revenue forecasts. However, as with any forecast of the future, it should be understood that there may be differences between forecasted and actual results caused by events and circumstances beyond the control of CDM Smith. In formulating its forecasts, CDM Smith has reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the PTC and other local and state agencies. CDM Smith also has relied upon the reasonable assurances of some independent parties and is not aware of any facts that would make such information misleading.

**Table 4-6**  
**Ticket System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Transactions			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles
2013-14 (2,4)	131,595	20,501	152,096	\$460,525	\$352,550	\$813,075
2014-15 (3,5)	133,098	21,279	154,377	490,409	380,723	871,132
2015-16 (6,7)	136,002	21,724	157,727	532,923	414,044	946,966
2016-17 (6,7)	137,300	22,053	159,354	580,057	452,995	1,033,052
2017-18 (6,8)	140,350	22,678	163,027	622,509	489,226	1,111,734
2018-19 (6,8)	144,179	23,429	167,608	669,183	528,955	1,198,138
2019-20 (6)	145,909	23,839	169,749	715,856	568,937	1,284,793
2020-21 (6)	147,660	24,256	171,917	763,309	609,516	1,372,824
2021-22 (6)	149,432	24,676	174,108	809,194	649,260	1,458,453
2022-23 (6)	151,226	25,095	176,321	857,802	691,392	1,549,194
2023-24 (6)	153,040	25,522	178,562	909,293	736,252	1,645,545
2024-25 (6)	154,877	25,951	180,828	963,835	783,856	1,747,691
2025-26 (6)	156,735	26,379	183,114	1,017,818	830,982	1,848,801
2026-27 (6)	158,616	26,814	185,430	1,066,527	874,276	1,940,803
2027-28 (6)	160,519	27,251	187,771	1,112,147	915,232	2,027,379
2028-29 (6)	162,446	27,687	190,133	1,156,226	955,299	2,111,525
2029-30 (6)	164,330	28,130	192,461	1,201,541	997,333	2,198,874
2030-31 (6)	166,073	28,575	194,648	1,247,782	1,041,709	2,289,491
2031-32 (6)	167,733	29,018	196,751	1,295,694	1,088,529	2,384,223
2032-33 (6)	169,411	29,468	198,878	1,345,403	1,137,729	2,483,132
2033-34 (6)	171,105	29,924	201,029	1,396,975	1,189,262	2,586,237
2034-35 (6)	172,816	30,382	203,198	1,450,477	1,243,145	2,693,622
2035-36 (6)	174,544	30,838	205,382	1,505,980	1,299,093	2,805,073
2036-37 (6)	176,151	31,300	207,451	1,562,365	1,357,688	2,920,053
2037-38 (6)	177,560	31,770	209,330	1,618,830	1,419,395	3,038,225
2038-39 (6)	178,980	32,246	211,227	1,677,281	1,483,906	3,161,188
2039-40 (6)	180,412	32,724	213,136	1,737,785	1,551,034	3,288,819
2040-41 (6)	181,856	33,198	215,054	1,801,092	1,620,730	3,421,822
2041-42 (6)	183,310	33,680	216,990	1,867,787	1,693,558	3,561,345
2042-43 (6)	184,777	34,168	218,945	1,936,913	1,769,658	3,706,571
2043-44 (6)	186,255	34,663	220,918	2,008,556	1,849,177	3,857,733

(1) Includes Gateway Barrier Toll Plaza transactions and toll revenue.

(2) Actual traffic and revenue experience.

(3) Actual data through January 2015.

(4) An E-Z Pass toll increase of 2% and a cash toll increase of 12% was implemented on January 5, 2014, except for Turnpike I-576.

(5) A toll increase of 5% was implemented on January 4, 2015, except for Turnpike I-576.

(6) Annual toll rate increases are assumed to occur at the first of the year, applicable to both cars and trucks. Toll rate increases on Turnpike I-576 are assumed to occur every fifth year beginning in 2018. Refer to Tables 4-2 and 4-3 for assumed toll rate increases.

(7) Includes the impacts of the opening in early January 2016 of the new westbound toll plaza at the Delaware River Bridge.

(8) Includes the impacts of opening of the new ramps between I-95 and I-276 (northbound I-95 to eastbound I-276 and westbound I-276 to southbound I-95).

**Table 4-7**  
**Barrier System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Transactions			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles
2013-14 (2,4)	30,593	4,230	34,823	\$36,015	\$15,504	\$51,519
2014-15 (3,5)	30,984	4,543	35,527	38,350	17,206	55,556
2015-16 (6)	31,384	4,737	36,121	40,721	18,828	59,549
2016-17 (6)	31,831	4,893	36,723	42,845	20,530	63,375
2017-18 (6)	32,372	5,033	37,405	45,617	22,310	67,927
2018-19 (6)	32,942	5,162	38,104	50,112	24,184	74,296
2019-20 (6)	33,519	5,293	38,812	53,789	26,208	79,997
2020-21 (6)	34,102	5,425	39,527	57,542	28,285	85,827
2021-22 (6)	34,691	5,558	40,249	61,206	30,357	91,564
2022-23 (6)	35,282	5,692	40,974	65,091	32,590	97,681
2023-24 (6)	35,882	5,828	41,710	69,232	34,983	104,214
2024-25 (6)	36,486	5,966	42,452	73,633	37,545	111,178
2025-26 (6)	37,089	6,105	43,193	78,035	40,122	118,157
2026-27 (6)	37,692	6,243	43,936	82,102	42,534	124,636
2027-28 (6)	38,300	6,384	44,684	85,980	44,874	130,854
2028-29 (6)	38,913	6,527	45,440	89,765	47,204	136,969
2029-30 (6)	39,527	6,671	46,198	93,688	49,648	143,337
2030-31 (6)	40,137	6,817	46,954	97,747	52,211	149,957
2031-32 (6)	40,743	6,963	47,706	101,974	54,888	156,861
2032-33 (6)	41,354	7,110	48,464	106,404	57,692	164,096
2033-34 (6)	41,967	7,260	49,227	111,000	60,641	171,641
2034-35 (6)	42,588	7,412	50,000	115,804	63,739	179,543
2035-36 (6)	43,207	7,564	50,771	120,805	66,967	187,772
2036-37 (6)	43,814	7,715	51,529	125,996	70,336	196,332
2037-38 (6)	44,428	7,869	52,297	131,454	73,875	205,329
2038-39 (6)	45,048	8,025	53,073	137,132	77,587	214,719
2039-40 (6)	45,670	8,182	53,851	143,031	81,457	224,488
2040-41 (6)	46,301	8,337	54,638	149,181	85,480	234,662
2041-42 (6)	46,941	8,496	55,437	155,599	89,703	245,302
2042-43 (6)	47,591	8,658	56,249	162,300	94,136	256,436
2043-44 (6)	48,251	8,823	57,074	169,319	98,787	268,106

- (1) Excludes Gateway Barrier Toll Plaza transactions and toll revenue, which are included in the Ticket System.
- (2) Actual traffic and revenue experience.
- (3) Actual data through January 2015.
- (4) An E-Z Pass toll increase of 2% and a cash toll increase of 12% was implemented on January 5, 2014, except for Turnpike I-576.
- (5) A toll increase of 5% was implemented on January 4, 2015, except for Turnpike I-576.
- (6) Annual toll rate increases are assumed to occur at the first of the year, applicable to both cars and truck. Toll rate increases on Turnpike I-576 are assumed to occur every fifth year beginning in 2018. Refer to Tables 4-2 and 4-3 for assumed toll rate increases.

**Table 4-8**  
**Total System: Estimated Annual Transactions and Gross Toll Revenue**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Transactions				Annual Gross Toll Revenue				Discounts and Adjustments (11)	Adjusted Annual Gross Revenue	Percent Change
	Passenger Cars	Commercial Vehicles	Total Vehicles	Percent Change	Passenger Cars	Commercial Vehicles	Total Vehicles	Percent Change			
2013-14 (1,3)	162,188	24,731	186,919		\$496,539	\$368,054	\$864,593		(\$4,220)	\$860,373	
2014-15 (2,4)	164,083	25,822	189,904	1.6 %	528,758	397,929	926,688	7.2 %	(1,592)	925,096	7.5 %
2015-16 (6,7)	167,387	26,461	193,848	2.1	573,643	432,872	1,006,515	8.6	(1,731)	1,004,784	8.6
2016-17 (6,7)	169,131	26,946	196,077	1.2	622,902	473,525	1,096,427	8.9	(1,894)	1,094,533	8.9
2017-18 (6,8)	172,721	27,711	200,432	2.2	668,126	511,536	1,179,662	7.6	(2,046)	1,177,616	7.6
2018-19 (6,8)	177,121	28,591	205,713	2.6	719,295	553,139	1,272,434	7.9	(2,213)	1,270,221	7.9
2019-20 (6)	179,428	29,132	208,560	1.4	769,645	595,145	1,364,790	7.3	(2,381)	1,362,409	7.3
2020-21 (6)	181,762	29,681	211,443	1.4	820,850	637,801	1,458,651	6.9	(2,551)	1,456,100	6.9
2021-22 (6)	184,123	30,234	214,357	1.4	870,400	679,617	1,550,017	6.3	(2,718)	1,547,299	6.3
2022-23 (6)	186,507	30,788	217,295	1.4	922,893	723,981	1,646,875	6.2	(2,896)	1,643,979	6.2
2023-24 (6)	188,922	31,350	220,272	1.4	978,525	771,234	1,749,759	6.2	(3,085)	1,746,674	6.2
2024-25 (6)	191,363	31,917	223,280	1.4	1,037,468	821,401	1,858,869	6.2	(3,286)	1,855,583	6.2
2025-26 (6)	193,824	32,484	226,308	1.4	1,095,853	871,104	1,966,958	5.8	(3,484)	1,963,474	5.8
2026-27 (6)	196,308	33,057	229,366	1.4	1,148,629	916,810	2,065,440	5.0	(3,667)	2,061,773	5.0
2027-28 (6)	198,819	33,636	232,455	1.3	1,198,127	960,106	2,158,233	4.5	(3,840)	2,154,393	4.5
2028-29 (6)	201,359	34,214	235,573	1.3	1,245,991	1,002,503	2,248,494	4.2	(4,010)	2,244,484	4.2
2029-30 (6)	203,858	34,801	238,659	1.3	1,295,230	1,046,981	2,342,211	4.2	(4,188)	2,338,023	4.2
2030-31 (6)	206,210	35,392	241,601	1.2	1,345,529	1,093,919	2,439,448	4.2	(4,376)	2,435,072	4.2
2031-32 (6)	208,476	35,981	244,457	1.2	1,397,667	1,143,417	2,541,084	4.2	(4,574)	2,536,510	4.2
2032-33 (6)	210,764	36,578	247,342	1.2	1,451,807	1,195,422	2,647,229	4.2	(4,782)	2,642,447	4.2
2033-34 (6)	213,071	37,185	250,256	1.2	1,507,975	1,249,903	2,757,878	4.2	(5,000)	2,752,878	4.2
2034-35 (6)	215,404	37,794	253,198	1.2	1,566,281	1,306,884	2,873,165	4.2	(5,228)	2,867,937	4.2
2035-36 (6)	217,751	38,402	256,153	1.2	1,626,785	1,366,060	2,992,845	4.2	(5,464)	2,987,381	4.2
2036-37 (6)	219,964	39,015	258,980	1.1	1,688,360	1,428,024	3,116,385	4.1	(5,712)	3,110,673	4.1
2037-38 (6)	221,988	39,639	261,627	1.0	1,750,284	1,493,270	3,243,554	4.1	(5,973)	3,237,581	4.1
2038-39 (6)	224,028	40,272	264,300	1.0	1,814,413	1,561,494	3,375,907	4.1	(6,246)	3,369,661	4.1
2039-40 (6)	226,082	40,905	266,987	1.0	1,880,816	1,632,491	3,513,307	4.1	(6,530)	3,506,777	4.1
2040-41 (6)	228,156	41,536	269,692	1.0	1,950,273	1,706,211	3,656,484	4.1	(6,825)	3,649,659	4.1
2041-42 (6)	230,251	42,176	272,427	1.0	2,023,386	1,783,261	3,806,647	4.1	(7,133)	3,799,514	4.1
2042-43 (6)	232,368	42,826	275,194	1.0	2,099,213	1,863,793	3,963,007	4.1	(7,455)	3,955,552	4.1
2043-44 (6)	234,506	43,486	277,992	1.0	2,177,875	1,947,965	4,125,839	4.1	(7,792)	4,118,047	4.1

