### NEW ISSUE Book Entry Only

In the opinion of Squire Patton Boggs (US) LLP, Bond Counsel, under existing law (i) assuming continuing compliance with certain covenants and the accuracy of certain representations, interest on the 2018 Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax; however, interest on the 2018 Bonds is included in the calculation of a corporation's adjusted current earnings for purposes of, and thus may be subject to, the corporate alternative minimum tax (applicable to taxable years beginning before January 1, 2018), and (ii) interest on, and any profit made on the sale, exchange or other disposition of, the 2018 Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. Interest on the 2018 Bonds may be subject to certain federal taxes imposed only on certain corporations. For a more complete discussion of the tax aspects, see "TAX MATTERS" herein.



# \$73,880,000 STATE OF OHIO TURNPIKE REVENUE BONDS, 2018 SERIES A

and

\$425,965,000
STATE OF OHIO
TURNPIKE JUNIOR LIEN REVENUE BONDS, 2018 SERIES A
(INFRASTRUCTURE PROJECTS)
ISSUED BY THE
OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

**Dated: Date of Delivery** 

Due: February 15 in the years shown herein

The State of Ohio Turnpike Revenue Bonds, 2018 Series A (the "2018 Senior Lien Bonds") are being issued by the Ohio Turnpike and Infrastructure Commission, a body both corporate and politic of the State of Ohio (the "Commission"), under the Amended and Restated Master Trust Agreement (Eighteenth Supplemental Trust Agreement) dated as of April 8, 2013, as amended and supplemented by various supplemental trust agreements, including the Twenty-Second Supplemental Trust Agreement dated as of February 15, 2018 (collectively, the "Senior Lien Trust Agreement"), each between the Commission and The Huntington National Bank, Columbus, Ohio, as trustee (the "Senior Lien Trustee"). The 2018 Senior Lien Bonds are being issued for the purpose of providing funds to finance costs of making certain capital improvements to the Turnpike System (as hereinafter defined), to fund a required increase in the Senior Lien Debt Service Reserve Requirement, and to pay costs of issuance of the 2018 Senior Lien Bonds.

The State of Ohio Turnpike Junior Lien Revenue Bonds, 2018 Series A (the "2018 Junior Lien Bonds") (the 2018 Senior Lien Bonds and the 2018 Junior Lien Bonds are referred to collectively herein as the "2018 Bonds") are being issued by the Commission under a Junior Lien Master Trust Agreement, dated as of August 1, 2013, as supplemented by the First Supplemental Junior Lien Trust Agreement dated as of August 1, 2013 and the Second Supplemental Junior Lien Trust Agreement dated as of February 15, 2018 (collectively, the "Junior Lien Trust Agreement"), each between the Commission and The Huntington National Bank, Columbus, Ohio, as trustee (the "Junior Lien Trustee"). The 2018 Junior Lien Bonds are being issued for the purpose of providing funds required to pay all or a portion of the costs of Infrastructure Projects (as hereinafter defined), to fund a required increase in the Junior Lien Debt Service Reserve Requirement, and to pay costs of issuance of the 2018 Junior Lien Bonds.

The 2018 Bonds will be dated the date of initial issuance and delivery thereof and will bear interest from their delivery date at the rates shown on the inside front cover, calculated on the basis of a year of 360 days consisting of twelve 30 day months. The 2018 Bonds shall be issued in the denominations of \$5,000 and integral multiples thereof. The inside cover page of this Official Statement contains information concerning the maturity schedules, principal amounts, interest rates, prices and yields of the 2018 Bonds.

The 2018 Bonds are subject to redemption prior to maturity as described herein. See "DESCRIPTION OF THE 2018 BONDS - Redemption of 2018 Bonds" herein

THE 2018 BONDS AND THE INTEREST THEREON WILL BE SPECIAL OBLIGATIONS OF THE STATE OF OHIO ISSUED BY THE COMMISSION AND WILL BE PAYABLE SOLELY FROM THE SYSTEM PLEDGED REVENUES. NOTHING IN THE 2018 BONDS, THE SENIOR LIEN TRUST AGREEMENT, THE JUNIOR LIEN TRUST AGREEMENT OR ANY OTHER DOCUMENT WILL REPRESENT OR CONSTITUTE GENERAL OBLIGATIONS, DEBT OR BONDED INDEBTEDNESS OF THE COMMISSION, THE STATE OF OHIO OR ANY POLITICAL SUBDIVISION OR AGENCY THEREOF, AND THE HOLDERS OR OWNERS OF THE 2018 BONDS WILL NOT BE GIVEN THE RIGHT, AND HAVE NO RIGHT, TO HAVE EXCISE TAXES, AD VALOREM TAXES OR OTHER TAXES LEVIED BY THE STATE OF OHIO OR THE TAXING AUTHORITY OF ANY OTHER POLITICAL SUBDIVISION FOR THE PAYMENT OF THE PRINCIPAL OF OR INTEREST OR REDEMPTION PREMIUM, IF ANY, ON THE 2018 BONDS. NEITHER GENERAL CREDIT, FAITH NOR RESOURCES OF THE COMMISSION OR THE STATE OF OHIO, OR ANY POLITICAL SUBDIVISION OR AGENCY THEREOF, ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST OR REDEMPTION PREMIUM, IF ANY, ON THE 2018 BONDS.

The 2018 Senior Lien Bonds will be payable from and secured by a pledge of and a senior lien on System Pledged Revenues, as defined in the Senior Lien Trust Agreement, on parity with other outstanding and any additional Senior Lien Bonds (as herein defined that may be issued), and the 2018 Junior Lien Bonds will be payable from and secured by a junior pledge of and a junior lien on the System Pledged Revenues and a first pledge and lien on the Junior Lien Funds, as defined in the Junior Lien Trust Agreement, on a parity with any additional Junior Lien Bonds that may be issued under the Junior Lien Trust Agreement. Principal and interest payments on the 2018 Junior Lien Bonds are paid from System Pledged Revenues after the payment of principal and interest on all outstanding Senior Lien Bonds (and any applicable payment to the Debt Service Reserve Account of the Senior Lien Bebt Service Fund), and thus the 2018 Junior Lien Bonds are subordinate to the 2018 Senior Lien Bonds and all other Senior Lien Bonds issued or to be issued under the Senior Lien Trust Agreement. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS" herein.

The 2018 Bonds are offered when, as and if issued and received by the Underwriters, subject to prior sale and to withdrawal or modification of the offer without notice. Certain legal matters relating to the issuance of the 2018 Bonds are subject to the approving opinion of Squire Patton Boggs (US) LLP, Bond Counsel (see "LEGAL MATTERS" and "TAX MATTERS" herein). Certain legal matters will be passed upon for the Commission by its General Counsel, Jennifer L. Stueber. Certain legal matters will be passed upon for the Underwriters by Tucker Ellis LLP. The 2018 Bonds are expected to be available for delivery through The Depository Trust Company on or about February 15, 2018.

Citigroup

**BofA Merrill Lynch** 

Fidelity Capital Markets Fifth Third Securities, Inc. KeyBanc Capital Markets Inc. Loop Capital Markets

Date: January 31, 2018

### \$73,880,000 STATE OF OHIO TURNPIKE REVENUE BONDS, 2018 SERIES A

Maturity Date					
(February 15)	Principal Amount	Interest Rate	<u>Yield</u>	<u>Price</u>	CUSIP**
2037	\$ 5,470,000	4.000%	3.410%*	104.963	67760HMC2
2038	12,500,000	4.000%	3.440%*	104.704	67760HMD0

\$55,910,000 5.000% Term Bond Maturing February 15, 2043, Price 115.950, Yield 3.130%\* CUSIP 67760HME8\*\*

### \$425,965,000 STATE OF OHIO TURNPIKE JUNIOR LIEN REVENUE BONDS, 2018 SERIES A (INFRASTRUCTURE PROJECTS)

Maturity Date					**
(February 15)	Principal Amount	Interest Rate	<u>Yield</u>	<u>Price</u>	<u>CUSIP</u> **
2027	\$ 18,915,000	5.000%	2.560%	119.503	67760HLJ8
2028	23,125,000	5.000%	2.660%	120.428	67760HLK5
2029	32,610,000	5.000%	2.780%*	119.265	67760HLL3
2030	7,570,000	4.000%	3.010%*	108.494	67760HLM1
2030	33,300,000	5.000%	2.870%*	118.402	67760HLN9
2031	19,600,000	4.000%	3.210%*	106.711	67760HLQ2
2031	25,000,000	5.000%	2.940%*	117.736	67760HLP4
2032	29,510,000	4.000%	3.330%*	105.659	67760HLS8
2032	30,000,000	5.000%	3.010%*	117.074	67760HLR0
2033	18,980,000	4.000%	3.400%*	105.050	67760HLT6
2033	50,000,000	5.000%	3.060%*	116.604	67760HLU3
<b>*</b>					
2035	14,505,000	5.000%	3.130%*	115.950	67760HLV1
2036	17,120,000	5.000%	3.160%*	115.671	67760HLW9
2037	13,915,000	5.000%	3.180%*	115.485	67760HLX7
2038	11,900,000	4.000%	3.560%*	103.674	67760HLY5

\$19,310,000 5.000% Term Bond Maturing February 15, 2043, Price 114.563, Yield 3.280%\* CUSIP 67760HLZ2\*\*

\$45,000,000 4.000% Term Bond Maturing February 15, 2046, Price 102.404, Yield 3.710%\* CUSIP 67760HMA6\*\*

\$15,605,000 5.000% Term Bond Maturing February 15, 2046, Price 114.288, Yield 3.310%\* CUSIP 67760HMB4\*\*

\* Priced at the stated yield to the February 15, 2028 optional redemption date at a redemption price of 100%.

<sup>\*\*</sup> 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.

### OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

# **MEMBERS**

	Membership
<u>Title</u>	Term Expires
Chairman*	6/30/21
Vice-Chairman*	6/30/18
Secretary-Treasurer*	6/30/19
Member	6/30/22
Member	6/30/20
Ex-Officio Member	(a)
Ex-Officio Non-Voting Member	(b)
Non-Voting Member	(c)
Non-Voting Member	(d)
	Chairman* Vice-Chairman* Secretary-Treasurer* Member Member Ex-Officio Member Ex-Officio Non-Voting Member Non-Voting Member

- \* Officers are elected for four year terms; the current terms for the Chairman and the Secretary-Treasurer expire on June 30, 2019; the current term of office for the Vice Chairman expires on June 30, 2018.
- (a) While Director of Ohio Department of Transportation
- (b) While Director of Office of Budget and Management
- (c) Appointed by President of Ohio Senate
- (d) Appointed by Speaker of Ohio House of Representatives

# **EXECUTIVE STAFF**

RANDY COLE, Executive Director

JENNIFER L. STUEBER, General Counsel

MARTIN S. SEEKELY, Deputy Executive Director, Chief Financial Officer/Comptroller

MATTHEW COLE, Director of Administration

ANTHONY YACOBUCCI, Chief Engineer

DAVID J. MILLER, Director of Audit and Internal Control

SHARON D. ISAAC, Director of Toll Operations

MARK MUSSON, Director of Contract Administration

ADAM L. GREENSLADE, Director of Governmental Affairs, Marketing and Communications

BRIAN KELLEY, Chief Technology Officer

ANDREW HERBERGER, Director of Service Plaza Operations

# **BOND COUNSEL**

SQUIRE PATTON BOGGS (US) LLP Cleveland, Ohio

# **MUNICIPAL ADVISOR**

PFM FINANCIAL ADVISORS LLC Cleveland, Ohio

### **TRUSTEE**

THE HUNTINGTON NATIONAL BANK Columbus, Ohio

### INDEPENDENT AUDITORS

PLANTE & MORAN, PLLC Columbus, Ohio

### **CONSULTING ENGINEERS**

AECOM TECHNICAL SERVICES, INC. Akron, Ohio

# TRAFFIC CONSULTANT

JACOBS ENGINEERING GROUP INC. Cincinnati, Ohio This Official Statement does not constitute an offering of any security other than the original offering of bonds (the "2018 Bonds") of the State of Ohio (the "State") by the Ohio Turnpike and Infrastructure Commission (the "Commission") identified on the cover hereof. No person has been authorized by the State or the Commission to give any information or to make any representation, other than that contained in this Official Statement, and if given or made, such other information or representation not so authorized must not be relied upon as having been given or authorized by the Commission or the State. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, and there shall not be any sale of the 2018 Bonds by any person in any jurisdiction in which it is unlawful to make such offer, solicitation or sale.

The information and expressions of opinions 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 the financial position or other aspects of the Commission since the date hereof.

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 respective 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.

THIS OFFICIAL STATEMENT, INCLUDING THE EXHIBITS, CONTAINS FORECASTS, PROJECTIONS AND ESTIMATES THAT ARE BASED ON CURRENT EXPECTATIONS ASSUMPTIONS. IF AND WHEN INCLUDED IN THIS OFFICIAL STATEMENT, THE WORDS "EXPECTS," "FORECASTS," "PROJECTS," "INTENDS," "ANTICIPATES," "ESTIMATES," "ASSUMES" ANALOGOUS EXPRESSIONS ARE INTENDED TO IDENTIFY FORWARD-LOOKING STATEMENTS. 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 INCLUDE, AMONG OTHERS, GENERAL ECONOMIC AND BUSINESS CONDITIONS, CHANGES IN POLITICAL, SOCIAL AND ECONOMIC CONDITIONS, REGULATORY INITIATIVES AND COMPLIANCE WITH GOVERNMENTAL REGULATIONS, LITIGATION AND VARIOUS OTHER EVENTS, CONDITIONS AND CIRCUMSTANCES, MANY OF WHICH ARE BEYOND THE CONTROL OF THE COMMISSION. THESE FORWARD-LOOKING STATEMENTS SPEAK ONLY AS OF THE DATE OF THIS OFFICIAL STATEMENT. THE COMMISSION DOES NOT PLAN TO ISSUE ANY UPDATE OR REVISION TO ANY FORWARD-LOOKING STATEMENT CONTAINED HEREIN TO REFLECT ANY CHANGE IN THE COMMISSION'S EXPECTATIONS WITH REGARD THERETO OR ANY CHANGE IN EVENTS, CONDITIONS OR CIRCUMSTANCES ON WHICH ANY SUCH STATEMENT IS BASED, SUBJECT TO ITS CONTRACTUAL OBLIGATIONS OF CONTINUING DISCLOSURE HEREIN.

THE 2018 BONDS HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE 2018 BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

The 2018 Bonds, like all obligations of state and local governments or their agencies and authorities, are subject to changes in value due to changes in the condition of the market for tax-exempt obligations or changes in the financial position of the Commission due to the economy or otherwise. It is possible under certain market or economic conditions, or if the financial condition of the Commission should change, that the market price of the 2018 Bonds could be adversely affected. With regard to the risk involved in a loss of the exclusion from gross income for purposes of federal income taxation of interest payable on the 2018 Bonds, see "TAX MATTERS" herein. With regard to the risk involved in a downward revision or withdrawal of the ratings for the 2018 Bonds, see "RATINGS" herein.

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### OFFICIAL STATEMENT

# \$73,880,000 STATE OF OHIO TURNPIKE REVENUE BONDS, 2018 SERIES A ISSUED BY THE OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

and

\$425,965,000
STATE OF OHIO
TURNPIKE JUNIOR LIEN REVENUE BONDS, 2018 SERIES A
(INFRASTRUCTURE PROJECTS)
ISSUED BY THE
OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

### INTRODUCTION

This Official Statement has been prepared by the Ohio Turnpike and Infrastructure Commission (the "Commission") in connection with the original issuance and sale by the Commission of the \$73,880,000 State of Ohio Turnpike Revenue Bonds, 2018 Series A identified on the cover page hereof (the "2018 Senior Lien Bonds") and the \$425,965,000 State of Ohio Turnpike Junior Lien Revenue Bonds, 2018 Series A identified on the cover page hereof (the "2018 Junior Lien Bonds").

All financial and other information presented herein has been provided by the Commission from its records, except for information expressly attributed to other sources (e.g. information relating to the Ohio Department of Transportation). The presentation of information, including tables of receipts from tolls and other sources, is intended to show recent historic information, and is not intended to indicate future or continuing trends in the financial position or other aspects of the Commission. No representation is made that past experience, as might be shown by such financial and other information, will necessarily continue or be repeated in the future.

This Official Statement should be considered in its entirety and no subject discussed should be considered less important than any other subject by reason of its location in the text.

Additional information relating to the financial condition of the Commission may be obtained by contacting its Deputy Executive Director/Chief Financial Officer/Comptroller at the offices of the Commission, 682 Prospect Street, Berea, Ohio 44017, telephone (440) 234-2081. General information about the Commission and the Ohio Turnpike is also available on the Internet at <a href="www.ohioturnpike.org">www.ohioturnpike.org</a>. The information contained on that website is not incorporated as part of this Official Statement.

Terms used in this Official Statement and not otherwise defined shall have the meanings set forth for such terms in the GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT attached to this Official Statement as Exhibit A-1 and in the GLOSSARY OF TERMS AND SUMMARY OF JUNIOR LIEN TRUST AGREEMENT attached to this Official Statement as Exhibit A-2.

# **Ohio Turnpike and Infrastructure Commission**

The Commission (formerly the Ohio Turnpike Commission) is a body both corporate and politic of the State of Ohio (the "State") created by the Ohio Turnpike Act (the "Act") with the power to construct, operate and maintain the Ohio Turnpike System (as described below) and to finance Infrastructure Projects (as hereinafter defined) authorized by Amended Substitute House Bill 51 ("H.B. 51") as described below.

See "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein. The Commission's composition, powers, duties, functions, duration and all other attributes are derived from the Act, as amended and supplemented from time to time. See "THE COMMISSION" herein.

# **Purpose of the Senior Lien Bonds**

The proceeds of the 2018 Senior Lien Bonds will be used to pay costs of capital improvement projects of the Turnpike System, to fund a required increase in the Senior Lien Debt Service Reserve Requirement due to the issuance of the 2018 Senior Lien Bonds, and to pay the costs of issuance of the Senior Lien Bonds. See "PLAN OF FINANCE" and "SOURCES AND USES OF PROCEEDS" herein.

# Purpose of the Junior Lien Bonds - H.B. 51 and the Partnership with ODOT

The proceeds of the 2018 Junior Lien Bonds will be used to pay costs of Infrastructure Projects in accordance with H.B. 51, to fund a required increase in the Junior Lien Debt Service Reserve Requirement due to the issuance of the 2018 Junior Lien Bonds and to pay the costs of issuance of the 2018 Junior Lien Bonds. See "PLAN OF FINANCE" and "SOURCES AND USES OF PROCEEDS" herein.

On April 1, 2013, Ohio Governor John Kasich signed H.B. 51 into law, creating a "public-public" partnership between the Commission and the Ohio Department of Transportation ("ODOT"). H.B. 51 authorizes the Commission to issue Turnpike revenue bonds as a means of funding certain transportation infrastructure projects ("Infrastructure Projects") as defined under Chapter 5537 of the Ohio Revised Code. H.B. 51 was enacted by the Ohio General Assembly to implement the Ohio Jobs and Transportation Plan proposed by Governor Kasich to address a significant funding shortfall announced by ODOT in January 2012 that would have required postponement of significant Ohio transportation projects. Under H.B. 51, the Director of ODOT can apply to the Commission for funding for Infrastructure Projects provided those projects (1) have been approved by the Transportation Review Advisory Council ("TRAC") that oversees a project selection process for major new transportation projects and (2) have a "nexus" to the Turnpike System. See "THE INFRASTRUCTURE PROJECT PROGRAM – Infrastructure Project Selection Process" herein.

The stated purposes of H.B. 51 were to (1) allow ODOT to work with the Commission to fund Infrastructure Projects that would otherwise need to be postponed, (2) improve Ohio's transportation network to attract and maintain new businesses, and (3) create new jobs. See "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein. For additional information concerning the Commission and ODOT, see "THE COMMISSION" and "OHIO DEPARTMENT OF TRANSPORTATION" herein.

At the time H.B. 51 was enacted, the Commission planned to issue a total of \$1.5 billion of Turnpike revenue bonds for Infrastructure Projects between 2013 and 2018. On August 15, 2013, the Commission issued its \$994,812,816 Turnpike Junior Lien Revenue Bonds, 2013 Series A (Infrastructure Projects) (the "2013 Junior Lien Bonds"), the proceeds of which have been spent (or will be spent by the end of 2018) on a number of Infrastructure Projects. The 2018 Junior Lien Bonds, when issued, will be the second series of Junior Lien Bonds issued to fund Infrastructure Projects. For a list of Infrastructure Projects funded with proceeds of the 2013 Junior Lien Bonds, and a list of Infrastructure Projects expected to be funded with proceeds of the 2018 Junior Lien Bonds, see "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein.

# Senior Lien Trust Agreement and Junior Lien Trust Agreement

The 2018 Senior Lien Bonds are being issued pursuant to that certain Amended and Restated Master Trust Agreement (Eighteenth Supplemental Trust Agreement) dated as of April 8, 2013 (the "Master Senior Lien Trust Agreement"), between the Commission and The Huntington National Bank, as Trustee (the

"Senior Lien Trustee"), as amended and supplemented by various supplemental trust agreements, including the Twenty-Second Supplemental Trust Agreement dated as of February 15, 2018 (collectively, the "Senior Lien Trust Agreement") and a resolution adopted by the Commission on January 22, 2018. The 2018 Junior Lien Bonds are being issued pursuant to that certain Junior Lien Master Trust Agreement dated as of August 1, 2013 (the "Junior Lien Master Trust Agreement") between the Commission and The Huntington National Bank, as Trustee (the "Junior Lien Trustee"), as supplemented and amended by various supplemental trust agreements including the Second Supplemental Junior Lien Trust Agreement dated as of February 15, 2018 (the "Second Supplement" and, together with the Junior Lien Master Trust Agreement, the "Junior Lien Trust Agreement") and a resolution adopted by the Commission on January 22, 2018.

### **Interest on 2018 Bonds**

Interest on the 2018 Senior Lien Bonds and the 2018 Junior Lien Bonds is payable on each February 15 and August 15, commencing on August 15, 2018 (each an "Interest Payment Date" with respect to the 2018 Senior Lien Bonds and the 2018 Junior Lien Bonds, respectively).

# Redemption

The 2018 Bonds are subject to optional redemption and mandatory sinking fund redemption prior to maturity under certain circumstances as more fully set forth herein. See "DESCRIPTION OF THE 2018 BONDS - Redemption of 2018 Bonds."

### Limitation

THE 2018 BONDS AND THE INTEREST THEREON WILL BE SPECIAL OBLIGATIONS OF THE STATE OF OHIO ISSUED BY THE COMMISSION AND WILL BE PAYABLE SOLELY FROM THE SYSTEM PLEDGED REVENUES. NOTHING IN THE 2018 BONDS, THE SENIOR LIEN TRUST AGREEMENT, THE JUNIOR LIEN TRUST AGREEMENT OR ANY OTHER DOCUMENT WILL REPRESENT OR CONSTITUTE GENERAL OBLIGATIONS, DEBT OR BONDED INDEBTEDNESS OF THE COMMISSION, THE STATE OF OHIO OR ANY POLITICAL SUBDIVISION OR AGENCY THEREOF, AND THE HOLDERS OR OWNERS OF THE 2018 BONDS WILL NOT BE GIVEN THE RIGHT, AND HAVE NO RIGHT, TO HAVE EXCISE TAXES, AD VALOREM TAXES OR OTHER TAXES LEVIED BY THE STATE OF OHIO OR THE TAXING AUTHORITY OF ANY OTHER POLITICAL SUBDIVISION FOR THE PAYMENT OF THE PRINCIPAL OF OR INTEREST OR REDEMPTION PREMIUM, IF ANY, ON THE 2018 BONDS. NEITHER THE GENERAL CREDIT, FAITH NOR RESOURCES OF THE COMMISSION OR THE STATE OF OHIO, OR ANY POLITICAL SUBDIVISION OR AGENCY THEREOF, ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST OR REDEMPTION PREMIUM, IF ANY, ON THE 2018 BONDS.

# **Security for the 2018 Senior Lien Bonds**

The 2018 Senior Lien Bonds will be equally and ratably secured on parity with other outstanding and any additional Senior Lien Bonds, which are secured equally and ratably by a lien on and pledge of the System Pledged Revenues.

The 2018 Senior Lien Bonds are further secured by a first pledge and lien on moneys on deposit in the Senior Lien Debt Service Fund, including the Senior Lien Debt Service Reserve Account therein, as more fully described in "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS."

The following table presents a current summary of the Senior Lien Bonds outstanding prior to the issuance of the 2018 Senior Lien Bonds (collectively, the "Outstanding Senior Lien Bonds"), including the series designation, dated date, original principal amount and outstanding (as of December 31, 2017)

principal amount, and also includes the principal amount of the 2018 Senior Lien Bonds that will be outstanding upon issuance:

		Original Principal	<b>Outstanding Principal</b>
<u>Series</u>	<b>Dated Date</b>	<b>Amount</b>	<u>Amount<sup>†</sup></u>
1998 Series A	September 1, 1998	\$298,575,000	\$223,470,000
2009 Series A	May 19, 2009	137,205,000	46,950,000
2010 Series A	November 1, 2010	131,290,000	21,650,000
2013 Series A	August 1, 2013	73,495,000	73,495,000
2017 Series A	August 21, 2017	114,670,000	114,670,000
2018 Series A	February 15, 2018	73,880,000	73,880,000
Total:	-	\$829,115,000	\$554,115,000

<sup>&</sup>lt;sup>†</sup>Does not include the principal amount of the series that have been defeased.

The Outstanding Senior Lien Bonds are more fully described in "CERTAIN FINANCIAL INFORMATION – Debt Administration: Outstanding Bonds" herein.

# **Security for the 2018 Junior Lien Bonds**

The 2018 Junior Lien Bonds will be equally and ratably secured and on parity with other outstanding and any additional Junior Lien Bonds, which are secured equally and ratably by a lien on and pledge of the System Pledged Revenues, which lien and pledge are junior and subordinate to the lien and pledge of the System Pledged Revenues created by the Senior Lien Trust Agreement. Junior Lien Bonds are subordinate to Senior Lien Bonds issued under the Senior Lien Trust Agreement. THE PAYMENT OF THE 2018 JUNIOR LIEN BONDS, THE OUTSTANDING JUNIOR LIEN BONDS AND ANY AND ALL ADDITIONAL JUNIOR LIEN BONDS THAT MAY BE ISSUED IS SUBJECT TO THE PRIOR RIGHT OF PAYMENT FROM SYSTEM PLEDGED REVENUES TO THE PAYMENT OF ALL SENIOR LIEN BONDS ISSUED UNDER THE SENIOR LIEN TRUST AGREEMENT. UPON AN EVENT OF DEFAULT UNDER THE JUNIOR LIEN TRUST AGREEMENT, THE JUNIOR LIEN TRUSTEE MAY NOT DECLARE THE PRINCIPAL AND INTEREST OF ALL OUTSTANDING JUNIOR LIEN BONDS TO BE IMMEDIATELY DUE AND PAYABLE UNLESS THE SENIOR LIEN TRUSTEE HAS DECLARED ACCELERATION OF MATURITY OF THE OUTSTANDING SENIOR LIEN BONDS AS A RESULT OF A DEFAULT UNDER THE SENIOR LIEN TRUST AGREEMENT.

The 2018 Junior Lien Bonds are further secured by a first pledge and lien on moneys on deposit in the Junior Lien Debt Service Fund and the Junior Lien Debt Service Reserve Fund as more fully described in "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS" herein.

The following table presents a current summary of the Junior Lien Bonds outstanding prior to the issuance of the 2018 Junior Lien Bonds (the "Outstanding Junior Lien Bonds"), including the series designation, dated date, original principal amount and outstanding (as of December 31, 2017) principal amount, and also includes the principal amount of the 2018 Junior Lien Bonds that will be outstanding upon issuance:

		Original Principal	Outstanding Principal
<u>Series</u>	<b>Dated Date</b>	<b>Amount</b>	<b>Amount</b>
2013 Series A	August 1, 2013	\$994,812,816	\$1,078,577,399‡
2018 Series A	February 15, 2018	425,965,000	425,965,000
Total:		\$1,420,777,816	\$1,504,542,399

<sup>&</sup>lt;sup>‡</sup>Amount includes "accreted" principal of capital appreciation bonds

Tolls are not charged or collected by the Commission for the use by the traveling public of Non-System Projects or Infrastructure Projects, and payment of debt service on any Senior Lien Bonds that may be issued for Non-System Projects and any Junior Lien Bonds (including the 2018 Junior Lien Bonds) issued for Infrastructure Projects is not dependent on, subject to, or related in any manner to progress on or the completion or operation of any funded Non-System Project or Infrastructure Project.

### **Toll Increases**

In conjunction with the Commission's issuance of Senior Lien Bonds and Junior Lien Bonds in 2013, the Commission implemented a series of forward-looking toll increases over a 10 year period starting January 1, 2014 and ending December 31, 2023. Specifically, the Commission, at its July 15, 2013 meeting, implemented a toll increase plan that increases rates by an average of 2.7% each year (the historical rate of inflation) for those 10 years. In addition to the forward-looking toll increase plan implemented beginning in 2014, the Commission has authority to increase tolls further, including if such increase is required by the toll covenants in the Senior Lien Trust Agreement or the Junior Lien Trust Agreement. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS – Toll Rate Covenants." In addition, the Commission expects to make further modifications to its toll system that may impact how tolls are calculated and collected for certain trips. See "TOLLS AND TOLL COLLECTION - Planned Toll Collection System Modernization" herein.

As described above, the Commission implemented a forward-looking toll increase plan starting in 2014. One exception to that plan for toll increases related to passenger vehicles using *E-ZPass®* and making local trips of less than 30 miles over the same 10 year period, for which tolls were not increased. After 2023, the Commission's projections currently assume that the toll rate for these particular trips will experience a one-time increase to equal the same per mile rate as charged for all *E-ZPass®* trips. The Commission recently completed a strategic plan for modernizing the toll collection system, and if all or parts of that plan are implemented, further revisions to the toll collection system may impact this exception. See "TOLLS AND TOLL COLLECTION – Planned Toll Collection System Modernization" herein.

The Commission's projections also currently assume that after 2023 tolls will increase for all vehicles, regardless of class or payment method, by 2.7 percent each year for 5 years beginning on January 1, 2024 and then, beginning on January 1, 2029, 2 percent annually thereafter. See "EXHIBIT D – TRAFFIC AND REVENUE STUDY."

The toll increases have been determined by the Commission taking into account the amount necessary to meet existing and projected debt service and operational and maintenance obligations of the Commission. For a complete description of toll increases adopted by the Commission, see "EXHIBIT D - TRAFFIC AND REVENUE STUDY" and "TOLLS AND TOLL COLLECTION" herein.

### **Traffic and Revenue Study and Projected Results**

Attached hereto as Exhibit D is the Ohio Turnpike Traffic and Revenue Study dated January 22, 2018 (the "Traffic and Revenue Study") prepared by Jacobs Engineering Group Inc. (the "Traffic Consultant"). The Traffic and Revenue Study contains forecasts and projections of Turnpike transactions and gross toll revenues along with key assumptions in arriving at those forecasts and projections. Those forecasts assume escalation of toll rates previously approved by the Commission, as described above. Those forecasts also assume that the changes to the toll collection system described herein are timely implemented by the Commission. See "TOLLS AND TOLL COLLECTION – Planned Toll Collection System Modernization" herein. The traffic and gross toll forecasts are subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty. The Traffic and Revenue Study is subject to the limitations and assumptions detailed therein, and should be read in its entirety for a full description of the assumptions and methodologies used to develop such forecasts and the related limitations. See "INVESTMENT

CONSIDERATIONS," "TOLLS AND TOLL COLLECTION - New Toll Collection Systems" and "EXHIBIT D - TRAFFIC AND REVENUE STUDY" herein.

The Commission retained the Traffic Consultant to prepare the Traffic and Revenue Study and to project the financial results of the Commission's operations for the years 2017-2057. The projections summarized under the heading "PROJECTED OPERATING RESULTS AND DEBT SERVICE COVERAGE" herein are based upon revenue estimates (taking into account implementation of toll adjustments adopted or to be adopted by the Commission) and operating expense projections and the implementation of the Commission's 2018-2028 capital program (described below). The results of this analysis are included in the Traffic and Revenue Study included as Exhibit D, which should be read in its entirety.

### THE COMMISSION

Since 1955, the Commission has operated the Ohio Turnpike System (the "Turnpike System"), a modern, limited access highway which travels 241 miles across the State of Ohio from its border with Pennsylvania to its border with Indiana. Various sections of the Turnpike System are designated as Interstate Routes 76, 80 and 90. See "THE TURNPIKE SYSTEM - General" herein.

The Commission determines toll rates, collects revenues, controls disbursements and has title to all assets, except for title to real estate, which the Commission purchases in the name of the State of Ohio with the beneficial use being held by the Commission.

# **Governance and Oversight**

The Commission consists of ten members, including seven voting members. Six of the voting members are appointed by the Governor with the advice and consent of the Ohio Senate, no more than three of whom may be members of the same political party. The seventh voting member is the Director of ODOT, who is a voting member ex-officio. The three remaining members, the Director of the Office of Budget and Management (OBM), a state senator and a state representative, have non-voting status. The state senator and the state representative are named, respectively, by the President of the Ohio Senate and the Speaker of the Ohio House of Representatives. Members appointed prior to July 1, 2013 are serving eight-year terms staggered such that one term starts or expires every two years. Members appointed on and after July 1, 2013 are serving five-year terms.

Legislation was enacted in 1996 to create the Turnpike Oversight Committee, which was subsequently renamed the Turnpike Legislative Review Committee. The Committee consists of six members of the Ohio General Assembly (three each from the Ohio Senate and the Ohio House of Representatives). The Commission reports quarterly to the Committee on certain Commission matters, including financial and budgetary matters and on-going and proposed projects of the Commission. The Turnpike Legislative Review Committee is also authorized to review the location of new Turnpike System projects the Commission plans to undertake.

Legislation was enacted in 2007 to require the Commission to (i) notify the Governor and legislative leaders prior to any toll change, (ii) allow certain committee chairs of the legislature responsible for transportation budget matters to request the Commission to provide past budgets and present proposed budgets, (iii) submit its annual budget to the Governor, OBM, the leadership of the Ohio General Assembly and the Ohio Legislative Service Commission for their review, (iv) seek approval of OBM prior to any debt issuance and, in connection therewith, any trust agreements or supplements thereto, and to (v) add the Director of Development (now called the Director of the Development Services Agency) and the Director of OBM as additional ex-officio non-voting members of the Commission.

# **Ohio Turnpike and Infrastructure Commission Members**

		Membership
<u>Name</u>	<u>Title</u>	Term Expires
I N. II 1		6/20/21
Jerry N. Hruby	Chairman*	6/30/21
Timothy J. Paradiso	Vice-Chairman*	6/30/18
Sandra K. Barber	Secretary-Treasurer*	6/30/19
George F. Dixon, III	Member	6/30/22
Michael A. Peterson	Member	6/30/20
Jerry Wray	Ex-Officio Member	(a)
Timothy S. Keen	Ex-Officio Non-Voting Member	(b)
Sen. Frank LaRose	Non-Voting Member	(c)
Rep. Thomas F. Patton	Non-Voting Member	(d)

- \* Officers are elected for four year terms; the current terms for the Chairman and the Secretary-Treasurer expire on June 30, 2019; the current term for the Vice-Chairman expires June 30, 2018.
- (a) While Director of Ohio Department of Transportation
- (b) While Director of Office of Budget and Management
- (c) Appointed by President of Ohio Senate
- (d) Appointed by Speaker of Ohio House of Representatives

### **Executive Staff**

Executive Director. Randy Cole has served as Executive Director of the Commission since December 2014 and served as a Commission member from January 2011 through September 2014. He previously served as Controlling Board President and Policy Advisor to OBM, where he also coordinated government reform initiatives for Governor John Kasich's administration. In 2013, Government Technology magazine named Randy as one of the nation's Top 25 Doers, Dreamers & Drivers. He currently serves on the Advisory Board of the "Ohio Smart Mobility Initiative," a collaboration among universities, transportation agencies and private companies, which is focused on bringing advanced transportation technologies to Ohio. Randy's private sector experience includes six years as a sales and marketing executive at FirstEnergy Corporation and four years as President of a technology company that developed online applications for government clients. Randy has a B.S. in Public Policy Management from the University of Akron and completed graduate coursework at The Ohio State University.

General Counsel. Jennifer L. Stueber, J.D., was appointed as the Commission's General Counsel in 2015 bringing with her 20 years of experience representing clients in both the public and private sectors. The General Counsel oversees all legal affairs of the Commission relating to litigation; personal injury and property damages claims; all dispute resolutions; employment and workers' compensation matters; insurance matters; finance; and real property matters including acquisitions, dispositions and appropriations. The General Counsel also serves as the Commission's Chief Ethics Officer, Public Records Officer and Data Privacy Officer. Jennifer was at a major Cleveland law firm before joining the Commission in 2015 where she advised clients in matters of real estate development, private finance and public finance, including serving as bond counsel for various state and local governments, as well as underwriter's counsel, issuer's counsel, and disclosure counsel. Jennifer is a graduate of Cleveland Marshall College of Law and earned her B.A. degree from The Ohio State University.

Deputy Executive Director, Chief Financial Officer and Comptroller. Martin S. Seekely oversees all financial operations of the Commission, including budgeting, accounts receivable, accounts payable, payroll, E-ZPass® Customer accounts, investments, and debt service management. Marty joined the Commission in May 2010 with 31 years of financial experience. During the 16 years that he was employed at Phar-Mor, Inc., he held various positions including Vice President, Chief Financial Officer, and

Controller. His financial experience also includes serving as Controller for Boston Distributors, Inc.; Controller for Riser Foods, Inc.; and Assistant Controller at Fisher Foods, Inc. Marty received a B.S.B.A. from John Carroll University and became a Certified Public Accountant in 1985.

Director of Administration. Matthew J. Cole is responsible for the day-to-day operations of the Commission's Human Resources, Safety Services and Office Services Departments. Prior to coming to the Commission in May 2003, Matt worked as a Human Resources Manager for Cuyahoga County, Ohio. His experience includes 20+ years in the public sector and an additional 3 years in the private sector. Prior to working for Cuyahoga County and the Commission, Matt worked for the Bellefaire Jewish Community Board as a Counselor for emotionally and behaviorally troubled youth. Matt holds both a B.A. in Social Work and Criminal Justice and a M.A. in Labor Relations and Human Resources from Cleveland State University. He is certified as a Professional in Human Resources (PHR).

Director of Audit and Internal Control. David J. Miller oversees the entire audit function of the Commission. He has also served as the project manager for the procurement and implementation of the present toll collection system inclusive of electronic tolling via *E-ZPass*®. Previously, Dave held the positions of EDP Auditor and Chief Accountant for the Commission before being placed in charge of the Internal Audit and Toll Audit Departments in 1996. Prior to joining the Commission in 1993, Dave worked in public accounting with the Cleveland Office of Arthur Andersen & Company. While there, he performed financial auditing and tax preparation services for non-SEC clients and specialized in the audit and control of information systems. Dave holds a Bachelor of Arts Degree in Accounting from Grove City College, Pennsylvania. He is a Certified Public Accountant and a Certified Information Systems Auditor.

Director of Toll Operations. Sharon D. Isaac oversees the Commission's Toll Operations Department, which is responsible for managing all 31 interchanges and all toll collector activities through which the Commission's main revenue source is generated. Sharon's tenure with the Commission began in 1991 in the Legal Department as Staff Counsel. Sharon was promoted to the position of Assistant General Counsel in 1995 and to the position of Director of Toll Operations in 1996. Prior to her employment with the Commission, Sharon practiced law with a defense-oriented firm specializing in workers' compensation and employment law. She also served in the public sector as a Judicial Law Clerk for the Cuyahoga County Court of Common Pleas, and as a Contract Administrator for New Jersey Transit Bus Operations, Inc. Sharon holds a B.A. in Political Science from Barnard College of Columbia University, and a J.D. from The George Washington University National Law Center.

Director of Governmental Affairs. Adam L. Greenslade serves as the Commission's liaison with the State legislature as well as the many communities, including cities, townships and 13 counties through which the Turnpike traverses. Adam brings with him 15 years' experience in government relations and public affairs. Prior to joining the Commission, Adam served as Director of Clydescope Economic Development Corporation in Clyde, Ohio, and was the owner of North Coast Strategy Group, a full-service government relations, public affairs and grant writing firm. He has previous experience working in both chambers of the State legislature and was a registered lobbyist on the state and federal level. Adam is a graduate of The Ohio State University with a degree in Geography - Urban and Regional Systems.

Chief Engineer. Anthony D. Yacobucci, P.E., has earned both a Bachelor's and Master's degree in Civil Engineering, and is a registered Professional Engineer with more than 25 years of experience. Tony has worked for the Commission for the last four years, most recently as Assistant Chief Engineer of Structures and Facilities. In this role, Tony was responsible for the planning, design, construction and maintenance of the Commission's structures and facilities. Some of his recent projects include: the rehabilitation of the Erie Islands and Commodore Perry Service Plazas, the rehabilitation of the approach embankments at eleven Sandusky County bridges, and rehabilitation and painting of numerous bridges throughout the Turnpike. Prior to joining the Commission, Tony worked in the engineering consulting industry where he served in progressive roles, including: Office Leader, Director of Operations and Vice President, with some of the nation's premier consulting engineering firms. During this timeframe, Tony was

responsible for the management, operation and strategic vision of four multi-disciplined offices located in Cleveland, Columbus, Cincinnati and Toledo. He also served as the Commission's Consulting Engineer, in compliance with the Master Trust Agreement, from 2000 through 2008. He also played a significant role in the design and construction of the Ohio Turnpike bridges over the Cuyahoga River Valley.

Director of Contract Administration. Mark Musson has served as the Commission's Director of Contract Administration since 2015, and his responsibilities include overseeing the competitive procurement activities of the Commission, including its MBE/DBE Program. Prior to working for the Commission, Mark served as an Assistant Director of Law for the City of Cleveland in the Law Department's Operations Section performing in-house counsel duties for the Department of Public Works, Department of Parks, Recreation and Properties, and Department of Public Service, and the Mayor's Office of Capital Projects and Office of Equal Opportunity. Mark received a Bachelor of Science in Public Management from the School of Public and Environmental Affairs at Indiana University where he was inducted into Pi Alpha Alpha, the public administrator's honor society, and holds a master's degree in Urban Planning, Design and Development and a law degree from Cleveland State University.

Chief Technology Officer. Brian Kelley is responsible for the Commission's overall technical vision and technology operations. Brian brings with him over 27 years of public sector experience in information technology. Prior to working for the Commission, Brian served as Chief Information Officer for Portage County, Ohio. Under his leadership, Portage County received international, national, state, and regional recognition for highly successful enterprise-wide IT projects. Brian has also previously served on technology related work groups with the Ohio Supreme Court, the State of Ohio Department of Administrative Services Office of Information Technology, and the County Risk Sharing Authority of Ohio. Brian holds a Bachelor of Arts in Criminal Justice and Sociology and a Master's Degree in Public Administration from Kent State University. He is a graduate of the Certified Government Chief Information Officer Program at the University of North Carolina at Chapel Hill.

Director of Service Plaza Operations. Andrew Herberger serves as the Commission's Director of Service Plaza Operations overseeing the Ohio Turnpike's 14 service plaza properties. Andrew has been employed at the Ohio Turnpike and Infrastructure Commission since June of 2004, administering both self-operated and contracted services and managing the system of plazas that serve Ohio's travelers. Prior to working for the Ohio Turnpike, Andrew has been employed in Campus Operations, managing campus Auxiliary Services at several Colleges and Universities including the University of Buffalo, Lakeland College and Case Western Reserve University. Andrew is a graduate of SUNY Erie Community College with a degree in Food Service Administration and State University of New York at Buffalo certified in Business Administration.

### The Commission's Role in the Ohio Jobs and Transportation Plan

In January 2012, ODOT announced a significant budget shortfall that would require postponement of some of the State's largest, most complex transportation construction projects by up to a decade or more. In an effort to address this funding deficit, Governor John Kasich, along with ODOT and OBM, began to explore the Ohio Turnpike as a potential revenue source. Four basic options were considered: (1) a long-term lease of the Turnpike; (2) ODOT assuming Turnpike operations; (3) leveraging the Turnpike's borrowing capacity; and (4) keeping the Turnpike status quo. During the course of a ten-month study undertaken by the Governor, ODOT and OBM, the technical, financial and legal aspects of each option were considered and public input was solicited.

After completion of the study, Governor Kasich announced the Ohio Jobs and Transportation Plan (the "Plan"), which effectively adopted the third option. In general terms, the Plan gives the Commission the ability to raise funds for Infrastructure Projects through the issuance of Turnpike revenue bonds without making disruptive changes to the current Commission structure or the operation and maintenance of the Turnpike System. The Plan calls for Turnpike revenue bond proceeds to be used to fund Infrastructure

Projects to alleviate the impact of the ODOT budget shortfall on significant transportation construction projects which have a transportation-related nexus to the Turnpike System. The Act requires that any Infrastructure Projects funded by the Commission have such a transportation-related "nexus."

Members of the Commission voted unanimously in support of a resolution endorsing the Plan at the Commission's January 22, 2013 meeting.

As part of the implementation of the Plan, the Ohio General Assembly adopted a number of significant changes to the Act, which became effective July 1, 2013. The changes to the Act included, among other things, the renaming of the Commission as the Ohio Turnpike and Infrastructure Commission and expanded its purpose to allow the Commission to sell Turnpike revenue bonds to finance Infrastructure Projects. Additionally, the changes to the Act established a process for the Director of ODOT to submit funding requests for Infrastructure Projects to the Commission for consideration. See "THE INFRASTRUCTURE PROJECT PROGRAM - Infrastructure Project Selection Process" herein.

# Junior Lien Bonds - the Commission's Partnership with ODOT

As part of the Plan, on August 15, 2013, the Commission issued its \$994,812,816 Turnpike Junior Lien Revenue Bonds, 2013 Series A (Infrastructure Projects) to pay costs of certain transportation infrastructure projects ("Infrastructure Projects") as defined under Chapter 5537 of the Ohio Revised Code that have a transportation related "nexus" to the Turnpike System. See "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein. Under Chapter 5537 of the Ohio Revised Code, the Director of ODOT can apply to the Commission for funding for Infrastructure Projects provided those projects (1) have been approved by the Transportation Review Advisory Council ("TRAC") that oversees a project selection process for major new transportation projects and (2) have a "nexus" to the Turnpike System. See "THE INFRASTRUCTURE PROJECT PROGRAM – Infrastructure Project Selection Process" herein. The Plan further calls for the Commission to issue an additional \$450 million in Junior Lien Turnpike Revenue Bonds for future transportation projects, which is being implemented by the issuance of the 2018 Junior Lien Bonds.

The stated purposes of the Plan, as implemented by H.B. 51, were to (1) allow ODOT to work with the Commission to fund Infrastructure Projects that would otherwise need to be postponed, (2) improve Ohio's transportation network to attract and maintain new businesses, and (3) create new jobs. See "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein. For additional information concerning the Commission, see "THE COMMISSION" herein.

The Junior Lien Bonds issued under the Junior Lien Trust Agreement as "Junior Lien Bonds" are subordinate to Senior Lien Bonds issued under the Senior Lien Trust Agreement. The payment of the principal of, premium, if any, and interest on all Junior Lien Bonds issued under the Junior Lien Trust Agreement, are secured equally and ratably by a lien on and pledge of the System Pledged Revenues, which lien and pledge are junior and subordinate to the lien and pledge of the System Pledged Revenues created by the Senior Lien Trust Agreement. THE PAYMENT OF THE OUTSTANDING JUNIOR LIEN BONDS AND ALL ADDITIONAL JUNIOR LIEN BONDS IS SUBJECT TO THE PRIOR RIGHT OF PAYMENT FROM SYSTEM PLEDGED REVENUES TO THE PAYMENT OF ALL SENIOR LIEN BONDS ISSUED UNDER THE SENIOR LIEN TRUST AGREEMENT. UPON AN EVENT OF DEFAULT UNDER THE JUNIOR LIEN TRUST AGREEMENT, THE JUNIOR LIEN TRUSTEE MAY NOT DECLARE THE PRINCIPAL AND INTEREST OF ALL OUTSTANDING JUNIOR LIEN BONDS TO BE IMMEDIATELY DUE AND PAYABLE UNLESS THE SENIOR LIEN TRUSTEE HAS DECLARED ACCELERATION OF MATURITY OF THE OUTSTANDING SENIOR LIEN BONDS AS A RESULT OF A DEFAULT UNDER THE SENIOR LIEN TRUST AGREEMENT.

In August 2013, the Director of ODOT submitted funding requests for Infrastructure Projects to the Commission for consideration and, on September 16, 2013, the Commission's Board approved the funding

of specific Infrastructure Projects totaling \$930 million. Through December 31, 2017, ODOT has expended \$890,826,000 on Infrastructure Projects and the Commission has reimbursed ODOT \$882,472,000 for ODOT's expenditures on these Infrastructure Projects. It is anticipated that the entire \$930 million in 2013 Junior Lien Bond Proceeds will be paid to ODOT by the end of 2018. The status of the funding (in thousands) of each infrastructure project as of December 31, 2017 is as follows:

		Approved	Amount Expended by	Infrastructure Funds Paid to
Project	County	Amount*	ODOT*	ODOT*
I-90 Innerbelt Bridge	Cuyahoga	\$275,020	\$272,826	\$272,826
Opportunity Corridor	Cuyahoga	14,000	11,711	11,491
US 250 Widening	Erie	14,000	13,993	13,993
1-75 Widening	Hancock/Wood	283,280	279,238	279,023
SR57	Lorain	16,500	16,500	16,500
I-75/ I-475 Interchange	Lucas	122,200	99,914	98,344
I-475 and Rt 20 Interchange	Lucas	27,500	23,525	23,525
1-75 Widening	Lucas	63,000	62,225	62,225
I-80 Widening	Mahoning/Trumbull	65,500	63,253	56,904
I-271 Widening	Summit	49,000	47,641	47,641
	_	\$930,000	\$890,826	\$882,472

<sup>\*</sup>In Thousands

On January 22, 2018 the Commission's Board approved the funding of three additional Infrastructure Projects to be funded with proceeds of the 2018 Junior Lien Bonds as follows:

Project	County	Approved Amount*
I-75 Reconstruction	Wood/Lucas	\$ 90,000
I-75 Reconstruction	Lucas	160,000
Opportunity Corridor	Cuyahoga	200,000
		\$450,000

<sup>\*</sup>In Thousands

The Commission is required by the Act to make an annual report to the Governor and the General Assembly on the funding of Turnpike System Projects and Infrastructure Projects. The Act further requires the Commission to submit an annual report to the Turnpike Legislative Review Committee on Infrastructure Projects approved and funded by the Commission.

# **OHIO DEPARTMENT OF TRANSPORTATION\***

ODOT was established on September 29, 1972, by the Ohio General Assembly through the expansion of the responsibilities of the former Ohio Department of Highways to include all modes of transportation. ODOT is responsible for planning, designing, constructing, maintaining and rehabilitating the State's highway system, and administering both federal and State funds which provide grants for aviation, bridges and public transportation facilities and programs throughout the State.

ODOT is one of the largest agencies of State government, with approximately 4,900 employees. ODOT consists of a central headquarters office, located in Columbus, Ohio and 12 District Offices located throughout the State. The Director is appointed by the Governor.

ODOT is a decentralized organization, with most highway-related functions performed in 12 geographic districts. Approximately 85 percent of ODOT's employees are located in the 12 district, 88

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<sup>\*</sup> All information about the Ohio Department of Transportation has been provided by ODOT.

county and 112 outpost facilities throughout the State. The districts perform planning, design, construction, engineering, material testing, and maintenance functions for ODOT. The 12 districts are each headed by a District Deputy Director, who reports to the Director of ODOT.

ODOT's Central Office contains the offices and divisions which provide technical and administrative support to the districts for both highway and modal programs. The organization of the Central Office consists of the Transportation Policy and Chief Engineer Divisions, the Business and Human Resources Divisions, Field Operations Divisions and the Director's administrative support staff. These divisions and their respective offices develop policies and procedures, provide technical support and monitor the Districts for compliance with established procedures. All construction contracts are advertised and awarded by the Central Office.

The State has the seventh largest highway network in the country, with approximately 125,000 miles of roadway, of which approximately 19,300 miles are under ODOT's jurisdiction. ODOT is responsible for and/or is involved in a wide variety of programs and projects relating to aviation, bicycling, highways and public transportation. ODOT's annual budget is approximately \$3.3 billion. Major funding sources for ODOT's highway program include state motor fuel taxes and fees and Title 23 Moneys received from the United States Department of Transportation.

### PLAN OF FINANCE

The 2018 Senior Lien Bonds are being issued to provide funds to (i) pay the costs of capital improvements for the Turnpike System, (ii) fund a required increase in the Senior Lien Debt Service Reserve Requirement due to the issuance of the 2018 Senior Lien Bonds, and (iii) pay the costs of issuance of the Senior Lien Bonds.

The 2018 Junior Lien Bonds are being issued to provide funds to (i) pay costs of Infrastructure Projects approved by the Commission in accordance with H.B. 51, (ii) fund a required increase in the Junior Lien Debt Service Reserve Requirement due to the issuance of the 2018 Junior Lien Bonds and (iii) pay the costs of issuance of the 2018 Junior Lien Bonds.

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# **SOURCES AND USES OF PROCEEDS**

The proceeds received from the sale of the 2018 Bonds, and the expected application of these funds is as follows:

	2018 Series A Senior Lien Bonds	2018 Series A Junior Lien Bonds	Total
Sources:	201145	20140	
Par Amount	\$73,880,000.00	\$425,965,000.00	\$499,845,000.00
Net Original Issue Premium	9,777,121.10	56,980,086.80	66,757,207.90
TOTAL SOURCES	\$83,657,121.10	<u>\$482,945,086.80</u>	<u>\$566,602,207.90</u>
Uses:			
Deposit to System Projects Fund	\$80,000,000.00	-	\$80,000,000.00
Deposit to Infrastructure Project Fund	=	\$450,000,000.00	450,000,000.00
Senior Lien Debt Service Reserve Account Deposit	3,337,707.42	-	3,337,707.42
Junior Lien Debt Service Reserve Fund Deposit	-	31,224,086.66	31,224,086.66
Costs of Issuance <sup>1</sup>	319,413.68	<u>1,721,000.14</u>	<u>2,040,413.82</u>
TOTAL USES	\$83,657,121.10	\$482,945,086.80	\$566,602,207.90

<sup>&</sup>lt;sup>1</sup>Includes underwriters' discount, additional proceeds, fees and expenses of counsel and counsel to the underwriters, rating agency fees, printing expenses, fees and expenses of the Municipal Advisor, trustee fees, other miscellaneous costs and expenses, and rounding.

# **DEBT SERVICE**

Set forth in the table below is the total debt service for the Outstanding Senior Lien Bonds and Junior Lien Bonds secured by the System Pledged Revenues.

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# ANNUAL SENIOR LIEN BONDS AND JUNIOR LIEN BONDS DEBT SERVICE

	Outstanding		2018 Sei	ries A Senior Li	en Bonds	Total	Outstanding		eries A Junior Lie	n Bonds	Total	Total
	Senior Lien					Senior Lien					Junior Lien	Composite
Fiscal	Annual Debt			_		Annual Debt					Annual Debt	Annual Debt
Year	Service		Principal	Interest	Total	Service		•	Interest	Total	Service	Service
2018	\$58,012,331	\$		\$1,757,150	\$1,757,150	\$59,769,481	\$36,146,188	\$	\$9,986,325	\$9,986,325	\$46,132,513	\$105,901,994
2019	58,923,875		-	3,514,300	3,514,300	62,438,175	44,014,438	-	19,972,650	19,972,650	63,987,088	126,425,262
2020	58,862,050		-	3,514,300	3,514,300	62,376,350	40,617,688	-	19,972,650	19,972,650	60,590,338	122,966,687
2021	57,991,787		-	3,514,300	3,514,300	61,506,087	35,492,688	-	19,972,650	19,972,650	55,465,338	116,971,425
2022	58,453,287		-	3,514,300	3,514,300	61,967,587	35,492,688	-	19,972,650	19,972,650	55,465,338	117,432,925
2023	58,410,700		-	3,514,300	3,514,300	61,925,000	46,547,583	-	19,972,650	19,972,650	66,520,233	128,445,232
2024	50,205,537		-	3,514,300	3,514,300	53,719,837	65,249,478	-	19,972,650	19,972,650	85,222,128	138,941,965
2025	41,079,738		-	3,514,300	3,514,300	44,594,038	68,304,478	-	19,972,650	19,972,650	88,277,128	132,871,165
2026	49,838,163		-	3,514,300	3,514,300	53,352,463	60,324,353	-	19,972,650	19,972,650	80,297,003	133,649,465
2027	25,396,319		-	3,514,300	3,514,300	28,910,619	59,975,478	18,915,000	19,499,775	38,414,775	98,390,253	127,300,871
2028	25,384,250		-	3,514,300	3,514,300	28,898,550	62,731,353	23,125,000	18,448,775	41,573,775	104,305,128	133,203,678
2029	9,780,250		-	3,514,300	3,514,300	13,294,550	74,790,478	32,610,000	17,055,400	49,665,400	124,455,878	137,750,428
2030	9,768,625		-	3,514,300	3,514,300	13,282,925	73,215,478	40,870,000	15,256,250	56,126,250	129,341,728	142,624,653
2031	9,563,375		-	3,514,300	3,514,300	13,077,675	76,509,228	44,600,000	13,255,350	57,855,350	134,364,578	147,442,253
2032	3,674,750		-	3,514,300	3,514,300	7,189,050	74,671,728	59,510,000	10,898,150	70,408,150	145,079,878	152,268,928
2033	3,674,750			3,514,300	3,514,300	7,189,050	67,965,478	68,980,000	7,928,350	76,908,350	144,873,828	152,062,878
2034	3,674,750		-	3,514,300	3,514,300	7,189,050	139,413,780	-	6,298,750	6,298,750	145,712,530	152,901,580
2035	3,674,750		-	3,514,300	3,514,300	7,189,050	124,895,495	14,505,000	5,936,125	20,441,125	145,336,620	152,525,670
2036	3,674,750		-	3,514,300	3,514,300	7,189,050	124,483,923	17,120,000	5,145,500	22,265,500	146,749,423	153,938,473
2037	3,674,750		5,470,000	3,404,900	8,874,900	12,549,650	124,416,438	13,915,000	4,369,625	18,284,625	142,701,063	155,250,713
2038	3,674,750	1	2,500,000	3,045,500	15,545,500	19,220,250	120,211,425	11,900,000	3,783,750	15,683,750	135,895,175	155,115,425
2039	3,674,750	1	1,000,000	2,520,500	13,520,500	17,195,250	129,133,206	2,050,000	3,494,500	5,544,500	134,677,706	151,872,956
2040	3,674,750	1	2,000,000	1,945,500	13,945,500	17,620,250	129,645,000	4,235,000	3,337,375	7,572,375	137,217,375	154,837,625
2041	3,674,750	1	3,050,000	1,319,250	14,369,250	18,044,000	130,095,000	4,055,000	3,130,125	7,185,125	137,280,125	155,324,125
2042	3,674,750	1	3,710,000	650,250	14,360,250	18,035,000	129,980,000	4,360,000	2,919,750	7,279,750	137,259,750	155,294,750
2043	3,674,750		6,150,000	153,750	6,303,750	9,978,500	129,950,000	4,610,000	2,695,500	7,305,500	137,255,500	147,234,000
2044	3,674,750		-	-	=	3,674,750	83,958,125	21,615,000	2,114,875	23,729,875	107,688,000	111,362,750
2045	3,674,750		-	-	_	3,674,750	92,687,500	19,005,000	1,249,375	20,254,375	112,941,875	116,616,625
2046	3,674,750		-	-	_	3,674,750	90,853,000	19,985,000	424,625	20,409,625	111,262,625	114,937,375
2047	27,079,625		-	-	_	27,079,625	67,688,500	· · · · · · · · · · · · · · · · · · ·	-	-	67,688,500	94,768,125
2048	50,727,250		-	-	-	50,727,250	43,864,875	-	-	-	43,864,875	94,592,125
Total	\$704,598,412	\$7	73,880,000	\$78,054,200	\$151,934,200	\$856,532,612	\$2,583,325,061	\$425,965,000	\$317,009,450	\$742,974,450	\$3,326,299,511	\$4,182,832,124

<sup>\*</sup>Totals may not add due to rounding.

Source: Ohio Turnpike and Infrastructure Commission

# **DESCRIPTION OF THE 2018 BONDS**

### General

The 2018 Bonds are being issued by the Commission pursuant to the Act, the Senior Lien Trust Agreement and the Junior Lien Trust Agreement and will be dated the date of their issuance and delivery. The 2018 Bonds will be issued in the principal amounts, bearing interest at the rates, paying interest on the dates, and maturing (subject to the rights of prior redemption described below) on the dates, all as shown on the inside cover page of this Official Statement.

Interest on the 2018 Bonds will accrue from their date of delivery and will be payable semi-annually to maturity (or earlier redemption) on February 15 and August 15, commencing on August 15, 2018 (each an "Interest Payment Date").

# **Redemption of 2018 Bonds**

The 2018 Bonds are subject to optional redemption and mandatory redemption as set forth below.

# **Optional Redemption**

Optional Redemption of 2018 Senior Lien Bonds. The 2018 Senior Lien Bonds are subject to redemption prior to maturity at the option of the Commission in whole or in part on any date on or after February 15, 2028, in such order as the Commission shall determine, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date.

Optional Redemption of 2018 Junior Lien Bonds. The 2018 Junior Lien Bonds maturing on and after February 15, 2029 are subject to redemption prior to maturity at the option of the Commission, in whole or in part on any date on or after February 15, 2028, in such order as the Commission shall determine, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date.

### Mandatory Redemption

<u>Mandatory Sinking Fund Redemption of 2018 Senior Lien Bonds</u>. The 2018 Senior Lien Bonds maturing on February 15, 2043 shall be subject to mandatory sinking fund redemption by the Commission prior to maturity at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date, on the dates and in the principal amounts set forth below:

Principal
<b>Amounts</b>
\$11,000,000
12,000,000
13,050,000
13,710,000
6,150,000

<sup>\*</sup> Stated Maturity

<u>Mandatory Sinking Fund Redemption of 2018 Junior Lien Bonds</u>. The 2018 Junior Lien Bonds maturing on February 15, 2043 shall be subject to mandatory sinking fund redemption by the Commission prior to maturity at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date, on the dates and in the principal amounts set forth below:

<b>Redemption Dates</b>	Principal
(February 15)	Amounts
2039	\$2,050,000
2040	4,235,000
2041	4,055,000
2042	4,360,000
2043*	4,610,000

<sup>\*</sup> Stated Maturity

The 2018 Junior Lien Bonds maturing on February 15, 2046 and bearing interest at the rate of 4.000% per annum shall be subject to mandatory sinking fund redemption by the Commission prior to maturity at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date, on the dates and in the principal amounts set forth below:

<b>Redemption Dates</b>	Principal
<u>(February 15)</u>	Amounts
2044	\$15,000,000
2045	15,000,000
2046*	15,000,000

<sup>\*</sup> Stated Maturity

The 2018 Junior Lien Bonds maturing on February 15, 2046 and bearing interest at the rate of 5.000% per annum shall be subject to mandatory sinking fund redemption by the Commission prior to maturity at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date, on the dates and in the principal amounts set forth below:

Redemption Dates	Principal
<u>(February 15)</u>	<b>Amounts</b>
2044	\$6,615,000
2045	4,005,000
2046*	4,985,000

<sup>\*</sup> Stated Maturity

# Selection of 2018 Bonds to be Redeemed

In the event of partial redemption of 2018 Bonds of like series, maturity and interest rate, the Trustee will assign to each 2018 Bond of such series, maturity and interest rate then outstanding a distinctive number for each \$5,000 of principal amount thereof, and will select by lot, using such method of selection as it deems proper in its discretion, from the numbers so assigned to such 2018 Bonds, as many numbers as, at \$5,000 for each number, equals the principal amount of such 2018 Bonds to be redeemed. The 2018 Bonds to be redeemed will be only so much of the principal amount of each such 2018 Bond of a denomination of more than \$5,000 principal amount as equals \$5,000 for each number assigned to it and so selected.

### Notice of Redemption

The notice of the call for redemption shall (i) identify the 2018 Bonds or portions thereof to be redeemed (specifying the CUSIP numbers of the 2018 Bonds to be redeemed and stating that no representation is made as to the accuracy or correctness of the CUSIP numbers printed therein or on the or

on the 2018 Bonds), (ii) specify the redemption price to be paid, (iii) specify the date fixed for redemption, (iv) specify the place or places where the amounts due upon redemption are payable, (v) set forth the name, address, and telephone number of the person from whom information pertaining to the redemption may be obtained, and (vi) except in the case of a conditional notice of optional redemption, state that on the redemption date there shall become due and payable upon each 2018 Bond to be redeemed the redemption price thereof, or the redemption price of the specified portion of the principal amount in the case of a 2018 Bond to be redeemed in part only, with interest accrued to such date, and that from and after such date, interest thereon shall cease to accrue and be payable. If at the time of giving of notice of an optional redemption of 2018 Bonds there has not been deposited with the Trustee moneys or Defeasance Obligations sufficient to redeem all 2018 Bonds called for such redemption, then such notice shall state that the redemption is conditional upon the deposit of moneys or such Defeasance Obligations sufficient for the redemption with the Trustee not later than the opening of business on the redemption date, and such notice will be of no effect and such 2018 Bonds shall not be redeemed unless such moneys or such Defeasance Obligations are so deposited. Such notice will be sent by first class mail not less than thirty (30) days nor more than sixty (60) days prior to the redemption date to Holders whose 2018 Bonds or portion thereof have been called for redemption at the addresses shown in the Bond Register on the Record Date. Failure to mail any such notice or any defect therein will not affect the validity of the proceedings for the redemption of any other 2018 Bonds.

# **Book Entry Only System**

The 2018 Bonds will be issued under a book-entry only system, registered in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC"), New York, New York, as registered owner, in the form of a single, fully registered 2018 Bond representing each maturity of each Series, or interest rate within a maturity of such Series, as the case may be. The beneficial owners of 2018 Bonds in book entry form have no right to receive 2018 Bonds in the form of physical securities or certificates; ownership of beneficial interests in book entry form will be shown by book entry on the system maintained and operated by DTC and its Participants, and transfers of the ownership of beneficial interests will be made only by book entry by DTC and its Participants, and the 2018 Bonds as such shall not be transferable or exchangeable, except for transfer to another Depository or to another nominee of the Depository, without further action by the Commission. See "EXHIBIT E - DTC Book Entry Only System" attached hereto.

### Disclaimer by Commission, Trustee, Municipal Advisor and Underwriters

Neither the Commission nor the Trustee has any responsibility or liability for any aspect of the records relating to, or payments made on account of, book-entry interest ownership, or for maintaining, supervising or reviewing any records relating to that ownership.

The Commission, the Trustee, the Commission's Municipal Advisor, and the Underwriters cannot and do not give any assurances that DTC, the Direct and Indirect Participants or others will distribute to the Beneficial Owners (i) payments of principal or interest on the 2018 Bonds paid, or (ii) notices sent to DTC as the Holder or that they will do so on a timely basis, or that DTC or the Direct and Indirect Participants will serve and act in the manner described in this Official Statement. The Commission has been advised by DTC that the current "Rules" applicable to DTC and the Direct and Indirect Participants are on file with the Securities and Exchange Commission and that the current "Procedures" of DTC to be followed in dealing with the Direct and Indirect Participants are on file with DTC.

### SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS

# **Security for 2018 Senior Lien Bonds - General**

The 2018 Senior Lien Bonds will be payable solely from and secured by a pledge of and senior lien on System Pledged Revenues. Pursuant to the terms of the Senior Lien Trust Agreement, the Commission has pledged and granted a lien to the Senior Lien Trustee on the System Pledged Revenues to provide for the payment of principal of and interest and premium, if any, on bonds issued under the Senior Lien Trust Agreement ("Senior Lien Bonds") which include the Commission's Outstanding Senior Lien Bonds, any additional Senior Lien Bonds issued under the Senior Lien Trust Agreement in the future, including the 2018 Senior Lien Bonds. The pledge of and lien on System Pledged Revenues for the 2018 Senior Lien Bonds is on a parity with that same pledge and lien for all Senior Lien Bonds Outstanding under the Senior Lien Trust Agreement. The principal of, premium, if any, and interest on all Senior Lien Bonds will be paid from System Pledged Revenues prior to the payment of any Junior Lien Bonds, including the 2018 Junior Lien Bonds.

System Pledged Revenues consist of Net Revenues and Additional System Payments. The Commission is not presently a party to any agreement or arrangement producing Additional System Payments. Net Revenues consist of Gross Revenues less required deposits to the Expense Fund. Gross Revenues consist of Tolls and certain investment income and insurance proceeds. Gross Revenues have in the past also included moneys received from the Ohio Department of Transportation and designated as System Pledged Revenues by the Commission, but there are currently no such proceeds. Gross Revenues, since January 1, 2004, also include concession revenues derived from the operation of the service plazas (other than funds contractually committed to the Service Plaza Capital Improvements Reserve and other than any allocation of the State fuel tax revenues) and all revenues derived from leases, licenses, royalties, advertising and miscellaneous sales, fees and charges together with all investment earnings thereon. See "EXHIBIT A-1 - GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT - Application of Monies in Gross Revenue Account" herein.

# **Security for 2018 Junior Lien Bonds - General**

The 2018 Junior Lien Bonds will be payable solely from and secured by a junior pledge of and junior lien on System Pledged Revenues and a first pledge and lien on the Junior Lien Special Funds (which consist of the Junior Lien Debt Service Fund and, as to Junior Lien Debt Service Reserve Fund Bonds, the Junior Lien Debt Service Reserve Fund). Pursuant to the terms of the Junior Lien Trust Agreement, bonds issued under the Junior Lien Trust Agreement (the "Junior Lien Bonds"), which include the Commission's Outstanding Junior Lien Bonds and any additional Junior Lien Bonds that may be issued and outstanding under the Junior Lien Trust Agreement in the future, including the 2018 Junior Lien Bonds, are junior and subordinate in right of payment to the Senior Lien Bonds, including the 2018 Senior Lien Bonds and all other bonds issued or to be issued under the Senior Lien Trust Agreement in that System Pledged Revenues must be applied to payment obligations relating to the Senior Lien Bonds before being used to pay any obligations relating to the Outstanding Junior Lien Bonds or any other bonds issued under the Junior Lien Trust Agreement.

The 2018 Junior Lien Bonds are the second series of "Junior Lien Bonds" to be issued under the Junior Lien Trust Agreement. Upon fulfillment of conditions set forth in the Junior Lien Trust Agreement, the Commission may issue additional Junior Lien Bonds under the terms of the Junior Lien Trust Agreement, which would be on a parity with the Outstanding Junior Lien Bonds and the 2018 Junior Lien Bonds. However, all such additional Junior Lien Bonds issued under the terms of the Junior Lien Trust Agreement shall be subordinate to the payment of all Senior Lien Bonds issued under the Senior Lien Trust Agreement. For a more detailed description of the Junior Lien Trust Agreement see "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT" herein.

Tolls are not charged or collected by the Commission for the use of Non-System Projects or Infrastructure Projects, and payment of debt service on any Senior Lien Bonds that may be issued for Non-System Projects and any Junior Lien Bonds (including the 2018 Junior Lien Bonds) issued for Infrastructure Projects is not dependent on, subject to, or related in any manner to progress on or the completion or operation of any funded Non-System Project or Infrastructure Project.

# Limitation

THE 2018 BONDS WILL NOT CONSTITUTE GENERAL OBLIGATIONS, DEBT OR BONDED INDEBTEDNESS OF THE COMMISSION OR THE STATE OR ANY POLITICAL SUBDIVISION THEREOF, AND THE HOLDERS THEREOF WILL NOT BE GIVEN THE RIGHT, AND HAVE NO RIGHT, TO HAVE ANY EXCISES OR TAXES LEVIED BY THE COMMISSION OR THE STATE OR ANY POLITICAL SUBDIVISION THEREOF OR APPLIED FOR THE PAYMENT OF THE PRINCIPAL OF OR INTEREST OR REDEMPTION PREMIUM, IF ANY, ON THE 2018 BONDS.

### **Flow of Funds**

# Senior Lien Trust Agreement

The Senior Lien Trust Agreement establishes the following funds and accounts: the Revenue Fund (and the Gross Revenue Account and the Additional System Payments Account therein), the Expense Fund (and the Operation, Maintenance and Administrative Expenses Account and the Expense Reserve Account therein), the Senior Lien Debt Service Fund (and the Senior Lien Interest Account, the Senior Lien Principal Account, the Senior Lien Bond Redemption Account and the Senior Lien Debt Service Reserve Account therein), the Series Payments Fund (and, to the extent necessary to segregate and separately account for Series Payments, one or more separate accounts therein), the Renewal and Replacement Fund, the System Projects Fund (and, to the extent necessary, one or more separate Construction Accounts therein), the General Reserve Fund, the Supplemental Payments Fund (and, to the extent necessary to segregate and separately account for Supplemental Payments, one or more separate accounts therein), and the Rebate Fund (and a separate Rebate Account therein for each Series of Senior Lien Bonds, to the extent required by applicable law).

The funds and accounts created by the Senior Lien Trust Agreement constitute trust funds for the purposes provided in the Senior Lien Trust Agreement and are for purposes of accounting, kept separate and distinct from all other funds of the Commission and are to be used only for the purposes and in the manner provided in the Senior Lien Trust Agreement.

The Senior Lien Debt Service Fund and the accounts therein are held by the Senior Lien Trustee. The Revenue Fund, the Series Payments Fund, the Expense Fund, the Renewal and Replacement Fund, the System Projects Fund, the General Reserve Fund and the Rebate Fund have been established and are maintained by the Commission in a bank or trust company which is eligible under the laws of the State to receive deposits of public funds. The Supplemental Payments Fund and the accounts therein have been established and are held in compliance with the document or agreement providing for such Supplemental Payments. For a description of the provisions of the Senior Lien Trust Agreement regarding the deposits and disbursements that are required or permitted to be made to or from the funds and accounts established under the Senior Lien Trust Agreement, see "EXHIBIT A-1 – GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT – Funds and Accounts" herein.

# Junior Lien Trust Agreement

The Senior Lien Trust Agreement was originally structured to allow for the issuance of junior lien obligations, and the flow of funds provided in the Junior Lien Trust Agreement has been structured to fit

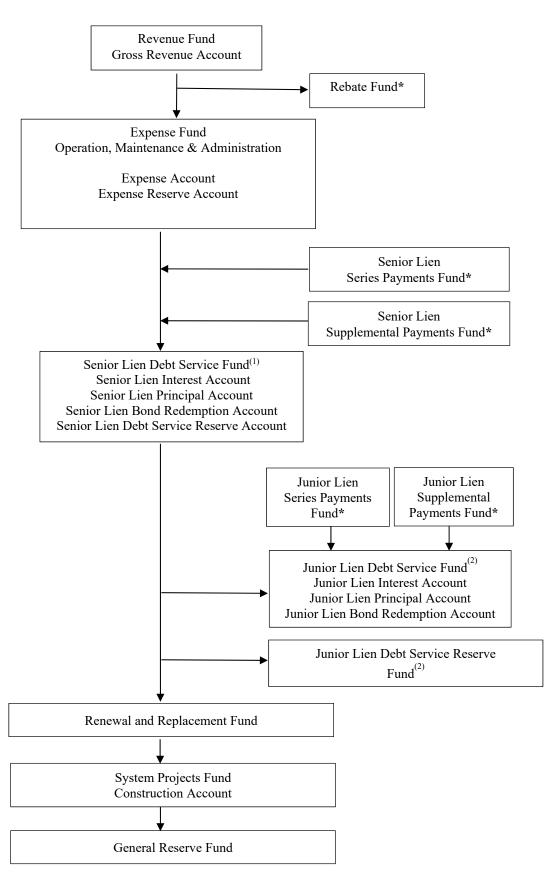
within the framework of the Senior Lien Trust Agreement. The provisions of the Senior Lien Trust Agreement creating and establishing the funds and accounts held under the Senior Lien Trust Agreement were incorporated by reference into the Junior Lien Trust Agreement. In addition to the funds and accounts created and established under the Senior Lien Trust Agreement, the Junior Lien Trust Agreement established the following funds and accounts: the Junior Lien Debt Service Fund (and the Junior Lien Interest Account, the Junior Lien Principal Account and the Junior Lien Redemption Account therein), the Junior Lien Debt Service Reserve Fund (and, at the request of the Commission, a separate Junior Lien Debt Service Reserve Account therein for any particular Series of Junior Lien Debt Service Reserve Fund Bonds), the Junior Lien Series Payments Fund (and, to the extent necessary to segregate and separately account for Junior Lien Series Payments, one or more separate accounts therein), the Junior Lien Supplemental Payments Fund (and, to the extent necessary to segregate and separately account for Junior Lien Supplemental Payments, one or more separate accounts therein), the Infrastructure Projects Fund (and to the extent necessary, one or more separate accounts therein), and the Junior Lien Rebate Fund (and a separate Junior Lien Rebate Account therein for each Series of Junior Lien Bonds, to the extent required by applicable law).

The funds and accounts created by the Junior Lien Trust Agreement constitute trust funds for the purposes provided in the Junior Lien Trust Agreement and will, for purposes of accounting, be kept separate and distinct from all other funds of the Commission and will be used only for the purposes and in the manner provided in the Junior Lien Trust Agreement.

The Junior Lien Debt Service Fund and the accounts therein and the Junior Lien Debt Service Reserve Fund are held by the Junior Lien Trustee. The Infrastructure Projects Fund and the Junior Lien Rebate Fund are required to be established and maintained by the Commission in a bank or trust company which is eligible under the laws of the State to receive deposits of public funds. The Junior Lien Supplemental Payments Fund and the Junior Lien Series Payments Fund and the accounts therein are required to be established and held in compliance with the document or agreement providing for such Junior Lien Supplemental Payments or Junior Lien Series Payments, as the case may be. For a description of the provisions of the Junior Lien Trust Agreement regarding the deposits and disbursements that are required or permitted to be made to or from the funds and accounts established therein, see "EXHIBIT A-2 — GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT — Funds and Accounts" herein.

Amounts on deposit in the Gross Revenue Account of the Revenue Fund will be transferred and deposited in the various funds and accounts in the order of priority shown below, subject to the restrictions set forth in the Senior Lien Trust Agreement and the Junior Lien Trust Agreement. Similarly, amounts, if any, on deposit in the Series Payment Fund and Supplemental Payments Fund will be transferred and deposited as shown below. There are currently no deposits to the Series Payments Fund or the Supplemental Payments Fund.

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<sup>\*</sup> Currently there are no deposits to these funds.

<sup>(1)</sup> Held by Senior Lien Trustee

<sup>(2)</sup> Held by Junior Lien Trustee

### **Debt Service Reserve Requirements**

# Senior Lien Debt Service Reserve Account

The Senior Lien Trust Agreement requires that a balance be maintained in the Debt Service Reserve Account in the Senior Lien Debt Service Fund equal in amount to the Senior Lien Debt Service Reserve Requirement, that being the lower of (1) the Maximum Senior Lien Annual Debt Service Requirement, without credit for Series Payments otherwise permitted to be included by the definition of Senior Lien Annual Debt Service Requirement, or (2) the maximum amount permitted by the Code to be funded from Bond proceeds without requiring yield restriction. In lieu of the amounts required to be on deposit in the Senior Lien Debt Service Reserve Account, the Commission may at any time cause to be deposited into such Debt Service Reserve Account a Reserve Account Credit Facility for the benefit of the Holders. At the time of that deposit, the provider of the Reserve Account Credit Facility, or the Senior Lien Bonds that are secured by the Reserve Account Credit Facility, must be assigned one of the two highest ratings by each Rating Agency that has a rating outstanding on the Bonds. The Reserve Account Credit Facility must be in an amount which, together with other amounts on deposit therein, equals the Senior Lien Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Senior Lien Debt Service Reserve Account in installments, the amount then required to be on deposit in such Debt Service Reserve Account in accordance with such election. The Reserve Account Credit Facility shall be payable or available to be drawn upon in accordance with the Senior Lien Trust Agreement. Draws on the Reserve Account Credit Facilities, if necessary, will be made on a pro-rata basis. Upon issuance of the 2018 Senior Lien Bonds, the Senior Lien Debt Service Reserve Requirement will be \$63,400,083.32.

In the event that, subsequent to being deposited in the Debt Service Reserve Account, a Reserve Account Credit Facility fails to satisfy the Reserve Account Credit Facility Rating Requirement (as defined below), the Commission is required to deposit funds into the Senior Lien Debt Service Reserve Account in an amount that, together with any other amounts on deposit as well as any Reserve Account Credit Facilities that do meet the Reserve Account Credit Facility Rating Requirement, equals the Senior Lien Debt Service Reserve Requirement. Alternatively, the Commission may deposit another Reserve Account Credit Facility that meets the Reserve Account Credit Facility Rating Requirement to insure over the Reserve Account Credit Facility that does not meet the Reserve Account Credit Facility Rating Requirement. Commission is also authorized to withdraw the cash or additional Reserve Account Credit Facility that has been so deposited if the initial Reserve Account Credit Facility subsequently meets the Reserve Account Credit Facility Rating Requirement. For purposes of the provisions of the Senior Lien Trust Agreement summarized in this paragraph, "Reserve Account Credit Facility Rating Requirement" means that the provider of a Reserve Account Credit Facility must be rated in one of the two highest rating categories (without giving effect to modifiers or qualifiers) by at least two Rating Agencies. For a further description of the requirements of the Senior Lien Trust Agreement for the funding and application of the Senior Lien Debt Service Reserve Account, see "EXHIBIT A-1 - GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT - Funds and Accounts - Debt Service Reserve Account" herein.

# Senior Lien Debt Service Reserve Account Credit Facilities

The Commission maintains on deposit two separate Debt Service Reserve Credit Facilities in the Senior Lien Debt Service Reserve Account. One Reserve Account Credit Facility in the principal amount of \$6,283,000 was issued by Ambac. The other Reserve Account Credit Facility in the principal amount of \$49,283,000 was issued by Assured Guaranty. Both Reserve Account Credit Facilities are still in force; however, the Ambac Credit Facility does not currently fulfill the requirements set forth in the definition of "Reserve Account Credit Facility Rating Requirement." While both Reserve Account Credit Facilities are in the Senior Lien Debt Service Account and available to be drawn upon, such Debt Service Reserve Credit Facilities are not currently being relied upon by the Commission toward satisfaction of the Senior Lien Debt Service Reserve Requirement.

### Junior Lien Debt Service Reserve Fund

The Junior Lien Trust Agreement requires that a balance be maintained in the Junior Lien Debt Service Reserve Fund equal in amount to the Junior Lien Debt Service Reserve Requirement, that being 100% of the average Junior Lien Annual Debt Service on all Outstanding Junior Lien Debt Service Reserve Fund Bonds, without credit for Junior Lien Series Payments otherwise permitted to be included by the definition of Junior Lien Annual Debt Service Requirement, calculated as of the date of original issue of each Series of Junior Lien Debt Service Reserve Fund Bonds and set forth in the Junior Lien Supplemental Trust Agreement authorizing each Series of Junior Lien Debt Service Reserve Fund Bonds, provided that the amount of the Junior Lien Debt Service Reserve Requirement shall not exceed the maximum amount permitted by the Code to be held without yield restrictions in a reasonably required debt service reserve fund for the Junior Lien Bonds. "Junior Lien Debt Service Reserve Fund Bonds" means any Junior Lien Bonds designated in any Supplemental Junior Lien Trust Agreement as being secured by the Junior Lien Debt Service Reserve Fund. The 2018 Junior Lien Bonds will be designated in the Second Supplement as Junior Lien Debt Service Reserve Fund. Upon issuance of the 2018 Junior Lien Bonds, the Junior Lien Debt Service Reserve Requirement will be \$110,475,026.07.

In lieu of the amounts required to be on deposit in the Junior Lien Debt Service Reserve Fund, the Commission may at any time cause to be deposited into such Junior Lien Debt Service Reserve Fund a Junior Lien Credit Facility for the benefit of the Holders of the Junior Lien Debt Service Reserve Fund Bonds in an amount, which together with other amounts on deposit therein, equals the Junior Lien Debt Service Reserve Requirements or, if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in such Junior Lien Debt Service Reserve Fund in accordance with such election, which Junior Lien Credit Facility shall be payable or available to be drawn upon in accordance with the Junior Lien Trust Agreement.

For a further description of the requirements of the Junior Lien Trust Agreement for the funding and application of the Junior Lien Debt Service Reserve Fund, see "EXHIBIT A-2 GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Funds and Accounts — Junior Lien Debt Service Reserve Fund" herein.

### **Toll Rate Covenants**

### Senior Lien Toll Covenant

The Commission covenants in the Senior Lien Trust Agreement that it will at all times charge and collect or cause to be charged and collected Tolls for the use of the Turnpike System at rates not less than those set forth in the schedule of such Tolls then in effect and as shall be required in order that: (a) Gross Revenues in each Fiscal Year shall equal at least one hundred percent (100%) of the aggregate of: (i) the Cost of Operation, Maintenance and Administration for such Fiscal Year as provided in the Annual Budget; and (ii) any amounts required to be deposited into the Expense Reserve Account in such Fiscal Year; and (b) System Pledged Revenues in each Fiscal Year shall equal at least one hundred percent (100%) of the aggregate in such Fiscal Year of (i) the Annual Debt Service Requirement, (ii) required deposits to the Debt Service Reserve Fund, (iii) deposits and payments required pursuant to the Junior Lien Master Trust Agreement, (iv) deposits and payments required pursuant to any resolution, indenture or other authorizing instrument under which any obligations of the Commission secured by a pledge of the System Pledged Revenues junior and subordinate to the Junior Lien Bonds are issued, and (v) the Renewal and Replacement Requirement; and (c) System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Annual Debt Service Requirement for such Fiscal Year for all Series of Senior Lien Bonds to which such Supplemental Payments are pledged in each Fiscal Year) shall equal at least one hundred twenty percent (120%) of the Annual Debt Service Requirement in such Fiscal Year. For a further

description of the Toll rate covenant in the Senior Lien Trust Agreement, see "EXHIBIT A-1 GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT - Tolls" herein.

### Junior Lien Toll Covenant

The Commission covenants in the Junior Lien Trust Agreement that it will at all times charge and collect or cause to be charged and collected Tolls for the use of the Turnpike System at rates not less than those set forth in the schedule of such Tolls then in effect and as shall be required in order that (a) Gross Revenues in each Fiscal Year equal at least one hundred percent (100%) of the aggregate of (i) the Cost of Operation, Maintenance and Administration for such Fiscal Year as provided in the Annual Budget, and (ii) any amounts required to be deposited into the Expense Reserve Account in such Fiscal Year; (b) System Pledged Revenues in each Fiscal Year equal at least one hundred percent (100%) of the aggregate in such Fiscal Year of (i) the Composite Annual Debt Service Requirement, (ii) required deposits to the Junior Lien Debt Service Reserve Fund, (iii) deposits and payments required pursuant to the Senior Lien Trust Agreement, (iv) deposits and payments required pursuant to any resolution, indenture or other authorizing instrument under which any obligations of the Commission secured by a pledge of the System Pledged Revenues junior and subordinate to the Junior Lien Bonds are issued, and (v) the Renewal and Replacement Requirement; and (c) System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Composite Annual Debt Service Requirement for such Fiscal Year for all Series of Senior Lien Bonds and Junior Lien Bonds to which such Supplemental Payments are pledged in each Fiscal Year) shall equal at least one hundred twenty percent (120%) of the Composite Annual Debt Service Requirement in such Fiscal Year. For purposes of the Toll rate covenant in the Junior Lien Trust Agreement, "Composite Annual Debt Service Requirement" means the sum of the Junior Lien Annual Debt Service Requirement and the Senior Lien Annual Debt Service Requirement. For a further description of the Toll rate covenant in the Junior Lien Trust Agreement, see "EXHIBIT A-2 GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Tolls" herein.

Tolls are not charged or collected by the Commission for the use by the traveling public of Non-System Projects or Infrastructure Projects, and payment of debt service on any Senior Lien Bonds that may be issued for Non-System Projects and any Junior Lien Bonds (including the 2018 Junior Lien Bonds) issued for Infrastructure Projects is not dependent on, subject to, or related in any manner to progress on or the completion or operation of any funded Non-System Project or Infrastructure Project.

### **Additional Bonds Tests**

### Additional Senior Lien Bonds

Subject to conditions and requirements set forth therein, the Senior Lien Trust Agreement permits the Commission from time to time to issue additional Series of Senior Lien Bonds that are payable from and secured by a pledge of System Pledged Revenues on a parity with the Outstanding Senior Lien Bonds for the purpose of: (a) financing System Projects, either alone or jointly with other persons, public bodies or private bodies; (b) financing Non-System Projects, either alone or jointly with other persons, public bodies or private bodies; (c) refunding Outstanding Senior Lien Bonds or Notes issued pursuant to the Senior Lien Trust Agreement; (d) completing any System Project for which Senior Lien Bonds have been previously issued; or (e) refunding Junior Lien Bonds or other subordinated indebtedness. Additional Series of Senior Lien Bonds may also be payable from and further secured by a pledge of Series Payments or Supplemental Payments, but neither the 2018 Senior Lien Bonds nor the Outstanding Senior Lien Bonds are secured by any Series Payments or Supplemental Payments. One condition for the issuance of an additional Series of Senior Lien Bonds is that the amount of the System Pledged Revenues and any Supplemental Payments during the Fiscal Year immediately preceding such issuance, or any twelve (12) consecutive calendar months selected by the Commission out of the fifteen (15) consecutive calendar months immediately preceding such issuance, subject to certain adjustments and verification, shall have been at least 150% of the

maximum Annual Debt Service Requirement on the Senior Lien Bonds then outstanding and the Senior Lien Bonds then proposed to be issued. For a further discussion of the requirements for and conditions to the issuance of additional Senior Lien Bonds, see "EXHIBIT A-1 - GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT - Issuance of Bonds" herein.

### Additional Junior Lien Bonds

Subject to conditions and requirements set forth therein, the Junior Lien Trust Agreement permits the Commission from time to time to issue additional Series of Junior Lien Bonds that are payable from and secured by a junior pledge of System Pledged Revenues on a parity with the Outstanding Junior Lien Bonds (including the 2018 Junior Lien Bonds) for the purpose of: (a) financing System Projects, either alone or jointly with other persons, public bodies or private bodies; (b) financing Infrastructure Projects, either alone or jointly with other persons, public bodies or private bodies; (c) refunding Outstanding Junior Lien Bonds or Junior Lien Notes issued pursuant to the Junior Lien Trust Agreement; (d) completing any System Project for which Junior Lien Bonds have been previously issued; or (e) refunding Senior Lien Bonds or subordinated indebtedness. Additional Series of Junior Lien Bonds may also be payable from and further secured by a pledge of Junior Lien Series Payments or Junior Lien Supplemental Payments. One condition for the issuance of an additional series of Junior Lien bonds to finance Projects is that either:

- (i) the amount of the System Pledged Revenues and any Supplemental Payments during the immediately preceding Fiscal Year or any twelve (12) consecutive calendar months selected by the Commission out of the fifteen (15) consecutive calendar months immediately preceding the issuance of the proposed Junior Lien Bonds, adjusted as hereinafter described, shall have been at least 150% of the Maximum Composite Annual Debt Service Requirement on the Junior Lien Bonds then Outstanding, the Senior Lien Bonds then Outstanding, the Junior Lien Bonds then proposed to be issued and any Senior Lien Bonds then proposed to be issued. The System Pledged Revenues calculated pursuant to this paragraph may be adjusted, at the option of the Commission, if the Commission, prior to the issuance of the proposed Junior Lien Bonds, shall have increased the Tolls for transit over the toll facilities of the Turnpike System. If the Commission elects to adjust System Pledged Revenues, the Net Revenues for the immediately preceding Fiscal Year or the twelve (12) consecutive calendar months shall be adjusted, based upon a certificate of an Independent Consultant, to reflect the Net Revenues that would have been derived from the Turnpike System during such period if such increased Tolls of the Turnpike System had been in effect during all of such period; or
- (ii) an Independent Consultant certifies that, based upon reasonable assumptions, System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Annual Debt Service Requirement for each such Fiscal Year for all Series of Senior Lien Bonds and Junior Lien Bonds to which such Supplemental Payments are pledged) are projected to be at least 150% of the Composite Annual Debt Service Requirement for the current Fiscal Year and each successive Fiscal Year during which the Junior Lien Bonds then Outstanding, the Senior Lien Bonds then Dutstanding, the Junior Lien Bonds then proposed to be issued and any Senior Lien Bonds then proposed to be issued will be Outstanding.

For purposes of making the required calculations for issuance of additional Junior Lien Bonds, Composite Annual Debt Service Requirement shall mean in each Fiscal Year the sum of the Junior Lien Annual Debt Service Requirement and the Senior Lien Annual Debt Service Requirement. For a further discussion of the requirements for and conditions to the issuance of additional Junior Lien Bonds, See "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Issuance of Bonds" herein.

### **Issuance of Subordinate Bonds**

The Commission may issue other obligations secured by a pledge of the System Pledged Revenues in addition to the Junior Lien Bonds and the Senior Lien Bonds, provided such obligations contain an express statement that such obligations are junior, inferior and subordinate in all respects to the Junior Lien Bonds issued pursuant to the Junior Lien Trust Agreement as to lien on and source and security for payment from the System Pledged Revenues and Junior Lien Special Funds and in all other respects. There are no subordinate bonds currently outstanding.

### THE TURNPIKE SYSTEM

### General

The first completed section of the Ohio Turnpike, 22 miles from the Pennsylvania Turnpike at the Ohio-Pennsylvania border to an interchange at Mahoning County Road 18, nine miles west of the city of Youngstown, was opened for traffic on December 1, 1954. This Eastgate section had been rushed to completion to relieve congestion of traffic moving to and from the Pennsylvania Turnpike over state and other highways.

The remaining 219 miles of the Turnpike were opened on October 1, 1955. As traffic flowed through the 17 interchanges and terminals, all service and operating functions were activated – restaurants and service stations, disabled vehicle service, maintenance buildings, the Ohio State Highway Patrol (OSHP), and the Turnpike radio communications system.

For the most part, the Turnpike has experienced a relatively steady increase in traffic volume and revenues. In 1956, the first calendar year of full operation, 8,511,931 automobiles and 1,469,023 trucks used the Turnpike. In 2016, the total annual traffic consisted of 43,471,979 automobiles and 11,424,856 trucks. Annual revenues from tolls, restaurant and service station concessionaire rentals and other sources rose from \$15,351,000 in 1956 to \$320,618,000 in 2016.

The Ohio Turnpike links the East and Midwest by virtue of its strategic position along the system that directly connects toll roads between Boston, New York City and Chicago, consisting of the Massachusetts Turnpike, New York Thruway, New Jersey Turnpike, Pennsylvania Turnpike, Ohio Turnpike, Indiana Toll Road and Chicago Skyway.

The beginning of the National System of Interstate and Defense Highways early in 1956 resulted in the Commission scrapping plans to build several other toll roads in Ohio (but some of this planning was used in launching Ohio's interstate system). Thus, the Ohio Turnpike, which carries the designation of Project No. 1, is the one and only Turnpike project completed, operated and maintained by the Commission.

Even though the Commission receives no federal funding, all of the 241.26 mile Turnpike has been incorporated by the Federal Highway Administration into the Interstate Highway System. The Turnpike is designated Interstate Route 80/90 between the Ohio-Indiana line and the Lorain County West Interchange (Milemarker 142), Interstate Route 80 between the Lorain County West Interchange (Milemarker 142) and the Niles-Youngstown Interchange (Milemarker 218), and Interstate Route 76 between the Niles-Youngstown Interchange (Milemarker 218) and the Ohio-Pennsylvania line.

The Turnpike is linked directly with Interstate Route 75, Interstate Route 280, Interstate Route 480, Interstate Route 71, Interstate Route 77 and Interstate Route 680. There are 31 interchanges on the Ohio Turnpike, 26 of which are accesses to and from U.S., Ohio and Interstate routes and two of which are terminals connecting, respectively, with the Pennsylvania Turnpike in the east and the Indiana Toll Road in the west. The remaining three interchanges connect with county or local roads.

Although commonly known and referred to as the Ohio Turnpike, the toll road's official name is The James W. Shocknessy Ohio Turnpike in honor of the man who was a member and Chairman of the Commission from its inception in 1949 until his death in 1976.

# **Physical Characteristics**

The 241.26 mile Ohio Turnpike mainline consists of 160 miles with three eastbound and westbound travel lanes flanked by paved shoulders 14 feet, 3 inches wide on the inside and 10 feet wide on the outside of the mainline roadway and 82 miles with two eastbound and westbound travel lanes flanked by paved shoulders 8 feet wide on the inside and 10 feet wide on the outside. The two-lane sections of the Turnpike include approximately 59 miles on the western end of the Turnpike (between mileposts 0 and 59) and 23 miles on the eastern end (between mileposts 218 and 241). The original two-lane sections are reinforced portland cement concrete, all of which has been resurfaced with asphaltic concrete. The shoulders are hard surfaced with three inches of bituminous (penetration) macadam, plus the thickness of the resurfacing asphalt. In the two-lane sections, the mainline roadways are separated by a center strip with a standard width between roadway lanes of 56 feet, consisting of 40 feet of grass median and the inside shoulders. The construction of the third lane sections eliminated the 56 foot center strip, replacing it with two 12 foot traffic lanes, two 14 foot, 3 inch wide inside shoulders and a 50 inch high concrete barrier. The third lane section between Interchange 59 and Interchange 218 consists primarily of full depth asphalt. Ascending grades are kept to a maximum of 2.00 percent and descending grades to a maximum of 3.14 percent. Horizontal and vertical curves are of sufficient radius to provide the best sight distance, as well as ease of travel.

All of the roads and railroads intersected by the Turnpike cross under or over the Turnpike's roadways by means of bridges. There are no crossings at grade. To preserve the minimum separation between roadways, twin bridges carry the roadways whenever the Turnpike crosses over other highways, railroads or rivers.

# **Employees and Employee Relations**

As of December 31, 2017, the Commission had 945 employees compared with 1,165 employees on December 31, 2009. The Commission's employees are categorized into four groups based on labor organization representation.

The first group is those employees not represented by a labor organization. This group is comprised primarily of individuals employed by the Commission to perform supervisory, management, administrative, financial, engineering and legal functions. This group had 298 employees on December 31, 2017, with the numbers split between field supervisory personnel and personnel working at the Commission's headquarters in Berea, Ohio.

The second group includes the Commission's full-time, non-supervisory field employees in the Toll Collection, Maintenance, and Engineering Departments, except section clerks, chief mechanics and sign shop clerks. The Teamsters Local Union No. 436 is the exclusive representative of this group, which numbered 446 employees as of December 31, 2017. The current collective bargaining agreement with the full-time unit expires on December 31, 2019.

The third group includes the Commission's part-time toll collectors who are represented as a separate bargaining unit by the Teamsters Local Union No. 436. This group had 192 part-time toll collectors as of December 31, 2017. The current collective bargaining agreement with the part-time unit expires on December 31, 2019.

The Commission's full-time radio operators form the fourth group and are represented as a separate bargaining unit by the Teamsters Local Union No. 436. This group had 9 full-time radio operators as of

December 31, 2017. The current collective bargaining agreement with this unit expires on December 31, 2019.

Employee benefits provided by the Commission to all full-time employees include medical, dental and vision insurance and contributions to the Ohio Public Employees Retirement System.

# Reduction in Toll Operations Workforce

Electronic tolling has enhanced the overall efficiency of the Commission's toll operations. The long-term efficiencies created as a result of *E-ZPass®* and the installation of the Automated Toll Payment Machines ("ATPMs") at several of the toll plazas as well as the impact of the implementation of the planned new tolling systems as described herein are expected to continue to reduce the number of full-time and part-time toll collectors required on a long-term basis. Pursuant to the provisions of the Collective Bargaining Agreement with the union representing these bargaining unit personnel, the Commission engaged in negotiations with the representatives of the Teamsters Local Union 436 in the summer of 2009. The negotiations culminated in the Commission offering a Voluntary Separation Incentive Plan ("VSIP") to full-time and part-time toll collectors beginning in November 2009. During 2010, forty-seven full-time toll employees and seventy-nine part-time toll employees accepted VSIP payments at a total cost to the Commission of \$2.5 million. While the VSIP was only offered through 2010, it is estimated that the Commission is saving \$4.68 million annually in wage and fringe benefits as a result of the VSIP.

In 2011, the Commission eliminated an additional 21 full and part-time toll collector positions from locations that were completely automated through the use of ATPMs. As of December 31, 2017, through the combined efforts of hiring freeze, the VSIP and the layoff process, the Commission has, since 2008, permanently reduced full-time toll collector positions from 306 to 202, and part-time toll collector positions from 308 to 192. During this same time period, the Commission has reduced its overall staffing levels by 23%, from 1,231 to 945 on December 31, 2017.

The Commission continues to reduce the number of full and part-time toll collectors primarily through attrition as the number of cash transactions decrease because of increased E-ZPass $\mathbb{R}$  use and the installation of additional ATPMs.

# Retirement Expenses and Post Employment Hospital Care Benefits

Present and retired employees of the Commission are covered under the Ohio Public Employees Retirement System ("OPERS"), a statewide public employee retirement system.

In 2017, employees covered by OPERS contributed at a statutory rate of 10.0% of earnable salary or compensation. As the employer, the Commission's statutory contribution rate for those employees was 14.0% of the same base. These employee and employer contribution rates are the maximums permitted under current State law.

OPERS is one of five statewide public employee retirement systems created by and operating pursuant to Ohio law, all of which currently have unfunded actuarial accrued liabilities. The General Assembly has the power to amend the format of those systems and to revise rates and methods of contributions to be made by public employers and their employees and eligibility criteria, benefits or benefit levels for employee members. On September 12, 2012, the General Assembly passed five separate pension reform bills intended to assist each of the five retirement systems in addressing its unfunded actuarial accrued liabilities. The bill passed with respect to OPERS provided for no change in the Commission contribution rates with respect to its employees' earnable salaries or in the OPERS employee contribution rate. With certain transition provisions applicable to certain current employees, the bills increased minimum age and service requirements for retirement and disability benefits, revised the calculation of an employee's

final average salary on which pension benefits are based to include the five highest years (rather than the three highest years), provided for OPERS pension benefits to be calculated on a lower, fixed formula, changed provisions with respect to future cost—of-living adjustments to limit those adjustments to the lesser of any increase in the Consumer Price Index or three percent, and made other changes.

At December 31, 2016, the Commission reports a liability of \$67,956,000 for its proportionate share of the net pension liability for the Traditional Plan and an asset for its proportionate share of the net pension asset of \$178,000 for the Combined Plan. The net pension asset/liability was measured as of December 31, 2015. The total pension asset/liability used to calculate the net pension asset/liability was determined by an actuarial valuation as of December 31, 2015. The Commission's proportion of the net pension asset/liability is determined by a measure of the Commission's proportionate relationship of employer contributions made to OPERS to the total contributions made to OPERS by all employers and non-employer contributing entities to the plan. The Commission's proportion of the net asset/liability is based on the Commission's long-term share of contributions to the plan as compared to the total projected long-term contributions of employers and all non-employer contributing entities. At December 31, 2015, the Commission's proportion was 0.392329 percent for the Traditional Plan and 0.365870 percent for the Combined Plan.

The Commission provides postemployment health care benefits through its contributions to the OPERS. The OPERS maintains a cost-sharing, multiple-employer defined benefit post-employment healthcare plan, which includes a medical plan, prescription drug program and Medicare Part B premium reimbursement, to qualifying members.

In order to qualify for postretirement health care coverage, retirees must have 20 or more years of qualifying Ohio service credit. Health care coverage for disability recipients and qualified survivor benefit recipients is available. The health care coverage provided by the OPERS is considered an Other Postemployment Benefit (OPEB) as described in GASB Statement No. 45.

The Ohio Revised Code permits, but does not mandate, the OPERS to provide OPEB benefits to its eligible members and beneficiaries. Authority to establish and amend benefits is provided in Chapter 145 of the Ohio Revised Code.

Federal law requires Commission employees hired after March 31, 1986 to participate in the federal Medicare program, which requires matching employer and employee contributions, each being 1.45% of the wage base. Otherwise, Commission employees who are covered by a State retirement system are not currently covered under the federal Social Security Act. OPERS is not subject to the funding and vesting requirements of the federal Employee Retirement Income Security Act of 1974.

For further information on OPERS, see the notes to the Basic Financial Statements included in Exhibit C. OPERS issues a stand-alone financial report. Interested parties may obtain a copy by visiting <a href="https://www.opers.org/financial/reports.shtml">https://www.opers.org/financial/reports.shtml</a>, making a written request to the OPERS, 277 East Town Street, Columbus, Ohio 43215-4642 or by calling (614) 222-5601 or (800) 222-7377.

### **Services to Customers**

The Commission offers a number of services for the convenience and safety of Turnpike customers. The Commission has contracted with several private companies through competitive bidding to operate restaurants and service stations at the Commission's 14 service plazas, to provide disabled vehicle service to stranded motorists and to furnish ambulance and fire-fighting assistance in the event of an accident or other emergency situation.

### **Disabled Vehicle Service**

Roadway vehicle-repair trucks on the Turnpike are equipped to assist temporarily stranded drivers in getting vehicles started again. On-the-spot service includes changing tires, supplying emergency gasoline, replacing broken fan belts and other minor repairs. Towing service is available for the removal of vehicles requiring garage work off the Turnpike.

### **Service Plazas**

The Commission currently operates 14 service plazas on the Turnpike to meet the needs of the traveling public. The Commission has contracted with several private companies to operate restaurants and service stations at each of the seven pairs of service plazas, which are approximately 30 miles apart. The farthest distance between pairs of service plazas is 56.1 miles. Restaurants and service stations are located at all service plazas, which are open 24 hours each day throughout the year. The service stations at the service plazas have gasoline, diesel fuel and assorted automotive accessories for sale. The restaurants at the service stations offer travelers a variety of food and beverage choices. Prices for food, fuel and other items sold at the service plazas are competitive with those charged at similar, off-Turnpike establishments in the same general vicinities. Additionally, Turnpike maps, motel-hotel lists, traffic updates and other touring aids are available at the service plazas for travelers.

# **Turnpike Maintenance**

Providing Turnpike customers with a well-maintained highway is a task performed by the Commission's Maintenance Department. Personnel are assigned to the eight maintenance buildings, spaced at approximately 30-mile intervals along the Turnpike. Maintenance workers are responsible for keeping the Turnpike facilities operational and the roadway and pavement in a comfortable-riding, clean and safe condition by performing routine roadway maintenance, patching, joint repair, guardrail repair, lighting maintenance, fabricating and installing roadway signage, mowing, landscaping, applying herbicides and snow and ice removal. Mechanics are employed to maintain the Commission's service vehicles and equipment for such tasks. Weather monitoring stations along the road utilize embedded sensors in certain mainline bridges to provide advance notice of the need to initiate snow and ice operations. The Maintenance Department is also responsible for administering compliance with environmental and other state regulations relative to water systems, wastewater treatment plants, sanitary sewer pumping stations and underground storage tanks.

# **Ohio State Highway Patrol (OSHP)**

A special Turnpike unit of the OSHP polices the Turnpike. OSHP operates patrol cars and airplanes to enforce the Commission's traffic regulations, as well as to perform service to ill, stranded or otherwise distressed travelers. Under a contract between the Commission and the OSHP, the Commission uses toll revenue to reimburse the patrol for all costs of operating on the Turnpike.

As part of its continued commitment to safety, the Commission has funded the implementation of Multi-Agency Radio Communications System ("MARCS") for OSHP on the Turnpike. This system enables OSHP troopers and law enforcement personnel serving communities adjacent to the Turnpike to effectively communicate with each other, thus providing an additional level of safety and support for both Turnpike motorists and for communities near the Turnpike corridor.

# **Radio Communications Systems**

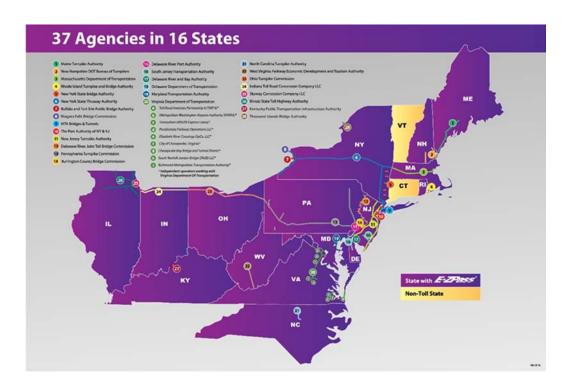
In the interest of improved efficiency and effectiveness, the Commission has also migrated to the Ohio MARCS 800 MHz two-way radio communication system for Turnpike operations. MARCS is of

particular value to Turnpike customers as it provides greater interoperability between Turnpike personnel and emergency services providers such as OSHP, EMS, EMS life flight, fire departments and contracted disabled vehicle services when responding to vehicle accidents or incidents along the Turnpike corridor.

#### TOLLS AND TOLL COLLECTION

On October 1, 2009, the Commission implemented its current toll collection system ("TCS"), including electronic tolling collection technology (*E-ZPass*®). At that same time, the toll rate schedule and vehicle classification system were also revised. Vehicles travelling the Ohio Turnpike are now classified based on seven vehicle classifications, which was a reduction from the eleven classifications used previously. Vehicles are now classified based on the number of axles and height of the vehicle over the first two axles. The vehicle classification along with distance traveled still determines the appropriate toll fare; however, toll rates were adjusted to coincide with the compression of the vehicle classifications, along with the addition of *E-ZPass*®. Toll rates for customers using an *E-ZPass*® compatible transponder pay a lower toll fare for travel on the Ohio Turnpike than non-*E-ZPass*® customers.

The Ohio Turnpike is part of the network of 37 other U.S. toll authorities in 16 states that use *E-ZPass*®. Most recently, The *E-ZPass*® Group announced that the Central Florida Expressway Authority will join the network in the early spring of 2018. Use of *E-ZPass*® provides the Commission with a more efficient means of collecting tolls. It also provides improved service by affording customers the convenience of not having to stop to pay their tolls. Implementation of *E-ZPass*® also provides for increased vehicle throughput in existing toll lanes, thereby avoiding the need for future expansion of toll plaza facilities.



The Commission currently operates ATPMs at the fourteen least-traveled interchanges and is installing ATPMs at seven additional interchanges in 2018. These self-serve machines allow customers to pay their tolls with cash or credit cards without the assistance of a collector. The devices include 4-way insertion of toll tickets, coin baskets and remote functionality. With video surveillance cameras installed at each plaza and audio communications installed in the toll lanes, use of these improved ATPMs enables

operation of these low-volume plazas in an unstaffed mode either 24 hours a day or during certain off-peak hours.

# **Planned Toll Collection System Modernization**

The Commission hired Jacobs Engineering Group Inc. (the "Traffic Consultant") to evaluate the TCS and develop a strategic plan for modernizing the TCS because the current TCS is approaching the end of its useful life and original parts are no longer manufactured. The Traffic Consultant performed several activities including research on toll industry best practices, an open road tolling engineering conceptual analysis to evaluate the feasibility of implementing non-stop gateless tolling at select interchanges, policy and legislative considerations for video enforcement, vehicle license plate surveys, customer and external stakeholder surveys, the identification and prioritization of potential TCS alternatives, the applicability of TCS alternatives to the Commission's toll plazas and the development of recommended alternatives. Operational analyses were conducted to evaluate the potential impact on traffic flow, toll operations and revenue collection for each recommended alternative. The Traffic Consultant also prepared comprehensive cost/benefit analyses, including comparative capital and operating/maintenance costs and net revenue estimates for implementing and operating each recommended TCS alternative. Based on the information gathered through these various work efforts, the Commission's staff identified the final preferred alternative that was recommended to and approved for implementation by the Commission Board on December 18, 2017. The construction and implementation of the new TCS will take several years and is expected to be fully implemented by the beginning of 2022. For a complete description of the planned new TCS as adopted by the Commission, see Section 3 of "EXHIBIT D - TRAFFIC AND REVENUE STUDY".

#### **Customer Service Center**

As part of the TCS modernization plan, a new, state-of-the-art customer service center system ("CSC") is planned that is expected to upgrade existing customer service operations and provide significant advancements in improved customer experience, communication methods, data availability, and security primarily through the implementation of software upgrades needed to interface with the TCS modernization plan. That CSC will continue to be operated by the Commission's staff within existing space at the Commission's Berea, Ohio headquarters to service the customer service needs of the almost 400,000 *E-ZPass*® customers that have their accounts with the Commission. *E-ZPass*® usage is currently growing at approximately 2% per year and a bump in *E-ZPass*® usage is anticipated when higher speed gateless *E-ZPass*® lanes are implemented as part of the modernization plan.

The new CSC is planned to include a new *E-ZPass*® Ohio website (www.ezpassoh.com). When fully implemented, the improved CSC is expected to only perform functions related to administering and managing the *E-ZPass*® Ohio program. All unpaid toll processing functions that are expected to arise from gateless *E-ZPass*® lane operations are intended to be outsourced to one or more vendors. See Section 3 of "EXHIBIT D – TRAFFIC AND REVENUE STUDY."

#### **Unpaid Toll Processing Services**

The Commission plans to contract with one or more vendors to perform license plate image review, unpaid toll transaction processing functions (e.g. registered vehicle address lookup, generation and mailing of unpaid toll notices, customer service related to unpaid tolls, etc.) and collection of unpaid tolls. The Commission expects that Unpaid Toll Processing will allow the Commission to be financially responsible while providing low speed and highway speed non-stop travel for its *E-ZPass*® travel customers.

#### Capital Cost Estimates

The Traffic Consultant prepared budgetary estimates of the capital costs of modernizing the Ohio Turnpike. These costs are estimated to be approximately \$189 to \$217 million in 2017 dollars with approximately \$50 to \$57 million for the TCS, CSC and Unpaid Toll Processing capital costs and approximately \$139 to \$160 million for toll plaza and mainline infrastructure improvements.

#### Revenue and Operating Cost Impacts

The Commission estimates that the modernized TCS and CSC will result in approximately \$257 million of operating cost savings over 30 years. In the opening year of the modernized TCS, it is estimated that there will be approximately \$2.7 million less in operating costs and approximately \$2.4 million more net revenue.

### **Toll Rate History**

The Ohio Turnpike's toll rates for commercial vehicles, which historically have been among the lowest in the country, continue to remain among the lowest even after the adjustments and implementation of the *E-ZPass*® program.

In conjunction with the Commission's issuance of Senior Lien Bonds and Junior Lien Bonds in 2013, the Commission implemented a series of forward-looking toll increases over a 10-year period starting January 1, 2014 and ending December 31, 2023. Specifically, the Commission, at its July 15, 2013 meeting, implemented a toll increase plan that increases rates by an average of 2.7% each year (the historical rate of inflation) for those 10 years. In addition to the forward-looking toll increase plan implemented beginning in 2014, the Commission has authority to increase tolls further, including if such increase is required by the toll covenants in the Senior Lien Trust Agreement or the Junior Lien Trust Agreement. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS – Toll Rate Covenants." In addition, the Commission expects to make further modifications to its toll system that may impact how tolls are calculated and collected for certain trips. See "TOLLS AND TOLL COLLECTION - Planned Toll Collection System Modernization" herein.

As described above, the Commission implemented a forward-looking toll increase plan starting in 2014. One exception to that plan for toll increases related to passenger vehicles using *E-ZPass*® and making local trips of less than 30 miles over the same 10 year period, for which tolls were not increased. After 2023, the Commission's projections currently assume that the toll rate for these particular trips will experience a one-time increase to equal the same per mile rate as charged for all *E-ZPass*® trips. The revisions to the toll collection system currently proposed by the Commission may impact such exception. See "TOLLS AND TOLL COLLECTION – Planned Toll Collection System Modernization" herein.

The following tables set forth: (i) the axle-based vehicle classifications and recent historical toll rates (both per trip and per mile); and (ii) historical comparative traffic information from 2013 through 2017.

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#### OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

# HISTORICAL AXLE BASED TOLLS THROUGH JANUARY 1, 2018

			Januar	y 1, 2014	January	1, 2015	January	1, 2016	January	1, 2017	January	1, 2018
Class	Description	Example	E-ZPASS	NON E-ZPASS								
1	Low 2-axle vehicles and all motorcycles (including motorcycles pulling trailers).		\$ 11.50	\$ 17.00	\$ 11.75	\$ 17.50	\$ 12.25	\$ 17.75	\$ 12.50	\$ 18.25	\$ 12.75	\$ 18.75
2	Low 3-axle vehicles and high 2-axle vehicles.		\$ 20.50	\$ 28.75	\$ 21.00	\$ 29.50	\$ 21.75	\$ 30.25	\$ 22.25	\$ 31.25	\$ 22.75	\$ 32.00
3	Low 4-axle vehicles and high 3-axle vehicles.		\$ 24.75	\$ 34.00	\$ 25.25	\$ 34.75	\$ 26.00	\$ 35.75	\$ 26.75	\$ 36.75	\$ 27.50	\$ 37.75
4	Low 5-axle vehicles and high 4-axle vehicles.		\$ 30.75	\$ 40.00	\$ 31.75	\$ 41.25	\$ 32.50	\$ 42.25	\$ 33.25	\$ 43.50	\$ 34.25	\$ 44.50
5	Low 6-axle vehicles and high 5-axle vehicles.		\$ 36.00	\$ 45.25	\$ 37.00	\$ 46.50	\$ 38.00	\$ 47.75	\$ 39.00	\$ 49.00	\$ 40.00	\$ 50.25
6	High 6-axle vehicles.	0 00 000	\$ 51.25	\$ 62.75	\$ 52.75	\$ 64.25	\$ 54.25	\$ 66.00	\$ 55.50	\$ 67.75	\$ 57.00	\$ 69.75
7	All vehicles with 7 or more axles.	<b>50 50 50</b>	\$ 74.00	\$ 85.25	\$ 76.00	\$ 87.50	\$ 78.00	\$ 90.00	\$ 80.00	\$ 92.25	\$ 82.25	\$ 94.75

# Toll Rates Per Mile (for the period 2013-2017)

Class		2013	2014	2015	2016	2017
Vehicle Class	sification by Axles and Height (Non <i>E-ZPass</i> ®):					
1	Low 2-axle vehicles and all motorcycles	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.08
2	Low 3-axle vehicles and high 2-axle vehicles	0.12	0.12	0.12	0.13	0.13
3	Low 4-axle vehicles and high 3-axle vehicles	0.14	0.14	0.14	0.15	0.15
4	Low 5-axle vehicles and high 4-axle vehicles	0.16	0.17	0.17	0.18	0.18
5	Low 6-axle vehicles and high 5-axle vehicles	0.18	0.19	0.19	0.20	0.20
6	High 6-axle vehicles	0.25	0.26	0.27	0.27	0.28
7	All vehicles with 7 or more axles	0.34	0.36	0.36	0.37	0.38
Vehicle Class	sification by Axles and Height ( <i>E-ZPass</i> ®):					
1	Low 2-axle vehicles and all motorcycles	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05
2	Low 3-axle vehicles and high 2-axle vehicles	0.08	0.09	0.09	0.09	0.09
3	Low 4-axle vehicles and high 3-axle vehicles	0.10	0.10	0.11	0.11	0.11
4	Low 5-axle vehicles and high 4-axle vehicles	0.12	0.13	0.13	0.13	0.14
5	Low 6-axle vehicles and high 5-axle vehicles	0.15	0.15	0.15	0.16	0.16
6	High 6-axle vehicles	0.21	0.21	0.21	0.22	0.23
7	All vehicles with 7 or more axles	0.30	0.31	0.31	0.32	0.33

# **Comparative Traffic Statistics**

The following tables set forth historic information with respect to System Traffic and Revenues for the period 2013 to 2017:

	2013	2014	2015	2016	2017
Number of Vehicles (In Thousands):					
Passenger Cars	39,742	40,345	42,110	43,472	43,598
Commercial Vehicles	10,570	10,923	11,284	11,425	11,615
Total	50,312	51,268	53,394	54,897	55,213
Percentage of Vehicles:					
Passenger Cars	79.0%	78.7%	78.9%	79.2%	79.0%
Commercial Vehicles	21.0%	21.3%	21.1%	20.8%	21.0%
Number of Miles (In Thousands):					
Passenger Cars	1,891,723	1,906,619	1,998,170	2,029,904	2,017,044
Commercial Vehicles	935,973	968,540	1,003,117	1,007,742	1,020,875
Total	2,827,696	2,875,159	3,001,287	3,037,646	3,037,919
Percentage of Miles:					
Passenger Cars	66.9%	66.3%	66.6%	66.8%	66.4%
Commercial Vehicles	33.1%	33.7%	33.4%	33.2%	33.6%
Toll Revenue (In Thousands):					
Passenger Cars	\$ 112,820	\$ 114,871	\$ 122,183	\$ 126,063	\$127,537
Commercial Vehicles	141,818	149,750	158,004	162,376	168,262
Total	\$ 254,638	\$ 264,621	\$ 280,187	\$ 288,439	\$295,799
Percentage of Toll Revenue:					
Passenger Cars	44.3%	43.4%	43.6%	43.7%	43.1%
Commercial Vehicles	55.7%	56.6%	56.4%	56.3%	56.9%
Average Miles per Trip:					
Passenger Cars	47.6	47.3	47.5	46.7	46.3
Commercial Vehicles	88.5	88.7	88.9	88.2	87.9
Average Toll Revenue per Trip:					
Passenger Cars	\$2.84	\$2.85	\$2.90	\$2.90	\$2.93
Commercial Vehicles	13.42	13.71	14.00	14.21	14.49
Average Toll Revenue per Mile:					
Passenger Cars	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06
Commercial Vehicles	0.15	0.15	0.16	0.16	0.16

# Vehicles by Class (In Thousands)

Class		2013	2014	2015	2016	2017
Vehicle	e Classification by Axles and Height:					
1	Low 2-axle vehicles and all motorcycles	39,742	40,345	42,110	43,472	43,598
2	Low 3-axle vehicles and high 2-axle vehicles	1,198	1,251	1,328	1,379	1,417
3	Low 4-axle vehicles and high 3-axle vehicles	633	663	713	734	769
4	Low 5-axle vehicles and high 4-axle vehicles	422	451	473	499	512
5	Low 6-axle vehicles and high 5-axle vehicles	7,885	8,120	8,335	8,358	8,442
6	High 6-axle vehicles	245	258	257	273	291
7	All vehicles with 7 or more axles	187	180	178	182	184
Subtota	al	50,312	51,268	53,394	54,897	55,213
Add No	on-Revenue <sup>(1)</sup>	404	367	386	443	416
To	otal Vehicles	50,716	51,635	53,780	55,340	55,629
Percen	ntage of Vehicles Using <i>E-ZPass</i> ®:	<u>2013</u>	<u>2014</u>	<u>2015</u>	2016	<u>2017</u>
	Passenger cars (Class 1)	$4\overline{2.2\%}$	45.5%	47.6%	50.2%	52.8%
	Commercial vehicles (Class 2-7)	78.4%	80.0%	82.1%	83.6%	84.7%
T	otal	49.8%	52.9%	54.9%	57.1%	59.5%

Source: Ohio Turnpike and Infrastructure Commission, CFO/Comptroller's Office.

Notes: (1)Non-revenue vehicles represent traffic of officials, employees, agencies and representatives of the Commission while in the discharge of their official duties, police officers of the United States, of the State of Ohio and of its political subdivisions, and vehicles of contractors used in the maintenance of the Turnpike and its buildings.

Toll Revenue by Class (In Thousands)

Class		2013	2014	2015	2016	2017
Vehicle	e Classification by Axles and Height:					
1	Low 2-axle vehicles and all motorcycles	\$ 112,820	\$ 114,871	\$ 122,183	\$ 126,063	\$127,537
2	Low 3-axle vehicles and high 2-axle vehicles	6,723	7,065	7,682	8,029	8,367
3	Low 4-axle vehicles and high 3-axle vehicles	5,128	5,432	6,025	6,312	6,724
4	Low 5-axle vehicles and high 4-axle vehicles	3,895	4,213	4,561	4,865	5,126
5	Low 6-axle vehicles and high 5-axle vehicles	114,194	121,024	127,382	129,926	133,982
6	High 6-axle vehicles	4,479	4,661	4,795	5,333	5,858
7	All vehicles with 7 or more axles	7,399	7,355	7,559	7,911	8,204
Tot	tal Toll Revenue	\$ 254,638	\$ 264,621	\$ 280,187	\$ 288,439	\$295,799
Percen	tage of Toll Revenue from <i>E-ZPass</i> ®:	2013	2014	2015	2016	2017
	Passenger cars (Class 1)	34.0%	36.9%	38.7%	40.8%	43.2%
	Commercial Vehicles (Class 2-7)	<u>75.4%</u>	<u>77.3%</u>	<u>79.8%</u>	81.7%	<u>83.0%</u>
Tot	tal	57.1%	59.8%	61.9%	63.8%	65.9%

Source: Ohio Turnpike and Infrastructure Commission, CFO/Comptroller's Office.

# Toll Rates for the Years 2019 Through 2023

The table below sets forth the axle-based vehicle classifications and approved toll rates for the years 2019 through 2023.

The Commission may increase rates further if such increase is required by the toll covenants in the Senior Lien Trust Agreement or the Junior Lien Trust Agreement. See "SECURITY AND SOURCE OF PAYMENT FOR THE 2018 BONDS – Toll Rate Covenant" herein.

The Commission's projections currently assume that after 2023 tolls will increase for all vehicles, regardless of class or payment method, by 2.7 percent each year for 5 years beginning on January 1, 2024 and then, beginning on January 1, 2029, 2 percent annually thereafter. See "EXHIBIT D – TRAFFIC AND REVENUE STUDY" herein.

The toll increase projections have been determined by the Commission taking into account the amount necessary to meet existing and projected debt service and operational and maintenance obligations of the Commission. For a complete description of toll increases adopted by the Commission, see "EXHIBIT D - TRAFFIC AND REVENUE STUDY" and "TOLLS AND TOLL COLLECTION" herein.

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# OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION APPROVED TOLL RATE SCHEDULE FOR YEARS 2019 THROUGH 2023 COST OF A ONE-WAY FULL LENGTH TRIP ACROSS THE OHIO TURNPIKE

			January	/ 1, 2019	Januar	y 1, 2020	Januar	y 1, 2021	Januar	y 1, 2022	Januar	y 1, 2023
Class	Description	Example	E-ZPASS	NON E-ZPASS								
1	Low 2-axle vehicles and all motorcycles (including motorcycles pulling trailers).		\$ 13.25	\$ 19.25	\$ 13.50	\$ 20.00	\$ 14.00	\$ 20.50	\$ 14.25	\$ 21.00	\$ 14.75	\$ 21.50
2	Low 3-axle vehicles and high 2-axle vehicles.		\$ 23.50	\$ 32.75	\$ 24.00	\$ 33.75	\$ 24.75	\$ 34.75	\$ 25.50	\$ 35.50	\$ 26.00	\$ 36.50
3	Low 4-axle vehicles and high 3-axle vehicles.		\$ 28.25	\$ 38.75	\$ 29.00	\$ 39.75	\$ 29.75	\$ 40.75	\$ 30.50	\$ 42.00	\$ 31.25	\$ 43.00
4	Low 5-axle vehicles and high 4-axle vehicles.		\$ 35.25	\$ 45.75	\$ 36.25	\$ 47.00	\$ 37.25	\$ 48.25	\$ 38.25	\$ 49.50	\$ 39.25	\$ 51.00
5	Low 6-axle vehicles and high 5-axle vehicles.		\$ 41.00	\$ 51.75	\$ 42.25	\$ 53.00	\$ 43.25	\$ 54.50	\$ 44.50	\$ 56.00	\$ 45.75	\$ 57.50
6	High 6-axle vehicles.	0 000	\$ 58.75	\$ 71.50	\$ 60.25	\$ 73.50	\$ 62.00	\$ 75.50	\$ 63.50	\$ 77.50	\$ 65.25	\$ 79.50
7	All vehicles with 7 or more axles.	00 00 00	\$ 84.50	\$ 97.50	\$ 86.75	\$ 100.00	\$ 89.00	\$ 102.75	\$ 91.50	\$ 105.50	\$ 94.00	\$ 108.25

#### OTHER REVENUE SOURCES

The Ohio Turnpike is a fee-for-service facility, with 90.0% of its revenue derived from tolls. However, the Commission has worked diligently to produce revenue from other sources in order to keep tolls as low as possible. In 2016, such additional sources included the following categories, and provided the following additional revenue for the Commission: food and fuel concessions (\$16,325,000), investments (\$4,617,000), fuel taxes (\$2,834,000), and other sources such as advertising, and special permits (\$8,403,000).

#### **CERTAIN FINANCIAL INFORMATION**

Management of the Commission is responsible for establishing and maintaining an internal control structure designed to ensure that the assets of the Commission are protected from loss, theft or misuse and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that: (1) the cost of a control should not exceed the benefits likely to be derived; and (2) the valuation of costs and benefits requires estimates and judgments by management.

#### **Risk Management**

The Commission is self-insured for worker's compensation meaning the Commission pays premiums to the Ohio Bureau of Worker's Compensation (BWC) insurance program based on the total compensation benefits paid by the Commission as compared to the Commission's total payroll. Reimbursement for medical bills, and employee lost time compensation are paid directly by the Commission in accordance with the BWC Billing and Reimbursement Manual.

The Commission is generally self-insured up to \$100,000 per occurrence in accordance with its comprehensive insurance program, which includes: Commercial General Liability (including terrorism coverage); Automobile Liability; Public Officials Liability; Employment Practices Liability; Employers Liability; Employee Benefits Liability; Broad Form Money and Securities/Crime Insurance; Umbrella and Excess Liability Insurance coverage; Bridge and Use Occupancy; Property, Computer Equipment, Maintenance Equipment and Boiler & Machinery (\$10,000 deductible per occurrence); Cyber Security and Pollution Liability coverage. In addition, the Commission purchases commercial stop-loss insurance for employee health care claims in excess of \$250,000 per covered person per contract year. Paid claims have not exceeded the limits of the Commission's commercial policies for each of the last three fiscal years. The Commission also pays unemployment claims to the State of Ohio as incurred.

Matters are reported to the insurer(s) when it is probable that a liability may exist or loss has occurred and the estimated amount or nature of that liability/loss is such that one or more insurance coverages may respond. Claim liabilities are based upon the estimated ultimate cost of resolving the claims, including specific incremental claim adjustment expenses.

#### **Accounting System**

In order to facilitate compliance with its Master Trust Agreements, the Commission's accounting system is organized and operated on a "fund basis." The operations of each fund are accounted for using a separate set of self-balancing accounts. The accounts of all funds are combined into a single proprietary (enterprise) fund for external reporting purposes. The accounting policies of the Commission are more fully described in Notes to the Financial Statements of the Commission set forth as Exhibit C hereto.

#### **Debt Administration: Outstanding Bonds**

Pursuant to the Senior Lien Trust Agreement, the Fifth Supplemental Trust Agreement and a resolution adopted by the Commission on June 22, 1998, the Commission issued its \$298,575,000 Turnpike Revenue Refunding Bonds, 1998 Series A, dated September 1, 1998. The Outstanding aggregate principal amount of 1998 Series A Bonds was \$223,470,000 as of December 31, 2017.

Pursuant to the Senior Lien Trust Agreement, the Sixteenth Supplemental Trust Agreement and a resolution adopted by the Commission on April 27, 2009, the Commission issued its \$137,205,000 Turnpike Revenue Refunding Bonds, 2009 Series A, dated May 19, 2009. The Outstanding aggregate principal amount of 2009 Series A Bonds was \$46,950,000 as of December 31, 2017.

Pursuant to the Senior Lien Trust Agreement, the Seventeenth Supplemental Trust Agreement and a resolution adopted by the Commission on October 25, 2010, the Commission issued its \$131,290,000 Turnpike Revenue Refunding Bonds, 2010 Series A Bonds, dated November 1, 2010. The Outstanding aggregate principal amount of 2010 Series A Bonds was \$21,650,000 as of December 31, 2017.

Pursuant to the Senior Lien Trust Agreement, the Nineteenth Supplemental Trust Agreement and a resolution adopted by the Commission on July 15, 2013, the Commission issued its \$73,495,000 Turnpike Revenue Bonds, 2013 Series A Bonds, dated August 1, 2013. The Outstanding aggregate principal amount of 2013 Series A Bonds was \$73,495,000 as of December 31, 2017.

Pursuant to the Senior Lien Trust Agreement, the Twentieth Supplemental Trust Agreement and a resolution adopted by the Commission on August 21, 2017, the Commission issued its \$114,670,000 Turnpike Revenue Refunding Bonds, 2017 Series A Bonds, dated September 1, 2017. The Outstanding aggregate principal amount of 2017 Series A Bonds was \$114,670,000 as of December 31, 2017.

The Outstanding Senior Lien Bonds are payable from and secured by a pledge of and a senior lien on System Pledged Revenues on a parity with the 2018 Senior Lien Bonds and with any other bonds that may be issued and Outstanding under the Senior Lien Trust Agreement in the future.

Pursuant to the Junior Lien Trust Agreement, the First Supplemental Trust Agreement and a resolution adopted by the Commission on July 15, 2013, the Commission issued its \$994,812,816 Turnpike Junior Lien Revenue Bonds, 2013 Series A Bonds, dated August 1, 2013. The outstanding aggregate accreted principal amount of 2013 Series A Junior Lien Bonds was \$1,078,577,399 as of December 31, 2017.

The 2013 Junior Lien Bonds and the 2018 Junior Lien Bonds are subordinate to the Senior Lien Bonds issued by the Commission under the Senior Lien Trust Agreement. The 2018 Junior Lien Bonds will be equally and ratably secured with the 2013 Junior Lien Bonds, along with any additional Junior Lien Bonds that may be issued under the Junior Lien Trust Agreement, by a junior pledge of and junior lien on System Pledged Revenues (as defined in the Junior Lien Trust Agreement). System Pledged Revenues must be applied to payment obligations relating to the Senior Lien Bonds before being used to pay any obligations relating to the Junior Lien Bonds.

# **Debt Service Coverage Policy for Senior Lien Bonds**

By a Resolution adopted on July 15, 2013, the Commission established a policy that it will use its best efforts to cause System Pledged Revenues to equal at least 200% of Senior Lien Debt Service Requirements, and to take action necessary to re-establish or maintain such percentage, including review of revenues and reduction of expenditures. This policy is in addition to the requirement contained in the Senior Lien Trust Agreement that System Pledged Revenues, plus Supplemental Payments, if any, equal at least

120% of the Annual Debt Service Requirement for the Senior Lien Bonds. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS – Toll Rate Covenants" herein. However, this is a best efforts policy as described above, is not a legal obligation of the Commission, is subject to change at any time, and should not be relied upon by the Holders or Beneficial Owners of the 2018 Bonds. The actual results for the five most recent years are shown in the table titled "Revenue Bond Coverage" herein.

#### **Days Cash on Hand Policy**

By a Resolution adopted on July 15, 2013, the Commission also adopted a policy that it will use its best efforts to maintain a minimum of 365 days cash on hand among the following reserves: (1) the General Reserve Fund, (2) the Non-Trust Reserve Fund, (3) the Service Plaza Capital Reserve Fund, (4) the Fuel Tax Fund, (5) the System Project Fund and (6) the Renewal and Replacement Reserve. However, this is a best efforts policy, is not a legal obligation of the Commission, is subject to change at any time, and should not be relied upon by the Holders or Beneficial Owners of the 2018 Bonds.

#### **RESULTS OF OPERATIONS**

Set forth below are certain revenue and expense items and certain other financial information derived from the Commission's audited financial statements for each of the Commission fiscal years 2012 through 2016. The revenues and operating expenses below were derived by adjusting information contained in the Commission's audited financial statements, which are prepared in conformity with generally accepted accounting principles. This information is qualified by, and should be read in conjunction with, the audited financial statements for the Commission's fiscal year ended December 31, 2016 included as Exhibit C to this Official Statement. See also "MANAGEMENT DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS" below.

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# Revenue Bond Coverage

Dollars in Thousands

	2012	2013	2014	2015	2016
Pledged Revenues					
Passenger Car Toll Revenues	\$112,428	\$112,820	\$114,871	\$122,183	\$126,063
Commercial Vehicle Toll Revenues	140,116	141,818	149,750	158,004	162,376
Special Toll Permit Revenues	3,392	3,518	3,460	3,413	3,427
Pledged Concession Revenues	-	13,483	14,437	15,432	15,631
Investment Earnings	353	261	441	557	841
Other Pledged Revenues	2,950	3,372	4,106	4,245	4,967
Total Pledged Revenues	\$259,239(1)	\$275,272 <sup>(2)</sup>	\$287,065(2)	\$303,834(2)	\$313,305(2)
Expenses Paid from Pledged Revenues <sup>(3)</sup> :					
Administration and Insurance	\$ 9,936	\$ 9,293	\$ 9,762	\$ 10,269	\$ 11,177
Maintenance of Roadway and Structures	35,565	35,015	36,702	35,810	38,319
Services and Toll Operations	51,266	50,369	50,646	51,911	54,072
Traffic Control, Safety, Patrol and Communications	14,558	14,040	13,657	13,912	14,399
Total Expenses Paid from Pledged Revenues	\$111,325	\$108,717	\$110,767	\$111,902	\$117,967
Deposit to Reserve Account	176	(539)	(238)	376	374
Net Revenues Available for Debt Service	\$147,738	\$167,094	\$176,536	\$191,556	\$194,964
Senior Lien Debt Service Requirements:					
Principal	\$ 25,839	\$ 27,863	\$ 29,228	\$ 30,737	\$ 32,266
Interest	29,649	29,530	30,660	29,148	27,628
Less Interest Earned	(73)	(425)	(513)	(685)	(877)
	\$ 55,415	\$ 56,968	\$ 59,375	\$ 59,200	\$ 59,017
Total Senior Lien Debt Service Requirements	\$ 33,413	\$ 30,908	\$ 39,373	\$ 39,200	\$ 39,017
Calculated Debt Coverage Ratio	2.67	2.93	2.97	3.24	3.30
Junior Lien Debt Service Requirements:					
Principal			\$ -	\$ -	\$ -
Interest			36,146	36,146	36,146
Less Interest Earned			(830)	(725)	(931)
Less Interest Income transferred from Infrastructure					
Fund			(3,936)	(3,729)	(2,725)
Total Junior Lien Debt Service Requirements			\$ 31,380	\$ 31,692	\$ 32,490
Combined Debt Service Requirement			\$ 90,755	\$ 90,892	\$ 91,507
Combined Debt Coverage Ratio			1.95	2.11	2.13

<sup>(1)</sup> Gross Revenues per the Master Trust Agreement dated February 15, 1994, as amended in 2005 - consisting of tolls, special toll permits, certain realized investment earnings, appropriations from the Ohio Department of Transportation, and to the extent needed to achieve a debt coverage ratio of up to, but not more than 200%, leases, licenses, royalties, advertising, miscellaneous sales, fees, charges and certain concession revenues.

<sup>(2)</sup> Gross Revenues per the Amended and Restated Master Trust Agreement dated April 8, 2013, as amended in 2013 - consisting of tolls, special toll permits, certain realized investment earnings, appropriations from the Ohio Department of Transportation, leases, licenses, royalties, advertising, miscellaneous sales, fees, charges and certain concession revenues.

<sup>(3)</sup> Excludes non-cash GASB 68 pension expense.

Set forth below are certain revenue and expense items and certain other financial information derived from the Commission's unaudited financial statements for the nine months ended September 30, 2016 and the nine months ended September 30, 2017. This information is qualified by, and should be read in conjunction with, the audited financial statements for the Commission's fiscal year ended December 31, 2016 included as Exhibit C to this Official Statement.

# Interim Revenue Bond Coverage (Unaudited)

Dollars in Thousands

	9 Months Ended September 30, 2016	9 Months Ended September 30, 2017
Pledged Revenues	September 50, 2010	September 50, 2017
Passenger Car Toll Revenues	\$ 96,006	\$ 97,164
Commercial Vehicle Toll Revenues	122,281	126,314
Special Toll Permit Revenues	2,558	2,574
Pledged Concession Revenues	11,759	12,173
Investment Earnings	630	1,051
Other Pledged Revenues	3,706	4,087
Total Pledged Revenues	\$236,940(1)	\$243,363(1)
Expenses Paid from Pledged Revenues <sup>(2):</sup>		
Administration and Insurance	\$ 8,047	\$ 8,529
Maintenance of Roadway and Structures	27,632	27,870
Services and Toll Operations	40,726	41,698
Traffic Control, Safety, Patrol and Communications	10,343	9,962
Total Expenses Paid from Pledged Revenues	\$86,748	\$88,059
Deposit to Reserve Account	374	354
Net Revenues Available for Debt Service	\$149,818	\$154,950
Senior Lien Debt Service Requirements:		
Principal	\$ 24,114	\$ 25,504
Interest	20,910	19,421
Less Interest Earned	(639)	(667)
Total Senior Lien Debt Service Requirements	\$ 44,385	\$ 44,258
Calculated Debt Coverage Ratio	3.38	3.50
Junior Lien Debt Service Requirements:		
Principal	\$ -	\$ -
Interest	27,110	27,110
Less Interest Earned	(692)	(738)
Less Interest Income transferred from Infrastructure Fund	(2,725)	(1,427)
Total Junior Lien Debt Service Requirements	\$ 23,693	\$ 24,946
Combined Debt Service Requirement	\$ 68,078	\$ 69,204
Combined Debt Coverage Ratio	2.20	2.24

<sup>(1)</sup> Gross Revenues per the Amended and Restated Master Trust Agreement dated April 8, 2013, as amended in 2013 - consisting of tolls, special toll permits, certain realized investment earnings, appropriations from the Ohio Department of Transportation, leases, licenses, royalties, advertising, miscellaneous sales, fees, charges and certain concession revenues.

<sup>(2)</sup> Excludes non-cash GASB 68 pension expense.

#### MANAGEMENT DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS

# Discussion of Operating Results: 2012 through September 30, 2017

Over the last five years, the Commission has recovered from a decline in traffic and revenues because of the recession while implementing the Governor's Jobs and Transportation Plan which will, when fully implemented, provide \$1.38 billion for Infrastructure Projects across northern Ohio. The number of vehicles and the number of vehicle miles traveled has increased steadily since the recession. The increase in traffic combined with a toll increase in January of 2012 and three 2.7% toll increases in January of 2014, 2015 and 2016 has caused annual operating revenue to increase by \$61.4 million or 24.4% since 2010. During this time period the Commission has managed to control operating and maintenance costs (excluding depreciation and GASB 68 expense) so that they have increased by \$2.1 million per year or 1.8% since 2010.

#### 2012

Passenger car traffic volume increased by 1.0 percent and commercial traffic volume increased by 1.6 percent during 2012 as the economy continued its slow recovery from the recession. The number of miles traveled by passenger cars increased by 0.4 percent while the miles traveled by commercial vehicles increased by 0.9 percent during 2012. The increase in passenger car vehicle miles traveled along with a toll rate increase that took effect on January 1, 2012 resulted in an increase in toll revenue from passenger cars of approximately \$9.2 million or 8.9 percent. Revenues from commercial vehicles increased \$12.3 million or 9.6 percent as a result of the increase in commercial vehicle miles traveled and the January 1, 2012 toll rate increase. Total expenses increased by \$1.0 million or 0.9 percent in 2012 compared to the prior year. Fringe benefit expenses which are allocated to each area based on wages, increased \$3.3 million over 2011 due to higher health insurance costs, higher workers' compensation costs and higher compensated absence expense. The 13.6 percent increase in Administration and Insurance expense was primarily due to the increase in fringe benefit costs and the transfer of radio operator employees from Communications to Administration and the transfer of Administration Building maintenance employees from the Maintenance Department to Administration. The 1.6 percent decrease in Maintenance of Roadway and Structures expense is the result of milder winter weather in the first half of 2012 which resulted in a reduction of expenses for snow and ice control. The 1.4 percent increase in Services and Toll Operations expense is due primarily to increases in toll equipment maintenance. A full year of equipment maintenance costs was paid in 2012 on the toll system while part of the equipment maintenance costs in 2011 were covered under the one year warranty provided with the toll system purchase.

#### 2013

Passenger car traffic volume increased by 0.8 percent and commercial traffic volume increased by 1.8 percent during 2013. The number of miles traveled by passenger cars increased by 1.8 percent while the miles traveled by commercial vehicles increased by 1.9 percent during 2013. The increased toll revenue from passenger cars of approximately \$0.4 million or 0.4 percent was a result of the increase in passenger car vehicle miles traveled partially offset by a lower average toll rate resulting from the effect of increased *E-ZPass*® use. Revenues from commercial vehicles increased \$1.7 million or 1.2 percent in 2013 as a result of the increase in commercial vehicle miles traveled. Total expenses increased by \$33.0 million or 16.7 percent in 2013 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, decreased \$4.9 million over 2012 due to lower health insurance costs and lower workers' compensation costs. The 6.5 percent decrease in Administration and Insurance expense was primarily due to the decrease in fringe benefit costs. The 1.5 percent decrease in Maintenance of Roadway and Structures expense is the result of lower fringe benefit costs partially offset by increased snow and ice removal costs due to harsher winter weather in 2013. The 1.7 percent decrease in Services and Toll Operations expense is due primarily to lower fringe benefit costs, lower toll collector wages and lower utility costs partially offset

by a one-time charge for the demolition of a set of service plazas that are not currently planned to be reconstructed. The Commission made its first payments to the Ohio Department of Transportation totaling \$8.0 million in 2013 to pay for Infrastructure Projects. Interest expense increased \$24.9 million in 2013 due to the issuance of additional debt in August of 2013.

#### 2014

Passenger car traffic volume increased by 1.5 percent and commercial traffic volume increased by 3.3 percent during 2014. The number of miles traveled by passenger cars increased by 0.8 percent while the miles traveled by commercial vehicles increased by 3.5 percent during 2014. Toll rates were increased for all classes of vehicles by 2.7 percent on January 1, 2014. The increased toll revenue from passenger cars of approximately \$2.0 million or 1.8 percent was a result of the toll rate increase and the increase in passenger car vehicle miles traveled partially offset by a lower average toll rate resulting from the effect of increased E-ZPass® use. Revenues from commercial vehicles increased \$7.9 million or 5.6 percent in 2014 as a result of the toll rate increase and the increase in commercial vehicle miles traveled. Total expenses increased by \$217.4 million or 94.2 percent in 2014 compared to the prior year. The primary increase is due to \$182.8 million increase in Infrastructure payments to ODOT and a \$29.7 million increase in interest expense due to the issuance of the debt in August of 2013. Fringe benefit expenses, which are allocated to each area based on wages, increased \$2.5 million over 2013 due to higher health insurance costs and higher workers' compensation costs. The 5.0 percent increase in Administration and Insurance expense was primarily due to the increase in fringe benefit costs. The 4.8 percent increase in Maintenance of Roadway and Structures expense is the result of higher wages, higher fringe benefit costs and increased snow and ice removal costs due to harsher winter weather in 2014. The 0.5 percent increase in Services and Toll Operations expense is due primarily to higher fringe benefit costs and higher credit card fees partially offset by a one-time charge in 2013 for the demolition of a set of service plazas that are not currently planned to be reconstructed. The Commission made \$190.8 million in payments to ODOT in 2014 to pay for Infrastructure Projects.

#### 2015

Passenger car traffic volume increased by 4.4 percent and commercial traffic volume increased by 3.3 percent during 2015. The number of miles traveled by passenger cars increased by 4.8 percent while the miles traveled by commercial vehicles increased by 3.6 percent during 2015. Toll rates were increased for all classes of vehicles by 2.7 percent on January 1, 2015. The increased toll revenue from passenger cars of approximately \$7.3 million or 6.4 percent was a result of the toll rate increase and the increase in passenger car vehicle miles traveled partially offset by a lower average toll rate resulting from the effect of increased E-ZPass® use. Revenues from commercial vehicles increased \$8.3 million or 5.5 percent in 2015 as a result of the toll rate increase and the increase in commercial vehicle miles traveled. Total expenses increased by \$118.8 million or 26.5 percent in 2015 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, decreased \$1.0 million from 2014 due to lower pension expenses due to the implementation of GASB 68 and lower workers' compensation costs. The 4.3 percent increase in Administration and Insurance expense was primarily due to an increase in outside legal and professional fees. The 3.1 percent decrease in Maintenance of Roadway and Structures expense is the result of lower wages in 2015 compared to the harsher winter weather in 2014 partially offset by higher salt costs due to an increase in the price of salt. The 1.7 percent increase in Services and Toll Operations expense is due primarily to higher credit card fees. The Commission made \$306.3 million in payments to ODOT in 2015 to pay for Infrastructure Projects. Interest expense decreased \$0.5 million in 2015 due to the payments made on outstanding debt.

#### 2016

Passenger car traffic volume increased by 3.2 percent and commercial traffic volume increased by 1.2 percent during 2016. The number of miles traveled by passenger cars increased by 1.6 percent while the

miles traveled by commercial vehicles increased by 0.5 percent during 2016. The increased toll revenue from passenger cars of approximately \$3.9 million or 3.2 percent that resulted from the toll rate increase and the increase in passenger car vehicle miles traveled was partially offset by a lower average toll rate resulting from the effect of increased *E-ZPass*® use. Revenues from commercial vehicles increased \$4.4 million or 2.8 percent in 2016 as a result of the toll rate increase and the increase in commercial vehicle miles traveled. Total expenses decreased by \$16.1 million in 2016 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, increased \$6.6 million from 2015 primarily due to a \$4.1 million increase in pension expenses and a \$2.0 million increase in employee health benefit costs. The 12.8 percent increase in Administration and Insurance expense was primarily due to the increase in fringe benefit costs. The 11.3 percent increase in Maintenance of Roadway and Structures expense is the result of higher fringe benefit costs, higher contamination remediation costs and higher salt costs due to an increase in the price of salt. The 7.5 percent increase in Services and Toll Operations expense is due primarily to the increase in fringe benefit costs and higher credit card fees. The Commission made \$279.4 million in payments to ODOT in 2016 to pay for Infrastructure Projects. Interest expense decreased \$1.5 million in 2016 primarily due to an increase in capitalized interest on construction projects.

# January 1, 2017 through September 30, 2017

Passenger car traffic volume increased by 0.7 percent and commercial traffic volume increased by 1.5 percent during the first nine months of 2017. The number of miles traveled by passenger cars decreased by 0.5 percent while the miles traveled by commercial vehicles increased by 1.0 percent during the first nine months of 2017. The increased toll revenue from passenger cars of approximately \$1.2 million or 1.2 percent that resulted from the toll rate increase and the decrease in passenger car vehicle miles traveled was partially offset by a lower average toll rate resulting from the effect of increased E-ZPass® use. Revenues from commercial vehicles increased \$4.0 million or 3.3 percent in the first nine months of 2017 as a result of the toll rate increase and the increase in commercial vehicle miles traveled. Total expenses decreased by \$130.3 million in in the first nine months of 2017 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, increased \$0.7 million from the first nine months of 2016 primarily due to a \$0.7 million increase in employee health benefit costs. The 6.0 percent increase in Administration and Insurance expense was primarily due to the increase in professional service expenses for the toll system modernization project. The slight increase in Maintenance of Roadway and Structures expense and Services and Toll Operation Expense is primarily the result of higher fringe benefit costs. The 3.7 percent decrease in Traffic Control, Safety, Patrol and Communications expense is due primarily to the cancelation of a telecommunications maintenance contract with an outside contractor. The Commission made \$76.8 million in payments to ODOT in the first nine months of 2017 to pay for Infrastructure Projects. Interest expense decreased \$0.5 million in the first nine months of 2017 primarily due to an decrease in outstanding debt.

#### LONG-TERM TURNPIKE SYSTEM CAPITAL IMPROVEMENT PROGRAM

# Overview of Approved 2018 Capital Budget and Projected Capital Program for 2018-2028

The Commission prepares a one year capital budget which is approved by the Commission before the start of each calendar year. The capital budget details the construction projects and equipment purchases planned for the year that are necessary to maintain the Turnpike System in good condition.

Each year the Commission also prepares a long-term projection of future capital expenditures for at least the next ten years. The long-term projection is used to plan for sequencing of large capital projects and to forecast the need for toll increases or debt issuances.

The table below sets forth the Commission's approved capital plan for 2018 and the long-term projection for the next ten years in 2018 dollars. The long-term projections of future capital expenditures

have been prepared by the Commission's Chief Engineer and reviewed by AECOM Technical Services, Inc. as General Consulting Engineers for the Commission.

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TOTAL	2017						10 YEAR P	RO.	JECTION				
CAPITAL PROGRAM	BUDGET		2018	2019	2020	2021	2022		2023	2024	2025	2026	2027
TOTAL	\$ 121,440,61	\$	98,171,022	\$ 152,099,060	\$ 225,921,586	\$ 191,239,805	\$ 107,535,700	\$	107,172,026	\$ 123,863,279	\$ 156,855,769	\$ 156,258,283	\$ 165,115,423
Pavement Replacement	\$ 51,772,81	3 \$	32,496,200	\$ 50,894,727	\$ 103,680,923	\$ 70,400,203	\$ 36,150,504	\$	37,126,568	\$ 38,128,985	\$ 78,316,936	\$ 80,431,493	\$ 82,603,143
Resurfacing	\$ 20,821,67	5 \$	23,830,547	\$ 24,473,972	\$ 17,137,343	\$ 20,533,393	\$ 26,510,370	\$	27,226,150	\$ 27,961,256	\$ 22,842,440	\$ 23,459,185	\$ 24,092,583
Bridge Deck Replacements	\$ 13,280,85	2 \$	11,861,113	\$ 10,512,683	\$ 10,625,152	\$ 12,261,369	\$ 11,146,405	\$	10,209,806	\$ 11,883,534	\$ 14,162,313	\$ 13,338,223	\$ 13,560,683
Bridge Deck Overlays	\$ -	\$	2,274,734	\$ 2,085,850	\$ 2,570,601	\$ 2,200,006	\$ 2,711,288	\$	2,939,187	\$ 2,383,062	\$ 2,447,404	\$ 3,183,747	\$ 3,097,618
Bridge Painting	\$ 3,489,03	7 \$	6,390,919	\$ 6,563,474	\$ 6,740,688	\$ 6,922,687	\$ 7,109,599	\$	7,301,558	\$ 7,498,700	\$ 7,701,165	\$ 7,909,097	\$ 8,122,642
Misc. Bridge Repairs	\$ 5,908,85	\$	2,166,413	\$ 2,224,907	\$ 2,284,979	\$ 4,810,681	\$ 4,940,569	\$	5,073,964	\$ 5,210,961	\$ 5,351,657	\$ 5,496,152	\$ 5,644,548
Service Plazas	\$ 4,210,58	\$	2,166,413	\$ 1,668,680	\$ 1,713,734	\$ 2,581,341	\$ 2,169,030	\$	1,237,552	\$ 2,287,739	\$ 4,046,375	\$ 2,010,787	\$ 3,854,813
Toll Plazas	\$ 393,92	\$	-	\$ 25,586,425	\$ 34,274,685	\$ 35,200,102	\$ 60,251	\$	61,878	\$ 13,662,886	\$ 65,264	\$ 67,026	\$ 68,836
Maintenance Building's	\$ 2,357,91	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-	\$ -	\$ 2,610,565	\$ 2,681,050	\$ 6,883,595
Telecommunications	\$ -	\$	3,249,620	\$ -	\$ 7,997,427	\$ -	\$ -	\$	-	\$ -	\$ -	\$ 402,157	\$ -
Culverts & Drainage	\$ 168,82	\$	270,802	\$ 278,113	\$ 285,622	\$ 293,334	\$ 301,254	\$	309,388	\$ 317,742	\$ 326,321	\$ 335,131	\$ 344,180
Interchange Repaving	\$ 3,489,03	7 \$	3,607,078	\$ 6,117,380	\$ 3,650,254	\$ 4,121,932	\$ 3,904,254	\$	3,062,942	\$ 1,437,463	\$ 4,170,377	\$ 1,829,816	\$ 1,664,453
Miscellaneous	\$ 1,069,22	\$	-	\$ 444,981	\$ 1,713,734	\$ 1,290,670	\$ 1,566,522	\$	1,361,307	\$ 1,525,159	\$ 2,936,885	\$ 2,681,050	\$ 2,409,258
Toll Collection System	\$ 844,12	2 \$	-	\$ 11,124,533	\$ 22,849,790	\$ 19,946,724	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
Renewal Replacment	\$ 13,183,55	\$	9,478,058	\$ 9,733,966	\$ 9,996,783	\$ 10,266,696	\$ 10,543,897	\$	10,828,582	\$ 11,120,954	\$ 11,421,220	\$ 11,729,593	\$ 12,046,292
Sign Upgrades	\$ 450,19	3 \$	379,122	\$ 389,359	\$ 399,871	\$ 410,668	\$ 421,756	\$	433,143	\$ 444,838	\$ 456,849	\$ 703,776	\$ 722,778

#### **Replacement of the Original Concrete Pavement**

The Commission has completed a review and analysis of the condition of the concrete pavement of the original two directional roadway lanes (965 lane miles), which is more than 60 years old. A Master Plan has been developed identifying the required pavement replacement sequence. The first pavement section was reconstructed in 2011 and the last pavement section is projected to be reconstructed in 2041.

The Commission has projected between \$98 million and \$226 million annually through 2027 for all capital projects, including replacement of the original concrete pavement. The capital improvement program over the next ten years is expected to be funded with \$80 million in proceeds from the 2018 Senior Lien Bond issuance and an anticipated \$140 million from additional debt issuances. The remainder is expected to be funded from operations.

#### **Funding of Capital Improvement Program**

While it is anticipated that the Commission will primarily finance its ongoing capital improvement program from its existing cash balances and resources generated from future operations, at the discretion of the Commission, additional bonds may be issued in the future to finance a portion of these costs. The amount of any Senior Lien Bonds issued on a parity basis with the Outstanding Senior Lien Bonds, including the 2018 Bonds, under the Senior Lien Trust Agreement will be limited by the provisions of the Senior Lien Trust Agreement. See "EXHIBIT A – GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT – Issuance of Bonds" herein. The amount of any Junior Lien Bonds issued on a parity basis with the Outstanding Junior Lien Bonds under the Junior Lien Trust Agreement will be limited by the provisions of the Junior Lien Trust Agreement.

#### THE INFRASTRUCTURE PROJECT PROGRAM

#### General

In Ohio, the Transportation Review Advisory Council (the "TRAC") is the body that reviews and prioritizes the state's transportation projects. The TRAC is the only statutorily enacted independent council of its kind in the country. The TRAC utilizes a three-tiered process to prioritize statewide transportation projects. "Tier 1" projects are deemed to be of the highest priority. In 2012, ODOT determined that it had a \$1.6 billion shortfall for the funding of "Tier 1" projects and an \$8 billion shortfall for the funding of Tier 2 and Tier 3 projects. To address this announced shortfall, the Ohio Jobs and Transportation Plan (the "Plan") was adopted to fund certain highway infrastructure projects that have a transportation—related nexus to the Turnpike System. In connection with the Plan, the Commission issued junior lien Turnpike revenue bonds to fund certain Infrastructure Projects which were determined to have a transportation-related nexus to the Turnpike System and which were previously reviewed and recommended by the TRAC. See "THE COMMISSION – The Commission's Role in the Ohio Jobs and Transportation Plan" herein.

#### **Infrastructure Project Selection Process**

Prior to receiving funding from the Commission for an Infrastructure Project, the Director of ODOT must submit to the Commission applications for the funding of an Infrastructure Project (as defined under Chapter 5537 of the Ohio Revised Code) in accordance with R.C. 5537.18 and Chapter 5537-10-01 of the Ohio Administrative Code ("OAC"). To be considered for funding by the Commission, an Infrastructure Project first must be reviewed and recommended by the TRAC pursuant to the selection process specified in Chapter 5512 of the Ohio Revised Code.

R.C. 5537.18 sets forth criteria that the Commission is required to consider in reviewing applications for Infrastructure Project funding. These criteria, as set forth in OAC Chapter 5537.10,

generally require that the Infrastructure Project have an anticipated benefit to the system of public highways in the state of Ohio and transportation related nexus with and relationship to the Turnpike System and the Ohio Turnpike and infrastructure system.

Each of the steps in the Infrastructure Project approval process is described in more detail below.

### Transportation Review Advisory Council Approval

The TRAC develops and oversees the selection process for all major new transportation capacity projects. A major transportation capacity project is generally defined as a project costing more than \$12 million, which adds transportation capacity or reduces congestion, and is critical to the mobility, economic development, and quality of life of the citizens of Ohio.

The TRAC is a permanent body of predominantly non-ODOT personnel, which develops and modifies a project selection process and which approves major new projects for funding. The TRAC has nine members and is chaired by the Director of ODOT. The other eight members consist of six members appointed by the Governor and one each by the Speaker of the Ohio House of Representatives and the President of the Ohio Senate. Members have overlapping terms. In accordance with the law, the Director of ODOT biennially provides the TRAC with a report on the money available for new construction for the following four-year period. Since its inception, the purpose of the TRAC has been to help make decisions on major statewide and regional transportation investments. All transportation projects that cost greater than \$12 million, request major new funding, and add capacity to a transportation facility must come before the TRAC.

The TRAC evaluates and scores major new capacity projects using a process that accounts for transportation factors (e.g., safety, capacity increase, congestion decrease, emission reductions), community and economic growth and development factors and project sponsor investment factors. The TRAC uses the relative scores of proposed major new capacity projects to prioritize those projects. It should be noted that the TRAC is not required to fund projects in the order of their ranking. The ranking is a means to help the TRAC generally prioritize and rank projects in order of their transportation and community benefit and economic development benefits.

#### Director of ODOT Application

The Director of ODOT may submit a funding application to the Commission only for an Infrastructure Project that has previously been reviewed and approved by the TRAC as required by R.C. 5537.18. In selecting Infrastructure Projects for which applications will be made to the Commission for funding, the Director of ODOT must consider the physical proximity of the project to the Turnpike System. R.C. 5537.18 also requires that not less than 90% of the total cost of the Infrastructure Project funding requests submitted by the Director of ODOT must be for Infrastructure Projects that are at least partially located within 75 miles of the Turnpike System.

#### **Commission Approval**

The Commission must evaluate each application for Infrastructure Project funding in accordance with the procedures and criteria established in its rules, Chapter 5537-10 of the Ohio Administrative Code. The Commission has adopted a rule under which it will apply the statutory criteria established for determining the required "nexus". These criteria include: 1) physical proximity of the Infrastructure Project to and a direct or indirect physical connection between the Infrastructure Project and the Ohio Turnpike System; 2) impact of the Infrastructure Project on traffic density, flow through, or capacity on the Ohio Turnpike System; 3) impact of the Infrastructure Project on the Ohio Turnpike System toll revenue or other revenues; 4) impact of the Infrastructure Project on the movement of goods and services on or in the area of

the Ohio Turnpike System; and 5) enhancement or improvement by and through the Infrastructure Project of access to, use of, and egress from the Ohio Turnpike System and access to and from connected areas of population, commerce, and industry. Once the Commission has reviewed the funding requests, it will exercise its authority to approve applications and formally vote to authorize the funding of the Infrastructure Project. If such funding is authorized, an agreement will be entered into with ODOT to fund the Infrastructure Project. Under R.C. 5537.18, a determination or approval by the Commission is conclusive and incontestable.

### Infrastructure Projects for which Bonds may be Issued, and Expenditures of Funds

An "Infrastructure Project" for which the Commission may issue bonds is generally defined by R.C. 5537.18 as any public highway (including all bridges, tunnels, overpasses, underpasses, interchanges, entrance plazas, approaches, and those portions of connecting public roads that serve interchanges) that is constructed or improved with infrastructure funding approved by the Commission.

#### PROJECTED OPERATING RESULTS AND DEBT SERVICE COVERAGE

Projected debt coverage ratios of 1.80 or better are expected on the Senior Lien Bonds and the Junior Lien Bonds combined.

The following table shows estimated annual net revenues of the Turnpike System for the fiscal years ending 2018 through 2028. These net revenues were derived by deducting estimated expenses, estimated by the Traffic Consultant, from the annual revenues of the Turnpike System as estimated by the Traffic Consultant. In the opinion of the Traffic Consultant, its forecast of traffic volume and revenue is reasonable and has been prepared in accordance with accepted practices for such study. Reference is made to the Traffic and Revenue Study for the data and assumptions on which the projections of the Commission's net revenues are based. The Traffic and Revenue Study should be read in its entirety for a description of the specific and overall assumptions made by the Traffic Consultant in making those projections. See "EXHIBIT D - TRAFFIC AND REVENUE STUDY" and "INVESTMENT CONSIDERATIONS" herein.

The table below reflects the Commission's assumptions described under "PLAN OF FINANCE" and "DEBT SERVICE". Actual operating results and debt service coverage may vary from the projections in the following table due to several factors. These factors include, but are not limited to, fluctuating economic conditions, changes in construction schedules, and the timing and amount of future debt issuance. Accordingly, there may be material variances between the following projections and actual results during the forecast period of 2018 through 2028.

The Commission's independent auditors have not compiled, examined or performed any procedures with respect to the prospective financial information contained in the following table, nor have they expressed any opinion or other form of assurance on such information or its achievability, and assume no responsibility for, and disclaim any association with, the prospective financial information.

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# PROJECTED OPERATING RESULTS\* (\$000's) (FY 2018 - 2028)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Gross Revenues <sup>1</sup>											
Passenger Toll Revenue	130,100	132,500	135,000	137,700	139,300	142,000	145,700	150,800	154,900	158,900	161,900
Commercial Toll Revenue	175,000	181,400	188,600	195,700	202,800	210,700	219,000	227,600	236,500	245,700	255,300
Total Toll Revenue	305,000	313,900	323,600	333,400	342,100	352,700	364,600	378,400	391,400	404,600	417,300
Special Toll Permits	3,600	3,700	3,800	3,800	3,900	4,000	4,100	4,200	4,200	4,300	4,400
Concessions / Service Plaza	17,200	17,900	18,500	19,100	19,700	20,300	20,900	21,600	22,300	23,100	23,900
Leases & Licenses / Other	5,900	6,000	6,200	6,400	6,600	6,800	7,000	7,200	7,400	7,700	7,900
Pledged Funds Investment Income <sup>2</sup>	3,500	3,500	4,500	3,700	4,000	4,200	4,300	4,400	4,500	4,600	4,700
Fee Revenue	-	-	-	600	2,200	2,200	2,100	2,100	2,100	2,100	2,100
Total Other Revenue	30,200	31,100	33,000	33,600	36,400	37,500	38,400	39,500	40,500	41,800	43,000
Total Gross Revenue <sup>1</sup>	335,200	345,000	356,600	367,000	378,500	390,200	403,000	417,900	431,900	446,400	460,300
Gross Operating Expenses paid from Pledged Revenues <sup>1</sup>	123,583	126,225	128,817	132,500	133,283	137,100	139,400	142,992	146,708	150,517	154,525
Net Revenues Available for Debt Service	211,617	218,775	227,783	234,500	245,217	253,100	263,600	274,908	285,192	295,883	305,775
Senior Debt Service Requirement <sup>3</sup>											
Existing Senior Debt Service Requirement	59,885	59,886	59,185	59,369	59,571	52,636	43,476	49,447	30,079	25,895	12,578
2018 Series A Senior Debt Service Requirement	2,929	3,514	3,514	3,514	3,514	3,514	3,514	3,514	3,514	3,514	3,514
2020 Series A Senior Debt Service Requirement	-	-	5,565	6,678	6,678	6,678	6,678	6,678	6,678	6,678	6,678
Total Gross Senior Debt Service Requirement	62,813	63,400	68,264	69,561	69,762	62,828	53,668	59,639	40,271	36,087	22,770
Less Total Senior DSRA Earnings <sup>4</sup>	(989)	(1,189)	(1,519)	(1,743)	(1,744)	(1,709)	(1,664)	(1,693)	(1,597)	(1,576)	(1,509)
Net Senior Debt Service Requirement	61,825	62,211	66,744	67,818	68,018	61,118	52,004	57,945	38,674	34,511	21,261
Junior Debt Service Requirement											
Existing Junior Debt Service Requirement	42,871	41,322	36,368	35,493	38,855	61,298	68,281	62,007	60,363	62,676	73,507
2018 Series A Junior Debt Service Requirement	16,644	19,973	19,973	19,973	19,973	19,973	19,973	19,973	35,735	41,608	49,093
Total Gross Junior Debt Service Requirement	59,515	61,294	56,340	55,465	58,828	81,271	88,253	81,980	96,098	104,284	122,599
Less Total Junior DSRF Earnings <sup>5</sup>	(7,567)	(5,637)	(3,492)	(2,487)	(2,504)	(2,616)	(2,651)	(2,619)	(2,690)	(2,731)	(2,822)
Net Junior Debt Service Requirement	51,948	55,657	52,848	52,979	56,324	78,655	85,603	79,361	93,408	101,553	119,777
Net Composite Debt Service Requirement	113,773	117,869	119,592	120,796	124,342	139,773	137,607	137,306	132,082	136,064	141,038
Senior Lien Debt Service Coverage	3.42x	3.52x	3.41x	3.46x	3.61x	4.14x	5.07x	4.74x	7.37x	8.57x	14.38x
Composite Debt Service Coverage	1.86x	1.86x	1.90x	1.94x	1.97x	1.81x	1.92x	2.00x	2.16x	2.17x	2.17x

 $Source:\ Ohio\ Turnpike\ and\ Infrastructure\ Commission$ 

<sup>\*</sup>Values may not add due to rounding.