(1) Actual traffic and revenue experience.

(2) Actual data through January 2015.

(3) An E-Z Pass toll increase of 2% and a cash toll increase of 12% was implemented on January 5, 2014, except for Turnpike I-576.

(4) A toll increase of 5% was implemented on January 4, 2015, except for Turnpike I-576.

(6) Annual toll rate increases are assumed to occur at the first of the year, applicable to both cars and trucks. Toll rate increases are assumed to occur every fifth year beginning in 2018. Refer to Tables 4-2 and 4-3 for assumed toll rate increases.

(7) Includes the impacts of the opening in early January 2016 of the new westbound toll plaza at the Delaware River Bridge.

(8) Includes the impacts of opening the new I-95 Interchange ramps on I-276 (northbound I-95 to eastbound I-276 and westbound I-276 to southbound I-95).

(9) This reflects actual discounts and adjustments through FY 2013-14 and for the first eight months of FY 2014-15. Under the current Commercial Volume Discount Program in 2015, commercial vehicle accounts that generate more than \$20,000 in monthly tolls are eligible for a 3.0 percent discount.

CDM Smith has made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue forecasts that must be considered as a whole; therefore selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit to partial information extracted from this report.

All forecasts and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple state and local agencies, including PTC, by an independent third party. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the forecasts or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any forecasts or projections contained within this report.

While CDM Smith believes that some of the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date in the report, such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to: socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in Federal law (the Dodd Frank Bill) to PTC and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to PTC with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to PTC. PTC should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

## Appendix A

# Monthly Transaction and Revenue Trends for Barrier Facilities

**Table A-1**  
**Turnpike 43 - Mon/Fayette Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars								Commercial Vehicles						Total Vehicles							
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	835	17.1	978	4.6	1,023	2.1	1,044	49	33.5	66	20.0	79	19.9	95	885	18.0	1,044	5.6	1,102	3.4	1,139
July	914	14.0	1,042	0.9	1,052	3.1	1,084	50	34.9	67	30.1	87	16.5	101	964	15.1	1,109	2.7	1,139	4.1	1,186
August	1,000	13.4	1,134	(1.7)	1,114	1.3	1,129	59	26.0	74	20.6	90	12.1	101	1,059	14.1	1,209	(0.4)	1,204	2.1	1,230
September	1,006	5.2	1,059	1.1	1,070	2.7	1,099	55	10.8	61	34.6	82	22.7	101	1,062	5.5	1,120	2.9	1,152	4.1	1,200
October	1,029	6.7	1,098	3.0	1,132	2.3	1,158	53	30.6	69	39.0	96	11.4	107	1,082	7.9	1,167	5.2	1,228	3.0	1,265
November	956	4.3	998	(1.3)	985	0.1	986	50	20.8	60	27.2	76	14.2	87	1,006	5.1	1,058	0.3	1,061	1.2	1,073
December	939	0.7	946	1.1	957	3.9	994	44	13.6	50	29.7	65	23.4	81	984	1.3	997	2.5	1,022	5.2	1,075
January	836	5.4	881	(3.2)	852	5.5	899	45	23.1	55	14.3	63	26.0	79	880	6.3	936	(2.2)	915	6.9	978
February	885	(1.0)	876	(2.7)	853			50	11.9	56	12.1	62			935	(0.3)	932	(1.8)	915		
March	973	1.2	984	0.0	985			58	9.9	64	29.7	82			1,031	1.7	1,048	1.8	1,067		
April	968	6.8	1,034	(0.9)	1,026			61	20.0	73	15.2	84			1,029	7.6	1,107	0.2	1,109		
May	1,022	6.8	1,092	(0.9)	1,082			66	16.2	77	19.5	92			1,089	7.4	1,169	0.4	1,174		
Total Year	11,365	6.7	12,122	0.1	12,129		8,394	639	20.7	772	24.3	959		752	12,004	7.4	12,894	1.5	13,089		9,145
June-Jan	7,516	8.2	8,136	0.6	8,184	2.6	8,394	405	24.2	503	27.0	639	17.7	752	7,921	9.1	8,638	2.1	8,823	3.7	9,145

Toll Revenue (in \$1,000s)																					
Passenger Cars								Commercial Vehicles						Total Vehicles							
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$896	23.4	\$1,105	13.3	\$1,253	7.1	\$1,341	\$153	37.8	\$210	30.1	\$274	23.8	\$339	\$1,048	25.5	\$1,315	16.0	\$1,526	10.1	\$1,680
July	982	22.3	1,201	7.4	1,290	8.2	1,397	154	44.3	222	33.7	297	20.6	358	1,136	25.3	1,423	11.5	1,587	10.5	1,755
August	1,073	23.4	1,325	2.8	1,362	6.8	1,454	186	35.1	251	21.6	305	16.3	355	1,259	25.1	1,576	5.8	1,667	8.5	1,809
September	1,076	13.8	1,225	5.7	1,295	7.6	1,393	172	21.2	209	34.2	280	26.5	354	1,248	14.8	1,433	9.9	1,575	10.9	1,747
October	1,096	15.3	1,264	7.9	1,363	7.4	1,464	167	41.4	236	36.7	323	17.0	378	1,263	18.8	1,500	12.4	1,686	9.3	1,842
November	1,023	12.4	1,149	3.2	1,186	5.2	1,248	156	31.8	206	25.4	258	19.0	307	1,179	14.9	1,355	6.6	1,444	7.7	1,555
December	1,008	8.5	1,093	5.7	1,156	9.0	1,259	142	21.8	173	33.1	230	26.0	290	1,150	10.1	1,266	9.5	1,386	11.8	1,550
January	940	12.3	1,056	1.2	1,069	10.0	1,176	148	33.2	198	15.1	228	30.4	297	1,089	15.2	1,254	3.4	1,297	13.6	1,473
February	995	6.4	1,059	1.8	1,077			162	21.9	197	14.1	225			1,157	8.6	1,256	3.7	1,302		
March	1,096	9.0	1,195	4.6	1,250			186	19.2	222	30.2	289			1,282	10.5	1,417	8.6	1,539		
April	1,090	14.7	1,250	3.8	1,297			196	28.8	252	20.1	303			1,285	16.8	1,502	6.5	1,600		
May	1,153	15.1	1,326	4.4	1,385			214	25.5	268	23.2	330			1,367	16.7	1,595	7.6	1,715		
Total Year	\$12,427	14.6	\$14,247	5.2	\$14,984		\$10,731	\$2,036	29.9	\$2,644	26.4	\$3,342		\$2,678	\$14,463	16.8	\$16,892	8.5	\$18,325		\$13,409
June-Jan	8,094	16.4	9,418	5.9	9,974	7.6	10,731	1,278	33.4	1,705	28.7	2,195	22.0	2,678	9,372	18.7	11,123	9.4	12,169	10.2	13,409

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except Turnpike I-576.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) On July 11, 2011, the West Virginia section of the Mon Fayette Expressway was completed.
- (7) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (8) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table A-2**  
**Tunpike 66 - Amos K. Hutchinson ByPass - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Toll Transactions (in 1,000s)												Total Vehicles								
	Passenger Cars						Commercial Vehicles														
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	608	(2.6)	593	(3.3)	573	1.8	584	90	2.6	93	(1.6)	91	7.4	98	699	(1.9)	685	(3.0)	664	2.6	681
July	614	(3.9)	590	(0.4)	588	0.8	592	90	2.3	92	4.2	96	3.8	100	704	(3.1)	682	0.3	684	1.2	692
August	631	(1.5)	622	(1.6)	612	(0.7)	608	99	(0.3)	98	2.0	100	(0.9)	99	730	(1.3)	721	(1.1)	713	(0.7)	707
September	612	(5.2)	581	0.1	581	3.3	601	94	(7.6)	87	8.5	94	10.5	104	706	(5.5)	667	1.2	675	4.3	704
October	623	(3.0)	604	1.3	612	4.4	639	99	(4.0)	95	3.9	98	10.4	108	721	(3.2)	699	1.7	710	5.2	747
November	586	(3.1)	568	(1.3)	561	(0.4)	559	91	(12.2)	79	0.6	80	15.7	92	677	(4.3)	648	(1.1)	641	1.6	651
December	598	(7.0)	556	1.0	561	0.9	566	79	(12.9)	68	4.9	72	15.9	83	676	(7.7)	624	1.4	633	2.6	649
January	528	(3.0)	512	(4.5)	489	4.2	509	75	(1.7)	74	4.6	77	(1.9)	76	603	(2.9)	585	(3.4)	566	3.3	585
February	518	(6.6)	483	(2.0)	474			74	(7.8)	68	5.8	72			591	(6.8)	551	(1.0)	546		
March	580	(5.6)	548	0.6	551			85	(11.9)	75	12.1	84			665	(6.4)	623	2.0	635		
April	569	1.1	575	(0.4)	573			88	0.8	88	5.2	93			657	1.0	664	0.3	666		
May	607	(1.0)	601	1.2	608			96	0.2	96	4.5	101			703	(0.8)	697	1.6	708		
Total Year	7,074	(3.4)	6,832	(0.7)	6,782		4,657	1,058	(4.2)	1,014	4.4	1,058		761	8,132	(3.5)	7,846	(0.1)	7,841		5,417
June-Jan	4,801	(3.7)	4,625	(1.0)	4,577	1.7	4,657	716	(4.1)	686	3.3	709	7.3	761	5,516	(3.7)	5,311	(0.5)	5,286	2.5	5,417