Revenues and expenses are preliminary and are projected by Jacobs Engineering Group except Pledged Funds Investment Income. Expenses include deposit to the Expense Reserve Account. Expenses exclude non-eash GASB 68 pension Expense

<sup>&</sup>lt;sup>2</sup>Excludes Renewal and Replacement Fund earnings and Service Plaza Capital Improvement Fund earnings as these earnings are given to PAYGO. Includes earnings from Jr. Construction Funds.

<sup>&</sup>lt;sup>3</sup>Assumes Senior Lien 2020 Bonds are issued at an all in interest cost of approximately 4.36% primarily for Turnpike-related projects.

<sup>&</sup>lt;sup>4</sup>Assumes balance of the Debt Service Reserve Account and amounts on deposit in the Debt Service Fund earning an average of approximately 1.9%.

<sup>5</sup>Assumes balance of the Debt Service Reserve Fund and amounts on deposit in the Debt Service Fund earning an average of approximately 1.9%. Also includes assumed earnings on the Infrastructure Fund.

#### LONG-TERM PRO FORMA DEBT SERVICE COVERAGE

Attached as Exhibit F is a table projecting operating results and projected debt service coverage for the Commission for the years 2018 through 2048 upon the issuance of the 2018 Bonds.

The net revenues in the table were derived by deducting estimated expenses, estimated by the Traffic Consultant, from the annual revenues of the Turnpike System as estimated by the Traffic Consultant. In the opinion of the Traffic Consultant, its forecast of traffic volume and revenue is reasonable and has been prepared in accordance with accepted practices for such study. Reference is made to the Traffic and Revenue Study for the data and assumptions on which the projections of the Commission's net revenues are based. The Traffic and Revenue Study should be read in its entirety for a description of the specific and overall assumptions made by the Traffic Consultant in making those projections. See "EXHIBIT D - TRAFFIC AND REVENUE STUDY" and "INVESTMENT CONSIDERATIONS" herein.

Actual operating results and debt service coverage may vary from the projections in the table shown as Exhibit F due to several factors. These factors include, but are not limited to, fluctuating economic conditions, changes in construction schedules, and the timing and amount of future toll increases. Accordingly, there may be material variances between the following projections and actual results during the forecast period of 2018 through 2048.

The Commission's independent auditors have not complied, examined or performed any procedures with respect to the prospective financial information contained in the table attached as Exhibit F, nor have they expressed any opinion or other form of assurance on such information or its achievability, and assume no responsibility for, and disclaim any association with, the prospective financial information.

#### INVESTMENT CONSIDERATIONS

The following is a discussion of certain investment considerations that should be evaluated in connection with an investment in the 2018 Bonds. This discussion does not purport to be either comprehensive or definitive. The order in which such considerations and risks are presented is not intended to reflect either the likelihood that a particular event will occur or the relative significance of such an event. Moreover, there may well be other considerations and risks associated with an investment in the 2018 Bonds in addition to those set forth herein. Investors are advised to read the entire Official Statement, including the Exhibits hereto, to obtain information essential to the making of an informed investment decision.

# **Traffic Study**

As the Traffic Consultant for the Commission, Jacobs Engineering Group Inc. was requested by the Commission to prepare a traffic and toll revenue projection study (the "Traffic and Revenue Study") presenting its analyses and findings relative to recent trends in traffic and revenue with respect to the Turnpike System. See "EXHIBIT D – TRAFFIC AND REVENUE STUDY." The revenue forecasts contained in the Traffic and Revenue Study are based upon certain assumptions and limits set forth or incorporated therein which should be reviewed by potential investors to assure an understanding of some of the risks inherent in such estimates and projections. The Traffic and Revenue Study is not a guarantee of any future events or trends and the forecasts therein are subject to future economic and social conditions and demographic developments that cannot be predicted with certainty. Further, the estimates, projections and assumptions in the Traffic and Revenue Study are inherently subject to significant economic and competitive uncertainties and contingencies, many of which are beyond the control of the Commission.

Failure to achieve or realize any of the assumptions listed in the Traffic and Revenue Study may have a materially adverse effect upon the revenues actually realized by the Commission.

In addition, as set forth in the Traffic and Revenue Study, there is a 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. 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. See "EXHIBIT D – TRAFFIC AND REVENUE STUDY."

#### **Commission Revenues May Decline**

The information provided with respect to toll revenues collected by the Commission is based on historical data. The amount of future toll revenues to be collected by the Commission depends upon a number of factors, some of which are not in the control of the Commission. Some of these factors include a decline in traffic on the Turnpike System due to general economic conditions, diversion of traffic to alternative non-toll routes, increased fuel costs, limited supply of fuel, availability of alternate forms of travel and shipping, and government regulations, such as Clean Air Act requirements, increased mileage standards or higher fuel taxes, which could significantly restrict motor vehicle use, as well as international events affecting fuel supply and costs. Although the Commission has covenanted in the Senior Lien Trust Agreement and the Junior Lien Trust Agreement to fix, charge and collect tolls for the use of the Turnpike System in amounts required by the toll covenants in such Trust Agreements, there can be no assurance that the traffic on the Turnpike System will continue to be sufficient for the Commission to generate the necessary revenues to meet its obligations under the Senior or Junior Lien Trust Agreements.

# Ratings of the 2018 Bonds Could be Lowered or Withdrawn

Three credit rating agencies have assigned credit ratings to the 2018 Bonds. The ratings of the 2018 Bonds are not a recommendation to purchase, hold or sell the 2018 Bonds, and the ratings do not comment on the market price or suitability of the 2018 Bonds for a particular investor. The ratings of the 2018 Bonds may not remain for any given period of time and may be lowered or withdrawn depending on, among other things, each rating agency's assessment of the Commission's financial strength.

# **Certain Matters Relating to Enforceability of Obligations**

The remedies available to owners of the 2018 Bonds upon an event of default under the Senior Lien Trust Agreement 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 Lien Trust Agreement, Junior Lien Trust Agreement 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 2018 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.

# **Bankruptcy Risk**

The rights and remedies of owners of 2018 Bonds 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. 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 OHIO TURNPIKE ACT DOES NOT CURRENTLY AUTHORIZE THE COMMISSION TO FILE A PETITION UNDER THE BANKRUPTCY CODE.

#### **Changes in Federal Tax Law**

Current and future legislative proposals, if enacted into law, could cause some or all of the interest on the 2018 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 2018 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 2018 Bonds. Prospective purchasers of the 2018 Bonds should consult their own tax advisors regarding any pending or proposed federal tax legislation, as to which Bond Counsel will express no opinion. See "TAX MATTERS" herein.

#### **Legislative Action**

Legislation is introduced from time to time in the State Legislature which, if adopted, may affect the Commission and/or the Turnpike System. The Commission cannot predict whether or not these bills will be enacted into law or how such legislation may affect the Commission and its ability to pay debt service on the 2018 Bonds.

# ELIGIBILITY UNDER OHIO LAW FOR INVESTMENT AND AS SECURITY FOR THE DEPOSIT OF PUBLIC MONEYS

To the extent that a particular investor is governed by Ohio law with respect to its investments, and subject to any applicable limitations under other provisions of Ohio law, the 2018 Bonds are lawful investments for banks, savings and loan associations, credit union share guaranty corporations, trust companies, trustees, fiduciaries, insurance companies, including domestic for life and domestic not for life, trustees or other officers having charge of sinking and bond retirement or other funds of the State or its political subdivisions and taxing districts, the commissioners of the sinking fund of the State, the administrator of workers' compensation, the State teachers retirement system, the public employees retirement system, the school employees retirement system, and the Ohio police and fire pension fund, and are acceptable as security for the repayment of the deposit of public moneys.

Beneficial Owners of the 2018 Bonds should make their own determination as to such matters of legality of investment in, or pledge of book-entry interests in, the 2018 Bonds.

#### **LITIGATION**

To the knowledge of the Executive Director of the Commission, no litigation or administrative action or proceeding is pending or threatened restraining or enjoining, or seeking to restrain or enjoin, the issuance and delivery of the 2018 Bonds, or the collection of System Pledged Revenues to pay the debt service on the 2018 Bonds or any Outstanding Bonds, or contesting or questioning the proceedings and authority under which the 2018 Bonds are authorized and are to be issued, sold, executed or delivered, or the validity of the 2018 Bonds. A no-litigation certificate to such effect will be delivered to the Underwriters at the time of original delivery of the 2018 Bonds to the Underwriters.

The Commission is a party to various legal proceedings seeking damages or injunctive relief generally incidental to its operations. These proceedings are unrelated to the issuance of the 2018 Bonds or the pledge of the security therefor.

The ultimate disposition of such proceedings is not presently determinable, but will not, in the opinion of officials of the Commission, have a material adverse effect on the issuance of the 2018 Bonds, the pledge of the security therefor, or the Commission's performance of its obligations under the Senior Lien Trust Agreement or the Junior Lien Trust Agreement.

#### **UNDERWRITING**

Citigroup Global Markets Inc., as representative of the underwriters identified on the cover page (the "Underwriters") and pursuant to a Bond Purchase Agreement with the Commission (the "Purchase Contract"), has agreed to purchase the 2018 Bonds at a price equal to \$565,310,630.22. The purchase price reflects an underwriting discount of \$1,291,577.68 and an original issue premium of \$66,757,207.90. The obligation of the Underwriters to accept delivery of the 2018 Bonds is subject to various conditions set forth in the Purchase Contract, but the Underwriters are obligated to purchase all of the 2018 Bonds if any are purchased.

The Underwriters are purchasing the 2018 Bonds as originally issued for purpose of resale. The Underwriters reserve the right to join with dealers and other underwriters in offering the 2018 Bonds to the public. The Underwriters may offer and sell the 2018 Bonds to certain dealers (including dealer banks and dealers depositing the 2018 Bonds into unit investment trusts, certain of which may be sponsored or managed by the Underwriters), and others at prices lower than the public offering prices noted on the cover page. The initial offering prices of the 2018 Bonds may be changed, from time to time, by the Underwriters.

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 activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the issuer 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) and financial instruments (which may include bank loans and/or credit default swaps) 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 issuer.

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

Fidelity Capital Markets is a division of National Financial Services LLC.

#### **RATINGS**

Fitch Ratings, Moody's Investors Service and S&P Global Ratings have assigned ratings of "AA", "Aa2" and "AA-", respectively, to the 2018 Senior Lien Bonds and ratings of "A+", "Aa3" and "A+"

respectively, to the 2018 Junior Lien Bonds. A rating reflects only the view of the rating service and an explanation of the significance of the rating may only be obtained from that rating service.

Each such rating reflects only the views of such rating agency. Any explanation of the significance of the rating may only be obtained from Fitch Ratings, 33 Whitehall Street, New York, New York 10004, telephone (800) 893-4824; Moody's Investors Service, Inc., 7 World Trade Center at 250 Greenwich Street, New York, New York 10007, telephone (212) 553-1653; and S&P Global Ratings, 55 Water Street, New York, New York 10041, telephone (212) 512-4595, respectively.

The Commission furnished to the rating agencies certain information and materials, some of which may not have been included in this Official Statement, relating to the 2018 Bonds, the Commission and the Turnpike System. Generally, rating agencies base their ratings on such information and materials, as well as investigation, studies and assumptions by the rating agency. There can be no assurance that a rating, when assigned, will continue for any given period of time or that it will not be lowered or withdrawn entirely by a rating agency if, in its judgment, circumstances so warrant. In addition, the Commission currently expects to provide to the rating agencies (but assumes no obligation to furnish to the Underwriters or the Holders) further information and materials that any of them may request. The Commission does not, however, obligate itself hereby to furnish such information and materials, and may issue unrated bonds and notes from time to time. Failure by the Commission to furnish such information and materials, or the issuance of unrated bonds or notes, may result in the suspension or withdrawal of a rating agency's rating on the 2018 Bonds. Any lowering, suspension or withdrawal of such ratings may have an adverse effect on the marketability or market price of the 2018 Bonds. A securities rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time.

#### **LEGAL MATTERS**

Legal matters incident to the issuance of the 2018 Senior Lien Bonds and the 2018 Junior Lien Bonds and with regard to the tax-exempt status of the interest thereon (see "TAX MATTERS" herein) are subject to the approving opinions of Squire Patton Boggs (US) LLP, Bond Counsel. A signed copy of those opinions, dated and speaking as of the date of original delivery of the 2018 Bonds to the Underwriters, will be delivered to the Underwriters at the time of original delivery. Assuming no change in applicable law prior to the date of delivery of such opinions, the opinions will be substantially in the forms attached hereto as Exhibit B-1 and Exhibit B-2.

In its capacity as Bond Counsel, Squire Patton Boggs (US) LLP, has reviewed those portions (excluding certain information concerning the book entry system therein and in <a href="Exhibit E">Exhibit E</a>) of this Official Statement pertaining solely to the 2018 Bonds, and the Senior Lien Trust Agreement and the Junior Lien Trust Agreement contained under the captions "DESCRIPTION OF THE 2018 BONDS," "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS," "LEGAL MATTERS," "TAX MATTERS" and <a href="Exhibit A-1">Exhibit A-1</a> and <a href="Exhibit A-2">Exhibit A-2</a> attached hereto. Said firm has not been retained to pass upon, and will express no opinion as to the accuracy, completeness or fairness of any other information in this Official Statement, including its exhibits (other than <a href="Exhibits A-1">Exhibits A-1</a>, <a href="A-2">A-2</a> and <a href="En]</a>), or in any other reports, financial information, offering or disclosure documents or other information pertaining to the Commission or the 2018 Bonds that may be prepared or made available by the Commission or others to the Holders of the 2018 Bonds or others.

Certain legal matters will be passed upon for the Commission by its General Counsel, Jennifer L. Stueber. Certain legal matters will be passed upon for the Underwriters by Tucker Ellis LLP.

#### MUNICIPAL ADVISOR

The Commission has retained PFM Financial Advisors LLC Cleveland, Ohio as Municipal Advisor with respect to the authorization and issuance of the 2018 Bonds. The Municipal Advisor is not obligated to undertake or assume responsibility for, nor has it undertaken or assumed responsibility for, an independent verification of the accuracy, completeness or fairness of the information contained in this Official Statement. The Municipal Advisor is an independent advisory firm and is not engaged in the business of underwriting, trading, or distributing municipal securities or other public securities.

#### **EXPERTS**

The Commission has retained Jacobs Engineering Group Inc. as traffic consultant to assist the Commission with traffic and revenue projections. Jacobs Engineering Group prepared the Traffic and Revenue Study dated January 22, 2018 included herein as EXHIBIT D. Jacobs Engineering Group has reviewed the excerpts therefrom under the caption "PROJECTED OPERATING RESULTS AND DEBT SERVICE COVERAGE" and "LONG-TERM PRO-FORMA COVERAGE" above. AECOM Technical Services, Inc. is currently acting as General Engineering Consultants for the Commission and completed the study upon which the 10 year projections in the Capital Improvement Program are based. The financial statements of the Commission for the fiscal year ended December 31, 2016 included in Exhibit C of this Official Statement have been audited by Plante & Moran, PLLC, independent auditors, as stated in their report appearing in Exhibit C.

#### CONTINUING DISCLOSURE

The Commission has executed a Continuing Disclosure Commitment dated February 15, 2018 to provide certain financial and operating information (the "Annual Report") not later than July 1 following the end of the preceding fiscal year, and to provide notices of certain events enumerated in Rule 15c2-12 promulgated by the Securities and Exchange Commission ("SEC"). Specifically, the Commission agrees to provide the Annual Report to the Municipal Securities Rulemaking Board ("MSRB") through its Electronic Municipal Market Access System ("EMMA") and to provide notice of the occurrence of the enumerated events to EMMA, all pursuant to Rule 15c2-12, as amended from time to time. See "EXHIBIT G – FORM OF CONTINUING DISCLOSURE COMMITMENT" for detailed provisions of the Continuing Disclosure Commitment.

The Annual Report will consist generally of the audited financial statements of the Commission and the current operating data of the type included under the captions "Comparative Traffic Statistics," "Vehicles by Class," "Toll Revenue by Class", and "Toll Rates Per Mile" and "Approved Toll Rate Schedule for Years 2019-2023" under the caption "TOLLS and TOLL COLLECTION" and the table titled "Revenue Bond Coverage" under the caption "RESULTS OF OPERATIONS." Any of the forgoing information may be supplied by including any specific reference information previously supplied to the MSRB or to the SEC. Information will not be included by reference from any final official statement unless such final official statement is available from the MSRB. See "EXHIBIT G – FORM OF CONTINUING DISCLOSURE COMMITMENT" for detailed provisions of the Continuing Disclosure Commitment.

The Continuing Disclosure Commitment was executed by the Commission to assist the Underwriters in complying with Rule 15c2-12. The Commission has agreed to give notice in a timely manner to the MSRB of any failure to supply the information required to be provided in the Continuing Disclosure Commitment; however, any such failure will not constitute a default under the terms of the 2018 Bonds. See "EXHIBIT G – FORM OF CONTINUING DISCLOSURE COMMITMENT" for detailed provisions of the Continuing Disclosure Commitment.

The Commission has complied in all material respects with its prior continuing disclosure agreements under Rule 15c2-12 during the past five fiscal years. During the last five fiscal years, one of those filings, the annual information for the fiscal year ending December 31, 2012, was made eight days after its filing deadline under the Commission's continuing disclosure commitment. Procedures have been put in place to ensure that all subsequent filings are made and notices are given in a timely manner.

The Commission reserves the right to amend the Continuing Disclosure Commitment, and noncompliance with any provision of that Continuing Disclosure Commitment may be waived, as may be necessary or appropriate to (a) achieve its compliance with any applicable federal securities law or rule, (b) cure any ambiguity, inconsistency or formal defect or omission, and (c) address any change in circumstances arising from a change in legal requirements, change in law or change in the identity, nature or status of the Commission or type of business conducted by the Commission. See "EXHIBIT G – FORM OF CONTINUING DISCLOSURE COMMITMENT" for detailed provisions of the Continuing Disclosure Commitment.

#### **TAX MATTERS**

In the opinion of Squire Patton Boggs (US) LLP, Bond Counsel, under existing law: (i) interest on the 2018 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and is not an item of tax preference for purposes of the federal alternative minimum tax; however, interest on the 2018 Bonds is included in the calculation of a corporation's adjusted current earnings for purposes of, and thus may be subject to, the corporate alternative minimum tax (applicable to taxable years beginning before January 1, 2018); and (ii) interest on, and any profit made on the sale, exchange or other disposition of, the 2018 Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. Bond Counsel expresses no opinion as to any other tax consequences regarding the 2018 Bonds.

The opinion on federal tax matters will be based on and will assume the accuracy of certain representations and certifications, and continuing compliance with certain covenants, of the Commission and ODOT contained in the transcript of proceedings and that are intended to evidence and assure the foregoing, including that the 2018 Bonds are and will remain obligations the interest on which is excluded from gross income for federal income tax purposes. Bond Counsel will not independently verify the accuracy of the Commission's and ODOT's certifications and representations or the continuing compliance with the Commission's and ODOT's covenants.

The opinion of Bond Counsel is based on current legal authority and covers certain matters not directly addressed by such authority. It represents Bond Counsel's legal judgment as to exclusion of interest on the 2018 Bonds from gross income for federal income tax purposes but is not a guaranty of that conclusion. The opinion is not binding on the Internal Revenue Service ("IRS") or any court. Bond Counsel expresses no opinion about (i) the effect of future changes in the Code and the applicable regulations under the Code or (ii) the interpretation and the enforcement of the Code or those regulations by the IRS.

The Code prescribes a number of qualifications and conditions for the interest on state and local government obligations to be and to remain excluded from gross income for federal income tax purposes, some of which require future or continued compliance after issuance of the obligations. Noncompliance with these requirements by the Commission may cause loss of such status and result in the interest on the 2018 Bonds being included in gross income for federal income tax purposes retroactively to the date of issuance of the 2018 Bonds. The Commission has covenanted to take the actions required of it for the interest on the 2018 Bonds to be and to remain excluded from gross income for federal income tax purposes,

and not to take any actions that would adversely affect that exclusion. After the date of issuance of the 2018 Bonds, Bond Counsel will not undertake to determine (or to so inform any person) whether any actions taken or not taken, or any events occurring or not occurring, or any other matters coming to Bond Counsel's attention, may adversely affect the exclusion from gross income for federal income tax purposes of interest on the 2018 Bonds or the market value of the 2018 Bonds.

Interest on the 2018 Bonds is included in the calculation of a corporation's adjusted current earnings for purposes of, and thus may be subject to, the federal corporate alternative minimum tax (applicable to taxable years beginning before January 1, 2018). In addition, interest on the 2018 Bonds may be subject to a federal branch profits tax imposed on certain foreign corporations doing business in the United States and to a federal tax imposed on excess net passive income of certain S corporations. Under the Code, the exclusion of interest from gross income for federal income tax purposes may have certain adverse federal income tax consequences on items of income, deduction or credit for certain taxpayers, including financial institutions, certain insurance companies, recipients of Social Security and Railroad Retirement benefits, those that are deemed to incur or continue indebtedness to acquire or carry tax-exempt obligations, and individuals otherwise eligible for the earned income tax credit. The applicability and extent of these and other tax consequences will depend upon the particular tax status or other tax items of the owner of the 2018 Bonds. Bond Counsel will express no opinion regarding those consequences.

Payments of interest on tax-exempt obligations, including the 2018 Bonds, are generally subject to IRS Form 1099-INT information reporting requirements. If a Bond owner is subject to backup withholding under those requirements, then payments of interest will also be subject to backup withholding. Those requirements do not affect the exclusion of such interest from gross income for federal income tax purposes.

Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend the Commission or the owners of the 2018 Bonds regarding the tax status of interest thereon in the event of an audit examination by the IRS. The IRS has a program to audit tax-exempt obligations to determine whether the interest thereon is includible in gross income for federal income tax purposes. If the IRS does audit the 2018 Bonds, under current IRS procedures, the IRS will treat the Commission as the taxpayer and the beneficial owners of the 2018 Bonds will have only limited rights, if any, to obtain and participate in judicial review of such audit. Any action of the IRS, including but not limited to selection of the 2018 Bonds for audit, or the course or result of such audit, or an audit of other obligations presenting similar tax issues, may affect the market value of the 2018 Bonds.

Prospective purchasers of the 2018 Bonds upon their original issuance at prices other than the respective prices indicated on the cover of this Official Statement, and prospective purchasers of the 2018 Bonds at other than their original issuance, should consult their own tax advisers regarding other tax considerations such as the consequences of market discount, as to all of which Bond Counsel expresses no opinion.

# Risk of Future Legislative Changes and/or Court Decisions

Legislation affecting tax-exempt obligations is regularly considered by the United States Congress and may also be considered by the State legislature. Court proceedings may also be filed, the outcome of which could modify the tax treatment of obligations such as the 2018 Bonds. There can be no assurance that legislation enacted or proposed, or actions by a court, after the date of issuance of the 2018 Bonds will not have an adverse effect on the tax status of interest or other income on the 2018 Bonds or the market value or marketability of the 2018 Bonds. These adverse effects could result, for example, from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), or repeal (or reduction in the benefit) of the exclusion of interest on the 2018 Bonds from gross income for federal or state income tax purposes for all or certain taxpayers.

For example, the recent federal tax legislation that was enacted on December 22, 2017 reduces corporate tax rates, modifies individual tax rates, eliminates many deductions, repeals the corporate alternative minimum tax (for taxable years beginning after December 31, 2017), and eliminates tax-exempt advance refunding bonds, among other things. This legislation may increase, reduce or otherwise change the financial benefits currently provided to certain owners of state and local government bonds. Additionally, investors in the 2018 Bonds should be aware that future legislative actions may retroactively change the treatment of all or a portion of the interest on the 2018 Bonds for federal income tax purposes for all or certain taxpayers. In all such events, the market value of the 2018 Bonds may be affected and the ability of holders to sell their 2018 Bonds in the secondary market may be reduced. The 2018 Bonds are not subject to special mandatory redemption, and the interest rates on the 2018 Bonds are not subject to adjustment, in the event of any such change in the tax treatment of interest on the 2018 Bonds.

Investors should consult their own financial and tax advisers to analyze the importance of these risks.

#### **Original Issue Premium**

Certain of the 2018 Bonds ("Premium Bonds") have been sold to the public at a price in excess of their stated redemption price at maturity (the principal amount in the case of the 2018 Senior Lien Bonds and the 2018 Junior Lien Bonds). That excess constitutes bond premium. For federal income tax purposes, bond premium is amortized over the period to maturity of a Premium Bond, based on the yield to maturity of that Premium Bond (or, in the case of a Premium Bond callable prior to its stated maturity, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on that Premium Bond), compounded semiannually. No portion of that bond premium is deductible by the owner of a Premium Bond. For purposes of determining the owner's gain or loss on the sale, redemption (including redemption at maturity) or other disposition of a Premium Bond, the owner's tax basis in the Premium Bond is reduced by the amount of bond premium that is amortized during the period of ownership. As a result, an owner may realize taxable gain for federal income tax purposes from the sale or other disposition of a Premium Bond for an amount equal to or less than the amount paid by the owner for that Premium Bond. A purchaser of a Premium Bond in the initial public offering who holds that Premium Bond to maturity (or, in the case of a callable Premium Bond, to its earlier call date that results in the lowest yield on that Premium Bond) will realize no gain or loss upon the retirement of that Premium Bond.

Owners of Premium Bonds should consult their own tax advisors as to the determination for federal income tax purposes of the existence of bond premium, the determination for federal income tax purposes of the amount of bond premium properly amortizable in any period with respect to the Premium Bonds, other federal tax consequences in respect of bond premium, and the treatment of bond premium for purposes of state and local taxes on, or based on, income.

#### CONCLUDING STATEMENT

Quotations in this Official Statement from, and summaries and explanations of the Code, the Ohio Revised Code, the Senior Lien Trust Agreement, the Junior Lien Trust Agreement and the Continuing Disclosure Commitment, do not purport to be complete. Reference is made to the pertinent provisions of the Code, the Ohio Revised Code and those documents for complete statements of their provisions. Copies of the Senior Lien Trust Agreement, the Junior Lien Trust Agreement and the Continuing Disclosure Commitment are available upon request from the Comptroller of the Commission, 682 Prospect Street, Berea, Ohio 44017, telephone (440) 234-2081.

To the extent that any statement made in this Official Statement involve matters of opinion or estimates, whether or not expressly stated to be such, they are made as such and not as representations of

fact or certainty, and no representation is made that any such statements will be realized. Information in this Official Statement has been derived by the Commission from official and other sources and is believed by the Commission to be reliable, but information other than that obtained from official records of the Commission has not been independently confirmed or verified by the Commission and its accuracy is not guaranteed.

Neither this Official Statement nor any statement which may have been made orally or in writing is to be construed as or as part of a contract with the original purchasers or subsequent holders of the 2018 Bonds or the owners of any interest therein.

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This Official Statement has been duly prepared and delivered by the Commission, and executed for and on behalf of the Commission by its Executive Director.

# OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

January 31, 2018	/s/ Randy Cole
•	Randy Cole, Executive Director



#### EXHIBIT A-1

## GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT

The following terms shall have the following meanings in this Official Statement unless the context otherwise requires:

"Act" shall mean Chapter 5537 of the Ohio Revised Code, as amended and supplemented from time to time.

"Additional System Payments" shall constitute a "Special Fund" under Section 5537.01(Q) of the Ohio Revised Code, as amended from time to time, and shall specifically mean:

- (1) payments payable to the Commission pursuant to any agreement or arrangement between the Commission and the United States of America, any state, county, municipality, political subdivision, public body or other governmental entity, or under any law, statute, ordinance, resolution or other authorizing instrument of such an entity, which payments by their terms are available and expressly pledged by the Commission for the payment of debt service on all Bonds issued and Outstanding under the Trust Agreement for so long as any Bonds are Outstanding or until such earlier time as all conditions for the release of such payments provided in the applicable Supplemental Trust Agreement are met;
- (2) Additional System Payments shall not include Series Payments, Supplemental Payments, payments that constitute Gross Revenues, or payments pursuant to a Bond Credit Facility or a Qualified Swap Agreement;
- (3) payments described in paragraph (1) above shall not constitute Additional System Payments in any Fiscal Year unless:
  - (a) the source of such payment is a sales tax, gas or fuel tax, franchise fee, ad valorem tax, real estate tax, utility or other public service tax, excise tax, income tax or use tax; or
  - (b) for each Series of Bonds, amounts derived from sources described in paragraph (1) above allocable to such Series of Bonds pro rata on the basis of Annual Debt Service for such Fiscal Year, together with the Series Payments for such Series of Bonds (other than those described in paragraph (3)(a) of the definition of Series Payments), do not constitute in excess of twenty percent (20%) of Annual Debt Service.

"Additional System Payments Account" shall mean the account of that name in the Revenue Fund.

"Ambac" means Ambac Assurance Corporation, a Wisconsin domiciled stock insurance company, or any successor thereto.

"Annual Budget" shall mean the budget required, pursuant to the Trust Agreement, to be adopted by the Commission each Fiscal Year, as such budget may be amended from time to time.

"Annual Debt Service" shall mean the regularly scheduled principal and interest payments coming due on the Bonds Outstanding in each Fiscal Year, whether at maturity or pursuant to mandatory sinking fund redemption, provided, however, that amounts due on January 1 of any year shall be included in the Annual Debt Service for the preceding Fiscal Year. The assumptions set forth in paragraphs (4), (5), (6), (7) and (8) of the definition of Annual Debt Service Requirement shall be applied in calculating Annual Debt Service.

### "Annual Debt Service Requirement" shall mean:

- (1) at any time, the sum of the amounts required to be deposited in the applicable Fiscal Year into the:
  - (a) Interest Account,
  - (b) Principal Account, and
  - (c) Bond Redemption Account,

in accordance with the Trust Agreement;

- (2) in determining the amount of such required deposits, a credit shall be allowed for amounts already on deposit in any of the foregoing accounts, including, without limitation,
  - (a) interest earnings on the:
    - (i) Interest Account,
    - (ii) Principal Account,
    - (iii) Bond Redemption Account, and
    - (iv) Debt Service Reserve Account;
  - (b) capitalized interest; and
  - (c) deposits of Series Payments, but only with respect to debt service payments for the Series of Bonds secured by Series Payments, such credit not to exceed the total amounts at any time required to be deposited into the accounts set forth in paragraph (1) above, after taking into consideration the credits provided for in paragraph (2) (a) and (b) above;
- (3) for purposes of calculating the requirements for the collection of Tolls (see "EXHIBIT A GLOSSARY OF TERMS and SUMMARY OF THE TRUST AGREEMENT Tolls"), and the requirements for the issuance of Bonds (see "EXHIBIT A GLOSSARY OF TERMS and SUMMARY OF THE TRUST AGREEMENT Issuance of Bonds"):
  - (a) the amount of interest earnings on the accounts as provided in paragraph 2(a) above for the applicable Fiscal Year shall be calculated using the lower of (i) the current interest rate in effect for such investments, or (ii) the average interest rate in effect for such investments during any 12 consecutive calendar months of the 15 consecutive calendar months immediately preceding the date of calculation; and
  - (b) the amount of credit allowed in paragraph (2)(c) above for Series Payments for the applicable Fiscal Year for each Series of Bonds secured by Series Payments shall not exceed 100% of the Series Payments expected to be available for deposit into the accounts set forth in paragraph (1) above, as determined by the Supplemental Trust Agreement providing for the payment of such Series Payments, or to the extent the Series Payments are not determined by the Supplemental Trust Agreement, the amount that would have been available for such deposits, as estimated by an Independent Consultant, had such Series Payments been in effect for the immediately preceding Fiscal Year;

- (4) except for purposes of calculating the requirements for the issuance of Bonds, unless the interest rate for a Series of Variable Rate Bonds is fixed for the duration of the applicable Fiscal Year(s), in which case the actual rate shall be used, the interest rate on such Series of Variable Rate Bonds Outstanding shall be assumed to be a rate equal to 100% of the 30 Year Bond Buyer Revenue Bond Index, and with respect to a Series of Variable Rate Bonds which are Taxable Bonds, the interest rate shall be assumed to be a rate equal to 115% of the 30 Year Bond Buyer Revenue Bond Index;
- (5) for purposes of calculating the requirements for the issuance of Bonds, the Annual Debt Service Requirement shall be calculated with respect to a Series of Variable Rate Bonds assuming the interest rate equals the maximum rate payable thereon in accordance with the applicable Supplemental Trust Agreement;
- (6) for purposes of calculating the requirements for the issuance of Bonds, the Annual Debt Service Requirement with respect to a Series of Notes shall be calculated assuming that the interest rate equals 100% of the 30 Year Bond Buyer Revenue Bond Index and assuming substantially level debt service payments in each year over the maximum number of years (not exceeding 30 years) over which the principal of the Notes may be paid as determined by the Commission;
- if a Series of Variable Rate Bonds is subject to purchase by the Commission (7) pursuant to a mandatory or optional tender by the owner thereof, the "tender" date or dates shall be ignored and the stated maturity dates thereof shall be used for purposes of calculating the Annual Debt Service Requirement with respect to such Bonds. If, with respect to any Series of Bonds, the Commission enters into a Qualified Swap Agreement, providing for payments to the Commission which are associated with the payment of interest on such Bonds, in an amount equal to interest on a notional amount equal to the aggregate principal amount of such Bonds Outstanding, based upon a fixed rate, or a variable index or formula different from that used to calculated interest on such Bonds, and if payments under such Qualified Swap Agreement will continue until the final maturity of such Bonds, then the effective rate of interest to the Commission with respect to such Bonds taking into account (a) the actual interest rate borne by such Bonds, (b) payments to be received by the Commission pursuant to such agreement and (c) payment obligations of the Commission to such counterparty pursuant to such agreement, all based upon interest on such notional amount as determined by reference to a fixed rate or variable index or formula, shall be used for purposes of calculating the Annual Debt Service Requirement with respect to such Bonds; and
- (8) if two Series of Variable Rate Bonds, or one or more maturities within a Series, of equal par amounts, are issued simultaneously with inverse floating interest rates providing a composite fixed interest rate for such Bonds taken as a whole, such composite fixed rate shall be used in determining the Annual Debt Service Requirement with respect to such Bonds.

"Authenticating Agent" shall mean the Trustee and the Registrar for the Series of Bonds and any bank, trust company or other entity designated as an Authenticating Agent for such Series of Bonds by or in accordance with the Trust Agreement, each of which shall be a transfer agent registered in accordance with Section 17(c) of the Securities Exchange Act of 1934, as amended.

"<u>Authorized Officer of the Commission</u>" shall mean the Executive Director, the Chairman, the Vice Chairman, the Secretary-Treasurer, or any other officer or employee of the Commission, authorized by resolution duly adopted by the Commission to perform specific acts or duties.

"Bond" or "Bonds" shall mean all Bonds issued and outstanding under the Existing Master Trust Agreement and the bonds or notes issued under the provisions and within the limitations of the Trust

Agreement, payable from the System Pledged Revenues, which Bonds shall be pari passu with all Bonds issued pursuant to the Trust Agreement. Except as expressly provided in the Trust Agreement, "Bonds" shall include Notes.

"Bond Credit Facility" shall mean a Bond Insurance Policy or a Bond Letter of Credit.

"Bond Insurance Policy" shall mean an insurance policy issued for the benefit of the Holders of any Bonds, pursuant to which the issuer of such insurance policy is obligated to pay when due the principal of and interest on such Bonds to the extent of any deficiency in the amounts in the funds and accounts held under the Trust Agreement, in the manner and in accordance with the terms provided in such insurance policy. The issuer of such insurance policy shall be an institution whose insurance policy results in the Bonds which are secured by such insurance policy being rated in one of the two highest rating categories by each Rating Agency which has a rating outstanding on such Bonds.

"Bond Letter of Credit" shall mean an irrevocable, transferable letter of credit issued for the benefit of the Holders of any Bonds, pursuant to which the issuer of such letter of credit is obligated to pay when due the principal of and interest on such Bonds to the extent of any deficiency in the amounts in the funds and accounts held under the Trust Agreement, in the manner and in accordance with the terms provided in such letter of credit. The issuer of such letter of credit shall be a banking association, bank or trust company or branch thereof whose letter of credit results in the Bonds which are secured by such letter of credit being rated in one of the two highest rating categories by each Rating Agency which has a rating outstanding on such Bonds.

"Bond Redemption Account" shall mean the account of that name in the Debt Service Fund created in the Trust Agreement.

"Bond Register" shall mean the books kept by the Registrar for the registration of the Bonds.

"Capital Appreciation Bonds" or "CABs" shall mean Bonds the interest on which is compounded periodically and is payable only at maturity or upon redemption prior to maturity.

"Capital Appreciation and Income Bonds" shall mean Bonds the interest on which is not paid prior to a specified Interest Commencement Date and is compounded periodically on certain designated dates prior to the Interest Commencement Date.

"Code" shall mean the Internal Revenue Code of 1986, as amended, and applicable temporary, proposed or permanent regulations promulgated thereunder.

"Commission" shall mean the Ohio Turnpike and Infrastructure Commission as created and established by the Act.

"Composite Annual Debt Service Requirement" shall mean in each Fiscal Year the sum of the Annual Debt Service Requirement and the annual debt service requirement with respect to Junior Lien Bonds issued under the Junior Lien Bond Master Trust Agreement.

"Consulting Engineers" shall mean the engineer or engineering firm or corporation retained by the Commission to perform the acts and carry out the duties provided for such Consulting Engineers in the Trust Agreement.

"Cost of Issuance" shall mean all charges, costs and expenses of the Commission incurred in connection with the authorization, issuance, sale and delivery of the Bonds including, but not limited to, legal fees, accounting fees, Municipal Advisory fees, Bond Credit Facility premiums, fiscal or escrow agent fees, printing fees, travel expenses and Rating Agency fees.

"Cost of Operation, Maintenance and Administration" shall mean all costs and expenses paid from the Expense Fund which are the obligation of the Commission in keeping the System open to public travel or attributable to the System and includes, without limitation, reasonable expenses of administration of the Commission, costs of collecting and accounting for Tolls, insurance, employee bond premiums, fees of the Consulting Engineers, Independent Consultant, accountants and legal fees, and, with respect to Toll facilities, all other expenses which would not be incurred if such facilities were being operated as free facilities. Cost of Operation, Maintenance and Administration does not include costs with respect to Non-System Projects, depreciation expense or any amounts paid from the Renewal and Replacement Fund, System Projects Fund or from any source other than Gross Revenues.

"Debt Service Fund" shall mean the fund of that name created in the Trust Agreement.

"<u>Debt Service Reserve Account</u>" shall mean the account of that name in the Debt Service Fund created in the Trust Agreement.

"<u>Debt Service Reserve Requirement</u>" shall mean the lower of (1) the Maximum Annual Debt Service Requirement, without credit for Series Payments otherwise permitted by paragraphs (2)(c) and (3)(b) of the definition of Annual Debt Service Requirement, or (2) the maximum amount permitted by the Code to be funded from Bond proceeds without requiring yield restriction.

"Defeasance Obligation" shall mean to the extent permitted by law:

- (a) Direct obligations of or obligations which are unconditionally guaranteed by the United States of America, including obligations issued or held in book entry form on the books of the Department of the Treasury of the United States of America and including advance refunded tax-exempt bonds secured by direct obligations of the United States of America or obligations unconditionally guaranteed by the United States of America which are rated in the highest rating category by a Rating Agency currently rating the Bonds (without regard to gradations such as (+) or (-) or other similar notation);
- (b) Evidences of indebtedness issued by the Bank for Cooperatives, Federal Home Loan Banks, Federal Home Loan Mortgage Corporation (including participate certificates), Federal Land Banks, Federal Financing Banks, or any other agency or instrumentality of the United States of America created by an act of Congress which is substantially similar to the foregoing in its legal relationship to the United States of America; provided that the obligations of such agency or instrumentality are unconditionally guaranteed by the United States of America;
- (c) Evidences of ownership of proportionate interests in future interest and principal payments on specified obligations described in paragraph (a) above held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor on the underlying obligations described in paragraph (a) above, such as CATS, TIGRS and STRIPS, and which underlying obligations are not available to satisfy any claim of the custodian or any person claiming through the custodian or to whom the custodian may be obligated; or
  - (d) stripped interest obligations of the Resolution Funding Corporation.

All obligations shall be non-callable prior to their stated maturity or redemption date.

"Event of Default" shall have the meaning ascribed thereto under the caption "THE TRUST AGREEMENT - Events of Default and Remedies."

"Expense Fund" shall mean the fund of that name created in the Trust Agreement.

"Expense Reserve Account" shall mean the account of that name in the Expense Fund created in the Trust Agreement.

"FGIC" means Financial Guaranty Insurance Company, a New York stock insurance company, or any successor thereto.

"<u>Financial Institutions</u>" shall mean the financial institution or institutions providing a Bond Credit Facility in connection with one or more Series of Bonds then Outstanding.

"<u>Financial Security</u>" means Financial Security Assurance Inc., a New York stock insurance company, or any successor thereto.

"<u>Fiscal Year</u>" shall mean the period commencing with January 1 of each year and ending with December 31 of that same year or such other twelve (12) consecutive month period designated by the Commission.

"General Reserve Fund" shall mean the fund of that name created in the Trust Agreement.

"Gross Revenue Account" shall mean the account of that name created in the Trust Agreement.

"Gross Revenues" shall mean (1) all Tolls, (2) investment income received on any amounts held in the Revenue Fund, the General Reserve Fund, the System Projects Fund, the Expense Fund and the Renewal and Replacement Fund, (3) the proceeds of any use and occupancy insurance on any portion of the System, (4) moneys received from the Ohio Department of Transportation and designated by the Commission for use as System Pledged Revenues and (5) commencing January 1, 2004, all concession revenues derived from the operation of the service plazas (other than funds contractually committed to the Service Plaza Capital Improvements Reserve and other than any allocation of the State Fuel Tax revenues) and all revenues derived from leases, licenses, royalties, advertising and miscellaneous sales, fees and charges together with all investment earnings thereon. "Gross Revenues" shall not include Supplemental Payments, Series Payments, Additional System Payments, revenues derived from the operation of Non-System Projects, amounts received pursuant to a Bond Credit Facility, amounts received pursuant to a Qualified Swap Agreement, or the proceeds of any gifts, grants, or other payments to the Commission from the United States of America, any state or any public or private instrumentality, individual or entity that are not in the nature of a Toll.

"Holder of Bonds" or "Bondholder" or "Holders" or any similar term shall mean any person who shall be the owner of any Bond or Bonds as shown on the Bond Register.

"Independent Consultant" shall mean an independent licensed professional engineer (or firm of independent licensed professional engineers) of recognized national standing in the field of estimating and projecting traffic on, or revenues of, toll facilities which engineer has been selected by the Commission. Said engineer (or firm of engineers) may be retained by the Commission for other purposes. In connection with matters not related to traffic and revenue projection of tolled facilities, the Commission may select members of another professional discipline to deliver any Independent Consultant's certificate required by the terms of the Trust Agreement, provided further that any members of such discipline thereafter selected by the Commission shall be independent and shall be of recognized national standing in such discipline.

"Interest Account" shall mean the account of that name in the Debt Service Fund created in the Trust Agreement.

"Interest Commencement Date" shall mean, with respect to any particular Capital Appreciation and Income Bonds, the date specified in the Supplemental Trust Agreement providing for the issuance of such Capital Appreciation and Income Bonds (which date must be prior to the maturity date for such Capital Appreciation and Income Bonds) after which interest accruing on such Capital Appreciation and Income Bonds shall be payable periodically, with the first payment date being the applicable Interest Payment Date immediately succeeding such Interest Commencement Date.

"Interest Payment Date" shall mean for each Series of Bonds such dates of each Fiscal Year on which interest on Outstanding Bonds of such Series is payable, as set forth in the Supplemental Trust Agreement providing for the issuance of such Series of Bonds.

"Junior Lien Master Trust Agreement" shall mean the Junior Lien Master Trust Agreement dated as of August 1, 2013 between the Commission and the Junior Lien Trustee.

"Junior Lien Bonds" shall mean bonds of the Commission issued pursuant to the Junior Lien Bond Master Trust Agreement and which are subordinate to the Bonds.

"Junior Lien Trustee" shall mean the Trustee at the time serving under the Junior Lien Master Trust Agreement, initially The Huntington National Bank, Columbus, Ohio, and any successor Junior Lien Trustee as determined under or pursuant to the Junior Lien Master Trust Agreement.

"<u>Major Bridge</u>" shall mean any one or all of the following bridges: the Cuyahoga River bridge, the Huron River bridge, the Sandusky River bridge, the Maumee River bridge, the CSX Railroad bridge, the Norfolk Southern Railroad bridge, Vermillion River bridge, and Tinkers Creek bridge.

"<u>Master Trust Agreement</u>" shall mean the Master Trust Agreement, dated as of February 15, 1994, between the Commission and the Trustee, as amended by the First through Seventeenth Supplemental Trust Agreements, and as amended and restated by the Amended and Restated Master Trust Agreement (Eighteenth Supplemental Trust Agreement), dated as of April 8, 2013, between the Commission and the Trustee, as further amended from time to time.

"Maximum Annual Debt Service Requirement" shall mean, at any time, the highest Annual Debt Service Requirement occurring in the current or any succeeding Fiscal Year.

"Net Revenues" shall mean the amount remaining after the deduction from Gross Revenues of the required deposits to the Expense Fund.

"Non-System Project" shall mean any transportation-related project authorized by the Act and designated as a Non-System Project by a resolution of the Commission. Non-System Projects shall not be part of the System, unless designated as such pursuant to the Master Trust Agreement.

"Non-System Project Operating Expenses" means the expenses incurred by the Commission for operation, maintenance and repair, ordinary replacement and ordinary reconstruction of a Non-System Project or any part thereof and shall include, without limiting the generality of the foregoing, administrative expenses, premiums and reserves for insurance and self-insurance, fees or premiums for a Bond Credit Facility, Reserve Credit Facility, legal and engineering expenses, payments into pension, retirement, health and hospitalization funds, and any other expenses required to be paid by the Commission in connection with the operation of such Non-System Project, all to the extent properly and directly attributable to the operation of such Non-System Project, and rental payments in connection with operating leases entered in the ordinary course of business, all to the extent properly and directly attributable to a Non-System Project, and the expenses and compensation of the fiduciaries required to be paid under agreements applicable to such Non-

System Projects, but does not include (1) any costs or expenses for new construction or for major reconstruction or (2) any provision for interest, depreciation, amortization or similar charges.

"Notes" means notes issued by the Commission in anticipation of the issuance of Bonds pursuant to the Act, or to pay costs of refunding or retiring Notes or Bonds previously issued pursuant to the Act, which Notes shall be on a parity with the Bonds.

"Operation, Maintenance and Administrative Expenses Account" shall mean the account of that name in the Expense Fund.

"Outstanding" or "outstanding" when used with reference to the Bonds, shall mean, as of any date of determination, all Bonds theretofore authenticated and delivered except:

- (1) Bonds theretofore cancelled by the Registrar or delivered to the Registrar for cancellation;
- (2) Bonds which are deemed paid in accordance with Article IX of the Trust Agreement;
- (3) Bonds in lieu of which other Bonds have been issued pursuant to the provisions of the Trust Agreement relating to Bonds destroyed, stolen or lost, unless evidence satisfactory to the Registrar has been received that any such Bond is held by a bond fide purchaser; and
- (4) for purposes of any consent or other action to be taken under the Trust Agreement by the Holders of a specified percentage of principal amount of Bonds, Bonds held by or for the account of the Commission.

"Paying Agent" shall mean the Trustee or, with respect to any Series of Bonds, the paying agent designated by the Supplemental Trust Agreement authorizing the issuance of such Series of Bonds, or any successor thereto.

"<u>Permitted Investments</u>", unless varied by the terms of a Supplemental Trust Agreement as to a particular Series of Bonds, (i) shall mean any investments in which the Commission is authorized to invest pursuant to the laws of the State, and (ii) with respect to moneys held by the Trustee, shall mean any of the following securities:

## (a) Defeasance Obligations;

- (b) obligations issued by any agency of the United States of America, including, without limitation, the Government National Mortgage Association, or by any instrumentality of the United States of America, including, without limitation, the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation;
- (c) general obligations of any state of the United States of America, including the State, or any political subdivision of a state; provided that such general obligations carry one of the two highest ratings of one of the Rating Agencies;
- (d) certificates of deposit or banker's acceptances, whether negotiable or nonnegotiable, issued by a bank, trust company or savings association organized under the laws of any state of the United States of America or any national banking association (including the Trustee), which institution has a combined capital and surplus of at least \$100,000,000 in dollars of the United States of America, provided, that such certificates of deposit or banker's acceptances do not exceed in the aggregate ten percent (10%) of the combined capital, surplus and undivided profits

of the institution issuing the same and provided further that such certificates of deposit or banker's acceptances shall be in the possession of the Trustee or its agents and shall be either (A) continuously and fully insured by the Federal Deposit Insurance Corporation, or (B) continuously and fully secured by such securities as are described in clauses (a) through (c), inclusive, above ("Pledged Securities") which shall have a market value (exclusive of accrued interest) at all times at least equal to the principal amount of such certificates of deposit or banker's acceptances, and that the institution issuing each such certificate of deposit or banker's acceptance required to be so secured shall furnish the Trustee with a covenant satisfactory to it that the aggregate market value of all such obligations securing each such certificate of deposit or banker's acceptance will at all times be an amount at least equal to the principal amount of each such certificate of deposit or banker's acceptance and that the Trustee shall be entitled to rely on each such covenant;

- (e) any repurchase agreement with an institution described in clause (d) above, which repurchase agreement is fully collateralized at all times by Pledged Securities based upon the market value of such obligations;
- (f) any money market fund invested solely in obligations described in clauses (a), (b) or (c) above or invested in repurchase agreements fully collateralized by obligations described in clauses (a) or (b) above;
- (g) the investment pool created and administered by the Treasurer of the State of Ohio under Section 135.45 of the Ohio Revised Code; and
- (h) investment agreements with institutions whose long-term unsecured debt is rated in one of the two highest rating categories of one of the Rating Agencies;

provided that for purposes of clauses (d) and (e) above the respective Pledged Securities shall be in the possession of the Trustee or its agent and shall be free and clear of all liens or rights of any third party, and in which obligations the Trustee shall have a first perfected security interest.

"Principal Account" shall mean the account of that name in the Debt Service Fund created in the Trust Agreement.

"Project" shall mean any System Project or Non-System Project.

"Project Cost" with respect to any Project, shall mean (1) the costs incurred or to be incurred by the Commission in connection with or incidental to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such Project, including legal, administrative, engineering, planning, design studies, insurance costs and financing costs of such Project, (except to the extent such costs are funded from the proceeds of any indebtedness of the Commission, the payment of which is included as a Project Cost under clause (3) below), (2) amounts, if any, required by the Trust Agreement to be paid into any fund or account upon the issuance of any Series of Bonds, (3) payments when due (whether at the maturity of principal or the due date of interest or upon redemption) on Notes, (4) costs of equipment, supplies and reserves required by the Commission for the commencement of operation of such Project, (5) costs of acquisition by the Commission of real or personal property or any interest therein, including land and improvements required for relocation and relocation costs and land required for right of way, environmental mitigation or other Commission purposes, (6) any other costs properly attributable to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such Project as permitted by Section 5537.01(B) of the Ohio Revised Code, as amended from time to time, and (7) interest on Bonds during the estimated period of construction and for a reasonable period thereafter.

"Qualified Swap Agreement" shall mean an agreement between the Commission and a counterparty creating Qualified Swap Payments.

"Qualified Swap Payments" shall mean a payment required to be made pursuant to a Qualified Swap Agreement, such as an interest rate swap, collar, cap or other functionally similar agreement, such payment being equal to interest on a notional amount, based upon a fixed rate or a variable index or formula, provided that the long-term unsecured debt of such counterparty, or the entity that has unconditionally guaranteed such counterparty's obligations is at the time rated in one of the two highest rating categories (without regard to gradations such as pluses (+) or minuses (-) or other similar notations) by each Rating Agency then maintaining a rating on the Series of Bonds to which such agreement pertains; or, the payment obligations of the counterparty, or the entity that has unconditionally guaranteed such counterparty's obligations, are rated in one of the three (3) highest rating categories (without regard to gradations) and are collateralized by direct obligations of, or obligations the principal and interest on which are guaranteed by, the United States of America, that (a) are deposited with the Commission or an agent of the Commission; and (b) maintain a market value of not less than one hundred five percent (105%) of the net market value of the payment agreement to the Commission, as such net market value may be defined and determined from time to time under the terms of the payment agreement.

"Rating Agency" shall mean Moody's Investors Service, or S&P Global Ratings, or Fitch Ratings, and their successors, or any other nationally recognized bond rating agency.

"Rebate Account" shall mean an account of that name in the Rebate Fund established for a Series of Bonds into which the funds constituting the Rebate Amount shall be deposited; each such account shall be termed the "[Series of Bonds] Rebate Account."

"Rebate Amount" shall mean a rebate amount required to be paid by the Commission to the United States of America pursuant to the Code.

"Rebate Fund" shall mean the fund of that name created in the Trust Agreement.

"<u>Registrar</u>" shall mean, with respect to any Series of Bonds, the Trustee or registrar designated by the Supplemental Trust Agreement with respect to such Series of Bonds, or any successor thereto.

"Renewal and Replacement Fund" shall mean the fund of that name created in the Trust Agreement.

"Renewal and Replacement Requirement" shall mean the amount, if any, for the then current Fiscal Year in the Annual Budget.

"Reserve Account Credit Facility" shall mean a Reserve Account Insurance Policy or a Reserve Account Letter of Credit.

"Reserve Account Credit Facility Rating Requirement" shall mean, for purposes of the provisions of the Trust Agreement relating to a rating downgrade of a Reserve Account Credit Facility subsequent to its deposit in the Debt Service Reserve Account, the requirement that the provider of a Reserve Account Credit Facility be rated in one of the two highest rating categories (without giving effect to modifiers or qualifiers within a rating category) by at least two Rating Agencies.

"Reserve Account Insurance Policy" shall mean an insurance policy, surety bond or other acceptable evidence of insurance deposited in the Debt Service Reserve Account in lieu of or in partial substitution for cash or securities required to be deposited therein. The issuer providing such Reserve Account Insurance Policy shall be an insurer which has been assigned one of the two highest ratings by any Rating Agency which has a rating outstanding on the Bonds.

"Reserve Account Letter of Credit" shall mean an irrevocable, transferable letter of credit deposited in the Debt Service Reserve Account in lieu of or in partial substitution for cash or securities on deposit therein. The issuer providing such letter of credit shall be a banking association, bank or trust company or branch thereof whose letter of credit results in the Bonds which are secured by such letter of credit being rated in one of the two highest rating categories by each Rating Agency which has a rating outstanding on such Bonds.

"Revenue Fund" shall mean the fund of that name created in the Trust Agreement (the full name of this fund is the "General Revenue Fund").

"Series" shall mean such Bonds designated as a separate Series of Bonds in accordance with a Supplemental Trust Agreement.

"Series Payments" shall mean (1) payments which are:

- (a) payable to the Commission pursuant to any agreement between the Commission and any private, nongovernmental corporation, organization, association, individual or other entity, which payments by their terms automatically recur without approval that is discretionary to the entity providing such payments for so long as any Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Supplemental Trust Agreement are met, or
- (b) payable to the Commission pursuant to any agreement between the Commission and the United States of America, any state, county, municipality, political subdivision, public body or other governmental entity, or under any law, statute, ordinance, resolution or other authorizing instrument of such an entity, providing such payments for so long as any Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Supplemental Trust Agreement are met; and

in each case above, available and expressly pledged by the Commission for the payment of debt service on one or more, but less than all, Series of Bonds issued and Outstanding under the Trust Agreement;

- (2) Series Payments shall not include Supplemental Payments or payments pursuant to a Bond Credit Facility or a Qualified Swap Agreement;
- (3) payments described in paragraph (1) above shall not constitute Series Payments in any Fiscal Year unless:
  - (a) the source of such payments is a sales tax, gas or fuel tax, franchise fee, <u>ad valorem</u> tax, real estate tax, utility or other public service tax, excise tax, income tax or use tax; or
  - (b) amounts derived from sources described in paragraph (1) above together with the Additional System Payments (other than those described in paragraph (3)(a) of the definition of Additional System Payments) allocable to such Series of Bonds pro rata on the basis of Annual Debt Service for such Fiscal Year do not constitute in excess of twenty percent (20%) of Annual Debt Service.

<sup>&</sup>quot;Series Payments Fund" shall mean the fund of that name created in the Trust Agreement.

<sup>&</sup>quot;State" shall mean the State of Ohio.

"Supplemental Authorizing Resolution" shall mean, as to any Series of Bonds, the resolution or resolutions authorizing and providing for the sale and issuance of such Series of Bonds.

# "Supplemental Payments" shall mean:

- (1) payments payable to the Commission pursuant to any agreement between the Commission and any private or governmental entity, or under any law, statute, ordinance, resolution or other authorizing instrument of such an entity, which payments are available and expressly pledged by the Commission for the payment of debt service with respect to one or more Series, or all Series, of Bonds Outstanding hereunder, but which are restricted to use only in the event System Pledged Revenues or, if applicable, Series Payments, are insufficient to make payments required hereunder with respect to such Series of Bonds. Such payments must:
  - (a) by their terms automatically recur without appropriation, approval or similar action that is discretionary to the entity providing such payments for so long as any Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Supplemental Trust Agreement are met; and
  - (b) be available and expressly pledged by the Commission for the payment of debt Service on one or more Series of Bonds issued and Outstanding under the Trust Agreement.
- (2) Supplemental Payments shall not include Series Payments or payments pursuant to a Bond Credit Facility or a Qualified Swap Agreement.

"Supplemental Payments Fund" shall mean the fund of that name created in the Trust Agreement.

"Supplemental Trust Agreement" shall mean one or more Supplemental Trust Agreements, as the same may be amended and supplemented from time to time, authorized by Supplemental Authorizing Resolutions.

"System" shall mean (a) the highway extending approximately 241 miles across the State from a point on the Ohio-Pennsylvania line near Petersburg, Ohio (being also the western terminus of the Pennsylvania Turnpike), in a northwesterly and westerly direction to a point on the Ohio-Indiana line in Williams County, Ohio (being the easterly terminus of the Indiana Toll Road), under the operating jurisdiction of the Commission, and popularly called "the Ohio Turnpike", and including all bridges, tunnels, overpasses, underpasses, interchanges, entrance plazas, approaches, toll facilities, service facilities, administration, and storage and other buildings and facilities necessary for the operation or utilization thereof, all with such modifications or alterations thereof as permitted by the Act and the Trust Agreement, and all property, rights, easements and interests owned or acquired for the operation or utilization thereof or for use in connection therewith, as well as those additions, extensions and improvements thereto as contemplated by the Trust Agreement or the Junior Lien Bond Master Trust Agreement, and (b) System Projects.

"System Pledged Revenues" shall mean Net Revenues plus Additional System Payments.

"System Project" shall mean any project authorized by the Act as of February 15, 1994 and designated as a System Project by official action of the Commission.

"System Projects Fund" shall mean the fund of that name created in the Trust Agreement.

"<u>Taxable Bonds</u>" shall mean Bonds issued on the basis that the interest thereon shall not, in any manner, be exempt from federal income taxation or excludible from gross income for federal income tax purposes.

"30 Year Bond Buyer Revenue Bond Index" shall mean the weekly index compiled by *The Bond Buyer* consisting of twenty-five (25) tax-exempt revenue bonds rated "AA" or "A" which have maturities of thirty (30) years, published immediately preceding the first day of the calendar month in which any calculation utilizing such index is made; if such index, or an equivalent successor index is no longer published, the 30 Year Bond Buyer Revenue Bond Index shall be determined in such manner as the Commission shall determine will provide substantially the same rate that would have been provided by the 30 Year Bond Buyer Revenue Bond Index and with respect to which the Commission receives confirmation from each Rating Agency then maintaining ratings on Bonds Outstanding that calculation of the 30 Year Bond Buyer Revenue Bond index in such manner will not result in a reduction or withdrawal of the then applicable ratings on the Bonds.

"<u>Tolls or tolls</u>" shall mean Tolls, special fees or permit fees, or other charges by the Commission to the owners, lessors, lessees or operators of motor vehicles for the operation of or the right to operate those vehicles on the System, and any other fees and charges authorized by the Act in connection with any System Project.

"<u>Trust Agreement</u>" shall mean collectively the Master Trust Agreement and all Supplemental Trust Agreements supplemental thereto.

"<u>Trustee</u>" shall mean the Trustee at the time serving under the Trust Agreement, initially The Huntington National Bank, Cleveland, Ohio, and any successor Trustee as determined under or pursuant to the Trust Agreement.

"<u>Variable Rate Bonds</u>" shall mean Bonds with a variable, adjustable, convertible or other similar rate which is not fixed in percentage for the entire remaining term thereof.

"<u>Verification Agent</u>" shall mean an independent public accounting firm, or other firm that employs one or more certified public accountants for the purpose, engaged by the Commission to perform the acts and carry out the duties provided for a Verification Agent in the Trust Agreement.

Any reference to the Commission or to its members, officers or to other public officers, boards, commissions, departments, institutions, agencies, bodies or entities shall include those which succeed to its functions, duties or responsibilities by operation of law, and also those who at the time may legally act in its place.

References to the Act, to any act or resolution of the General Assembly, or to a section, chapter, division, paragraph or other provision of the Ohio Revised Code or the Constitution of Ohio, or the laws of Ohio, shall include the Act, that act or resolution, and that section, chapter, division, paragraph or other provision and those laws as from time to time amended, modified, supplemented, revised or superseded, unless expressly stated to the contrary, provided that no such amendment, modification, supplementation, revision or supersession shall alter the obligation to pay the Annual Debt Service on Bonds Outstanding, or on Bonds in anticipation of which Notes are Outstanding, or to pay any obligations of the Commission to Financial Institutions relating to any Series of Bonds Outstanding, at the time of any such action, in the amount and manner, at the times and from the sources provided in the Trust Agreement, except as otherwise therein permitted.

#### SUMMARY OF THE TRUST AGREEMENT

The following, in addition to information contained under the captions "DESCRIPTION OF THE 2018 BONDS" and "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS", summarizes certain provisions of the Trust Agreement, to which document in its entirety reference is made for the detailed provisions thereof.

So long as the 2018 Senior Lien Bonds are immobilized in a Book Entry System with DTC or another depository, that depository or its nominee is for all purposes of the Trust Agreement considered by the Commission and the Trustee to be the Holder of the 2018 Senior Lien Bonds, and Beneficial Owners will not be considered Holders and will have no rights as Holders under the Trust Agreement. See "EXHIBIT E - BOOK ENTRY ONLY SYSTEM"."

## Security

The Trust Agreement provides for a pledge of the System Pledged Revenues by the Commission to the Trustee for the benefit of the Holders and the Financial Institutions. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS."

#### Funds and Accounts

The Trust Agreement establishes the following funds and accounts: the Revenue Fund, and within such fund the Gross Revenue Account and the Additional System Payments Account; the Expense Fund, and within such fund the Operation, Maintenance and Administrative Expenses Account and the Expense Reserve Account; the Debt Service Fund, and within such fund the Interest Account, the Principal Account, the Bond Redemption Account and the Debt Service Reserve Account; the Series Payments Fund, and within such fund, to the extent necessary to segregate and separately account for Series Payments, one or more separate accounts; the Renewal and Replacement Fund; the System Projects Fund, and within such fund, to the extent necessary, one or more separate Construction Accounts; the General Reserve Fund; the Supplemental Payments Fund, and within such fund, to the extent necessary to segregate and separately account for Supplemental Payments, one or more separate accounts; and the Rebate Fund, and within such fund a separate Rebate Account for each Series of Bonds, to the extent required by applicable law.

The funds and accounts created by the Trust Agreement constitute trust funds for the purposes provided in the Trust Agreement and are for purposes of accounting, kept separate and distinct from all other funds of the Commission and are be used only for the purposes and in the manner provided in the Trust Agreement.

The Debt Service Fund and the accounts therein (the Interest Account, the Principal Account, the Bond Redemption Account and the Debt Service Reserve Account) are held by the Trustee. The Revenue Fund, the Series Payments Fund, the Expense Fund, the Renewal and Replacement Fund, the System Projects Fund, the General Reserve Fund and the Rebate Fund have been established and are maintained by the Commission in a bank or trust company which is eligible under the laws of the State to receive deposits of public funds. The Supplemental Payments Fund and the accounts therein have been established and are held in compliance with the document or agreement providing for such Supplemental Payments.

Revenue Fund: The Commission covenants that Gross Revenues will be collected by the Commission, or its agents, and deposited into the Gross Revenue Account in the Revenue Fund. All Additional System Payments will be deposited by the Commission into the Additional System Payments Account in the Revenue Fund immediately upon receipt. All Series Payments shall be deposited by the Commission into the Series Payments Fund (or if established, the applicable subaccount therein) immediately upon receipt thereof.

Expense Fund: Amounts on deposit in the Operation, Maintenance and Administrative Expenses Account will be applied by the Commission from time to time to pay the Cost of Operation, Maintenance and Administration. Amounts on deposit in the Expense Reserve Account will be applied by the Commission from time to time to pay Cost of Operation, Maintenance and Administration to the extent amounts on deposit in the Operation, Maintenance and Administrative Expenses Account are insufficient for such purpose.

Debt Service Fund: Amounts on deposit in the Principal Account, Bond Redemption Account and Interest Account will be transferred by the Trustee to the Paying Agent at the times as are necessary to make payments of principal and interest on the Bonds or Qualified Swap Payments, as the case may be.

Amounts on deposit in the Bond Redemption Account will be applied solely to the purchase or redemption of Bonds. Moneys in the Bond Redemption Account will first be applied to the payment of the mandatory sinking fund installments coming due on the next semiannual and annual redemption dates, if any, of Bonds subject to mandatory sinking fund redemption. The Commission may at any time purchase any of such Bonds at prices not greater than the applicable redemption price of such Bonds as of such date. If the Bonds are not then redeemable prior to maturity, the Commission may purchase such Bonds at prices not greater than the redemption price of such Bonds on the next ensuing redemption date. The Trustee is required to use all moneys in the Bond Redemption Account for the redemption prior to maturity of such Bonds in such manner and at such times as shall be determined by a Supplemental Trust Agreement; provided, that the Commission will not be obligated to redeem, in advance of the mandatory sinking fund installment next coming due, such Bonds prior to maturity unless and until there are sufficient moneys on deposit in the Bond Redemption Account to provide for the redemption of at least Twenty-five Thousand Dollars (\$25,000) principal amount of Bonds at any one time. If by the application of moneys in the Bond Redemption Account, the Commission purchases or calls for redemption in any year Bonds in excess of the installment requirement for such year, such excess of Bonds so purchased or redeemed will be credited in such manner and at such times over the remaining installment payment dates as the Commission shall determine.

Moneys in the Debt Service Reserve Account will be used only for deposit into the Interest Account, the Principal Account or the Bond Redemption Account when the moneys in the Revenue Fund or any other fund or account held pursuant to the Trust Agreement and available for such purpose are insufficient therefor. In the event that any moneys are withdrawn from the Debt Service Reserve Account for deposit into the Interest Account, the Principal Account or the Bond Redemption Account, such withdrawals are required to be subsequently restored from the first System Pledged Revenues (and, to the extent available therefor, Series Payments) available to the Commission after all required payments have been made into the Interest Account, the Principal Account and the Bond Redemption Account, including any deficiencies for prior payments, unless restored by provision or reinstatement of a Reserve Account Credit Facility.

Any moneys in the Debt Service Reserve Account in excess of the Debt Service Reserve Requirement for the Bonds or, if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election, will be transferred by the Trustee to the Commission and deposited by the Commission in the General Reserve Fund.

The Commission may elect, by resolution adopted prior to the issuance of any Series of Bonds, to fully fund the Debt Service Reserve Account over a period specified in such resolution not to exceed the period during which capitalized debt service in an amount sufficient to pay all principal and interest due on such Series of Bonds has been deposited with the Trustee, during which period the Commission will be required to make substantially equal monthly installments in order that the amounts on deposit therein and

available amounts under any Reserve Account Credit Facility at the end of such period will equal the Debt Service Reserve Requirement.

In lieu of the amounts required to be on deposit in the Debt Service Reserve Account, the Commission may at any time cause to be deposited into the Debt Service Reserve Account a Reserve Account Credit Facility for the benefit of the Holders in an amount, which together with other amounts on deposit therein equals the Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election, which Reserve Account Credit Facility shall be payable or available to be drawn upon, as the case may be (upon the giving of notice as required thereunder) on any interest or principal payment date on which a deficiency exists in the Interest Account, the Principal Account or the Bond Redemption Account which cannot be cured by moneys in any other fund or account held pursuant to the Trust Agreement and available for such purpose. If a disbursement is made under the Reserve Account Credit Facility, the Commission will be obligated either to reinstate the amount available under such Reserve Account Credit Facility or to deposit into the Debt Service Reserve Account from the System Pledged Revenues (and, to the extent available therefor, Series Payments), funds in the amount sufficient to cause the amount on deposit in the Debt Service Reserve Account to equal the Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election, or a combination of such alternatives.

In the event that any Reserve Account Credit Facility is not rated in one of the two highest rating categories (without giving effect to modifiers or qualifiers within a rating category) by at least two Rating Agencies (the "Reserve Account Credit Facility Rating Requirement"), the Commission shall deposit an amount into the Debt Service Reserve Account so that such funds, together with any other amounts on deposit as well as any Reserve Account Credit Facilities that do meet the Reserve Account Credit Facility Rating Requirement, equal the Debt Service Reserve Requirement.

In the alternative, in lieu of the deposit set forth in the preceding paragraph, the Commission may deposit another Reserve Account Credit Facility that meets the Reserve Account Credit Facility Rating Requirement to insure over the Reserve Account Credit Facility that does not meet the Reserve Account Credit Facility Rating Requirement.

In the event that the Commission deposits cash or a Reserve Account Credit Facility to insure over an existing Reserve Account Credit Facility that does not satisfy the Reserve Account Credit Facility Rating Requirement, the Trustee shall note on its books that such cash or Reserve Account Credit Facility is for purpose of insuring over the existing Reserve Account Credit Facility.

In the event that the Trustee is required to draw upon the Debt Service Reserve Account in order to make payments due into the Debt Service Fund, the Trustee shall draw on such moneys and Reserve Account Credit Facilities in the following order of priority:

FIRST, from moneys deposited into the Debt Serve Reserve Account, other than moneys deposited due to a Reserve Account Credit Facility not meeting the Reserve Account Credit Facility Rating Requirement;

SECOND, on all Reserve Account Credit Facilities (other than those Reserve Account Credit Facilities deposited as a result of another Reserve Account Credit Facility not meeting the Reserve Account Credit Facility Rating Requirement) on a pro-rata basis (including those Reserve Account Credit Facilities not meeting the Reserve Account Credit Facility Rating Requirement); and

THIRD, on Reserve Account Credit Facilities and cash that have been deposited as a result of another Reserve Account Credit Facility not meeting the Reserve Account Credit Facility Rating Requirement, on a pro-rata basis, but only to the extent that the provider of the Reserve Account Credit Facility not meeting the Reserve Account Credit Facility Rating Requirement fails to pay amounts as due.

Reserve Account Credit Facilities drawn on in "SECOND" above shall be drawn on a pro-rata basis only, regardless of whether the providers of the Reserve Account Credit Facilities not meeting the Reserve Account Credit Facility Rating Requirement fail to pay, unless and until Reserve Account Credit Facilities or cash in "THIRD" above have been drawn to pay amounts as due.

In the event that the Commission deposits cash as a result of an existing Reserve Account Credit Facility not meeting the Reserve Account Credit Facility Rating Requirement and that existing Reserve Account Credit Facility subsequently meets the Reserve Account Credit Facility Rating Requirement, upon the written request of the CFO/Comptroller of the Commission, the Trustee shall transfer the amount of that previous deposit to the Commission.

See "SECURITY AND SOURCE OF PAYMENT OF THE 2018 BONDS – Debt Service Reserve Requirements - Senior Lien Bond Reserve" and "Debt Service Reserve Account Credit Facilities – Senior Lien Bonds").

If the Commission fails to pay any unreimbursed draws and related expenses with respect to the Reserve Account Credit Facility issued by Financial Security, Financial Security is entitled to exercise any and all legal and equitable remedies available to it, including those provided under the default provisions of the Trust Agreement, other than (i) acceleration of the maturity of the Bonds, or (ii) any remedies which, in the opinion of the Trustee, would adversely affect owners of the Bonds. See "GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT – Events of Default and Remedies."

Renewal and Replacement Fund: The moneys in the Renewal and Replacement Fund will be used, when necessary, for the purpose of paying the cost of replacement or renewal of capital assets or facilities of the System, or extraordinary repairs of the System. The moneys in the Renewal and Replacement Fund will be used for payment into the Interest Account, the Principal Account and the Bond Redemption Account when the moneys in the Revenue Fund and, to the extent available therefor, in the Series Payments Fund are insufficient therefor. Moneys in the Renewal and Replacement Fund will also be used for the benefit of the Junior Lien Bonds to the extent and in the manner provided by the Junior Lien Bond Master Trust Agreement. If the Commission determines that the amount on deposit in the Renewal and Replacement Fund is excessive for the purposes of the Renewal and Replacement Fund, the excess amount may be withdrawn from the Renewal and Replacement Fund by the Commission and transferred to and deposited in the System Projects Fund.

System Projects Fund: The moneys in the System Projects Fund will be used, when necessary, for the purpose of paying all or part of the Project Costs of System Projects. Prior to the expenditure of such moneys from the Systems Project Fund, however, there shall be delivered to the Trustee a Certificate of the Commission, signed by the Executive Director, stating that prior to and in connection with expenditure, (i) no default exists under the Trust Agreement and (ii) no event exists which, with the giving of notice or the passage of time, would constitute an Event of Default. The moneys in the System Projects Fund will be used for payment into the Interest Account, the Principal Account and the Bond Redemption Account when the money in the Revenue Fund, the Renewal and Replacement Fund and, to the extent available therefor, the Series Payments Fund are insufficient therefor. Moneys in the System Projects Fund will also be used for the benefit of the Junior Lien Bonds to the extent and in the manner provided by the Junior Lien Bond Master Trust Agreement. In the event the Commission shall certify that the amount on deposit in the System Projects Fund is excessive for the purposes of the System Projects Fund, such excess amount may be withdrawn from the System Projects Fund by the Commission and deposited in the General Reserve Fund.

Series Payments Fund: Amounts on deposit in the respective accounts within the Series Payments Fund will be applied to make the deposits to the Interest Account, the Principal Account, the Bond Redemption Account and the Debt Service Reserve Account with respect to the respective Series of Bonds secured thereby to the extent and in the manner provided or permitted in the governing document providing for the payment of such Series Payments, or, if the governing document does not so provide, then as directed by the Commission. Funds derived from Series Payments will secure and only be used to make payments with respect to the particular Series of Bonds to which such payments are pledged and such amounts will not be available or used to make payments with respect to any other Series of Bonds.

Supplemental Payments Fund: If in any month the System Pledged Revenues and Series Payments are not sufficient to make the required deposits into the Interest Account, the Principal Account, the Bond Redemption Account or the Debt Service Reserve Account, moneys in the Supplemental Payments Fund will be applied to pay the portion of such deficiency allocable to the Bonds secured by the Supplemental Payments. Funds derived from Supplemental Payments will secure and only be used to make payments with respect to the Series of Bonds for which such Supplemental Payments are available in accordance with the terms of the governing document providing for such Supplemental Payments and such amount will not be available or used to make payments with respect to other Series of Bonds.

Rebate Fund: The Commission will deposit or cause to be deposited into the appropriate Rebate Account in the Rebate Fund, from investment earnings or moneys deposited in the other funds and accounts created under the Trust Agreement, or from any other legally available funds of the Commission, an amount equal to the Rebate Amount. The moneys deposited in the Rebate Fund shall be used only for the payment of the Rebate Amount to the United States of America.

To the extent moneys on deposit in the appropriate Rebate Account in the Rebate Fund are insufficient for the purpose of paying the Rebate Amount, and other funds of the Commission are not available to pay the Rebate Amount, then the Rebate Amount is required to be paid first from System Pledged Revenues and, to the extent the System Pledged Revenues are insufficient to pay the Rebate Amount, then from moneys on deposit in any of the funds and accounts created under the Trust Agreement.

After making the required determination or calculation of the Rebate Amount or causing the same to be made, and upon verification of such determination or calculation by the Commission, if required, the Commission may, to the extent permitted by the Code, withdraw funds which may be on deposit in the appropriate Rebate Account in an amount not to exceed an amount which would maintain a balance in such account sufficient to pay the then-current cumulative Rebate Amount, and use such funds for any other purpose authorized by law.

General Reserve Fund: The monies in the General Reserve Fund will be used in such manner, in such priority, and at such times as the Commission determines (a) to purchase or redeem Bonds (at redemption prices not exceeding the redemption prices of such Bonds on the next ensuing redemption date), (b) for any transportation-related lawful purpose of the Commission, including, without limitation, to reimburse the provider of any Supplemental Payments in accordance with the document providing for such Supplemental Payments, payment of Project Costs with respect to Non-System Projects or payment of Non-System Project Operating Expenses, or (c) for payments by the Commission under any reimbursement agreement with respect to any Bond Credit Facility or any other financial agreement entered into with respect to the Bonds, or any Series thereof; provided, however, that none of such monies may be used for the purposes described in this paragraph unless all payments required to be made to other funds (see "EXHIBIT A - GLOSSARY OF TERMS and SUMMARY OF THE TRUST AGREEMENT - Application of Monies in Revenue Fund"), including any deficiencies for prior payments, have been made in full to the date of such use, and the Commission has fully complied with all covenants and agreements contained in the Trust Agreement.

#### Investment and Valuation of Funds

The Revenue Fund, the Debt Service Fund, the Renewal and Replacement Fund, the Expense Fund, the System Projects Fund, the General Reserve Fund, the Series Payments Fund and all other special funds created and established by the Trust Agreement constitute trust funds under the Trust Agreement. All moneys held in such funds and accounts will be invested at the direction of the Commission in Permitted Investments. Moneys on deposit in the Debt Service Reserve Account may be invested in any Permitted Investments. Moneys on deposit in the Principal Account, the Interest Account or the Bond Redemption Account will be invested only in Permitted Investments described in clauses (a), (b), (f) or (g) of the definition of Permitted Investments (See "EXHIBIT A - GLOSSARY OF TERMS and THE TRUST AGREEMENT"). Permitted Investments must mature not later than the earliest of (a) the final maturity of the Bonds, (b) the time such moneys are reasonably required for the purposes set forth for such fund or account in accordance with the Trust Agreement, (c) the time permitted by the Act and applicable law, and (d) with respect to Permitted Investments described in clauses (a) through (d) of the definition of Permitted Investments held in the Debt Service Reserve Account, ten (10) years from the date of investment.

Unless otherwise provided by a Supplemental Trust Agreement, all income and earnings received from the investment and reinvestment of moneys on deposit in the Debt Service Reserve Account will be transferred as soon as practicable to the Interest Account, the Principal Account or the Bond Redemption Account for use for the next payment due from such accounts. All income and earnings received from the investment and reinvestment of moneys on deposit in the Interest Account, the Principal Account and the Bond Redemption Account will remain in such accounts for use for the next payment due from such account. All income and earnings received by the investment and reinvestment of moneys on deposit in any construction fund will remain in such fund for use in the expenditures required from such fund. All income and earnings on the Supplemental Payments Fund and the Series Payments Fund will be applied in the manner provided in the document governing such payments. All income and earnings received from the investment of moneys on deposit in the Rebate Fund shall be retained in such fund. All income and earnings received from the investment and reinvestment of moneys on deposit in any other fund created by the Trust Agreement will be transferred as soon as practicable to the Revenue Fund. Earnings in all funds and accounts will be available for payments of the Rebate Amount.

In computing the amount in any fund or account created under the Trust Agreement, Permitted Investments will be valued at the "cost" thereof, exclusive of accrued interest. A valuation of amounts on deposit in the Debt Service Reserve Account must be conducted by the Trustee on March 1 of each Fiscal Year to determine if the amount on deposit therein is equal to the Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election. If a deficiency exists, the Commission must make up such deficiency from a deposit of System Pledged Revenues. If a surplus exists, such surplus shall be transferred into the Revenue Fund.

## Application of Monies in Revenue Fund

On or before the tenth (10<sup>th</sup>) day of each month, amounts on deposit in the Revenue Fund as of the close of business on the last day of the preceding month will be disposed of in the following manner and priority and in an amount sufficient to make the required payment and deposit and all past due payments and deposits within such priority (provided that (a) the selection of the Gross Revenue Account or the Additional System Payments Account as the source of distribution will be determined as provided in the agreements relating to the Additional System Payments; and (b) monies in the Additional System Payments Account will not be used to make payments into the Expense Fund):

(a) for deposit into the Operation, Maintenance and Administrative Expenses Account in an amount equal to one-twelfth (1/12) of the Cost of Operation, Maintenance and Administration,

as set forth in the Annual Budget of the Commission for such Fiscal Year; provided that the payment due for the last month of each Fiscal Year shall equal the difference between budgeted and actual expenses so that the total deposits to the Operation, Maintenance and Administration Expense Account shall equal the actual expenses for such Fiscal Year. The monthly payments shall be increased or decreased, as necessary, to reflect amendments to the Annual Budget. Amounts on deposit in the Operation, Maintenance and Administrative Expenses Account shall be applied by the Commission from time to time to pay the Cost of Operation, Maintenance and Administration;

- (b) for deposit into the Expense Reserve Account, the amount necessary to cause the amount on deposit therein to equal at the election of the Commission (i) the greater of one-twelfth (1/12) of the Cost of Operation, Maintenance and Administration set forth in the Annual Budget of the Commission for such Fiscal Year or the highest monthly Cost of Operation, Maintenance and Administration during the previous Fiscal Year, or (ii) such other amount as is recommended in a report of the Consulting Engineer to be necessary;
- (c) (i) for deposit into the Interest Account, an amount equal to the sum of (1) one-sixth (1/6) of the interest becoming due on the next semiannual Interest Payment Date with respect to Bonds that bear interest payable semiannually, (2) the amount of interest next becoming due or maturing on the Bonds that bear interest payable monthly, (3) the amount of interest accruing in such month on Bonds that bear interest payable on other than a monthly or semiannual basis (other than Capital Appreciation Bonds and Capital Appreciation and Income Bonds), and (4) the amount of any Qualified Swap Payment payable by the Commission accruing in such month;
  - (ii) for deposit in the Principal Account, an amount equal to one-sixth (1/6) of the principal amount of the Bonds which will mature and become due on the next semiannual maturity date and one-twelfth (1/12) of the principal amount of the Bonds which will mature and become due on the next annual maturity date in such Fiscal Year; and
  - (iii) for deposit into the Bond Redemption Account, an amount sufficient to pay one-sixth (1/6) of the principal amount of Bonds subject to mandatory sinking fund redemption on the next semiannual redemption date and one-twelfth (1/12) of the principal amount of Bonds subject to mandatory sinking fund redemption on the next annual redemption date;

In making such deposits, the Trustee will reduce the amounts of the required deposits by any investment earnings which have accrued in such accounts during the preceding period;

- (d) for deposit into the Debt Service Reserve Account, an amount which, together with the funds on deposit therein and the available amounts under any Reserve Account Credit Facility as provided below, will be sufficient to make the amount on deposit therein equal to the Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election;
- (e) for deposits and payments required pursuant to the Junior Lien Bond Master Trust Agreement;
- (f) for deposits and payments with respect to obligations secured by the System Pledged Revenues junior and subordinate to the Junior Lien Bonds as required pursuant to the resolution, indenture or the other instrument pursuant to which such obligations are issued;

- (g) for deposit into the Renewal and Replacement Fund of an amount equal to one-twelfth (1/12) of the Renewal and Replacement Requirement for such Fiscal Year;
- (h) for deposit into the System Projects Fund, such sums as shall be certified by the Commission as necessary to be deposited therein in such Fiscal Year to finance all or part of System Projects as the Commission may determine, provided, however, that such required amounts for deposit may be increased or decreased as the Commission shall certify if necessary for the purposes of the System Projects Fund;
- (i) thereafter, the balance of any amounts remaining in the Revenue Fund may be transferred to the General Reserve Fund.