Month	Toll Revenue (in \$1,000s)												Total Vehicles								
	Passenger Cars						Commercial Vehicles						Total Vehicles								
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$745	2.5	\$764	2.0	\$780	6.9	\$833	\$328	5.7	\$347	2.9	\$357	13.8	\$406	\$1,074	3.5	\$1,111	2.3	\$1,137	9.1	\$1,240
July	755	1.1	763	4.9	800	6.3	851	331	4.5	346	7.5	372	11.2	414	1,086	2.1	1,109	5.7	1,172	7.8	1,264
August	774	3.6	802	3.7	831	4.8	871	364	1.7	370	4.8	388	4.5	405	1,138	3.0	1,172	4.0	1,219	4.7	1,276
September	750	(0.4)	747	5.1	785	7.9	846	346	(4.3)	331	10.5	366	16.4	426	1,096	(1.6)	1,078	6.7	1,150	10.6	1,272
October	761	1.5	772	6.7	824	8.6	895	366	(2.3)	358	7.4	384	12.9	434	1,127	0.3	1,130	6.9	1,208	10.0	1,329
November	718	1.0	726	3.7	753	4.7	788	338	(10.9)	301	2.6	309	21.9	376	1,057	(2.8)	1,027	3.4	1,062	9.7	1,164
December	729	(3.0)	707	6.3	751	5.8	795	289	(9.8)	261	10.7	289	16.4	336	1,018	(5.0)	968	7.5	1,040	8.8	1,131
January	674	0.7	678	(0.1)	678	9.0	739	286	0.9	289	12.6	325	(3.6)	313	960	0.7	967	3.7	1,003	4.9	1,052
February	661	(2.3)	646	2.6	663			284	(6.2)	267	13.9	304			945	(3.4)	913	5.9	967		
March	742	(0.8)	736	5.7	778			326	(9.0)	297	20.9	359			1,068	(3.3)	1,033	10.1	1,137		
April	729	5.9	773	4.9	810			327	5.9	347	13.5	393			1,057	5.9	1,120	7.5	1,204		
May	779	4.0	810	6.6	864			356	5.8	377	11.3	419			1,135	4.6	1,187	8.1	1,283		
Total Year	\$8,817	1.2	\$8,924	4.4	\$9,317		\$6,618	\$3,944	(1.4)	\$3,890	9.6	\$4,265		\$3,111	\$12,761	0.4	\$12,814	6.0	\$13,582		\$9,729
June-Jan	5,905	0.9	5,959	4.1	6,201	6.7	6,618	2,650	(1.8)	2,603	7.2	2,790	11.5	3,111	8,555	0.1	8,562	5.0	8,991	8.2	9,729

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (7) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.



**Table A-3**  
**Northeast Extension Barrier Plazas - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Month	Passenger Cars						Commercial Vehicles						Total Vehicles								
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	435	3.6	451	4.0	469	(4.0)	450	85	5.3	89	2.3	91	3.2	94	520	3.9	540	3.7	560	(2.8)	544
July	549	(4.3)	526	6.6	560	0.6	563	85	6.0	90	12.9	102	5.0	107	634	(2.9)	615	7.5	662	1.2	670
August	522	5.8	553	8.8	602	1.7	612	89	5.9	94	8.3	102	6.6	109	612	5.8	647	8.8	704	2.4	721
September	419	(4.0)	402	8.8	438	(0.5)	436	87	(6.6)	81	13.5	92	9.8	101	506	(4.4)	483	9.6	530	1.3	537
October	444	(8.6)	406	11.7	453	3.5	469	87	(2.1)	85	12.5	95	8.6	104	531	(7.5)	491	11.9	549	4.4	573
November	407	(1.2)	403	0.3	404	(0.5)	402	74	9.8	81	0.1	81	(0.6)	80	481	0.5	483	0.3	485	(0.6)	482
December	367	(4.5)	350	10.8	388	(8.3)	356	69	0.9	70	13.4	79	(0.8)	78	436	(3.7)	420	11.3	467	(7.0)	434
January	295	2.3	302	1.6	307	(4.3)	294	65	15.6	75	5.9	80	(3.2)	77	360	4.7	377	2.5	387	(4.1)	371
February	296	(1.1)	293	(4.9)	279			65	6.7	69	5.2	73			361	0.3	363	(3.0)	352		
March	346	8.3	375	(6.2)	352			74	3.7	77	7.5	83			421	7.5	452	(3.8)	435		
April	423	(4.7)	403	(1.3)	398			87	3.4	90	(2.8)	87			510	(3.3)	493	(1.6)	485		
May	470	6.0	498	(9.7)	450			100	4.2	104	(8.7)	95			570	5.7	602	(9.5)	545		
Total Year	4,976	(0.3)	4,963	2.8	5,101		3,583	965	4.1	1,005	5.4	1,060		750	5,941	0.5	5,968	3.2	6,160		4,333
June-Jan	3,440	(1.4)	3,393	6.8	3,622	(1.1)	3,583	639	4.0	665	8.5	721	3.9	750	4,079	(0.5)	4,058	7.0	4,344	(0.3)	4,333

Toll Revenue (in \$1,000s)																					
Month	Passenger Cars						Commercial Vehicles						Total Vehicles								
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$318	9.5	\$348	9.1	\$379	1.0	\$383	\$332	5.5	\$351	3.8	\$364	7.7	\$392	\$650	7.4	\$699	6.4	\$743	4.2	\$775
July	402	0.9	405	12.1	454	6.2	483	320	8.1	346	16.6	403	8.9	439	721	4.1	751	14.2	857	7.5	921
August	381	11.4	425	14.5	486	7.7	524	343	6.0	364	11.4	405	9.8	445	725	8.8	789	13.0	891	8.7	969
September	305	0.7	307	14.1	350	4.4	366	335	(5.3)	318	16.2	369	13.5	419	640	(2.4)	625	15.2	719	9.1	785
October	323	(4.4)	309	17.0	361	8.9	393	341	(0.6)	339	16.3	394	10.6	436	664	(2.4)	648	16.6	755	9.8	829
November	296	3.2	305	4.9	320	4.6	335	295	11.0	327	2.8	336	1.1	340	591	7.1	632	3.8	657	2.8	675
December	266	(0.3)	266	15.7	307	(3.9)	295	282	1.2	285	16.2	331	2.3	339	548	0.5	551	16.0	638	(0.7)	634
January	225	5.4	237	7.7	255	(0.8)	253	269	18.1	318	8.3	344	0.6	346	494	12.3	555	8.0	599	(0.0)	599
February	225	3.2	232	0.0	232			266	9.8	293	8.1	316			492	6.8	525	4.5	549		
March	265	13.3	301	(1.2)	297			302	8.0	326	9.9	358			567	10.5	627	4.6	655		
April	326	(0.3)	325	4.0	338			351	7.4	377	(1.1)	373			677	3.7	702	1.3	711		
May	362	11.1	402	(5.2)	381			398	6.8	425	(6.8)	396			759	8.8	826	(6.0)	777		
Total Year	\$3,693	4.5	\$3,861	7.8	\$4,162		\$3,032	\$3,835	6.1	\$4,067	8.0	\$4,391		\$3,155	\$7,528	5.3	\$7,928	7.9	\$8,553		\$6,187
June-Jan	2,516	3.4	2,601	12.0	2,914	4.0	3,032	2,517	5.1	2,647	11.4	2,947	7.1	3,155	5,033	4.3	5,248	11.7	5,861	5.6	6,187

- NOTES:**
- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
  - (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findaly Connector.
  - (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
  - (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
  - (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
  - (6) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
  - (7) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table A-4**  
**Turnpike I-376 - Beaver Valley Expressway - Monthly Transaction and Revenue Trends**  
Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	638	(1.9)	625	(9.4)	567	4.4	592	102	6.2	108	(14.2)	93	15.9	107	739	(0.8)	733	(10.1)	659	6.0	699
July	674	(3.5)	650	(7.5)	601	2.3	615	98	9.2	107	(5.4)	101	13.6	115	772	(1.9)	757	(7.2)	703	3.9	730
August	664	(1.5)	654	(6.3)	612	3.1	631	112	0.9	113	(6.1)	106	5.8	112	776	(1.2)	767	(6.3)	718	3.5	743
September	613	(4.1)	588	(4.1)	564	1.1	570	102	(6.2)	96	4.2	100	13.8	114	716	(4.4)	684	(3.0)	664	3.0	684
October	653	(7.2)	606	(1.9)	595	(2.2)	582	104	(0.6)	104	4.4	108	5.2	114	758	(6.3)	710	(1.0)	703	(1.1)	696
November	586	(2.9)	569	(6.1)	534	(3.0)	518	93	(1.9)	92	(0.3)	91	(2.3)	89	679	(2.7)	660	(5.3)	625	(2.9)	607
December	585	(6.7)	546	(1.0)	541	(1.4)	533	85	(2.0)	83	1.4	84	6.6	90	670	(6.1)	629	(0.6)	625	(0.4)	622
January	497	(0.7)	493	(7.2)	458	0.5	460	81	8.2	88	(3.0)	85	(1.0)	84	578	0.5	581	(6.5)	543	0.3	544
February	496	(6.6)	463	(5.3)	439			85	(8.7)	78	6.6	83			581	(6.9)	541	(3.6)	521		
March	570	(5.6)	538	(2.9)	523			93	(9.6)	84	11.8	94			663	(6.2)	622	(0.9)	617		
April	573	(3.8)	551	(0.0)	551			94	3.4	97	3.3	100			667	(2.8)	648	0.5	651		
May	614	(4.4)	587	1.6	597			103	(1.3)	102	5.8	107			717	(3.9)	689	2.2	704		
Total Year	7,162	(4.1)	6,871	(4.2)	6,580		4,501	1,152	(0.2)	1,150	0.3	1,153		826	8,315	(3.5)	8,021	(3.6)	7,733		5,326
June-Jan	4,909	(3.6)	4,731	(5.5)	4,471	0.7	4,501	777	1.6	790	(2.7)	769	7.4	826	5,687	(2.9)	5,521	(5.1)	5,240	1.6	5,326