# Calculation of System Pledged Revenues

The Commission shall, during the final month of each Fiscal Year, calculate the System Pledged Revenues. In the event that System Pledged Revenues exceed 200% of the Annual Debt Service Requirement, the Commission shall release the excess amount of concession revenues and lease, license, royalty, advertising and miscellaneous sales, fees and charges revenues from System Pledged Revenues.

#### Issuance of Bonds

The Commission may issue Bonds for the purpose of:

- (a) financing System Projects, either alone or jointly with other persons, public bodies or private bodies;
- (b) financing Non-System Projects, either alone or jointly with other persons, public bodies or private bodies;
  - (c) refunding Outstanding Bonds or Notes issued pursuant to the Trust Agreement;
  - (d) completing any System Project for which Bonds have been previously issued; or
  - (e) refunding Junior Lien Bonds or other subordinated indebtedness.

Each Series of Bonds (including the 2018 Senior Lien Bonds) must be authorized by a Supplemental Authorizing Resolution adopted by the Commission and must be issued pursuant to a Supplemental Trust Agreement.

No Bonds shall be issued unless all conditions described in paragraphs (a) through (e) below are met.

- (a) The Commission must be current in all deposits into the various funds and accounts and all payments theretofore required to have been deposited or made by it under the provisions of the Trust Agreement and the Commission must be in compliance with the covenants and provisions of the Trust Agreement unless, upon the issuance of such Bonds, the Commission will be in compliance with all such covenants, all as certified to the Trustee by the Commission.
- (b) (i) The amount of the System Pledged Revenues and any Supplemental Payments during the immediately preceding Fiscal Year or any twelve (12) consecutive calendar months selected by the Commission out of the fifteen (15) consecutive calendar months immediately preceding the issuance of said Bonds, adjusted as hereinafter described, as verified in writing to the Trustee by the Verification Agent, shall have been at least 150% of the Maximum

Annual Debt Service Requirement on the Bonds then Outstanding and the Bonds then proposed to be issued. The System Pledged Revenues calculated pursuant to the condition described in this paragraph may be adjusted, at the option of the Commission, if the Commission, prior to the issuance of the proposed Bonds, has increased the Tolls for transit over the toll facilities of the System. If the Commission elects to adjust Systems Pledged Revenues, the Net Revenues for the immediately preceding Fiscal Year or the twelve (12) consecutive calendar months will be adjusted, based upon a certificate of the Independent Consultant, to reflect the Net Revenues which would have been derived from the System during such period if such increased Tolls of the System had been in effect during all of such period; and

- if the Commission shall be constructing or shall be acquiring a System Project from the proceeds of such Bonds and assuming, except as provided below, that the Tolls in effect at the time of issuance of such Bonds will be the Tolls to be charged and collected when such System Project is completed and open for transit, the average annual System Pledged Revenues estimated by an Independent Consultant, and certified to the Trustee, to be derived during the first three (3) full Fiscal Years of operation after completion of the construction or acquisition of said System Project, plus an amount equal to the Supplemental Payments (not to exceed the portion of the Maximum Annual Debt Service Requirement attributable to the Series of Bonds secured by such Supplemental Payments) available (or, as provided by a projection of an Independent Consultant, that would have been available had the pledge of such Supplemental Payments been in effect) during any twelve (12) consecutive calendar months out of the fifteen (15) consecutive calendar months preceding the date of calculation, will be equal to at least 120% of the Maximum Annual Debt Service Requirement on the Bonds then Outstanding and the Bonds then proposed to be issued, and the Commission shall be projected to be in compliance with the requirements of the Section 4.04(a) of the Senior Lien Bond Master Trust Agreement for the first three (3) full Fiscal Years of operation after completion as certified by the Independent Consultant. Any adjustment (including any increase or decrease) to the Toll rate structure scheduled to be put in place during such first three (3) full Fiscal Years of operation may only be incorporated into the System Pledged Revenues estimate by the Independent Consultant pursuant to this paragraph if the Commission shall have established a forecast of Tolls to be charged and collected when such System Project is completed and open for transit. For purposes of calculating the System Pledged Revenues, the amount of Additional System Payments to be included shall be equal to the amount of such Additional System Payments received (or, as provided by a projection of an Independent Consultant, that would have been received had the agreement providing for such Additional System Payments been in effect) in any twelve (12) consecutive calendar months out of the fifteen (15) consecutive calendar months preceding the date of calculation.
- (c) There shall be delivered to the Trustee certain documents, opinions and certificates, including evidence of authorization by the Commission of the issuance and delivery of the Bonds, and a certification of an Authorized Officer of the Commission that it is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Bonds or the Trust Agreement.
- (d) Unless the Supplemental Trust Agreement for any Series of Bonds provides for the funding of the Debt Service Reserve Account in installments, the Debt Service Reserve Account must be fully funded immediately upon the issuance of such Series of Bonds.
- (e) A Series of Bonds may be issued for purposes of financing one or more Non-System Projects only if the System Pledged Revenues, plus an amount equal to the Supplemental Payments (not to exceed the portion of the Maximum Annual Debt Service Requirement attributable to the Series of Bonds secured by such Supplemental Payment) for any twelve (12) consecutive calendar months of the fifteen (15) consecutive calendar months immediately preceding the issuance

of such Bonds shall have been at least one hundred twenty percent (120%) of the Maximum Annual Debt Service Requirement on the Bonds then Outstanding and the Bonds proposed to be issued. For purposes of calculating the System Pledged Revenues and Supplemental Payments to be pledged to the Bonds proposed to be issued, the amount to be included for purposes of satisfying the condition described in this paragraph is required to be the amount received or projected by an Independent Consultant in writing to the Trustee that would have been received or available, had the pledge of such Additional System Payments or Supplemental Payments been in effect during such period.

The Commission need not comply with the provisions described in clause (b) of the preceding paragraph if and to the extent the Bonds to be issued qualify as either "Refunding Bonds" or "Completion Bonds," as described below.

- (a) "Refunding Bonds," that is, Bonds delivered in lieu of, or in substitution for, or to provide for the payment of, Bonds or Notes Outstanding under the Trust Agreement, if the Commission causes to be delivered to the Trustee a certificate of a Verification Agent setting forth:
  - (1) the Annual Debt Service Requirements for the then current and each future Fiscal Year to and including the latest maturity of any Bonds of any Series then Outstanding:
    - (A) with respect to the Bonds of all Series Outstanding immediately prior to the date of authentication and delivery of such Refunding Bonds, and
    - (B) with respect to the Bonds of all Series to be Outstanding immediately thereafter, and
  - (2) that the Annual Debt Service Requirement set forth for each Fiscal Year pursuant to (1)(B) above is no greater than that set forth for each such Fiscal Year pursuant to (1)(A) above, or
- (b) "Completion Bonds," that is, Bonds delivered to provide for the payment of the cost of a System Project subsequent to the original issuance of Bonds for such System Project, provided that the conditions described in subparagraphs (1) and (2) below are met.
  - (1) The net amount of such Completion Bonds available for deposit into the System Projects Fund will be equal to or less than (A) ten percent (10%) of the original estimated cost of such System Project at the time of the original issuance of Bonds, or (B) such a greater amount, provided that an Independent Consultant certifies that such greater amount is necessary for completion of the System Project and that issuance of such Completion Bonds in such amount will not reduce projected Net Revenues after the payment of Annual Debt Service on the Bonds for the first full Fiscal Year following completion of the System Project and each future Fiscal Year to and including the latest maturity of any Bonds Outstanding assuming the issuance of the Completion Bonds as compared with the projected Net Revenues after the payment of Annual Debt Service for the same periods assuming that the Completion Bonds were not issued; and
  - (2) The Commission causes to be delivered to the Trustee a certificate of the Consulting Engineer stating:
    - (A) the cost of completing such System Project, and

(B) that other funds available or reasonably expected to become available for such cost, together with the proceeds of such Completion Bonds, will be sufficient to pay such cost.

## Tolls

The Commission will at all times charge and collect or cause to be charged and collected Tolls for the use of the System at rates not less than those set forth in the schedule of such Tolls then in effect and as shall be required in order to satisfy the requirements described in subparagraphs (a), (b) and (c) below.

- (a) Gross Revenues in each Fiscal Year will equal at least one hundred percent (100%) of the aggregate of:
  - (i) the Cost of Operation, Maintenance and Administration for such Fiscal Year as provided in the Annual Budget; and
  - (ii) any amounts required to be deposited into the Expense Reserve Account in such Fiscal Year.
- (b) System Pledged Revenues in each Fiscal Year will equal at least one hundred percent (100%) of the aggregate in such Fiscal Year of (i) the Annual Debt Service Requirement, (ii) required deposits to the Debt Service Reserve Fund, (iii) deposits and payments required pursuant to the Junior Lien Bond Master Trust Agreement, (iv) deposits and payments required pursuant to any resolution, indenture or other authorizing instrument under which any obligations of the Commission secured by a pledge of the System Pledged Revenues junior and subordinate to the Junior Lien Bonds are issued, and (v) the Renewal and Replacement Requirement.
- (c) System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Annual Debt Service Requirement for such Fiscal Year for all Series of Bonds to which such Supplemental Payments are pledged in each Fiscal Year) will equal at least one hundred twenty percent (120%) of the Annual Debt Service Requirement in such Fiscal Year.

The collection of System Pledged Revenues in any Fiscal Year in an amount in excess of the amounts required as described above for any Fiscal Year will not be taken into account as a credit against the requirements described above for any subsequent Fiscal Year.

On or before July 31 in each year, the Commission is required to complete a review of the financial condition of the Commission for the purpose of estimating whether the Gross Revenues for such Fiscal Year will be sufficient to provide, together with Series Payments, Additional System Payments and Supplemental Payments, the amounts described in clauses (a), (b) and (c) above (the "Revenue Requirement"). If the Commission determines that such amounts may not be sufficient to satisfy the Revenue Requirement for the then current Fiscal Year, it will forthwith cause the Independent Consultant to make a study for the purpose of recommending a schedule of Tolls which, in the opinion of the Independent Consultant, will cause amounts to be received in the following Fiscal Year equal to the amounts necessary to satisfy the Revenue Requirement for such Fiscal Year. No later than February 1 of the following year, the Commission will establish and place in effect a schedule of Tolls which will cause amounts to be received in such following and each subsequent Fiscal Year to be sufficient to restore the amount of any deficiency at the earliest practicable time. If, in any Fiscal Year, the amounts received are not sufficient to satisfy the Revenue Requirement, the Commission is required to (a) cause the Independent Consultant to make a study for the purpose stated in the immediately preceding sentence unless it has already obtained a revenue study and recommendation in compliance with such sentence, and (b) as promptly as practicable and in any case no

later than the next July 1, establish and place in effect a schedule of Tolls as recommended by the Independent Consultant.

Except as specifically provided in the Trust Agreement, the Commission will not effect any reduction in any rate of Toll fixed for transit over the System or eliminate any Toll charged for use of the System unless it first provides thirty (30) days' notice to the Trustee and then only if, accompanying said notice, all of the documents described in subparagraphs (a), (b) and (c) below are filed with the Trustee:

- (a) A certificate of an Independent Consultant setting forth estimates of the Gross Revenues, System Pledged Revenues, Supplemental Payments and Series Payments for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding, which may take into consideration, among other things, the additional use of the System projected to result from such reduction in the rate of Toll, and a favorable recommendation from the Independent Consultant that such proposed reduction be placed in effect.
- (b) A certificate of the Commission setting forth for the Fiscal Years set forth in the certificate of the Independent Consultant and based on the same assumptions as used in the certificate described in paragraph (a) above, estimates of the Cost of Operation, Maintenance and Administration and deposits to the Expense Reserve Account for the System prepared in accordance with the Trust Agreement.
  - (c) a certificate of an Authorized Officer of the Commission:
  - (i) setting forth the Composite Annual Debt Service Requirement for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding;
  - (ii) certifying that the estimated System Pledged Revenues and Supplemental Payments for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding are not less than 1.50 times the Composite Annual Debt Service Requirement for such respective current or future Fiscal Year;
  - (iii) certifying that the Commission is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Trust Agreement; and
  - (iv) certifying that immediately prior to such proposed reduction the amount on deposit in the Debt Service Reserve Account was equal to the Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election.

Except as specifically provided in the Trust Agreement, the Commission will not construct any System Project for which a Toll, consistent with Tolls charged on other portions of the System, is not charged unless there is filed with the Trustee:

- (a) a certificate of an Independent Consultant setting forth estimates of the Gross Revenues, System Pledged Revenues, Supplemental Payments and Series Payments for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding;
- (b) a certificate of the Commission setting forth for the Fiscal Years set forth in the certificate of the Independent Consultant and based on the same assumptions as used in the

certificate required by paragraph (a) above, estimates of the Cost of Operation, Maintenance and Administration and deposits to the Expense Reserve Account prepared in accordance with the Trust Agreement;

- (c) a certificate of an Authorized Officer of the Commission:
- (i) setting forth the Composite Annual Debt Service Requirement for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding;
- (ii) certifying that the estimated System Pledged Revenues and Supplemental Payments (as derived from the certificates pursuant to paragraph (a) above) for the then current and each future Fiscal Year during which any Bonds are scheduled to be Outstanding are not less than 1.20 times the Composite Annual Debt Service Requirement for such respective current or future Fiscal Year;
- (iii) certifying that the Commission is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Trust Agreement; and
- (iv) certifying that the amount on deposit in the Debt Service Reserve Account is equal to the Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Debt Service Reserve Account in installments, the amount then required to be on deposit in the Debt Service Reserve Account in accordance with such election.

With respect to each System Project, the Commission is required to classify Tolls for use of that System Project in a reasonable way to cover all traffic, so that the Tolls will be uniform in application to all traffic on that System Project falling within any reasonable class regardless of the status or character of any person, firm or corporation participating in the traffic, except by reason of privileges based upon frequency, volume, type of vehicle, time of such traffic, distance traveled, weight or method of payment.

The Commission may increase Tolls from time to time. The Commission may make any other adjustment or reclassification of Tolls or establish special Tolls, introductory Tolls or temporary Tolls, provided such adjustments or reclassification will not cause the Commission to fail to satisfy the Revenue Requirement.

The failure in any Fiscal Year to satisfy the Revenue Requirement will not constitute an Event of Default under the Trust Agreement if the Commission complies with the requirements described in the third paragraph under "THE TRUST AGREEMENT - Tolls"; provided that if the Independent Consultant is of the opinion, as shown by its certificate filed with the Commission, that a schedule of Tolls and other rates and charges for the System which would provide funds to meet the Revenue Requirement is impracticable at that time, then the Commission is required to fix and establish such schedule of Tolls as is recommended by the Independent Consultant to satisfy as nearly as practicable the Revenue Requirement, and in such event the failure of the Commission to satisfy the Revenue Requirement and the other requirements described in the third paragraph under "THE TRUST AGREEMENT - Tolls" shall not constitute an Event of Default under the provisions of the Trust Agreement.

The Commission covenants that it will not allow or permit any free use of the toll facilities of the System except to officials, employees, agents, vendors or contractors of the Commission while engaged in official business of the Commission or law enforcement officers or emergency vehicles or clearly marked federal or state military vehicles while in the discharge of their official duties, or in the event of an

emergency in which temporary free passage is required in order to assure the safety and security of patrons on the System.

# **Insurance**

The Commission is required to maintain (a) property risk insurance during the construction, reconstruction or improvement of any part of the System, as shall be determined by the Commission; (b) property insurance with respect to System Major Bridges in a commercially reasonable amount as determined by the Commission; (c) use and occupancy insurance covering a period of suspension of not less than 12 months and such longer period as the Commission may approve, which insurance may exclude loss sustained by the Commission during the first 7 days of any total or partial interruption of use; and public liability and property damage insurance in at least the amount, and covering at least the risks, as the Commission may determine. All insurance policies related to the above-described coverages are open to inspection of the Bondholders and their representatives at all reasonable times.

# Disposition of Property

The Commission shall not, except as in the Trust Agreement otherwise permitted, sell, lease or otherwise dispose of or encumber the System or any part thereof and will not create or permit to be created any charge or lien on the revenues derived therefrom. However, the Commission may:

- (a) Lease or contract with respect to the operation of Service Facilities, as defined in the Act, to the extent Service Facilities are part of the System.
- (b) Sell, exchange or otherwise dispose of any machinery, fixtures, apparatus, tools, instruments or other moveable property acquired by it from whatever source of moneys, if the Executive Director determines that they are no longer needed or useful in connection with the operation and maintenance of the System.
- (c) Sell, exchange or otherwise dispose of any real property or release, relinquish or extinguish any interest therein as the Commission by resolution declares is not needed or serves no useful purpose in connection with the maintenance and operation of the System, if the Consulting Engineers in writing approve that resolution.

The Commission is required to notify the Trustee of any disposition of any property constituting a portion of the System with a fair market value in excess of \$500,000 and the amount and application of the proceeds of that disposition.

## Other Covenants

The Commission covenants that (a) it will operate and maintain the System in conformity with all applicable legal requirements; it will not make any modifications or alterations of the System which substantially increase the cost of operating the System or substantially affect adversely the volume or character of the traffic using the System; (b) it will establish and enforce reasonable rules and regulations governing the use and operation of the System, (c) all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, (d) no more persons will be employed by it than are necessary, (e) it will maintain and operate the System in an efficient and economical manner, (f) from the revenues of the System it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals, improvements and replacements, and (g) it will comply with all valid applicable acts, rules, regulations, orders and directions of any legislative, executive, administration or judicial body applicable to the System or the Commission.

The Commission covenants that it will cause the Consulting Engineers to make an inspection of the System at least once each calendar year, and on or before October 1 in that year, submit to the Commission a report setting forth (a) their findings whether the System has been maintained in good repair, working order and condition, (b) their advice and recommendations as to the proper maintenance, repair and operation of the System during the ensuing Fiscal Year and an estimate of the amount of money necessary for those purposes and (c) their advice and recommendations as to the insurance to be carried by the Commission.

The Commission covenants that it will (a) observe and comply with all valid requirements of any governmental authority relative to the System or any part of the System, (b) not create or suffer to be created any lien or charge upon the System or any part of it or upon the System Pledged Revenues except the lien and charge of the Bonds, and (c) from the System Pledged Revenues or other available moneys, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within 60 days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part of System Pledged Revenues or other revenue from the System. However, the Commission is not required to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof is contested in good faith and by appropriate legal proceedings.

The Commission will cause an audit of financial statements as of December 31 of each year, prepared in accordance with GAAP, to be made of its books and accounts relating to the System and the Debt Service Fund by an independent certified public accountant approved by the Auditor of the State. Reports of each such audit shall be filed by July 1 following the date of the financial statements with the Commission and the Trustee, and copies shall be mailed by the Commission to the Consulting Engineers. Each audit report shall set forth such matters as are required by GAAP.

The Commission covenants that it will cause written notice to be given to the Rating Agencies at least thirty (30) days prior to the making of any multi-year pledge or assignment of any revenues received by the Commission and not pledged or assigned pursuant to the Trust Agreement.

## Addition of Non-System Projects to the System

A Non-System Project owned and controlled by the Commission may, by resolution of the Commission, be designated and become part of the System for purposes of the Trust Agreement if there shall first have been obtained and filed with the Commission a certificate of an Independent Consultant to the effect that for any period of twelve (12) consecutive calendar months out of the fifteen (15) consecutive calendar months immediately preceding such designation, the revenues received by the Commission with respect to such Non-System Project (that is, those payments received by the Commission with respect to such Non-System Project that would have constituted Gross Revenues had such Non-System Project Deen part of the System) equaled or exceeded the aggregate for such period of (i) the Non-System Project Operating Expenses of such Non-System Project (plus any additional Cost of Operation, Maintenance and Administration that would have been incurred by the Commission had such Non-System Project been part of the System, as estimated by such Independent Consultant) and (ii) a reasonable renewal and replacement reserve deposit with respect to such Non-System Project, as determined by such Independent Consultant.

## **Events of Default and Remedies**

The following events constitute Events of Default under the Trust Agreement:

(a) Default in the payment of any interest on any Bond when and as the same shall have become due and payable;

- (b) Default in the payment of the principal of or any redemption premium on any Bond when and as the same becomes due and payable, whether at stated maturity or by mandatory redemption or mandatory purchase;
- (c) Any other default, and the continuance thereof for a period of 60 days after written notice thereof to the Commission given by the Trustee or the Holders of not less than 25 percent in aggregate amount of affected Bonds then Outstanding.

The term "default" as used in the Trust Agreement shall mean default by the Commission in the performance or observance of any of the covenants, agreements or conditions on its part contained in the Trust Agreement or in the Bonds, exclusive of any period of grace required to constitute a default an Event of Default as provided above.

Except as modified or supplemented by a Supplemental Trust Agreement with respect to a particular series of Bonds, the Trustee is not required to take notice, and shall not be deemed to have notice or knowledge, of any default or Event of Default under the Trust Agreement, except Events of Default described in clauses (a) and (b) above, unless the Trustee shall be notified specifically of the default or Event of Default in a written instrument delivered to it by the Commission or by the Holders of not less than 10 percent in aggregate principal amount of Bonds then Outstanding or a Financial Institution. In the absence of delivery of a notice satisfying those requirements, the Trustee may assume conclusively that there is no default or Events of Default, except as to Events of Default described in clauses (a) and (b) above.

Upon the occurrence of any Event of Default as described in clause (a) or (b) above, the Trustee must, and upon the occurrence of any Event of Default as described in clause (c) above, the Trustee may and upon the written request of the Holders of not less than 25 percent in aggregate principal amount of the affected Bonds then Outstanding or a Financial Institution providing a letter of credit in connection with the affected Bonds must (subject to the Trustee's right to be indemnified for its expenses) proceed in its own name to protect and enforce its rights and the rights of the Holders under the Trust Agreement by such of the remedies described in subparagraphs (a) through (d) below as the Trustee, being advised by counsel, considers most effective to protect and enforce those rights:

- (a) By mandamus or other suit, action or proceeding at law or in equity enforce all the rights of Holders, including the compelling of the performance of all duties of the Commission or State agencies under the Bond Proceedings and the enforcement of the payment of the Annual Debt Service Requirement on the Bonds then Outstanding.
  - (b) Bring suit upon the Bonds.
- (c) Enjoin unlawful activities or activities in violation of the rights of the Holders or Financial Institutions under the Trust Agreement.
- (d) In the event of the occurrence of an Event of Default as described in clauses (a) or (b) of the preceding paragraph:
  - (i) Apply to a court having jurisdiction of the cause to appoint a receiver, who may be the Trustee, to receive and administer the System Pledged Revenues with full power to pay and to provide for payment of the Annual Debt Service Requirement, and with such powers, subject to the discretion of the court, as are accorded receivers in general equity cases, excluding any power to pledge additional revenues or receipts or other income or moneys of the Commission or the State or State agencies to the payment of the Annual Debt

Service Requirement, and excluding the power to take possession of, mortgage or cause the sale or otherwise dispose of any Project, or

By notice in writing delivered to the Commission and to each member of (ii) the Commission, declare the principal of all Bonds then Outstanding and the interest accrued on those Bonds immediately due and payable and thereupon that principal and interest shall become and be immediately due and payable. If at any time after that declaration and prior to the entry of judgment in a court of law or equity for enforcement or the appointment of a receiver hereunder, all sums payable under the Trust Agreement (except the principal and interest on Bonds which have not reached their stated maturity dates and which are due and payable solely by reason of that declaration of acceleration), plus interest (to the extent permitted by law) on any overdue installments of interest at the rate borne by the Bonds in respect of which such Event of Default shall have occurred, shall have been duly paid or provided for by deposit with the Trustee or Paying Agents and all existing defaults shall have been made good, then and in every such case the Trustee must waive that Event of Default and its consequences and must rescind and annul that declaration, but no such waiver and rescission shall extend to or affect or impair any rights consequent on any subsequent Event of Default.

Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding have the right with the consent of each Financial Institution not then in default on its obligations with respect to the Bonds, at any time, by instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of the Trust Agreement, or for the appointment of a receiver or any other proceedings under the Trust Agreement; provided that (a) such direction shall not be otherwise than in accordance with the provisions of law and of the Trust Agreement, (b) the Trustee shall be indemnified as provided in the Trust Agreement, (c) a Financial Institution will have no rights with respect to the enforcement of remedies against itself.

After payment of the costs and expenses of the proceedings resulting in the collection of such moneys and of the fees, expenses, liabilities and advances incurred or made by the Trustee or receiver, all moneys received by the Commission, Trustee or receiver pursuant to any right given or action taken under the provisions of the Trust Agreement shall be applied as described in subparagraphs (a) through (c) below.

(a) Unless the principal of all the Bonds has become or has been declared due and payable pursuant to the Trust Agreement, all such moneys shall be applied as follows:

First: To the payment, to the persons entitled thereto, of all installments of interest then due on the Bonds (or reimbursement of Financial Institutions for interest payments made pursuant to a Bond Credit Facility), in the order of the dates of maturity of the installments of that interest and beginning with the earliest such date, and if the amount available is not sufficient to pay in full any particular installment, then to the payment thereof ratably according to the amounts due on that installment, without any discrimination or privilege except as to any difference in the respective rates of interest specified in the Bonds;

Second: To the payment, to the persons entitled thereto, of the unpaid principal of any of the Bonds (or reimbursement of Financial Institutions for principal payments made pursuant to a Bond Credit Facility) which has become due (other than Bonds previously called for redemption for the payment of which moneys are held pursuant to the provisions of the Trust Agreement), whether at stated maturity, by redemption or pursuant to any mandatory sinking fund requirements, in the order of their due dates and beginning with the

earliest due date, with interest on those Bonds from the respective dates upon which they become due, and if the amount available shall not be sufficient to pay in full all Bonds (and reimburse in full Financial Institutions for principal payments made pursuant to a Bond Credit Facility) due on any particular date, together with such interest, then to the payment thereof ratably according to the amount of principal due on that date, without discrimination or privilege; and

Third: To the payment of all other obligations of the Commission to Financial Institutions.

- (b) If the principal of all the Bonds has become due or has been declared due and payable pursuant to the Trust Agreement, all such moneys will be applied to the payment of the principal and interest then due and unpaid upon the Bonds (and reimbursement of Financial Institutions for principal and interest payments made pursuant to a Bond Credit Facility), without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or privilege except as to any difference in the respective rates of interest specified in the Bonds and then to the payment of all other obligations of the Commission to Financial Institutions.
- (c) If the principal of all the Bonds has been declared due and payable pursuant to the Trust Agreement, and if that declaration thereafter has been rescinded and annulled under the provisions of the Trust Agreement, then, subject to the provisions described in clause (b) in the event that the principal of all the Bonds shall later become due and payable, the moneys will be deposited in the Debt Service Fund and applied in accordance with the provisions of the Trust Agreement.

No Holder has any right to institute any suit, action or proceeding for the enforcement of the Trust Agreement or for the execution of any trust thereof or for the appointment of a receiver or any other remedy hereunder unless (a) an Event of Default has occurred and is continuing, (b) that Holder shall previously have given to the Trustee written notice of that Event of Default, (c) the Holders of at least 25 percent in aggregate principal amount of Bonds then Outstanding made written request to the Trustee and afforded the Trustee reasonable opportunity either to proceed to exercise the powers granted herein or to institute such action, suit or proceeding in its own name and shall have also offered to the Trustee indemnity as provided in the Trust Agreement and (d) the Trustee thereafter fails or refuses to exercise the powers granted in the Trust Agreement or to institute such action, suit or proceeding in its own name.

The Trustee may at any time in its discretion, but only with the consent of any Financial Institution providing a Bond Credit Facility in connection with affected Bonds and not then in default of its obligations with reference to such Bonds, waive any Event of Default and its consequences, and rescind any declaration of maturity of principal, and must do so, with the consent of any Financial Institution providing a Bond Credit Facility in connection with affected Bonds, upon the written request of the Holders of not less than a majority in aggregate principal amount of all the Bonds then Outstanding in respect of which the Event of Default exists. However, there shall not be so waived any Event of Default described in clauses (a) or (b) of the first paragraph under the caption "EXHIBIT A-1 - GLOSSARY OF TERMS AND SUMMARY OF THE SENIOR LIEN TRUST AGREEMENT - Events of Default and Remedies," or such declaration in connection therewith rescinded, unless at the time of that waiver or rescission payments of all sums payable under the Trust Agreement (except the principal and interest on Bonds which have not reached their stated maturity dates and which are due and payable solely by reason of that declaration of acceleration), plus interest, to the extent permitted by law, on any overdue installments of interest at the rate borne by the Bonds in respect of which such Event of Default shall have occurred, have been made or provided for. In

case of any such waiver or rescission, or in case any proceeding taken by the Trustee on account of any such Event of Default is discontinued or abandoned or determined adversely, then and in every such case the Commission, the Trustee, any Financial Institution and the Holders shall be restored to their respective positions and rights hereunder. No such waiver or rescission will extend to any subsequent or other default or Event of Default, or impair any right consequent thereon.

# Supplemental Trust Agreements

The Commission and the Trustee, without the consent of or notice to any of the Holders, may enter into agreements supplemental to the Trust Agreement for any one or more of the following purposes: (a) to cure any ambiguity, inconsistency or formal defect or omission in the Trust Agreement; (b) to grant to or confer upon the Trustee for the benefit of the Holders or any Financial Institution any additional rights, remedies, powers or authority that may lawfully be granted to or conferred upon the Holders or any Financial Institution (to the extent not contrary to the interests of Holders) or the Trustee; (c) to subject additional revenues or receipts to the pledge of the Trust Agreement; (d) to add to the covenants and agreements of the Commission contained in the Trust Agreement other covenants and agreements thereafter to be observed for the protection of the Holders or Financial Institutions (to the extent not contrary to the interests of Holders), or to surrender or limit any right, power or authority reserved to or conferred upon the Commission in the Trust Agreement, including without limitation the limitation of rights of redemption so that in certain instances Bonds of different series will be redeemed in some prescribed relation to one another; (e) to evidence any succession to the Commission and the assumption by that successor of the covenants and agreements of the Commission contained in the Trust Agreement and the Bonds; (f) in connection with the issuance of a Series of Bonds in forms other than fully registered Bonds and for amendments of the Trust Agreement relating to Bonds and the rights of the Holders of Bonds issued in those forms not inconsistent with the provisions of the Trust Agreement applying to the rights of owners of fully registered Bonds and Financial Institutions, if in the opinion of bond counsel selected by the Commission those provisions would not result in the interest on any of the Bonds Outstanding becoming subject to federal income taxation; (g) to permit the exchange of Bonds, at the option of the Holder, for coupon Bonds of the same series payable to bearer, in an aggregate principal amount not exceeding the unmatured and unredeemed principal amount of the predecessor Bonds, bearing interest at the same rate or rates (or determined in the same manner) and maturing on the same date or dates, with coupons attached representing all unpaid interest due or to become due thereon if, in the opinion of bond counsel selected by the Commission, that exchange would not result in the interest on any of the Bonds Outstanding becoming subject to federal income taxation; (h) to permit the use of a book entry system to identify the owner of an interest in a Bond, whether that Bond was formerly, or could be, evidenced by a physical security; (i) to permit the Trustee to comply with any obligations imposed upon it by law; (i) to specify further the duties and responsibilities of, and to define further the relationship among, the Trustee, the Registrar and any Authenticating Agents or Paying Agents; (k) to achieve compliance of the Trust Agreement with any applicable federal securities or tax law; (1) to permit any other amendment which, in the judgment of the Trustee, is not to the prejudice of the Trustee or the Holders; and (m) to authorize the issuance of a Series of Bonds in accordance with the provisions of the Master Trust Agreement.

The Holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding (exclusive of Bonds then held or owned by the Commission) to be affected thereby have the right, from time to time, to consent to and approve the execution by the Commission and the Trustee of such other Supplemental Trust Agreements for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in the Trust Agreement, but only with the prior written consent of the providers of any Bond Insurance Policies insuring Outstanding Bonds. However, the Trust Agreement does not permit: (a) without the consent of the Holder of each Bond so affected, an extension of the maturity of the principal of or the interest on any Bond, or a reduction in the amount or extension of the time of any payment required by any mandatory sinking fund requirements or

mandatory redemption requirements, or (b) without the consent of the Holders of all of the Bonds then Outstanding, a reduction in the aggregate principal amount of the Bonds required for consent to that Supplemental Trust Agreement.

Where consent of the Holders is required, the Trust Agreement contains procedures for notice to the Holders and for the execution and filing of the requisite consents. Any consent is to be binding upon the Holders of the Bonds giving that consent and upon any subsequent Holders of those Bonds and of any Bonds issued in exchange therefor (whether or not the subsequent Holders have notice thereof). However, the consent may be revoked by the Holder of such Bonds who gave consent or by subsequent Holders thereof by filing with the Trustee, prior to the execution by the Trustee of the Supplemental Trust Agreement, a written revocation. If the Holders of the required percentage in aggregate principal amount of the Bonds Outstanding have consented to and approved the execution thereof, no Holder of any Bond shall have any right to object to the execution of that Supplemental Trust Agreement or to any of the terms and provisions contained in or to the operation of that Supplemental Trust Agreement, or in any manner to question the propriety of the execution of, or to enjoin or restrain the Trustee or the Commission from executing, or from taking any action pursuant to the provisions of, that Supplemental Trust Agreement.

The terms of the Trust Agreement or any Supplemental Trust Agreement may be modified or altered in any respect with the consent of the Commission, any Financial Institutions and the Holders of all the Outstanding Bonds.

## <u>Defeasance</u>

If the Commission pays or causes to be paid to the Holders of the Outstanding Bonds all principal, premium, if any, and interest due or to become due thereon and all obligations of the Commission to Financial Institutions, and provision is made for paying all other sums payable under the Trust Agreement by the Commission, then and in that event the Trust Agreement will cease, determine and become null and void, and the covenants, agreements and other obligations of the Commission under the Trust Agreement will be discharged, released and satisfied.

Bonds will be deemed to have been paid or caused to be paid if the Trustee holds, in trust for and irrevocably committed thereto, sufficient moneys, or moneys and Defeasance Obligations certified by a Verification Agent to be of such maturities and interest payment dates and to bear such interest as will, without further investment or reinvestment of either the principal amount thereof or the interest earnings therefrom, be sufficient for the payment, at their maturity or redemption date, of all principal, premium, if any, and interest thereon to the date of maturity or redemption, as the case may be; provided that if any Bonds are to be redeemed prior to their maturity, notice of that redemption must be duly given or provision satisfactory to the Trustee must be duly made for the giving of that notice.

#### Trustee

The Trustee, The Huntington National Bank, Columbus, Ohio, is a national banking association organized and existing under the laws of the United States of America and is authorized to exercise corporate trust power in the State. The Trustee has undertaking to perform such duties as are specifically set forth in the Trust Agreement. The Trustee has agreed to exercise the rights and powers vested in it by the Trust Agreement and use the same degree of care and skill in their exercise as would an ordinarily prudent corporate trustee under a trust agreement securing securities of a public agency. The Trustee is not required to take any action under the Trust Agreement (except with respect to giving certain notices of the occurrence of an Event of Default) until it has received a satisfactory indemnity bond for its expenses and to protect it against liability, other than liability resulting from its negligence or willful misconduct. The permissive rights of the Trustee to do things under the Trust Agreement will not be construed as a duty.

The Huntington National Bank is among the banks that serve as depositories for Commission and State monies.

#### EXHIBIT A-2

#### GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT

The following terms shall have the following meanings in this Official Statement unless the context otherwise requires:

"Act" shall mean Chapter 5537 of the Ohio Revised Code, as amended and supplemented from time to time. "Annual Budget" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Authenticating Agent" shall mean the Trustee and the Registrar for the Series of Junior Lien Bonds and any bank, trust company or other entity designated as an Authenticating Agent for such Series of Junior Lien Bonds by or in accordance with the Junior Lien Trust Agreement, each of which shall be a transfer agent registered in accordance with Section 17(c) of the Securities Exchange Act of 1934, as amended.

"<u>Authorized Officer of the Commission</u>" shall mean the Executive Director, the Chairman, the Vice Chairman, the Secretary-Treasurer, or any other officer or employee of the Commission, authorized by resolution duly adopted by the Commission to perform specific acts or duties.

"Bond Counsel" means any attorney at law or firm of attorneys of nationally recognized standing in matters pertaining to the federal tax exemption of interest on obligations issued by states and political subdivisions, duly admitted to practice law before the highest court of any state of the United States of America or the District of Columbia, and designated by the Commission.

"Bond Register" shall mean the books kept by the Registrar for the registration of the Junior Lien Bonds.

"Code" shall mean the Internal Revenue Code of 1986, as amended, and applicable temporary, proposed or permanent regulations promulgated thereunder.

"Commission" shall mean the Ohio Turnpike and Infrastructure Commission as created and established by the Act.

"Composite Annual Debt Service Requirement" shall mean in each Fiscal Year the sum of the Junior Lien Annual Debt Service Requirement and the Senior Lien Annual Debt Service Requirement.

"Consulting Engineer" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Conversion Date" shall mean, with respect to any particular Junior Lien Convertible Capital Appreciation Bond, the date specified as such in the Junior Lien Supplemental Trust Agreement providing for the issuance of such Junior Lien Convertible Capital Appreciation Bonds (which date must be prior to the maturity date for such Junior Lien Convertible Capital Appreciation Bonds) after which interest accruing on such Junior Lien Convertible Capital Appreciation Bonds shall be payable periodically, with the first such payment date being the applicable Interest Payment Date immediately succeeding such Conversion Date.

"Conversion Value" shall mean the Compounded Amount of Junior Lien Convertible Capital Appreciation Bonds on the applicable Conversion Date.

"Cost of Operation, Maintenance and Administration" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Cost of Issuance" shall mean all charges, costs and expenses of the Commission incurred in connection with the authorization, issuance, sale and delivery of the Junior Lien Bonds including, but not limited to, legal fees, accounting fees, Municipal Advisory fees, Junior Lien Credit Facility premiums, fiscal or escrow agent fees, printing fees, travel expenses, consulting fees, advertising expenses, feasibility studies and Rating Agency fees.

"Counsel for the Commission" shall mean the general counsel of the Commission or such counsel as the Commission may from time to time designate to perform any of the legal duties or functions required by the Junior Lien Trust Agreement and not otherwise provided for.

"Credit Provider" shall mean any provider of a Junior Lien Credit Facility in connection with a series of Junior Lien Bonds then Outstanding.

"Defeasance Obligation" shall mean to the extent permitted by law:

- (1) Direct obligations of or obligations which are unconditionally guaranteed by the United States of America, including obligations issued or held in book entry form on the books of the Department of the Treasury of the United States of America and including advance refunded tax-exempt bonds secured by direct obligations of the United States of America or obligations unconditionally guaranteed by the United States of America which are rated in the highest rating category by a Rating Agency currently rating the Junior Lien Bonds (without regard to gradations such as (+) or (-) or other similar notation);
- (2) Evidences of indebtedness issued by the Bank for Cooperatives, Federal Home Loan Banks, Federal Home Loan Mortgage Corporation (including participation certificates), Federal Land Banks, Federal Financing Banks, or any other agency or instrumentality of the United States of America created by an act of Congress which is substantially similar to the foregoing in its legal relationship to the United States of America; provided that the obligations of such agency or instrumentality are unconditionally guaranteed by the United States of America;
- (3) Evidences of ownership of proportionate interests in future interest and principal payments on specified obligations described in paragraph (1) above held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor on the underlying obligations described in paragraph (1) above, such as CATS, TIGRS, and STRIPS, and which underlying obligations are not available to satisfy any claim of the custodian or any person claiming through the custodian or to whom the custodian may be obligated; or
  - (4) stripped interest obligations of the Resolution Funding Corporation.

All obligations shall be non-callable prior to their stated maturity or redemption date.

"Department" shall mean the Department of Transportation of the State.

"Event of Default" shall have the meaning ascribed thereto under the caption "THE JUNIOR LIEN TRUST AGREEMENT - Events of Default and Remedies."

"Expense Fund" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Expense Reserve Account" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"<u>Fiscal Year</u>" shall mean the period commencing with January 1 of each year and ending with December 31 of that same year or such other twelve (12) consecutive month period designated by the Commission.

"General Reserve Fund" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Gross Revenues" shall mean (1) all Tolls, (2) investment income received on any amounts held in the Revenue Fund, the General Reserve Fund, the System Projects Fund, the Expense Fund and the Renewal and Replacement Fund, (3) the proceeds of any use and occupancy insurance on any portion of the System, (4) moneys received from the Department and designated by the Commission for use as System Pledged Revenues and (5) all concession revenues derived from the operation of the service plazas (other than funds contractually committed to the Service Plaza Capital Improvements Reserve and other than any allocation of the State fuel tax revenues) and all revenues derived from leases, licenses, royalties, advertising and miscellaneous sales, fees and charges together with all investment earnings thereon. "Gross Revenues" shall not include Supplemental Payments, Series Payments, Additional System Payments, revenues derived from the operation of Non-System Projects, amounts received pursuant to a Junior Lien Credit Facility, amounts received pursuant to a Qualified Swap Agreement, or the proceeds of any gifts, grants, or other payments to the Commission from the United States of America, any state or any public or private instrumentality, individual or entity that are restricted so as not to be permitted to be included in Gross Revenues.

"<u>Holder of Junior Lien Bonds</u>" or "<u>Junior Lien Bondholder</u>" or "<u>Holders</u>" or any similar term shall mean any person who shall be the owner of any Junior Lien Bond or Junior Lien Bonds as shown on the Bond Register.

"Independent Consultant" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Infrastructure Project" shall mean any project evaluated and approved by the Commission for funding in whole or in part pursuant to Section 5537.18 of the Act.

"Infrastructure Project Cost" with respect to any Infrastructure Project, shall mean (1) the costs incurred or to be incurred by the Department or the Infrastructure Project Owner in connection with or incidental to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such Infrastructure Project, including legal, administrative, engineering, planning, design studies, insurance costs and financing costs of such Infrastructure Project (except to the extent such costs are funded from the proceeds of any indebtedness of the Commission, the payment of which is included as an Infrastructure Project Cost under clause (3) below), (2) amounts, if any, required by the Junior Lien Trust Agreement to be paid into any fund or account upon the issuance of any Series of Junior Lien Bonds for the purpose of financing Infrastructure Projects, (3) payments when due (whether at the maturity of principal or the due date of interest or upon redemption) on Junior Lien Notes issued to finance Infrastructure Projects, (4) costs of equipment, supplies and reserves required by the Department or the Infrastructure Project Owner for the commencement of operation of such Infrastructure Project, (5) costs of acquisition by the Department or the Infrastructure Project Owner of real or personal property or any interest therein, including land and improvements required for relocation and relocation costs and land required for right of way, environmental mitigation or other Infrastructure Project purposes, (6) any other costs properly attributable to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such Infrastructure Project as permitted by the Act, and (7) interest on Junior Lien Bonds issued to finance Infrastructure Projects during the estimated period of construction and for a reasonable period thereafter.

"Infrastructure Project Owner" shall mean the public entity for whom an Infrastructure Project is funded, in whole or in part, by the Commission under the Act.

"Infrastructure Projects Fund" shall mean the Fund of that name created in the Junior Lien Trust Agreement.

"Interest Payment Date" shall mean for each Series of Junior Lien Bonds such dates of each Fiscal Year on which interest on Outstanding Junior Lien Bonds of such Series is payable, as set forth in the Junior Lien Supplemental Trust Agreement providing for the issuance of such Series of Junior Lien Bonds.

"Junior Lien Annual Debt Service" shall mean the regularly scheduled Junior Lien Debt Service Charges coming due on the Junior Lien Bonds Outstanding in each Fiscal Year, whether at maturity or pursuant to mandatory sinking fund redemption, provided, however, that amounts due on January 1 of any year shall be included in the Junior Lien Annual Debt Service for the preceding Fiscal Year. The assumptions set forth in paragraphs (4), (5), (6), (7) and (8) of the definition of Junior Lien Annual Debt Service Requirement shall be applied in calculating Junior Lien Annual Debt Service.

## "Junior Lien Annual Debt Service Requirement" shall mean:

- (1) at any time, the sum of the amounts required to be deposited in the applicable Fiscal Year into the:
  - (a) Junior Lien Interest Account,
  - (b) Junior Lien Principal Account, and
  - (c) Junior Lien Redemption Account,

in accordance with the Junior Lien Trust Agreement to pay Junior Lien Annual Debt Service;

- (2) in determining the amount of such required deposits, a credit shall be allowed for amounts already on deposit in any of the foregoing accounts, including, without limitation, amounts resulting from,
  - (a) interest earnings on the:
    - (i) Junior Lien Interest Account,
    - (ii) Junior Lien Principal Account,
  - (iii) Junior Lien Redemption Account, Junior Lien Debt Service Reserve Fund, and
    - (iv) Infrastructure Projects Fund;
  - (b) capitalized interest; and
  - (c) deposits of Junior Lien Series Payments, but only with respect to debt service payments for the Series of Junior Lien Bonds secured by Junior Lien Series Payments, such credit not to exceed the total amounts at any time required to be deposited into the accounts set forth in paragraph (1) above, after taking into consideration the credits provided for in paragraph (2) (a) and (b) above;
- (3) for purposes of calculating the requirements for the collection of Tolls (see "EXHIBIT A-2 GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT Tolls" herein), and the requirements for the issuance of Junior Lien Bonds (see

# "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Issuance of Bonds" herein):

- (a) the amount of interest earnings on the accounts as provided in paragraph 2(a) above for the applicable Fiscal Year shall be calculated using the lower of (i) the current interest rate in effect for such investments, or (ii) the average interest rate in effect for such investments during any 12 consecutive calendar months of the 15 consecutive calendar months immediately preceding the date of calculation; and
- (b) the amount of credit allowed in paragraph (2)(c) above for Junior Lien Series Payments for the applicable Fiscal Year for each Series of Junior Lien Bonds secured by Junior Lien Series Payments shall not exceed 100% of the Junior Lien Series Payments expected to be available for deposit into the accounts set forth in paragraph (1) above, as determined by the Supplemental Junior Lien Trust Agreement providing for the payment of such Junior Lien Series Payments, or to the extent the Series Payments are not determined by the Junior Lien Supplemental Trust Agreement, the amount that would have been available for such deposits, as estimated by an Independent Consultant, had such Junior Lien Series Payments been in effect for the immediately preceding Fiscal Year;
- (4) except for purposes of calculating the requirements for the issuance of Junior Lien Bonds, unless the interest rate for a Series of Variable Rate Junior Lien Bonds is fixed for the duration of the applicable Fiscal Year(s), in which case the actual rate shall be used, the interest rate on such Series of Variable Rate Junior Lien Bonds Outstanding shall be assumed to be a rate equal to 100% of the Revenue Bond Index, and with respect to a Series of Variable Rate Junior Lien Bonds which are Taxable Bonds, the interest rate shall be assumed to be a rate equal to 115% of the Revenue Bond Index;
- (5) for purposes of calculating the requirements for the issuance of Junior Lien Bonds, the Junior Lien Annual Debt Service Requirement shall be calculated with respect to a Series of Variable Rate Junior Lien Bonds assuming the interest rate equals the maximum rate payable thereon in accordance with the applicable Supplemental Junior Lien Trust Agreement;
- (6) for purposes of calculating the requirements for the issuance of Junior Lien Bonds, the Junior Lien Annual Debt Service Requirement with respect to a Series of Junior Lien Notes shall be calculated assuming that the interest rate equals 100% of the Revenue Bond Index and assuming substantially level debt service payments in each year over the maximum number of years (not exceeding 30 years) over which the principal of the Junior Lien Notes may be paid as determined by the Commission;
- (7) if a Series of Variable Rate Junior Lien Bonds is subject to purchase by the Commission pursuant to a mandatory or optional tender by the owner thereof, the "tender" date or dates shall be ignored and the stated maturity dates thereof shall be used for purposes of calculating the Junior Lien Annual Debt Service Requirement with respect to such Junior Lien Bonds. If, with respect to any Series of Junior Lien Bonds, the Commission enters into a Qualified Swap Agreement, providing for payments to the Commission which are associated with the payment of interest on such Junior Lien Bonds, in an amount equal to interest on a notional amount equal to the aggregate principal amount of such Junior Lien Bonds Outstanding, based upon a fixed rate, or a variable index or formula different from that used to calculate interest on such Junior Lien Bonds, and if payments under such Qualified Swap Agreement will continue until the final maturity of such Junior Lien Bonds, then the effective rate of interest to the Commission with respect to such Junior Lien Bonds taking into account (a) the actual interest rate borne by such Junior Lien Bonds, (b) payments to be received by the Commission pursuant to such agreement and (c) payment

obligations of the Commission to such counterparty pursuant to such agreement, all based upon interest on such notional amount as determined by reference to a fixed rate or variable index or formula, shall be used for purposes of calculating the Junior Lien Annual Debt Service Requirement with respect to such Junior Lien Bonds; and

(8) if two Series of Variable Rate Junior Lien Bonds, or one or more maturities within a Series, of equal par amounts, are issued simultaneously with inverse floating interest rates providing a composite fixed interest rate for such Junior Lien Bonds taken as a whole, such composite fixed rate shall be used in determining the Junior Lien Annual Debt Service Requirement with respect to such Junior Lien Bonds.

"<u>Junior Lien Bond</u>" or "<u>Junior Lien Bonds</u>" shall mean the bonds or notes issued under the provisions and within the limitations of the Junior Lien Trust Agreement, payable from the System Pledged Revenues, which Junior Lien Bonds shall be <u>pari passu</u> with all Junior Lien Bonds issued pursuant to the Junior Lien Trust Agreement.

"Junior Lien Credit Facility" means a letter of credit, line of credit, stand-by, contingent, or firm securities purchase agreement, insurance, surety arrangement, guarantee, and other arrangement that provides for direct or contingent payment of Junior Lien Debt Service or payment of obligations to Credit Providers, or for security in the event of nonpayment of Junior Lien Debt Service or such obligations, or upon certain conditions occurring under put or similar arrangements, or for otherwise supporting the credit or liquidity of Junior Lien Bonds or such obligations, and includes credit, reimbursement, marketing, remarketing, indexing, carrying and subrogation agreements, and other agreements and arrangements for payment and reimbursement of Credit Providers.

"Junior Lien Bonds" shall mean Junior Lien Bonds the interest on which shall be payable on a periodic basis.

"Junior Lien Debt Service Charges" shall mean required payments of principal of and interest (including payments of any Compounded Amount) and any redemption premium on Junior Lien Bonds, whether at maturity or upon redemption or acceleration prior to maturity.

"Junior Lien Debt Service Fund" shall mean the fund of that name created in the Junior Lien Trust Agreement.

"Junior Lien Debt Service Reserve Fund" shall mean the fund of that name created in the Junior Lien Trust Agreement.

"Junior Lien Debt Service Reserve Fund Bonds" shall mean Junior Lien Bonds designated in any Junior Lien Supplemental Trust Agreement as being secured by the Junior Lien Debt Service Reserve Fund.

"Junior Lien Debt Service Reserve Requirement" shall mean 100% of the average Junior Lien Annual Debt Service on all Outstanding Junior Lien Debt Service Reserve Fund Bonds, without credit for Junior Lien Series Payments otherwise permitted by paragraphs (2) (c) and (3) (b) of the definition of Junior Lien Annual Debt Service Requirement, calculated as of the date of original issue of each Series of Junior Lien Debt Service Reserve Fund Bonds and set forth in the Supplemental Trust Agreement authorizing each Series of Junior Lien Debt Service Reserve Fund Bonds, provided that the amount of the Junior Lien Debt Service Reserve Requirement shall not exceed the maximum amount permitted by the Code to be held without yield restrictions in a reasonably required debt service reserve fund for the Junior Lien Bonds.

"Junior Lien Interest Account" shall mean the account of that name in the Junior Lien Debt Service Fund created in the Junior Lien Trust Agreement.

"Junior Lien Master Trust Agreement" shall mean the Junior Lien Master Trust Agreement dated as of August 1, 2013 between the Trustee and the Commission.

"Junior Lien Notes" shall mean notes issued by the Commission in anticipation of the issuance of Junior Lien Bonds pursuant to the Act, or to pay costs of refunding or retiring Junior Lien Notes or Junior Lien Bonds previously issued pursuant to the Act, which Junior Lien Notes shall be on a parity with the Junior Lien Bonds.

"Junior Lien Principal Account" shall mean the account of that name in the Junior Lien Debt Service Fund created in the Junior Lien Trust Agreement.

"Junior Lien Rebate Account" shall mean the account in the Junior Lien Rebate Fund created in the Junior Lien Trust Agreement and established for a Series of Junior Lien Bonds into which the funds constituting the Rebate Amount shall be deposited as required by the Junior Lien Trust Agreement; each such account shall be termed the "[Series of Junior Lien Bonds] Rebate Account."

"Junior Lien Rebate Fund" shall mean the fund of that name created in the Junior Lien Trust Agreement.

"Junior Lien Redemption Account" shall mean the account of that name in the Junior Lien Debt Service Fund created in the Junior Lien Trust Agreement.

# "Junior Lien Series Payments" shall mean

## (1) payments which are:

- (a) payable to the Commission pursuant to any agreement between the Commission and any private, nongovernmental corporation, organization, association, individual or other entity, which payments by their terms automatically recur without approval that is discretionary to the entity providing such payments for so long as any Junior Lien Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Junior Lien Supplemental Trust Agreement are met, or
- (b) payable to the Commission pursuant to any agreement between the Commission and the United States of America, any state, county, municipality, political subdivision, public body or other governmental entity, or under any law, statute, ordinance, resolution or other authorizing instrument of such an entity, providing such payments for so long as any Junior Lien Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Junior Lien Supplemental Trust Agreement are met; and

in each case above, available and expressly pledged by the Commission for the payment of debt service on one or more, but less than all, Series of Junior Lien Bonds issued and Outstanding under the Junior Lien Trust Agreement;

- (2) Junior Lien Series Payments shall not include Junior Lien Supplemental Payments or payments pursuant to a Junior Lien Credit Facility or a Qualified Swap Agreement;
- (3) payments described in paragraph (1) above shall not constitute Junior Lien Series Payments in any Fiscal Year unless:

- (a) the source of such payments are a sales tax, gas or fuel tax, franchise fee, ad valorem tax, real estate tax, utility or other public service tax, excise tax, income tax or use tax; or
- (b) amounts derived from sources described in paragraph (1) above together with the Additional System Payments (other than those described in paragraph (3)(a) of the definition of Additional System Payments) allocable to such Series of Junior Lien Bonds pro rata on the basis of the Junior Lien Annual Debt Service Requirement for such Fiscal Year do not constitute in excess of twenty percent (20%) of such Junior Lien Annual Debt Service Requirement.

"Junior Lien Series Payments Fund" shall mean the fund of that name created in the Junior Lien Trust Agreement.

"Junior Lien Special Funds" means the Junior Lien Debt Service Fund, the Junior Lien Debt Service Reserve Fund (with respect to Junior Lien Debt Service Reserve Fund Bonds) and any other accounts or funds identified as a Junior Lien Special Fund in the Junior Lien Master Trust Agreement and any Junior Lien Supplemental Trust Agreement supplemental thereto.

# "Junior Lien Supplemental Payments" shall mean:

- (1) payments payable to the Commission pursuant to any agreement between the Commission and any private or governmental entity, or under any law, statute, ordinance, resolution or other authorizing instrument of such an entity, which payments are available and expressly pledged by the Commission for the payment of debt service with respect to one or more Series, or all Series, of Junior Lien Bonds Outstanding under the Junior Lien Trust Agreement, but which are restricted to use only in the event System Pledged Revenues or, if applicable, Junior Lien Series Payments, are insufficient to make payments required hereunder with respect to such Series of Junior Lien Bonds. Such payments must:
  - (a) by their terms automatically recur without appropriation, approval or similar action that is discretionary to the entity providing such payments for so long as any Junior Lien Bonds secured thereby are Outstanding or until such earlier time as all conditions for the release of such payments, if any, provided in the applicable Junior Lien Supplemental Trust Agreement are met; and
  - (b) be available and expressly pledged by the Commission for the payment of debt service on one or more Series of Junior Lien Bonds issued and Outstanding under the Junior Lien Trust Agreement.
- (2) Junior Lien Supplemental Payments shall not include Junior Lien Series Payments or payments pursuant to a Junior Lien Credit Facility or a Qualified Swap Agreement.

"Junior Lien Supplemental Payments Fund" shall mean the fund of that name created in the Junior Lien Trust Agreement.

"Junior Lien Supplemental Trust Agreement" shall mean one or more Junior Lien Supplemental Trust Agreements, as the same may be amended and supplemented from time to time, authorized by Supplemental Authorizing Resolutions.

"Junior Lien Trust Agreement" shall mean collectively the Junior Lien Master Trust Agreement and all Junior Lien Supplemental Trust Agreements supplemental thereto.

"<u>Maximum Composite Annual Debt Service Requirement</u>" shall mean, at any time, the highest Composite Annual Debt Service Requirement occurring in the current or any succeeding Fiscal Year.

"Net Revenues" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Non-System Projects" shall have the meaning assigned in the Senior Lien Trust Agreement.

"Option Rights" shall mean, with respect to any Series of Junior Lien Bonds, any rights to call such Junior Lien Bonds for mandatory purchase or tender pursuant to the Junior Lien Supplemental Trust Agreement authorizing the issuance of such Junior Lien Bonds.

"Outstanding" or "outstanding" when used with reference to Senior Lien Bonds, shall have the meaning assigned in the Senior Lien Trust Agreement, and when used with reference to the Junior Lien Bonds, shall mean, as of any date of determination, all Junior Lien Bonds theretofore authenticated and delivered except:

- (1) Junior Lien Bonds theretofore cancelled by the Registrar or delivered to the Registrar for cancellation;
- (2) Junior Lien Bonds which are deemed paid in accordance with Article IX of the Junior Lien Trust Agreement;
- (3) Junior Lien Bonds in lieu of which other Junior Lien Bonds have been issued pursuant to the provisions of the Junior Lien Trust Agreement relating to Junior Lien Bonds destroyed, stolen or lost, unless evidence satisfactory to the Registrar has been received that any such Junior Lien Bond is held by a bona fide purchaser; and
- (4) for purposes of any consent or other action to be taken under the Junior Lien Trust Agreement by the Holders of a specified percentage of principal amount of Junior Lien Bonds, Junior Lien Bonds held by or for the account of the Commission.

"Paying Agent" shall mean the Trustee or, with respect to any Series of Junior Lien Bonds, the paying agent designated by the Junior Lien Supplemental Trust Agreement authorizing the issuance of such Series of Junior Lien Bonds, or any successor thereto.

"Permitted Investments", unless varied by the terms of a Junior Lien Supplemental Trust Agreement as to a particular Series of Junior Lien Bonds, (i) shall mean any investments in which the Commission is authorized to invest pursuant to the laws of the State, and (ii) with respect to moneys held by the Trustee, shall mean any of the following securities:

#### (1) Defeasance Obligations;

- (2) obligations issued by any agency of the United States of America, including, without limitation, the Government National Mortgage Association, or by any instrumentality of the United States of America, including, without limitation, the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation;
- (3) general obligations of any state of the United States of America, including the State, or any political subdivision of a state; provided that such general obligations carry one of the two highest ratings of one of the Rating Agencies;
- (4) certificates of deposit or banker's acceptances, whether negotiable or nonnegotiable, issued by a bank, trust company or savings association organized under the laws of

any state of the United States of America or any national banking association (including the Trustee), which institution has a combined capital and surplus of at least \$100,000,000 in dollars of the United States of America, provided, that such certificates of deposit or banker's acceptances do not exceed in the aggregate ten percent (10%) of the combined capital, surplus and undivided profits of the institution issuing the same and provided further that such certificates of deposit or banker's acceptances shall be in the possession of the Trustee or its agents and shall be either (A) continuously and fully insured by the Federal Deposit Insurance Corporation, or (B) continuously and fully secured by such securities as are described in paragraphs (1) through (3), inclusive, above ("Pledged Securities") which shall have a market value (exclusive of accrued interest) at all times at least equal to the principal amount of such certificates of deposit or banker's acceptances, and that the institution issuing each such certificate of deposit or banker's acceptance required to be so secured shall furnish the Trustee with a covenant satisfactory to it that the aggregate market value of all such obligations securing each such certificate of deposit or banker's acceptance will at all times be an amount at least equal to the principal amount of each such certificate of deposit or banker's acceptance will at all times be an amount at least equal to the principal amount of each such certificate of deposit or banker's acceptance will at all times

- (5) any repurchase agreement with an institution described in paragraph (4) above, which repurchase agreement is fully collateralized at all times by Pledged Securities based upon the market value of such obligations;
- (6) any money market fund invested solely in obligations described in paragraphs (1), (2) or (3) above or invested in repurchase agreements fully collateralized by obligations described in paragraphs (1) or (2) above;
- (7) the investment pool created and administered by the Treasurer of the State of Ohio under Section 135.45 of the Ohio Revised Code; and
- (8) investment agreements with institutions whose long-term unsecured debt is rated in one of the two highest rating categories of one of the Rating Agencies;

provided that for purposes of paragraphs (d) and (e) above the respective Pledged Securities shall be in the possession of the Trustee or its agent and shall be free and clear of all liens or rights of any third party, and in which obligations the Trustee shall have a first perfected security interest.

"Project" shall mean any Infrastructure Project or System Project.

"Project Cost" shall mean any Infrastructure Project Cost or System Project Cost, as the case may be.

"Qualified Swap Agreement" shall mean an agreement between the Commission and a counterparty creating Qualified Swap Payments.

"Qualified Swap Payment" shall mean a payment required to be made pursuant to a Qualified Swap Agreement, such as an interest rate swap, collar, cap or other functionally similar agreement, such payment being equal to interest on a notional amount, based upon a fixed rate or a variable index or formula, provided that the long-term unsecured debt of such counterparty, or the entity that has unconditionally guaranteed such counterparty's obligations is at the time rated in one of the two highest rating categories (without regard to gradations such as pluses (+) or minuses (-) or other similar notations) by each Rating Agency then maintaining a rating on the Series of Junior Lien Bonds to which such agreement pertains; or, the payment obligations of the counterparty, or the entity that has unconditionally guaranteed such counterparty's obligations, are rated in one of the three (3) highest rating categories (without regard to gradations) and are collateralized by direct obligations of, or obligations the principal and interest on which

are guaranteed by, the United States of America, that (a) are deposited with the Commission or an agent of the Commission; and (b) maintain a market value of not less than one hundred five percent (105%) of the net market value of the payment agreement to the Commission, as such net market value may be defined and determined from time to time under the terms of the payment agreement.

"Rating Agency" shall mean Moody's Investors Service, or S&P Global Ratings, or Fitch Ratings, and their successors, or any other nationally recognized bond rating agency.

"Rebate Amount" shall mean a rebate amount required to be paid by the Commission to the United States of America pursuant to the Code.

"Record Date" shall mean, with respect to each Series of Junior Lien Bonds, a date prior to each Interest Payment Date, as established by the related Junior Lien Supplemental Trust Agreement, as of which date the Holders entitled to payment of interest on such Interest Payment Date shall be determined.

"Registrar" shall mean, with respect to any Series of Junior Lien Bonds, the Trustee or registrar designated by the Junior Lien Supplemental Trust Agreement with respect to such Series of Junior Lien Bonds, or any successor thereto.

"Renewal and Replacement Fund" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"Revenue Bond Index" shall mean the Revenue Bond Index or successor index published in The Bond Buyer, or if The Bond Buyer ceases to publish such an index, then such other publicly available and comparable index selected by the Commission and not disapproved by the Trustee after reasonable notice from the Commission.

"Revenue Fund" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"<u>Senior Lien Annual Debt Service Requirement</u>" shall mean the Annual Debt Service Requirement as defined in the Senior Lien Master Trust Agreement.

"Senior Lien Bonds" shall mean Bonds as defined in the Senior Lien Trust Agreement and any other obligations secured on a parity with the Bonds by the Senior Lien Master Trust Agreement.

"Senior Lien Master Trust Agreement" shall mean the Master Trust Agreement dated as of February 15, 1994, as amended by the First through Seventeenth Supplemental Trust Agreements thereto and as amended and restated by the Amended and Restated Master Trust Agreement (Eighteenth Supplemental Trust Agreement) dated as of April 8, 2013, as further amended from time to time.

"Senior Lien Series Payments" shall mean Series Payments as defined in the Senior Lien Master Trust Agreement.

"Senior Lien Supplemental Payments" shall mean Supplemental Payments as defined in the Senior Lien Master Trust Agreement.

"<u>Senior Lien Supplemental Trust Agreement</u>" shall mean a Supplemental Trust Agreement as defined in the Senior Lien Master Trust Agreement.

"<u>Senior Lien Trust Agreement</u>" shall mean the Senior Lien Master Trust Agreement and all Senior Lien Supplemental Trust Agreements.

"Senior Lien Trustee" shall mean the Trustee at the time serving under the Senior Lien Trust Agreement.

"Series" shall mean such Junior Lien Bonds designated as a separate Series of Junior Lien Bonds in accordance with a Junior Lien Supplemental Trust Agreement.

"Series Payments" shall mean Junior Lien Series Payments and Senior Lien Series Payments.

"State" shall mean the State of Ohio.

"Supplemental Authorizing Resolution" shall mean, as to any Series of Junior Lien Bonds, the resolution or resolutions authorizing and providing for the sale and issuance of such Series of Junior Lien Bonds.

"System" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"System Pledged Revenues" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"System Project" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"System Project Cost" with respect to any System Project, shall mean (1) the costs incurred or to be incurred by the Commission in connection with or incidental to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such System Project, including legal, administrative, engineering, planning, design studies, insurance costs and financing costs of such System Project (except to the extent such costs are funded from the proceeds of any indebtedness of the Commission, the payment of which is included as a System Project Cost under clause (3) below), (2) amounts, if any, required by the Junior Lien Trust Agreement to be paid into any fund or account upon the issuance of any Series of Junior Lien Bonds issued to finance System Projects, (3) payments when due (whether at the maturity of principal or the due date of interest or upon redemption) on Junior Lien Notes issued to finance System Projects. (4) costs of equipment, supplies and reserves required by the Commission for the commencement of operation of such System Project, (5) costs of acquisition by the Commission of real or personal property or any interest therein, including land and improvements required for relocation and relocation costs and land required for right of way, environmental mitigation or other Commission purposes, (6) any other costs properly attributable to the acquisition, design, construction, improvement, reconstruction or rehabilitation of such System Project as permitted by the Act, and (7) interest on Junior Lien Bonds issued to finance System Projects during the estimated period of construction and for a reasonable period thereafter.

"System Projects Fund" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"<u>Taxable Bonds</u>" shall mean Junior Lien Bonds issued on the basis that the interest thereon is not, in any manner, exempt from federal income taxation or excludable from gross income for federal income tax purposes.

"Tender Agent" shall mean the bank, trust company or financial institution which the Commission has designated in a Junior Lien Supplemental Trust Agreement.

"Tolls" or "tolls" shall have the meaning assigned in the Senior Lien Master Trust Agreement.

"<u>Trustee</u>" shall mean the Trustee at the time serving under the Junior Lien Trust Agreement, initially The Huntington National Bank, Columbus, Ohio, and any successor Trustee as determined under or pursuant to the Junior Lien Trust Agreement.

"<u>Variable Rate Junior Lien Bonds</u>" shall mean Junior Lien Bonds with a variable, adjustable, convertible or other similar rate which is not fixed in percentage for the entire remaining term thereof.

"<u>Verification Agent</u>" shall mean an independent public accounting firm, or other firm that employs one or more certified public accountants for the purpose, engaged by the Commission to perform the acts and carry out the duties provided for a Verification Agent in the Junior Lien Trust Agreement.

Any reference to the Commission or to its members, officers or to other public officers, boards, commissions, departments, institutions, agencies, bodies or entities shall include those which succeed to its functions, duties or responsibilities by operation of law, and also those who at the time may legally act in its place.

References to the Act, to any act or resolution of the General Assembly, or to a section, chapter, division, paragraph or other provision of the Ohio Revised Code or the Constitution of Ohio, or the laws of Ohio, shall include the Act, that act or resolution, and that section, chapter, division, paragraph or other provision and those laws as from time to time amended, modified, supplemented, revised or superseded, unless expressly stated to the contrary, provided that no such amendment, modification, supplementation, revision or supersession shall alter the obligation to pay the Junior Lien Debt Service Charges on Junior Lien Bonds Outstanding, or on Junior Lien Bonds in anticipation of which Junior Lien Notes are Outstanding, or to pay any obligations of the Commission to Credit Providers relating to any Series of Junior Lien Bonds Outstanding, at the time of any such action, in the amount and manner, at the times and from the sources provided in the Junior Lien Trust Agreement, except as otherwise therein permitted.

## SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT

The following, in addition to information contained under the captions "DESCRIPTION OF THE 2018 BONDS" and "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS" with respect to the 2018 Junior Lien Bonds, summarizes certain provisions of the Junior Lien Trust Agreement, to which document in its entirety reference is made for the detailed provisions thereof.

So long as the 2018 Junior Lien Bonds are immobilized in a Book Entry System with DTC or another depository, that depository or its nominee is for all purposes of the Junior Lien Trust Agreement considered by the Commission and the Trustee to be the Holder of the 2018 Junior Lien Bonds, and Beneficial Owners will not be considered Holders and will have no rights as Holders under the Junior Lien Trust Agreement. See "EXHIBIT E - BOOK ENTRY ONLY SYSTEM."

## Security

The Junior Lien Trust Agreement provides for a pledge of the System Pledged Revenues, together with all moneys and investments, from whatever source, held in the Junior Lien Debt Service Fund, by the Commission to the Trustee for the benefit of the Holders and the Credit Providers. See "SECURITY FOR AND SOURCES OF PAYMENT OF THE 2018 BONDS." The pledge of and lien on the System Pledged Revenues is on a basis that is junior and subordinate to the Senior Lien Bonds and by a first pledge and lien on the Junior Lien Special Funds.

# Funds and Accounts

The funds and accounts created and established pursuant to the Senior Lien Master Trust Agreement are incorporated by reference into the Junior Lien Trust Agreement. In addition to the funds and accounts created and established pursuant to the Senior Lien Master Trust Agreement, the Junior Lien Trust Agreement establishes the following funds and accounts: the Junior Lien Debt Service Fund, and within such fund the Junior Lien Interest Account, the Junior Lien Principal Account and the Junior Lien

Redemption Account; the Junior Lien Debt Service Reserve Fund, and, at the request of the Commission, within such fund, a separate Junior Lien Debt Service Reserve Account for any particular Series of Junior Lien Debt Service Reserve Fund Bonds, the Junior Lien Series Payments Fund, and within such fund, to the extent necessary to segregate and separately account for Junior Lien Series Payments, one or more separate accounts; the Junior Lien Supplemental Payments Fund, and within such fund, to the extent necessary to segregate and separately account for Junior Lien Supplemental Payments, one or more separate accounts; the Infrastructure Projects Fund, and within such fund to the extent necessary, one or more separate accounts, and the Junior Lien Rebate Fund, and within such fund a separate Junior Lien Rebate Account for each Series of Junior Lien Bonds, to the extent required by applicable law.

The funds and accounts created by the Junior Lien Trust Agreement constitute trust funds for the purposes provided in the Junior Lien Trust Agreement and are for purposes of accounting kept separate and distinct from all other funds of the Commission and are to be used only for the purposes and in the manner provided in the Junior Lien Trust Agreement.

The Junior Lien Debt Service Fund and the accounts therein (the Junior Lien Interest Account, the Junior Lien Principal Account and the Junior Lien Redemption Account) and the Junior Lien Debt Service Reserve Fund are held by the Trustee. The Infrastructure Projects Fund and the Junior Lien Rebate Fund are required to be established and maintained by the Commission in a bank or trust company which is eligible under the laws of the State to receive deposits of public funds. The Junior Lien Supplemental Payments Fund and the Junior Lien Series Payments Fund and the accounts therein are required to be established and held in compliance with the document or agreement providing for such Junior Lien Supplemental Payments or Junior Lien Series Payments, as the case may be.

Deposits: The Commission covenants in the Senior Lien Master Trust Agreement that Gross Revenues will be collected by the Commission, or its agents, and deposited into the Gross Revenue Account in the Revenue Fund. All Junior Lien Supplemental Payments must be deposited by the Commission into the Junior Lien Supplemental Payments Fund (or if established, the applicable account therein) immediately upon receipt. All Junior Lien Series Payments must be deposited by the Commission into the Junior Lien Series Payments Fund (or if established, the applicable account therein) immediately upon receipt thereof.

Revenue Fund: The provisions of Section 4.08 of the Senior Lien Master Trust Agreement are incorporated in the Junior Lien Trust Agreement as though set forth in full therein. Those incorporated provisions are referred to in the Junior Lien Trust Agreement as the "Section 4.08 Incorporated Provisions". For application of amounts on deposit in the Revenue Fund under the Junior Lien Trust Agreement, see "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Application of Moneys in Revenue Fund" herein.

Junior Lien Debt Service Fund: Amounts on deposit in the Junior Lien Principal Account, Junior Lien Redemption Account and Junior Lien Interest Account will be transferred by the Trustee to the Paying Agent at the times as are necessary to make payments of principal and interest on the Junior Lien Bonds or Qualified Swap Payments, as the case may be.

Amounts on deposit in the Junior Lien Redemption Account will be applied solely to the purchase or redemption of Junior Lien Bonds. Moneys in the Junior Lien Redemption Account will first be applied to the payment of the mandatory sinking fund installments coming due on the next semiannual and annual redemption dates, if any, of Junior Lien Bonds subject to mandatory sinking fund redemption. The Commission may at any time purchase any of such Junior Lien Bonds at prices not greater than the applicable redemption price of such Junior Lien Bonds as of such date. If the Junior Lien Bonds are not then redeemable prior to maturity, the Commission may purchase such Junior Lien Bonds at prices not greater than the redemption price of such Junior Lien Bonds on the next ensuing redemption date. The Trustee is required to use all moneys in the Junior Lien Redemption Account for the redemption prior to

maturity of such Junior Lien Bonds in such manner and at such times as shall be determined by a Junior Lien Supplemental Trust Agreement; provided, that the Commission will not be obligated to redeem, in advance of the mandatory sinking fund installment next coming due, such Junior Lien Bonds prior to maturity unless and until there are sufficient moneys on deposit in the Junior Lien Redemption Account to provide for the redemption of at least Twenty-Five Thousand Dollars (\$25,000) principal amount of Junior Lien Bonds at any one time. If by the application of moneys in the Junior Lien Redemption Account, the Commission purchases or calls for redemption in any year Bonds in excess of the installment requirement for such year, such excess of Junior Lien Bonds so purchased or redeemed will be credited in such manner and at such times over the remaining installment payment dates as the Commission shall determine.

Junior Lien Debt Service Reserve Fund: Moneys in the Junior Lien Debt Service Reserve Fund will be used only for deposit into the Junior Lien Interest Account, the Junior Lien Principal Account or the Junior Lien Redemption Account when the moneys in the Junior Lien Debt Service Fund or any other fund or account held pursuant to the Junior Lien Trust Agreement and available for such purpose are insufficient therefor. In the event that any moneys are withdrawn from the Junior Lien Debt Service Reserve Fund for deposit into the Junior Lien Interest Account, the Junior Lien Principal Account or the Junior Lien Redemption Account, such withdrawals are required to be subsequently restored from the first System Pledged Revenues (and, to the extent available therefor, Junior Lien Series Payments) available to the Commission after all required payments have been made pursuant to subsections (a) through (d) of Section 4.08 of the Senior Lien Master Trust Agreement into the Interest Account, the Principal Account and the Bond Redemption Account, including any deficiencies for prior payments, unless restored by provision or reinstatement of a Junior Lien Credit Facility.

Any moneys in the Junior Lien Debt Service Reserve Fund in excess of the Junior Lien Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election, will be transferred by the Trustee to the Junior Lien Debt Service Fund and used as provided in the Junior Lien Trust Agreement.

The Commission may elect, by resolution adopted prior to the issuance of any Series of Junior Lien Debt Service Reserve Fund Bonds, to fully fund the Junior Lien Debt Service Reserve Fund over a period specified in such resolution not to exceed the period during which capitalized debt service in an amount sufficient to pay all principal and interest due on such Series of Junior Lien Debt Service Reserve Fund Bonds has been deposited with the Trustee, during which period the Commission will be required to make substantially equal monthly installments in order that the amounts on deposit therein and available amounts under any Junior Lien Credit Facility at the end of such period will equal the Junior Lien Debt Service Reserve Requirement.

In lieu of the amounts required to be on deposit in the Junior Lien Debt Service Reserve Fund, the Commission may at any time cause to be deposited into the Junior Lien Debt Service Reserve Fund a Junior Lien Credit Facility for the benefit of the Junior Lien bondholders in an amount, which together with other amounts on deposit therein equals the Junior Lien Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election, which Junior Lien Credit Facility shall be payable or available to be drawn upon, as the case may be (upon the giving of notice as required thereunder) on any interest or principal payment date on which a deficiency exists in the Junior Lien Interest Account, the Junior Lien Principal Account or the Junior Lien Redemption Account which cannot be cured by moneys in any other fund or account held pursuant to the Junior Lien Trust Agreement and available for such purpose. If a disbursement is made under the Junior Lien Credit Facility, the Commission will be obligated either to reinstate the amount available under such Junior Lien Credit Facility or to deposit into the Junior Lien Debt Service Reserve Fund from the System Pledged Revenues (and, to the extent available therefor, Junior Lien Series Payments), funds in the amount sufficient

to cause the amount on deposit in the Junior Lien Debt Service Reserve Fund to equal the Junior Lien Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election, or a combination of such alternatives.

The provider of any Junior Lien Credit Facility must be rated at the time of issuance of such Junior Lien Credit Facility in one of the two highest rating categories (without regard to any gradation within a rating category) by at least two Rating Agencies. The Commission will not be required to replace the credit facility with cash or another Junior Lien Credit Facility in the event that the Junior Lien Credit Facility provider's credit rating is downgraded after the facility has been delivered to the Trustee.

See "SECURITY AND SOURCE OF PAYMENT OF THE 2018 BONDS — Debt Service Reserve Requirements – Junior Lien Bond Reserve."

Renewal and Replacement Fund: The moneys in the Renewal and Replacement Fund will be used, when necessary, after any required payments pursuant to Section 4.10 of the Senior Lien Master Trust Agreement for deposit into the Junior Lien Interest Account, Junior Lien Principal Account or Junior Lien Redemption Account when the moneys in the Junior Lien Debt Service Fund or Junior Lien Debt Service Reserve Fund or any other fund or account held pursuant to the Junior Lien Trust Agreement and available for such purpose are insufficient therefor.

System Projects Fund: The moneys in the System Projects Fund will be used, when necessary, after any required payments pursuant to Section 4.11 of the Senior Lien Master Trust Agreement for deposit into the Junior Lien Interest Account, Junior Lien Principal Account or Junior Lien Redemption Account when the moneys in the Junior Lien Debt Service Fund or Junior Lien Debt Service Reserve Fund or any other fund or account held pursuant to the Junior Lien Trust Agreement and available for such purpose are insufficient therefor.

Junior Lien Series Payments Fund: Amounts on deposit in the respective accounts within the Junior Lien Series Payments Fund shall be applied on or before the tenth (10th) day of each month, beginning on the tenth (10th) day of the first calendar month following the first date on which Junior Lien Bonds secured by such amounts thereby are issued and Outstanding under the Junior Lien Trust Agreement, to make the deposits to the Junior Lien Interest Account, Junior Lien Principal Account, Junior Lien Redemption Account and Junior Lien Debt Service Reserve Fund with respect to the respective Series of Junior Lien Bonds secured thereby to the extent and in the manner provided or permitted in the governing document providing for the payment of such Junior Lien Series Payments, or, if the governing documents shall not so provide, then as directed by the Commission. Funds derived from Junior Lien Series Payments will secure and only be used to make payments with respect to the particular Series of Junior Lien Bonds to which such payments are pledged and such amounts are not available to be used to make payments with respect to any other Series of Junior Lien Bonds.

Junior Lien Supplemental Payments Fund: Whenever on the tenth (10th) day of any month the System Pledged Revenues and Junior Lien Series Payments are not sufficient to make the required deposits into the Junior Lien Interest Account, Junior Lien Principal Account, Junior Lien Redemption Account or Junior Lien Debt Service Reserve Fund, the Trustee must notify, in the manner prescribed by the governing document providing for the payment of Junior Lien Supplemental Payments, the person holding the Junior Lien Supplemental Payments to pay the portion of such deficiency allocable to the Junior Lien Bonds secured by the Junior Lien Supplemental Payments, and upon receipt of Junior Lien Supplemental Payments the Commission or the Trustee will deposit them into the accounts in the Junior Lien Debt Service Fund in the order prescribed above for the application of System Pledged Revenues. Funds derived from Junior Lien Supplemental Payments will secure and only be used to make payments with respect to the Series of Junior Lien Bonds for which such Junior Lien Supplemental Payments are available in accordance with the terms

of the governing document providing for such Junior Lien Supplemental Payments and such amount will not be available or used to make payments with respect to other Series of Junior Lien Bonds.

It is expressly declared that it is the intention of the Junior Lien Trust Agreement that, to the extent thereof, all requirements for deposits in the accounts in the Junior Lien Debt Service Fund will be met first by the System Pledged Revenues and Junior Lien Series Payments and that Junior Lien Supplemental Payments will be used only at the times and in the amounts required to meet any deficiencies in such accounts in the Junior Lien Debt Service Fund and in accordance with any restrictions provided in the governing document providing for such Junior Lien Supplemental Payments. Junior Lien Supplemental Payments will not be used by the Commission for other purposes unless otherwise authorized or permitted by the governing document providing for such Junior Lien Supplemental Payments.

Infrastructure Projects Fund: The moneys in the Infrastructure Projects Fund will be used for the purpose of paying Infrastructure Project Costs in accordance with a Junior Lien Supplemental Trust Agreement and the Act.

Rebate Fund: The Commission will deposit or cause to be deposited into the appropriate Junior Lien Rebate Account in the Junior Lien Rebate Fund, from investment earnings or moneys deposited in the other funds and accounts created under the Junior Lien Trust Agreement, or from any other legally available funds of the Commission, an amount equal to the Rebate Amount. The moneys deposited in the Junior Lien Rebate Fund shall be used only for the payment of the Rebate Amount to the United States of America.

To the extent moneys on deposit in the appropriate Junior Lien Rebate Account in the Junior Lien Rebate Fund are insufficient for the purpose of paying the Rebate Amount, and other funds of the Commission are not available to pay the Rebate Amount, then the Rebate Amount is required to be paid first from System Pledged Revenues and, to the extent the System Pledged Revenues are insufficient to pay the Rebate Amount, then from moneys on deposit in any of the funds and accounts created under the Junior Lien Trust Agreement.

After making the required determination or calculation of the Rebate Amount or causing the same to be made, and upon verification of such determination or calculation by the Commission, if required, the Commission may, to the extent permitted by the Code, withdraw funds which may be on deposit in the appropriate Junior Lien Rebate Account in an amount not to exceed an amount which would maintain a balance in such account sufficient to pay the then-current cumulative Rebate Amount, and use such funds for any other purpose authorized by law.

#### Investment and Valuation of Funds

The Junior Lien Debt Service Fund, the Junior Lien Debt Service Reserve Fund, the Junior Lien Series Payments Fund, including all accounts within such funds, and all other special funds created and established by the Junior Lien Trust Agreement, constitute trust funds under the Junior Lien Trust Agreement. All moneys held in such funds and accounts will be invested at the direction of the Commission in Permitted Investments. Moneys on deposit in the Junior Lien Debt Service Reserve Fund may be invested in any Permitted Investments. Moneys on deposit in the Junior Lien Interest Account, Junior Lien Principal Account and Junior Lien Redemption Account of the Junior Lien Debt Service Fund shall only be invested in Permitted Investments described in paragraphs (1), (2), (6) and (7) of such definition (See "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT"). Permitted Investments must mature not later than the earliest of (i) the final maturity of the Junior Lien Bonds, (ii) the time such moneys are reasonably required for the purposes set forth for such fund or account in accordance with the Junior Lien Trust Agreement, (iii) the time permitted by the Act and applicable law, and (iv) with respect to Permitted Investments described in paragraphs (1) through (4) of

such definition held in the Junior Lien Debt Service Reserve Fund, ten (10) years from the date of investment.

Unless otherwise provided by a Junior Lien Supplemental Trust Agreement, all income and earnings received from the investment and reinvestment of moneys on deposit in the Junior Lien Debt Service Reserve Fund will be transferred as soon as practicable to the Junior Lien Interest Account, the Junior Lien Principal Account or the Junior Lien Redemption Account for use for the next payment due from such accounts. All income and earnings received from the investment and reinvestment of moneys on deposit in the Junior Lien Interest Account, the Junior Lien Principal Account and the Junior Lien Redemption Account will remain in such accounts for use for the next payment due from such account. All income and earnings received by the investment and reinvestment of moneys on deposit in any construction fund created under the Junior Lien Trust Agreement will remain in such fund for use in the expenditures required from such fund. All income and earnings on the Junior Lien Supplemental Payments Fund and the Junior Lien Series Payments Fund will be applied in the manner provided in the document governing such payments. All income and earnings received from the investment of moneys on deposit in the Infrastructure Projects Fund and the Junior Lien Rebate Fund shall be retained in such fund, provided that the Commission may in its sole discretion transfer all or any portion of the earnings and investment income on the Infrastructure Fund to the Junior Lien Interest Account. All income and earnings received from the investment and reinvestment of moneys on deposit in any other fund created by the Junior Lien Trust Agreement will be transferred as soon as practicable to the Revenue Fund. Earnings in all funds and accounts will be available for payments of the Rebate Amount.

In computing the amount in any fund or account created under the Junior Lien Trust Agreement, Permitted Investments will be valued at the "cost" thereof, exclusive of accrued interest. A valuation of amounts on deposit in the Junior Lien Debt Service Reserve Fund must be conducted by the Trustee on March 1 of each Fiscal Year to determine if the amount on deposit therein is equal to the Junior Lien Debt Service Reserve Requirement or, if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election. If a deficiency exists, the Commission must make up such deficiency from a deposit of System Pledged Revenues. If a surplus exists, such surplus shall be transferred into the Junior Lien Debt Service Fund.

#### Application of Moneys in Revenue Fund

After all the deposits are made in subsections (a) through (d) of the Section 4.08 Incorporated Provisions, on or before the tenth (10th) day of each month, beginning with the first calendar month following the first date on which any Junior Lien Bonds are issued, amounts remaining on deposit in the Revenue Fund as of the close of business on the last day of the preceding month will be disposed of in the following manner and priority and in an amount sufficient to make the required payment and deposit and all past due payments and deposits within such priority:

- (a) (i) for deposit into the Junior Lien Interest Account such an amount equal to the sum of (1) one-sixth (1/6) of the interest becoming due on the next semiannual interest payment date with respect to Junior Lien Bonds that bear interest payable semiannually, (2) the amount of interest next becoming due or maturing on the Junior Lien Bonds that bear interest payable monthly, (3) the amount of interest accruing in such month on Junior Lien Bonds that bear interest payable on other than a monthly or semiannual basis (other than Junior Lien CABs and, prior to and including the applicable Conversion Date, Junior Lien Convertible Capital Appreciation Bonds), and (4) the amount of any Qualified Swap Payment payable by the Commission accruing in such month;
  - (ii) for deposit in the Junior Lien Principal Account, an amount equal to the sum of (1) one-sixth (1/6) of the principal amount of the Junior Lien Bonds which mature

semiannually and will mature and become due on the next semiannual maturity date in the following twelve (12) calendar month period, (2) one-twelfth (1/12) of the principal amount of the Junior Lien Bonds (other than Junior Lien CABs) which mature annually and which will mature and become due on the next annual maturity date in such Fiscal Year, and (3) one-twelfth (1/12) of the Compounded Amount of Junior Lien CABs that will become due on the next annual maturity date in such following twelve (12) calendar month period; and

(iii) for deposit into the Junior Lien Redemption Account, an amount sufficient to pay one-sixth (1/6) of the principal amount of Junior Lien Bonds subject to semi-annual mandatory sinking fund redemption on the next semiannual redemption date in the following twelve (12) calendar month period and one-twelfth (1/12) of the principal amount of Junior Lien Bonds subject to annual mandatory sinking fund redemption on the next annual redemption date in such following twelve (12) calendar month period;

In making such deposits, the Trustee will reduce the amounts of the required deposits by any investment earnings which have accrued in such accounts during the preceding period;

- (b) for deposit into the Junior Lien Debt Service Reserve Fund in an amount which, together with the funds on deposit therein and the available amounts under any Junior Lien Credit Facility as provided below, will be sufficient to make the amounts on deposit therein equal to the Junior Lien Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election;
- (c) thereafter, the balance of any amounts remaining in the Revenue Fund will be deposited as provided in subsections (f) through (i) of the Section 4.08 Incorporated Provisions; provided, that amounts transferred to the General Reserve Fund pursuant to subsection (i) of the Section 4.08 Incorporated Provisions may be applied by the Commission, in such manner, in such priority, and at such times as the Commission determines, in addition to the purposes set forth in that subsection (i) of the Section 4.08 Incorporated Provisions, (1) to the purchase or redemption of Junior Lien Bonds (at redemption prices not exceeding the redemption prices of such Junior Lien Bonds on the next ensuing redemption date), (2) to reimburse the provider of any Junior Lien Supplemental Payments in accordance with the document providing for such Junior Lien Supplemental Payments, or (3) payments by the Commission with respect to any Junior Lien Credit Facility; provided, however, that none of such amounts may be used for the purposes provided in this subsection unless all payments required in subsections (a) to (h) of the Section 4.08 Incorporated Provisions, including any deficiencies for prior payments, have been made in full to the date of such use, and the Commission has fully complied with all covenants and agreements contained in the Senior Lien Trust Agreement and the Junior Lien Trust Agreement.

# Calculation of System Pledged Revenues

The provision in the Senior Lien Master Trust Agreement with respect to the calculation of System Pledged Revenues is incorporated in the Junior Lien Master Trust Agreement as if set forth in full therein.

# Issuance of Bonds

The Commission may issue Bonds for the purpose of:

(a) financing System Projects, either alone or jointly with other persons, public bodies or private bodies;

- (b) financing Infrastructure Projects, either alone or jointly with other persons, public bodies or private bodies;
- (c) refunding Outstanding Junior Lien Bonds or Junior Lien Notes issued pursuant to the Junior Lien Trust Agreement;
- (d) completing any System Project for which Junior Lien Bonds have been previously issued; or
  - (e) refunding Senior Lien Bonds or subordinated indebtedness.

Each Series of Junior Lien Bonds (including the 2018 Junior Lien Bonds) must be authorized by a Supplemental Authorizing Resolution adopted by the Commission and must be issued pursuant to a Junior Lien Supplemental Trust Agreement.

No Junior Lien Bonds shall be issued unless all conditions described in paragraphs (a) through (d) below are met.

- (a) a certificate of the Chief Financial Officer of the Commission is delivered to the Trustee certifying that the Commission is current in all deposits into the various funds and accounts and all payments theretofore required to have been deposited or made by it under the provisions of the Senior Lien Trust Agreement and the Junior Lien Trust Agreement; and the Commission must be in compliance with the covenants and provisions of the Senior Lien Trust Agreement and the Junior Lien Trust Agreement, unless upon the issuance of such Junior Lien Bonds the Commission will be in compliance with all such covenants; and
  - (b) if the Junior Lien Bonds are to be issued to finance Projects:
  - a certificate of the Chief Financial Officer of the Commission is delivered (i) to the Trustee certifying that the amount of the System Pledged Revenues and any Supplemental Payments during the immediately preceding Fiscal Year or any twelve (12) consecutive calendar months selected by the Commission out of the fifteen (15) consecutive calendar months immediately preceding the issuance of the proposed Junior Lien Bonds, adjusted as hereinafter provided, will have been at least one hundred fifty percent (150%) of the Maximum Composite Annual Debt Service Requirement on the Junior Lien Bonds then Outstanding, the Senior Lien Bonds then Outstanding, the Junior Lien Bonds then proposed to be issued and any Senior Lien Bonds then proposed to be issued. The Commission may adjust the System Pledged Revenues calculated pursuant to this paragraph if, prior to the issuance of the proposed Junior Lien Bonds, the Commission has increased the Tolls for transit over the toll facilities of the System. If the Commission elects to adjust Systems Pledged Revenues, the Net Revenues for the immediately preceding Fiscal Year or the twelve (12) consecutive calendar months will be adjusted, based upon a certificate of an Independent Consultant, to reflect the Net Revenues that would have been derived from the System during such period if such increased Tolls of the System had been in effect during all of such period; or
  - (ii) a certificate of an Independent Consultant is delivered to the Trustee certifying that, based upon reasonable assumptions, System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Annual Debt Service Requirement for each such Fiscal Year for all Series of Senior Lien Bonds and Junior Lien Bonds to which such Supplemental Payments are pledged) are projected to be at least 150% of the Composite Annual Debt Service Requirement for the current Fiscal Year

and each successive Fiscal Year during which the Junior Lien Bonds then Outstanding, the Senior Lien Bonds then Outstanding, the Junior Lien Bonds then proposed to be issued and any Senior Lien Bonds then proposed to be issued will be Outstanding; and

- (c) There shall be delivered to the Trustee certain documents, opinions and certificates, including evidence of authorization by the Commission of the issuance and delivery of the Junior Lien Bonds, and a certification of an Authorized Officer of the Commission that it is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Junior Lien Bonds or the Junior Lien Trust Agreement; and
- (d) Unless the Junior Lien Supplemental Trust Agreement for any Series of Junior Lien Bonds provides for the funding of the Junior Lien Debt Service Reserve Fund in installments, the Junior Lien Debt Service Reserve Fund must be fully funded immediately upon the issuance of such Series of Junior Lien Bonds.

The Commission need not comply with the provisions described in clause (b) of the preceding paragraph if and to the extent the Junior Lien Bonds to be issued qualify as either "Refunding Bonds" or "Completion Bonds," as described below.

- (a) "Refunding Junior Lien Bonds," that is, Junior Lien Bonds delivered in lieu of, or in substitution for, or to provide for the payment of, Junior Lien Bonds or Junior Lien Notes Outstanding under the Junior Lien Trust Agreement, if the Commission causes to be delivered to the Trustee a certificate of a Verification Agent setting forth:
  - (1) the Junior Lien Annual Debt Service Requirements for the then current and each future Fiscal Year to and including the latest maturity of any Junior Lien Bonds of any Series then Outstanding:
    - (A) with respect to the Junior Lien Bonds of all Series Outstanding immediately prior to the date of authentication and delivery of such Refunding Junior Lien Bonds, and
    - (B) with respect to the Junior Lien Bonds of all Series to be Outstanding immediately thereafter, and
  - (2) that the Junior Lien Annual Debt Service Requirement set forth for each Fiscal Year pursuant to (1)(B) above does not exceed by more than \$50,000 the Junior Lien Annual Debt Service Requirement set forth for each such Fiscal Year pursuant to (1)(A) above, or
- (b) "Completion Bonds," that is, Junior Lien Bonds delivered to provide for the payment of the cost of a System Project subsequent to the original issuance of Senior Lien Bonds or Junior Lien Bonds for such System Project, provided that the conditions described in subparagraphs (1) and (2) below are met.
  - (1) The net amount of such Completion Bonds available for deposit into the System Projects Fund will be equal to or less than (A) ten percent (10%) of the original estimated cost of such System Project at the time of the original issuance of such Senior Lien Bonds or Junior Lien Bonds, or (B) such a greater amount, provided that an Independent Consultant certifies that such greater amount is necessary for completion of the System Project and that issuance of such Completion Bonds in such amount will not reduce projected Net Revenues after the payment of the Junior Lien Annual Debt Service

Requirement on the on the Junior Lien Bonds for the first full Fiscal Year following completion of the System Project and each future Fiscal Year to and including the latest maturity of any on the Junior Lien Bonds Outstanding assuming the issuance of the Completion Bonds as compared with the projected Net Revenues after the payment of the Junior Lien Annual Debt Service Requirement for the same periods assuming that the Completion Bonds were not issued; and

- (2) The Commission causes to be delivered to the Trustee a certificate of the Consulting Engineer stating:
  - (A) the cost of completing such System Project, and
  - (B) that other funds available or reasonably expected to become available for such cost, together with the proceeds of such Completion Bonds, will be sufficient to pay such cost. The authentication of Junior Lien Bonds will be conclusive evidence that the conditions stated above have been met for purposes of the validity and binding effect of those Junior Lien Bonds and the right of the Holders thereof to share in the System Pledged Revenues, as provided in the Junior Lien Trust Agreement.

# Tolls

The Commission will at all times charge and collect or cause to be charged and collected Tolls for the use of the System at rates not less than those set forth in the schedule of such Tolls then in effect and as shall be required in order to satisfy the requirements described in subparagraphs (a), (b) and (c) below.

- (a) Gross Revenues in each Fiscal Year will equal at least one hundred percent (100%) of the aggregate of:
  - (ii) the Cost of Operation, Maintenance and Administration for such Fiscal Year as provided in the Annual Budget; and
  - (iii) any amounts required to be deposited into the Expense Reserve Account in such Fiscal Year.
- (b) System Pledged Revenues in each Fiscal Year will equal at least one hundred percent (100%) of the aggregate in such Fiscal Year of (i) the Composite Annual Debt Service Requirement, (2) required deposits to the Junior Lien Debt Service Reserve Fund, (3) deposits and payments required pursuant to the Senior Lien Master Trust Agreement, (4) deposits and payments required pursuant to any resolution, indenture or other authorizing instrument under which any obligations of the Commission secured by a pledge of the System Pledged Revenues junior and subordinate to Junior Lien Bonds are issued, and (5) the Renewal and Replacement Requirement.
- (c) System Pledged Revenues (plus Supplemental Payments, if any, in an amount not to exceed the aggregate Composite Annual Debt Service Requirement for such Fiscal Year for all Series of Senior Lien Bonds and Junior Lien Bonds to which such Supplemental Payments are pledged in each Fiscal Year) shall equal at least one hundred twenty percent (120%) of the Composite Annual Debt Service Requirement in such Fiscal Year.

The collection of System Pledged Revenues in any Fiscal Year in an amount in excess of the amounts required as described above for any Fiscal Year will not be taken into account as a credit against the requirements described above for any subsequent Fiscal Year.

On or before July 31 in each year, the Commission is required to complete a review of the financial condition of the Commission for the purpose of estimating whether the Gross Revenues for such Fiscal Year will be sufficient to provide, together with Series Payments, Additional System Payments and Supplemental Payments, the amounts described in clauses (a), (b) and (c) above and shall by resolution make a determination with respect thereto. Copies of such resolution properly certified by the Commission, together with a certificate of an Authorized Officer of the Commission setting forth a reasonably detailed statement of the actual and estimated Gross Revenues, Supplemental Payments, Additional System Payments, Series Payments and other pertinent information for the year upon which such determination was made, will be delivered to the Trustee and made available upon request to any interested party. If the Commission determines that such amounts may not be sufficient to comply with clauses (a), (b) and (c) above for the then-current Fiscal Year, it will forthwith cause the Independent Consultant to make a study for the purpose of recommending a schedule of Tolls which, in the opinion of the Independent Consultant, will cause amounts to be received in the following Fiscal Year equal to the amounts necessary to satisfy the requirements of clauses (a), (b) and (c) above for such Fiscal Year. No later than February 1 of the following year, the Commission will establish and place in effect a schedule of Tolls which will cause amounts to be received in such following and each subsequent Fiscal Year to be sufficient to restore the amount of any deficiency at the earliest practicable time. If, in any Fiscal Year, the amounts received are not sufficient to satisfy the requirement of clauses (a), (b) and (c), the Commission will (i) cause the Independent Consultant to make a study for the purpose stated in the immediately preceding sentence unless it has already obtained a revenue study and recommendation in compliance with such sentence, and (ii) as promptly as practicable and in any case no later than the next July 1, establish and place in effect a schedule of Tolls as recommended by the Independent Consultant.

Except as specifically permitted in the Junior Lien Trust Agreement, the Commission will not effect any reduction in any rate of Toll fixed for transit over the System or eliminate any Toll charged for use of the System unless it first provides thirty (30) days' notice to the Trustee and then only if, accompanying said notice, all of the documents described in subparagraphs (a), (b) and (c) below are filed with the Trustee:

- (d) A certificate of an Independent Consultant setting forth estimates of the Gross Revenues, System Pledged Revenues, Supplemental Payments and Series Payments for the then current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding, which may take into consideration, among other things, the additional use of the System projected to result from such reduction in the rate of Toll, and a favorable recommendation from the Independent Consultant that such proposed reduction be placed in effect.
- (e) A certificate of the Commission setting forth for the Fiscal Years set forth in the certificate of the Independent Consultant and based on the same assumptions as used in the certificate described in paragraph (a) above, estimates of the Cost of Operation, Maintenance and Administration and deposits to the Expense Reserve Account for the System prepared in accordance with the Junior Lien Trust Agreement.
  - (f) a certificate of an Authorized Officer of the Commission:
  - (i) setting forth the Composite Annual Debt Service Requirement for the then current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding;
  - (ii) certifying that the estimated System Pledged Revenues and Supplemental Payments (as derived from the certificates pursuant to paragraphs (a) and (b) above) for the then-current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding are not less than 1.50 times the Composite Annual Debt Service Requirement for such respective current or future Fiscal Year;

- (iii) certifying that the Commission is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Senior Lien Master Trust Agreement or the Junior Lien Trust Agreement; and
- (iv) certifying that immediately prior to such proposed reduction the amount on deposit in the Junior Lien Debt Service Reserve Fund was equal to the Junior Lien Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election.

Except as specifically provided in the Junior Lien Trust Agreement, the Commission will not construct any System Project for which a Toll is not charged unless there is filed with the Trustee:

- (a) a certificate of an Independent Consultant setting forth estimates of the Gross Revenues, System Pledged Revenues, Supplemental Payments and Series Payments for the then current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding;
- (b) a certificate of the Commission setting forth for the Fiscal Years set forth in the certificate of the Independent Consultant and based on the same assumptions as used in the certificate required by paragraph (a) above, estimates of the Cost of Operation, Maintenance and Administration and deposits to the Expense Reserve Account prepared in accordance with the Junior Lien Trust Agreement;
  - (c) a certificate of an Authorized Officer of the Commission:
  - (i) setting forth the Composite Annual Debt Service Requirement for the then current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding;
  - (ii) certifying that the estimated System Pledged Revenues and Supplemental Payments (as derived from the certificates pursuant to paragraph (a) above) for the then current and each future Fiscal Year during which any Junior Lien Bonds are scheduled to be Outstanding are not less than 1.20 times the Composite Annual Debt Service Requirement for such respective current or future Fiscal Year;
  - (iii) certifying that the Commission is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Senior Lien Master Trust Agreement or the Junior Lien Trust Agreement; and
  - (iv) certifying that immediately prior to such proposed reduction the amount on deposit in the Junior Lien Debt Service Reserve Fund was equal to the Junior Lien Debt Service Reserve Requirement or if the Commission has exercised its option to fund the Junior Lien Debt Service Reserve Fund in installments, the amount then required to be on deposit in the Junior Lien Debt Service Reserve Fund in accordance with such election.

With respect to each System Project, The Commission is required to classify Tolls for the use of that System Project in a reasonable way to cover all traffic, so that the those Tolls will be uniform in application to all traffic on that System Project falling within any reasonable class regardless of the status or character of any person, firm or corporation participating in the traffic, except by reason of privileges based upon frequency, volume, type of vehicle, time of such traffic, distance traveled, weight or method of payment.

The Commission may increase Tolls from time to time. The Commission may make any other adjustment or reclassification of Tolls or establish special Tolls, introductory Tolls or temporary Tolls, provided such action will not cause the Commission to fail to fail to comply with subsection (b) above.

The failure in any Fiscal Year to comply with the covenant in subsection (b) above will not constitute an Event of Default if the Commission complies with subsection (c) above; provided that if the Independent Consultant is of the opinion, as shown by its certificate filed with the Commission, that a schedule of Tolls and other rates and charges for the System which would provide funds to meet the requirements specified in subsection (a) above is impracticable at that time, and the Commission therefore cannot comply with subsection (b) above, then the Commission is obligated to fix and establish such schedule of Tolls as is recommended by the Independent Consultant to comply as nearly as practicable with the covenants in subsection (a) above, and in such event the failure of the Commission to comply with subsections (a) and (b) above will not constitute an Event of Default under the provisions of the Junior Lien Trust Agreement.

# Free Passage

The Commission covenants that it will not allow or permit any free use of the toll facilities of the System except to officials, employees, agents, vendors or contractors of the Commission while engaged in official business of the Commission or law enforcement officers or emergency vehicles while in the discharge of their official duties, or in the event of an emergency in which temporary free passage is required in order to assure the safety and security of patrons on the System.

# Covenants Incorporated from the Senior Lien Trust Agreement

The covenants of the Commission contained in the Senior Lien Trust Agreement with respect to the Annual Budget, insurance requirements, disposition of property and other related covenants are incorporated by reference in the Junior Lien Trust Agreement as is set forth in full in the Junior Lien Trust Agreement.

#### Other Covenants

The Commission covenants that (a) it will operate and maintain the System in conformity with all applicable legal requirements; it will not make any modifications or alterations of the System which substantially increase the cost of operating the System or substantially affect adversely the volume or character of the traffic using the System, (b) it will establish and enforce reasonable rules and regulations governing the use and operation of the System, (c) all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, (d) no more persons will be employed by it than are necessary, (e) it will maintain and operate the System in an efficient and economical manner, (f) from the revenues of the System it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals, improvements and replacements, and (g) it will comply with all valid applicable acts, rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to the System or the Commission.

The Commission will cause an audit of financial statements as of December 31 of each year, prepared in accordance with GAAP, to be made of its books and accounts relating to the System and the Junior Lien Special Funds by an independent certified public accountant approved by the Auditor of the State. Reports of each such audit shall be filed by July 1 following the date of the financial statements with the Commission and the Trustee, and copies shall be mailed by the Commission to the Consulting Engineers. Each audit report shall set forth such matters as are required by GAAP.

The Commission covenants that it will cause written notice to be given to the Rating Agencies at least thirty (30) days prior to the making of any multi-year pledge or assignment of any revenues received by the Commission and not pledged or assigned pursuant to the Junior Lien Trust Agreement.

#### Events of Default and Remedies

The following events constitute Events of Default under the Junior Lien Trust Agreement:

- (a) Default in the payment of any interest on any Junior Lien Bond when and as the same shall have become due and payable;
- (b) Default in the payment of the principal of or any redemption premium on any Junior Lien Bond when and as the same becomes due and payable, whether at stated maturity or by mandatory redemption or mandatory purchase;
- (c) Any other default, and the continuance thereof for a period of 60 days after written notice thereof to the Commission given by the Trustee or the Holders of not less than 25 percent in aggregate amount of affected Junior Lien Bonds then Outstanding.

The term "default" as used in the Junior Lien Trust Agreement shall mean default by the Commission in the performance or observance of any of the covenants, agreements or conditions on its part contained in the Junior Lien Trust Agreement or in the Junior Lien Bonds, exclusive of any period of grace required to constitute a default an Event of Default as provided above.

Except as modified or supplemented by a Supplemental Trust Agreement with respect to a particular Series of Junior Lien Bonds, the Trustee is not required to take notice, and shall not be deemed to have notice or knowledge, of any default or Event of Default under the Trust Agreement, except Events of Default described in clauses (a) and (b) above, unless the Trustee shall be notified specifically of the default or Event of Default in a written instrument delivered to it by the Commission or by the Holders of not less than 10 percent in aggregate principal amount of Junior Lien Bonds then Outstanding or a Credit Provider. In the absence of delivery of a notice satisfying those requirements, the Trustee may assume conclusively that there is no default or Events of Default, except as to Events of Default described in clauses (a) and (b) above.

Upon the occurrence of any Event of Default as described in clauses (a) or (b) above, the Trustee must, and upon the occurrence of any Event of Default as described in clause (c) above, the Trustee may and upon the written request of the Holders of not less than 25 percent in aggregate principal amount of the affected Junior Lien Bonds then Outstanding or a Financial Institution providing a letter of credit in connection with the affected Junior Lien Bonds must (subject to the Trustee's right to be indemnified for its expenses) proceed in its own name to protect and enforce its rights and the rights of the Holders under the Junior Lien Trust Agreement by such of the remedies described in subparagraphs (a) through (d) below as the Trustee, being advised by counsel, considers most effective to protect and enforce those rights:

- (a) By mandamus or other suit, action or proceeding at law or in equity enforce all the rights of Holders, including the compelling of the performance of all duties of the Commission or State agencies under the Junior Lien Bond Proceedings and the enforcement of the payment of the Junior Lien Debt Service Charges on the Junior Lien Bonds then Outstanding.
  - (b) Bring suit upon the Junior Lien Bonds.
- (c) Enjoin unlawful activities or activities in violation of the rights of the Holders or Credit Providers under the Junior Lien Trust Agreement.

- (d) In the event of the occurrence of an Event of Default as described in clauses (a) or (b) of the preceding paragraph:
  - (i) Provided that no Senior Lien Bonds are Outstanding under the Senior Lien Trust Agreement, apply to a court having jurisdiction of the cause to appoint a receiver, who may be the Trustee, to receive and administer the System Pledged Revenues with full power to pay and to provide for payment of the Junior Lien Debt Service Charges, and with such powers, subject to the discretion of the court, as are accorded receivers in general equity cases, excluding any power to pledge additional revenues or receipts or other income or moneys of the Commission or the State or State agencies to the payment of the Junior Lien Debt Service Charges, and excluding the power to take possession of, mortgage or cause the sale or otherwise dispose of any Project, or
  - Provided that the Senior Lien Trustee has declared acceleration of maturity of the Outstanding Senior Lien Bonds as a result of an event of default under the Senior Lien Trust Agreement, by notice in writing delivered to the Commission and to each member of the Commission, declare the principal of all Junior Lien Bonds then Outstanding and the interest accrued on those Junior Lien Bonds immediately due and payable and thereupon that principal and interest shall become and be immediately due and payable. If at any time after that declaration and prior to the entry of judgment in a court of law or equity for enforcement or the appointment of a receiver hereunder, all sums payable under the Junior Lien Trust Agreement (except the principal and interest on Junior Lien Bonds which have not reached their stated maturity dates and which are due and payable solely by reason of that declaration of acceleration), plus interest (to the extent permitted by law) on any overdue installments of interest at the rate borne by the Junior Lien Bonds in respect of which such Event of Default shall have occurred, shall have been duly paid or provided for by deposit with the Trustee or Paying Agents and all existing defaults shall have been made good, then and in every such case the Trustee must waive that Event of Default and its consequences and must rescind and annul that declaration, but no such waiver and rescission shall extend to or affect or impair any rights consequent on any subsequent Event of Default. The Trustee must rescind and annul any declaration of acceleration of maturity of the Junior Lien Bonds upon the rescission by the Senior Lien Trustee of any declaration of acceleration of the Senior Lien Bonds under the Senior Lien Trust Agreement.

Holders of not less than a majority in aggregate principal amount of Junior Lien Bonds then Outstanding have the right with the consent of each Credit Provider not then in default on its obligations with respect to the Junior Lien Bonds, at any time, by instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of the Junior Lien Trust Agreement, or for the appointment of a receiver or any other proceedings under the Junior Lien Trust Agreement; provided that (a) such direction will not be otherwise than in accordance with the provisions of law and of the Junior Lien Trust Agreement, (b) the Trustee will be indemnified as provided in the Junior Lien Trust Agreement, and (c) a Credit Provider will have no rights with respect to the enforcement of remedies against itself.

After payment of the costs and expenses of the proceedings resulting in the collection of such moneys and of the fees, expenses, liabilities and advances incurred or made by the Trustee or receiver, all moneys received by the Commission, Trustee or receiver pursuant to any right given or action taken under the provisions of the Junior Lien Trust Agreement shall be applied as described in subparagraphs (a) through (c) below.

(a) Unless the principal of all the Junior Lien Bonds has become or has been declared due and payable pursuant to the Junior Lien Trust Agreement, all such moneys shall be applied as follows:

First: To the payment, to the persons entitled thereto, of all installments of interest then due on the Junior Lien Bonds (or reimbursement of Credit Providers for interest payments made pursuant to Junior Lien Credit Facilities), in the order of the dates of maturity of the installments of that interest and beginning with the earliest such date, and if the amount available is not sufficient to pay in full any particular installment, then to the payment thereof ratably according to the amounts due on that installment, without any discrimination or privilege except as to any difference in the respective rates of interest specified in the Junior Lien Bonds;

Second: To the payment, to the persons entitled thereto, of the unpaid principal of any of the Junior Lien Bonds (or reimbursement of Credit Providers for principal payments made pursuant to Junior Lien Credit Facilities) which has become due (other than Bonds previously called for redemption for the payment of which moneys are held pursuant to the provisions of the Junior Lien Trust Agreement), whether at stated maturity, by redemption or pursuant to any mandatory sinking fund requirements, in the order of their due dates and beginning with the earliest due date, with interest on those Junior Lien Bonds from the respective dates upon which they become due, and if the amount available shall not be sufficient to pay in full all Junior Lien Bonds (and reimburse in full Credit Providers for principal payments made pursuant to a Junior Lien Credit Facility) due on any particular date, together with such interest, then to the payment thereof ratably according to the amount of principal due on that date, without discrimination or privilege; and

Third: To the payment of all other obligations of the Commission to Credit Providers.

- (b) If the principal of all the Junior Lien Bonds has become due or has been declared due and payable pursuant to the Junior Lien Trust Agreement, all such moneys will be applied to the payment of the principal and interest then due and unpaid upon the Junior Lien Bonds (and reimbursement of Credit Providers for principal and interest payments made pursuant to Junior Lien Credit Facilities), without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Junior Lien Bond over any other Junior Lien Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or privilege except as to any difference in the respective rates of interest specified in the Junior Lien Bonds and then to the payment of all other obligations of the Commission to Credit Providers.
- (c) If the principal of all the Junior Lien Bonds has been declared due and payable pursuant to the Junior Lien Trust Agreement, and if that declaration thereafter has been rescinded and annulled under the provisions of the Junior Lien Trust Agreement, then, subject to the provisions described in clause (b) in the event that the principal of all the Junior Lien Bonds shall later become due and payable, the moneys will be deposited in the Junior Lien Debt Service Fund and applied in accordance with the provisions of the Junior Lien Trust Agreement.

Whenever all Junior Lien Bonds and interest thereon and all obligations of the Commission to Credit Providers have been paid under the provisions of the Junior Lien Trust Agreement, and all expenses and charges of the Trustee, Registrars, Authenticating Agents, Tender Agents, Paying Agents and other agents appointed pursuant to the Junior Lien Trust Agreement and all expenses payable from the Operation, Maintenance and Administrative Expenses Account have been paid, any balance remaining in the Junior

Lien Debt Service Fund will be paid as the Commission directs or provides, and otherwise to the general revenue fund of the State.

Whenever all Senior Lien Bonds and interest thereon and all obligations of the Commission and other expenses have been paid under the provisions of the Senior Lien Master Trust Agreement, the Commission will direct or provide for any balance remaining in the Senior Lien Debt Service Fund be paid to the Trustee for application in accordance with the Junior Lien Trust Agreement.

No Holder has any right to institute any suit, action or proceeding for the enforcement of the Junior Lien Trust Agreement or for the execution of any trust thereof or for the appointment of a receiver or any other remedy hereunder unless (a) an Event of Default has occurred and is continuing, (b) that Holder shall previously have given to the Trustee written notice of that Event of Default, (c) the Holders of at least 25 percent in aggregate principal amount of Junior Lien Bonds then Outstanding have made a written request to the Trustee and afforded the Trustee reasonable opportunity either to proceed to exercise the powers granted in the Junior Lien Trust Agreement or to institute such action, suit or proceeding in its own name and have also offered to the Trustee indemnity as provided in the Junior Lien Trust Agreement or to institute such action, suit or proceeding in its own name.

The Trustee may at any time in its discretion, but only with the consent of any Credit Providers providing a Junior Lien Credit Facility in connection with affected Junior Lien Bonds and not then in default of its obligations with reference to such Junior Lien Bonds, waive any Event of Default and its consequences, and rescind any declaration of maturity of principal, and must do so, with the consent of any Credit Providers providing a Junior Lien Credit Facility in connection with affected Junior Lien Bonds, upon the written request of the Holders of not less than a majority in aggregate principal amount of all the Junior Lien Bonds then Outstanding in respect of which the Event of Default exists. However, there shall not be so waived any Event of Default described in clauses (a) or (b) of the first paragraph under the caption "EXHIBIT A-2 - GLOSSARY OF TERMS AND SUMMARY OF THE JUNIOR LIEN TRUST AGREEMENT - Events of Default and Remedies," or such declaration in connection therewith rescinded, unless at the time of that waiver or rescission payments of all sums payable under the Junior Lien Trust Agreement (except the principal and interest on Junior Lien Bonds which have not reached their stated maturity dates and which are due and payable solely by reason of that declaration of acceleration), plus interest, to the extent permitted by law, on any overdue installments of interest at the rate borne by the Junior Lien Bonds in respect of which such Event of Default shall have occurred, have been made or provided for. In case of any such waiver or rescission, or in case any proceeding taken by the Trustee on account of any such Event of Default is discontinued or abandoned or determined adversely, then and in every such case the Commission, the Trustee, any Financial Institution and the Holders must be restored to their respective positions and rights under the Junior Lien Trust Agreement. No such waiver or rescission will extend to any subsequent or other default or Event of Default, or impair any right consequent thereon.

All rights, powers and remedies provided in the Junior Lien Trust Agreement may be exercised only to the extent that such exercise does not conflict with the Senior Lien Trust Agreement or impair the rights of the holders of the Senior Lien Bonds.

# Junior Lien Supplemental Trust Agreements

The Commission and the Trustee, without the consent of or notice to any of the Holders, may enter into agreements supplemental to the Junior Lien Trust Agreement for any one or more of the following purposes: (a) to cure any ambiguity, inconsistency or formal defect or omission in the Junior Lien Trust Agreement; (b) to grant to or confer upon the Trustee for the benefit of the Holders or any Credit Provider any additional rights, remedies, powers or authority that may lawfully be granted to or conferred upon the Holders or any Credit Provider (to the extent not contrary to the interests of Holders) or the Trustee; (c) to

subject additional revenues or receipts to the pledge of the Junior Lien Trust Agreement; (d) to add to the covenants and agreements of the Commission contained in the Junior Lien Trust Agreement other covenants and agreements thereafter to be observed for the protection of the Holders or Credit Providers (to the extent not contrary to the interests of Holders), or to surrender or limit any right, power or authority reserved to or conferred upon the Commission in the Junior Lien Trust Agreement, including without limitation the limitation of rights of redemption so that in certain instances Junior Lien Bonds of different series will be redeemed in some prescribed relation to one another; (e) to evidence any succession to the Commission and the assumption by that successor of the covenants and agreements of the Commission contained in the Junior Lien Trust Agreement and the Junior Lien Bonds; (f) in connection with the issuance of a Series of Junior Lien Bonds in forms other than fully registered Junior Lien Bonds and for amendments of the Junior Lien Trust Agreement relating to Junior Lien Bonds and the rights of the Holders of Junior Lien Bonds issued in those forms not inconsistent with the provisions of the Junior Lien Trust Agreement applying to the rights of owners of fully registered Junior Lien Bonds and Credit Providers, if in the opinion of Bond Counsel those provisions would not result in the interest on any of the Junior Lien Bonds Outstanding becoming subject to federal income taxation; (g) to permit the exchange of Junior Lien Bonds, at the option of the Holder, for coupon Junior Lien Bonds of the same series payable to bearer, in an aggregate principal amount not exceeding the unmatured and unredeemed principal amount of the predecessor Junior Lien Bonds, bearing interest at the same rate or rates (or determined in the same manner) and maturing on the same date or dates, with coupons attached representing all unpaid interest due or to become due thereon if, in the opinion of Bond Counsel, that exchange would not result in the interest on any of the Junior Lien Bonds Outstanding becoming subject to federal income taxation; (h) to permit the use of a book entry system to identify the owner of an interest in a Junior Lien Bond, whether that Junior Lien Bond was formerly, or could be, evidenced by a physical security; (i) to permit the Trustee to comply with any obligations imposed upon it by law; (j) to specify further the duties and responsibilities of, and to define further the relationship among, the Trustee, the Registrar and any Authenticating Agents or Paying Agents; (k) to achieve compliance of the Junior Lien Trust Agreement with any applicable federal securities or tax law; (1) to permit any other amendment which, in the judgment of the Trustee, is not to the prejudice of the Trustee or the Holders; and (m) to authorize the issuance of a Series of Junior Lien Bonds in accordance with the provisions of the Junior Lien Trust Agreement.

The Holders of not less than a majority in aggregate principal amount of the Junior Lien Bonds then Outstanding (exclusive of Junior Lien Bonds then held or owned by the Commission) to be affected thereby have the right, from time to time, to consent to and approve the execution by the Commission and the Trustee of such other Junior Lien Supplemental Trust Agreements for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in the Junior Lien Trust Agreement. However, the Junior Lien Trust Agreement does not permit: (a) without the consent of the Holder of each Junior Lien Bond so affected, an extension of the maturity of the principal of or the interest on any Junior Lien Bond, or a reduction in the principal amount of any Junior Lien Bond or the rate of interest or redemption premium thereon, or a reduction in the amount or extension of the time of any payment required by any mandatory sinking fund requirements or mandatory redemption requirements, or (b) without the consent of the Holders of all of the Junior Lien Bonds then Outstanding, a reduction in the aggregate principal amount of the Junior Lien Bonds required for consent to that Junior Lien Supplemental Trust Agreement.

Where consent of the Holders is required, the Junior Lien Trust Agreement contains procedures for notice to the Holders and for the execution and filing of the requisite consents. Any consent is to be binding upon the Holders of the Junior Lien Bonds giving that consent and upon any subsequent Holders of those Junior Lien Bonds and of any Junior Lien Bonds issued in exchange therefor (whether or not the subsequent Holders have notice thereof). However, the consent may be revoked by the Holder of such Junior Lien Bonds who gave consent or by subsequent Holders thereof by filing with the Trustee, prior to the execution by the Trustee of the Junior Lien Supplemental Trust Agreement, a written revocation. If the Holders of the required percentage in aggregate principal amount of the Junior Lien Bonds Outstanding have consented to

and approved the execution thereof, no Holder of any Junior Lien Bond has any right to object to the execution of that Junior Lien Supplemental Trust Agreement or to any of the terms and provisions contained in or to the operation of that Junior Lien Supplemental Trust Agreement, or in any manner to question the propriety of the execution of, or to enjoin or restrain the Trustee or the Commission from executing, or from taking any action pursuant to the provisions of, that Junior Lien Supplemental Trust Agreement.

The terms of the Junior Lien Trust Agreement or any Junior Lien Supplemental Trust Agreement may be modified or altered in any respect with the consent of the Commission, any Credit Providers and the Holders of all the Outstanding Junior Lien Bonds.

# Senior Lien Supplemental Trust Agreements

The Commission covenants in the Junior Lien Trust Agreement that so long as any Junior Lien Bonds remain Outstanding it will not execute any Senior Lien Supplemental Trust Agreement that would (i) modify or amend Section 2.03 of the Senior Lien Master Trust Agreement except in a manner that, in the sole reasonable judgment of the Junior Lien Trustee, would not materially and adversely affect the rights of the Holders of the Junior Lien Bonds, or (ii) modify or amend the Senior Lien Master Trust Agreement in a manner that would conflict with Section 4.17 of the Junior Lien Trust Agreement or would otherwise create a new payment or deposit obligation (including an amendment or modification that would increase an existing payment or deposit obligation) of the Commission on a parity with or prior to the payments required under paragraphs (a) through (e) of Section 4.08 of the Senior Lien Master Trust Agreement. The foregoing does not prevent the Commission from issuing additional Senior Lien Bonds in compliance with Article II of the Senior Lien Master Trust Agreement as in effect at the time of such issuance.

# **Defeasance**

If the Commission pays or causes to be paid to the Holders of the Outstanding Junior Lien Bonds all principal, premium, if any, and interest due or to become due thereon and all obligations of the Commission to Credit Providers, and provision is made for paying all other sums payable under the Junior Lien Trust Agreement by the Commission, then and in that event the Junior Lien Trust Agreement will cease, determine and become null and void, and the covenants, agreements and other obligations of the Commission under the Junior Lien Trust Agreement will be discharged, released and satisfied.

Junior Lien Bonds will be deemed to have been paid or caused to be paid if the Trustee holds, in trust for and irrevocably committed thereto, sufficient moneys, or moneys and Defeasance Obligations certified by a Verification Agent to be of such maturities and interest payment dates and to bear such interest as will, without further investment or reinvestment of either the principal amount thereof or the interest earnings therefrom, be sufficient for the payment, at their maturity or redemption date, of all principal, premium, if any, and interest thereon to the date of maturity or redemption, as the case may be; provided that if any Junior Lien Bonds are to be redeemed prior to their maturity, notice of that redemption must be duly given or provision satisfactory to the Trustee must be duly made for the giving of that notice.

#### Trustee

The Trustee, The Huntington National Bank, Columbus, Ohio, is a national banking association organized and existing under the laws of the United States of America and is authorized to exercise corporate trust power in the State. The Trustee has undertaken to perform such duties as are specifically set forth in the Junior Lien Trust Agreement. The Trustee has agreed to exercise the rights and powers vested in it by the Trust Agreement and use the same degree of care and skill in their exercise as would an ordinarily prudent corporate trustee under a trust agreement securing securities of a public agency. The Trustee is not required to take any action under the Junior Lien Trust Agreement (except with respect to giving certain notices of the occurrence of an Event of Default) until it has received a satisfactory indemnity

bond for its expenses and to protect it against liability, other than liability resulting from its negligence or willful misconduct. The permissive rights of the Trustee to do things under the Junior Lien Trust Agreement will not be construed as a duty.

The Huntington National Bank is among the banks that serve as depositories for Commission and State moneys, and also serves as the Senior Lien Trustee under the Senior Lien Trust Agreement.

#### EXHIBIT B-1

## FORM OF BOND COUNSEL OPINION FOR 2018 SENIOR LIEN BONDS

February 15, 2018

To: Ohio Turnpike and Infrastructure Commission Berea, Ohio

Citigroup
New York, New York,
as Representative of the Underwriters named
in the Bond Purchase Agreement dated January 31, 2018
with the Ohio Turnpike and Infrastructure Commission

We have served as bond counsel to our client the Ohio Turnpike and Infrastructure Commission (the "Commission") in connection with the issuance by the Commission of \$73,880,000 State of Ohio Turnpike Revenue Bonds, 2018 Series A (the "2018 Series A Bonds"), dated the date of this letter.

The 2018 Series A Bonds are issued pursuant to Chapter 5537 of the Ohio Revised Code and the Amended and Restated Master Trust Agreement (Eighteenth Supplemental Trust Agreement) dated as of April 8, 2013, between the Commission and The Huntington National Bank, as Trustee, as amended and supplemented by various supplemental trust agreements, including the Twenty-Second Supplemental Trust Agreement dated as of February 15, 2018 (collectively, the "Trust Agreement"). Capitalized terms not otherwise defined in this letter are used as defined in the Trust Agreement.

In our capacity as bond counsel, we have examined the transcript of proceedings relating to the issuance of the 2018 Series A Bonds, a copy of the signed and authenticated 2018 Series A Bond of the first maturity, the Trust Agreement and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

- 1. The Trust Agreement is a valid and binding obligation of the Commission, enforceable in accordance with its terms, and the 2018 Series A Bonds are valid and binding obligations of the State of Ohio (the "State"), enforceable in accordance with their terms.
- 2. The 2018 Series A Bonds constitute special obligations of the State, and the principal of and interest on (collectively, "debt service") the 2018 Series A Bonds, together with debt service on any other obligations issued and outstanding on a parity with the 2018 Series A Bonds as provided in the Trust Agreement, are payable solely from and secured by the System Pledged Revenues and certain funds established under the Trust Agreement, as provided in the Trust Agreement. The payment of debt service on the 2018 Series A Bonds is not secured by an obligation or pledge of any money raised by taxation, and the 2018 Series A Bonds do not represent or constitute a general obligation or a pledge of the faith and credit of the Commission, the State or any of its political subdivisions.

3. Interest on the 2018 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and is not an item of tax preference for purposes of the federal alternative minimum tax; however, interest on the 2018 Series A Bonds is included in the calculation of a corporation's adjusted current earnings for purposes of, and thus may be subject to, the corporate alternative minimum tax (applicable only to taxable years beginning before January 1, 2018). Interest on, and any profit made on the sale, exchange or other disposition of, the 2018 Series A Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. We express no opinion as to any other tax consequences regarding the 2018 Series A Bonds.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Commission.

We express no opinion herein regarding the priority of the lien on System Pledged Revenues or other funds created by the Trust Agreement.

In rendering those opinions with respect to treatment of the interest on the 2018 Series A Bonds under the federal tax laws, we further assume and rely upon compliance with the covenants in the proceedings and documents we have examined, including those of the Commission. Failure to comply with certain of those covenants subsequent to issuance of the 2018 Series A Bonds may cause interest on the 2018 Series A Bonds to be included in gross income for federal income tax purposes retroactively to their date of issuance.

The rights of the owners of the 2018 Series A Bonds and the enforceability of the 2018 Series A Bonds and the Trust Agreement are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or transfer, and other laws relating to or affecting the rights and remedies of creditors generally; to the application of equitable principles, whether considered in a proceeding at law or in equity; to the exercise of judicial discretion; and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as bond counsel in connection with the original issuance and delivery of the 2018 Series A Bonds is concluded upon delivery of this letter.

Respectfully submitted,

B-1-2

#### EXHIBIT B-2

## FORM OF BOND COUNSEL OPINION FOR 2018 JUNIOR LIEN BONDS

February 15, 2018

To: Ohio Turnpike and Infrastructure Commission Berea, Ohio

Citigroup
New York, New York,
as Representative of the Underwriters named
in the Bond Purchase Agreement dated January 31, 2018
with the Ohio Turnpike and Infrastructure Commission

We have served as bond counsel to our client the Ohio Turnpike and Infrastructure Commission (the "Commission") in connection with the issuance by the Commission of \$425,965,000 State of Ohio Turnpike Junior Lien Revenue Bonds, 2018 Series A (Infrastructure Projects) (the "2018 Series A Bonds"), dated the date of this letter.

The 2018 Series A Bonds are issued pursuant to Chapter 5537 of the Ohio Revised Code and the Junior Lien Master Trust Agreement dated as of August 1, 2013 between the Commission and The Huntington National Bank, as Trustee, as supplemented by various supplemental trust agreements, including the Second Supplemental Junior Lien Trust Agreement dated as of February 15, 2018 (collectively, the "Junior Lien Trust Agreement"). Capitalized terms not otherwise defined in this letter are used as defined in the Junior Lien Trust Agreement.

In our capacity as bond counsel, we have examined the transcript of proceedings relating to the issuance of the 2018 Series A Bonds, a copy of the signed and authenticated 2018 Series A Bond of the first maturity, the Junior Lien Trust Agreement and such other documents, matters and law as we deem necessary to render the opinions set forth in this letter.

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

- 1. The Junior Lien Trust Agreement is a valid and binding obligation of the Commission, enforceable in accordance with its terms, and the 2018 Series A Bonds are valid and binding obligations of the State of Ohio (the "State"), enforceable in accordance with their terms.
- 2. The 2018 Series A Bonds constitute special obligations of the State, and the principal of and interest on (collectively, "debt service") the 2018 Series A Bonds, together with debt service on any other obligations issued and outstanding on a parity with the 2018 Series A Bonds as provided in the Junior Lien Trust Agreement, are payable solely from and secured by the System Pledged Revenues and Junior Lien Special Funds. The pledge of and lien on the System Pledged Revenues created by the Trust Agreement is subordinate to the pledge of and lien on the System Pledged Revenues created by the Senior Lien Trust Agreement securing Senior Lien Bonds, all as defined in the Junior Lien Trust Agreement. The

payment of debt service on the 2018 Series A Bonds is not secured by an obligation or pledge of any money raised by taxation, and the 2018 Series A Bonds do not represent or constitute a general obligation or a pledge of the faith and credit of the Commission, the State or any of its political subdivisions.

3. Interest on the 2018 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and is not an item of tax preference for purposes of the federal alternative minimum tax; however, interest on the 2018 Series A Bonds is included in the calculation of a corporation's adjusted current earnings for purposes of, and thus may be subject to, the corporate alternative minimum tax (applicable only to taxable years beginning before January 1, 2018). Interest on, and any profit made on the sale, exchange or other disposition of, the 2018 Series A Bonds are exempt from all Ohio state and local taxation, except the estate tax, the domestic insurance company tax, the dealers in intangibles tax, the tax levied on the basis of the total equity capital of financial institutions, and the net worth base of the corporate franchise tax. We express no opinion as to any other tax consequences regarding the 2018 Series A Bonds.

The opinions stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined and (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Commission.

We express no opinion herein regarding the priority of the lien on System Pledged Revenues or Junior Lien Special Funds.

In rendering those opinions with respect to treatment of the interest on the 2018 Series A Bonds under the federal tax laws, we further assume and rely upon compliance with the covenants in the proceedings and documents we have examined, including those of the Commission and the Ohio Department of Transportation. Failure to comply with certain of those covenants subsequent to issuance of the 2018 Series A Bonds may cause interest on the 2018 Series A Bonds to be included in gross income for federal income tax purposes retroactively to their date of issuance.

The rights of the owners of the 2018 Series A Bonds and the enforceability of the 2018 Series A Bonds and the Junior Lien Trust Agreement are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or transfer, and other laws relating to or affecting the rights and remedies of creditors generally; to the application of equitable principles, whether considered in a proceeding at law or in equity; to the exercise of judicial discretion; and to limitations on legal remedies against public entities.

No opinions other than those expressly stated herein are implied or shall be inferred as a result of anything contained in or omitted from this letter. The opinions expressed in this letter are stated only as of the time of its delivery and we disclaim any obligation to revise or supplement this letter thereafter. Our engagement as bond counsel in connection with the original issuance and delivery of the 2018 Series A Bonds is concluded upon delivery of this letter.

Respectfully submitted,

# **EXHIBIT C**

# OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2016 AND INDEPENDENT AUDITORS' REPORT FOR PLANTE & MORAN, PLLC



Plante & Moran, PLLC Suite 100 250 S. High Street Columbus, OH 43215 Tel: 614.849.300 Fax: 614.221.3535 plantemoran.com



#### Independent Auditor's Report

To the Commission Members
Ohio Turnpike and Infrastructure Commission

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

We have audited the accompanying basic financial statements of the Ohio Turnpike and Infrastructure Commission (the "Commission"), a component unit of the State of Ohio, as of and for the year ended December 31, 2016, 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

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.

#### **Opinion**

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the financial position of the Ohio Turnpike and Infrastructure Commission as of December 31, 2016, and the changes in its financial position and its cash flows thereof for the year then ended, in accordance with accounting principles generally accepted in the United States of America.



To the Commission Members
Ohio Turnpike and Infrastructure Commission

#### **Other Matters**

Report on Prior Year Financial Statements

The basic financial statements of the Ohio Turnpike and Infrastructure Commission as of and for the year ended December 31, 2015 were audited by a predecessor auditor, which expressed an unmodified opinion on the basic financial statements. The predecessor auditor's report was dated June 8, 2016.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of net pension liability, and the schedule of employer contributions as outlined in the table of contents 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 which 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.

Plante & Moran, PLLC

April 12, 2017

### Management's Discussion and Analysis

This section of the annual financial report presents the Commission's discussion and analysis of its financial position and the results of operations for the year ended December 31, 2016 and 2015. Please read it in conjunction with the Chairman's Letter, Executive Director's Year in Review, Letter of Transmittal, and History and General Information at the front of this report, and the Commission's financial statements and notes, which follow this section.

# Financial Highlights 2016

- The total number of vehicles that traveled the Ohio Turnpike in 2016 increased 2.8 percent and vehicle miles traveled increased 1.2 percent from the levels reached in 2015. The increase in vehicle miles traveled along with a 2.7 percent toll rate increase implemented on January 1, 2016 resulted in an increase in toll revenue of approximately \$8.3 million or 2.9 percent.
- » Operating expenses increased by \$12.1 million or 6.7 percent from 2015.
- The Commission incurred \$279.4 million in Infrastructure Project reimbursement expenses in 2016 for previously approved Infrastructure Project costs that were expended by "ODOT".
- » In 2016, the Commission made capital improvements totaling approximately \$126.0 million.

#### 2015

- The total number of vehicles that traveled the Ohio Turnpike in 2015 increased 4.1 percent and vehicle miles traveled increased 4.4 percent from the levels reached in 2014. The increase in vehicle miles traveled along with a 2.7 percent toll rate increase implemented on January 1, 2015 resulted in an increase in toll revenue of approximately \$15.6 million or 5.9 percent.
- » Operating expenses increased by \$3.9 million or 2.2 percent from 2014.
- The Commission incurred \$306.3 million in Infrastructure Project reimbursement expenses in 2015 for previously approved Infrastructure Project costs that were expended by the Ohio Department of Transportation ("ODOT").
- » In 2015, the Commission made capital improvements totaling approximately \$105.8 million.

#### **Condensed Statement of Net Position Information** (Dollars in Thousands)

	12/31/16	12/31/15	12/31/14
Assets and Deferred Outflows of Resources			-
Cash and Investments	\$ 536,837	\$ 823,005	\$ 1,120,594
Other Noncapital Assets	25,724	27,496	24,351
Capital Assets, Net	1,461,604	1,407,745	1,371,393
Total Assets	2,024,165	2,258,246	2,516,338
Deferred Outflows of Resources	42,584	26,467	19,582
Total Assets and Deferred Outflows of Resources	\$ 2,066,749	\$ 2,284,713	\$ 2,535,920
Liabilities, Deferred Inflows of Resources, and Net Position Liabilities			
Current Liabilities	\$ 122,762	\$ 116,473	\$ 105,102
Long-Term Liabilities	1,663,121	1,658,027	1,625,726
Total Liabilities	1,785,883	1,774,500	1,730,828
Deferred Inflows of Resources	1,885	888	_
Total Liabilities and Deferred Inflows of Resources	1,787,768	1,775,388	1,730,828
Net Position			
Net Investment in Capital Assets	930,174	844,818	778,519
Restricted	212,852	229,401	244,206
Unrestricted	(864,045)	(564,894)	(217,633)
Total Net Position	278,981	509,325	805,092
Total Liabilities, Deferred Inflows of Resources and Net Position	\$ 2,066,749	\$ 2,284,713	\$ 2,535,920

#### **Assets**

The condensed statements of net position information on the previous page show that cash and investments decreased by \$286.2 million in 2016. This decrease was primarily the result of \$283.1 million in payments to ODOT for reimbursement of funds spent on Infrastructure Projects. See Note 10 of the financial statements for more detailed information on Infrastructure Project payments. The \$1.8 million decrease in other noncapital assets was due to a \$0.7 million decrease in receivables and a \$1.1 million decrease in inventories. The decrease in accounts receivable was primarily due to the payment of a related party receivable from ODOT. See Note 12 of the financial statements for more detailed information on this receivable. Inventories of ice melting materials decreased due to a decrease in the cost of salt from high prices in 2015 which were due to the unusually severe winter weather in 2014.

Cash and investments decreased by \$297.6 million in 2015. This decrease was primarily the result of \$298.6 million in payments to ODOT for reimbursement of funds spent on Infrastructure Projects. The \$3.1 million increase in other noncapital assets was due to a \$2.2 million increase in receivables and a \$0.9 million increase in inventories. The increase in accounts receivable was primarily due to increased *E-ZPass* toll revenue receivable from other toll agencies due to increased *E-ZPass* toll volume. Inventories of ice melting materials increased due to an increase in the cost of salt due to the unusually severe winter weather in 2014.

Capital assets increased by \$53.9 million in 2016 as the result of capital improvements of approximately \$126.0 million and depreciation expense of \$71.7 million. The 2016 capital improvements were primarily for the resurfacing of 98.4 lane miles of roadway, the full depth replacement of 41.1 lane miles and the rehabilitation of 31 bridges. Capital assets increased by \$36.4 million in 2015 as the result of capital improvements of approximately \$105.8 million and depreciation expense of \$69.4 million. The 2015 capital improvements were primarily for the resurfacing of 62.9 lane miles of roadway, the full depth replacement of 42.1 lane miles and the rehabilitation of 29 bridges. See Note 4 of the financial statements for more detailed information on the Commission's capital assets.

#### Liabilities

Current liabilities increased by \$6.3 million in 2016 primarily as a result of a \$4.2 million increase in contracts payable, a \$2.4 million increase in unearned revenue, a \$0.9 million increase in bond interest and principal payable, and a \$0.8 million increase in amounts payable to other toll agencies. These increases were partially offset by a \$3.7 million decrease in infrastructure funds payable to ODOT. Current liabilities increased by \$11.4 million in 2015 primarily as a result of a \$7.7 million increase in infrastructure funds payable to ODOT, a \$1.3 million increase in unearned revenue and a \$1.0 million increase in bond interest and principal payable.

An increase in long-term liabilities of \$5.1 million in 2016 was primarily the result of a \$19.9 million increase in net pension liability and an increase in principal on capital appreciation bonds of \$19.9 million offset by principal payments on outstanding bonds of \$31.0 million and a reduction of \$2.8 million in unamortized bond premiums. Excluding GASB 68, a decline in long-term liabilities of \$15.8 million in 2015 was primarily the result of principal payments on outstanding bonds of \$29.4 million offset by interest added to principal on capital appreciation bonds of \$18.7 million and a reduction of \$2.8 million in unamortized bond premiums. See Note 6 of the financial statements for more detailed information on long-term debt activity.

On January 1, 2015, the Commission implemented GASB Statement No. 68, Accounting and Financial Reporting for Pensions. The net pension liability recognized by the Commission at December 31, 2015 was \$48.1 million.

As described in Note 7 of the financial statements, the Commission has commitments for capital projects and major repairs and replacements of \$38.8 million as of December 31, 2016. It is anticipated that these commitments will be financed from the Commission's cash balances. However, at the discretion of the Commission, additional bonds may be issued in the future to finance a portion of these costs.

The Ohio Turnpike and Infrastructure Commission's credit rating is among the highest of all the toll roads in the world. The current agency ratings are as follows:

	Senior Lien	Junior Lien
Agency	Bond Rating	Bond Rating
Standard & Poor's	AA-	A+
Fitch Ratings	AA	A+
Moody's Investors Service	Aa3	A1

#### **Net Position**

Net investment in capital assets increased by \$85.4 million during 2016 as a result of \$31.0 million of bond principal payments combined with the \$53.9 million increase in capital assets. Of the \$212.9 million balance of restricted net position, \$170.3 million is restricted for debt service and \$40.9 million is restricted for capital improvements, in accordance with provisions of the Commission's Master Trust Agreement. The remaining \$1.7 million of restricted net position represents accumulated Ohio fuel tax allocations, which are also restricted for future capital improvements in accordance with Ohio law. The \$16.5 million decrease in restricted net position during 2016 is due to a \$15.5 million decrease in amounts restricted for capital projects, an additional \$1.2 million restricted for debt service and a \$2.2 million decrease in the amount of restricted Ohio fuel tax allocations. The \$299.2 million decrease in unrestricted net position is primarily due to a \$230.3 million decrease in net position as a result of 2016 expenses that exceeded revenues. Expenses exceeded revenues in 2016, primarily due to the \$279.4 million in expense incurred for Ohio Department of Transportation projects. See Note 10 for a description of State Infrastructure Payments. It is anticipated that expenses will continue to exceed revenues for the next few years as the Commission funds the remaining state infrastructure projects.

Net investment in capital assets increased by \$66.3 million during 2015 as a result of \$29.4 million of bond principal payments combined with the \$36.4 million increase in capital assets. Of the \$229.4 million balance of restricted net position, \$169.1 million is restricted for debt service and \$56.4 million is restricted for capital improvements, in accordance with provisions of the Commission's Master Trust Agreement. The remaining \$3.9 million of restricted net position represents accumulated Ohio fuel tax allocations, which are also restricted for future capital improvements in accordance with Ohio law. The \$14.8 million decrease in restricted net position during 2015 is due to a \$18.9 million decrease in amounts restricted for capital projects, an additional \$1.4 million restricted for debt service and a \$2.7 million increase in the amount of restricted Ohio fuel tax allocations. Unrestricted net position decreased \$347.3 million from 2014, of which \$40.9 million of the decrease was the result of a cumulative effect restatement of beginning net position due to the implementation of GASB Statements No. 68 and 71. Please refer to Note 1, Summary of Significant Accounting Policies, for additional information regarding the GASB 68 and 71 implementations and the impact on the financial statements. The remaining \$306.4 million decrease in unrestricted net position is due to a \$254.9 million decrease in net position as a result of 2015 expenses that exceeded revenues, the increase in the amount of net investment in capital assets and the decrease in funds restricted for debt service and capital projects.

#### Changes in Net Position Information (Dollars in Thousands)

	Years Ended			
	12/31/16	12/31/15	12/31/14	
Revenues:				
Operating Revenues:				
Tolls	\$ 288,439	\$ 280,187	\$ 264,621	
Special Toll Permits	3,427	3,413	3,460	
Concessions	16,325	16,120	15,078	
Other	4,976	4,248	4,114	
Nonoperating Revenues:				
State Fuel Tax Allocation	2,834	2,751	2,487	
Investment Earnings	4,617	5,456	6,269	
Total Revenues	320,618	312,175	296,029	
Expenses:				
Operating Expenses:				
Administration and Insurance	11,484	10,178	9,762	
Maintenance of Roadway and Structures	39,596	35,562	36,702	
Services and Toll Operations	55,383	51,513	50,646	
Traffic Control, Safety, Patrol, and Communications	14,487	13,885	13,657	
Depreciation	71,663	69,364	65,826	
Nonoperating Expenses:				
Payments to the Ohio Department of Transportation	279,368	306,265	190,810	
Interest Expense	79,108	80,579	81,130	
Gain on Disposals / Write-Offs of Capital Assets	(127)	(312)	(261)	
Total Expenses	550,962	567,034	448,272	
Change in Net Position	(230,344)	(254,859)	(152,243)	
Net Position - Beginning of Year	509,325	805,092	957,335	
Cumulative effect of change in accounting principle	-	(40,908)	-	
Net position at beginning of year, as restated (1)	509,325	764,184	957,335	
Net Position - End of Year	\$ 278,981	\$ 509,325	\$ 805,092	
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<sup>(1)</sup> Beginning net position for fiscal year 2015 was restated as discussed in Note 1.

Toll revenues are the major source of funding for the Ohio Turnpike and Infrastructure Commission. Passenger car traffic volume increased by 3.2 percent and commercial traffic volume increased by 1.2 percent during 2016. Passenger car traffic volume increased by 4.4 percent and commercial traffic volume increased by 3.3 percent during 2015.

Traffic Volume (vehicles in thousands):	2016	2015	2014
Passenger Cars	43,472	42,110	40,345
Commercial Vehicles	11,425	11,284	10,923
Total	54,897	53,394	51,268

The number of miles traveled by passenger cars increased by 1.6 percent while the miles traveled by commercial vehicles increased by 0.5 percent during 2016. Toll rates were increased for all classes of vehicles by 2.7 percent on January 1, 2016. The toll rate increase and the increase in passenger car vehicle miles traveled was partially offset by the effect of increased *E-ZPass* use, which resulted in an increase in toll revenue from passenger cars of approximately \$3.9 million or 3.2 percent. Revenues from commercial vehicles increased \$4.4 million or 2.8 percent in 2016 as a result of the toll rate increase and the increase in commercial vehicle miles traveled.

The number of miles traveled by passenger cars increased by 4.8 percent while the miles traveled by commercial vehicles increased by 3.6 percent during 2015. Toll rates were increased for all classes of vehicles by 2.7 percent on January 1, 2015. The toll rate increase and the increase in passenger car vehicle miles traveled was partially offset by the effect of increased *E-ZPass* use, which resulted in an increase in toll revenue from passenger cars of approximately \$7.3 million or 6.4 percent. Revenues from commercial vehicles increased \$8.3 million or 5.5 percent in 2015 as a result of the toll rate increase and the increase in commercial vehicle miles traveled.

Toll Revenues (dollars in thousands):	2016	2015	2014
Passenger Cars	\$ 126,063	\$ 122,183	\$ 114,871
Commercial Vehicles	162,376	158,004	149,750
Total	\$ 288,439	\$ 280,187	\$ 264,621

Total expenses decreased by \$16.1 million or 2.8 percent in 2016 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, increased \$6.6 million from 2015 due primarily to a \$4.1 million increase in pension expenses and a \$2.0 million increase in employee health benefit costs. See Note 8, Pension Plan, for more information on pension costs. The 12.8 percent increase in Administration and Insurance expense was primarily due to the increase in fringe benefit costs. The 11.3 percent increase in Maintenance of Roadway and Structures expense is the result of higher fringe benefit costs, higher contamination remediation costs and higher salt costs due to an increase in the price of salt. The 7.5 percent increase in Services and Toll Operations expense is due primarily to the increase in fringe benefit costs and higher credit card fees. The Commission made \$279.4 million in payments to ODOT in 2016 to pay for Infrastructure Projects. See Note 10, Payments for State Infrastructure Projects, for more information on these payments. Interest expense decreased \$1.5 million in 2016 primarily due to an increase in capitalized interest on construction projects.

Total expenses increased by \$118.8 million or 26.5 percent in 2015 compared to the prior year. Fringe benefit expenses, which are allocated to each area based on wages, decreased \$1.0 million from 2014 due to lower pension expenses due to the implementation of GASB 68 and lower workers' compensation costs. See Notes 1 and 8 for more information on the effects of implementing GASB 68. The 4.3 percent increase in Administration and Insurance expense was primarily due to an increase in outside legal and professional fees. The 3.1 percent decrease in Maintenance of Roadway and Structures expense is the result of lower wages in 2015 compared to the harsher winter weather in 2014 partially offset by higher salt costs due to an increase in the price of salt. The 1.7 percent increase in Services and Toll Operations expense is due primarily to higher credit card fees. The Commission made \$306.3 million in payments to ODOT in 2015 to pay for Infrastructure Projects. See Note 10, Payments for State Infrastructure Projects, for more information on these payments. Interest expense decreased \$0.5 million in 2015 due to the payments made on outstanding debt.

# Statements of Net Position (In Thousands)

	12/31/16	12/31/15
Assets and Deferred Outflows of Resources		
Current Assets: Unrestricted Current Assets:		
Cash and Cash Equivalents	\$ 38,324	\$ 69,121
Investments, at Fair Value	79,893	39,684
Accounts Receivable Inventories	16,786 5,771	16,159 6,903
Other	1,881	1,924
Total Unrestricted Current Assets	142,655	133,791
Restricted Current Assets:		
Cash and Cash Equivalents	21,446	15,583
Investments, at Fair Value State Fuel Tax Allocation Receivable	70,477 484	73,461 444
Other	624	1,922
Total Restricted Current Assets	93,031	91,410
Total Current Assets	235,686	225,201
Noncurrent Assets:	12.440	110 170
Restricted Cash and Cash Equivalents Restricted Investments, at Fair Value	13,449 313,248	118,172 506,985
Net Pension Asset	178	143
Capital Assets, Net	1,461,604	1,407,745
Total Noncurrent Assets	1,788,479	2,033,045
Total Assets	2,024,165	2,258,246
Deferred Outflows of Resources	42,584	26,467
Total Assets and Deferred Outflows of Resources	\$2,066,749	\$2,284,713
Liabilities, Deferred Inflows of Resources, and Net Position Current Liabilities:		
Current Liabilities Payable from Unrestricted Assets:		
Accounts Payable	\$ 5,025	\$ 4,629
Accrued Wages and Benefits	3,552	2,999
Compensated Absences Claims and Judgments	4,723 1,323	4,972 976
Contamination Remediation Costs Payable	895	237
Other Liabilities	11,361	8,997
Toll Agency Payable Total Current Liabilities Payable from Unrestricted Assets	4,137 31,016	3,369 26,179
-	31,010	20,179
Current Liabilities Payable from Restricted Assets: Accrued Wages and Benefits	10	24
Contracts Payable and Retained Amounts	13,200	8,952
Infrastructure Funds Payable to Ohio Department of Transportation	22,195	25,934
Interest Payable Bonds Payable	23,821 32,520	24,389 30,995
Total Current Liabilities Payable from Restricted Assets	91,746	90,294
Total Current Liabilities	122,762	116,473
Noncurrent Liabilities:		
Net Pension Liability	67,956	48,051
Compensated Absences	5,701	5,113
Claims and Judgments Contamination Remediation Costs Payable	475 500	471 478
Bonds Payable	1,588,489	1,603,914
Total Noncurrent Liabilities	1,663,121	1,658,027
Total Liabilities	1,785,883	1,774,500
Deferred Inflows of Resources	1,885	1 775 200
Total Liabilities and Deferred Inflows of Resources	1,787,768	1,775,388
Net Position: Net Investment in Capital Assets	930,174	844.818
Restricted For Debt Service	170,287	169,117
Restricted For Capital Projects	42,565	60,284
Unrestricted Total Net Position		(564,894) 509,325
Total Liabilities, Deferred Inflows of Resources, and Net Position	278,981 \$2,066,749	\$2,284,713
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# Statements of Revenues, Expenses and Changes in Net Position (In Thousands)

	For the Years Ended		
	12/31/16	12/31/15	
Operating Revenues:			
Pledged as Security for Revenue Bonds:			
Tolls	\$ 288,439	\$ 280,187	
Special Toll Permits	3,427	3,413	
Concessions	15,631	15,432	
Leases and Licenses	1,154	1,031	
Other Revenues	3,812	3,214	
Unpledged Revenues:			
Concessions	694	688	
Other Revenues	10	3	
Total Operating Revenues	313,167	303,968	
Operating Expenses:			
Administration and Insurance	11,484	10,178	
Maintenance of Roadway and Structures	39,596	35,562	
Services and Toll Operations	55,383	51,513	
Traffic Control, Safety, Patrol, and Communications	14,487	13,885	
Depreciation	71,663	69,364	
Total Operating Expenses	192,613	180,502	
Operating Income	120,554	123,466	
Nonoperating Revenues / (Expenses):			
State Fuel Tax Allocation	2,834	2,751	
Investment Earnings Pledged as Security for Revenue Bonds	2,056	2,033	
Investment Earnings - Unpledged	2,561	3,423	
Gain on Disposals of Capital Assets	127	312	
Ohio Department of Transportation Infrastructure Project Expense	(279,368)	(306,265)	
Interest Expense	(79,108)	(80,579)	
Total Nonoperating Revenues / (Expenses)	(350,898)	(378,325)	
Decrease in Net Position	(230,344)	(254,859)	
Net Position Beginning of Year	509,325	805,092	
Cumulative effect of change in accounting principle	· ·	(40,908)	
Net Position Beginning of Year, as Restated	509,325	764,184	
Net Position End of Year	\$ 278,981	\$ 509,325	

## Statements of Cash Flows (In Thousands)

Statements of Cash Flows (In Thousands)	For the Years End	
	12/31/16	12/31/15
Cash Flows from Operating Activities:		
Cash Received from Customers	\$ 307,484	\$ 298,108
Cash Received from Other Operating Revenues	8,189	6,293
Cash Payments for Employee Salaries, Wages and Fringe Benefits	(74,502)	(72,278)
Cash Payments for Goods and Services  Net Cash Provided by Operating Activities	(39,160) 202,011	(41,762) 190,361
Net Cash Frovided by Operating Activities	202,011	170,301
Cash Flows from Noncapital Financing Activities:	4	
Payments to the Ohio Department of Transportation	(283,107)	(298,570)
State Fuel Tax Allocation	2,794	2,709
Net Cash Used in Noncapital Financing Activities	(280,313)	(295,861)
Cash Flows from Capital and Related Financing Activities:		
Proceeds from Sale of Assets	555	366
Acquisition and Construction of Capital Assets	(118,238)	(102,828)
Principal Paid on Bonds	(30,995)	(29,445)
Interest Paid on Bonds	(64,279)	(65,812)
Net Cash Used in Capital and Related Financing Activities	(212,957)	(197,719)
Cash Flows from Investing Activities:		
Interest Received on Investments	5,544	5,955
Proceeds from Sale and Maturity of Investments	800,714	663,711
Purchase of Investments  Not Cook Provided by Investigat Addition	(644,656)	(343,846)
Net Cash Provided by Investing Activities	161,602	325,820
Net Increase / (Decrease) in Cash and Cash Equivalents	(129,657)	22,601
Cash and Cash Equivalents - Beginning of Year	202,876	180,275
Cash and Cash Equivalents - End of Year	\$ 73,219	\$ 202,876
Reconciliation of Operating Income to Net Cash Provided by Operating Activities:		
Operating Income	\$ 120,554	\$ 123,466
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:		
Depreciation	71,663	69,364
Change in Assets, Deferred Outflows of Resources, Liabilities and Deferred Inflows of Resources:	007	(0.000)
Accounts Receivable	227	(2,323)
Inventories Other Accete	1,132	(879)
Other Assets Net Pension Asset	15 (35)	69 (105)
Deferred Pension Outflows of Resources	(17,884)	(2,633)
Accounts Payable	396	709
Accrued Salaries, Wages and Benefits	539	(460)
Net Pension Liability	19,905	1,085
Compensated Absences	339	(4)
Claims and Judgments	351	(752)
Contamination Remediation	680	(61)
Other Liabilities	3,132	1,997
Deferred Pension Inflows of Resources	997	888
Net Cash Provided by Operating Activities	\$ 202,011	\$ 190,361
Noncash Investing and Capital Activities:		
Decrease in Fair Value of Investments	\$ (756)	\$ (385)
Disposals / Write-Offs of Capital Assets	(428)	(53)
Increase in Capital Assets due to Capitalized Interest Costs	(3,466)	(2,376)
Decrease in Capital Assets due to Change in Contracts Payable	(4,247)	(565)
Gain from Capital Asset Trade-in	(5)	(4)
Amortization of Bond Premiums and Refunding Losses Classified as Interest Expense	1,017	1,017
Accretion in Capital Appreciation Bonds	19,879	18,742
The accompanying notes are an integral part of these financial statements.		

#### Notes to Financial Statements

For the Years ended December 31, 2016 and 2015

#### (1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### Reporting Entity

In accordance with the provisions of Governmental Accounting Standards Board ("GASB") Statement No. 14, The Financial Reporting Entity, and GASB Statement No. 39, Determining Whether Certain Organizations are Component Units (an amendment of GASB Statement No. 14), the accompanying financial statements include only the accounts and transactions of the Ohio Turnpike and Infrastructure Commission ("Commission", "Ohio Turnpike"). Under the criteria specified in these GASB Statements, the Commission is considered a component unit of the State of Ohio because the Governor appoints the voting members of the Commission and the State is financially accountable for the Commission since the State has the potential to receive a financial benefit from the Commission. The Commission has no component units.

#### Basis of Accounting

The accompanying financial statements were prepared in accordance with accounting principles generally accepted in the United States of America, as prescribed by GASB. The statements were prepared using the economic resources measurement focus and the accrual basis of accounting. All transactions are accounted for in a single proprietary (enterprise) fund.

#### Implementation of GASB Statements No. 68 and No. 71

During 2015, the Commission implemented GASB Statements No. 68, Accounting and Financial Reporting for Pensions, and GASB Statement No. 71, Pension Transition for Contributions Made Subsequent to the Measurement Date. GASB Statement No. 68 requires employers participating in cost-sharing multiple-employer pension plans to recognize a proportionate share of the net pension liabilities of the plans. The Commission participates in the Public Employees Retirement System of Ohio ("OPERS"). A proportionate share of the net pension liabilities of the retirement system has been allocated to the Commission, based on retirement plan contributions for Commission employees. The cumulative effect of adopting GASB Statements No. 68 and No. 71 was a \$40,908,000 reduction in the Commission's net position as of January 1, 2015. Balances reported for the year ended December 31, 2014 have not been restated due to limitations on the information available from the retirement system. Additional information regarding net pension liabilities, related deferrals and pension expense is provided in Note 8.

#### **New Accounting Pronouncements**

In June 2015, GASB issued Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2016. The implementation of this Statement had no impact on the Commission's financial statements or disclosures.

In June 2015, GASB issued Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2017. The Commission has not determined the impact that this Statement will have on its financial statements or disclosures.

During 2016, the Commission implemented GASB issued Statement No. 79, Certain External Investment Pools and Pool Participants. GASB Statement No. 79 enhances comparability of financial statements by establishing specific criteria used to determine whether a qualifying external investment pool may elect to use an amortized cost exception to fair value measurement and with consistent application of an amortized cost-based measurement for financial reporting purposes.

During 2016, the Commission implemented GASB issued Statement No. 80, Blending Requirements for Certain Component Units. The implementation of this Statement had no impact on the Commission's financial statements or disclosures.

During 2016, the Commission implemented GASB issued Statement No. 81, Irrevocable Split-Interest Agreements. The implementation of this Statement had no impact on the Commission's financial statements or disclosures.

In March 2016, GASB issued Statement No. 82, *Pension Issues*. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2016. The Commission has not determined the impact, if any, that this Statement will have on its financial statements or disclosures.

In November 2016, GASB issued Statement No. 83, Certain Asset Retirement Obligations. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2018. The Commission has not determined the impact, if any, that this Statement will have on its financial statements or disclosures.

#### **Net Position Classifications**

GASB Statement No. 34, Basic Financial Statements - and Management's Discussion and Analysis - for State and Local Governments, require the classification of net position into the following three components:

- » Net Investment in Capital Assets consisting of capital assets, net of accumulated depreciation and reduced by the outstanding balance of borrowings that are attributable to the acquisition, construction, or improvement of those assets.
- » Restricted consisting of net position, the use of which is limited by external constraints imposed by creditors (such as through debt covenants), grantors, contributors, laws or regulations of other governments, constitutional provisions or enabling legislation.
- » Unrestricted consisting of net position that does not meet the definition of "net investment in capital assets" or "restricted".

#### Cash Equivalents

Cash equivalents are defined as highly liquid investments, including overnight repurchase agreements, negotiated order of withdrawal accounts, money market funds and certificates of deposit maturing within 90 days of purchase. Commission investments in overnight repurchase agreements and money market mutual funds, which have remaining maturities of one year or less, are carried at amortized cost, which approximates fair value.

#### Investments

In the accompanying Statements of Net Position, investments are comprised of certificates of deposit maturing beyond 90 days of purchase, U.S. instrumentality securities and shares in the State Treasury Asset Reserve of Ohio ("STAR Ohio") investment pool. Commission investments in STAR Ohio are carried at amortized cost, which approximates fair value. All other Commission investments are recorded at fair value based on quoted market prices with all related investment income, including the change in the fair value of investments and realized gains and losses, reflected in the Commission's net income.

STAR Ohio is an investment pool created pursuant to Ohio statutes and is managed by the Treasurer of the State of Ohio. The Commission does not own identifiable securities of the pool; rather, it participates as a shareholder of the pool. STAR Ohio is not registered with the Securities and Exchange Commission as an investment company, but does operate in a manner consistent with the provisions of GASB Statement No. 79, Certain Investment Pools and Pool Participants. The fair value of the Commission's position in the pool is the same as the value of the pool shares. For the years ended December 31, 2016 and 2015, there were no limitations on any participant withdrawals due to redemption notice periods, liquidity fees, or redemption gates.

#### Accounts Receivable

Accounts receivable consist of various tolls, charges and amounts due from individuals, commercial companies and other agencies and concession revenues receivable from operators of food and fuel concessions at the Commission's service plazas. Toll accounts receivable from E-ZPass® post-paid customers are guaranteed by a surety bond. Reserves for uncollectible accounts receivable are established based on specific identification and historical experience.

#### Inventories

Inventories consist of materials and supplies that are valued at cost (first-in, first-out). The cost of inventory items is recognized as an expense when used.

#### **Property and Depreciation**

Property, roadway, and equipment with an original cost of \$1,000 or more are capitalized and reported at cost, net of accumulated depreciation. The costs of normal maintenance and repairs are charged to operations as incurred.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets as follows:

Description	Years
Buildings, roadway and structures	40
Bridge painting and guardrail	20
Roadway resurfacing	8-12
Building improvements	10
Machinery, equipment and vehicles	5-10

Depreciation expense is included in the Statements of Revenues, Expenses and Changes in Net Position.

#### Capitalization of Interest

Capitalized interest is included in the cost of constructed assets and is depreciated on the straight-line basis over the estimated useful lives of such assets. The amount of interest capitalized is based on the cost of assets under construction and the interest cost of eligible borrowings, less investment earnings, if any, on the related bond proceeds. Interest of \$3,466,000 and \$2,376,000 was capitalized for the years ended December 31, 2016 and 2015, respectively.

#### **Deferred Outflows of Resources**

In addition to assets, the statements of net position report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (expense/expenditure) until then. The Commission's deferred outflows of resources is related to the net pension liability and unamortized refunding gains/losses on debt. See Note 5 for more information.

#### Bond Issuance Costs, Discounts / Premiums, and Advance Debt Refundings

Bond issuance costs are expensed as incurred. Unamortized bond discounts and premiums are netted against long-term debt. Bond discounts and premiums are amortized to interest expense over the lives of the applicable bonds. Unamortized advance debt refunding losses are classified as deferred outflows of resources and are amortized to interest expense over the lives of the refunded bonds.

#### **Compensated Absences**

Vacation leave accumulates to all full-time employees of the Commission, ranging from 10 to 25 days per year, and any unused amounts are paid upon retirement or termination. The Commission records a liability for all vacation leave earned.

Sick leave accumulates to all full-time employees of the Commission, at the rate of 15 days per year with additional amounts for overtime worked. A portion of unused sick leave may be payable at the request of an employee or upon termination or retirement. The Commission uses the vesting method to calculate its liability for unused sick leave, to the extent that it is probable that benefits will be paid in cash.

#### Pensions

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 Ohio Public Employees Retirement System ("OPERS") Pension Plan, and additions to/deductions from OPERS' fiduciary net position, have been determined on the same basis as they are reported by OPERS. OPERS uses the economic resources measurement focus and the full-accrual basis of accounting. Contribution revenue is recorded as contributions are due, pursuant to legal requirements. Benefit payments (including refunds of employee contributions) are recognized as expense when due and payable in accordance with the benefit terms. Investments are reported at fair value.

#### **Deferred Inflows of Resources**

In addition to liabilities, the statements of net position report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period and so will not be recognized as an

inflow of resources (revenue) until that time. The Commission's deferred inflows of resources is related to the net pension liability. More detailed information can be found in Note 8.

#### Operating / Nonoperating Activities

Operating revenues and expenses, as reported on the Statements of Revenues, Expenses and Changes in Net Position, are those that result from exchange transactions such as payments received for providing services and payments made for goods and services received.

Tolls, the principal source of Commission operating revenues, are recognized as vehicles use the Turnpike. For toll calculation purposes, through September 30, 2009 vehicles were assigned to one of eleven weight-based classifications. Tolls were assessed based on the vehicle classification and the distance traveled. Effective October 1, 2009, the Commission implemented a new toll collection system that includes electronic toll collection in the form of *E-ZPass®*, which is interoperable among a network of 38 northeastern U.S. toll agencies. Concurrent with the implementation of the new toll collection system and *E-ZPass*, the Commission converted its weight-based vehicle classification system to a methodology that classifies vehicles based upon the number of axles and the height over the first two axles. Axle-based toll rates were implemented along with *E-ZPass* on October 1, 2009. As an incentive to utilize electronic tolling, toll rates are lower for customers who use *E-ZPass* than for those who pay at the toll booths.

In addition to tolls, the other major source of operating revenue is concessions from the operation of the Commission's service plazas. Concession revenues arise from contracts entered into for the operation of the restaurants and service stations on the Turnpike. The operators pay fees based in part on percentages of gross sales (as defined in the respective contracts). As provided by Ohio law, the Commission also receives nonoperating revenue of five cents in Ohio fuel taxes for each gallon of fuel sold at the Commission's service plazas. The Commission's revenues are recognized when the operators make the sales. All other revenues are recognized when earned.

Operating expenses include the costs of operating and maintaining the Commission's roadway, bridges, toll plazas, service plazas and other facilities, as well as administrative expenses and depreciation on capital assets. The Commission's practice is to first apply restricted resources when expenditures are made for purposes for which both unrestricted and restricted resources are available.

Nonoperating revenue includes revenue from activities that have the characteristics of nonexchange transactions, such as the allocation of Ohio fuel tax revenues, investment earnings, payments to the Ohio Department of Transportation ("ODOT"), interest expense and gains/losses on disposals/write-offs of capital assets. The implication is that such activities are derived from more passive efforts related to the acquisition of the revenue, rather than the earning of it.