Month	Passenger Cars						Commercial Vehicles						Total Vehicles								
	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$641	3.1	\$661	(3.1)	\$640	11.4	\$713	\$290	8.6	\$315	(13.2)	\$273	18.9	\$325	\$931	4.8	\$976	(6.4)	\$914	13.6	\$1,038
July	680	1.8	692	(1.6)	681	9.6	747	280	12.4	315	(5.7)	297	19.5	354	960	4.9	1,007	(2.9)	978	12.6	1,101
August	666	4.3	695	(0.9)	688	11.1	764	328	1.2	332	(5.2)	314	5.7	332	994	3.3	1,026	(2.3)	1,003	9.4	1,097
September	612	1.7	622	1.4	631	7.8	680	297	(5.0)	282	5.8	298	15.2	343	908	(0.5)	904	2.8	929	10.2	1,024
October	651	(1.8)	639	3.6	662	4.2	690	302	(1.7)	297	8.9	324	4.1	337	953	(1.8)	936	5.3	986	4.2	1,027
November	583	2.7	599	(0.7)	595	3.5	616	270	(0.4)	269	1.6	273	(1.1)	270	853	1.7	868	0.0	868	2.1	886
December	584	(1.5)	575	4.9	604	5.1	635	249	(2.0)	244	4.7	256	8.8	278	834	(1.7)	820	4.9	860	6.2	913
January	524	3.8	544	(1.4)	536	5.6	566	248	8.7	270	0.4	271	1.5	275	772	5.4	813	(0.8)	807	4.2	841
February	523	(1.2)	517	0.5	519			261	(7.5)	242	8.3	262			784	(3.3)	758	3.0	781		
March	603	(0.0)	603	3.4	623			278	(6.4)	260	14.9	299			881	(2.0)	863	6.8	922		
April	605	1.7	616	6.6	657			278	6.7	296	6.2	314			883	3.3	912	6.5	971		
May	651	1.7	662	8.3	717			301	1.3	305	6.6	325			952	1.5	967	7.7	1,042		
Total Year	\$7,323	1.4	\$7,424	1.7	\$7,553		\$5,411	\$3,382	1.3	\$3,426	2.3	\$3,506		\$2,515	\$10,705	1.4	\$10,850	1.9	\$11,058		\$7,926
June-Jan	4,941	1.7	5,027	0.2	5,037	7.4	5,411	2,264	2.6	2,323	(0.7)	2,306	9.1	2,515	7,205	2.0	7,350	(0.1)	7,343	7.9	7,926

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findlay Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
- (6) Leap year occurred in 2012, resulting in negative traffic and toll revenue impacts in February 2013 compared to February 2012.
- (7) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

**Table A-5**  
**Tunrpike I-576 - Beaver Valley Expressway - Monthly Transaction and Revenue Trends**  
 Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Toll Transactions (in 1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	146	1.8	149	(5.9)	140	4.4	146	12	(0.7)	12	14.0	14	9.8	15	158	1.6	161	(4.5)	154	4.9	161
July	148	3.3	153	(5.0)	146	5.9	154	11	0.5	11	17.4	13	34.4	18	160	3.1	165	(3.4)	159	8.3	172
August	152	2.6	156	(4.2)	150	6.6	159	13	0.6	13	4.8	14	30.8	18	165	2.5	170	(3.5)	164	8.6	178
September	145	34.4	195	(31.3)	134	8.7	145	12	19.9	14	(3.2)	14	26.9	17	157	33.3	209	(29.4)	147	10.4	163
October	151	14.8	174	(19.1)	140	8.9	153	13	2.8	14	9.8	15	21.3	18	165	13.8	187	(17.0)	155	10.1	171
November	143	(3.3)	138	(9.3)	125	5.8	133	12	(3.3)	12	25.7	15	(6.9)	14	155	(3.3)	150	(6.5)	140	4.5	146
December	140	(6.4)	131	(2.5)	128	9.8	140	11	(10.8)	10	22.3	12	23.3	15	151	(6.7)	141	(0.8)	140	10.9	155
January	127	(2.8)	123	(3.7)	119	4.6	124	10	(1.7)	10	14.8	11	19.7	13	137	(2.7)	133	(2.4)	130	5.8	137
February	123	(8.8)	112	(2.4)	110			10	(11.3)	9	13.8	11			134	(9.0)	121	(1.1)	120		
March	141	(9.3)	128	1.2	129			11	(5.9)	11	18.2	13			152	(9.0)	139	2.5	142		
April	137	(3.7)	132	3.0	135			11	5.7	12	21.1	14			148	(3.0)	143	4.5	150		
May	150	(2.5)	146	(0.2)	146			13	5.2	13	3.7	14			162	(1.9)	159	0.1	159		
Total Year	1,703	2.0	1,737	(7.8)	1,601		1,155	141	0.3	141	12.8	159		129	1,843	1.9	1,878	(6.3)	1,760		1,284
June-Jan	1,152	5.8	1,219	(11.3)	1,081	6.8	1,155	95	1.1	96	12.4	108	19.6	129	1,247	5.4	1,315	(9.6)	1,189	8.0	1,284

Toll Revenue (in \$1,000s)																					
Passenger Cars								Commercial Vehicles								Total Vehicles					
Month	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15	2011-12	% Chg	2012-13	% Chg	2013-14	% Chg	2014-15
June	\$69	8.5	\$75	33.5	\$100	3.5	\$103	\$17	16.8	\$20	41.8	\$28	12.4	\$32	\$86	10.1	\$94	35.3	\$128	5.4	\$135
July	74	3.4	77	35.0	104	5.1	109	19	1.5	19	48.9	28	29.4	37	93	3.0	96	37.7	132	10.3	146
August	76	2.7	78	35.8	106	5.9	113	22	0.1	22	34.4	29	29.0	37	98	2.1	100	35.5	135	10.9	150
September	73	34.3	98	(3.0)	95	8.1	102	19	20.6	23	23.1	28	26.8	36	92	31.5	121	2.0	123	12.4	138
October	76	14.2	87	14.4	99	8.5	107	22	5.5	23	41.0	32	18.5	38	97	12.3	109	19.9	131	10.9	145
November	72	(3.3)	69	28.0	89	5.1	93	20	(0.4)	20	56.3	31	(4.7)	30	92	(2.7)	89	34.3	120	2.6	123
December	70	(6.3)	66	37.9	90	8.9	98	18	(6.6)	17	52.5	26	24.2	33	88	(6.4)	83	40.9	117	12.3	131
January	64	31.0	83	0.3	84	4.0	87	17	26.9	21	17.9	25	17.0	29	80	30.1	104	3.8	108	7.0	116
February	62	28.8	79	(3.2)	77			17	20.3	21	16.6	24			79	26.9	100	0.9	101		
March	71	28.5	91	0.2	91			19	27.4	24	17.1	28			89	28.3	115	3.8	119		
April	68	36.2	93	2.2	95			18	39.0	26	22.3	31			87	36.8	119	6.5	127		
May	75	38.2	104	(1.0)	103			21	35.6	28	5.4	30			96	37.7	132	0.4	132		
Total Year	\$848	17.7	\$999	13.3	\$1,131		\$813	\$228	15.2	\$263	29.9	\$341		\$271	\$1,077	17.2	\$1,262	16.7	\$1,473		\$1,084
June-Jan	573	10.3	632	21.2	766	6.1	813	153	7.5	164	38.8	228	18.8	271	726	9.7	796	24.8	994	9.0	1,084

**NOTES:**

- (1) On January 2, 2011, a 3% E-ZPass and a 10% cash toll increase was implemented on all toll facilities except Turnpike 576.
- (2) On January 1, 2012, cash tolls were increased by 10% on all toll facilities except the Findaly Connector.
- (3) On January 6, 2013 a 2% E-Zpass and a 10% cash toll increase was implemented on all toll facilities.
- (4) On January 1, 2014 a 2% E-Zpass and a 12% cash toll increase was implemented on all toll facilities.
- (5) On January 4, 2015, a 5% E-Zpass and cash toll increase was implemented on all toll facilities except Turnpike I-576.
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- (7) Abnormally severe winter weather negatively impacted traffic and toll revenue in January and February 2014, particularly among passenger cars.

## Appendix B

### Current Regional Economic Conditions

The purpose of this Appendix section is to provide a general overview of current economic conditions along the Pennsylvania Turnpike Commission's (PTC's) facilities based on outreach with representatives of the five major metropolitan areas located in the vicinity of the PTC corridors. These areas include: Greater Pittsburgh in the Southwest of the Commonwealth; the Harrisburg Tri-County area in the South Central State Capital region; Scranton/Wilkes-Barre at the northern terminus of the Northeast Extension; Lehigh Valley, near the midpoint of the Northeast Extension; and Greater Philadelphia, which includes the intersection of both major Turnpike facilities, I-76 and the Northeast Extension. In addition to a series of interview discussions with pertinent staff representing the five Metropolitan Planning Organizations (MPOs), this section relies heavily on local and national news sources, as well as local planning documents, to investigate a variety of issues affecting these regions. The investigated characteristics include growth indicators or inhibitors such as housing demand, location and movements of major employers, local policy changes, state and local economic development incentives, municipal finances, freight and shipping trends, and major land development projects. For each area, conclusions are drawn based on available information as to how future Turnpike traffic may be affected by recent historical and current trends in ways not anticipated by the travel demand and econometric models.

#### Southwestern Pennsylvania Commission

The Southwestern Pennsylvania Commission (SPC) ten-County region is anchored by Pittsburgh, the second largest city in the Commonwealth, located in Allegheny County. In recent years, Pittsburgh, traditionally known as the Steel City, experienced a transition to a post-manufacturing economy, something few former “rust belt” cities have experienced. This change was driven heavily by growth in education (the area is home to major research universities such as Carnegie Mellon and the University of Pittsburgh), healthcare (the University of Pittsburgh Medical Center's Hospital system), advanced manufacturing (e.g., Carnegie Mellon, and General Motors racing to develop an autonomous car)<sup>1</sup>, as well as energy, financial services, and communications & information technology<sup>2</sup>.