#### Reclassifications

Certain amounts from the prior year have been reclassified. On the statements of net position, \$112,500,000 has been reclassified from restricted current investments to restricted noncurrent investments to conform to the current year presentation. Total assets have not been affected by this change.

#### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

#### (2) DEPOSITS AND INVESTMENTS

#### Deposits

The Commission had \$329,000 and \$331,000 in undeposited cash on hand at December 31, 2016 and December 31, 2015, respectively. The carrying amount of the Commission's deposits as of December 31, 2016 was \$12,731,000 as compared to bank balances of \$14,372,000. The carrying amount of the Commission's deposits as of December 31, 2015 was \$11,428,000 as compared to bank balances of \$13,071,000. All of the bank balances were covered by federal depository insurance or collateralized with securities held in joint custody accounts in the name of the pledging financial institution at the Federal Reserve Bank of Boston, Massachusetts.

#### Investments

The Commission categorizes its fair value measurements at fair value within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted market prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

As of December 31, 2016 the Commission's investments had the following recurring fair value measurements (in thousands):

Investment Type	2016	Leve	l 1	L	evel 2
Federal National Mortgage Association	\$ 109,641	\$	-	\$	109,641
Federal Farm Credit Bureau	70,784		-		70,784
Federal Home Loan Mortgage Corporation	64,316		-		64,316
Federal Home Loan Bank	49,401		-		49,401
United State Treasury Notes	16,005		-		16,005
Total Investments	\$ 310,147	\$	-	\$	310,147

As of December 31, 2015 the Commission's investments had the following recurring fair value measurements (in thousands):

Investment Type	2015	Leve	el 1	Le	evel 2
Federal National Mortgage Association	\$ 342,060	\$	-	\$	342,060
Federal Home Loan Mortgage Corporation	198,587		_		198,587
Federal Home Loan Bank	69,296		_		69,296
Total Investments	\$ 609,943	\$	-	\$	609,943

The State Treasury Asset Reserve of Ohio of \$153,470,000 in 2016 and \$10,187,000 in 2015 are valued at amortized cost, which approximates fair value.

The U.S. Instrumentalities of \$310,147,000 in 2016 and \$609,943,000 in 2015 are valued using a matrix pricing model technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices.

Federal Farm Credit Bureau securities totaling \$70,784,000, Federal National Mortgage Association securities totaling \$97,108,000, and Federal Home Loan Mortgage Corporation securities totaling \$11,133,000 with maturities between one and five years, are callable within one year from December 31, 2016. Federal National Mortgage Association securities totaling \$64,163,000 and Federal Home Loan Mortgage Corporation securities totaling \$98,355,000 with maturities between one and five years, are callable within one year from December 31, 2015.

#### Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. As a means of limiting exposure to fair value losses arising from rising interest rates, the Commission's Investment Policy provides that selection of investment maturities be consistent with projected cash requirements and the objective of avoiding the forced sale of securities prior to maturity. In addition, the Commission's Investment Policy and Ohio law prescribe that all Commission investments mature within five years of purchase, unless the investment is matched to a specific obligation or debt of the Commission.

As of December 31, 2016, the Commission's investment balances (in thousands) and maturities, excluding call provisions, were as follows:

		Maturities (in	Years)
Investment Type	Fair Value	Less than 1	1-5
State Treasury Asset Reserve of Ohio*	\$ 153,470	\$ 153,470	\$ -
Federal National Mortgage Association	109,641	2,693	106,947
Federal Farm Credit Bureau	70,784	_	70,784
Federal Home Loan Mortgage Corporation	64,316	53,184	11,133
Collateralized Overnight Repurchase Agreements*	59,197	59,197	-
Federal Home Loan Bank	49,401	31,435	17,966
United States Treasury Notes	16,005	16,005	-
Money Market Mutual Funds*	953	953	-
Negotiable Order of Withdrawal Accounts*	10	10	-
Total Investments	\$ 523,777	\$ 316,947	\$ 206,830

<sup>\*</sup> Valued at amortized cost

As of December 31, 2015, the Commission's investment balances (in thousands) and maturities, excluding call provisions, were as follows:

	Maturities (ir	ı Years)
Fair Value	Less than 1	1-5
\$ 342,060	\$ 268,189	\$ 73,871
198,587	55,206	143,381
104,035	104,035	-
86,471	86,471	-
69,296	59,316	9,980
10,187	10,187	-
611	611	-
\$ 811,247	\$ 584,015	\$ 227,232
	\$ 342,060 198,587 104,035 86,471 69,296 10,187 611	Fair Value         Less than 1           \$ 342,060         \$ 268,189           198,587         55,206           104,035         104,035           86,471         86,471           69,296         59,316           10,187         10,187           611         611

<sup>\*</sup> Valued at amortized cost

#### Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Commission's Investment Policy authorizes investments in obligations of the U.S. Treasury, U.S. agencies and instrumentalities, certificates of deposit, STAR Ohio, money

market mutual funds, repurchase agreements and General Obligations of the State of Ohio rated AA or higher by a rating service. As of the Statements of Net Position dates, the Commission's investments in U.S. instrumentalities (Federal National Mortgage Association, Federal Home Loan Mortgage Corporation, Federal Home Loan Bank, and Federal Farm Credit Bureau) were all rated AA+ by Standard & Poor's and Aaa by Moody's Investors Service. STAR Ohio, as well as the money market mutual funds in which the Commission had investments, were rated AAAm by Standard & Poor's.

#### **Custodial Credit Risk**

Custodial credit risk is the risk that, in the event of the failure of a counterparty to a transaction, 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. The Commission's Investment Policy requires that all deposits be secured by collateral held in safekeeping for the benefit of the Commission by a Federal Reserve Bank. The Commission's Investment Policy also requires that, excluding Debt Service Fund investments, all U.S. Treasury Obligations, U.S. Agency Obligations, U.S. Instrumentality Obligations, and General Obligations of the State of Ohio purchased by the Commission be held in third-party safekeeping for the benefit of the Commission at a bank or savings and loan association that is eligible to be a depository of public moneys under Section 135.04 of the Ohio Revised Code and that is also authorized under Ohio law to act as trustee for the safekeeping of securities.

As of the Statements of Net Position dates, all Commission deposits and investments in overnight repurchase agreements and negotiable order of withdrawal accounts were fully secured by collateral held in joint custody accounts in the name of the Ohio Turnpike and Infrastructure Commission and the pledging financial institution at the Federal Reserve Bank of Boston, Massachusetts. Excluding Debt Service Fund investments, all U.S. Instrumentality Obligations held by the Commission were held in safekeeping for the benefit of the Commission by the Trust Department at Fifth Third Bank, Cincinnati, Ohio as of December 31, 2016 and December 31, 2015. As of December 31, 2016 and December 31, 2015, Debt Service Fund investments in U.S. instrumentality securities with fair values totaling \$186,279,000 and \$186,044,000, respectively, were held by The Huntington National Bank ("Trustee") for the payment of interest and principal on the Commission's outstanding bonds as required by the Commission's Master Trust Agreement as amended and supplemented, see Note 6. Assets held by the Trustee as a custodial agent are considered legally separate from the other assets of The Huntington National Bank.

#### Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of investment in a single issuer. The Commission's Investment Policy provides that 100 percent of its average monthly portfolio may be invested in U.S. Treasury Obligations, fixed-rate non-callable U.S. Agency or Instrumentality Obligations, or collateralized overnight repurchase agreements. The Investment Policy further provides that a maximum of 50 percent of its average monthly portfolio may be invested in callable U.S. Agency or Instrumentality Obligations, STAR Ohio or certificates of deposit. The Investment Policy also provides that a maximum of 25 percent of its average monthly portfolio may be invested in variable-rate U.S. Agency or Instrumentality Obligations, uncollateralized repurchase agreements, general obligations of the State of Ohio and money market mutual funds. As of December 31, 2016, more than five percent of the Commission's portfolio was invested in collateralized overnight repurchase agreements and STAR Ohio as well as each of the following U.S. instrumentalities: Federal National Mortgage Association, Federal Farm Credit Bureau, Federal Home Loan Mortgage Corporation, Federal Home Loan Bank. As of December 31, 2015, more than five percent of the Commission's portfolio was invested in collateralized overnight repurchase agreements and collateralized negotiable order of withdrawal accounts, as well as each of the following U.S. instrumentalities: Federal National Mortgage Association, Federal Home Loan Mortgage Corporation.

#### (3) ACCOUNTS RECEIVABLE

The composition of unrestricted accounts receivable (in thousands) as of December 31, is summarized as follows:

	2016	2015
Tolls	\$ 14,547	\$ 13,529
Concessions	1,318	1,628
Other	1,013	1,153
Less: Allowance for Doubtful Accounts	(92)	(151)
Total Accounts Receivable	\$ 16,786	\$ 16,159

#### (4) CAPITAL ASSETS

Capital asset activity (in thousands) for the years ended December 31, 2016 and 2015 was as follows:

Capital Assets Not Being Depreciated:         3 38 211         \$ —         \$ 38 211           Construction in Progress         24,578         120,196         (126,613)         18,161           Total Capital Assets Not Being Depreciated         62,789         120,196         (126,613)         56,372           Other Capital Assets Sets         8         1,788,975         117,582         (7,789)         1,898,768           Bulidings and Improvements         503,493         9,031         (387)         512,137           Machinery and Equipment         88,478         5,760         (5,317)         8,921           Total Other Capital Assets at Historical Cost         2,380,946         132,373         (13,493)         2,499,826           Less Accumulated Depreciation for:         797,029         (49,000)         7,500         (83,8529)           Buildings and Improvements         (176,244)         (15,008)         359         (190,893)           Machinery and Equipment         (62,717)         (7,655)         5,200         (65,172)           Total Accumulated Depreciation         (1,035,990)         (71,663)         13,059         (1,094,594)           Total Capital Assets, Net         1,344,956         60,710         (434)         1,052,222           Total Capital As		Balance 12/31/15	Increases	Decreases	Balance 12/31/16
Construction in Progress   24.578   120.196   (126.613)   18.161   Total Capital Assets Not Being Depreciated   62.789   120.196   (126.613)   56.372	Capital Assets Not Being Depreciated:				
Total Capital Assets Not Being Depreciated         62,789         120,196         (126,613)         56,372           Other Capital Assets:         8         1,788,975         117,582         (7,789)         1,898,768           Roadway and Structures         1,788,975         117,582         (7,789)         1,898,788           Buildings and Improvements         503,493         9,031         (387)         512,137           Machinery and Equipment         88,478         5,760         (5,317)         88,921           Total Other Capital Assets at Historical Cost         2,380,946         132,373         (13,493)         2,499,826           Less Accumulated Depreciation for:         8         7,770,229         (49,000)         7,500         (838,529)           Buildings and Improvements         176,244         (15,008)         359         (190,893)           Machinery and Equipment         (62,717)         (7,655)         5,200         (65,172)           Total Accumulated Depreciation         (1,035,990)         (7,655)         5,200         (65,172)           Other Capital Assets, Net         1,344,956         60,710         (434)         1,406,232           Total Capital Assets Not Being Depreciated         \$1,407,745         \$180,906         \$(127,047)         \$1,461,6			'	· ·	
Property   Property					
Roadway and Structures   1,788,975   117,582   (7,789)   1,898,768   1,891,688   1,891,689   1,891,6	Total Capital Assets Not Being Depreciated	62,789	120,196	(126,613)	56,372
Buildings and Improvements   503,493   9,031   (387)   512,137   Machinery and Equipment   88,478   5,760   (5,317)   88,921   7512	Other Capital Assets:				
Machinery and Equipment Total Other Capital Assets at Historical Cost         88,478         5,760         (5,317)         88,921 Total Other Capital Assets at Historical Cost         2,380,946         132,373         (13,493)         2,499,826           Less Accumulated Depreciation For:         Roadway and Structures         (797,029)         (49,000)         7,500         (838,529)           Buildings and Improvements         (176,244)         (15,008)         359         (190,893)           Machinery and Equipment         (62,717)         (7,655)         5,200         (65,172)           Total Accumulated Depreciation         (1,035,990)         (71,663)         13,059         (1,094,594)           Other Capital Assets, Net         1,344,956         60,710         (434)         1,405,232           Total Capital Assets, Net         1,407,745         180,906         \$ (127,047)         \$ 1,461,604           Balance 12/31/14         Increases         Decreases         12/31/15           Capital Assets Not Being Depreciated         4,687         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         4,687         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         1,726,826         81,284         (19,135)         1,78	Roadway and Structures	1,788,975	117,582	(7,789)	1,898,768
Total Other Capital Assets at Historical Cost   2,380,946   132,373   (13,493)   2,499,826     Less Accumulated Depreciation for:   Roadway and Structures   (797,029)   (49,000)   7,500   (838,529)     Buildings and Improvements   (176,244)   (15,008)   359   (190,893)     Machinery and Equipment   (62,717)   (7,655)   5,200   (65,172)     Total Accumulated Depreciation   (1,035,990)   (71,663)   13,059   (1,094,594)     Other Capital Assets, Net   1,344,956   60,710   (434)   1,405,232     Total Capital Assets, Net   1,407,745   \$180,906   \$(127,047)   \$1,461,604     Balance		,	· ·		
Roadway and Structures			· · · · · · · · · · · · · · · · · · ·		
Roadway and Structures         (797,029)         (49,000)         7,500         (838,529)           Buildings and Improvements         (176,244)         (15,008)         359         (100,893)           Machinery and Equipment         (62,717)         (7,655)         5,200         (65,172)           Total Accumulated Depreciation         (1,035,990)         (71,663)         13,059         (1,094,594)           Other Capital Assets, Net         1,344,956         60,710         (434)         1,405,232           Total Capital Assets, Net         \$1,407,745         \$180,906         \$(127,047)         \$1,461,604           Balance 12/31/14         Increases         Decreases         12/31/15           Capital Assets, Net         \$38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         50,099         <	Iotal Other Capital Assets at Historical Cost	2,380,946	132,373	(13,493)	2,499,826
Buildings and Improvements	Less Accumulated Depreciation for:				
Machinery and Equipment         (62,717)         (7,655)         5,200         (65,722)           Total Accumulated Depreciation         (1,035,990)         (71,663)         13,059         (1,094,594)           Other Capital Assets, Net         1,344,956         60,710         (434)         1,405,232           Total Capital Assets, Net         \$1,407,745         \$180,906         \$(127,047)         \$1,461,604           Balance         12/31/14         Increases         Decreases         12/31/15           Capital Assets Not Being Depreciated:         Balance         Decreases         12/31/15           Land         \$38,211         \$-         \$-         \$38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,761         (23,211)         2,380,946           Less Accumulated Depreciation for:         2,316,486         87,671	<u> </u>	(797,029)	(49,000)	7,500	, , ,
Total Accumulated Depreciation		• • •	, , ,		
Other Capital Assets, Net         1,344,956         60,710         (434)         1,405,232           Total Capital Assets, Net         \$1,407,745         \$180,906         \$(127,047)         \$1,461,604           Balance 12/31/14         Increases         Decreases         12/31/15           Capital Assets Not Being Depreciated:         Increases         Decreases         12/31/15           Land         \$38,211         \$-         \$-         \$38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         8         8         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         8         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486 <t< td=""><td></td><td></td><td></td><td></td><td></td></t<>					
Total Capital Assets, Net         \$ 1,407,745         \$ 180,906         \$ (127,047)         \$ 1,461,604           Balance 12/31/14         Increases         Decreases         12/31/15           Capital Assets Not Being Depreciated:         Sa8,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         8         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         8,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         8         8,661         19,135         (797,029)           Buildings and Improvements         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)	Total Accumulated Depreciation	(1,035,990)	(71,663)	13,059	(1,094,594)
Balance 12/31/14         Increases         Decreases         Balance 12/31/15           Capital Assets Not Being Depreciated:         Increases         Decreases         12/31/15           Land         \$ 38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets Structures         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         50,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for: <t< td=""><td>Other Capital Assets, Net</td><td>1,344,956</td><td>60,710</td><td>(434)</td><td>1,405,232</td></t<>	Other Capital Assets, Net	1,344,956	60,710	(434)	1,405,232
Capital Assets Not Being Depreciated:         38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         8         87,671         19,135         (797,029)           Buildings and Improvements         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706 <td>Total Capital Assets, Net</td> <td>\$ 1,407,745</td> <td>\$ 180,906</td> <td>\$ (127,047)</td> <td>\$ 1,461,604</td>	Total Capital Assets, Net	\$ 1,407,745	\$ 180,906	\$ (127,047)	\$ 1,461,604
Capital Assets Not Being Depreciated:         38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         8         87,671         19,135         (797,029)           Buildings and Improvements         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706 <td></td> <td></td> <td></td> <td></td> <td></td>					
Capital Assets Not Being Depreciated:         \$ 38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         81,284         (19,135)         1,788,975           Roadway and Structures         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other C				_	
Land         \$ 38,211         \$ -         \$ -         \$ 38,211           Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         8           Roadway and Structures         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,3	Control Accords Not Delica Degraphed	12/31/14	Increases	Decreases	12/31/15
Construction In Progress         6,476         101,982         (83,880)         24,578           Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         Unique to the control of the c		ф 20.211	Φ.	Φ.	ф 20.211
Total Capital Assets Not Being Depreciated         44,687         101,982         (83,880)         62,789           Other Capital Assets:         Roadway and Structures         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956					
Other Capital Assets:         Roadway and Structures       1,726,826       81,284       (19,135)       1,788,975         Buildings and Improvements       500,997       2,596       (100)       503,493         Machinery and Equipment       88,663       3,791       (3,976)       88,478         Total Other Capital Assets at Historical Cost       2,316,486       87,671       (23,211)       2,380,946         Less Accumulated Depreciation for:       (769,503)       (46,661)       19,135       (797,029)         Buildings and Improvements       (161,633)       (14,711)       100       (176,244)         Machinery and Equipment       (58,644)       (7,993)       3,920       (62,717)         Total Accumulated Depreciation       (989,780)       (69,365)       23,155       (1,035,990)         Other Capital Assets, Net       1,326,706       18,306       (56)       1,344,956	-		<u> </u>		
Roadway and Structures         1,726,826         81,284         (19,135)         1,788,975           Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Total Capital Assets Not Being Depreciated	44,687	101,982	(83,880)	62,789
Buildings and Improvements         500,997         2,596         (100)         503,493           Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures           Roadway and Improvements         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Other Capital Assets:				
Machinery and Equipment         88,663         3,791         (3,976)         88,478           Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Roadway and Structures	1,726,826	81,284	(19,135)	1,788,975
Total Other Capital Assets at Historical Cost         2,316,486         87,671         (23,211)         2,380,946           Less Accumulated Depreciation for:         Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Buildings and Improvements	500,997	2,596	(100)	503,493
Less Accumulated Depreciation for:         Roadway and Structures       (769,503)       (46,661)       19,135       (797,029)         Buildings and Improvements       (161,633)       (14,711)       100       (176,244)         Machinery and Equipment       (58,644)       (7,993)       3,920       (62,717)         Total Accumulated Depreciation       (989,780)       (69,365)       23,155       (1,035,990)         Other Capital Assets, Net       1,326,706       18,306       (56)       1,344,956	Machinery and Equipment	88,663	3,791	(3,976)	88,478
Roadway and Structures         (769,503)         (46,661)         19,135         (797,029)           Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Total Other Capital Assets at Historical Cost	2,316,486	87,671	(23,211)	2,380,946
Buildings and Improvements         (161,633)         (14,711)         100         (176,244)           Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Less Accumulated Depreciation for:				
Machinery and Equipment         (58,644)         (7,993)         3,920         (62,717)           Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Roadway and Structures	(769,503)	(46,661)	19,135	(797,029)
Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	Buildings and Improvements	(161,633)	(14,711)	100	(176,244)
Total Accumulated Depreciation         (989,780)         (69,365)         23,155         (1,035,990)           Other Capital Assets, Net         1,326,706         18,306         (56)         1,344,956	-	(58,644)		3,920	
		(989,780)	(69,365)	23,155	
Total Capital Assets, Net \$ 1,371,393 \$ 120,288 \$ (83,936) \$ 1,407,745	Other Capital Assets, Net	1,326,706	18,306	(56)	1,344,956
	Total Capital Assets, Net	\$ 1,371,393	\$ 120,288	\$ (83,936)	\$ 1,407,745

#### (5) DEFERRED OUTFLOWS OF RESOURCES

The composition of deferred outflows of resources (in thousands) as of December 31, is summarized as follows:

	2016	2015
Unamortized Refunding Gains/Losses	\$ 16,049	\$ 17,816
Deferred Pension Outflows of Resources	26,535	8,651
Total Deferred Outflows of Resources	\$ 42,584	\$ 26,467

#### (6) LONG-TERM OBLIGATIONS

In accordance with Ohio law and the Commission's Amended and Restated Master Trust Agreement ("Senior Lien Trust Agreement"), dated April 8, 2013, as amended by the Nineteenth Supplemental Trust Agreement, and the Junior Lien Master Trust Agreement ("Junior Lien Trust Agreement"), dated August 1, 2013, as amended by the first supplemental Junior Lien Trust Agreement (collectively, the "Trust Agreements") the Commission has issued revenue bonds payable solely from the Commission's System Pledged Revenues, as defined by the Trust Agreements. The bond proceeds have been used to either help fund the purchase or construction of capital assets, to refund other Turnpike revenue bonds or to fund infrastructure

projects constructed by ODOT. Gross Pledged Revenues include tolls, special toll permits, certain realized investment earnings, appropriations from ODOT (if any), and revenue derived from leases, licenses, royalties, advertising, miscellaneous sales, fees, charges and certain concession revenues. The Commission's outstanding bonds do not constitute general obligations of the Commission or the State of Ohio. Neither the general credit of the Commission nor the State of Ohio is pledged for the payment of the bonds.

Under the terms of the Trust Agreements, the Commission covenants to charge and collect sufficient tolls in order that annual Gross Pledged Revenues equal at least the sum of the following: 1) annual operating, maintenance and administrative costs paid from Pledged Revenues; 2) required deposits to maintain an expense reserve account equal to one-twelfth of budgeted annual operating, maintenance and administrative costs paid from Pledged Revenues; 3) budgeted annual amounts for renewal and replacement costs; and 4) composite annual debt service on its outstanding bonds.

The Commission also covenants that its System Pledged Revenues (annual Gross Pledged Revenues less annual operating, maintenance and administrative costs paid from Pledged Revenues and the required annual deposit to the expense reserve account) will equal at least 120 percent of the composite annual net debt service on its outstanding bonds. The Commission also covenants that its System Pledged Revenues during the fiscal year immediately preceding the issuance of additional senior lien bonds, or during any 12 consecutive calendar months selected by the Commission out of the 15 consecutive calendar months immediately preceding such issuance, will equal at least 150 percent of the maximum annual debt service on its senior lien bonds then outstanding and the senior lien bonds proposed to be issued. The Commission also covenants that, based on reasonable assumptions, its System Pledged Revenues are projected to be at least 150 percent of composite annual debt service for the then current year and each successive year during which the junior lien bonds then outstanding, the junior lien bonds proposed to be issued and any senior lien bonds then proposed to be issued will be outstanding.

The Commission also covenants that prior to reducing any toll rates on other than a temporary basis, it will engage the services of an independent consultant to estimate the Commission's Gross Pledged Revenues for each year during which Commission bonds are scheduled to be outstanding and, based on these estimated revenues, the Commission covenants that its System Pledged Revenues will equal at least 150 percent of its net composite annual debt service for each year during which Commission bonds are scheduled to be outstanding. The Commission has reviewed its bond covenants and determined that it is in compliance for 2016 and 2015.

In addition, the Commission has, by resolution, declared its intention as a matter of policy to use its best efforts to maintain a ratio of System Pledged Revenues to net senior lien debt service of at least 200 percent. Other than in connection with the issuance of additional bonds or the implementation of a toll reduction on other than a temporary basis, the Commission has no obligation to meet such coverage levels or to maintain a policy of doing so, and the Commission may rescind that policy at any time.

The Senior Lien Trust Agreement requires the Commission to establish and maintain a Debt Service Reserve Account ("DSRA") equal to the maximum annual debt service on its outstanding senior lien bonds. The senior lien DSRA may be funded either with cash or one or more Reserve Account Credit Facilities obtained from an issuer that has been assigned one of the two highest ratings by each rating agency that rates the Commission's bonds. Due to the downgrade in the credit rating of the issuers of the Commission's Reserve Account Credit Facilities, the Commission has fully funded its DSRA with cash. Those funds were invested and are included in Investments, at Fair Value in restricted current assets.

The Junior Lien Trust Agreement requires the Commission to establish and maintain a DSRA equal to the average annual debt service on its outstanding junior lien bonds. The junior lien DSRA may be funded either with cash or one or more Reserve Account Credit Facilities obtained from an issuer that has been assigned one of the two highest ratings by each rating agency which rates the Commission's bonds. In connection with the issuance of its junior lien bonds, the Commission deposited \$79,070,000 of junior lien bond proceeds into its junior lien DSRA, which deposit is restricted for debt service. Those funds were invested and are included in Investments, at Fair Value in restricted current assets.

Changes in long-term obligations (in thousands) for 2016 and 2015 are as follows:

	-	Balance 2/31/15	ı	ncreases	[	Decreases	Balance 12/31/16	Di	Amounts ue Within One Year
Revenue Bonds Payable: Principal Payable	\$ 1,	593,353	\$	19,879	\$	(30,995)	\$ 1,582,237	\$	32,520
Unamortized Premiums - Net		41,556		_		(2,784)	38,772		_
Total Revenue Bonds Payable	1,	534,909		19,879		(33,779)	1,621,009		32,520
Net Pension Liability		48,051		19,905		-	67,956		_
Compensated Absences		10,085		5,844		(5,505)	10,424		4,723
Claims and Judgments		1,447		12,695		(12,344)	1,798		1,323
Contamination Remediation		715		840		(160)	1,395		895
Totals	\$ 1,	695,207	\$	59,163	\$	(51,788)	\$ 1,702,582	\$	39,461
	-	Balance 2/31/14		ncreases	,	Decreases	Balance 12/31/15	Di	Amounts ue Within One Year
		2/01/11	ı	IICI Eases	L	Juliuasus	12/31/13		One rear
Revenue Bonds Payable:		2/01/11		licieases	ı.	Jeer cases	12/31/13		One real
Revenue Bonds Payable: Principal Payable Unamortized Premiums - Net		604,056 44,339	\$	18,742 –	\$	(29,445) (2,783)	\$ 1,593,353 41,556	\$	30,995
Principal Payable Unamortized Premiums - Net Total Revenue Bonds Payable	\$ 1,	604,056		18,742 - 18,742		(29,445)	\$ 1,593,353 41,556 1,634,909		
Principal Payable Unamortized Premiums - Net Total Revenue Bonds Payable Net Pension Liability	\$ 1,	604,056 44,339 648,395		18,742 - 18,742 48,051		(29,445) (2,783) (32,228)	\$ 1,593,353 41,556 1,634,909 48,051		30,995  30,995 _
Principal Payable Unamortized Premiums - Net Total Revenue Bonds Payable Net Pension Liability Compensated Absences	\$ 1,	604,056 44,339 648,395 – 10,089		18,742 - 18,742 48,051 5,779		(29,445) (2,783) (32,228) – (5,783)	\$ 1,593,353 41,556 1,634,909 48,051 10,085		30,995 - 30,995 - 4,972
Principal Payable Unamortized Premiums - Net Total Revenue Bonds Payable Net Pension Liability Compensated Absences Claims and Judgments	\$ 1,	604,056 44,339 648,395 - 10,089 2,199		18,742 - 18,742 48,051		(29,445) (2,783) (32,228) - (5,783) (10,862)	\$ 1,593,353 41,556 1,634,909 48,051 10,085 1,447		30,995 - 30,995 - 4,972 976
Principal Payable Unamortized Premiums - Net Total Revenue Bonds Payable Net Pension Liability Compensated Absences	\$ 1,	604,056 44,339 648,395 – 10,089		18,742 - 18,742 48,051 5,779		(29,445) (2,783) (32,228) – (5,783)	\$ 1,593,353 41,556 1,634,909 48,051 10,085		30,995 - 30,995 - 4,972

Revenue bonds, payable (in thousands) as of December 31, 2016, are summarized as follows:

	Original Am	ount Average Yield	Bonds Pa	ayable
Senior Lien Debt				
1998 Series A:				
Serial Bonds maturing 2017 through 2021	\$ 168	3,180	\$ 11	13,380
Term Bonds due 2024 and 2026	130	),395	13	30,395
Total 1998 Series A	298	3,575 4.89%	24	43,775
2009 Series A:				
Serial Bonds maturing through 2024	137	7,205 4.13%	7	76,185
2010 Series A:				
Serial Bonds maturing 2021 through 2027	93	3,920	Ç	93,920
Term Bonds due 2031	37	7,370	3	37,370
	131	,290 4.55%	13	31,290
2013 Series A:				
Term Bonds due 2048	73	3,495 4.93%	7	73,495
Total Senior Lien Principal Issued/Outstanding	640	),565	52	24,745

	Original Amount	Average Yield	Bor	nds Payable
Junior Lien Debt				
2013 Series A:				
Serial Bonds maturing 2019 through 2033	256,195			256,195
Term Bonds due 2039	113,075			113,075
Term Bonds due 2048	340,000			340,000
Capital Appreciation Bonds maturing 2036 through 2043	140,543			172,703
Convertible Capital Appreciation Bonds maturing 2034 through 2036	145,000			175,519
Total Junior Lien Principal Issued/Outstanding	994,813	5.43%		1,057,492
Total Principal Issued/Outstanding	\$ 1,635,378	5.31%	\$	1,582,237
Add:				
Unamortized bond premiums - net				38,772
Total Revenue Bonds Payable			\$	1,621,009

Minimum principal and interest payments (in thousands) on revenue bonds payable are as follows:

Year	Principal	Interest	Total
2017	\$ 32,520	62,664	\$ 95,184
2018	34,250	60,897	95,147
2019	44,120	58,830	102,950
2020	42,965	56,538	99,503
2021	39,630	54,362	93,992
2022 - 2026	267,270	283,652	550,922
2027 - 2031	181,690	245,670	427,360
2032 - 2036	257,581	292,223	549,804
2037 - 2041	221,989	429,885	651,874
2042 - 2046	279,982	265,820	545,802
2047 - 2048	180,240	9,120	189,360
Totals	\$ 1,582,237	\$ 1,819,661	\$ 3,401,898

#### Pollution Remediation Obligation

The Commission has recorded a liability for pollution (including contamination) remediation obligations, which are obligations to address current or potential detrimental effects of existing pollution by participating in remediation activities such as site assessments and cleanups. The liability includes estimated contamination remediation costs to collect and dispose of slag leachate as required by the Ohio Environmental Protection Agency estimated at \$305,000 as of December 31, 2016 and 2015 and estimated contamination remediation costs to remediate soil and underground water contamination from underground petroleum storage tanks as required by the Ohio Bureau of Underground Storage Tank Regulations of \$1,090,000 and \$410,000 as of December 31, 2016 and 2015, respectively. The liability was estimated using the expected cash flow technique. The pollution remediation obligation is an estimate and is subject to changes resulting from price increases or decreases, technology, or changes in applicable laws or regulations.

#### (7) COMMITMENTS AND CONTINGENCIES

#### Commitments

The Commission has commitments as of December 31, 2016 and 2015 of approximately \$38,820,000 and \$47,893,000, respectively for capital projects as well as major repairs and replacements. It is anticipated that these commitments will be financed from the Commission's cash balances. However, at the discretion of the Commission, additional bonds may be issued in the future to finance a portion of these costs.

In addition, the Commission has issued purchase orders for goods and services not received amounting to approximately \$4,649,000 and \$6,666,000 as of December 31, 2016 and 2015, respectively.

#### Litigation

The nature of the Commission's operations sometimes subjects the Commission to litigation, typically from daily operations of vehicles, equipment and from customer incidents. The management and the General Counsel for the Commission are of the opinion that any unfavorable outcome of such claims in excess of insurance coverage will not result in a material adverse effect on the Commission's financial position or results of operations.

On March 31, 2015, the Commission was served with a lawsuit filed in the Court of Common Pleas of Cuyahoga County ("State Court") in Cleveland, Ohio, challenging the series of 2.7 percent annual toll increases (the "Increased Tolls") authorized on the Ohio Turnpike, the first of which took effect on January 1, 2014. These Increased Tolls were approved by the Commission on July 15, 2013, in connection with the issuance on August 15, 2013 of the Commission's \$1,068,307,816 Turnpike Revenue Bonds, 2013 Series A (the "Bonds"). The Increased Tolls are described in the Official Statement for those Bonds dated July 31, 2013. Those Bonds are comprised of \$73,495,000 2013 Series A Senior Lien Bonds to pay costs of improvements on the Ohio Turnpike and \$994,812,816 2013 Series A Junior Lien Bonds to pay costs of certain highway infrastructure projects determined to have a "nexus" to the Ohio Turnpike under procedures and criteria established by Ohio law and by the Commission.

The lawsuit originally alleged that the Increased Tolls violated the Commerce and Equal Protection Clauses of the United States Constitution and the right to travel under the United States and Ohio Constitutions, and are an unlawful tax or user fee under Ohio law. However, the Honorable Dan Aaron Polster, United States District Judge, entered a Memorandum of Opinion and Order on August 25, 2015, which dismissed all federal claims, and did not rule on the one claim in which Plaintiff asserts that the Increased Tolls constitute an unlawful tax or user fee under Ohio law. This remaining claim was remanded back to State Court and on September 3, 2015 was re-stated by the Plaintiff as two claims, both challenging the Increased Tolls as unlawful under Ohio law. The Plaintiff continues to request class certification for the benefit of all Ohio Turnpike users who have paid the Increased Tolls, an order enjoining the Commission from continuing to collect the Increased Tolls and the repayment of all Increased Tolls collected since January 1, 2014. The Commission has requested that all claims now pending in State Court be dismissed because the Increased Tolls are authorized by Ohio law. On November 23, 2016, the Court granted permission to the Ohio Attorney General has also requested the dismissal of all Plaintiff's claims.

The Commission cannot currently determine what effect, if any, the litigation might have on the operations or financial condition of the Commission.

#### **Environmental Matters**

Due to the nature of operations at the Commission's service plazas and maintenance buildings, which include vehicle fueling facilities, the Commission may encounter underground fuel leaks or spills. The Commission, however, participates in the Petroleum Underground Storage Tank Release Compensation Board, which limits the Commission's financial liability to \$55,000 per incident, up to a maximum reimbursement of \$1,000,000 per incident or \$2,000,000 per calendar year. The Commission is unaware of any incidents that will exceed these limits.

#### Collective Bargaining

Approximately 457 full-time, nonsupervisory, field employees in the Commission's Toll Operations and Maintenance Departments, approximately 195 part-time, nonsupervisory, field employees in the Toll Operations Department and approximately nine full-time radio operators are represented by the Teamsters Local Union No. 436, affiliated with the International Brotherhood of Teamsters.

In February 2014, the Commission ratified a three-year collective bargaining agreement with the full-time employees that is effective for the period January 1, 2014 through December 31, 2016. The agreement includes a bonus payment of \$1,100 in 2014 and annual wage increases of 2 percent effective January 4, 2015 and January 3, 2016 for full-time employees. The Commission also has reached an agreement with the part-time employees for the same time period of January 1, 2014 through December 31, 2016 which includes a bonus payment of \$800 in 2014 and annual wage increases of 2.5 percent and 2.0 percent effective January 4, 2015 and January 3, 2016, respectively. As of December 31, 2016, the Commission was in negotiations with the Union on a new three-year collective bargaining agreement.

#### (8) PENSION PLAN

#### Plan Description

The Commission contributes to the Ohio Public Employees Retirement System ("OPERS"). OPERS administers three separate pension plans as follows:

- A) The Traditional Pension Plan ("TP") a cost-sharing, multiple-employer defined benefit pension plan.
- B) The Member-Directed Plan ("MD") a defined contribution plan in which the member invests both member and employer contributions (employer contributions vest over five years at 20 percent per year). Under the MD Plan, members accumulate retirement assets equal to the value of member and (vested) employer contributions plus any investment earnings.
- C) The Combined Plan ("CO") a cost-sharing, multiple-employer defined benefit pension plan. Under the CO Plan, OPERS invests employer contributions to provide a formula retirement benefit similar in nature to, but less than, the TP Plan benefit. Member contributions, the investment of which are self-directed by the members, accumulate retirement assets in a manner similar to the MD Plan.

OPERS provides retirement, disability, survivor and death benefits and annual cost-of-living adjustments to members of the TP and CO Plans. Members of the MD Plan do not qualify for ancillary benefits.

Authority to establish and amend benefits is provided in Chapter 145 of the Ohio Revised Code ("ORC"). OPERS issues a stand-alone financial report. Interested parties may obtain a copy by visiting https://www.opers.org/financial/reports.shtml, making a written request to OPERS, 277 East Town Street, Columbus, Ohio 43215-4642 or by calling (800) 222-7377.

#### Benefits Provided

Plan benefits are established under Chapter 145 of the ORC, as amended by Substitute Senate Bill 343 in 2012. The requirements to retire depend on years of service (15 to 30 years) and from attaining the age of 48 to 62, depending on when the employee became a member. Members retiring before age 65 with less than 30 years' service credit receive a percentage reduction in benefit. Member retirement benefits are calculated on a formula that considers years of service (15 to 30 years), age (48 to 62 years), and final average salary, using a factor ranging from 1.0 percent to 2.5 percent.

A plan member who becomes disabled before age 60 or at any age, depending on when the member entered the plan, and has completed 60 contributing months is eligible for a disability benefit.

A death benefit of \$500 to \$2,500 is determined by the number of years of service credit of the retiree. Benefits may transfer to a beneficiary upon death with 1.5 years of service credits with the plan obtained within the last 2.5 years, except for law enforcement and public safety personnel who are eligible immediately upon employment.

Benefit terms provide for annual cost of living adjustments to each employee's retirement allowance after the employee's retirement date. The maximum annual adjustment, if applicable, is 3 percent of the employee's initial annual retirement allowance.

#### Contributions

State retirement law requires contributions by covered employees and their employers, and Chapter 3307 of the ORC limits the maximum rate of contributions. The retirement boards of the systems individually set contributions rates within the allowable limits. The adequacy of employer contribution rates is determined annually by actuarial valuation using the entry age normal cost method. Under these provisions, each employer's contribution is expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance a portion of the unfunded accrued liability.

Member contributions are 10 percent of gross wages for all plans, set at the maximums authorized by the ORC. The plans' 2016 and 2015 employer contribution rates on covered payroll are as follows:

		Post-retirement		
	Pension	Health Care	Death Benefits	Total
2016	12.00%	2.00%	- %	14.00%
2015	12.00%	2.00%	- %	14.00%

The Commission's contributions to OPERS for the traditional and combined plans for the years ended December 31, 2016 and 2015 were \$6,431,000 and \$6,019,000, respectively, equal to 100 percent of the required contributions for each year. Contributions to the member-directed plan for 2016 were \$256,000 made by the Commission and \$183,000 made by plan members. At December 31, 2016, there was \$1,030,000 in amounts due to OPERS for employee and employer contributions included in Accrued Wages and Benefits on the Statement of Net Position.

#### Net Pension Liability and Pension Expense

At December 31, 2016, the Commission reports a liability of \$67,956,000 for its proportionate share of the net pension liability for the Traditional Plan and an asset for its proportionate share of the net pension asset of \$178,000 for the Combined Plan. The net pension asset/liability was measured as of December 31, 2015. The total pension asset/liability used to calculate the net pension asset/liability was determined by an actuarial valuation as of December 31, 2015. The Commission's proportion of the net pension asset/liability is determined by a measure of the

Commission's proportionate relationship of employer contributions made to OPERS to the total contributions made to OPERS by all employers and non-employer contributing entities to the plan. The Commission's proportion of the net asset/liability is based on the Commission's long-term share of contributions to the plan as compared to the total projected long-term contributions of employers and all non-employer contributing entities. At December 31, 2015, the Commission's proportion was 0.392329 percent for the Traditional Plan and 0.365870 percent for the Combined Plan.

For the years ended December 31, 2016 and December 31, 2015, the Commission recognized pension expense of \$9,436,000 and \$5,315,000, respectively.

#### Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At December 31, 2016, the Commission reports deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred (	Outflow	Deferred	Inflow
	of Reso	urces	of Resou	ırces
Difference between Expected and Actual Experience	\$	8,000	\$	1,402,000
Net Difference between Projected and Actual Earnings on Pension Plan Investments		20,083,000		-
Change in Employer's Proportionate Share		2,000		483,000
Contributions subsequent to the measurement date		6,442,000		-
Total	\$	26,535,000	\$	1,885,000

At December 31, 2015, the Commission reports deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflow		Deferred Inflow	
	of Resou	ırces	of Resour	ces
Difference between Expected and Actual Experience	\$	2,572,000	\$	888,000
Contributions subsequent to the measurement date		6,079,000		-
Total	\$	8,651,000	\$	888,000

Deferred Outflows of Resources of \$6,442,000 related to pensions resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2017. Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in pension expense as follows:

Year Ended	
December 31:	
2017	\$ 4,161,000
2018	\$ 4,485,000
2019	\$ 5,068,000
2020	\$ 4,529,000
2021	\$ (9,000)
Thereafter	\$ (26,000)
	\$ 18,208,000

#### **Actuarial Assumptions**

The Total Pension Liability is based on the results of an actuarial valuation determined using the following actuarial assumptions, applied to all periods included in the measurement for fiscal years ended December 31, 2016 and December 31, 2015:

	Traditional Plan	Combined Plan	
Wage Inflation	3.75%	3.75%	
Salary Increases (includes Wage Inflation)	4.25% - 10.05%	4.25% - 8.05%	
Investment Rate of Return	8.00%	8.00%	
COLA	3.00%	3.00%	
Actuarial Cost Method	Individual E	ntry Age	
Valuation Dates	December 31,2015 and December 31,2014		

Mortality rates were based on the RP-2000 Combined Mortality Table for males or females, as appropriate, with adjustments for mortality improvements based on Projection Scale AA.

The actuarial assumptions used in the valuation were based on the results of an actuarial experience study for the period of five years ended December 31, 2010.

#### **Discount Rate**

The discount rate used to measure the total pension liability was 8.0 percent for the fiscal years ended December 31, 2016 and December 31, 2015. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments for the Traditional Pension Plan, Combined Plan and Member-Directed Plan was applied to all periods of projected benefit payments to determine the total pension liability.

#### **Projected Cash Flows**

The long term expected rate of return on defined benefit investment assets was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized for the year ended December 31, 2016 in the following table:

		Long-term Expected
	Target Allocation	Real Rate of Return
Fixed Income	23.00%	2.31%
Domestic Equity	20.70%	5.84%
Real Estate	10.00%	4.25%
Private Equity	10.00%	9.25%
International Equities	18.30%	7.40%
Other Investments	18.00%	4.59%
Total	100.00%	5.27%

The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized for the year ended December 31, 2015 in the following table:

		Long-term Expected
	Target Allocation	Real Rate of Return
Fixed Income	23.00%	2.31%
Domestic Equity	19.90%	5.84%
Real Estate	10.00%	4.25%
Private Equity	10.00%	9.25%
International Equities	19.10%	7.40%
Other Investments	18.00%	4.59%
Total	100.00%	5.28%

#### Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following table represents the net pension liability (asset) as of December 31, calculated using the current period discount rate assumption of 8 percent. Also shown is what the net pension liability (asset) would be if it were calculated using a discount rate that is one percentage point lower (7 percent) or one percentage point higher (9 percent) than the current assumption:

	1% [	Decrease (7%)	Current Discount Rate (8%)		1% Increase (9%)	
<u>2016</u>						
Net Pension Liability Traditional	\$	108,271,000	\$	67,956,000	\$	33,952,000
Net Pension Liability (Asset) Combined	\$	(4,000)	\$	(178,000)	\$	(318,000)

#### Pension Plan Fiduciary Net Position

Detailed information about the plan's fiduciary net position is available in the separately issued OPERS financial report. You may obtain a copy of their report by visiting OPERS Web site at https://www.opers.org/financial/report.shtml.

#### (9) OTHER POSTEMPLOYMENT BENEFITS

#### Plan Description

OPERS maintains a cost-sharing, multiple-employer defined benefit postemployment health plan, which includes medical, prescription drug program, and Medicare Part B premium reimbursement, for qualifying members of both the traditional pension and the combined plans. Members of the member directed plan do not qualify for ancillary benefits, including postemployment healthcare coverage.

In order to qualify for postretirement healthcare coverage, age and service retirees under the traditional pension and combined plans must have 10 or more years of qualifying Ohio service credit. Healthcare coverage for disability recipients and qualified survivor benefit recipients is available. The healthcare coverage provided by OPERS meets the definition of an other postemployment benefit ("OPEB") as described in GASB Statement No. 45.

The Ohio Revised Code permits, but does not mandate, OPERS to provide OPEB benefits to its eligible members and beneficiaries. Authority to establish and amend benefits is provided in Chapter 145 of the Ohio Revised Code.

OPERS issues a stand-alone financial report. Interested parties may obtain a copy by writing to OPERS, 277 East Town Street, Columbus, OH 43215-4642 or by calling (614)222-5601 or (800)222-7377.

#### **Funding Policy**

The Ohio Revised Code provides statutory authority, requiring public employers to fund postretirement healthcare through their contributions to OPERS. A portion of each employer's contribution to OPERS is set aside for the funding of postretirement healthcare benefits. Employer contribution rates are expressed as a percentage of the covered payroll of active members. In 2016 and 2015, state and local employers contributed at a rate of 14 percent of covered payroll. The Ohio Revised Code currently limits the employer contribution to a rate not to exceed 14 percent of covered payroll for state and local employers. Active members do not make contributions to the OPEB plan.

OPERS' postemployment healthcare plan was established under, and is administered in accordance with, Internal Revenue Code 401(h). Each year, OPERS board of trustees determines the portion of the employer contribution rate that will be set aside for funding of the postemployment healthcare benefits. The portion of employer contributions allocated to healthcare for members in the traditional plan was 2 percent during 2016. The portion of employer contributions allocated to healthcare for members in the combined plan was 2 percent during 2016. OPERS board of trustees is also authorized to establish rules for the payment of a portion of the healthcare benefits provided by the retiree or their surviving beneficiaries. Payment amounts vary depending on the number of covered dependents and the coverage selected.

The Commission's contributions to OPERS for other postemployment benefits for the years ended December 31, 2016, 2015 and 2014 were \$1,072,000, \$1,003,000, and \$1,002,000, respectively, equal to 100 percent of the required contributions for each year.

#### (10) PAYMENTS FOR STATE INFRASTRUCTURE PROJECTS

On April 1, 2013, Ohio Governor John Kasich signed Am. Sub. H.B. 51 (H.B. 51) into law, creating a "public-public" partnership between the Commission and the Ohio Department of Transportation ("ODOT"). Effective July 1, 2013, H.B. 51 authorized the Commission to issue Turnpike Revenue Bonds as a means of funding certain transportation infrastructure projects ("Infrastructure Projects") as defined under Chapter 5537 of the Ohio Revised Code. H.B. 51 was enacted by the Ohio General Assembly to implement the Ohio Jobs and Transportation Plan proposed by Governor Kasich to address a significant funding shortfall announced by ODOT in January 2012 that would have required postponement of significant Ohio transportation projects. The plan contemplates the issuance of a total of \$1.5 billion of Turnpike revenue bonds for transportation projects between 2013 and 2018. Under H.B. 51, the Director of ODOT can apply to the Commission for funding for Infrastructure Projects provided those projects: (1) have been approved by the Transportation Review Advisory Council ("TRAC") that oversees a project selection process for major new transportation projects and; (2) have a "nexus" to the Turnpike System.

On July 15, 2013, the Commission's Board approved the issuance of the 2013 Junior Lien Bonds in order to fund \$930 million in Infrastructure Projects. In August 2013, the Director of ODOT submitted funding requests for Infrastructure Projects to the Commission for consideration and, on September 16, 2013, the Commission's Board approved the funding of a list of Infrastructure Projects totaling \$930 million. Through December 31, 2016, ODOT has expended \$784,419,000 on Infrastructure Projects and the Commission has reimbursed ODOT \$762,223,000 for ODOT's expenditures on these projects. It is anticipated that the entire \$930 million in 2013 Junior Lien Bond Proceeds will be paid to ODOT by the end of 2017. The status of the funding (in thousands) of each infrastructure project as of December 31, 2016 is as follows:

				Amount Expended	Infrastructure Funds
County	Project	Approved A	mount	by ODOT	Paid to ODOT
Cuyahoga	I-90 Innerbelt Bridge	\$	275,020	\$ 269,073	\$ 268,613
Cuyahoga	Opportunity Corridor		14,000	8,336	8,043
Erie	US 250 Widening		14,000	12,525	12,486
Hancock/Wood	I-75 Widening		283,280	264,460	260,739
Lorain	SR 57		16,500	16,000	16,000
Lucas	I-75 and I-475 Interchange		122,200	64,377	57,703
Lucas	I-475 and Rt 20 Interchange		27,500	18,366	14,670
Lucas	I-75 Widening		63,000	48,674	43,965
Mahoning/Trumbull	I-80 Widening		65,500	36,046	33,442
Summit	I-271 Widening		49,000	46,562	46,562
	_ _	\$	930,000	\$ 784,419	\$ 762,223
	_				

In February 2016, the Director of ODOT submitted to the Commission for consideration funding requests for additional Infrastructure Projects and, on April 18, 2016, the Commission's Board approved the funding of four additional Infrastructure Projects upon the successful completion of an issuance of Turnpike Revenue Bonds generating proceeds of at least \$200 million. ODOT began construction on these projects in 2016 and the Commission will enter into funding agreements to reimburse ODOT from the proceeds of the bond issuance once it is completed. The approved funding amount for each project (in thousands) is as follows:

County	Project	Amount	
Cuyahoga	I-77 Widening	\$	24,000
Cuyahoga	I-271 Widening		90,000
Summit	I-76/I-77 Interchanges		80,000
Mahoning	I-680/SR-164 Interchange		6,000
		\$	200,000

#### (11) RISK MANAGEMENT

The Commission is self-insured for workers' compensation and vehicle damage claims. The Commission is also self-insured for employee health claims, up to a maximum of \$250,000 per covered person per contract year. Employee health benefits are not subject to any lifetime maximum benefit payments.

Liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. Claim liabilities are based upon the estimated ultimate cost of settling the claims, net of any subrogation recoveries from third parties, including specific incremental claim adjustment expenses.

"Claims and Judgments" as of December 31 of each year in the accompanying Statements of Net Position are comprised of the estimated liability for workers' compensation claims, the estimated liability for employee health claims, and the estimated liability for miscellaneous claims and judgments. The Commission is unaware of any unaccrued vehicle damage or unasserted workers' compensation claims as of December 31, 2016.

Claims and Judgments (in thousands) for the years ended December 31, are as follows:

	2016	2015
Workers' compensation claims	\$ 863	\$ 680
Employee health claims	871	758
Miscellaneous claims and judgments	64	9
Total	\$ 1,798	\$ 1,447

Changes in the liability for estimated workers' compensation claims, employee health claims and miscellaneous claims and judgments (in thousands) for the years ended December 31, were as follows:

	Estimated			Estimated
	Claims Payable - Beginning of Year	Current Claims Claims Payments		Claims Payable - End of Year
2016	\$ 1,447	\$ 12,695	\$ 12,344	\$ 1,798
2015	\$ 2,199	\$ 10,110	\$ 10,862	\$ 1,447
2014	\$ 1,855	\$ 10,813	\$ 10,469	\$ 2,199

The Commission purchases commercial insurance policies in varying amounts for general liability, vehicle liability, bridges, use and occupancy, damage to capital assets other than vehicles, and public officials and employee liability coverage. Paid claims have not exceeded the limits of the Commission's commercial insurance policies for each of the last three fiscal years. The Commission also pays unemployment claims to the State of Ohio as incurred.

#### (12) RELATED PARTY TRANSACTIONS

Other restricted current assets for the year ended December 31, 2015 included an \$854,000 receivable from ODOT for reimbursement of amounts paid by the Commission for painting one of ODOT's bridges over the Ohio Turnpike.

## Schedule of Net Pension Liability Last two Fiscal Years\*

Ohio Public Employees Retirement System
As of the Current Measurement Date
(Dollars in Thousands)

	2015	2014
Employer's Proportion of the Collective Net Pension Asset / Liability		
Traditional Plan	0.392329%	0.398393%
Combined Plan	0.365870%	0.373154%
Employer's Proportionate Share of the Collective Net Pension Asset / (Liability)		
Traditional Plan	\$ (67,956)	\$ (48,051)
Combined Plan	\$ 178	\$ 143
Employer's Covered Payroll		
Traditional Plan	\$ 48,829	\$ 48,843
Combined Plan	\$ 1,332	\$ 1,242
Employers Proportionate Share of the Collective Net Pension Liability as a percentage of the Employer's Covered Payroll		
Traditional Plan	139.17%	98.38%
Combined Plan	(13.36%)	(11.51%)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		
Traditional Plan	81.08%	86.45%
Combined Plan	116.90%	114.83%

<sup>\*</sup> The amounts presented for the current calendar year were determined as of the previous calendar year-end. Information prior to 2014 is not available.

# **Schedule of Employer Contributions** Last two Fiscal Years\* Ohio Public Employees Retirement System

(Dollars in Thousands)

	2016	2015
Statutory Required Employer Contribution	\$ 6,431	\$ 6,019
Actual Employer Contributions Received	6,431	6,019
Difference	\$ -	\$ -
Employer's Covered Payroll	\$ 53,589	\$ 50,161
Actual Employer Contributions Received as a Percentage of Covered Payroll	12.00%	12.00%

Information prior to 2015 is not available.



#### **EXHIBIT D**

# TRAFFIC AND REVENUE STUDY PREPARED BY JACOBS ENGINEERING



# **JACOBS**





# Submitted to: Ohio Turnpike and Infrastructure Commission

# Ohio Turnpike Traffic and Revenue Study

**January 22, 2018** 

Submitted by:

Jacobs Engineering Group Inc.

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## **Executive Summary**

Jacobs Engineering Group, Inc. ("Jacobs") was retained by the Ohio Turnpike and Infrastructure Commission (the "Commission" or "OTIC") to conduct this traffic and revenue study for the Ohio Turnpike (the "Turnpike") in conjunction with the upcoming 2018 Toll Revenue Bond Sales. Jacobs analyzed historical traffic, vehicle miles of travel (VMT) and toll revenue data for the Turnpike to determine historical trends; correlated traffic with key economic indicators; and researched demographic data and other key factors that have affected recent traffic patterns and that will affect future traffic behavior. In addition, Jacobs reviewed the historical expenditures for the Turnpike related to operations and maintenance (O&M) as well as other revenues realized by the Turnpike, and then estimated future O&M costs and other revenues.

The traffic and revenue forecasts are based on the current toll and fee schedule, as described in Chapter 8.0. These toll increases include the annual toll increases previously approved through 2023. This executive summary presents the results of these work efforts, including a review of the overall forecasting methodology and a presentation of the final forecasts. The work, analyses, and forecasts for the Turnpike are of investment-grade quality and are suitable for financing. As part of the analysis, a traffic and toll revenue model for the Ohio Turnpike was developed. This model has the ability to adjust projections based on economic parameters and toll adjustments by the type of vehicle and payment method for each toll facility.

## **Turnpike Infrastructure Assumptions**

The OTIC has developed a Strategic Plan to modernize the Ohio Turnpike's Toll Collection System ("TCS") and Customer Service Center ("CSC"), which are nearing their end of life. The toll system modernization includes the introduction of highway speed E-ZPass travel lanes, conversion of Eastgate and Westgate to fixed rate barriers, the compression of the closed ticket system with the construction of new mainline plazas at milepost 49 and milepost 211, the removal of 9 toll plazas while maintaining interchange access, the removal of all entry toll lane gates and E-ZPass Only exit toll lane gates and the installation of license plate image capture cameras. The Commission will also contract for Unpaid Toll Processing Services to enforce the collection of unpaid tolls. It is estimated that the Commission will begin to operate the new CSC in the 4th quarter of 2020 or 1st quarter of 2021. Operation of the new TCS, as well as commencement of Unpaid Toll Processing Services, is anticipated for deployment in the 4th quarter of 2021.

Other than the plan to modernize the TCS and CSC, there are no other major planned or funded construction projects or improvements on the Turnpike that would positively or negatively affect Turnpike traffic for the extent of the forecast period. There are anticipated to be multiple minor projects that will be completed during the forecast period, including bridge replacements, pavement replacements, repaving, service plaza renovations and

other Turnpike maintenance and capital projects. These projects are to be completed during off peak hours when possible to provide consistent travel lane operations during peak travel times, thus no significant detrimental impact on traffic levels. Additionally, there will be no improvements to the Turnpike during the extent of the forecast period that will increase capacity, add access points or otherwise change the current infrastructure of the Turnpike, except for toll plaza improvements at TP 64 (1 new exit lane and conversion of 1 existing entry lane to a reversible lane), TP 152 (1 new exit lane) and TP 180 (2 new exit lanes and conversion of 1 existing exit lane to a reversible lane). It is not anticipated that these improvements will draw new traffic to the turnpike, but are instead focused on improving toll plaza operations.

### **Tolling Policy Assumptions**

Ohio Turnpike tolling policy consists of the existing toll schedule that is broken down by origin and destination movements for each of the seven vehicle class and also by the two payment classes (cash and E-ZPass). The current toll schedule for the Ohio Turnpike has been in effect since January 1, 2017. Class 1 consists of 2-axle passenger vehicles. Vehicle class distinction is a function of the number of axles and height of the vehicle over the first two axles.

The toll policy assumed for the forecast period includes escalation of toll rates by the rate of inflation, with a floor of 2.7 percent, during a ten year period, to be implemented on January 1 of each year, starting back in January, 2014. There is, however, one exception: the E-ZPass toll rates for Class 1 vehicles making trips below 30 miles on the Turnpike will remain constant for 10 years, from 2014 to 2023. For our analysis, the assumption is that inflation will remain at 2.7 percent or below and thus the escalation will remain at 2.7 percent for the first ten years. These increased tolls will be rounded to the nearest quarter with a minimum toll of \$0.50.

In 2024, tolls for Class 1 vehicles paying by E-ZPass for trips below 30 miles will experience a one-time increase, in order to come back in line with other vehicle classes. In 2024 it is assumed that tolls will continue to be increased for each vehicle and payment class by 2.7 percent annually, implemented on January 1 of each year through 2028, (including Class 1 E-ZPass with trips under 30 miles). In 2029 it is assumed that tolls will continue to be increased for each vehicle and payment class by 2.0 percent annually, implemented on January 1 of each year through 2056 (including Class 1 E-ZPass with trips under 30 miles).

### T&R Study Methodology

T&R Forecast Model Methodology Economic Data external to **Economic Forecasts** OTIC including Employment, Forecast Economic GDP, IPI, Port, Freight, Trade, Factors Gas Prices Historical Correlation Factors Forecast I&R under Adjustments based on Historical Traffic and Toll Final T&R Relationship of Economic Factors to Future Infrastructure and current toll schedule and Revenue Reports from the Forecasts Turnpike Traffic Adjusted for Toll Policy Assumptions OTIC Toll System Infrastructure Infrastructure and Toll Policy Changes Historical Infrastructure and Adjust Correlation Factors Toll Policies Determination of Structural Changes Relationships between Traffic and Economic Factors

Figure ES-1: Ohio Turnpike Model Methodology

The economic and demographic factors that were analyzed include the following:

- 1. Population by region;
- 2. Employment by region;
- 3. Real Gross Domestic Product by Region;
- 4. Industrial Production Index (IPI);

Traffic growth forecasts were based on a combination of historical trends and economic forecasts.

#### Forecasted Transactions and Gross Toll Revenues

The estimates of future annual Turnpike transactions and annual gross toll revenue for the Turnpike are presented in Table ES-1 along with a year of actual data. The estimates of gross toll revenue are in nominal dollars and do not include adjustments to account for violations; the violation rate is very low as all toll lanes are gated.

The Toll Traffic and Revenue forecasts were developed with the aid of a computerized modeling platform created specifically by Jacobs for the Turnpike. The base function of this model is to take current traffic volumes by class and payment type for each Turnpike movement (origin-destination pair) and adjust them in the future years for various factors such as underlying socio-economic/demographic growth in the corridor, both historic and current, as well as customer reactions to anticipated toll adjustments. Over the 40-year forecast period 2018-2057, revenues total some \$22.947 Billion.

Table ES-1: OTIC Toll Transactions and Gross Toll Revenues in millions, 2015 to 2057

Ohio Turnpike Annual Estimates of Traffic and Revenue									
Year	Transa	ctions	VM	Т	Reve	nue			
2015*	53.4	4.1%	3,001.3		\$280.2	3.3%			
2016*	54.9	2.8%	3,037.6	4.4%	\$288.4	3.0%			
2017	55.3	0.7%	2,995.8	1.2%	\$296.2	2.7%			
2018	55.6	0.6%	3,000.2	0.1%	\$305.0	3.0%			
2019	56.0	0.6%	3,015.6	0.5%	\$313.9	2.9%			
2020	56.3	0.6%	3,032.3	0.6%	\$323.6	3.1%			
2021	56.7	0.7%	3,049.6	0.6%	\$333.4	3.2%			
2022	69.0	21.7%	3,069.9	0.7%	\$342.1	2.4%			
2023	69.4	0.6%	3,078.4	0.3%	\$352.7	3.1%			
2024	69.4	-0.1%	3,097.2	0.6%	\$364.6	3.4%			
2025	69.6	0.4%	3,106.2	0.3%	\$378.4	3.8%			
2026	69.9	0.4%	3,122.8	0.5%	\$391.4	3.4%			
2027	70.3	0.6%	3,140.0	0.6%	\$404.6	3.4%			
2028	70.7	0.6%	3,157.7	0.6%	\$417.3	3.1%			
2029	71.2	0.6%	3,176.4	0.6%	\$428.6	2.7%			
2030	71.6	0.6%	3,196.0	0.6%	\$442.1	3.1%			
2031	72.0	0.6%	3,215.2	0.6%	\$454.3	2.8%			
2032	72.5	0.7%	3,235.5	0.6%	\$466.6	2.7%			
2033	72.9	0.6%	3,256.1	0.6%	\$479.2	2.7%			
2034	72.7	-0.3%	3,276.6	0.6%	\$495.2	3.3%			
2035	73.1	0.6%	3,293.0	0.5%	\$508.5	2.7%			
2036	73.5	0.6%	3,313.3	0.6%	\$522.5	2.8%			
2037	73.9	0.5%	3,334.7	0.6%	\$540.1	3.4%			
2038	74.5	0.8%	3,354.0	0.6%	\$554.7	2.7%			
2039	75.0	0.7%	3,377.4	0.7%	\$571.9	3.1%			
2040	75.6	0.7%	3,400.8	0.7%	\$588.5	2.9%			
2041	76.2	0.8%	3,423.2	0.7%	\$604.6	2.7%			
2042	76.9	0.8%	3,447.6	0.7%	\$621.8	2.8%			
2043	77.5	0.8%	3,472.2	0.7%	\$639.9	2.9%			
2044	78.1	0.8%	3,497.2	0.7%	\$657.9	2.8%			
2045	78.7	0.8%	3,521.9	0.7%	\$676.2	2.8%			
2046	79.3	0.8%	3,547.2	0.7%	\$695.4	2.8%			
2047	79.9	0.7%	3,571.9	0.7%	\$714.3	2.7%			
2048	80.5	0.8%	3,597.2	0.7%	\$736.2	3.1%			
2049	81.2	0.8%	3,621.7	0.7%	\$756.0	2.7%			
2050	81.9	0.8%	3,648.4	0.7%	\$777.3	2.8%			
2051	82.6	0.8%	3,675.3	0.7%	\$798.6	2.7%			
2052	83.2	0.8%	3,702.6	0.7%	\$821.2	2.8%			
2053	83.9	0.8%	3,729.5	0.7%	\$844.4	2.8%			
2054	84.5	0.8%	3,756.6	0.7%	\$868.3	2.8%			
2055	85.2	0.8%	3,784.0	0.7%	\$892.9	2.8%			
2056	85.9	0.8%	3,811.7	0.7%	\$918.3	2.8%			
2057	86.5	0.8%	3,839.6	0.7%	\$944.4	2.8%			

\*Actual; \*\* Modified system would open October 2021

Note: Toll increases are planned each year. New Toll System Fully Implemented 2022. Numbers may not add due to rounding.

#### Forecasted Revenue, O&M Costs and Net Revenues

Jacobs' estimates of Toll Revenues, Other Revenues, O&M costs and Net Revenues are presented in Table ES-2. The estimates of gross toll revenue are in nominal dollars and include adjustments to account for violations. Over the 40-year forecast period 2018-2057, Toll, Fee and Other revenues total some \$25.350 Billion, while O&M costs total roughly \$8.379 Billion. Net revenues for the 40-year period are estimated at \$16.971 Billion.

Roughly ten percent of current revenues collected by the Commission are not from tolls. Non-Toll ("Other") Revenues consist mainly of concession revenues and special toll permits, which are generally expected to increase at the rate of inflation plus the rate of traffic growth. Jacobs estimated future Operating and Maintenance (O&M) costs by reviewing the Commission's future budget, applying inflation, and incorporating changes such as reductions in certain services, layoffs, and service plaza openings, and linking certain costs to the traffic and toll revenue forecasts.

Table ES-2: Toll System Revenues, O&M Costs and Net Revenues in millions, 2015 to 2057

							001					
Year	Toll Rev	enues/	Fee	e Rev		her nues	Total Rev	venues	O&N	Λ	Net Re	venues
2015*	\$280.2	5.9%			\$24.8		\$305.0	15.3%	\$111.9	1.0%	\$193.1	25.6%
2016*	\$288.4	2.9%			\$26.1	5.2%	\$314.5	3.1%	\$118.0	5.5%	\$196.5	1.8%
2017	\$296.2	2.7%			\$27.9	6.8%	\$324.1	3.1%	\$119.9	1.6%	\$204.3	3.9%
2018	\$305.0	3.0%			\$30.2	8.2%	\$335.2	3.4%	\$123.3	2.9%	\$211.9	3.7%
2019	\$313.9	2.9%			\$31.1	3.0%	\$345.0	2.9%	\$126.0	2.2%	\$219.0	3.3%
2020	\$323.6	3.1%			\$33.0	6.1%	\$356.6	3.4%	\$128.6	2.0%	\$228.0	4.1%
2021**	\$333.4	3.2%	\$0.6		\$33.0	0.0%	\$366.9	2.9%	\$132.2	2.8%	\$234.7	2.9%
2022	\$342.1	2.4%	\$2.2		\$34.2	3.6%	\$378.5	3.1%	\$133.2	0.7%	\$245.3	4.5%
2023	\$352.7	3.1%	\$2.2		\$35.3	3.2%	\$390.2	3.1%	\$136.8	2.7%	\$253.4	3.3%
2024	\$364.6	3.4%	\$2.1	-2.3%	\$36.3	2.8%	\$403.1	3.3%	\$139.2	1.7%	\$263.9	4.2%
2025	\$378.4	3.8%	\$2.1	-1.3%	\$37.4	3.0%	\$417.9	3.7%	\$142.7	2.5%	\$275.2	4.3%
2026	\$391.4	3.4%	\$2.1	-0.4%	\$38.4	2.7%	\$431.9	3.3%	\$146.4	2.6%	\$285.5	3.7%
2027	\$404.6	3.4%	\$2.1	-0.1%	\$39.7	3.4%	\$446.4	3.4%	\$150.2	2.6%	\$296.1	3.7%
2028	\$417.3	3.1%	\$2.1	0.2%	\$40.9	3.0%	\$460.3	3.1%	\$154.2	2.6%	\$306.1	3.4%
2029	\$428.6	2.7%	\$2.1	0.1%	\$42.1	2.9%	\$472.9	2.7%	\$158.1	2.6%	\$314.7	2.8%
2030	\$442.1	3.1%	\$2.1	0.1%	\$43.5	3.3%	\$487.7	3.1%	\$162.2	2.6%	\$325.5	3.4%
2031	\$454.3	2.8%	\$2.1	0.3%	\$44.8	3.0%	\$501.2	2.8%	\$168.6	3.9%	\$332.6	2.2%
2032	\$466.6	2.7%	\$2.1	0.3%	\$46.2	3.1%	\$514.9	2.7%	\$171.1	1.5%	\$343.8	3.4%
2033	\$479.2	2.7%	\$2.1	0.3%	\$47.5	2.8%	\$528.8	2.7%	\$175.8	2.7%	\$353.1	2.7%
2034	\$495.2	3.3%	\$2.1	-0.2%	\$49.0	3.2%	\$546.3	3.3%	\$180.5	2.7%	\$365.8	3.6%
2035	\$508.5	2.7%	\$2.1	-0.6%	\$50.5	3.1%	\$561.1	2.7%	\$185.4	2.8%	\$375.7	2.7%
2036	\$522.5	2.8%	\$2.1	0.0%	\$52.1	3.2%	\$576.7	2.8%	\$190.4	2.7%	\$386.4	2.9%
2037	\$540.1	3.4%	\$2.1	0.1%	\$53.7	3.1%	\$596.0	3.3%	\$195.5	2.7%	\$400.5	3.7%
2038	\$554.7	2.7%	\$2.1	0.3%	\$55.3	3.0%	\$612.2	2.7%	\$200.6	2.6%	\$411.5	2.8%
2039	\$571.9	3.1%	\$2.2	0.6%	\$57.0	3.1%	\$631.0	3.1%	\$206.0	2.7%	\$425.0	3.3%
2040	\$588.4	2.9%	\$2.2	0.6%	\$58.7	3.0%	\$649.3	2.9%	\$211.6	2.7%	\$437.7	3.0%
2041	\$604.6	2.7%	\$2.2	0.6%	\$60.6	3.2%	\$667.4	2.8%	\$220.1	4.0%	\$447.3	2.2%
2042	\$621.7	2.8%	\$2.2	0.7%	\$62.5	3.1%	\$686.4	2.9%	\$223.4	1.5%	\$463.0	3.5%
2043	\$639.9	2.9%	\$2.2	0.6%	\$64.4	3.0%	\$706.5	2.9%	\$229.5	2.7%	\$476.9	3.0%
2044	\$657.9	2.8%	\$2.2	0.4%	\$66.5	3.3%	\$726.6	2.8%	\$235.8	2.7%	\$490.7	2.9%
2045	\$676.2	2.8%	\$2.2	0.5%	\$68.5	3.0%	\$746.9	2.8%	\$242.3	2.7%	\$504.6	2.8%
2046	\$695.3	2.8%	\$2.2	0.6%	\$70.6	3.1%	\$768.1	2.8%	\$248.9	2.7%	\$519.2	2.9%
2047	\$714.3	2.7%	\$2.2	0.4%	\$72.8	3.1%	\$789.3	2.8%	\$255.7	2.7%	\$533.6	2.8%
2048	\$736.2	3.1%	\$2.2	0.3%	\$75.2	3.3%	\$813.6	3.1%	\$262.7	2.8%	\$550.9	3.2%
2049	\$756.0	2.7%	\$2.2	0.6%	\$77.4	2.9%	\$835.6	2.7%	\$269.9	2.7%	\$565.7	2.7%
2050	\$777.3	2.8%	\$2.2	0.7%	\$79.8	3.1%	\$859.3	2.8%	\$277.3	2.7%	\$582.0	2.9%
2051	\$798.6	2.7%	\$2.2	0.7%	\$82.4	3.3%	\$883.2	2.8%	\$288.8	4.1%	\$594.5	2.1%
2052	\$821.2	2.8%	\$2.2	0.7%	\$85.1	3.3%	\$908.5	2.9%	\$296.6	2.7%	\$611.9	2.9%
2053	\$844.4	2.8%	\$2.2	0.6%	\$87.9	3.3%	\$934.5	2.9%	\$304.7	2.7%	\$629.8	2.9%
2054	\$868.3	2.8%	\$2.2	0.6%	\$90.7	3.3%	\$961.3	2.9%	\$313.1	2.7%	\$648.2	2.9%
2055	\$892.9	2.8%	\$2.3	0.6%	\$93.7	3.3%	\$988.9	2.9%	\$321.7	2.7%	\$667.2	2.9%
2056	\$918.3	2.8%	\$2.3	0.6%	\$96.7	3.3%	\$1,017.3	2.9%	\$330.5	2.7%	\$686.8	2.9%
2057	\$944.4	2.8%	\$2.3	0.6%	\$99.9	3.3%	\$1,046.6	2.9%	\$339.6	2.7%	\$707.0	2.9%

\*Actual; \*\* Modified system would open October 2021, New Toll System Fully Implemented 2022. Note: Toll increases are planned each year. Numbers may not add due to rounding

#### 1.0 Introduction

Jacobs Engineering Group, Inc. ("Jacobs") was retained by the Ohio Turnpike and Infrastructure Commission (the "Commission" or "OTIC") to conduct this traffic and revenue study for the James W. Shocknessy Ohio Turnpike (the "Turnpike") in conjunction with the upcoming 2018 Toll Revenue Bond Sales. Jacobs analyzed historical traffic, vehicle miles of travel (VMT) and toll revenue data for the Turnpike to determine historical trends; correlated traffic with key economic indicators; and researched demographic data and other key factors that have affected recent traffic patterns and that will affect future traffic behavior. In addition, Jacobs reviewed the historical expenditures for the Turnpike related to operations and maintenance (O&M) as well as other revenues realized by the Commission, and then estimated future O&M costs and other revenues. The analysis included regional and national socio-economic factors such as gross domestic product, fuel costs, population and employment. The study also examined feeder and competitive roads and their impact on traffic on the Turnpike.

The Commission recently adopted a Strategic Plan to modernize toll collection on the Turnpike. The current Toll Collection System ("TCS") and Customer Service Center ("CSC"), installed in 2009, are approaching the end of their useful life. The toll system modernization includes the introduction of highway speed E-ZPass travel lanes, conversion of Eastgate and Westgate to fixed rate barriers, the compression of the closed ticket system with the construction of new mainline plazas at milepost 49 and milepost 211, the removal of 9 toll plazas while maintaining interchange access, the removal of all entry toll lane gates and E-ZPass Only exit toll lane gates and the installation of license plate image capture cameras. The plan will improve technology and customer improvements with limited revenue risk while providing non-stop travel for E-ZPass customers of the Ohio Turnpike. There will also be toll collection staff reductions due to the removal of plazas and gates as well as increased E-ZPass penetration. The toll system modernization is schedule to be completed in late 2021 and be fully implemented in 2022.

Data and analyses were then used to develop a traffic and revenue model to estimate annual trips, VMT and toll revenue for 2017 through 2056. The study also included the estimation of "Other Revenues", operating and maintenance costs, and net revenues.

During the course of the work effort, a complete set of available traffic and economic data sets were compiled. Historical trips, VMT and toll revenue data were compiled from the OTIC for all the Turnpike toll trips by month, detailed to travel movement, payment type and vehicle class. Traffic data were also obtained from neighboring toll authorities to gain the most recent understanding of tolled traffic trends in the region.

For this analysis, Jacobs has continued its extensive research into the most relevant historic and forecasted socioeconomic parameters in order to make a viable estimate of future

traffic and toll revenues. As traffic is not simply a function of gross domestic product (GDP) but employment and production levels as well as other factors, a detailed review of certain socio-economic data was undertaken and described herein.

A detailed traffic and revenue model with resulting toll trips, VMT and toll revenue projections was developed for the Turnpike's tolled facilities, based on detailed traffic and toll revenue data from the full year 2016 and ten months of 2017. The model includes the changes detailed as part of the modernization program adopted by the Commission. As part of the analysis, a static trend line-based traffic and toll revenue model for the Turnpike was developed. This model has the ability to adjust projections based on various economic parameters, and is segmented by the type of vehicle, payment type, and the specific entry-exit movements. Additionally the model was augmented to provide forecasts based upon adjustments to the toll schedules by entry and exit point. The assumptions of future toll schedules are described in Chapter 8.0. The work, analyses, and results for the Ohio Turnpike are of investment-grade quality and are suitable for financing.

## 2.0 Description of the Ohio Turnpike System

This section of the report provides a description of the Ohio Turnpike System, along with a historical overview of toll collection on the Turnpike, and is followed by a description of the existing toll rate schedule.

### 2.1 The Ohio Turnpike System

The James W. Shocknessy Ohio Turnpike ("Turnpike") is a 241-mile limited-access highway facility that runs east to west across the northern part of the full width of the State of Ohio. It connects the principal cities in the northern part of Ohio, including Toledo, Cleveland and Youngstown, as illustrated in Figure 1. The Turnpike connects to the Pennsylvania Turnpike on its eastern end and to the Indiana Toll Road on its western end, serving both the long-distance, east-west traffic corridor that includes New York City, Pittsburgh, and Chicago, along with more local, intra-Ohio travel movements. Fully open since October 1, 1955, it is designated as Interstate Route 80/90 between the Ohio-Indiana State Line and Interchange 142 in Lorain; Interstate Route 80 between Interchange 142 in Lorain and Interchange 218 in Youngstown; and Interstate Route 76 between Interchange 218 in Youngstown and the Ohio-Pennsylvania State Line. The Turnpike provides three eastbound and westbound highway travel lanes between Interchanges 59 and 218 and two eastbound and westbound highway travel lanes in all other sections.

There are 31 interchanges on the Turnpike, 26 of which provide access to and from various U.S, Ohio and Interstate Routes. The two terminal interchanges connect directly with the Indiana Toll Road (Interstate Route 80/90) on the western end and with the Pennsylvania Turnpike (Interstate Route 76) on the eastern end. Three interchanges connect with county or local roads. In the Youngstown area, the Turnpike connects directly with Interstate Route 80 leading to/from Pennsylvania at Interchange 218, and it also connects directly with Interstate Route 680 at Interchange 234. In the Cleveland area, the Turnpike connects directly with Interstate Routes 71, 77, 480 and 90, and provides access to Interstate Route 271. In the Toledo area, the Turnpike connects directly with Interstate Routes 75 and 280, and provides access to Interstate Route 475, thus providing access to and from Michigan to the North and to and from Cincinnati to the South. Along the Turnpike, there are seven pairs of service plazas that provide a variety of services to travelers. The Turnpike does not receive any federal funding and is financed and operated primarily through revenues collected by tolls and service area concessionaire rentals.



Figure 1: Ohio Turnpike System

#### 2.2 Toll Collection Historical Overview

The majority of the interchanges on the Turnpike are 'trumpet' interchanges, designed so that all traffic entering and exiting the Turnpike at a particular interchange passes through a single physical toll plaza, regardless of travel direction. Tolls are assessed based on the classification of each vehicle, the payment type, and the distance it travels between interchanges along the Turnpike.

From the Turnpike's inception through September 30, 2009, toll charges were determined based on gross vehicle weight classification and distance traveled on the Turnpike. Vehicles were weighed as they entered the Turnpike by weigh-in-motion scales located in the entry lanes at each toll plaza. There were 11 vehicle classifications prior to September 30, 2009. Passenger vehicles weighing less than 7,000 pounds were classified as Class 1 and heavier vehicles were classified according to their weight as Classes 2 through 9. Classes 10 and 11 were reserved for triple-trailer combinations and long combination vehicles, respectively, which required (and still do require) special permits to travel on the Turnpike.

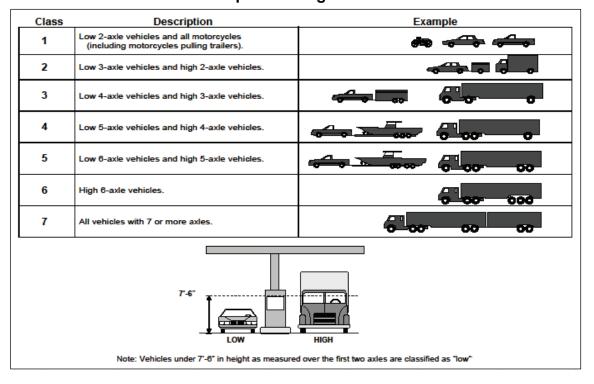
All customers were issued a ticket from Dual Height Automated Ticket Issuing Machines (DATIMs), which they surrendered on exit, and the toll charge was calculated based on the classification of their vehicle, the payment type, and the distance they traveled between interchanges along the Turnpike. Tolls were collected through three payment methods: cash, Ready Toll cards (the Turnpike's pre-paid card program for passenger vehicles) and Commercial Charge cards (the Turnpike's post-paid card program for commercial vehicles). Commercial Charge customers were offered a volume discount of 15 percent if their tolls exceeded \$1,000 each month. The Turnpike had also implemented Automated Toll Payment Machines (ATPMs) at two locations, which accepted both cash and credit cards.

Beginning on October 1, 2009, the Turnpike implemented a new toll collection system to replace the old system that had then reached the end of its useful life. Following an assessment study of the old toll collection system and by surveying customers and evaluating various alternatives, a Strategic Plan was developed that called for a comprehensive replacement of the toll collection system hardware and software. The new system consisted of:

- incorporation of transponder-based electronic toll collection known as E-ZPass
- the subsequent phasing out of the Ready Toll and Commercial Charge card programs
- changing the vehicle classification system from gross vehicle weight to the number of axles and the height over the first two axles measured at the time of entry to the Turnpike
- the implementation of break-away gates in all entry and exit lanes to enforce toll collection
- the implementation of credit card readers in each staffed exit lane and
- new ATPMs at low volume locations along the Turnpike to facilitate unstaffed exit lane operation

All vehicles are still weighed in-motion in all entry lanes to screen for overweight axles and gross overweight vehicles.

The new vehicle classification system compressed the previous 11-class system to 7 vehicle classes. The 7-class vehicle classification system is shown in Table 1.



**Table 1: Ohio Turnpike Existing Vehicle Classifications** 

The toll collection system is still essentially a closed ticket system where each vehicle is classified on entry and their entry transaction details are recorded by either issuing a paper ticket (vehicles without a valid E-ZPass transponder) or creating an entry electronic transaction record (vehicles with a valid E-ZPass transponder). Paper tickets are surrendered at exit, whereas the E-ZPass system creates an exit electronic transaction record that is matched with the corresponding entry record to create an "electronic ticket". The E-ZPass technology allows customers to travel seamlessly on toll facilities operated by 38 toll agencies in 16 states, including some of the major highways that connect to the Turnpike such as the Pennsylvania Turnpike, the Indiana Toll Road and the New York State Thruway, which connects to Interstate Route 90.

#### 2.3 Historical Toll Rates

Table 2 summarizes the various toll rate and other major changes that have occurred on the Ohio Turnpike since inception.

Table 2: Toll Rate and other Major Changes on the Ohio Turnpike System

Date	Activity
Dec 1, 1954	First 22 miles opened from Interchange 239 (the Pennsylvania Turnpike) to Interchange
	218 (Interstate 80, Mahoning County Road 18)
Sept 1, 1955	Implemented Class 1 per mile toll rate of 1.2 cents/mile. Full length Class 1 toll is \$3.00
Oct 1, 1955	Remaining 219 miles opened from Interchange 218 to Interchange 2 (the Indiana Toll Road).
May 28, 1957	25% toll rate increase, Class 1 per mile toll rate of 1.5 cents/mile. Full length Class 1 toll is \$3.50
Feb 1, 1982	33% toll rate increase, Class 1 per mile toll rate of 2.0 cents/mile. Full length Class 1 toll is \$4.90
July 1, 1995	10% toll rate increase, Class 1 per mile toll rate of 2.2 cents/mile. Full length Class 1 toll is \$5.40
Jan 1, 1996	15% toll rate increase, Class 1 per mile toll rate of 2.6 cents/mile. Full length Class 1 toll is \$6.20
1996	Beginning of construction project to add a third travel lane between Interchange 59 and Interchange 218.
Jan 1, 1997	20% toll rate increase
Jan 1, 1998	10% toll rate increase
Jan 1, 1999	9% toll rate increase
Feb 1, 2004	Class 8 upper weight limit and Class 9 lower weight limit changed from 78,000 pounds to 80,000 pounds.
Sept 8, 2004	Increased truck speed limit from 55 mph to 65 mph
Jan 1, 2005	Temporary toll rate reduction for Classes 4 through 9: Class 4 - 2%, Class 5 - 17%, Class 6 - 11%, Class 7 - 26%, Class 8 - 27% and Class 9 - 57%
Jan 1, 2007	Toll rate increase of 0.5 cents per mile for Class 1-3, toll rate increase of 1 cent per mile over temporary toll rates for Class 4-9
Oct 1, 2009	E-ZPass implemented, classification changed from weight to number of axles and height over first two axles. New toll rate structure implemented where E-ZPass toll rates are discounted from cash toll rates and previous 11 vehicle classes were compressed down to 7 classes. Commercial volume discount program is discontinued. No toll rate change for passenger cars using E-ZPass (4.6 cents per mile or \$10.25 for full length trip). Non-E-ZPass passenger car toll rate is adjusted 6.2 cents per mile or \$15 for full length trip.
Apr 1, 2011	Increased speed limits for all vehicles from 65 mph to 70 mph
Jan 1, 2012	10% toll rate increase; Class 1 E-ZPass rate is 4.7 cents/mile or \$11.25 for full length trip, Class 1 cash rate is 6.8 cents/mile or \$16.50 for full length trip.
July 15, 2013	The Commission implemented a toll increase plan that increases rates by an average of 2.7% each year for 10 years beginning January 1, 2014 and continuing through 2023, except for cars with E-ZPass traveling less than 30 miles. Toll rates for these vehicles will be frozen at 2013 rates until January 1, 2024, when they will have a one-time increase equivalent to the 10 years of 2.7% increases, to the same per mile rate as other E-ZPass trips.