As a result of these factors, Pittsburgh and Allegheny County have begun to focus on facilitating redevelopment and reuse of the older areas of the city and County<sup>3</sup>, in order to accommodate an increase in housing demand. Increased investment in local start-ups<sup>4</sup>, facilitating use of the Allegheny River as recreation<sup>5</sup>, and enhanced nightlife and hospitality planning<sup>6</sup> all serve to increase the desirability of the urban core with potentially net positive impact on the real estate market, the effects of which are already being seen. For example, Oxford Development currently plans to invest nearly \$400 million on 252,000 sq. ft. of office space, 300 apartment units, and a multi-modal transportation

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<sup>1</sup> Thrush, G. (2014, February 4). *The robots that saved Pittsburgh*. Retrieved from: <http://www.politico.com/magazine/story/2014/02/pittsburgh-robots-technology-103062.html#.VKwJGivF81p>

<sup>2</sup> Allegheny Conference on Community Development. (2013). *2013 Annual report*. Pittsburgh. Retrieved from: <http://www.alleghenyconference.org/PDFs/AnnualReports/AnnualReport13.pdf>

<sup>3</sup> County of Allegheny. (2014). *Allegheny County launches 2014 side yard and blighted structure program*. Pittsburgh. Retrieved from: <http://www.county.allegheny.pa.us/2014/20140523.aspx>

<sup>4</sup> Riverfront Ventures. (2015). *About*. Retrieved from: <http://www.riverfrontventures.com/about>

<sup>5</sup> Friends of the Riverfront. (2015). *Three Rivers Water Trail*. Retrieved from: <http://friendsoftheriverfront.org/trails/three-rivers-water-trail/>

<sup>6</sup> Pittsburgh Department of City Planning. (2014). *Pittsburgh Sociable City Plan*. Retrieved from: <http://www.pgh-sociablecity.org/>

center within the Strip District<sup>7</sup>, directly northeast of downtown. Also in this district, Buncher Co. is on track to replace 37 acres of underutilized land (currently surface parking) with 750 housing units plus retail and office space<sup>8</sup>. Elsewhere in downtown, Millcraft Investments will redevelop the old Saks Fifth Avenue site with 77 Condos atop a 578 space parking garage<sup>9</sup>. Development in close proximity to Pittsburgh International Airport is surpassing expectations as well, with previous plans more than two years ahead of anticipated schedule<sup>10</sup>.

Outside of Pittsburgh, the metro picture of future development is more varied, which has historically been the case in the suburbs and factory towns outside of the core. While active, these manufacturing centers employed many people, but once closed the workers in the surrounding areas were left with few options, resulting in long-lasting, systemic poverty in many areas<sup>11</sup>.

The other major factor affecting the SPC region is the development of the Marcellus Shale oil and gas industry, through the process known as hydraulic fracturing or “fracking”. Washington, Greene, Butler, Westmoreland, and Fayette Counties are all among the top 10 counties in Pennsylvania for the number of these wells in operation<sup>12</sup>. There are some advocates of shale oil and gas development citing its significant economic development potential<sup>13</sup>, which has been observed in low population rural areas like North Dakota. However, there is also some opposition to it based on the environmental and health impacts of the process, which backed by research, has identified links between fracking and groundwater quality within one kilometer of well sites<sup>14</sup>. However, based on the current fluctuations in global oil prices, the future of this industry is clouded, and declines are already being seen in areas which once experienced the largest boom<sup>15</sup>. Initial economic impacts in Washington and Green (the two largest shale well Counties in the region) are positive with significant new development in the areas of retail/hospitality, banking, healthcare, and other commercial properties; these are all secondary industries linked to shale gas employment<sup>16</sup>.

The Turnpike facilities in the region - Interstate 76, I-376 from Beaver Falls to New Castle, SR 576, SR 66, and SR 43 north of Uniontown - tend to circumvent the major growth locations (Pittsburgh, Washington, and Green Counties). With the exception of SR 576 near Pittsburgh International Airport, the strength of potential impacts of new development on increased traffic along the aforementioned

<sup>7</sup> Fontaine, T. (2014, December 9). *Oxford Development's confidence in Pittsburgh builds with new project*. Retrieved from: <http://triblive.com/news/allegheeny/7340454-74/million-oxford-development#axzz3M4rZcT9s>

<sup>8</sup> Belko, M. (2014, September 19). *Buncher Co. making progress on Strip District land*. Retrieved from: Pittsburgh Post-Gazette: <http://www.post-gazette.com/business/2014/09/19/Buncher-Co-making-progress-on-Strip-District-land/stories/201409190069>

<sup>9</sup> Belko, M. (2014, December 12). *Millcraft pushes condo plans for former Saks site in Downtown Pittsburgh*. Retrieved from: Pittsburgh Post-Gazette: <http://www.post-gazette.com/business/development/2014/12/12/Washington-County-developer-pushes-condo-plans-for-former-Saks-site/stories/201412120077>

<sup>10</sup> Belko, M. (2014, October 2). *Pittsburgh airport-area development exceeding expectations*. Retrieved from: Pittsburgh Post-Gazette: <http://www.post-gazette.com/business/2014/10/02/Pittsburgh-airport-area-development-exceeding-expectations/stories/201410020254>

<sup>11</sup> Vitale, P. (2013, December 8). *Poverty by design: Pittsburgh suburbs have long been home to the poor*. Retrieved from: <http://www.post-gazette.com/opinion/2013/12/08/Poverty-by-design/stories/201312080009>

<sup>12</sup> Natural Gas Intelligence. (2014). *Study examines pennsylvania population trends link to marcellus shale development*. Retrieved from: Natural Gas Intelligence: <http://www.naturalgasintel.com/articles/100541-study-examines-pennsylvania-population-trends-link-to-marcellus-shale-development>

<sup>13</sup> Energy from Shale. (2015). *America's energy economy*. Retrieved from: EnergyFromShale.org: <http://www.energyfromshale.org/americas-energy/economy>

<sup>14</sup> Jackson, R. B., Vengosh, A., Darrah, T. H., Warner, N. R., Down, A., Poreda, R. J., . . . Karr, J. D. (2013, July 9). Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction. *Proceedings of the National Academy of Sciences of the United States of America*, 110(28), 11250-11255.

<sup>15</sup> Kemp, J. (2015, January 26). *North Dakota oil rigs drop points to U.S. output decline after May*. Retrieved from: <http://www.reuters.com/article/2015/01/26/us-shale-production-oil-kemp-idUSKBN0KZ1EZ20150126>

<sup>16</sup> Bradwell, M., & Schum, R. (2014, December 21). *Project growth shines in Washington, Greene*. Retrieved from: Observer-Reporter.com: <http://www.observer-reporter.com/article/20141221/NEWS08/141229927#.VKwc0CvF81o>

facilities is difficult to ascertain. Given Pittsburgh's central location relative to these facilities, it is plausible that additional growth in the core could facilitate traffic growth along I-76 and SR 43 in Allegheny County depending on new commuting patterns. Potential future development related to fracking could serve to draw new commuters to Washington and Green Counties, but should have negligible impacts on Turnpike traffic due to the limited number of facilities providing access to counties in the Southwest area of the region.

## Lehigh Valley Planning Commission

The Lehigh Valley Planning Commission (LVPC) covers the Counties of Lehigh and Northampton with the two major municipalities of Allentown and Bethlehem. The cities in the valley have historically been based around steel, manufacturing, and other related industries. However, in the 1980s suburban relocation of industries and the decline of manufacturing caused a loss of population in the traditional city centers<sup>17</sup>. Historically home to Bethlehem Steel, an industrial anchor for Lehigh Valley, the region was left with many abandoned industrial parcels in the central city areas following the bankruptcy of the company in 2002<sup>18</sup>. As of 2011, manufacturing still remains the 4th largest industry in the region, behind healthcare, retail, and government; but Bethlehem Steel is nowhere to be found among the top employers<sup>19</sup>.

Lehigh Valley has more recently earned a reputation as being a relatively affordable location with easy access to major metro areas, particularly Philadelphia and New York City. Because of this, it has become a popular location for warehousing and distribution facilities due to the accessibility to these major consumer and production markets<sup>20</sup>, and has enabled a manufacturing and warehousing resurgence to occur within Lehigh Valley<sup>21</sup>. Another major success story has been the Sands Casino Resort in Bethlehem, which located just outside of downtown and redeveloped an old steel manufacturing site to provide a major entertainment and tourism site for the region. Busloads of visitors drawn from Philadelphia and New York City provide a boost to the local economy. Initial opponents worried about crime and other negative impacts associated with casinos, but those issues have not materialized<sup>22</sup>.

New development in the region has been heavily focused on revitalizing the central city area of Allentown, which is seeing redevelopment with the potential to shift future development away from the suburbs<sup>23</sup>. A new state program, the Neighborhood Improvement Zone, would channel taxes from new development in 128 acres of downtown Allentown back to the area they were collected from in order to subsidize rents and make urban development more competitive with suburban

<sup>17</sup> Lehigh Valley Planning Commission. (2013). *Lehigh Valley profile & trends (p9)*. Allentown, PA. Retrieved from: <http://www.lvpc.org/pdf/profilesTrends/profilesTrends-2013-01.pdf>

<sup>18</sup> Loomis, C. J., Neering, P., & Tkaczyk, C. (2004, April 5). *The sinking Of Bethlehem Steel*. Retrieved from: Fortune: [http://archive.fortune.com/magazines/fortune/fortune\\_archive/2004/04/05/366339/index.htm](http://archive.fortune.com/magazines/fortune/fortune_archive/2004/04/05/366339/index.htm)

<sup>19</sup> Lehigh Valley Planning Commission. (2013). *Lehigh Valley profile & trends (p34,35)*. Allentown, PA. Retrieved from: <http://www.lvpc.org/pdf/profilesTrends/profilesTrends-2013-01.pdf>

<sup>20</sup> Garner Economics. (2014, January 31). *A blueprint for success: An economic development strategy for sustainable growth in the Lehigh Valley*. Allentown, PA. Retrieved from: <http://www.lehighvalley.org/wp-content/uploads/2014/02/Garner-Economics-Lehigh-Valley-Analysis.pdf>

<sup>21</sup> Pedersen, B. (2014, October 6). *Competitive costs and consumer awareness spur more manufacturers to set up shop in America — and the Greater Lehigh Valley*. Retrieved from: Lehigh Valley Business: <http://www.lvb.com/article/20141006/LVB01/310029999/USA-USA-Competitive-costs-and-consumer-awareness-spur-more-manufacturers-to-set-up-shop-in-America-?and-the-Greater-Lehigh-Valley>

<sup>22</sup> Olanoff, L. (2014, May 18). *Sands Casino Resort Bethlehem hits five-year mark with few complaints*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/bethlehem/index.ssf/2014/05/sands\\_casino\\_resort\\_bethlehem.html](http://www.lehighvalleylive.com/bethlehem/index.ssf/2014/05/sands_casino_resort_bethlehem.html)

<sup>23</sup> Pedersen, B. (2014, February 13). *Will Allentown rebirth end the suburbs?* Retrieved from: Lehigh Valley Business: <http://www.lvb.com/article/20140213/LVB01/140219934/Will-Allentown-rebirth-end-the-suburbs>



counterparts<sup>24</sup>. Demand for downtown Allentown apartments has increased in recent years<sup>25</sup>, with many new projects in the works, including a 300,000 sq. ft. office building with 200 apartments<sup>26</sup>, a major hotel adjacent to the Hockey Arena<sup>27</sup>, and a \$285 million mixed use (residential, commercial and industrial) redevelopment of the former Lehigh Structural Steel property along the waterfront<sup>28</sup>. The City of Bethlehem, which lies in both Lehigh and Northampton Counties recently received a City Revitalization and Improvement Zone (CRIZ) designation. This 10-year, state funded, grant program enabled Bethlehem to fast track nearly \$600 million worth of projects, including a conference center, a state-of-the-art industrial facility, a technology center, and multiple professional mixed-use developments. The result is expected to generate nearly 3,000 temporary construction jobs and over 4,000 permanent jobs across Lehigh Valley, similar to past employment levels at Bethlehem Steel<sup>29</sup>. Lehigh Valley's location and lower land cost has also led Federal Express to seek to locate a regional "MegaHub" near the area's airport. This has drawn concerns about adverse traffic impacts in the US 22 corridor<sup>30</sup>.