#### 2.4 Current Toll Rates

The current per mile rate for Class 1 vehicles is 5.2 cents for E-ZPass patrons and 7.6 cents for non-E-ZPass patrons. Class 1 consists of 2-axle passenger vehicles. Table 3 shows the current toll rates for all vehicle classes and the relationship between vehicle classes and payment types. One can see that for a full-length trip, Class 1 customers receive a discount of approximately 31.5 percent if they pay with E-ZPass instead of cash or credit card, while Class 5 customers using E-ZPass receive a 20.4 percent discount for that same trip.

Class		E-ZPass		Cash/Credit Card			
	Full Length Trip	Per Mile Rate	Multiplier over Class 1	Full Length Trip	Per Mile Rate	Multiplier over Class 1	Full Length Trip Discount
1	\$12.50	\$0.052		\$18.25	\$0.076	·	31.5%
2	\$22.25	\$0.092	1.78	\$31.25	\$0.130	1.71	28.8%
3	\$26.75	\$0.111	2.14	\$36.75	\$0.152	2.01	27.2%
4	\$33.25	\$0.138	2.66	\$43.50	\$0.180	2.38	23.6%
5	\$39.00	\$0.162	3.12	\$49.00	\$0.203	2.68	20.4%
6	\$55.50	\$0.230	4.44	\$67.75	\$0.281	3.71	18.1%
7	\$80.00	\$0.332	6.40	\$92.25	\$0.382	5.05	13.3%

Table 3: 2017 OTIC Toll Rates

There are nuances to the full toll schedule, as all toll rates are rounded to the nearest twenty-five cents (nearest quarter) and there is a minimum toll rate of \$0.50. This results in the E-ZPass discounts for shorter trips varying significantly from the discounts realized by full-length trips. For very short trips, there is no E-ZPass discount due to the minimum toll restrictions and toll rate rounding.

#### 2.5 Future Toll Rates

Current toll rates are subject to an average increase of 2.7 percent each year (the historical rate of inflation) for the 10 year period that began January 1, 2014 and continuing through January 1, 2023. In addition, the Commission will not apply any toll increases for Class 1 E-ZPass vehicles making local trips of less than 30 miles over the same 10-year period. However, in 2024, toll rates for only these particular trips will experience a one-time increase by compounding the historical rate of inflation between 2013 and 2023. Our forecast assumes the 2.7 percent annual increase will continue through 2028, and from 2029 onwards tolls will be increased annually by 2.0 percent. As of the date of this report, the Commission has not adopted this modified increase plan. The Commission is authorized to increase rates in accordance with the requirements of their Master Trust Agreements.

#### 2.6 Reasonableness of Toll Rates / Comparison to Other Facilities

Figure 2 compares the passenger car E-ZPass toll rates in cents per mile on the Turnpike to other various E-ZPass toll rates on toll roads in the Midwest and throughout the northeastern U.S. Standard peak period rates are shown for each facility. There are twelve major E-ZPass toll facilities that have higher toll rates per mile than on the Ohio Turnpike. It can be said that the Ohio Turnpike passenger car toll rates are reasonable compared to rates at other E-ZPass toll facilities.

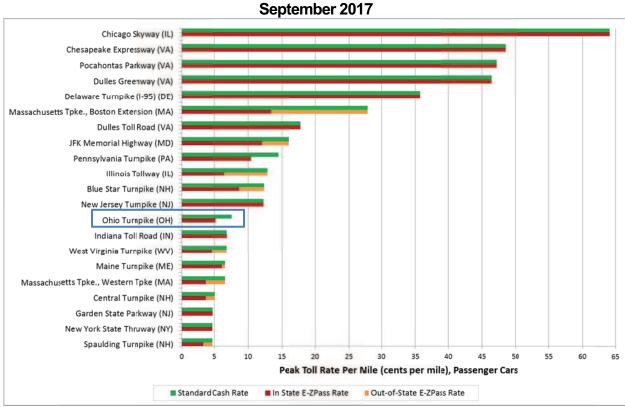
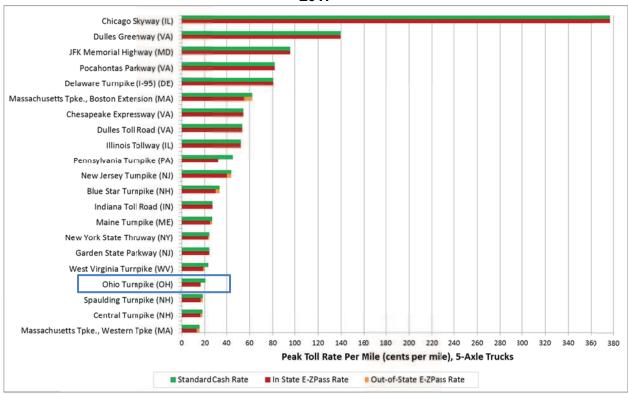


Figure 2: Passenger Car Toll Rates per Mile on Select E-ZPass Toll Facilities as of September 2017

Figure 3 shows a similar comparison for 5-axle vehicles. Seventeen major E-ZPass toll facilities have higher 5-axle truck E-ZPass toll rates per mile than the Ohio Turnpike's current tolls, while only three have lower rates. It can be said that the Ohio Turnpike commercial vehicle toll rates are reasonable compared to other E-ZPass toll facilities.

Figure 3: Commercial Vehicle Toll Rates on Select E-ZPass Toll Facilities as of September 2017



## 3.0 Proposed Toll System Modernization

The Turnpike Commission adopted the recommendation by the OTIC's Advisory Team to modernize the Ohio Turnpike by replacing the Toll Collection System (TCS) and Customer Service Center (CSC) with new state of the art technology and contracting for Unpaid Toll Processing Services to enforce the collection of unpaid tolls. The plan is to complete the toll system modernization in late 2021 with full operation in 2022.

## 3.1 Toll Collection System

The current TCS, installed in 2009, is approaching the end of its useful life. Replacement inventories for installed components are becoming scarce. While the TCS continues to perform as designed, the potential for future equipment failures will lead to lost revenue and will negatively affect OTIC toll collection operations.

To prevent those future concerns from occurring, the proposed TCS modernization consists of the following elements:

- Implement highway speed E-ZPass lanes at Eastgate and Westgate and convert them to barrier plazas where flat tolls are assessed for each vehicle class regardless of distance travelled.
- 2. Convert Eastgate toll collection to one-way only in the westbound direction (into Ohio and opposite to the Pennsylvania Turnpike's Gateway Plaza which is tolled one-way eastbound into Pennsylvania).
- Construct two new mainline plazas with highway speed E-ZPass lanes at MP 49 and MP 211 to become the new ends of a closed ticket system where all movements within MP 49 and MP 211 are tolled by vehicle class and distance travelled between entry and exit tolling points.
- 4. Remove nine (9) selected Toll Plazas but maintain interchange access to the Ohio Turnpike (TP 13, 25, 34, 39, 215, 216, 218, 232, 234).
- 5. Remove all entry toll lane gates as well as exit gates in low speed E-ZPass Only lanes within the ticket system.
- 6. Install new license plate image capture cameras in all gateless E-ZPass Only exit lanes.
- 7. Retain toll lane gates in non-E-ZPass Only exit lanes.
- 8. Continue to build trips for all Class 1 E-ZPass customers based upon Turnpike entry and exit points and apply rebates for trips under 30 miles through 2023. This includes trips that pass through Eastgate, Westgate, and the new mainline plazas at MP 49 and MP 211.



Figure 4: Modernizing the Ohio Turnpike System

The proposed modernized TCS will provide the following benefits and impacts:

- 1. Technology and customer service improvements with limited revenue risk.
- 2. Non-stop travel at highway speeds (70 mph) for E-ZPass customers traveling the full length of the Ohio Turnpike.
- 3. Non-stop travel at low speeds (10-15 mph) for E-ZPass customers at all interchange plazas (TP 52 through TP 209).
- 4. Non-tolled trips for local travelers within TP 13 and TP 39 and within TP 216 and TP 232.
- 5. Full length trip cash customers will stop three times (eastbound) or four times (westbound) instead of twice as they currently do.
- 6. Toll collection staff reductions due to removal of plazas and gates, increased E-ZPass penetration and faster collection rates at Eastgate and Westgate.

The OTIC will continue to classify vehicles by number of axles and height over the first two axles. Vehicle pre-classification as well as automatic height and weight screening will be conducted on entry to the Turnpike in low speed lanes. While height detection can be performed in highway speed lanes, weight enforcement may have to be conducted in some other manner, such as roving enforcement by Ohio State Highway Patrol personnel or by implementing weigh station operations. The feasibility to determine vehicle weight via highway speed weigh-in-motion techniques will require further investigation. Full service automated toll payment machines (ATPMs) that accept both cash and credit cards will continue to operate across the Turnpike at selected low volume toll plazas. New multiprotocol E-ZPass readers will be installed at all OTIC tolling points that will enhance the potential for interoperability with tolling agencies outside of the E-ZPass network.

The modernized TCS with highway speed E-ZPass lanes at mainline toll plazas will meet the Project goals of providing OTIC customers with quality service and value and allow the OTIC to implement innovative, adaptable and sustainable technology and operational programs while being financially responsible. In addition to the TCS modernization described above, the OTIC is also making toll plaza improvements at TP 64 (1 new exit lane and conversion of 1 existing entry lane to a reversible lane), TP 152 (1 new exit lane) and TP 180 (2 new exit lanes and conversion of 1 existing exit lane to a reversible lane).

#### 3.2 Customer Service Center

There will be a new, state-of-the-art CSC with significant advancements in improved customer experience, communication methods, data availability, and security that will continue to be operated by OTIC staff, to service the customer service needs of the almost 400,000 OTIC E-ZPass customers. E-ZPass usage is currently growing at approximately 2% per year and a bump in E-ZPass usage is anticipated when higher speed gateless E-ZPass lanes are implemented as part of the modernization plan.

The new CSC will include a new E-ZPass Ohio website (www.ezpassoh.com). The CSC will only perform functions related to administering and managing the E-ZPass Ohio program. All unpaid toll processing functions that are expected to arise from gateless E-ZPass lane operations will be outsourced to one or more vendors.

A modernized CSC will meet the Project goals of providing OTIC customers with quality service and value and allow the OTIC to implement innovative, adaptable and sustainable technology and operational programs while being financially responsible.

## 3.3 Unpaid Toll Processing Services

The OTIC will contract with one or more vendors to perform license plate image review, unpaid toll transaction processing functions (e.g. registered vehicle address lookup, generation and mailing of unpaid toll notices, customer service related to unpaid tolls, etc.) and collection of unpaid tolls. Unpaid Toll Processing will allow the OTIC to be financially responsible while providing low speed and highway speed non-stop travel for its E-ZPass travel customers.

## 3.4 Capital Cost Estimates

The Consultant Team prepared budgetary estimates of the capital costs of modernizing the Ohio Turnpike. These costs are estimated to be approximately \$189 to \$217 million in 2017 dollars with some \$50 to \$57 million for the TCS, CSC and Unpaid Toll Processing capital costs (this assumes the full replacement of all existing TCS and CSC technology) and some \$139 to \$160 million for toll plaza and mainline infrastructure improvements.

## 3.5 Revenue and Operating Cost Impacts

The Consultant Team prepared budgetary estimates of the costs to operate and maintain the modernized Ohio Turnpike. It is estimated that the modernized TCS and CSC will result

in approximately \$257 million of operating cost savings over 30 years. In the opening year of the modernized TCS, it is estimated that there will be approximately \$2.7 million less in operating costs and approximately \$2.4 million more net revenue. The net revenue increase is expected to be due to higher E-ZPass market shares and lower toll collection operating costs following the implementation of the modernized TCS and CSC.

### 3.6 Proposed Implementation Schedule and Key Milestones

The Commission will conduct public and external stakeholder outreach efforts throughout the toll system modernization program and will complete the development of gateless tolling business rules, policies, legislative and administrative rule changes to accommodate the proposed new TCS and the enforcement of unpaid tolls before the end of 2018. The procurement, design and construction phases will follow to select vendors and firms to design, develop and test the TCS, CSC, and Unpaid Toll Processing systems under observation of the toll consultants and the OTIC's TCS/CSC Advisory Team. The CSC design, development and testing efforts are estimated to begin in the 4th quarter of 2018 and be completed in the 4th quarter of 2020. Similar efforts for the TCS are expected to begin in the 3rd quarter of 2018 and be completed in the 4th quarter of 2021. Unpaid Toll Processing efforts are expected to begin in the 4th quarter of 2019 and be completed in the 4th quarter of 2021. Construction of the new and modernized mainline toll facilities is estimated to begin in the 4th quarter of 2019 and conclude in the 4th quarter of 2021.

It is estimated that the Commission will begin to operate the new CSC in the 4th quarter of 2020 or 1st quarter of 2021. Operations of the new TCS, as well as commencement of Unpaid Toll Processing Services, are anticipated for deployment in the 4th quarter of 2021.

## 4.0 Historical Toll Trips, VMT and Toll Revenue Trends

This section discusses historical toll trips, VMT, and toll revenue trends for the Turnpike. Jacobs has compiled and analyzed annual traffic and toll revenue data by exit and entry/exit movement to determine traffic and revenue growth patterns, popular travel movements, and which exits or entry/exit pairs generate the most toll revenue.

### 4.1 Historical Toll Trips and VMT Trends

Table 4 illustrates annual toll trips and VMT growth from 1991 through 2016. From 1991 through 2000, the Turnpike experienced an average annual growth in vehicle trips of approximately 3.3 percent, with a corresponding average annual growth of about 2.5 percent in VMT. From 2001 through 2010, trips grew at slower annual rate of 0.7 percent, with a corresponding annual growth rate of 0.2 percent in vehicle miles traveled. Over the last five years both vehicle trips and vehicle miles traveled increased by an annual average of 1.8 percent and 1.6 percent, respectively. It is important to note that a substantial decline in vehicle trips and vehicle miles traveled occurred between 2007 and 2009 due to the severe economic recession that occurred over this period. From 2009 through 2016, vehicle trips recovered somewhat with an average annual growth in vehicle trips of about 1.9 percent whereas vehicle miles traveled grew by 1.5 percent over this period; suggesting that the trip increases occurred primarily in shorter distance trips. Data for 2017 through the month of November suggests that Trips are growing at a slower rate of 0.7% over 2016, and VMT at 0.1%.

Table 4: Historical Toll Trips and VMT, 1991 through 2016, in Millions

	Vehicle		VMT	•
Year	Total			
	Trips	Growth	Total VMT	Growth
1991	34.1		2,158.3	
1992	36.4	6.9%	2,234.8	3.5%
1993	38.1	4.7%	2,306.5	3.2%
1994	40.8	6.9%	2,416.9	4.8%
1995*	42.3	3.8%	2,513.2	4.0%
1996*	41.3	-2.3%	2,483.2	-1.2%
1997*	41.0	-0.8%	2,455.6	-1.1%
1998*	43.6	6.2%	2,569.5	4.6%
1999*	45.1	3.4%	2,657.4	3.4%
2000	45.6	1.2%	2,702.3	1.7%
2001	45.9	0.7%	2,717.7	0.6%
2002	47.7	3.9%	2,809.6	3.4%
2003	48.3	1.2%	2,833.8	0.9%
2004	50.2	3.9%	2,911.5	2.7%
2005**	51.1	2.0%	2,990.5	2.7%
2006	51.8	1.2%	3,040.3	1.7%
2007*	51.5	-0.5%	2,978.4	-2.0%
2008	50.0	-2.9%	2,830.9	-5.0%
2009***	48.2	-3.6%	2,734.6	-3.4%
2010	48.9	1.4%	2,778.8	1.6%
2011	49.2	0.8%	2,762.5	-0.6%
2012*	49.8	1.1%	2,777.9	0.6%
2013	50.3	1.0%	2,827.7	1.8%
2014*	51.3	1.9%	2,875.2	1.7%
2015*	53.4	4.2%	3,001.3	4.4%
2016*	54.9	2.8%	3,037.6	1.2%

<sup>\*</sup>Toll increase year

Source: OTIC CAFRs 1991-2016

Table 5 illustrates the relative growth rate in vehicle trips and vehicle miles traveled for the periods 1991 through 2000, 2001 through 2010, 2008 through 2012, and 2013 through 2016.

<sup>\*\*</sup>Truck toll reduction

<sup>\*\*\*</sup>Toll increase and implementation of E-ZPass (October 2009)

Table 5: Growth in Vehicle Trips and VMT; 1991-2000, 2001-2010, 2008-2012, and 2013-2016

Year	Growth	n in Vehicle	Trips	Growth in VMT			
i eai	Cars		Total	Cars	Trucks	Total	
1991-2000	33.6%	34.4%	33.7%	22.1%	32.4%	25.2%	
2001-2010	5.0%	12.3%	6.4%	-1.5%	11.1%	2.3%	
2008-2012	1.0%	-5.4%	-0.4%	1.5%	-8.1%	-1.9%	
2013-2016	9.4%	8.1%	9.1%	7.3%	7.7%	7.4%	
2017*	0.5%	1.6%	0.7%	-0.5%	1.3%	0.1%	

\*January through November 2017

Source: OTIC CAFRs 1991-2016

#### 4.2 Historical Toll Revenue Trends

Table 6 illustrates annual toll revenue growth from 1991 through 2016. From 1991 through 2000, the Turnpike experienced an average annual growth in toll revenue of approximately 9.2 percent. For the ten years 2001 through 2010, toll revenue grew at a slower annual rate of 3.2 percent. From 1995 to 1999, tolls were increased each year, with a total toll rate increase of 68.9 percent for cars and 58.2 percent (on average) for trucks; therefore, this was the period with the most substantial toll revenue growth, with an average annual growth rate of about 14.7 percent, and total revenue growth of 73 percent. From 2000 through 2009, toll revenue increased at an average annual growth rate of about 0.6 percent; it is important to note that there were no toll rate increases between 2000 and 2006 and that a temporary truck toll rate reduction of some two percent to 57 percent (depending on the truck class) was implemented in 2005. With the implementation of electronic tolling (E-ZPass) in October 2009 and toll rate increases for non E-ZPass customers, toll revenue in 2010 grew substantially at almost 24 percent compared to the prior year. With toll rate increases for both cash and E-ZPass customers in January 2012, toll revenue for 2012 grew at 9.3 percent compared to the prior year. Since 2014, there have been annual toll rate increases, and the Turnpike's toll revenue increased at an average annual rate of roughly four percent, with a substantial increase of 5.9 percent in 2015 compared to the prior year. Revenues for the year 2017 through November are up 2.7 percent.

Table 6: Historical Toll Revenue, 1991 through 2016

	Total Toll	
Year	Revenue	
	(in millions)	Growth
1991	\$80.2	
1992	\$83.6	4.3%
1993	\$88.4	5.7%
1994	\$94.4	6.9%
1995*	\$102.0	8.0%
1996*	\$118.8	16.5%
1997*	\$138.6	16.7%
1998*	\$156.2	12.7%
1999*	\$176.4	13.0%
2000	\$176.8	0.2%
2001	\$174.3	-1.4%
2002	\$179.2	2.8%
2003	\$180.0	0.4%
2004	\$189.7	5.4%
2005**	\$179.1	-5.6%
2006	\$183.9	2.7%
2007*	\$198.2	7.7%
2008	\$187.5	-5.4%
2009***	\$187.3	-0.1%
2010	\$232.2	24.0%
2011	\$231.0	-0.5%
2012*	\$252.5	9.3%
2013	\$254.6	0.8%
2014*	\$264.6	3.9%
2015*	\$280.2	5.9%
2016*	\$288.4	3.0%

<sup>\*</sup>Toll increase year

Source: OTIC CAFRs 1991-2016

Table 7 illustrates the relative growth in toll revenue for the periods 1991 through 2000, 2001 through 2010, 2008 through 2012, and 2013 through 2016, while Figure 5 shows the annual total toll revenue growth from 1991 to 2016. The recent spikes in annual toll revenue growth shown in Figure 5 were due to a toll increase in January 2007, the implementation of E-Zpass and toll increases for cash customers in late 2009, a 10 percent toll increase in January 2012, and annual toll rate increases each January beginning in 2014.

<sup>\*\*</sup>Truck toll reduction

<sup>\*\*\*</sup>Toll increase and implementation of E-ZPass (October 2009)

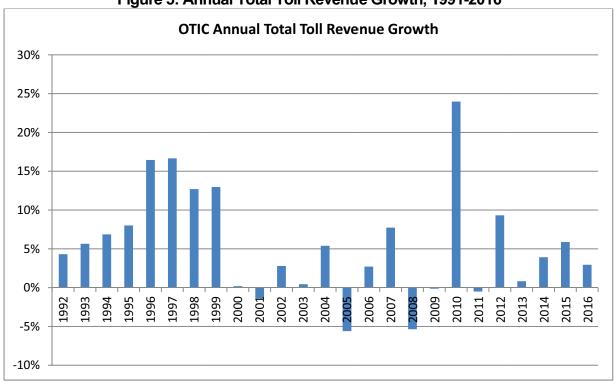
Table 7: Total Growth in Toll Revenue; 1991-2000, 2001-2010, 2008-2012, and 2013-2016

Year	Toll Revenue Growth					
i eai	Cars	Trucks	Total			
1991-2000	121.2%	120.0%	120.5%			
2001-2010	43. 2%	25.7%	33.2%			
2008-2012	42.9%	28.7%	34.7%			
2013-2016	11.7%	14.5%	13.3%			
2017*	1.4%	3.6%	2.7%			

\*January through November 2017

Source: OTIC CAFRs 1991-2016

Figure 5: Annual Total Toll Revenue Growth, 1991-2016



Notes:

Toll increases occurred in: Jul 1995, Jan 1996, Jan 1997, Jan 1998, Jan 1999, Jan 2007, Oct 2009, Jan 2012 and each Jan 2014-2016.

A truck toll reduction was implemented in Jan 2005.

E-ZPass was implemented in Oct 2009.

## 4.3 Historical Toll Trips and VMT by Vehicle Class

Table 8 illustrates annual toll trips and VMT by vehicle class from 1991 through 2016. From 1991 through 2000, the Turnpike experienced an average annual growth in passenger car trips of approximately 3.4 percent, with a corresponding average annual growth of about 2.2 percent in VMT. During the same time period, the average annual growth in commercial truck trips was approximately 3.4 percent, with a corresponding average annual growth of

about 3.2 percent in VMT. From 2001 through 2010, passenger car trips grew at an annual rate of 0.5 percent, with a decline in VMT of 0.1 percent annually. Commercial trucks experienced an average annual trip growth of 1.2 percent, with a corresponding annual growth rate in VMT of 1.1 percent. Between 2011 and 2016, vehicle trips for cars increased at an annual rate of 2.5 percent, with a corresponding annual growth rate in VMT of 2.2 percent. During the same time period, commercial truck trips increased by an average annual rate of about 2.4 percent, with a corresponding increase in VMT of 2.3 percent.

Table 8: Historical Toll Trips and VMT by Vehicle Class 1991 through 2016

Vaar			os (in Millio		VMT (in Millions)				
Year	Cars	Growth	Trucks	Growth	Cars	Growth	Trucks	Growth	
1991	27.2		6.9		1,516.1		642.2		
1992	29.1	7.3%	7.3	5.4%	1,566.9	3.4%	667.9	4.0%	
1993	30.5	4.6%	7.7	5.1%	1,602.3	2.3%	704.2	5.4%	
1994	32.4	6.2%	8.4	9.3%	1,639.7	2.3%	777.3	10.4%	
1995*	33.7	4.1%	8.6	2.6%	1,715.4	4.6%	797.8	2.6%	
1996*	32.9	-2.5%	8.5	-1.4%	1,701.5	-0.8%	781.7	-2.0%	
1997*	32.8	-0.3%	8.2	-2.7%	1,703.8	0.1%	751.8	-3.8%	
1998*	35.1	6.9%	8.5	3.5%	1,797.1	5.5%	772.4	2.8%	
1999*	35.9	2.4%	9.2	7.4%	1,820.8	1.3%	836.6	8.3%	
2000	36.3	1.1%	9.3	1.4%	1,851.8	1.7%	850.5	1.7%	
2001	37.0	2.1%	8.9	-4.5%	1,913.9	3.4%	803.9	-5.5%	
2002	38.6	4.3%	9.1	2.6%	1,994.6	4.2%	815.0	1.4%	
2003	39.2	1.5%	9.1	-0.1%	2,019.4	1.2%	814.4	-0.1%	
2004	40.4	3.0%	9.8	7.8%	2,021.5	0.1%	890.0	9.3%	
2005**	40.1	-0.5%	11.0	12.3%	1,964.0	-2.9%	1,026.5	15.3%	
2006	40.3	0.3%	11.5	4.7%	1,963.0	-0.1%	1,077.3	4.9%	
2007*	40.1	-0.3%	11.4	-1.1%	1,915.1	-2.4%	1,063.3	-1.3%	
2008	39.0	-2.7%	11.0	-3.7%	1,831.5	-4.4%	999.4	-6.0%	
2009***	38.5	-1.4%	9.7	-11.4%	1,863.1	1.7%	871.6	-12.8%	
2010	38.9	1.1%	10.0	2.4%	1,885.4	1.2%	893.4	2.5%	
2011	39.0	0.3%	10.2	2.7%	1,851.7	-1.8%	910.8	1.9%	
2012*	39.4	1.0%	10.4	1.6%	1,859.1	0.4%	918.8	0.9%	
2013	39.7	0.8%	10.6	1.8%	1,891.7	1.8%	936.0	1.9%	
2014*	40.3	1.5%	10.9	3.3%	1,906.6	0.8%	968.5	3.5%	
2015*	42.1	4.4%	11.3	3.3%	1,998.2	4.8%	1,003.1	3.6%	
2016*	43.5	3.2%	11.4	1.3%	2,029.9	1.6%	1,007.7	0.5%	

<sup>\*</sup> Toll increase year

Annual growth in trips, VMT and toll revenue between 1991 and 2016 are illustrated in Figure 6, Figure 7 and Figure 8, respectively.

<sup>\*\*</sup>Truck toll reduction

<sup>\*\*\*</sup>Toll increase and implementation of E-ZPass (October 2009)

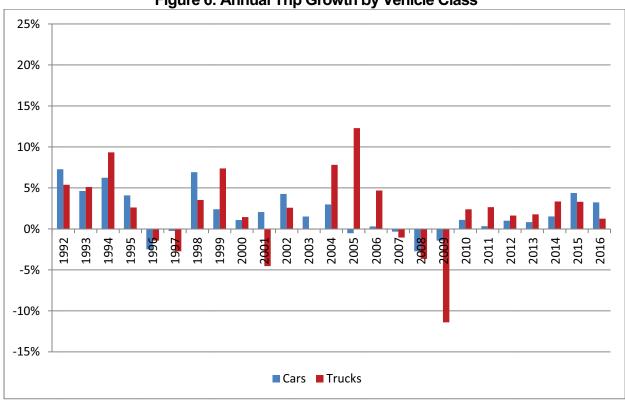


Figure 6: Annual Trip Growth by Vehicle Class

#### Notes:

Toll increases occurred in: Jul. 1995, Jan. 1996, Jan. 1997, Jan. 1998, Jan. 1999, Jan. 2007, Oct. 2009, Jan 2012 and each Jan 2014-2016.

A truck toll reduction was implemented in Jan. 2005.

E-ZPass was implemented in October 2009.

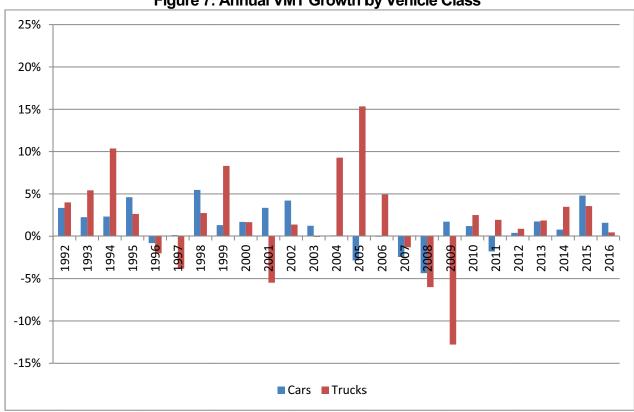


Figure 7: Annual VMT Growth by Vehicle Class

#### Notes:

Toll increases occurred in: Jul. 1995, Jan. 1996, Jan. 1997, Jan. 1998, Jan. 1999, Jan. 2007, Oct. 2009, Jan 2012 and each Jan 2014-2016.

A truck toll reduction was implemented in Jan. 2005.

E-ZPass was implemented in October 2009.

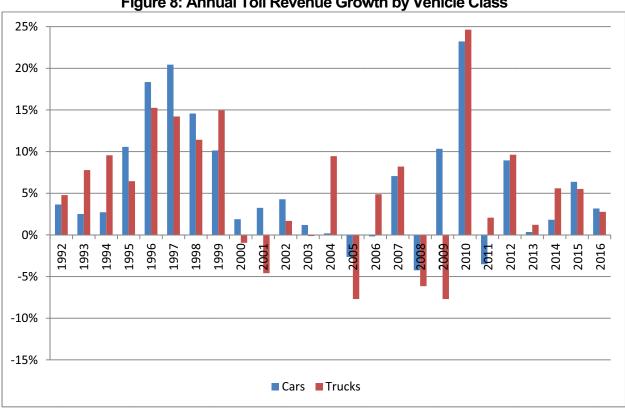


Figure 8: Annual Toll Revenue Growth by Vehicle Class

Notes:

Toll increases occurred in: Jul. 1995, Jan. 1996, Jan. 1997, Jan. 1998, Jan. 1999, Jan. 2007, Oct. 2009, Jan 2012 and each Jan 2014-2016.

A truck toll reduction was implemented in Jan. 2005.

E-ZPass was implemented in October 2009.

## 4.4 Distribution of Current Traffic and Revenue by Exit Point and **Entry/Exit Pair**

The Turnpike has 31 tolling points over its 241-mile length where drivers may enter or exit. Upon exit, a toll is paid based on the distance traveled, vehicle class and payment type (E-ZPass or non-E-ZPass). Annual 2016 traffic and revenue by entry and exit point was compiled and sorted into the top ten toll locations (i.e., exit points) in terms of traffic volumes (trips), VMT, and toll revenues; these are shown in Table 9, Table 10 and Table 11, respectively. The eastern termini (Exit 239) and the Niles-Youngstown exit at Route 80 (Exit 218) are the two most popular tolling points in terms of traffic, with over four million tollpaying vehicles per year at each location. In terms of VMT, the two Turnpike endpoints (Exit 2 and Exit 239) account for over 28 percent of total Turnpike VMT, indicating that there are a large number of vehicles making statewide trips on the Turnpike. The top ten most popular exit points are used by almost two-thirds of all Turnpike trips. In terms of toll revenue, the western end of the Turnpike (Exit 2) collects over 20 percent of total toll

revenue – significantly more than any other location – indicating that there is a relatively high proportion of long-distance and truck trips at this location compared to other 30 Turnpike tolling points. The top ten toll locations in terms of toll revenue collect more than 78 percent of total toll revenue on the Turnpike.

Table 9: Top Ten Exit Points in Terms of Traffic Volume, 2016

Ranking	Exit	Milepoint	2016 Exiting Trips (000s)	% of Total Trips	% Cars	% Trucks
1	Eastgate	239	4,440	8.1%	9.9%	8.0%
2	Niles-Youngstown	218	4,319	7.9%	8.9%	7.8%
3	Westgate	2	3,844	7.0%	6.7%	7.0%
4	Cleveland	173	3,806	6.9%	6.8%	6.9%
5	Streetsboro	187	3,725	6.8%	6.4%	6.8%
6	Strongsville-Cleveland	161	3,674	6.7%	6.2%	6.7%
7	Akron	180	3,508	6.4%	5.3%	6.4%
8	Stony Ridge-Toledo	71	3,310	6.0%	5.4%	6.1%
9	Perrysburg-Toledo	64	2,931	5.3%	5.1%	5.3%
10	N. Ridgeville-Cleveland	151	2,899	5.3%	4.5%	5.3%
Other			18,440	33.6%	34.8%	33.6%

Note: all trips/traffic volumes shown herein are two-way trips between the entry and exit points

Table 10: Top Ten Exit Points in Terms of VMT, 2016

Ranking	Exit	Milepoint	2016 Exiting VMT (000s)	% of Total VMT	% Cars	% Trucks
1	Westgate	2	533,327	17.6%	16.4%	17.6%
2	Niles-Youngstown	218	344,291	11.3%	11.9%	11.3%
3	Eastgate	239	334,041	11.0%	11.5%	11.0%
4	Stony Ridge-Toledo	71	290,919	9.6%	7.9%	9.6%
5	Perrysburg-Toledo	64	187,104	6.2%	5.7%	6.2%
6	N. Ridgeville-Cleveland	151	133,546	4.4%	4.5%	4.4%
7	Cleveland	173	126,950	4.2%	4.6%	4.2%
8	Lorain Co. West	142	124,714	4.1%	4.2%	4.1%
9	Strongsville-Cleveland	161	118,876	3.9%	3.8%	3.9%
10	Streetsboro	187	118,662	3.9%	4.0%	3.9%
Other			725,200	23.9%	25.6%	23.8%

Note: all VMT volumes shown herein are two-way VMT volumes between the entry and exit points

Table 11: Top Ten Exit Points in Terms of Toll Revenue, 2016

Ranking	Exit	Milepoint	2016 Exiting Revenue (000s)	% of Total Revenue	% Cars	% Trucks
1	Westgate	2	\$59,124	20.4%	16.5%	20.5%
2	Niles-Youngstown	218	\$38,016	13.1%	12.1%	13.2%
3	Stony Ridge-Toledo	71	\$31,102	10.7%	8.0%	10.8%
4	Eastgate	239	\$29,861	10.3%	11.5%	10.3%
5	Perrysburg-Toledo	64	\$16,568	5.7%	5.7%	5.7%
6	N. Ridgeville-Cleveland	151	\$12,505	4.3%	4.5%	4.3%
7	Lorain Co. West	142	\$11,275	3.9%	4.4%	3.9%
8	Cleveland	173	\$11,110	3.8%	4.5%	3.8%
9	Streetsboro	187	\$9,482	3.3%	3.8%	3.3%
10	Maumee-Toledo	59	\$9,136	3.2%	3.6%	3.1%
Other			\$61,603	21.3%	25.4%	21.1%

Note: all revenues shown herein are revenues from two-way trips between the entry and exit points

Table 12 shows the ten most popular entry/exit movements by traffic volume, and it may be seen that the most popular entry/exit movements in terms of traffic are typically shorter trips in more urban areas. Table 13 presents the entry/exit movements that produce the most VMT, and Table 14 shows the entry/exit movements that produce the most toll revenue. It is clear that trips between Indiana and I-80 (Exit 2 to Exit 218) and full-length trips (Exit 2 to Exit 239) are the most popular movements in terms of VMT and consequently produce the most toll revenue. Note that in each table, all values shown represent two-way values of either traffic, VMT or revenues *between* the entry and exit points.

Table 12: Top Ten Entry/Exit Movements by Traffic Volume, 2016

Ranking	Entry<>Exit	Distance (Miles)	2016 Trips (000s)	% of Total Trips	% Cars	% Trucks			
	Lorain-Elyria<>N.								
	Ridgeville-Cleveland (145 -								
1	151)	6	2,399	4.4%	5.2%	1.2%			
	Cleveland<>Akron (173 -								
2	180)	7	1,980	3.6%	4.3%	0.8%			
	Streetsboro<>Niles-		,						
3	Youngstown (187 - 218)	31	1,926	3.5%	3.6%	3.0%			
	Strongsville-								
	Cleveland<>Akron (161 -								
4	180)	19	1,678	3.1%	3.7%	0.7%			
	Niles-								
_	Youngstown<>Eastgate								
5	(218 - 239)	21	1,668	3.0%	2.8%	4.1%			
	Youngstown-								
6	Poland<>Eastgate (234 -	_	1 400	0.70/	2.00/	0.00/			
6	239)	5	1,489	2.7%	2.8%	2.2%			
	Westgate<>Niles-								
7	Youngstown (2 - 218)	216	1,206	2.2%	1.0%	6.8%			
	Lorain-								
	Elyria<>Strongsville-								
8	Cleveland (145 - 161)	16	1,184	2.2%	2.6%	0.7%			
	Streetsboro<>Eastgate								
9	(187 - 239)	52	1,183	2.2%	2.2%	2.2%			
	Strongsville-		,						
	Cleveland<>Cleveland								
10	(161 - 173)	12	1,005	1.8%	2.1%	0.7%			
Other			39,178	71.4%	69.7%	77.6%			

Note: all trips/traffic volumes shown herein are two-way trips between the entry and exit points

Table 13: Top Ten Entry/Exit Movements in Terms of VMT, 2016

-					
Entry<>Exit	Distance (Miles)	2016 VMT (000s)	% of Total VMT	% Cars	% Trucks
Westgate<>Niles-					
Youngstown (2 - 218)	216	263,788	8.7%	4.6%	17.0%
Westgate<>Eastgate (2 -					
239)	237	216,021	7.1%	6.5%	8.4%
Stony Ridge-					
Toledo<>Eastgate (71 -					
239)	168	139,529	4.6%	4.3%	5.2%
Westgate<>Lorain Co.					
West (2 - 142)	140	119,549	3.9%	3.8%	4.2%
Stony Ridge-					
, ,					
(71 - 218)	147	114,575	3.8%	2.3%	6.8%
Masterate & N. Didesville		,			
	140	07.465	2.20/	0.70/	4.00/
, ,	149	97,465	3.2%	2.1%	4.2%
•	<b>5</b> 0	00 004	0.40/	0.50/	4.00/
(187 - 239)	52	63,901	2.1%	2.5%	1.3%
Streetsboro<>Niles-					
Youngstown (187 - 218)	31	60,677	2.0%	2.5%	1.1%
		,			
,					
239)	175	58,174	1.9%	2.3%	1.1%
,					
151)	80	55,869	1.8%	1.8%	1.9%
					48.8%
	Westgate<>Niles- Youngstown (2 - 218)  Westgate<>Eastgate (2 - 239)  Stony Ridge- Toledo<>Eastgate (71 - 239)  Westgate<>Lorain Co. West (2 - 142)  Stony Ridge- Toledo<>Niles-Youngstown (71 - 218)  Westgate<>N. Ridgeville- Cleveland (2 - 151)  Streetsboro<>Eastgate (187 - 239)  Streetsboro<>Niles- Youngstown (187 - 218)  Perrysburg- Toledo<>Eastgate (64 - 239)  Stony Ridge-Toledo<>N. Ridgeville-Cleveland (71 -	Westgate<>Niles- Youngstown (2 - 218) 216  Westgate<>Eastgate (2 - 239) 237  Stony Ridge- Toledo<>Eastgate (71 - 239) 168  Westgate<>Lorain Co. West (2 - 142) 140  Stony Ridge- Toledo<>Niles-Youngstown (71 - 218) 147  Westgate<>N. Ridgeville- Cleveland (2 - 151) 149  Streetsboro<>Eastgate (187 - 239) 52  Streetsboro<>Niles- Youngstown (187 - 218) 31  Perrysburg- Toledo<>Eastgate (64 - 239) 175  Stony Ridge-Toledo<>N. Ridgeville-Cleveland (71 - 145)  Stony Ridge-Toledo<>N. Ridgeville-Cleveland (71 - 145)	Westgate<>Niles- Youngstown (2 - 218)   216   263,788   239   237   216,021   239)   237   216,021   239)   237   216,021   239)   168   139,529   239)   168   139,529   239)   239   237   239,229   239   239   237   239,229   239   237   239,229   239   237   239,229   237   239	Entry<>Exit         (Miles)         (000s)         VMT           Westgate<<>Niles-Youngstown (2 - 218)         216         263,788         8.7%           Westgate<>Eastgate (2 - 239)         237         216,021         7.1%           Stony Ridge-Toledo<>Eastgate (71 - 239)         168         139,529         4.6%           Westgate<>Lorain Co. West (2 - 142)         140         119,549         3.9%           Stony Ridge-Toledo<>Niles-Youngstown (71 - 218)         147         114,575         3.8%           Westgate<>N. Ridgeville-Cleveland (2 - 151)         149         97,465         3.2%           Streetsboro<>Eastgate (187 - 239)         52         63,901         2.1%           Streetsboro<>Niles-Youngstown (187 - 218)         31         60,677         2.0%           Perrysburg-Toledo<>Eastgate (64 - 239)         175         58,174         1.9%           Stony Ridge-Toledo<>N. Ridgeville-Cleveland (71 - 151)         80         55,869         1.8%	Westgate<>Niles-Youngstown (2 - 218)         216         263,788         8.7%         4.6%           Westgate<>Eastgate (2 - 239)         237         216,021         7.1%         6.5%           Stony Ridge-Toledo<>Eastgate (71 - 239)         168         139,529         4.6%         4.3%           Westgate<>>Lorain Co. West (2 - 142)         140         119,549         3.9%         3.8%           Stony Ridge-Toledo<>Niles-Youngstown (71 - 218)         147         114,575         3.8%         2.3%           Westgate<>N. Ridgeville-Cleveland (2 - 151)         149         97,465         3.2%         2.7%           Streetsboro<>Eastgate (187 - 239)         52         63,901         2.1%         2.5%           Streetsboro<>Niles-Youngstown (187 - 218)         31         60,677         2.0%         2.5%           Perrysburg-Toledo<>Eastgate (64 - 239)         175         58,174         1.9%         2.3%           Stony Ridge-Toledo<>N. Ridgeville-Cleveland (71 - 151)         80         55,869         1.8%         1.8%

Note: all VMT values shown herein are total two-way VMT values between the entry and exit points

Table 14: Top Ten Entry/Exit Movements in Terms of Toll Revenue, 2016

rable in representational in reline of reline ventage 2010								
Ranking	Entry<>Exit	Distance (Miles)	2016 Revenue (000s)	% of Total Revenue	% Cars	% Trucks		
	Westgate<>Niles-							
1	Youngstown (2 - 218)	216	\$33,253	11.5%	4.4%	17.0%		
	Westgate<>Eastgate (2 -		,					
2	239)	237	\$20,876	7.2%	6.0%	8.1%		
	Stony Ridge- Toledo<>Niles-							
3	Youngstown (71 - 218)	147	\$14,090	4.9%	2.4%	6.8%		
	Stony Ridge-							
	Toledo<>Eastgate (71 -							
4	239)	168	\$13,862	4.8%	4.4%	5.1%		
	Westgate<>Lorain Co.							
5	West (2 - 142)	140	\$11,401	3.9%	3.7%	4.1%		
	Westgate<>N. Ridgeville-							
6	Cleveland (2 - 151)	149	\$10,051	3.5%	2.6%	4.1%		
	Westgate<>Stony Ridge-		,					
7	Toledo (2 - 71)	69	\$6,593	2.3%	0.4%	3.8%		
	Stony Ridge-Toledo<>N.							
	Ridgeville-Cleveland (71 -	00	<b>#5.400</b>	4.00/	4.00/	4.00/		
8	151)	80	\$5,482	1.9%	1.9%	1.9%		
	Westgate<>Cleveland (2 -							
9	173)	171	\$5,290	1.8%	1.0%	2.5%		
	Streetsboro<>Eastgate							
10	(187 - 239)	52	\$5,104	1.8%	2.4%	1.2%		
Other	,		\$163,780	56.5%	70.8%	45.5%		
						•		

Note: all toll revenues shown herein are total two-way toll revenue values between the entry and exit points

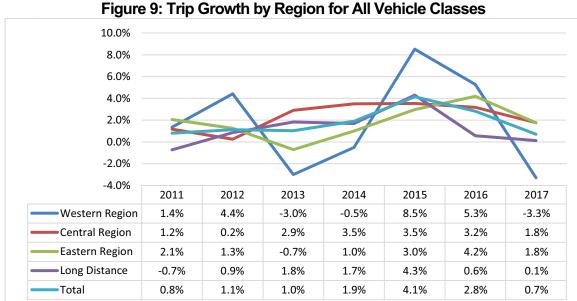
# 4.5 Distribution of Traffic and Revenue by Region

This section describes annual trip, VMT, and toll revenue growth by geographic region. The Turnpike is split into three distinct Regions, with a separate fourth category specifically for "long-distance" trips:

- 1) Western Region ranges for approximately 92 miles from the Indiana State Line to Fremont Port Clinton, and spans Interchanges 2 through 91.
- 2) Central Region ranges for 96 miles from Sandusky Bellevue to Streetsboro, and spans Interchanges 110 through 187.
- 3) Eastern Region ranges for approximately 53 miles from Ravenna to the Pennsylvania State Line, and spans interchanges 193 through 239.
- 4) Long-distance trips on the Turnpike are any trips with a distance greater than 60 miles.

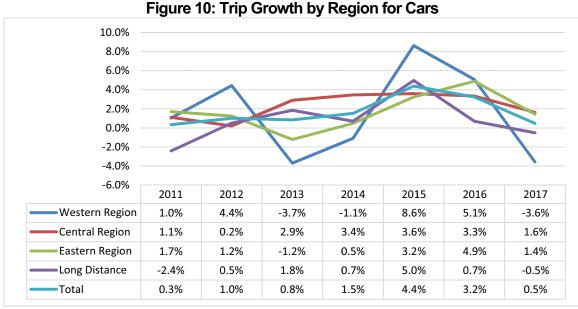
This section illustrates annual trip, VMT, and toll revenue year-over-year growth for each geographic Region (and for long-distance trips) by fiscal year with data from January 2011 through November 2017 (most recent data available).

Figure 9 illustrates trip growth by Region for all vehicle classes. For the first eleven months of 2017, the Eastern Region and the Central Region experienced the most trip growth. Total trip growth slowed as compared to prior years.



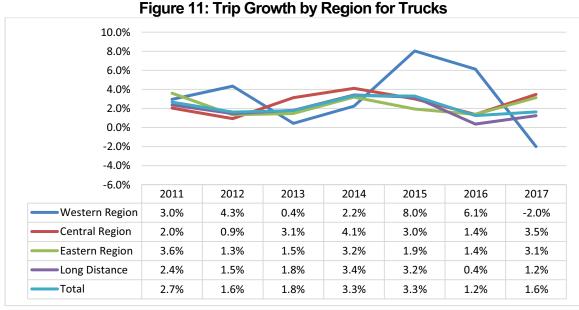
Note: 2017 data through November 2017 (most recent data available).

Figure 9 illustrates trip growth by Region for cars. For the first eleven months of 2017, the Central Region experienced the most trip growth, followed by the Eastern Region. Car trip growth slowed as compared to prior years.



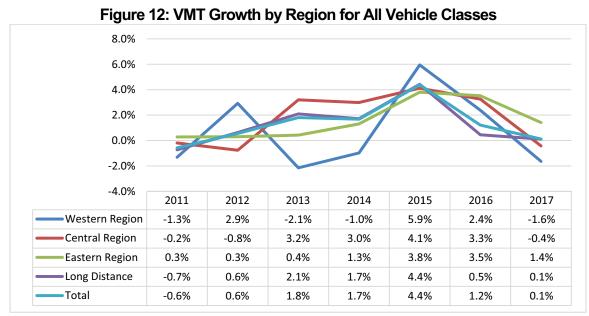
Note: 2017 data through November 2017 (most recent data available).

Figure 11 illustrates trip growth by Region for trucks. For the first eleven months of 2017, both Central and Eastern Regions experienced modest trip growth. Truck trip growth in the Central and Eastern Regions was higher compared to the previous year.



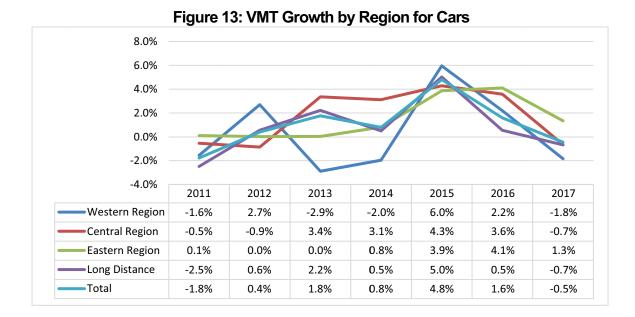
Note: 2017 data through November 2017 (most recent data available).

Figure 12 illustrates VMT growth by Region for all vehicle classes. For the first eleven months of 2017, the Eastern Region experienced the most VMT growth. VMT growth in all Regions slowed as compared to prior years.



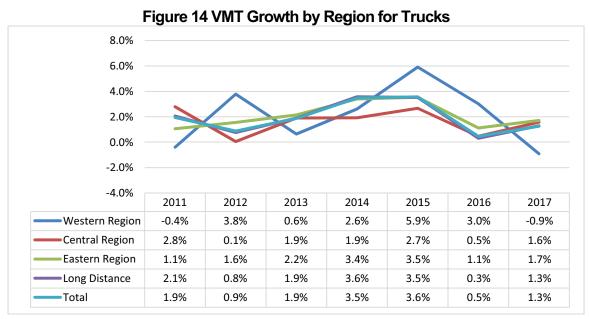
Note: 2017 data through November 2017 (most recent data available).

Figure 13 illustrates VMT growth by Region for cars. For the first eleven months of 2017, the Eastern Region experienced the most VMT growth. Car VMT growth in all Regions slowed as compared to prior years, with negative growth in the Central and Western Regions.



Note: 2017 data through November 2017 (most recent data available).

Figure 14 illustrates VMT growth by Region for trucks. For the first eleven months of 2017, the Eastern Region experienced the most VMT growth, followed by the Central Region.



Note: 2017 data through November 2017 (most recent data available).

Figure 15 illustrates toll revenue growth by Region for all vehicle classes. For the first eleven months of 2017, the Eastern Region experienced the most revenue growth, followed by Long-distance trips, and then the Central Region. Total revenue growth in the Eastern Region was almost twice that of Long Distance trips.

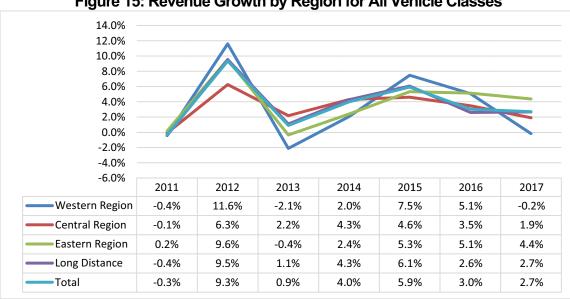
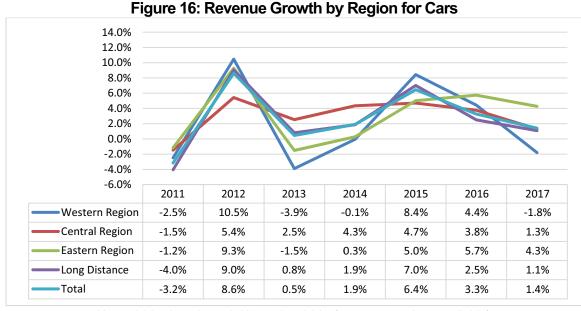


Figure 15: Revenue Growth by Region for All Vehicle Classes

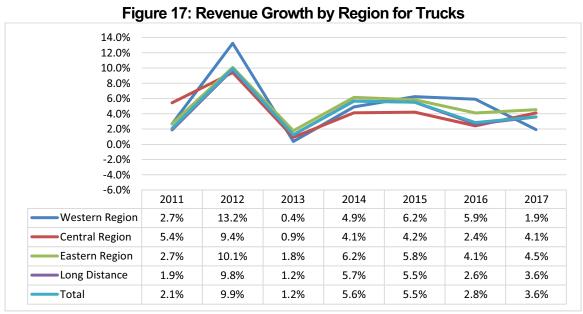
Note: 2017 data through November 2017 (most recent data available).

Figure 16 illustrates toll revenue growth by Region for cars. For the first eleven months of 2017, the Eastern Region experienced the most revenue growth, followed by the Central Region. Car revenue growth in the Eastern Region was nearly four times higher as compared to the Central Region.



Note: 2017 data through November 2017 (most recent data available).

Figure 17 illustrates toll revenue growth by Region for trucks. For the first eleven months of 2017, the Eastern Region experienced the most revenue growth, followed by the Central Region. Except for the Western Region, truck revenue has exceeded the prior year's growth.



Note: 2017 data through November 2017 (most recent data available).

# 5.0 Historical Operations and Maintenance Expenses

This section presents a review of the historical operation and maintenance (O&M) expenses for the Turnpike. The major assets maintained by the Commission include:

- 241 miles of Turnpike mainline plus interchange ramps,
- 14 service plazas, configured in pairs at seven separate interchanges that average approximately 30 miles apart over the length of the road,
- 31 toll plazas, including 2 mainline plazas and 29 ramp plazas,
- 3 buildings for administration, telecommunication, and highway patrol, and
- 8 maintenance buildings and facilities.

Historical operating expenditures are shown in Table 15. Overall, Turnpike operating expenses have increased at an average annual rate of 0.6 percent from 2005 through 2015. The operating expense increased to \$111 million in 2007 and further increased to \$116 million through 2010. It dropped back to \$111 million in 2011 and has been stable since then with a temporary decrease to \$109 million in 2013. There was an increase of approximately 6 million in 2016 mainly due to the increase in pension expenses and employee health benefit costs. The total operating expenditures through October in 2017 is approximately \$98 million or 1.27% higher than the total through October in 2016. The main triggers for the variation are highlighted below:

- On October 1, 2009, the Turnpike implemented a new toll collection system that included E-ZPass. In addition to E-ZPass, the Commission has gradually extended the use of 28 self-pay Automated Toll Payment Machines ("ATPM's") at 14 interchange locations. As a result of the new toll collection system and the introduction of ATPM's, cost reductions have been achieved through permanent decreases in total toll collector wages. The Commission also offered a Voluntary Separation Incentive Program ("VSIP"). The 2010 Services and Toll Operation expense line item contained \$2.5 million in VSIP payments to toll collectors. These measurements combined with milder winter weather in the fall of 2011 resulted in a reduction of total operating expenses in 2011.
- In 2013, the Commission has completed the replacement of 14 of its original 16 service plazas with newer and more modern structures; that replacement program started in June of 1999. The service plazas located at Milepost ("MP") 49.0 in Lucas County have been demolished and there currently are no plans for their reconstruction. The overall operating expenses in 2013 has decreased largely due to lower fringe benefit expenses as a result of lower health insurance costs and lower workers' compensation costs. The decrease was partially offset by increased snow and ice removal costs due to harsher winter weather in the year.

Maintenance Administration Traffic Control, Safety, Total Operating Costs Services and Toll Operation Patrol and Communications Annual Growth Personnel Roadway and Facility Maintenance Other Expenditures Maintenance Personnel Other Expenditures Equipment Insurance Snow and I Control Year Admin. \$5,085 \$969 \$13,557 \$8,004 \$104,518 2005 \$2,139 \$10,496 \$7,334 \$5,215 \$3,134 \$48,585 2006 \$5,368 \$1,520 \$956 \$13,984 \$8,275 \$12,092 \$2,999 \$5,179 \$2,934 \$50,186 \$103,493 -1.0% 2007 \$5,501 \$1,605 \$1,009 \$14,614 \$8,414 \$12,682 \$7,394 \$5,978 \$3,234 \$50,739 \$111,171 7.4% \$8,587 2008 \$5,809 \$1,724 \$932 \$15,794 \$10,925 \$7,964 \$6,786 \$2,953 \$52,394 \$113,868 2.4% \$5,880 \$1,827 \$927 \$15,529 \$8,479 \$12,030 \$6,159 \$3,168 \$53,817 \$113,679 2009 \$5,862 -0.2% 2010 \$6.193 \$1.903 \$661 \$14,998 \$8.463 \$12,269 \$7,611 \$6.098 \$3.238 \$54,700 \$116,136 2.2% \$1,825 \$819 \$14,871 \$8,500 \$6,609 \$6,077 \$3,006 \$50,549 \$110,296 -5.0% 2011 \$6,101 \$11,939

\$12,914

\$10,982

\$11,284

\$11,890

\$11,750

\$5,110

\$8,033

\$7,999

\$7,460

\$8.352

\$6,066

\$6,587

\$6,887

\$5,905

\$5.809

\$2,852

\$1,795

\$2,504

\$2,221

\$3.078

\$51,266

\$50,369

\$50,646

\$51,911

\$54,072

\$111,325

\$108,717

\$110,767

\$111,902

\$117.966

0.9%

-2.3%

1.9%

1.0% 5.4%

Table 15: Historical O&M, 2005-2016 (in thousands)

Note: Excludes depreciation as shown in financial statement; Excludes R&R and General Fund expenses Excludes non-cash GASB 68 charges.

The following sections describe the O&M expense items included under each operating expenditure category.

#### 5.1 Administration

2012

2013

2014

2015

2016

\$7,260

\$6,589

\$6.804

\$6,989

\$7.600

\$1,875

\$1,744

\$1,953

\$2,336

\$2.524

\$801

\$960

\$1,005

\$944

\$1.054

\$14,558

\$14,040

\$13,657

\$13,912

\$14.398

\$8,623

\$7,618

\$8.028

\$8,334

\$9.330

Administration costs include all administrative staff salaries and benefits from the following departments:

- Commission members
- Executive
- Legal (includes Risk Management/Right of Way Coordination, Contracts, Workers Compensation and Chief Investigator)
- CFO/Comptroller (includes Accounting, Customer Service Center, Payroll and Procurement)
- Governmental Affairs (includes Marketing and Communications)
- Human Resources
- Office Services
- Technology (Information Systems)
- Internal Auditing

Figure 18 provides detail of the Commission's organization.

Included in administration costs are third party services such as legal, audit, insurance, marketing, financial, and consulting engineering. Office expenditures, including travel and meeting expenses, dues and subscription fees, various office supplies, and other miscellaneous expenses, are also recorded here.

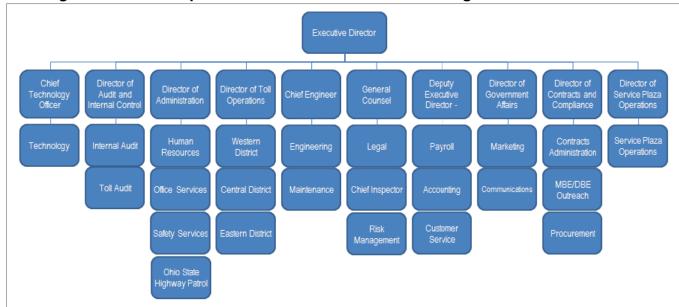


Figure 18: Ohio Turnpike and Infrastructure Commission Organizational Chart

## 5.2 Insurance

Insurance costs include all insurance policies held by the Commission covering the bridges, buildings, property, equipment, as well as other business-related policies.

# 5.3 Traffic Control, Safety, Patrol and Communications

Traffic Control, Safety, Patrol and Communications costs consist mainly of the Ohio State Highway Patrol unit assigned to the Turnpike and headquartered at the Commission Telecommunication building in Berea. Other activities in this line item include telecommunication costs, safety and traffic control, and services to distressed travelers. There are also two additional Highway Patrol posts that are incorporated into maintenance buildings and there is one additional free-standing patrol post.

## 5.4 Maintenance

Maintenance costs consist of a wide range of routine and preventive maintenance activities necessary for the day-to-day operation of the Turnpike. The activities are to ensure that all

Turnpike assets are in good working conditions and provide a safe environment for both customers and employees.

Major categories under Maintenance include Maintenance Management Personnel, Roadway and Facility Maintenance Activities (including field personnel), Snow and Ice Control, Equipment, and Other Expenditures, as described in more detail below.

- i. O&M Management Personnel costs mainly consists of salaries and benefits for maintenance and engineering management staff that oversee overall maintenance activities, plan maintenance schedules, and provide guidance to the field personnel. The personnel include several in-house engineers on staff who oversee design and construction of the third lane project, base pavement replacement, resurfacing, bridge deck and vertical construction projects.
- ii. Roadway Maintenance costs mainly consist of field personnel salaries, benefits, and overtime expenditures, materials, and third parity services to conduct roadway preventive and routine maintenance. General roadway maintenance items budgeted for on an annual basis and carried out by turnpike staff include such items as:
  - Crack sealing and minor pavement repairs,
  - Bridge and culvert maintenance,
  - Signage and pavement markings,
  - Roadside maintenance including mowing, landscaping, vegetation control, cleaning ROW etc.,
  - Drainage maintenance,
  - Fence and Guardrail,
  - Storm water management, and
  - Environmental monitoring.
- iii. Facility maintenance costs include non-personnel expenditures related to building maintenance and repairs, toll plaza lane repairs, landscaping and mowing. It should be noted that the utility costs for the service plazas have been included under Services and Toll Operations.
- iv. Snow and Ice Control cost mainly includes the material and handling of road salts and other related materials.

- v. Equipment costs consist of expenditures associated with the maintenance of all equipment including light, medium, and heavy duty trucks, specialized maintenance vehicles, safety equipment, small tools and supplies.
- vi. Other expenditures associated with O&M mainly consist of third party services, publications and periodicals, various office supplies, travel and meeting expenditures, and other miscellaneous expenses associated with maintenance personnel.

## 5.5 Service Plaza and Toll Operations

Service Plaza and Toll Operations costs mainly consist of expenditures associated with services provided at Service Plazas and Toll Plazas including service plaza personnel and toll collectors' salaries.

The service plaza expenditures include personnel salaries, benefits, office furniture, supplies, equipment rental, utilities, custodial services, credit card fees, and other miscellaneous expenses.

Toll collection costs consist of salaries of toll collectors, credit card fees, transponders and tickets costs, maintenance costs of the tolling system, third party services such as armored car service, and other expenditures associated with toll revenue collections as well as costs for running the services and toll plazas including utilities, office supplies, custodial and janitorial services, and other miscellaneous expenses.

# 6.0 Economic Backdrop and Outlook for the Future

Historically, Turnpike traffic trends have been influenced by national and regional socioeconomic conditions, and there have been periods of notable correlations between passenger car growth and Gross Domestic Product (GDP), population, and employment growth; and between commercial vehicle growth and Industrial Production growth (IPI).

Jacobs uses consensus GDP and IPI forecasts based on a variety of sources as an input into our traffic growth forecasts. The consensus outlook of economists predicts continued slow but steady economic growth, with real GDP estimated to increase by 1.6 percent for 2017 and 2.1 percent for 2018. Short to medium term gas price forecasts, while anticipated to increase, are not seen to be dramatic. Our traffic and toll revenue forecasts recognize and take into account the current variations in gas pricing and the probability of higher prices to the extent possible. However, we believe that the forecasted increase in the price of gas will not result in major declines in traffic, as consumers are already modifying their vehicle choices to mitigate such increases.

Any forecast of toll traffic and revenues will, of necessity, recognize the significant variations that can and do occur in the national, regional and local economies, and local population changes, in this case within the Turnpike corridor. With this in mind, Jacobs performed a detailed analysis of the historical economic trends seen over the last few decades. This section presents a summary of these socioeconomic trends.

#### 6.1 Recent Macroeconomic Trends

From 2001 to 2015, real Gross Domestic Product (GDP) and the Industrial Production Index (IPI) in the U.S. increased by an average of 1.9 percent and 0.1 percent per year, respectively. This includes the recession that began and ended in 2001 and the most recent recession, which began in December 2007 and officially ended in June 2009. The 2007-09 Recession resulted in a 0.3 percent decrease in real GDP and a 3.6 percent decrease in industrial production in 2008. Real GDP recovered in 2010 with a 2.5 percent annual increase. Due to a lag in economic activity, industrial production decreased by 11.5 percent in 2009, but rebounded solidly in 2010 with 5.5 percent annual growth. Since 2010 real GDP growth has ranged from a low of 1.5 percent in 2016 to 2.7 percent in 2015. Over the same period IPI has similarly fluctuated recording negative growth of 1.2 percent in 2016. Figure 19 summarizes the annual percentage change in real GDP from 1980 to the third quarter of 2017.

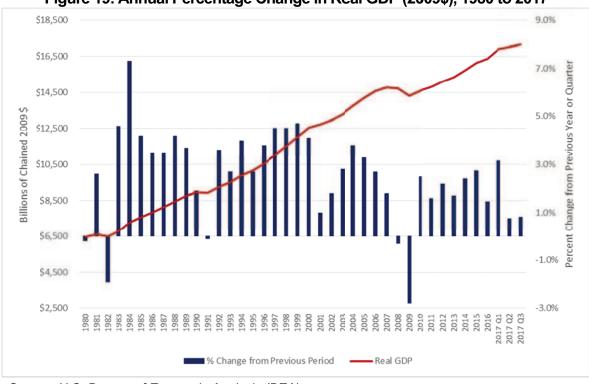


Figure 19: Annual Percentage Change in Real GDP (2009\$), 1980 to 2017

Source: U.S, Bureau of Economic Analysis (BEA)

Recessions are technically defined as two consecutive quarters of negative growth. In determining whether a recession has taken place, the National Bureau of Economic Research (NBER) can include other factors in its analysis. According to the NBER, the 2007-2009 recession lasted 18 months, making it the longest economic downturn since the Great Depression.

# **6.2 Long-Term Structural Trends**

The accumulation of productivity improvements and aging of the general population has had a dampening impact on traffic growth across the U.S. over the years.

First, there have been significant productivity improvements in the form of advances in information technology, computing power, transportation, and communications, all of which encouraged the transfer of manufacturing facilities and jobs to areas with higher unemployment and lower wages. This overall shift has altered the engine for economic growth in the U.S., from manufacturing (from 31 percent of GDP in 1970 to 23 percent GDP in 2010 {latest full census data available}) to services (from 32 percent of GDP in 1970 to 47 percent of GDP in 2010). The technology boom of the 1990s and the subsequent decline in the early 2000s intensified these trends, encouraged the expansion of inexpensive communications technologies, and further flattened wage costs internationally that lead to significant outsourcing of jobs to foreign countries.

Second, the U.S population is and has been becoming older, with the median age increasing from 29.5 in 1960 to 37.2 in 2010 (latest full census data available). Within this general trend, the 18 - 44 age group, which has historically driven the most Vehicle Miles Traveled (VMT) per capita, increased from 35 percent of the total population in 1960 to 43 percent in 1990. However, this age group comprised just 37 percent of the total population in 2010. The aging of the population is one of the factors contributing to slower traffic growth, as older age groups tend to travel less and spend less on transportation. Historical trends and population forecasts indicate that the U.S. median age will likely continue to increase in the next 20 years.

Jacobs has taken into consideration these long-term structural changes in the development of our toll traffic and revenue forecasts for the Turnpike.

## 6.3 Short-Term Economic Forecast

At the time of writing, December 2017, the consensus among forecasters is that real GDP growth will continue throughout the remainder of 2017 and will grow at an even greater rate in the following year. Historically, during times of higher levels of GDP growth, IPI has also shown higher levels of growth. This translates into an improved outlook regarding IPI growth.

## 6.3.1 Gross Domestic Product Forecast

Figure 20 presents a range of GDP forecasts for 2017 and 2018. The consensus outlook of economists predicts continued economic growth with real GDP increasing by 2.2 percent for 2017 and 2.4 percent in 2018, a continuance of the GDP growth profile witnessed in the US in recent years. This fits with our current forecast for Turnpike traffic and toll revenues that are contained herein.

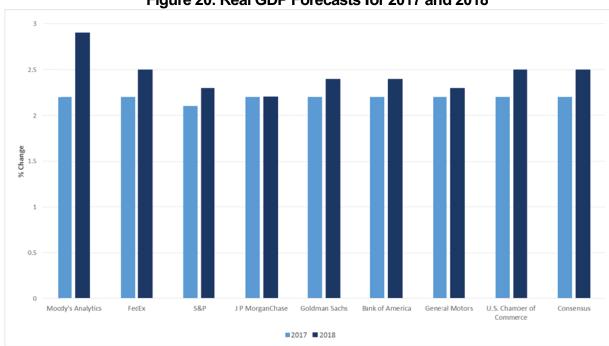


Figure 20: Real GDP Forecasts for 2017 and 2018

Source: Blue Chip Economic Indicators (BCIE)

## 6.3.2 Industrial Production Index Forecast

During the most recent recession, the Industrial Production Index (IPI) declined by 3.6 percent in 2008 and a notable 11.5 percent in 2009.

Changes in U.S. industrial production have historically moved in tandem with GDP, albeit with steeper decreases during recessions and larger increases during recovery periods. Similarly to GDP, industrial production has improved since the last recession. Based on consensus forecasts developed by financial institutions and industry analysts, the IPI is forecasted to increase by 1.6 percent in 2017 and by 2.1 percent in 2018. Figure 21 presents a range of IPI forecasts for 2017 and 2018.

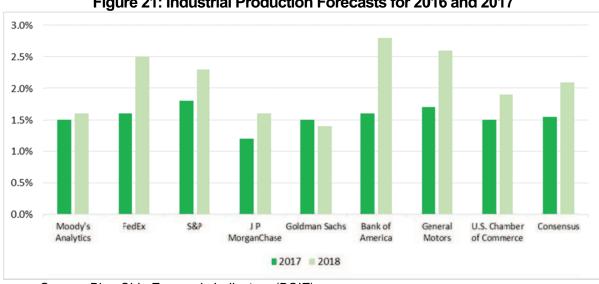


Figure 21: Industrial Production Forecasts for 2016 and 2017

Source: Blue Chip Economic Indicators (BCIE)

## 6.4 National Trends in Vehicle Miles Traveled

Since 2005 the United States experienced an historic flattening and drop in vehicle-miles traveled (VMT) on its highways although the data show that more recently the VMT growth rate has picked up. Figure 22 depicts the 12-month moving total of national travel mileage on all U.S. highways, from 1940 through the first half of 2016. As seen in this figure, there were temporary reductions in VMT during World War II, the 1970s oil crises, Gulf War and previous economic recessions. In recent years, with the exception of short, flat periods during the 1991 and 2001 recessions (each less than one year), VMT grew at a steady pace through 2005. VMT then grew at a much slower pace through 2008. The increase in gas prices and the downturn in economic activity that took hold in late 2008 resulted in a significant reduction in total national travel mileage after the December 2007 peak. Since the recession ended, VMT has returned to a growth trend although there have been slight increases and decreases in VMT from month to month.

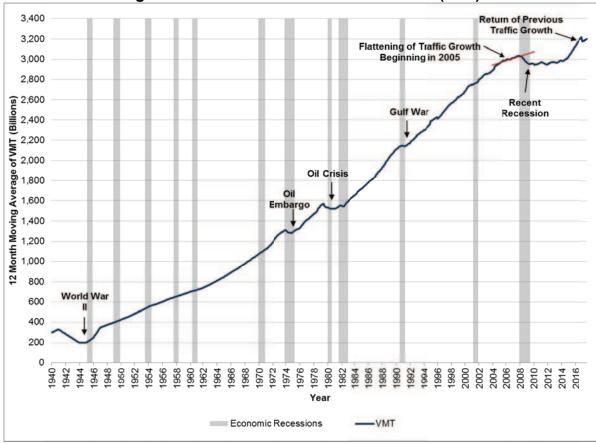


Figure 22: US Annual Vehicle Miles Traveled (VMT)

Source: Federal Highway Administration (FHWA)

# 7.0 Transportation Projects Relative to the Ohio Turnpike

This section identifies the existing feeder and competitive roads to the Turnpike and includes a review of future transportation projects slated for northern Ohio to determine if any would affect traffic on the Turnpike.

#### 7.1 Forecast Considerations

For passenger cars, it is important to note that there are several components of a driver's decision to use the Turnpike that are very difficult to quantify and were indirectly considered in this analysis. These factors include driver considerations for route quality, convenience, familiarity, access to amenities, and other factors. However, toll roads such as the Turnpike generally offer more frequent and better quality service plazas and have other attractive qualities, such as better pavement, lower levels of traffic congestion, and more reliable driving conditions in bad weather. The non-tangible factors would likely positively influence a driver's decision to utilize the Turnpike.

Modern route planning techniques used by many of the trucking companies are designed to optimize route selection and take into consideration factors such as travel time, fuel, mileage, tolls, vertical grades, salaries, load optimization and other factors to select the most important route for travel. Our analysis of potential diversions considers these important route choice factors. It is important to note, that a majority of commercial vehicles using the Turnpike are doing so because it has already been determined to be the "best" route for the operation of their particular business needs. Similarly, the operators using the alternate routes have determined that those alternate routes are the "best" route to meet their needs.

Other factors have been considered in the analysis. There has been significant discussion of the expansion of the Panama Canal and the larger "New Panamax" vessels that are expected to change the movement of freight and containers across the country. However, after reviewing available literature and having discussions with various planners involved with major east coast ports, it is not yet clear what ports will receive the majority of the New Panamax vessels and we are unable to quantify any positive or negative effect of New Panamax on the Turnpike. The expanded Panama Canal opened earlier last year in June 2016 and it is still too early to gauge the overall impact on overland transportation modes.

# 7.2 Competitive Roads

The Turnpike provides a fast, efficient east-west highway traversing the northern part of Ohio and ultimately connecting with the Indiana Toll Road and the Pennsylvania Turnpike. The Turnpike serves as an alternate route to several roadways, varying from arterials to collectors and highways. We identified the following parallel routes as among the most likely alternatives to the Turnpike for specific geographic segments, shown in Figure 23:

- US Route 20 for trips between Montpelier and Cleveland,
- US Route 30 for trips between Ft. Wayne and Canton,
- US Route 24 for trips between Ft. Wayne and Toledo,
- Ohio State Route 2 for trips between Sandusky and Cleveland,
- US Route 6 for trips between Indiana and Fremont,
- Ohio State Route 113 for trips between Bellevue and Elyria,
- Interstate Route 480 for trips between North Ridgeville and Streetsboro,
- US Route 422 for trips between Bedford and Youngstown.
- Interstate Route 76 for trips between Akron and North Jackson,
- Interstate Route 80 for trips between North Jackson and Pennsylvania,
- Interstate Route 90 for trips between Elyria and Cleveland,
- Interstate Route 70 for trips between Indiana and Pennsylvania, and
- Highway 401 in Canada for trips between New England and Michigan

Many of the routes between these cities can be considered as alternate route choices for Turnpike travelers. In addition, several other major highways have been constructed since the Turnpike opened; including I-70, I-71, I-76, I-80 and I-90, which in various locations also provide alternatives to the Turnpike. For many trips within and across the state, these alternate routes may provide shorter, faster, and more efficient routes when compared to making the same trip using the Turnpike.



Figure 23: Alternate Routes to the Ohio Turnpike

## 7.3 Feeder Roads

Several roadways direct traffic, or feed traffic, to and from the Turnpike. The classification of these roadways varies from interstate highways to arterials and collectors. The major feeder roads to the Turnpike, from west to east, are:

- The Indiana Toll Road (at Interchange 2)
- Interstate Route 75 (at Interchange 64)
- Interstate Route 280 (at Interchange 71)
- Interstate Route 90/Ohio State Route 2 (at Interchange 142)
- Ohio State Route 57 (at Interchange 145)
- Interstate Route 480 (at Interchange 151)

- Ohio State Route 10 (at Interchange 152)
- Interstate Route 71 (at Interchange 161)
- Interstate Route 77 (at Interchange 173)
- Ohio State Route 8 (at Interchange 180)
- Interstate Route 480 (at Interchange 187)
- Interstate Route 80 (at Interchange 218)
- Ohio State Route 7 (at Interchange 232)
- Interstate Route 680 (at Interchange 234)
- The Pennsylvania Turnpike (at Interchange 239)

## 7.4 Potential Future Transportation Projects

There are several potential highway projects scheduled for completion in the near term that were reviewed to determine their impact, if any, on Turnpike traffic volumes. These projects were drawn from the Turnpike's Capital Program and the Statewide Transportation Improvement Program (STIP) developed by the largest metropolitan planning organizations (MPOs) in the state for the 2016-2019 period. All of the listed projects were considered to be built for our traffic and revenue forecasts.

Major transportation improvement projects on the Turnpike programmed for funding or already underway that were reviewed in order to determine their potential impact (positive or negative) on Turnpike traffic are:

- Replacement of the original concrete base under the full 241 mile Ohio Turnpike mainline. This major construction project is scheduled to occur in 5 mile segments over the next 24 years and 2 lanes of traffic flow will be maintained in each direction during construction.
- Pavement resurfacing at selected interchanges along the Turnpike.
- 3. Bridge deck replacement and bridge rehabilitation at selected locations along the Turnpike.

Major transportation improvement projects on feeder routes and alternate routes to the Turnpike that are programmed for funding were reviewed in order to determine their potential impact on Turnpike traffic, including:

1. Major rehabilitation of Interstate 75, including reconstruction and widening (City of Findlay and Toledo metropolitan area).

- 2. Widening of US 20 to five lanes (City of North Ridgeville).
- 3. Adding 1 lane in each direction along I-271 (from south of the Summit County Line to Miles Rd).
- 4. Major improvements to I-90 in the "Central Interchange" area between E 9th Street and E 22nd Street (Cleveland).
- 5. Major widening to I-77 from Ohio Turnpike to south of Oakes Road
- 6. Replacing the decks of the twin I-480 bridges over the Cuyahoga River Valley in Valley View and Independence.
- 7. Major Rehabilitation of US Route 30 in Mansfield.
- 8. Widening of I-80 to six lanes from I-680/SR 11 in Mahoning County to SR 711 / SR 11 in Trumbull County. Adding auxiliary lanes on I-80 between SR-11/SR 711 interchange and SR-193 Interchange.
- 9. Reconstruction of I-76/77 in Akron.
- 10. Widening of I-271 from four to six lanes; North of State Route 8 to just south of the Cuyahoga County line.
- 11. Major reconstruction of I-76 including the complete pavement replacement from Medina County line to State Route 21 and pavement replacement and widening to six lanes from State Route 21 to Central Avenue in Akron.
- 12. Major reconstruction of I-70 in multiple areas statewide including bridge re-decking and the addition of auxiliary lanes, new ramps and reconstruction of interchanges with I-71 and I-270 in the Columbus area, construction of an additional lane from US Route 68 to Ohio State Route 72.
- 13. Major rehabilitation and widening of I-71 from Franklin County Line to SR-315 in Columbus.
- 14. Replacement/rehabilitation and widening of I-475 to three lanes in each direction from US Route 24 to US Route 20 (Toledo).
- 15. Extension of I-490 (Opportunity Corridor Section 3) from E. 55<sup>th</sup> Street to E. 105<sup>th</sup> Street (Cleveland).
- 16. Total pavement replacement along State Route 8 from Graham Road to State Route 303 in the cities of Stow and Hudson.

## 8.0 Toll Transactions and Gross Toll Revenue Forecasts

The following section describes the methodology used for developing Turnpike traffic and toll revenue forecasts, as well as a presentation of those forecasts.

# 8.1 Methodology Used for Forecasting

Traffic and toll revenue forecasts were developed with the aid of a computerized modeling platform created specifically by Jacobs for the Turnpike. The base function of this model is to take current traffic volumes by class and payment type for each Turnpike movement (origin-destination pair) and adjust them in the future years for various factors such as underlying socio-economic/demographic growth in the corridor, both historic and projected, as well as overall inflationary pressures and applicable customer reactions to anticipated toll adjustments. These adjustments result in forecasted traffic volumes being developed for each year of the forecast period. Gross toll revenues are then calculated based on these new adjusted traffic volumes by applying the appropriate toll rates to the volume of each origin-destination pair by payment type and vehicle class, and total vehicle miles traveled are calculated by multiplying the forecasted trips for each movement by the applicable distance traveled. Figure 24 shows the flow of the forecasting process.

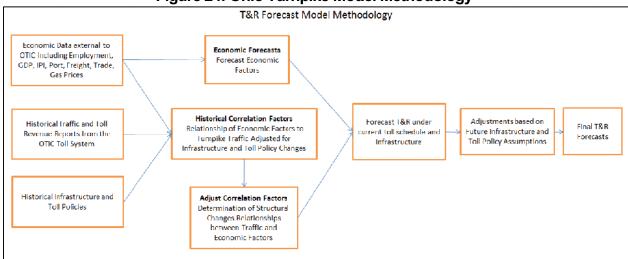


Figure 24: Ohio Turnpike Model Methodology

These forecasts were then fed into a secondary model that adjusted the toll rates by origindestination pair for the proposed modified toll system, accounting for additional traffic shifts and providing the modified system traffic and revenues.

# 8.1.1 Inputs and Assumptions

In the creation of a base structure for forecasting calculations, it becomes necessary to assume some consistency in relationships between historical and future traffic and revenue trends. The following assumptions were used in the creation of the forecasting framework:

- Traffic Growth Trends: Correlations between historical traffic and socioeconomic indices such as employment and manufacturing are one source of data used to forecast growth. Gross Domestic Product (GDP) and the Industrial Production Index (IPI) are two factors that we utilize when forecasting.
- E-ZPass Market Share Trends: In the past, on both the Turnpike and other facilities offering electronic payment, the portion of trips paid by E-ZPass has slowly increased over time until it approaches some level of market saturation, regardless of toll increases. It was assumed that this will hold true in the future.
- Regional Divisions: To simplify general inputs such as annual traffic growth and E-ZPass market share growth, it was assumed that turnpike movements could be grouped regionally or by trip length. The origin-destination matrix was analyzed and OD pairs were split into four categories: Western Region (Toledo), Central Region (Cleveland), Eastern Region (Youngstown) and Long-Distance (trips greater than 60 miles in trip length).
- Inflation and Toll Schedules: Toll schedules for each class and payment type for 2013 through 2023 for the current system were provided to Jacobs by the Commission. The rates are calculated off an assumed 2.7 percent annual inflation and that same 2.7 percent annual growth was applied to rates through 2028. Jacobs calculated toll schedules for the years 2024 through 2056, adjusting for the expiration of a toll increase exemption for Class 1 E-ZPass trips under 30 miles in length in 2024, and annual toll increases of 2.0 percent beginning in 2029.
- Toll System Modification: For some customers, tolls would be collected in different or multiple locations, but efforts were made to keep tolls for through travelers the same as if there were no modification. For some shorter trips tolls will increase due to the nature of the modification, while for other trips tolls will decrease and some shorter trips may become untolled. It was assumed that for E-ZPass trips under 30 miles, a rebate would be put in place beginning with the implementation of the new system in late 2021 through 2023 to maintain the current E-ZPass trip toll rates. Additionally, the modified system would adjust the minimum toll rate for cash vehicles from \$0.50 to \$1.00.
- Customer Reaction to Toll Adjustments: In the face of a toll adjustment, some customers opt to change their travel behavior. Jacobs developed customer reaction curves based on region, payment type, and experience from previous toll increases on the Turnpike (and on similar projects elsewhere) to estimate the number of customers that might modify their travel behavior if or when a toll increase occurs. These curves are used to estimate the number of customers reacting to a given toll increase, based on the relative adjustment of the toll increase.

## 8.1.2 Traffic Trends

Historically, traffic trends have been influenced by socioeconomic conditions, and there are often correlations between traffic growth and socioeconomic factors such as Industrial Production growth (IPI) and Gross Domestic Product (GDP). Any forecast of toll traffic and revenues will, of necessity, consider the significant variations that can and do occur in the national, regional and local economies, and population changes. With this in mind, Jacobs performed an analysis of the historical economic trends seen over the last several decades with an emphasis on the most recent correlations, plus an analysis of those trends that can influence driving behaviors.

Jacobs 2013 Report identified correlations between traffic growth and GDP, IPI, Population and Employment. Recent data shows some dampening of the correlations in the short term for some regional movements. However, we still believe there will be continued correlations in the long term.

## 8.1.3 E-ZPass Market Shares

Historically, E-ZPass market share on the Turnpike and other similar facilities offering electronic payment has slowly increased over time until it approaches some level of market saturation, regardless of toll increases. The market share typically increases at a decreasing rate – rapidly in the first few years after implementation, and then at a decreasing rate until eventually leveling out as the market share approaches a maximum sustainable level for that toll facility.

E-ZPass market share on the Turnpike currently varies dramatically by vehicle class and trip movement, with 2016 totals showing an average of 50.2 percent for car trips and 83.6 percent for truck trips. This calculates to an overall average E-ZPass market share of roughly 57 percent. It was assumed that the growth in E-ZPass market share would be similar for a particular class over each analysis region, though the market shares themselves would differ for each trip movement within the region.