The vast majority of new development set to occur within the Lehigh Valley appears to be focused on the two major urban cores of Allentown and Bethlehem rather than the suburbs<sup>31</sup>. Without speculating on commuting patterns to/from external regions, the majority of suburbs-to-city travel in the region will potentially focus along the US 22 and Interstate 78 east-west corridors. The FedEx MegaHub discussed above (if it comes to fruition) could generate additional trips along the Turnpike's Northeast Extension for trips headed south to Philadelphia or north to Scranton. But any traffic headed east to the New York City metro area would not utilize Turnpike facilities. Furthermore, its traffic impacts on US 22 may impede access to the Turnpike, resulting in negative effects. The biggest single positive impact on Turnpike traffic may be the existing distribution and warehousing cluster located west of the Turnpike within Lehigh County. The future of this industry in the region, which appears poised for steady growth, will potentially dictate future traffic growth along the Turnpike in the region more than any other single factor.

## Lackawanna/Luzerne MPO

The Lackawanna-Luzerne MPO's area contains its two namesake counties along with the principal cities of Scranton and Wilkes-Barre<sup>32</sup>. Aside from the typical manufacturing industry historically prevalent in Pennsylvania cities, the region is home to the Northern and Eastern Middle Fields of the Pennsylvania Anthracite Coal region. Production peaked shortly after World War I, with the only

<sup>24</sup> Hurdle, J. (2014, March 4). *Tax program aims to reverse decades-long decline in Allentown*. Retrieved from: The New York Times: [http://www.nytimes.com/2014/03/05/realestate/commercial/tax-program-aims-to-reverse-decades-long-decline-in-allentown.html?\\_r=3](http://www.nytimes.com/2014/03/05/realestate/commercial/tax-program-aims-to-reverse-decades-long-decline-in-allentown.html?_r=3)

<sup>25</sup> Olanoff, L. (2014, November 17). *Center City Allentown high-end apartments renting far faster than expected, developer says*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/allentown/index.ssf/2014/11/center\\_city\\_allentown\\_high-end.html](http://www.lehighvalleylive.com/allentown/index.ssf/2014/11/center_city_allentown_high-end.html)

<sup>26</sup> Pedersen, B. (2014, December 17). *City Center proposes \$130M, 15-story tower in Allentown*. Retrieved from: Lehigh Valley Business: [http://www.lvb.com/article/20141217/LVB01/141219827/City-Center-proposes-\\$130M-15-story-tower-in-Allentown](http://www.lvb.com/article/20141217/LVB01/141219827/City-Center-proposes-$130M-15-story-tower-in-Allentown)

<sup>27</sup> McEvoy, C. (2013, October 21). *Allentown hockey arena hotel to be Marriott Renaissance Hotel*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/allentown/index.ssf/2013/10/allentown\\_hockey\\_arena\\_hotel\\_t.html](http://www.lehighvalleylive.com/allentown/index.ssf/2013/10/allentown_hockey_arena_hotel_t.html)

<sup>28</sup> McEvoy, C. (2013, November 13). *First phase of \$285 million Allentown waterfront project approved*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/allentown/index.ssf/2013/11/first\\_phase\\_of\\_285\\_million\\_all.html](http://www.lehighvalleylive.com/allentown/index.ssf/2013/11/first_phase_of_285_million_all.html)

<sup>29</sup> Satullo, S. K. (2013, December 30). *Bethlehem wins tax zone designation; mayor likens award to 'CRIZmas present'*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/bethlehem/index.ssf/2013/12/bethlehem\\_wins\\_pennsylvania\\_cr.html](http://www.lehighvalleylive.com/bethlehem/index.ssf/2013/12/bethlehem_wins_pennsylvania_cr.html)

<sup>30</sup> Petty, P. (2014, October 6). *FedEx megahub traffic concerns to be focus of special meeting in Lehigh County*. Retrieved from: Lehigh Valley Live: [http://www.lehighvalleylive.com/breaking-news/index.ssf/2014/10/fedex\\_megahub\\_traffic\\_concerns.html](http://www.lehighvalleylive.com/breaking-news/index.ssf/2014/10/fedex_megahub_traffic_concerns.html)

<sup>31</sup> Lehigh Valley Planning Commission Staff Members. Phone Call, December 19, 2014.

<sup>32</sup> Luzerne County. (2006). *Lackawanna/Luzerne Metropolitan Planning Organization*. Retrieved from: Luzerne County Website: [http://www.luzernecounty.org/county/departments\\_agencies/planning\\_commission/lackawannaluzerne-metropolitan-planning-organization](http://www.luzernecounty.org/county/departments_agencies/planning_commission/lackawannaluzerne-metropolitan-planning-organization)

renewed interest occurring during the energy crisis of the 1970's<sup>33</sup>. After the decline of coal, the service and tourism industries emerged, beginning to fill the void<sup>34</sup>. With healthcare and secondary industries related to the shale gas development, such as transportation and warehousing, developing in more recent years<sup>35</sup>. A major driver of these activities is the large presence of shale gas wells in nearby Bradford and Susquehanna Counties<sup>36</sup>.

Currently, the Lackawanna-Luzerne area is seeing limited reinvestment in its major urban cores of Scranton and Wilkes-Barre. However, the region is making use of two key state level tools that are designed to facilitate redevelopment of underutilized urban land. First is the Keystone Opportunity Zone, which aims to provide reductions to state and local taxes on underutilized areas in an attempt to facilitate redevelopment<sup>37</sup>. This has seen some success as the Lackawanna-Luzerne region experienced the 3rd highest job creation in Keystone Zones at around 5,000 permanent jobs<sup>38</sup>. More job creation is, however, needed in the region as it still has a relatively high unemployment rate compared to other key Pennsylvania metro areas and the state average<sup>39</sup>.

The second tool is the State Land Bank which was created in 2012 to enable counties and municipalities to remove troubled properties from a vicious cycle of vacancy, abandonment, and foreclosure, in order to return them to productive use<sup>40</sup>. However, the land bank system alone may fail if there is insufficient demand for properties<sup>41</sup>, and it is difficult to ascertain if the combined effects of the Keystone Zones and State Land Bank will help make blighted property attractive again.

The City of Scranton, however, has run into some financial issues including failure to make full pension payments<sup>42</sup> and a struggling school district which may be broke within a few years<sup>43</sup>. Attempts to balance its budget have led the city of Scranton to triple its local services tax to \$3 per week on all who work in the city<sup>44</sup>, a move which has received criticism for disproportionately affecting low income workers. Furthermore, the Scranton/Wilkes-Barre metro area is reported to have the oldest housing stock in the entire nation<sup>45</sup>; which makes reuse of existing stock increasingly difficult and potentially necessitates further redevelopment of an area with already low housing demand.

Despite these issues, there have been some modest successes in recent years. For instance, the United Neighborhood Center completed a rehabilitation of two blocks in South Scranton, an eight-year, \$15

<sup>33</sup> Mining History Association. (2011). *Scranton, PA*. Retrieved from: Mining History Association: <http://www.mininghistoryassociation.org/ScrantonHistory.htm>

<sup>34</sup> Lackawanna County. (2013). *Lackawanna County Lines Report*. Retrieved from: <http://www.lackawannacounty.org/uploads/communityaffairs/CountyLines.pdf>

<sup>35</sup> Lackawanna/Luzerne MPO Staff Members. Phone Call, December 15, 2014.

<sup>36</sup> Natural Gas Intelligence. (2014). *Study examines pennsylvania population trends link to marcellus shale development*. Retrieved from Natural Gas Intelligence: <http://www.naturalgasintel.com/articles/100541-study-examines-pennsylvania-population-trends-link-to-marcellus-shale-development>

<sup>37</sup> Commonwealth of Pennsylvania. (2015). *Keystone Opportunity Zones*. Retrieved from: Department of Community and Economic Development: <http://www.newpa.com/business/expansion-relocation/keystone-opportunity-zones>

<sup>38</sup> Commonwealth of Pennsylvania. (2012). *Keystone Opportunity Zone overview (2008 to 2010)*. Retrieved from: Department of Community and Economic Development: [http://www.newpa.com/webfm\\_send/2082](http://www.newpa.com/webfm_send/2082)

<sup>39</sup> Lackawanna/Luzerne MPO Staff Members. Phone Call, December 15, 2014.

<sup>40</sup> Rolland, K. L. (2013). *Pennsylvania Legislation enables municipalities to create land banks*. Retrieved from: Federal Reserve Bank of Philadelphia: [http://www.philadelphiafed.org/community-development/publications/cascade/82/03\\_pa-legislature-enables-municipalities-to-create-land-banks.cfm](http://www.philadelphiafed.org/community-development/publications/cascade/82/03_pa-legislature-enables-municipalities-to-create-land-banks.cfm)

<sup>41</sup> Wind, K. (2014, December 22). *Movement underway in NEPA counties, cities to form land banks*. Retrieved from: CitizensVoice.com: <http://citizensvoice.com/news/movement-underway-in-nepa-counties-cities-to-form-land-banks-1.1806370>

<sup>42</sup> Morgan-Besecker, T. (2014, December 11). *Scranton likely won't make full pension payment*. Retrieved from: TheTimes-Tribune.com: <http://thetimes-tribune.com/news/scranton-likely-won-t-make-full-pension-payment-1.1801050>

<sup>43</sup> Hall, S. H. (2014, December 22). *Board president: Scranton School District could be broke within 5 years*. Retrieved from: TheTimes-Tribune.com: <http://thetimes-tribune.com/news/board-president-scranton-school-district-could-be-broke-within-5-years-1.1806525>

<sup>44</sup> Russ, H. (2014, November 12). *A former Steel Town In Pennsylvania is tripling a local tax to survive*. Retrieved from: Reuters: <http://www.businessinsider.com/r-exclusive-as-cities-struggle-scranton-in-pennsylvania-to-triple-a-local-tax-2014-11>

<sup>45</sup> Thomas, G. S. (2014, August 13). *Which metro has America's oldest housing stock? Not Buffalo (though we're close)*. Retrieved from: Buffalo Business First: <http://www.bizjournals.com/buffalo/news/2014/08/13/which-metro-has-americas-oldest-housing-stock-not.html>



million project, with new rental housing as well as space for small businesses and start-ups<sup>46</sup>. The number of railroad carloads to and from the area experienced a 6.5 percent increase in 2013 over 2012, which can be seen as a strong positive indicator of recent economic growth for the region<sup>47</sup>. Additionally, a new multi-modal transportation center broke ground in downtown Scranton linking transit and commercial buses, taxis, and opening up the potential for future passenger rail into the region<sup>48</sup>. Another major attraction includes the Mohegan Sun Casino in Wilkes-Barre, a development which created 1,500 jobs<sup>49</sup>, but has also caused problems for local restaurants and small retail businesses by pulling customers away from downtown to the casino ‘resort’ area<sup>50</sup>.