# 8.1.4 Toll Rates Used in Preparing Forecast

Toll schedules for each class and payment type for the years 2014 through 2023 were provided by the Commission. These toll schedules applied an average toll increase of 2.7 percent annually – the assumed rate of inflation – and then rounded to the nearest quarter. Class 1 E-ZPass vehicles traveling less than 30 miles were exempted from these toll increases for the full 10 year period. Table 16 compares the toll rates for a full-length trip on the Turnpike for each payment type and vehicle class through 2023. Table 17 shows the rate-per-mile, which is calculated by dividing the full-length toll by 241 miles, the length of

the Turnpike. Note that since the tolls are rounded to quarters, the actual increases may be greater or less than the target increase of 2.7 percent annually.

Efforts were made to maintain the approved full-length trip tolls in the modified toll system, with some small changes due to rounding at the new barrier tolls. The tables presented below represent the toll rates approved by the commission for the current toll system.

Table 16: Tolls for a Full-Length Turnpike Trip, 2013-2023, by Class and Payment Type

	CLA	ASS 1	CLA	ASS 2	CLA	ASS 3	CLA	ASS 4	CLA	ASS 5	CLA	ASS 6	CLA	SS 7
Year	Cash	E-ZPass	Cash	E-ZPass										
2013	\$16.50	\$11.25	\$28.00	\$20.00	\$33.00	\$24.00	\$39.00	\$30.00	\$44.00	\$35.00	\$61.00	\$50.00	\$83.00	\$72.00
2014	\$17.00	\$11.50	\$28.75	\$20.50	\$34.00	\$24.75	\$40.00	\$30.75	\$45.25				\$85.25	\$74.00
2015	\$17.50	\$11.75	\$29.50		\$34.75		\$41.25		\$46.50				\$87.50	\$76.00
2016	\$17.75	\$12.25	\$30.25	\$21.75	\$35.75	\$26.00	\$42.25	\$32.50	\$47.75	\$38.00	\$66.00	\$54.25	\$90.00	\$78.00
2017	\$18.25	\$12.50	\$31.25	\$22.25	\$36.75	\$26.75	\$43.50	\$33.25	\$49.00	\$39.00	\$67.75	\$55.50	\$92.25	\$80.00
2018	\$18.75	\$12.75	\$32.00	\$22.75	\$37.75	\$27.50	\$44.50	\$34.25	\$50.25	\$40.00	\$69.75	\$57.00	\$94.75	\$82.25
2019	\$19.25	\$13.25	\$32.75	\$23.50	\$38.75	\$28.25	\$45.75	\$35.25	\$51.75	\$41.00	\$71.50	\$58.75	\$97.50	\$84.50
2020	\$20.00	\$13.50	\$33.75	\$24.00	\$39.75	\$29.00	\$47.00	\$36.25	\$53.00	\$42.25	\$73.50	\$60.25	\$100.00	\$86.75
2021	\$20.50	\$14.00	\$34.75	\$24.75	\$40.75	\$29.75	\$48.25	\$37.25	\$54.50	\$43.25	\$75.50	\$62.00	\$102.75	\$89.00
2022	\$21.00	\$14.25	\$35.50	\$25.50	\$42.00	\$30.50	\$49.50	\$38.25	\$56.00	\$44.50	\$77.50	\$63.50	\$105.50	\$91.50
2023	\$21.50	\$14.75	\$36.50	\$26.00	\$43.00	\$31.25	\$51.00	\$39.25	\$57.50	\$45.75	\$79.50	\$65.25	\$108.25	\$94.00

Table 17: Toll per Mile Based on a Full-Length Turnpike Trip, 2013-2023, by Class and Payment Type

	CLA	ASS 1	CLA	ASS 2	CLA	ASS 3	CLA	ASS 4	CLA	ASS 5	CLA	ASS 6	CLA	SS 7
Year	Cash	E-ZPass												
2013	\$0.068	\$0.047	\$0.116	\$0.083	\$0.137	\$0.100	\$0.162	\$0.124	\$0.183	\$0.145	\$0.253	\$0.207	\$0.344	\$0.299
2014	\$0.071	\$0.048	\$0.119	\$0.085	\$0.141	\$0.103	\$0.166	\$0.128	\$0.188	\$0.149	\$0.260	\$0.213	\$0.354	\$0.307
2015	\$0.073	\$0.049	\$0.122	\$0.087	\$0.144	\$0.105	\$0.171	\$0.132	\$0.193	\$0.154	\$0.267	\$0.219	\$0.363	\$0.315
2016	\$0.074	\$0.051	\$0.126	\$0.090	\$0.148	\$0.108	\$0.175	\$0.135	\$0.198	\$0.158	\$0.274	\$0.225	\$0.373	\$0.324
2017	\$0.076	\$0.052	\$0.130	\$0.092	\$0.152	\$0.111	\$0.180	\$0.138	\$0.203	\$0.162	\$0.281	\$0.230	\$0.383	\$0.332
2018	\$0.078	\$0.053	\$0.133	\$0.094	\$0.157	\$0.114	\$0.185	\$0.142	\$0.209	\$0.166	\$0.289	\$0.237	\$0.393	\$0.341
2019	\$0.080	\$0.055	\$0.136	\$0.098	\$0.161	\$0.117	\$0.190	\$0.146	\$0.215	\$0.170	\$0.297	\$0.244	\$0.405	\$0.351
2020	\$0.083	\$0.056	\$0.140	\$0.100	\$0.165	\$0.120	\$0.195	\$0.150	\$0.220	\$0.175	\$0.305	\$0.250	\$0.415	\$0.360
2021	\$0.085	\$0.058	\$0.144	\$0.103	\$0.169	\$0.123	\$0.200	\$0.155	\$0.226	\$0.179	\$0.313	\$0.257	\$0.426	\$0.369
2022	\$0.087	\$0.059	\$0.147	\$0.106	\$0.174	\$0.127	\$0.205	\$0.159	\$0.232	\$0.185	\$0.322	\$0.263	\$0.438	\$0.380
2023	\$0.089	\$0.061	\$0.151	\$0.108	\$0.178	\$0.130	\$0.212	\$0.163	\$0.239	\$0.190	\$0.330	\$0.271	\$0.449	\$0.390

Proposed toll schedules for the years 2024 through 2057 were calculated using the following assumptions:

- Class 1 E-ZPass vehicles traveling 30 miles or less would have a one-time "catch up" toll increase in 2024, by compounding a 2.7 percent increase over 10 years, rounding to the nearest quarter
- A toll increase of 2.7 percent for all vehicles and payment types would occur annually, from 2024 through 2028, rounding to the nearest quarter

 A toll increase of 2.0 percent for all vehicles and payment types would occur annually, beginning in 2029, rounding to the nearest quarter

Toll rates after 2023 have not been approved by the Commission at this time.

Table 18 presents a comparison of estimated Class 1 (car) toll rates for 2022, the first year the modified toll system would be fully operational. There is some difference due to the way the tolls for a full length trip would be rounded at the new barriers and on the reduced ticket system, but round trip toll rates would be similar.

Table 18: Estimated 2022 S	ystem Full Trip	Toll for Class 1
----------------------------	-----------------	------------------

Direction of Travel	Current S	System	Modified System (Including Barrier Toll)		
	Cash E-ZPass		Cash	E-ZPass	
Westbound	\$21.00	\$14.25	\$22.75	\$15.75	
Eastbound	\$21.00	\$14.25	\$19.25	\$13.25	
Round Trip	\$42.00	\$28.50	\$42.00	\$29.00	

The conversion of Westgate and Eastgate to the new West Barrier and East Barrier would break toll collection into three separate "zones" for through travelers. The new West Barrier, located at approximately between mile posts 4 and 5 would charge a toll calculated by the per mile rate times the distance from the Indiana state line through MP 32. The new, more compact, ticket system would calculate tolls based on the distance from MP 32 to MP 220. The new East Barrier would calculate tolls based on the distance from milepost 220 to the Pennsylvania state line, multiplied by two in order to account for round trip mileage at this newly west-bound-only barrier.

Table 19 shows estimated toll rates that would be charged to Class 1 (Cars) and Class 5 (5-axle trucks) at the new West Barrier and East Barrier.

**Table 19: Estimated 2022 Barrier Toll Rates** 

Direction of Travel	CLAS	S 1	CLASS 5			
Direction of Travel	Cash	E-ZPass	Cash	E-ZPass		
West Barrier (EB & WB)	\$2.75	\$2.00	\$7.50	\$6.00		
East Barrier (WB Only)	\$3.50	\$2.50	\$9.50	\$7.50		

# 8.1.5 Diversion Analysis

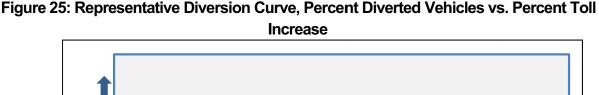
The traffic and toll revenue model developed by Jacobs for the Turnpike accounts for the impact of the assumed toll rate schedule on traffic volumes and estimates the resulting toll

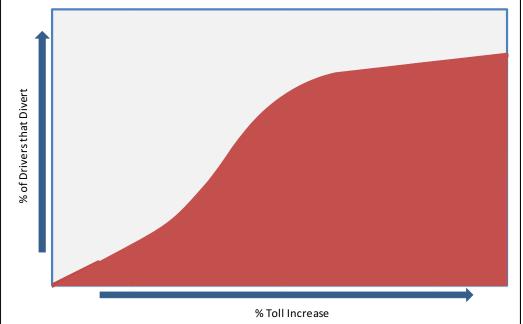
revenue. Generally, increases in toll rates will cause tolled traffic volumes to decrease, either because motorists switch to alternate routes to avoid paying the higher toll or reduce their number of trips as a result of the price elasticity of their travel demand.

Not all customers will react to a toll increase in the same way. Some customers may not change their behavior at all, while others might decide to use a different route, combine trips, or not make that trip at all anymore. Still other customers might decide to change how they pay for a trip (e.g., current cash-paying customers may open E-ZPass accounts) to lessen the impact to their wallet.

This effect has been observed on the Turnpike and many other national toll facilities that also offer multiple payment methods and discount plans, often resulting in an overall lower diversion of traffic from the facility than may have been experienced in the past when tolls were increased and there was a single method of payment.

Jacobs developed toll reaction curves to estimate the total number of trips that would be impacted by a given toll increase, and to determine those trips that would remain on the toll facility and pay the new toll rate, those that would divert off of the toll facility, and those that would switch toll payment methods. Figure 25 shows a representative illustration of how customers might react to toll increases of varying degrees. In addition to diversion from the toll facility, some motorists will also convert to different payment methods to incur a smaller increase.





Drivers familiar with their travel route options are likely to weigh their travel time versus their trip cost when choosing how to get from point A to point B, or whether to make the trip at all. The proposed toll increases on the Turnpike will cause a certain amount of traffic to leave the facilities. Of this traffic, many will travel on another route to their destination; however, some trips will also no longer be made. Often times, customers will initially test alternate routes, only to revert back to their original path after finding the alternate route less desirable.

#### 8.1.6 Model Calculations

The model creates a framework based on the assumptions outlined above, and calculates the forecasted toll transactions for the entire system, VMT on the ticket portion of the Turnpike and toll revenue by applying logic to matrices of the projected annual trip movements for each payment class. Each toll increase is analyzed on an individual basis, and some adjustment to traffic is necessary even in years without toll increases, as traffic grows and shifts between payment types based on historical trends. As all calculations are performed on an individual trip movement level, the applicable toll and mileage can be applied to each trip for a customized forecast resulting in more precise estimates of total revenue and toll transactions.

## 8.2 E-ZPass Market Share Forecasts

Jacobs previously conducted a study in 2012 that examined the E-ZPass market share behavior on the Turnpike. It was found that not as many frequent customers of the Turnpike have adopted E-ZPass, mainly due to factors such as the lack of a discount for short trips due to the minimum Turnpike toll rate, coupled with the fixed costs of enrolling in the E-ZPass Ohio program. This lack of E-ZPass participants who make frequent Turnpike trips contributes to a relatively low overall car E-ZPass market share. The Turnpike has since been working to increase car E-ZPass market share by actively recruiting both frequent and infrequent customers to use E-ZPass, but in general it is anticipated that the Turnpike's E-ZPass market share would remain low when compared to other, more urban toll facilities. For the purpose of these forecasts, it was assumed that E-ZPass market share would continue to increase, and that the rate of growth would start to level out beginning in 2020.

Figure 26 and Table 20 present a summary of the average trip E-ZPass market shares for cars and trucks for 2015-2016 and the projected E-ZPass market share through the 40 year forecast period, showing a bump in E-ZPass market shares in 2022, the first full year of modified toll collection system operations.

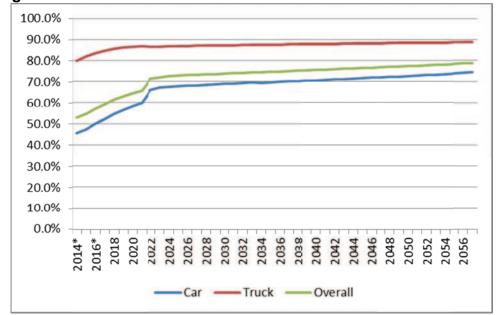


Figure 26: Historical and Forecasted E-ZPass Transaction Market Shares

Table 20: Historical and Forecasted E-ZPass Market Share of Transactions, 2015-2057

.,			
Year	Car	Truck	Overall
2015*	47.6%	82.1%	54.9%
2016*	50.2%	83.6%	57.1%
2017	52.5%	84.9%	59.3%
2018	54.8%	85.8%	61.4%
2019	56.7%	86.4%	63.0%
2020	58.4%	86.6%	64.5%
2021	60.0%	86.9%	65.8%
2022	66.1%	86.6%	71.4%
2023	67.2%	86.8%	72.2%
2024	67.7%	86.9%	72.7%
2025	67.9%	87.0%	72.9%
2026	68.2%	87.1%	73.2%
2027	68.3%	87.1%	73.3%
2028	68.5%	87.2%	73.5%
2029	68.8%	87.3%	73.8%
2030	68.9%	87.3%	73.9%
2031	69.2%	87.4%	74.1%
2032	69.4%	87.5%	74.3%
2033	69.5%	87.5%	74.5%
2034	69.4%	87.6%	74.5%
2035	69.7%	87.6%	74.7%
2036	69.9%	87.7%	75.0%
2037	70.2%	87.8%	75.2%
2038	70.3%	87.8%	75.3%
2039	70.5%	87.9%	75.5%
2040	70.7%	87.9%	75.7%
2041	70.9%	88.0%	75.9%
2042	71.1%	88.0%	76.0%
2043	71.3%	88.1%	76.2%
2044	71.6%	88.1%	76.5%
2045	71.8%	88.2%	76.6%
2046	72.0%	88.2%	76.8%
2047	72.2%	88.3%	77.0%
2048	72.3%	88.3%	77.1%
2049	72.5%	88.4%	77.3%
2050	72.8%	88.5%	77.5%
2051	73.0%	88.5%	77.7%
2052	73.2%	88.5%	77.9%
2053	73.5%	88.6%	78.1%
2054	73.7%	88.6%	78.3%
2055	74.0%	88.7%	78.5%
2056	74.2%	88.7%	78.7%
2057	74.5%	88.8%	78.9%
1 of upl ** 1/0	dified eveter	would open	Ostabar 202

\*Actual; \*\* Modified system would open October 2021

Note: Toll increases are planned each year. New Toll System Fully Implemented 2022.

## 8.3 Revenue Collection Assumptions

With the removal of gates from toll collection points, the Ohio Turnpike will implement a violation enforcement system. Vehicles that pass through the toll plaza without paying will be identified by images of their license plates and invoiced by mail.

The invoicing process results in some amount of unpaid toll revenue, due to factors such as blocked license plates, invalid vehicle records or addresses, and customers who do not respond to the invoice. This unrealized revenue is referred to as "leakage", and is calculated by applying payment assumptions in the form of a revenue collection "waterfall". The assumptions in this waterfall are a combination of statistics specific to the Ohio Turnpike, such as estimates of the prevalence of in-state versus out-of-state license plates, as well as Jacobs experience and knowledge from other toll facilities. Figure 27 presents a sample revenue collection waterfall.

Each of the elements that factor into the collectability of toll revenue is described in detail in the following sections.

## 8.3.1 Non-Usable Images

Not all license plates would be readable due to various reasons such as weather, dirt on the plate or other obstructions, a missing plate, or a temporary plate in the window of the vehicle. Current image-based toll facilities have about four to 10 percent non-usable images. Jacobs estimated ten percent non-usable images for cars, which is on the higher end of the range primarily because of the potential for winter weather. Jacobs estimated 15 percent non-usable images for trucks on the Ohio Turnpike

#### 8.3.2 Business Rule Out

We expect that, like most image-based toll facilities, the OTIC will utilize business rules that will determine which violators they will and will not pursue. For example, they may choose that it is not feasible to pursue a customer with a Canadian license plate. Typically, Image-based toll facilities do not pursue one to two percent of customers with readable license plates. We have assumed that the OTIC would 'business rule out' two percent of unpaid toll transactions.

## 8.3.3 Invalid BMV record

Jacobs estimated that five percent of Turnpike traffic would not have a valid BMV record. Other image-based toll facilities have a range of one percent to four percent of total vehicles with invalid records.

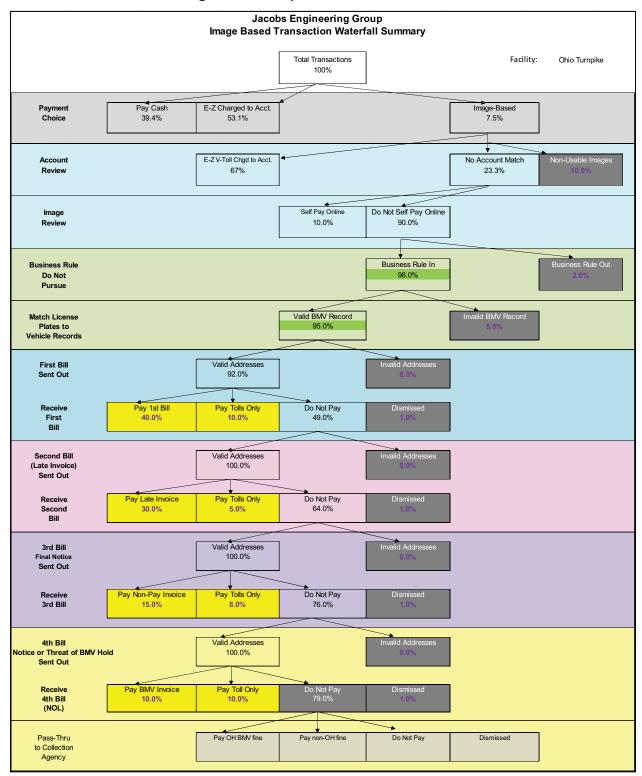


Figure 27: Sample Revenue "Waterfall"

## 8.3.4 Invalid Addresses

Many people who move do not change their address attached to their BMV vehicle registration and do not have mail forwarded; therefore, they could not receive an image-based toll invoice in the mail. On current image-based toll facilities where information is available, four to nine percent of vehicles who have a valid BMV record would not receive their first invoice. Jacobs estimated this share to be eight percent on the Turnpike.

When the first invoice is returned to the OTIC or customer service center because of a bad address, another invoice would not be sent. Because of this, it was assumed that the share of invalid addresses on subsequent invoices would be zero.

## 8.3.5 Percent of Invoices Paid

The most difficult factors to pinpoint when projecting revenue for image-based toll facilities are the percent of toll invoices paid on each level of invoicing. On current image-based toll facilities there is a wide range in the share of transactions that are paid on the first toll invoice. Jacobs assumed that 50 percent of Turnpike transactions would be paid on the first invoice.

To address the costs associated with invoicing based on images, many toll facilities charge fees to counter the additional processing costs associated with violation transactions. For this forecast, it was assumed that fees would be assessed as shown in Table 21. It was assumed that invoices would be sent monthly, and an average of five transactions would appear on each invoice. Estimated Fee Revenues are presented in Chapter 10.0.

Table 21: Fee Schedule

Transaction Based										
Pay Online	\$1.00									
Pay 1st Bill & Fee	\$0.00									
Pay Late Notice & Fee	\$1.00									
Pay Final Notice & Fee	\$20.00									
Pay upon BMV Threat	\$20.00									
Invoice Based										
Invoice	Based									
Pay Online	<b>Based</b> \$0.00									
Pay Online	\$0.00									
Pay Online Pay 1st Bill & Fee	\$0.00 \$3.00									

If the fourth invoice is not paid, the transactions may be sent to a collection agency, who keeps part of the revenue that they are able to collect. The toll revenue collected at this level is expected to be de minimus, and is not included in our forecasts.

## 8.3.6 Dismissals and Forgiveness of Tolls and Late/Violation Fees

There are several reasons why tolls or fees may be dismissed or forgiven, such as incorrect license plate identification. Based on experience with other image-based toll facilities, Jacobs estimated that there might be forgiveness of fees for roughly 20 percent of invoiced tolls that eventually pay

## 8.3.7 Resulting Uncollectable Image-Based Tolls

After applying all of the various factors, the resulting share of uncollectable toll revenue is estimated at 36.1 percent for cars and 39.7 percent for trucks. As the E-ZPass market share grows throughout the forecast period, the amount of uncollectable toll revenue will decrease.

## 8.4 Toll Transactions, VMT and Gross Toll Revenue Forecasts

The forecast is presented in terms of toll transactions and toll revenues. When the modified system begins operation in late 2021, the number of toll transactions and the total vehicle miles traveled will change significantly from the current system. Full length trip single transactions will become two or three transactions in the future system. Some non-tolled trips will be introduced with the removal of collection points on several interchanges and will not be recorded. When the existing East and West Gates are converted to a fixed toll rate, it will no longer be able to calculate actual VMT for those trips. Because of these changes all future year forecasts will be expressed in terms of tolled transactions and toll revenue.

Table 22 presents the forecasted transactions, VMT and toll revenue for the years 2015 through 2057, as well as the resulting annual growth rates. Figure 28 presents the forecasts graphically, while Figure 29 and Figure 30 show the future year-to-year growth in trips and gross toll revenues. Table 23 breaks out the transactions and toll revenues into car and truck trips. All estimates of gross toll revenue are in nominal dollars. Over the 40-year forecast period 2018-2057, revenues total some \$22.947 Billion. It should be noted that the forecast of VMT includes trip miles that will not be tolled in the modified system.

Table 22: Forecasted OTIC Transactions and Collectable Toll Revenues, 2015 to 2057 (in millions)

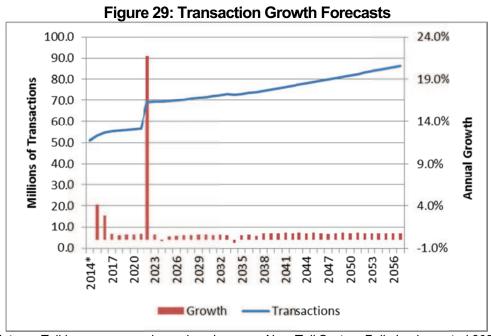
	Ol	nio Turnpike An	nual Estimates of 1	Traffic and Reve	nue	
Year	Transa		VM		Reve	nue
2015*	53.4	4.1%	2,835.1		\$280.2	3.3%
2016*	54.9	2.8%	2,960.0	4.4%	\$288.4	3.0%
2017	55.3	0.7%	2,995.8	1.2%	\$296.2	2.7%
2018	55.6	0.6%	3,000.2	0.1%	\$305.0	3.0%
2019	56.0	0.6%	3,015.6	0.5%	\$313.9	2.9%
2020	56.3	0.6%	3,032.3	0.6%	\$323.6	3.1%
2021	56.7	0.7%	3,049.6	0.6%	\$333.4	3.2%
2022	69.0	21.7%	3,069.9	0.7%	\$342.1	2.4%
2023	69.4	0.6%	3,078.4	0.3%	\$352.7	3.1%
2024	69.4	-0.1%	3,097.2	0.6%	\$364.6	3.4%
2025	69.6	0.4%	3,106.2	0.3%	\$378.4	3.8%
2026	69.9	0.4%	3,122.8	0.5%	\$391.4	3.4%
2027	70.3	0.6%	3,140.0	0.6%	\$404.6	3.4%
2028	70.7	0.6%	3,157.7	0.6%	\$417.3	3.1%
2029	71.2	0.6%	3,176.4	0.6%	\$428.6	2.7%
2030	71.6	0.6%	3,196.0	0.6%	\$442.1	3.1%
2031	72.0	0.6%	3,215.2	0.6%	\$454.3	2.8%
2032	72.5	0.7%	3,235.5	0.6%	\$466.6	2.7%
2033	72.9	0.6%	3,256.1	0.6%	\$479.2	2.7%
2034	72.7	-0.3%	3,276.6	0.6%	\$495.2	3.3%
2035	73.1	0.6%	3,293.0	0.5%	\$508.5	2.7%
2036	73.5	0.6%	3,313.3	0.6%	\$522.5	2.8%
2037	73.9	0.5%	3,334.7	0.6%	\$540.1	3.4%
2038	74.5	0.8%	3,354.0	0.6%	\$554.7	2.7%
2039	75.0	0.7%	3,377.4	0.7%	\$571.9	3.1%
2040	75.6	0.7%	3,400.8	0.7%	\$588.5	2.9%
2041	76.2	0.8%	3,423.2	0.7%	\$604.6	2.7%
2042	76.9	0.8%	3,447.6	0.7%	\$621.8	2.8%
2043	77.5	0.8%	3,472.2	0.7%	\$639.9	2.9%
2044	78.1	0.8%	3,497.2	0.7%	\$657.9	2.8%
2045	78.7	0.8%	3,521.9	0.7%	\$676.2	2.8%
2046	79.3	0.8%	3,547.2	0.7%	\$695.4	2.8%
2047	79.9	0.7%	3,571.9	0.7%	\$714.3	2.7%
2048	80.5	0.8%	3,597.2	0.7%	\$736.2	3.1%
2049	81.2	0.8%	3,621.7	0.7%	\$756.0	2.7%
2050	81.9	0.8%	3,648.4	0.7%	\$777.3	2.8%
2051	82.6	0.8%	3,675.3	0.7%	\$798.6	2.7%
2052	83.2	0.8%	3,702.6	0.7%	\$821.2	2.8%
2053	83.9	0.8%	3,729.5	0.7%	\$844.4	2.8%
2054	84.5	0.8%	3,756.6	0.7%	\$868.3	2.8%
2055	85.2	0.8%	3,784.0	0.7%	\$892.9	2.8%
2056	85.9	0.8%	3,811.7	0.7%	\$918.3	2.8%
2057	86.5	0.8%	3,839.6	0.7%	\$944.4	2.8%

<sup>\*</sup>Actuals; Notes: Toll increases are planned each year. New Toll System Fully Implemented 2022. Numbers may not add due to rounding.

\$1,000.0 100.0 90.0 \$900.0 0.08 \$800.0 Revenue in Millions Millions of Transactions 70.0 \$700.0 60.0 \$600.0 50.0 \$500.0 \$400.0 40.0 \$300.0 30.0 \$200.0 20.0 10.0 \$100.0 0.0 \$0.0 2035 Transactions Revenue

Figure 28: Historical and Forecasted Transactions and Toll Revenues

Notes: Toll increases are planned each year. New Toll System Fully Implemented 2022.



Notes: Toll increases are planned each year. New Toll System Fully Implemented 2022.

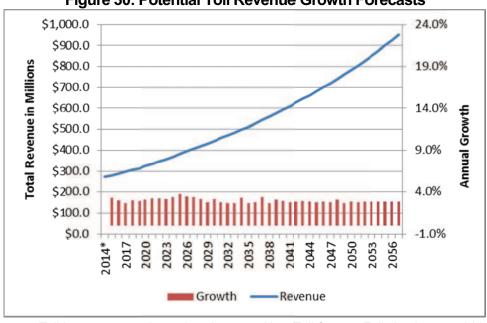


Figure 30: Potential Toll Revenue Growth Forecasts

Notes: Toll increases are planned each year. New Toll System Fully Implemented 2022.

Table 23: Forecasted OTIC Transactions, VMT and Collectable Toll Revenues by Vehicle Type, 2015 to 2057 (in millions)

	Tra	ansactions	, 2015 to 2057	MT ,		Revenue	
Year	Car	Truck	Car	Truck	Car	Truck	Total
2015*	42.1	11.3	1,881.5	953.6	\$122.3	\$157.9	\$280.2
2016*	43.5	11.4	1,972.2	987.9	\$126.2	\$162.2	\$288.4
2017	43.7	11.6	2.003.4	992.4	\$128.1	\$168.2	\$296.2
2018	43.8	11.8	1,994.4	1,005.7	\$130.1	\$175.0	\$305.0
2019	44.0	12.0	1,994.6	1,021.0	\$132.5	\$181.4	\$313.9
2020	44.2	12.1	1,998.9	1,033.4	\$135.0	\$188.6	\$323.6
2021	44.5	12.3	2,003.8	1,045.8	\$137.7	\$195.7	\$333.4
2022	51.4	17.6	2,011.6	1,058.3	\$139.3	\$202.8	\$342.1
2023	51.6	17.8	2,008.7	1,069.7	\$142.0	\$210.7	\$352.7
2024	51.3	18.1	2,014.7	1,082.5	\$145.7	\$219.0	\$364.6
2025	51.4	18.3	2,011.0	1,095.2	\$150.8	\$227.6	\$378.4
2026	51.4	18.5	2,014.5	1,108.3	\$154.9	\$236.5	\$391.4
2027	51.6	18.7	2,018.6	1,121.4	\$158.9	\$245.7	\$404.6
2028	51.8	18.9	2,023.1	1,134.7	\$161.9	\$255.3	\$417.3
2029	52.0	19.2	2,028.3	1,148.1	\$165.0	\$263.6	\$428.6
2030	52.2	19.4	2,033.9	1,162.1	\$169.9	\$272.1	\$442.1
2031	52.4	19.6	2,039.1	1,176.1	\$173.4	\$280.9	\$454.3
2032	52.6	19.9	2,045.2	1,190.4	\$176.6	\$290.0	\$466.6
2033	52.8	20.1	2,051.3	1,204.9	\$179.8	\$299.4	\$479.2
2034	52.3	20.4	2,057.1	1,219.5	\$186.0	\$309.1	\$495.2
2035	52.4	20.6	2,058.6	1,234.3	\$189.4	\$319.1	\$508.5
2036	52.7	20.9	2,064.0	1,249.3	\$193.1	\$329.4	\$522.5
2037	52.8	21.1	2,070.2	1,264.5	\$200.1	\$340.1	\$540.1
2038	53.1	21.4	2,074.1	1,279.9	\$203.6	\$351.1	\$554.7
2039	53.4	21.6	2,082.0	1,295.4	\$209.4	\$362.4	\$571.9
2040	53.7	21.9	2,089.6	1,311.1	\$214.3	\$374.2	\$588.5
2041	54.1	22.2	2,096.1	1,327.0	\$218.3	\$386.3	\$604.6
2042	54.4	22.4	2,104.5	1,343.1	\$222.9	\$398.8	\$621.8
2043	54.8	22.7	2,112.8	1,359.4	\$228.2	\$411.7	\$639.9
2044	55.1	23.0	2,121.3	1,375.8	\$232.9	\$425.0	\$657.9
2045	55.5	23.3	2,129.3	1,392.6	\$237.5	\$438.8	\$676.2
2046	55.8	23.6	2,137.6	1,409.6	\$242.4	\$452.9	\$695.4
2047	56.1	23.9	2,145.3	1,426.6	\$246.7	\$467.6	\$714.3
2048	56.4	24.1	2,153.2	1,444.0	\$253.5	\$482.8	\$736.2
2049	56.8	24.4	2,160.2	1,461.6	\$257.6	\$498.4	\$756.0
2050	57.1	24.7	2,169.1	1,479.3	\$262.8	\$514.5	\$777.3
2051	57.5	25.0	2,178.1	1,497.2	\$267.5	\$531.1	\$798.6
2052	57.9	25.3	2,187.3	1,515.3	\$272.9	\$548.3	\$821.2
2053	58.2	25.7	2,195.8	1,533.7	\$278.3	\$566.0	\$844.4
2054	58.5	26.0	2,204.3	1,552.3	\$283.9	\$584.4	\$868.3
2055	58.9	26.3	2,212.8	1,571.2	\$289.6	\$603.3	\$892.9
2056	59.2	26.6	2,221.4	1,590.3	\$295.4	\$622.9	\$918.3
2057	59.6	26.9	2,230.0	1,609.6	\$301.3	\$643.1	\$944.4

<sup>\*</sup> Actuals; Notes: Toll increases are planned each year. New Toll System Fully Implemented 2022.

Numbers may not add due to rounding.

# 9.0 Review of Projected Operations and Maintenance Expenses

This section presents a review of projected Operation and Maintenance (O&M) expenditures consisting of Administration, Insurance, Traffic Control and Safety, Maintenance, as well as Service and Toll Operations costs for the Turnpike.

Of particular note is that the Commission has consistently performed all of their Operation and Maintenance activities below their projected budgets in each year since 2006. The past performance shown in Table 24 highlights the conservative budgeting approach applied by the Commission and provides a sound basis for projecting future operating and maintenance costs.

Table 24: Comparison of Actual and Budgeted O&M Expenditures (000s)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017*
Actual O&M	103,493	111,171	113,868	113,679	116,136	110,296	111,325	108,717	110,767	111,902	117,967	98,321
Budgeted O&M	111,770	115,721	116,510	119,918	120,311	120,303	122,419	115,950	113,092	117,604	122,090	101,701
Difference	(8,277)	(4,550)	(2,642)	(6,240)	(4,175)	(10,007)	(11,093)	(7,233)	(2,324)	(5,703)	(4,124)	(3,380)
% of Difference	-7.4%	-3.9%	-2.3%	-5.2%	-3.5%	-8.3%	-9.1%	-6.2%	-2.1%	-4.8%	-3.4%	-3.3%

<sup>\* 10</sup> months data for 2017

Jacobs completed this review of future operating expenditures based on both historical information and the Commission's latest 2017 projection of operating expenses, as well as further cost measures being planned by the Commission and the planned implementing of TCS and CSC modernization. For the long term projections, Jacobs has considered the majority of operating expenditures will be recurring costs and only increase due to inflation except for toll collection costs. This is because the Turnpike has been in operation for over 50 years, with a stable organization structure and labor force, and with no major infrastructure expansions or major reorganizations being planned in the foreseeable future.

Jacobs analyzed toll collection costs in particular, as these costs will fluctuate with traffic and revenue projection and account for a large portion of the annual budget (approximately 45%). Factors that will affect the long term projection of the costs have been analyzed, including:

• Planned conversion of existing TCS and CSC: Serveral initialtives were proposed in the recently adopted TCS and CSC Strateglic Plan, including removal of 9 of the existing gantries, removal of all entry lanes for all remaining gantries and installation of license plate cameras. In addtion, two new gantries will be built at MP 49 and MP 211 (new ends of closed ticket system) and existing Eastgate plaza will be converted to one-way WB. These changes will have major impacts on the toll collection costs and toll infrastrcture related maintenance costs, most notebaly reduction in toll staffing needs due to the removal of some of the existing gantries and introduction of dedicated gateless E-ZPass lanes.

- E-ZPass market share rates: The increasing usage of E-ZPass will reduce the number
  of cash transactions, which could in turn reduce the need for manual toll collection.
  Also, the introduction of dedicated gateless E-ZPass lanes from the TCS conversion will
  further encrouage such trend. On the other hand, the increases in total traffic and the
  continued increase in the use of credit cards could potentially slow down such reduction.
- ATPMs: Further implementation of ATPMs could potentially reduce the need for manual toll collection at some toll locations. The Commission has already implemented 2 ATPMs at 14 of 31 plaza locations with 6 locations operating in an unstaffed setting 24x7x365 and the remainder operating unstaffed for at least 1 shift (8 hours per day). An additional 16 ATPMs will be installed at 7 toll plazas prior to 2019, this will further reduce the need for staffing for certain hours at these toll locaitons.
- Staffing Replacements: In 2010 the Commission reduced staffing levels through the Voluntary Separation Incentive Program ("VSIP"). More recently it has, through attrition, replaced some of the full-time employees with part-time employees to further reduce toll collection costs. It is believed that the current practices of replacing full-time staff with part-time staff would continue in the near future, as more employees voluntarily choose to retire or leave. The implementaion of new toll collection system and ATPMs is anticipated to further reduce both full-time and part-time staffing through attrition.
- Labor contract negotiation with the Union: On May 2017, the Commssion adopted a resolution authorizing execution of a new three-year collective bargaining agreement for the full-time, part-time and radio room operator bargaining units.

Jacobs has assumed salaries will continue to grow with inflation (estimated 2.7 percent) to be consistent with what was forecasted for the maintenance labor forces.

Table 25 presents the results of the projections for Total Operations and Maintenance Expenditures over the next forty years. As seen in the table, the forecasted operations and maintenance expenditures grow from about \$109 million in 2013 to \$340 million in 2057. In addition, Service Plaza and Tolling Operations account for almost half of total O&M expenditures ranging from about \$50 million in 2013 to some \$153 million in 2057. It shall be noted that the forecasted operations and maintenance expenditures assumed the conversion to the new TCS and CSC will occur by the end of 2021. Also starting in 2017, maintenance labor costs will no longer be allocated to different maintenance categories. This change will not affect the total costs of maintenance.

Table 25: Historical and Projected Total O&M Expenditures (000s)

			. Histo	licai ai	iu i ioje				Ciluitui	es (000s)		
	Adminis	stration	ļ	<u>.</u>		IVI	aintenand	ce			, <u>,</u>	
Year	Admin. Personnel	Other Expenditures	Insurance	Traffic Control, Safety, Patrol and Communications	Maintenance Personnel	Roadway and Facility Maintenance	Snow and Ice Control	Equipment	Other Expenditures	Services and Toll Operation	Total Operating Costs	Annual Growth
2015*	\$7.0	\$2.3	\$0.9	\$13.9	\$8.3	\$11.9	\$7.5	\$5.9	\$2.2	\$51.9	\$111.9	1.0
2016*	\$7.6	\$2.5	\$1.1	\$14.4	\$9.3	\$11.7	\$8.4	\$5.8	\$3.1	\$54.1	\$118.0	5.4
2017	\$8.0	\$2.5	\$0.9	\$13.4	\$23.2	\$4.3	\$5.1	\$4.9	\$1.9	\$55.7	\$119.9	1.6
2018	\$8.2	\$2.6	\$1.0	\$13.8	\$23.8	\$4.4	\$5.2	\$5.0	\$1.9	\$57.4	\$123.3	2.9
2019	\$8.4	\$2.6	\$1.0	\$14.2	\$24.5	\$4.5	\$5.4	\$5.2	\$2.0	\$58.3	\$126.0	2.2
2020	\$8.6	\$2.7	\$1.0	\$14.5	\$25.1	\$4.7	\$5.5	\$5.3	\$2.0	\$59.1	\$128.6	2.0
2021	\$8.9	\$2.8	\$1.0	\$14.9	\$25.8	\$4.8	\$5.7	\$5.4	\$2.1	\$60.8	\$132.2	2.8
2022	\$9.1	\$2.8	\$1.1	\$15.3	\$26.5	\$4.9	\$5.8	\$5.6	\$2.1	\$59.9	\$133.2	0.7
2023	\$9.4	\$2.9	\$1.1	\$15.7	\$27.2	\$5.0	\$6.0	\$5.7	\$2.2	\$61.5	\$136.8	2.7
2024	\$9.6	\$3.0	\$1.1	\$16.2	\$27.9	\$5.2	\$6.1	\$5.9	\$2.2	\$61.9	\$139.2	1.7
2025	\$9.9	\$3.1	\$1.2	\$16.6	\$28.7	\$5.3	\$6.3	\$6.1	\$2.3	\$63.3	\$142.7	2.5
2026	\$10.1	\$3.1	\$1.2	\$10.0	\$29.5	\$5.5	\$6.5	\$6.2	\$2.3	\$64.9	\$142.7	2.6
2027	\$10.1	\$3.2	\$1.2	\$17.1	\$30.3	\$5.6	\$6.6		\$2.4		\$150.2	2.6
		\$3.2				\$5.8		\$6.4		\$66.5		2.6
2028	\$10.7		\$1.3	\$18.0	\$31.1		\$6.8	\$6.6	\$2.5	\$68.1	\$154.1	2.6
2029	\$11.0	\$3.4	\$1.3	\$18.5	\$31.9	\$5.9	\$7.0	\$6.7	\$2.6	\$69.8	\$158.1	2.6
2030	\$11.3	\$3.5	\$1.3	\$19.0	\$32.8	\$6.1	\$7.2	\$6.9	\$2.6	\$71.5	\$162.2	
2031	\$11.6	\$3.6	\$1.4	\$19.5	\$33.7	\$6.2	\$7.4	\$7.1	\$2.7	\$75.5	\$168.6	3.9
2032	\$11.9	\$3.7	\$1.4	\$20.0	\$34.6	\$6.4	\$7.6	\$7.3	\$2.8	\$75.5	\$171.1	1.5
2033	\$12.2	\$3.8	\$1.4	\$20.6	\$35.5	\$6.6	\$7.8	\$7.5	\$2.9	\$77.5	\$175.8	2.7
2034	\$12.5	\$3.9	\$1.5	\$21.1	\$36.5	\$6.8	\$8.0	\$7.7	\$2.9	\$79.6	\$180.5	2.7
2035	\$12.9	\$4.0	\$1.5	\$21.7	\$37.5	\$6.9	\$8.2	\$7.9	\$3.0	\$81.8	\$185.4	2.8
2036	\$13.2	\$4.1	\$1.5	\$22.3	\$38.5	\$7.1	\$8.4	\$8.1	\$3.1	\$83.9	\$190.4	2.7
2037	\$13.6	\$4.2	\$1.6	\$22.9	\$39.5	\$7.3	\$8.7	\$8.3	\$3.2	\$86.2	\$195.5	2.7
2038	\$13.9	\$4.4	\$1.6	\$23.5	\$40.6	\$7.5	\$8.9	\$8.6	\$3.3	\$88.4	\$200.6	2.6
2039	\$14.3	\$4.5	\$1.7	\$24.1	\$41.7	\$7.7	\$9.1	\$8.8	\$3.4	\$90.7	\$206.0	2.7
2040	\$14.7	\$4.6	\$1.7	\$24.8	\$42.8	\$7.9	\$9.4	\$9.0	\$3.4	\$93.2	\$211.6	2.7
2041	\$15.1	\$4.7	\$1.8	\$25.4	\$44.0	\$8.2	\$9.6	\$9.3	\$3.5	\$98.5	\$220.1	4.0
2042	\$15.5	\$4.8	\$1.8	\$26.1	\$45.1	\$8.4	\$9.9	\$9.5	\$3.6	\$98.5	\$223.4	1.5
2043	\$15.9	\$5.0	\$1.9	\$26.8	\$46.4	\$8.6	\$10.2	\$9.8	\$3.7	\$101.3	\$229.5	2.7
2044	\$16.4	\$5.1	\$1.9	\$27.6	\$47.6	\$8.8	\$10.4	\$10.	\$3.8	\$104.1	\$235.8	2.7
2045	\$16.8	\$5.2	\$2.0	\$28.3	\$48.9	\$9.1	\$10.7	\$10.	\$3.9	\$107.0	\$242.3	2.7
2046	\$17.3	\$5.4	\$2.0	\$29.1	\$50.2	\$9.3	\$11.0	\$10.	\$4.0	\$110.0	\$248.9	2.7
2047	\$17.7	\$5.5	\$2.1	\$29.9	\$51.6	\$9.6	\$11.3	\$10.	\$4.1	\$113.0	\$255.7	2.7
2048	\$18.2	\$5.7	\$2.1	\$30.7	\$53.0	\$9.8	<b>\$11</b> .6	\$11.	\$4.3	\$116.2	\$262.7	2.8
2049	\$18.7	\$5.8	\$2.2	\$31.5	\$54.4	\$10.1	<b>\$11</b> .9	\$11.	\$4.4	\$119.4	\$269.9	2.7
2050	\$19.2	\$6.0	\$2.2	\$32.3	\$55.9	\$10.4	\$12.3	\$11.	\$4.5	\$122.8	\$277.3	2.7
2051	\$19.7	\$6.2	\$2.3	\$33.2	\$57.4	\$10.6	\$12.6	\$12.	\$4.6	\$130.1	\$288.8	4.1
2052	\$20.3	\$6.3	\$2.4	\$34.1	\$58.9	\$10.9	\$12.9	\$12.	\$4.7	\$133.6	\$296.6	2.7
2053	\$20.8	\$6.5	\$2.4	\$35.0	\$60.5	\$11.2	\$13.3	\$12.	\$4.9	\$137.3	\$304.7	2.7
2054	\$21.4	\$6.7	\$2.5	\$36.0	\$62.2	\$11.5	\$13.6	\$13.	\$5.0	\$141.1	\$313.1	2.7
2055	\$21.9	\$6.8	\$2.6	\$36.9	\$63.8	\$11.8	\$14.0	\$13.	\$5.1	\$145.1	\$321.7	2.7
2056	\$22.5	\$7.0	\$2.6	\$37.9	\$65.6	\$12.2	\$14.4	\$13.	\$5.3	\$149.2	\$330.5	2.7
2057	\$23.1	\$7.2	\$2.7	\$39.0	\$67.3	\$12.5	\$14.8	\$14.	\$5.4	\$153.3	\$339.6	2.7
	Ψ=0	¥ · ·-	. T-11 O	Ψ00.0	<b>401.0</b>		2022 1		ψ <b>ψ</b> σ. ι	<b>4.30.0</b>	<b>\$550.0</b>	

\*Actual; Notes: New Toll System Fully Implemented 2022. Numbers may not add due to rounding.

## 10.0 Net Revenues

Net revenues are the result of subtracting Operating and Maintenance (O&M) costs from total gross pledged revenues. Total gross pledged revenues include both Toll revenues and Other pledged revenues.

# 10.1 Forecast of Other Pledged Revenues

"Other" pledged revenues (i.e., non-toll revenues) are shown in Table 26. Other revenues are estimated to total around \$2,325 Million over the course of the 40-year forecast period 2018-2057. Other revenues were forecasted based on the following assumptions:

- Special Toll Permits include fees for large combination vehicles (LCVs) and permits for oversize and overweight vehicles. These fees are assumed to remain constant in relative terms to toll rates. Revenue growth for this category is forecasted to be at the 2.0 percent rate of inflation plus the rate of traffic growth.
- Concession Revenues consist of both fixed and percentage-based revenues from sales at the Commission's Service Plazas. Concession revenues are mainly comprised of restaurant and fuel sales, and common area maintenance charges, property management fees and capital improvement fees. These revenues were grown at the 2.7 percent rate of inflation plus traffic growth.
- Other Revenues include all the other pledged income to the Commission including E-ZPass transponder fees, licenses, tower leases, royalties and advertising, and are grown at the 2.7 percent rate of inflation.
- Investment Income was provided by the Commission and is based on the current plan of finance.

## 10.2 Forecast of Net Revenues

Table 27 presents the net revenues, calculated from the total Turnpike gross revenues (toll revenues plus other revenues) less O&M costs. The estimates of gross and net toll revenue are in nominal dollars. Over the 40-year forecast period 2018-2057, Toll, Fee and Other revenues total some \$25.350 Billion, while O&M costs total roughly \$8.379 Billion. Net revenues for the 40-year period are estimated at \$16.971 Billion.

Table 26: Ohio Turnpike Non-Toll ("Other") Revenues in millions

	Other Revenue										
Year	Special Toll Permits	Concession	Other	Investment Earnings	Total						
2015*	\$3.4	\$16.1	\$4.2	\$1.1	\$24.8						
2016*	\$3.4	\$16.3	\$5.0	\$1.4	\$26.1						
2017	\$3.5	\$16.8	\$5.7	\$1.9	\$27.9						
2018	\$3.6	\$17.2	\$5.9	\$3.5	\$30.2						
2019	\$3.7	\$17.9	\$6.0	\$3.5	\$31.1						
2020	\$3.8	\$18.5	\$6.2	\$4.5	\$33.0						
2021	\$3.8	\$19.1	\$6.4	\$3.7	\$33.0						
2022	\$3.9	\$19.7	\$6.6	\$4.0	\$34.2						
2023	\$4.0	\$20.3	\$6.8	\$4.2	\$35.3						
2024	\$4.1	\$20.9	\$7.0	\$4.3	\$36.3						
2025	\$4.2	\$21.6	\$7.2	\$4.4	\$37.4						
2026	\$4.2	\$22.3	\$7.4	\$4.5	\$38.4						
2027	\$4.3	\$23.1	\$7.7	\$4.6	\$39.7						
2028	\$4.4	\$23.9	\$7.9	\$4.7	\$40.9						
2029	\$4.5	\$24.7	\$8.1	\$4.8	\$42.1						
2030	\$4.6	\$25.6	\$8.4	\$4.9	\$43.5						
2031	\$4.7	\$26.5	\$8.6	\$5.0	\$44.8						
2032	\$4.8	\$27.4	\$8.9	\$5.1	\$46.2						
2033	\$4.9	\$28.3	\$9.1	\$5.2	\$47.5						
2034	\$5.0	\$29.3	\$9.4	\$5.3	\$49.0						
2035	\$5.1	\$30.3	\$9.7	\$5.4	\$50.5						
2036	\$5.2	\$31.4	\$10.0	\$5.5	\$52.1						
2037	\$5.3	\$32.5	\$10.3	\$5.6	\$53.7						
2038	\$5.4	\$33.6	\$10.6	\$5.7	\$55.3						
2039	\$5.5	\$34.8	\$10.9	\$5.8	\$57.0						
2040	\$5.6	\$36.0	\$11.2	\$5.9	\$58.7						
2041	\$5.7	\$37.3	\$11.6	\$6.0	\$60.6						
2042	\$5.8	\$38.7	\$11.9	\$6.1	\$62.5						
2043	\$5.9	\$40.0	\$12.3	\$6.2	\$64.4						
2044	\$6.1	\$41.4	\$12.7	\$6.3	\$66.5						
2045	\$6.2	\$42.9	\$13.0	\$6.4	\$68.5						
2046	\$6.3	\$44.4	\$13.4	\$6.5	\$70.6						
2047	\$6.4	\$46.0	\$13.8	\$6.6	\$72.8						
2048	\$6.6	\$47.6	\$14.3	\$6.7	\$75.2						
2049	\$6.7	\$49.2	\$14.7	\$6.8	\$77.4						
2050	\$6.8	\$51.0	\$15.1	\$6.9	\$79.8						
2051	\$7.0	\$52.8	\$15.6	\$7.0	\$82.4						
2052	\$7.2	\$54.7	\$16.1	\$7.1	\$85.1						
2053	\$7.4	\$56.6	\$16.7	\$7.2	\$87.9						
2054	\$7.6	\$58.6	\$17.2	\$7.3	\$90.7						
2055	\$7.9	\$60.7	\$17.8	\$7.4	\$93.7						
2056	\$8.1	\$62.8	\$18.4	\$7.5	\$96.7						
2057	\$8.3	\$65.0	\$19.0	\$7.6	\$99.9						

\*Actuals Note: Numbers may not add due to rounding.

Table 27: Toll System Revenues, O&M Costs and Net Revenues, in millions

Year	Toll Revenues		s Fee Rev		Other Revenues		Total Revenues		O&M		Net Revenues	
2015*	\$280.2	5.9%			\$24.8		\$305.0	15.3%	\$111.9	1.0%	\$193.1	25.6%
2016*	\$288.4	2.9%			\$26.1	5.2%	\$314.5	3.1%	\$118.0	5.5%	\$196.5	1.8%
2017	\$296.2	2.7%			\$27.9	6.8%	\$324.1	3.1%	\$119.9	1.6%	\$204.3	3.9%
2018	\$305.0	3.0%			\$30.2	8.2%	\$335.2	3.4%	\$123.3	2.9%	\$211.9	3.7%
2019	\$313.9	2.9%			\$31.1	3.0%	\$345.0	2.9%	\$126.0	2.2%	\$219.0	3.3%
2020	\$323.6	3.1%			\$33.0	6.1%	\$356.6	3.4%	\$128.6	2.0%	\$228.0	4.1%
2021**	\$333.4	3.2%	\$0.6		\$33.0	0.0%	\$366.9	2.9%	\$132.2	2.8%	\$234.7	2.9%
2022	\$342.1	2.4%	\$2.2		\$34.2	3.6%	\$378.5	3.1%	\$133.2	0.7%	\$245.3	4.5%
2023	\$352.7	3.1%	\$2.2		\$35.3	3.2%	\$390.2	3.1%	\$136.8	2.7%	\$253.4	3.3%
2024	\$364.6	3.4%	\$2.1	-2.3%	\$36.3	2.8%	\$403.1	3.3%	\$139.2	1.7%	\$263.9	4.2%
2025	\$378.4	3.8%	\$2.1	-1.3%	\$37.4	3.0%	\$417.9	3.7%	\$142.7	2.5%	\$275.2	4.3%
2026	\$391.4	3.4%	\$2.1	-0.4%	\$38.4	2.7%	\$431.9	3.3%	\$146.4	2.6%	\$285.5	3.7%
2027	\$404.6	3.4%	\$2.1	-0.1%	\$39.7	3.4%	\$446.4	3.4%	\$150.2	2.6%	\$296.1	3.7%
2028	\$417.3	3.1%	\$2.1	0.2%	\$40.9	3.0%	\$460.3	3.1%	\$154.2	2.6%	\$306.1	3.4%
2029	\$428.6	2.7%	\$2.1	0.1%	\$42.1	2.9%	\$472.9	2.7%	\$158.1	2.6%	\$314.7	2.8%
2030	\$442.1	3.1%	\$2.1	0.1%	\$43.5	3.3%	\$487.7	3.1%	\$162.2	2.6%	\$325.5	3.4%
2031	\$454.3	2.8%	\$2.1	0.3%	\$44.8	3.0%	\$501.2	2.8%	\$168.6	3.9%	\$332.6	2.2%
2032	\$466.6	2.7%	\$2.1	0.3%	\$46.2	3.1%	\$514.9	2.7%	\$171.1	1.5%	\$343.8	3.4%
2033	\$479.2	2.7%	\$2.1	0.3%	\$47.5	2.8%	\$528.8	2.7%	\$175.8	2.7%	\$353.1	2.7%
2034	\$495.2	3.3%	\$2.1	-0.2%	\$49.0	3.2%	\$546.3	3.3%	\$180.5	2.7%	\$365.8	3.6%
2035	\$508.5	2.7%	\$2.1	-0.6%	\$50.5	3.1%	\$561.1	2.7%	\$185.4	2.8%	\$375.7	2.7%
2036	\$522.5	2.8%	\$2.1	0.0%	\$52.1	3.2%	\$576.7	2.8%	\$190.4	2.7%	\$386.4	2.9%
2037	\$540.1	3.4%	\$2.1	0.1%	\$53.7	3.1%	\$596.0	3.3%	\$195.5	2.7%	\$400.5	3.7%
2038	\$554.7	2.7%	\$2.1	0.3%	\$55.3	3.0%	\$612.2	2.7%	\$200.6	2.6%	\$411.5	2.8%
2039	\$571.9	3.1%	\$2.2	0.6%	\$57.0	3.1%	\$631.0	3.1%	\$206.0	2.7%	\$425.0	3.3%
2040	\$588.4	2.9%	\$2.2	0.6%	\$58.7	3.0%	\$649.3	2.9%	\$211.6	2.7%	\$437.7	3.0%
2041	\$604.6	2.7%	\$2.2	0.6%	\$60.6	3.2%	\$667.4	2.8%	\$220.1	4.0%	\$447.3	2.2%
2042	\$621.7	2.8%	\$2.2	0.7%	\$62.5	3.1%	\$686.4	2.9%	\$223.4	1.5%	\$463.0	3.5%
2043	\$639.9	2.9%	\$2.2	0.6%	\$64.4	3.0%	\$706.5	2.9%	\$229.5	2.7%	\$476.9	3.0%
2044	\$657.9	2.8%	\$2.2	0.4%	\$66.5	3.3%	\$726.6	2.8%	\$235.8	2.7%	\$490.7	2.9%
2045	\$676.2	2.8%	\$2.2	0.5%	\$68.5	3.0%	\$746.9	2.8%	\$242.3	2.7%	\$504.6	2.8%
2046	\$695.3	2.8%	\$2.2	0.6%	\$70.6	3.1%	\$768.1	2.8%	\$248.9	2.7%	\$519.2	2.9%
2047	\$714.3	2.7%	\$2.2	0.4%	\$72.8	3.1%	\$789.3	2.8%	\$255.7	2.7%	\$533.6	2.8%
2048	\$736.2	3.1%	\$2.2	0.3%	\$75.2	3.3%	\$813.6	3.1%	\$262.7	2.8%	\$550.9	3.2%
2049	\$756.0	2.7%	\$2.2	0.6%	\$77.4	2.9%	\$835.6	2.7%	\$269.9	2.7%	\$565.7	2.7%
2050	\$777.3	2.8%	\$2.2	0.7%	\$79.8	3.1%	\$859.3	2.8%	\$277.3	2.7%	\$582.0	2.9%
2051	\$798.6	2.7%	\$2.2	0.7%	\$82.4	3.3%	\$883.2	2.8%	\$288.8	4.1%	\$594.5	2.1%
2052	\$821.2	2.8%	\$2.2	0.7%	\$85.1	3.3%	\$908.5	2.9%	\$296.6	2.7%	\$611.9	2.9%
2053	\$844.4	2.8%	\$2.2	0.6%	\$87.9	3.3%	\$934.5	2.9%	\$304.7	2.7%	\$629.8	2.9%
2054	\$868.3	2.8%	\$2.2	0.6%	\$90.7	3.3%	\$961.3	2.9%	\$313.1	2.7%	\$648.2	2.9%
2055	\$892.9	2.8%	\$2.3	0.6%	\$93.7	3.3%	\$988.9	2.9%	\$321.7	2.7%	\$667.2	2.9%
2056	\$918.3	2.8%	\$2.3	0.6%	\$96.7	3.3%	\$1,017.3	2.9%	\$330.5	2.7%	\$686.8	2.9%
2057	\$944.4	2.8%	\$2.3	0.6%	\$99.9	3.3%	\$1,046.6	2.9%	\$339.6	2.7%	\$707.0	2.9%

\*Actual; \*\* Modified system would open October 2021

Note: Toll increases are planned each year. New Toll System Fully Implemented 2022 Numbers may not add due to rounding.

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# 10.3 Forecast If Toll System Modification Does Not Occur

For comparison purposes, a forecast was completed assuming the existing toll configuration continued operations throughout the forecast period. For the 30 year period from 2022 through 2051, there would be approximately \$241 million less in Net Revenues under the current collection system than are forecasted for the modernized toll system. Table 28 presents the net revenues, calculated from the total Turnpike gross revenues (toll revenues plus other revenues) less O&M costs. The estimates of gross and net toll revenue are in nominal dollars. Over the 40-year forecast period 2018-2057, Toll, Fee and Other revenues total some \$25.325 Billion, while O&M costs total roughly \$8.702 Billion. Net revenues for the 40-year period are estimated at \$16.694 Billion if the Toll System Modification does not occur.

Table 28: If Toll System Modification Does Not Occur: Toll System Revenues, O&M Costs and Net Revenues, in millions

did Net Neverides, in millions												
Year	Toll Rev	evenues Fee Rev		Other Revenues		Total Revenues		O&M		Net Revenues		
2015*	\$280.2	3.0%	-		\$24.8	6.5%	\$305.0	15.3%	\$111.9	1.0%	\$193.1	25.6%
2016*	\$288.4	3.0%	-		\$26.1	6.5%	\$314.5	3.1%	\$118.0	5.5%	\$196.5	1.8%
2017	\$296.2	2.7%	-		\$27.9	6.8%	\$324.1	3.1%	\$119.9	1.6%	\$204.3	3.9%
2018	\$305.0	3.0%	-		\$30.2	8.2%	\$335.2	3.4%	\$123.3	2.9%	\$211.9	3.7%
2019	\$313.9	2.9%	-		\$31.1	3.0%	\$345.0	2.9%	\$126.0	2.2%	\$219.0	3.3%
2020	\$323.6	3.1%	-		\$33.0	6.1%	\$356.6	3.4%	\$128.6	2.0%	\$228.0	4.1%
2021	\$334.1	3.2%	-		\$33.0	0.0%	\$367.1	2.9%	\$132.2	2.8%	\$234.9	3.0%
2022	\$344.7	3.2%	-		\$34.2	3.6%	\$378.9	3.2%	\$135.9	2.8%	\$243.0	3.5%
2023	\$356.1	3.3%	-		\$35.3	3.2%	\$391.4	3.3%	\$139.7	2.8%	\$251.7	3.6%
2024	\$369.6	3.8%	-		\$36.3	2.8%	\$405.9	3.7%	\$143.6	2.8%	\$262.3	4.2%
2025	\$381.7	3.3%	-		\$37.4	3.0%	\$419.1	3.3%	\$147.6	2.8%	\$271.5	3.5%
2026	\$394.7	3.4%	1		\$38.4	2.7%	\$433.1	3.3%	\$151.8	2.8%	\$281.3	3.6%
2027	\$408.6	3.5%	-		\$39.7	3.4%	\$448.3	3.5%	\$156.0	2.8%	\$292.3	3.9%
2028	\$422.5	3.4%	-		\$40.9	3.0%	\$463.4	3.4%	\$160.3	2.8%	\$303.1	3.7%
2029	\$434.2	2.8%	-		\$42.1	2.9%	\$476.3	2.8%	\$164.7	2.7%	\$311.5	2.8%
2030	\$445.7	2.7%	-		\$43.5	3.3%	\$489.2	2.7%	\$169.2	2.7%	\$319.9	2.7%
2031	\$458.1	2.8%	-		\$44.8	3.0%	\$502.9	2.8%	\$173.9	2.7%	\$329.0	2.8%
2032	\$471.1	2.8%	-		\$46.2	3.1%	\$517.3	2.9%	\$178.7	2.7%	\$338.6	2.9%
2033	\$484.1	2.7%	-		\$47.5	2.8%	\$531.6	2.8%	\$183.6	2.7%	\$348.0	2.8%
2034	\$497.3	2.7%	-		\$49.0	3.2%	\$546.3	2.8%	\$188.6	2.7%	\$357.7	2.8%
2035	\$511.8	2.9%	-		\$50.5	3.1%	\$562.3	2.9%	\$193.8	2.8%	\$368.5	3.0%
2036	\$525.8	2.7%	-		\$52.1	3.2%	\$577.9	2.8%	\$199.1	2.7%	\$378.8	2.8%
2037	\$540.1	2.7%	-		\$53.7	3.1%	\$593.8	2.7%	\$204.6	2.7%	\$389.2	2.7%
2038	\$556.0	2.9%	-		\$55.3	3.0%	\$611.3	3.0%	\$210.2	2.7%	\$401.1	3.1%
2039	\$571.4	2.8%	-		\$57.0	3.1%	\$628.4	2.8%	\$215.9	2.7%	\$412.5	2.8%
2040	\$588.2	2.9%	-		\$58.7	3.0%	\$646.9	2.9%	\$221.8	2.7%	\$425.1	3.1%
2041	\$605.3	2.9%	-		\$60.6	3.2%	\$665.9	2.9%	\$227.9	2.7%	\$438.0	3.0%
2042	\$622.8	2.9%	-		\$62.5	3.1%	\$685.3	2.9%	\$234.2	2.7%	\$451.1	3.0%
2043	\$640.0	2.8%	-		\$64.4	3.0%	\$704.4	2.8%	\$240.6	2.7%	\$463.8	2.8%
2044	\$658.6	2.9%	-		\$66.5	3.3%	\$725.1	2.9%	\$247.2	2.7%	\$477.9	3.0%
2045	\$677.3	2.8%	-		\$68.5	3.0%	\$745.8	2.9%	\$254.0	2.7%	\$491.8	2.9%
2046	\$697.6	3.0%	-		\$70.6	3.1%	\$768.2	3.0%	\$260.9	2.7%	\$507.3	3.1%
2047	\$717.4	2.8%	-		\$72.8	3.1%	\$790.2	2.9%	\$268.1	2.7%	\$522.1	2.9%
2048	\$737.9	2.9%	-		\$75.2	3.3%	\$813.1	2.9%	\$275.4	2.7%	\$537.6	3.0%
2049	\$758.8	2.8%	-		\$77.4	2.9%	\$836.2	2.8%	\$282.9	2.7%	\$553.2	2.9%
2050	\$781.4	3.0%	-		\$79.8	3.1%	\$861.2	3.0%	\$290.7	2.7%	\$570.5	3.1%
2051	\$802.7	2.7%	-		\$82.4	3.3%	\$885.1	2.8%	\$298.7	2.7%	\$586.5	2.8%
2052	\$826.0	2.9%	-		\$85.1	3.3%	\$911.1	2.9%	\$306.8	2.7%	\$604.2	3.0%
2053	\$850.1	2.9%	-		\$87.9	3.3%	\$938.0	2.9%	\$315.3	2.7%	\$622.7	3.1%
2054	\$875.5	3.0%	-		\$90.7	3.3%	\$966.2	3.0%	\$323.9	2.7%	\$642.3	3.1%
2055	\$900.4	2.9%	-		\$93.7	3.3%	\$994.1	2.9%	\$332.8	2.7%	\$661.3	3.0%
2056	\$926.8	2.9%	-		\$96.7	3.3%	\$1,023.5	3.0%	\$341.9	2.7%	\$681.6	3.1%
2057	\$954.0	2.9%	-		\$99.9	3.3%	\$1,053.9	3.0%	\$351.3	2.7%	\$702.6	3.1%

\*Actual; Note: Toll increases are planned each year. Numbers may not add due to rounding.

## 11.0 Limits and Disclaimers

It is Jacobs' opinion that the traffic and gross toll revenue estimates provided herein are reasonable and that they have been prepared in accordance with accepted industry-wide practice. However, given the uncertainties in any forecast, it is important to note the following assumptions which, in our opinion, are reasonable:

- i. This report presents the results of Jacobs' consideration of the information available as of the date hereof and the application of our experience and professional judgment to that information. It is not a guarantee of any future events or trends.
- ii. The traffic and gross toll revenue estimates will be subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty.
- iii. The estimates contained in this report, while presented with numeric specificity, are based on a number of estimates and assumptions which, though considered reasonable to us, are inherently subject to economic and competitive uncertainties and contingencies, most of which are beyond the control of an operating agency and cannot be predicted with certainty. In many instances, a broad range of alternative assumptions could be considered reasonable. Changes in the assumptions used could result in material differences in estimated outcomes.
- iv. Jacobs' traffic and gross toll revenue estimations only represent our best judgment and we do not warrant or represent that the actual gross toll revenues will not vary from our estimates.
- v. We do not express any opinion on the following items: socioeconomic and demographic forecasts, proposed land use development projects and potential improvements to the regional transportation network.
- vi. No other competing projects, tolled or non-tolled are assumed to be constructed or significantly improved in the project corridor during the project period, as to negatively impact Ohio Turnpike traffic, except those identified within this report.
- vii. Major highway improvements that are currently underway or fully funded will be completed as planned.
- viii. The system will be well maintained, efficiently operated, and effectively signed to encourage maximum usage.
- ix. No reduced growth initiatives or related controls that would significantly inhibit normal development patterns will be introduced during the estimate period.
- x. There will be no future serious protracted recession during the estimate period.
- xi. There will be no protracted fuel shortage during the estimate period.

xii. No local, regional, or national emergency will arise that will abnormally restrict the use of motor vehicles.

In Jacobs' opinion, the assumptions underlying the study provide a reasonable basis for the analysis. However, any financial projection is subject to uncertainties. Inevitably, some assumptions used to develop the projections will not be realized, and unanticipated events and circumstances may occur. There are likely to be differences between the projections and actual results, and those differences may be material. Because of these uncertainties, Jacobs makes no guaranty or warranty with respect to the projections in this Study.

This document, and the opinions, analysis, evaluations, or recommendations contained herein are for the sole use and benefit of the contracting parties. There are no intended third party beneficiaries, and Jacobs Engineering Group Inc., (and its affiliates) shall have no liability whatsoever to any third parties for any defect, deficiency, error, omission in any statement contained in or in any way related to this document or the services provided.

Neither this document nor any information contained therein or otherwise supplied by Jacobs Engineering Group Inc. in connection with the study and the services provided to our client shall be used in connection with any financing solicitation, proxy, and proxy statement, proxy soliciting materials, prospectus, Securities Registration Statement or similar document without the express written consent of Jacobs Engineering Group Inc.

\* \* \* \* \*

We are of the opinion that the Turnpike has the ability to raise tolls and generate higher revenues than forecasted if the provisions of the Trust Agreement or other needs of the Commission require the generation of additional revenues.

We greatly appreciate the invaluable assistance provided by the staff of the Ohio Turnpike and Infrastructure Commission.

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Richard J Gobeille, P.E. Infrastructure Consultancy Director

#### **EXHIBIT E**

## DTC BOOK ENTRY ONLY SYSTEM

## **Description of DTC's Procedures**

The following information on the Book Entry Only System applicable to the 2018 Bonds has been supplied by DTC, and none of the Commission, the Commission's Municipal Advisor, the Underwriters, Bond Counsel, or Underwriters' Counsel make any representations, warranties or guarantees with respect to its accuracy or completeness.

DTC will act as securities depository for the 2018 Bonds. The 2018 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 2018 Bond certificate will be issued for each maturity in each series in the aggregate principal amount of the 2018 Bonds for that maturity and series 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 3.5 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" and, together with Direct Participants, "Participants"). DTC has S&P'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 <a href="https://www.dtcc.com">www.dtcc.com</a>.

Purchases of the 2018 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2018 Bonds on DTC's records. The ownership interest of each actual purchaser of each of the 2018 Bonds (the "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 purchases. Beneficial Owners are, however, expected to receive written confirmations providing details of the transactions, as well as periodic statements of their holdings, from the Direct or Indirect Participants through which the Beneficial Owners entered into the transaction. Transfers of ownership interests in the 2018 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 interest in 2018 Bonds, except in the event that use of the Book Entry Only System for the 2018 Bonds is discontinued. See "Revision of Book Entry System - Replacement 2018 Bonds," below.

To facilitate subsequent transfers, all 2018 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 the 2018 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee does not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2018 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2018 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.

Redemption notices shall be sent to DTC. If less than all of the Series 2013 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the 2018 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 2018 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, premium, if any, and interest payments on the 2018 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 its agent, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Direct and Indirect 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 Direct and Indirect Participants and not of DTC (or its nominee), or the Commission or its agent, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Commission or its agent, disbursement of such payments to Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

## **Revision of Book Entry System**

DTC may discontinue providing its service with respect to the 2018 Bonds at any time by giving reasonable notice to the Commission or its agent. Under such circumstances, in the event a successor securities depository is not obtained, the 2018 Bond certificates are required to be printed and delivered. The Beneficial Owner, upon registration of certificates held in the Beneficial Owner's name, will become the Holder of the 2018 Bonds.

The Commission may decide to discontinue use of the system of book entry transfers through DTC (or a successor securities depository). In such event, 2018 Bond certificates will be printed and delivered to DTC.

# **EXHIBIT F**

# COMPOSITE ANNUAL DEBT SERVICE REQUIREMENT COVERAGE TABLE



# COMPOSITE ANNUAL DEBT SERVICE REQUIREMENT COVERAGE TABLE\*

		Outstanding Senior Lien	2018 Senior Lien Bonds	Total Senior Lien		Outstanding Junior Lien	2018 Junior Lien Bonds	Total Composite	
		Annual	Annual	Annual	Senior Lien	Annual	Annual	Annual	Aggregate
Fiscal	Net Pledged	Debt Service	Debt Service	Debt Service	Debt Service	Debt Service	Debt Service	Debt Service	Debt Service
Year	Revenues	Requirement	Requirement	Requirement	Coverage	Requirement	Requirement	Requirement	Coverage
2018	\$211,617,000	\$59,884,804	\$2,928,583	\$62,813,387	3.37x	\$42,871,188	\$16,643,875	\$122,328,450	1.73x
2019	218,775,000	59,885,783	3,514,300	63,400,083	3.45x	41,321,604	19,972,650	124,694,337	1.75x
2020	227,783,000	59,184,758	3,514,300	62,699,058	3.63x	36,367,688	19,972,650	119,039,396	1.91x
2021	234,500,000	59,368,904	3,514,300	62,883,204	3.73x	35,492,688	19,972,650	118,348,542	1.98x
2022	245,217,000	59,570,504	3,514,300	63,084,804	3.89x	38,855,188	19,972,650	121,912,642	2.01x
2023	253,100,000	52,635,925	3,514,300	56,150,225	4.51x	61,298,346	19,972,650	137,421,221	1.84x
2024	263,600,000	43,476,037	3,514,300	46,990,337	5.61x	68,280,811	19,972,650	135,243,798	1.95x
2025	274,908,000	49,447,038	3,514,300	52,961,338	5.19x	62,007,311	19,972,650	134,941,298	2.04x
2026	285,192,000	30,078,979	3,514,300	33,593,279	8.49x	60,363,103	35,735,150	129,691,532	2.20x
2027	295,883,000	25,895,106	3,514,300	29,409,406	10.06x	62,675,811	41,607,858	133,693,075	2.21x
2028	305,775,000	12,578,250	3,514,300	16,092,550	19.00x	73,506,603	49,092,525	138,691,678	2.20x
2029	314,367,000	9,911,083	3,514,300	13,425,383	23.42x	74,265,478	56,005,233	143,696,094	2.19x
2030	325,158,000	9,740,875	3,514,300	13,255,175	24.53x	76,857,144	58,578,650	148,690,969	2.19x
2031	332,067,000	4,680,125	3,514,300	8,194,425	40.52x	75,896,728	69,602,350	153,693,503	2.16x
2032	343,592,000	3,674,750	3,514,300	7,189,050	47.79x	69,892,561	77,406,350	154,487,961	2.22x
2033	352,608,000	3,674,750	3,514,300	7,189,050	49.05x	130,136,311	18,338,617	155,663,978	2.27x
2034	365,408,000	3,674,750	3,514,300	7,189,050	50.83x	130,126,815	18,386,250	155,702,115	2.35x
2035	375,292,000	3,674,750	3,514,300	7,189,050	52.20x	126,137,770	22,378,542	155,705,362	2.41x
2036	385,883,000	3,674,750	8,072,633	11,747,383	32.85x	124,652,266	19,309,333	155,708,983	2.48x
2037	399,975,000	3,674,750	14,660,300	18,335,050	21.81x	120,995,604	16,373,542	155,704,196	2.57x
2038	411,075,000	3,674,750	14,128,833	17,803,583	23.09x	130,053,083	7,316,750	155,173,417	2.65x
2039	424,650,000	3,674,750	14,170,500	17,845,250	23.80x	130,037,735	7,331,167	155,214,152	2.74x
2040	437,233,000	3,674,750	14,620,500	18,295,250	23.90x	130,020,000	7,351,792	155,667,042	2.81x
2041	446,592,000	3,674,750	14,701,750	18,376,500	24.30x	129,999,167	7,371,708	155,747,375	2.87x
2042	462,725,000	3,674,750	7,831,750	11,506,500	40.21x	129,955,000	7,415,417	148,876,917	3.11x
2043	476,492,000	3,674,750	1,076,250	4,751,000	100.29x	93,054,167	21,399,500	119,204,667	4.00x
2044	490,275,000	3,674,750	-	3,674,750	133.42x	93,209,375	21,244,625	118,128,750	4.15x
2045	504,058,000	3,674,750	-	3,674,750	137.17x	93,235,000	20,804,292	117,714,042	4.28x
2046	518,650,000	23,678,917	-	23,678,917	21.90x	73,229,167	3,472,375	100,380,458	5.17x
2047	533,033,000	47,917,042	-	47,917,042	11.12x	48,993,500	-	96,910,542	5.50x
2048	550,317,000	8,660,750	_	8,660,750	63.54x	7,489,125	_	16,149,875	34.08x
Total	\$11,265,800,000	\$668,041,381	\$151,934,200	\$819,975,581		\$2,571,276,332	\$742,974,450	\$4,134,226,363	

<sup>\*</sup>Table does not reflect interest earnings in Debt Service Reserve Fund, Debt Service Fund and the Infrastructure Fund. Table does not reflect any bonds that may be issued after the issuance of the Series 2018 Bonds.

(1) Net Revenues are projected by Jacobs Engineering Group. Please see the Traffic and Revenue Report for further details.



#### **EXHIBIT G**

## FORM OF CONTINUING DISCLOSURE CERTIFICATE

THIS CONTINUING DISCLOSURE CERTIFICATE (the "Certificate") is executed and delivered February 15, 2018 by the Ohio Turnpike and Infrastructure Commission (the "Issuer") in connection with the issuance of \$73,880,000 State of Ohio Turnpike Revenue Bonds, 2018 Series A and \$425,965,000 State of Ohio Turnpike Junior Lien Revenue Bonds, 2018 Series A (Infrastructure Projects) (collectively, the "Bonds"). The Issuer certifies, covenants and agrees as follows:

## 1. Purpose of Continuing Disclosure Certificate.

This Certificate is being given, signed and delivered for the benefit of the Bondholders (defined herein) and Beneficial Owners (defined herein) of the Bonds and in order to assist the Participating Underwriters of the Bonds in complying with the Rule (defined herein).

## 2. Definitions.

Certain capitalized terms are defined in the introduction of this Certificate. In addition, the following capitalized terms shall have the following meanings when used in this Certificate:

"Annual Financial Information" shall mean a copy of the annual audited financial statements of the Issuer. Those financial statements shall be prepared in accordance with generally accepted accounting principles (GAAP), provided, however, that the Issuer may change the accounting principles used for preparation of such financial information so long as the Issuer includes a statement to the effect that different accounting principles are being used, stating the reason for such change and how to compare the financial information provided by the differing financial accounting principles. Any or all of the items listed above may be set forth in other documents, including a Comprehensive Annual Financial Report or offering documents of debt issues of the Issuer or related public entities, which have been transmitted to the MSRB, or may be included by specific reference to documents available on the MSRB's Internet Website.

"Beneficial Owner" shall mean any person which has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any Bonds (including holding Bonds through nominees, depositories or other intermediaries).

"Bondholders" shall mean any holder of the Bonds and any Beneficial Owner thereof.

"EMMA" means the Electronic Municipal Market Access System of the MSRB or any successor system or process of disclosure.

"Event" shall mean any of the following events with respect to the Bonds:

- (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 Internal Revenue Service 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 security, or other material events affecting the tax-exempt status of the security;
- (vii) Modifications to rights of security holders, if material;
- (viii) Bond calls, if material, and tender offers (except for mandatory scheduled redemptions not otherwise contingent upon the occurrence of an event);
- (ix) Defeasances;
- (x) Release, substitution or sale of property securing repayment of the securities, if material;
- (xi) Rating changes;
- (xii) Bankruptcy, insolvency, receivership or similar event of the obligated person (Note: For the purposes of this event, the event is considered to occur when any of the following occur: The appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the obligated person, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the obligated person);
- (xiii) The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any 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 SEC requires the listing of (i) through (xiv) although some of such events may not be applicable to the Bonds.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"Offering Document" shall mean the Official Statement, dated [January 30, 2018].

"Operating Data" shall mean an update of the information of the type included in the following sections of the Offering Document: the tables titled "Comparative Traffic Statistics," "Vehicles by Class," "Toll Revenue by Class", "Approved Toll Rate Schedule For Years 2019 through 2023 Cost of One-Way Full Length Trip Across The Ohio Turnpike", and "Toll Rates Per Mile" under the caption "TOLLS and TOLL COLLECTION" and the table titled "Revenue Bond Coverage" under the caption "RESULTS OF OPERATIONS".

"Participating Underwriter" shall mean any of the original underwriters of the Bonds required to comply with the Rule in connection with the offering of the Bonds.

"Rule" means SEC Rule 15c2-12, as amended from time to time

"SEC" shall mean the Securities and Exchange Commission.

"State" shall mean the State of Ohio.

#### 3. Disclosure of Information.

- (A) <u>Information to be Provided and Filing Date</u>. Except to the extent this Certificate is modified or otherwise altered in accordance with Section 4 hereof, the Issuer shall make, or cause to made, public through the MSRB (EMMA system) the information set forth in subsections (1), (2) and (3) below:
  - (1) <u>Annual Financial Information and Operating Data</u>. Annual Financial Information and Operating Data at least annually not later than July 1 following each fiscal year beginning July 1, 2018. The Annual Financial Information and Operating Data may be submitted as a single submission (for example but without limitation, included within the Issuer's Comprehensive Annual Financial Report, if any) or as separate submissions comprising a package, and may cross-reference other information; provided that the Annual Financial Information may be submitted separately if the audited financial statements of the Issuer are not available by the filing date set forth above, in which case those audited financial statements of the Issuer will be submitted when and if available.
  - (2) <u>Events Notices</u>. Notice of the occurrence of an Event, in a timely manner, not in excess of ten (10) business days after the occurrence of the Event.
  - (3) <u>Failure to Provide Annual Financial Information or Operating Data</u>. Notice, in a timely manner, of the failure of Issuer to provide the Annual Financial Information or Operating Data by the date required herein.

## (B) <u>Filing of Information</u>.

Annual Financial Information, Operating Data and notice of all Event occurrences shall be filed with the MSRB (EMMA), in an electronic format as prescribed by the MSRB, accompanied by identifying information as prescribed by the MSRB, or in such other manner in the future as may be prescribed by the MSRB.

To the extent the Issuer is obligated to file any Annual Financial Information or Operating Data with the MSRB pursuant to this Certificate, such Annual Financial Information or Operating Data may be set forth in the document or set of documents transmitted to the MSRB, or may be included by specific reference to documents transmitted to the MSRB or SEC.

## 4. Amendment or Modification.

The Issuer reserves the right to amend this Certificate, and noncompliance with any provision of this Certificate may be waived, as may be necessary or appropriate to (a) achieve its compliance with any applicable federal securities law or rule, (b) cure any ambiguity, inconsistency or formal defect or omission, and (c) address any change in circumstances arising from a change in legal requirements, change in law or change in the identity, nature or status of the Issuer or type of business conducted by the Issuer. Any such amendment or waiver shall not be effective unless the Certificate (as amended or taking into account such waiver) would have materially complied with the requirements of the Rule at the time of the primary offering of the Bonds, after taking into account any applicable amendments to or official interpretations of the Rule, as well as any change in circumstances, and until the Issuer shall have received either (i) a written

opinion of bond counsel or other qualified independent special counsel selected by the Issuer that the amendment or waiver would not materially impair the interests of Holders or Beneficial Owners, or (ii) the written consent to the amendment or waiver of the Holders of at least a majority of the principal amount of each series of the Bonds then outstanding.

## 5. Miscellaneous.

- (A) <u>Termination</u>. The Issuer's obligations under this Certificate shall terminate when all of the Bonds are or are deemed to be no longer outstanding by reason of redemption or legal defeasance or at maturity.
- (B) Additional Information. Nothing in this Certificate shall be deemed to prevent the Issuer from disseminating any other information, using the means of dissemination set forth in this Certificate or any other means of communication, or including any other information in any Annual Financial Statement or notice of occurrence of an Event, in addition to that which is required by this Certificate. If the Issuer chooses to include any information in any Annual Financial Statement, Operating Data or notice of occurrence of an Event in addition to that which is specifically required by this Certificate, the Issuer shall have no obligation under this Certificate to update such information or include it in any future Annual Financial Statement, Operating Data or notice of occurrence of an Event.
- (C) <u>Defaults; Remedies</u>. In the event of a failure of the Issuer to comply with any provision of this Certificate, any Bondholder may take such action as may be necessary and appropriate, including seeking an action in mandamus or specific performance to cause the Issuer to comply with its obligations under this Certificate. A default under this Certificate shall not constitute a default on the Bonds or any trust agreement pursuant to which they are issued, and the sole remedy available in any proceeding to enforce this Certificate shall be an action to compel specific performance.
- (D) <u>Beneficiaries</u>. This Certificate shall inure solely to the benefit of the Issuer, the Participating Underwriter and Bondholders, or beneficial owners thereof, and shall create no rights in any other person or entity.

## 6. Notices.

Any notices or communications to the Issuer may be given as follows:

To the Issuer: Ohio Turnpike and Infrastructure Commission

682 Prospect Street Berea, Ohio 44017-2799

Attention: Chief Financial Officer

[Remainder of page intentionally left blank; signature page follows]

IN WITNESS WHEREOF, the Issuer has caused its duly authorized officer to execute this Certificate as of the day and year first above written.

# OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION, Issuer

By:	
Name:	
Title:	