Future impacts from this area’s development on the Turnpike’s Northeast Extension traffic volumes are limited due to the economic uncertainty of this area economic potential. In any event, the Turnpike has relatively limited direct access to Scranton and Wilkes-Barre compared to the toll free alternative Interstate 81 for north-south trips.

### Delaware Valley Regional Planning Commission

The Delaware Valley Regional Planning Commission (DVRPC) covers the greater Philadelphia area including five Pennsylvania Counties (Bucks, Chester, Delaware, Montgomery, and Philadelphia) and four in New Jersey (Burlington, Camden, Gloucester, and Mercer)<sup>51</sup>. There are 352 municipalities in the region with the largest being Philadelphia (a consolidated City-County). The region as a whole experienced population decline during the 1970’s, but has since returned to growth. As of 2010, the region’s largest industries include services, manufacturing, retail, and FIRE (finance, insurance and real estate)<sup>52</sup>. In 2013, the largest employers in Philadelphia were primarily in the education and healthcare industries, with a few other notables from other industries such as Comcast in telecommunications and US Airways in air transportation<sup>53</sup>. As with many places across the U.S., employment locations have begun to shift from the urban core and older suburban areas to younger suburbs further from the core. But the strongest employment center remains in the central city area for now<sup>54</sup>.

<sup>46</sup> Lockwood, J. (2014, December 13). *UNC revitalization projection transforms South Scranton neighborhood*. Retrieved from: TheTimes-Tribune.com: <http://thetimes-tribune.com/news/unc-revitalization-project-transforms-south-scranton-neighborhood-1.1802289>

<sup>47</sup> Luzerne County Planning Commission . (2014). *Connections Newsletter: Winter 2014*. Retrieved from: Lackawanna/Luzerne MPO: [http://www.luzernecounty.org/uploads/images/assets/county/departments\\_agencies/planning\\_commission/LzPlan\\_Conn-03-14\\_35208\\_prf2.pdf](http://www.luzernecounty.org/uploads/images/assets/county/departments_agencies/planning_commission/LzPlan_Conn-03-14_35208_prf2.pdf)

<sup>48</sup> Luzerne County Planning Commission . (2014). *Connections Newsletter: Summer 2014*. Retrieved from: Lackawanna/Luzerne MPO: [http://www.luzernecounty.org/uploads/images/assets/county/departments\\_agencies/planning\\_commission/MPO\\_Connections\\_Summer\\_2014\\_\(Revised\).pdf](http://www.luzernecounty.org/uploads/images/assets/county/departments_agencies/planning_commission/MPO_Connections_Summer_2014_(Revised).pdf)

<sup>49</sup> Allabaugh, D. (2011, November 19). *Mohegan Sun CEO celebrates casino's economic impact*. Retrieved from: Citizens Voice: <http://citizensvoice.com/news/mohegan-sun-ceo-celebrates-casino-s-economic-impact-1.1234480>

<sup>50</sup> Allabaugh, D. (2014, March 23). *Restaurants say Mohegan Sun hurt business; charge unlevel playing field*. Retrieved from: TheTimes-Tribune.com: <http://thetimes-tribune.com/news/business/restaurants-say-mohegan-sun-hurt-business-charge-unlevel-playing-field-1.1655280>

<sup>51</sup> Delaware Valley Regional Planning Commission. (2015, January 8). *Our region*. Retrieved from: <http://www.dvrpc.org/OurRegion/default.aspx>

<sup>52</sup> Delaware Valley Regional Planning Commission. (2014, May 1). *Regional employment centers and sites, 2010*. Retrieved from: <http://www.dvrpc.org/reports/ADR021.pdf>

<sup>53</sup> Philadelphia Research Initiative. (2014, April 5). *Philadelphia: The State of the City*. Retrieved from: <http://www.pewtrusts.org/en/research-and-analysis/reports/2014/04/05/philadelphia-the-state-of-the-city-a-2014-update>

<sup>54</sup> Delaware Valley Regional Planning Commission. (2014, May 1). *Regional Employment Centers and Sites, 2010*. Retrieved from: <http://www.dvrpc.org/reports/ADR021.pdf>

One of the biggest factors currently affecting the region is the recent housing pick-up in the City of Philadelphia. Of the eleven zip codes in Philadelphia which saw the highest building permit activity in 2013, six are within the extended city center and four more are directly adjacent to it<sup>55</sup>. There are also a number of redevelopment opportunities within the core of the Philadelphia region, including an old steel mill site<sup>56</sup>, a historic site which is also the largest single piece of developable land in Philadelphia<sup>57</sup>, and a master plan to develop Drexel University and the surrounding area in West Philadelphia<sup>58</sup>. One of the single biggest redevelopment plans is that of the Naval Yard (which employed more than 40,000 people at its peak), located in South Philadelphia<sup>59</sup>. Aside from occupying more than 1,200 acres, the yard redevelopment has already begun to attract small businesses despite only being in its early stages<sup>60</sup>. Furthermore, millennials are shifting demand towards rental and multi-family housing (typically located in the center city areas) throughout the entire Metro Area<sup>61</sup>. The cores of suburban counties, townships and boroughs are experiencing a boom as well, with real estate firms recording substantial increases in business for 2013 in Conshohocken Borough (Montgomery County)<sup>62</sup>, Upper Makefield Township (Bucks County)<sup>63</sup>, Spring City (Chester County)<sup>64</sup> and Washington Township, NJ<sup>65</sup>.

The downside to strong demand for housing across the region is a notable increase in housing prices. One study gave the Philadelphia region a 'C' grade in affordable housing. A recent conference identified potential solutions such as regional transit improvements and inclusionary zoning policies. It was also identified that private developers are open to providing more options, but need more incentives beyond low-income housing tax credits<sup>66</sup>. Commercial development trends are less positive than housing, as Philadelphia's CBD experienced zero office-related construction activity during the last quarter of 2013. Not only is this a potential indicator of poor growth conditions, but it is also an anomaly when compared to other major urban cores<sup>67</sup>. Despite this, construction contracts of all types

<sup>55</sup> The Philadelphia Public Record. (2014, December 26). *Philadelphia's new housing boom – How far will it go?* Retrieved from: <http://www.phillyrecord.com/2014/12/philadelphias-new-housing-boom-how-far-will-it-go/>

<sup>56</sup> DiStefano, J. (2014, December 9). For ex-mill on the Delaware: Industry jobs - and boating, too? Retrieved from: <http://www.philly.com/philly/blogs/inq-phillydeals/Ex-steel-mill-on-the-Delaware-.html>

<sup>57</sup> DiStefano, J. (2014, November 6). Convert or demolish? 'Largest piece of development land in Phila.' on Wash. Ave. Retrieved from: [http://www.philly.com/philly/blogs/inq-phillydeals/Convert\\_or\\_demolish\\_Wash\\_Ave\\_project\\_For\\_Sale.html](http://www.philly.com/philly/blogs/inq-phillydeals/Convert_or_demolish_Wash_Ave_project_For_Sale.html)

<sup>58</sup> DiStefano, J. (2014, February 26). Drexel, Amtrak, Brandywine weigh giant development plans. Retrieved from <http://www.philly.com/philly/blogs/inq-phillydeals/Drexel-Amtrak-Brandywine-weighing-giant-West-Philly-redevelopment.html>

<sup>59</sup> Philadelphia Industrial Development Corporation. (2014, January 1). History of the navy yard. Retrieved from: <http://www.navyyard.org/who-we-are/history>

<sup>60</sup> Jones, A. (2014, December 23). Small businesses relocate to The Navy Yard. Retrieved from: [http://www.phillytrib.com/news/business/article\\_9e4028e8-e4c1-52a6-90a5-35eef22afb85.html](http://www.phillytrib.com/news/business/article_9e4028e8-e4c1-52a6-90a5-35eef22afb85.html)

<sup>61</sup> Arvedlund, E. (2014, November 23). Millennials are fueling a rental boom but when will the tide turn? Retrieved from: [http://www.philly.com/philly/classifieds/real\\_estate/20141123\\_Millennials\\_are\\_fueling\\_a\\_rental\\_boom\\_but\\_when\\_will\\_the\\_tide\\_turn\\_.html](http://www.philly.com/philly/classifieds/real_estate/20141123_Millennials_are_fueling_a_rental_boom_but_when_will_the_tide_turn_.html)

<sup>62</sup> Heavens, A. (2014, October 6). Town by town: From steel town to youthful boomtown. Retrieved from: [http://articles.philly.com/2014-10-06/business/54657594\\_1\\_fayette-street-tucciarone-steel-town](http://articles.philly.com/2014-10-06/business/54657594_1_fayette-street-tucciarone-steel-town)

<sup>63</sup> Heavens, A. (2014, November 16). Town by town: Location and good schools make for high-end living. Retrieved from: [http://www.philly.com/philly/classifieds/real\\_estate/town-by-town/20140615\\_Town\\_By\\_Town\\_Location\\_and\\_good\\_schools\\_make\\_for\\_high-end\\_living.html?c=r](http://www.philly.com/philly/classifieds/real_estate/town-by-town/20140615_Town_By_Town_Location_and_good_schools_make_for_high-end_living.html?c=r)

<sup>64</sup> Heavens, A. (2014, December 1). Town by town: Spring City's location keeps it attractive to buyers. Retrieved from: [http://articles.philly.com/2014-12-01/business/56586510\\_1\\_ryan-homes-houses-royersford](http://articles.philly.com/2014-12-01/business/56586510_1_ryan-homes-houses-royersford)

<sup>65</sup> Heavens, A. (2014, June 15). Town by town: In Gloucester's Washington Twp., lures are many. Retrieved from: [http://www.philly.com/philly/classifieds/real\\_estate/town-by-town/20140615\\_Town\\_By\\_Town\\_In\\_Gloucester\\_s\\_Washington\\_Twp\\_lures\\_are\\_many.html?c=r](http://www.philly.com/philly/classifieds/real_estate/town-by-town/20140615_Town_By_Town_In_Gloucester_s_Washington_Twp_lures_are_many.html?c=r)

<sup>66</sup> Arvedlund, E. (2014, December 7). Conference to look at region's affordable housing. Retrieved from: [http://articles.philly.com/2014-12-07/real\\_estate/56807054\\_1\\_affordable-housing-low-income-housing-tax-credits-affordability](http://articles.philly.com/2014-12-07/real_estate/56807054_1_affordable-housing-low-income-housing-tax-credits-affordability)

<sup>67</sup> Center City District & Central Philadelphia Development Corporation. (2014, December 1). State of Center City Philadelphia 2014. Retrieved from: <http://www.centercityphila.org/docs/SOCC2014.pdf>

across the DVRPC region are up 54 percent versus 2013 with about two-thirds of all contract value coming from non-residential construction<sup>68</sup>, which is indicative of strong office development in suburban areas. Two major developments which will continue to add to this are the VEVA office park in Blue Bell<sup>69</sup> and redevelopment of the King of Prussia Mall area<sup>70</sup>. Furthermore, the recent closure of the Naval Air Base located in Willow Grove has opened the 800+ acre area to redevelopment<sup>71</sup>, which has seen substantial interest from a wide range of developers.

All in all, growth trends are somewhat mixed within the center city area, but a stronger potential appears to exist in the suburbs. Because of the location of Turnpike facilities north and west of the central city and the locations and availability of alternative transportation modes (commuter rail, subways, and transit in general) within the region, growth within the urban core whether it be population or employment, could have only a minor spillover effect on future traffic. Suburban growth however, holds the key to substantial ramping up of future traffic levels. This is especially true if employment locations continue to move further out from the core. This is already being seen, as the specific development examples mentioned previously all lie along the Turnpike's I-76 corridor. The result would be some increase in suburb-to-suburb commuting with heavy reliance on limited access roadway facilities such as I-76 and the Northeast Extension.

### Tri-County Regional Planning Commission

The Tri-County Regional Planning Commission includes Perry, Cumberland, and Dauphin Counties in the State Capital Region with Harrisburg located in Southwest Dauphin County. Dauphin and Harrisburg anchor the region with the densest and most populous areas, while Cumberland possesses more suburban qualities, and Perry retains a distinctly rural character. Historically, Harrisburg was an iron and steel manufacturing center with many factory towns in the surrounding area<sup>72</sup>, all of which experienced significant population declines between 1970 and 2000 as residents relocated to suburban areas<sup>73</sup>. Because the region is home to the state Capital, its economy is and will continue to be supported heavily by government employment. Penn State Hershey Medical Center, Giant Food Stores, and the Hershey Company Resort and Factory (which drew 3.1 million visitors in 2012<sup>74</sup>) round out the top five employers with healthcare, retail and recreation/manufacturing respectively<sup>75</sup>. The region is also home to several military facilities including the New Cumberland Army Depot, the Carlisle Barracks, and Naval Support Activity Mechanicsburg; all located in Cumberland County<sup>76</sup>, as well as the Pennsylvania Air National Guard 193rd Special Operations Wing (SOW) operating out of

<sup>68</sup> Kanaley, R. (2014, December 2). Construction contracts up sharply for Philadelphia region. Retrieved from: [http://www.philly.com/philly/business/20141203\\_Construction\\_contracts\\_up\\_sharply\\_for\\_Philadelphia\\_region.html?c=r](http://www.philly.com/philly/business/20141203_Construction_contracts_up_sharply_for_Philadelphia_region.html?c=r)

<sup>69</sup> Grecu, V. (2014, December 17). 425,000 Sq. Ft. Class A Office Space Unveiled in Suburban Philadelphia. Retrieved from: <http://www.cpexecutive.com/cities/philadelphia/425000-sq-ft-class-a-office-space-unveiled-in-suburban-philadelphia/1004109634.html>

<sup>70</sup> Laughlin, J. (2014, November 24). King of Prussia poised for burst of development. Retrieved from: [http://articles.philly.com/2014-11-24/news/56459805\\_1\\_prussia-mall-valley-forge-golf-course-king](http://articles.philly.com/2014-11-24/news/56459805_1_prussia-mall-valley-forge-golf-course-king)

<sup>71</sup> Kostelni, N. (2014, April 21). Willow Grove air base redevelopment. Retrieved from: <http://www.bizjournals.com/philadelphia/blog/real-estate/2014/04/ten-developers-vie-for-862-acre-site.html?page=all>

<sup>72</sup> City-Data.com. (2009). Harrisburg: History. Retrieved from: <http://www.city-data.com/us-cities/The-Northeast/Harrisburg-History.html>

<sup>73</sup> Tri-County Regional Planning Commission. (2014, December 19). Harrisburg Area Transportation Study Chapter 2: Demographics. Retrieved from: <http://www.tcrpc-pa.org/HATS/Documents/03 RTP 2040 Demographics.pdf>

<sup>74</sup> Coaster Grotto. (2015, January 1). Theme Park Attendance. Retrieved from: <http://www.coastergrotto.com/theme-park-attendance.jsp>

<sup>75</sup> Capital Region Economic Development Corporation. (2014). Harrisburg-Carlisle MSA Business Patterns. Retrieved from: <https://app.box.com/s/o3getukhiq44lz911esu>

<sup>76</sup> MilitaryBases.com. (2012, January 1). Pennsylvania Military Bases. Retrieved from: <http://militarybases.com/pennsylvania/>

Harrisburg International Airport in Dauphin County<sup>77</sup>. It is important to note that the future of these facilities is uncertain due to the potential for Base Realignment and Closure (BRAC) in the coming years.

There are a number of local developments in Harrisburg that have significant potential to affect the future economic climate of the region, the highlight of which being the financial issues that plagued the city starting in 2012<sup>78</sup>. Because of these issues, Harrisburg became the first case in which a Securities Exchange Commission regulator has “charged a municipality for misleading statements made outside of its securities disclosure documents”<sup>79</sup>. Despite financial troubles in the past, the city is currently looking at a 10-year tax abatement for new development within the city (in an attempt to incentivize infill and redevelopment). Concerns have been raised due to the fact that nearly half of all assessed property in the city is exempt from current taxes primarily due to the capitol and other state-owned facilities<sup>80</sup>. At the same time, the city is attempting to move forward with a future land use plan and zoning code update, which has received pushback from local business owners and realtors for being more restrictive despite being a needed update to an outdated structure<sup>81</sup>. In light of these issues, it is unsurprising to find a lack of current or planned development projects.

Cumberland County, on the other hand, appears to have a more positive outlook for the immediate future, despite its proximity to financially troubled Harrisburg. Based on the County’s register of Developments of Regional Impact (or DRIs - projects defined as containing at least 25 dwelling units or 20,000 sq. ft. of commercial/industrial uses) there are 549 single family and 218 multi-family housing units and 213,000 sq. ft. of commercial space in development<sup>82</sup>. Furthermore, there appears to be a potentially positive long-term growth environment within Cumberland County, and its townships are currently investigating ways to streamline the land development process to better accommodate future growth while simultaneously conserving community characteristics and the natural environment<sup>83</sup>. Based on conversations with Tri-County Planning Commission staff members, the regional governance is highly fragmented (there are over 100 municipalities)<sup>84</sup>. There is also evidence of potential increases of freight activity from major carriers such as FedEx, operating out of Harrisburg International Airport<sup>85</sup>. The current trends appear to show population shifting more into the suburbs of Carlisle in Cumberland County and away from Harrisburg.

As population moves away from Harrisburg, which will continue to be a major employment center as the largest city in the region and due to major government employment, travel distance throughout the region may increase. This holds the potential for increased traffic along the Turnpike, which forms

<sup>77</sup> Air National Guard. (2014, January 1). 193rd Special Operations Wing. Retrieved from: <http://www.193sow.ang.af.mil/>

<sup>78</sup> Malawsky, N. (2012, May 29). Harrisburg’s eye-popping debt total is just one piece of city’s bleak financial puzzle. Retrieved from: [http://www.pennlive.com/midstate/index.ssf/2012/05/harrisburgs\\_eye-popping\\_debt\\_t.html](http://www.pennlive.com/midstate/index.ssf/2012/05/harrisburgs_eye-popping_debt_t.html)

<sup>79</sup> Malanga, S. (2013, May 31). The many ways that cities cook their bond books. Retrieved from: <http://www.wsj.com/news/articles/SB10001424127887324659404578501241181682894?mg=reno64-wsj&url=http://online.wsj.com/article/SB10001424127887324659404578501241181682894.html>

<sup>80</sup> Vendel, C. (2014, October 20). Tax breaks for Harrisburg development will be topic of meeting. Retrieved from: [http://www.pennlive.com/midstate/index.ssf/2014/10/tax\\_breaks\\_harrisburg\\_developm.html](http://www.pennlive.com/midstate/index.ssf/2014/10/tax_breaks_harrisburg_developm.html)

<sup>81</sup> Vendel, C. (2014, June 26). Harrisburg business owners and Realtors fear impact of new zoning on development. Retrieved from: [http://www.pennlive.com/midstate/index.ssf/2014/06/harrisburg\\_business\\_owners\\_and.html](http://www.pennlive.com/midstate/index.ssf/2014/06/harrisburg_business_owners_and.html)

<sup>82</sup> Cumberland County. (2014, January 1). 2014 Developments of Regional Impact. Retrieved from: <http://www.ccpa.net/index.aspx?NID=3504>

<sup>83</sup> Walmer, D. (2014, September 17). Panel discusses streamlined land development in Cumberland County. Retrieved from: [http://cumberlink.com/news/local/panel-discusses-streamlined-land-development-in-cumberland-county/article\\_7809dd1e-3eb8-11e4-9dba-ab2ed1341ea3.html](http://cumberlink.com/news/local/panel-discusses-streamlined-land-development-in-cumberland-county/article_7809dd1e-3eb8-11e4-9dba-ab2ed1341ea3.html)

<sup>84</sup> Tri-County Regional Planning Commission. Phone Call, January 21, 2015.

<sup>85</sup> Tri-County Regional Planning Commission. Phone Call, January 21, 2015.

an east-west spine through Cumberland and Dauphin counties. I-81 is roughly parallel to the Turnpike in this area and would also likely experience increased traffic volumes from these developments.

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